

# ***GRADALL***<sup>®</sup>

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## ***Illustrated Parts Manual***

***Models***  
***534B-6***  
***534B-8***

S/N 8344001L thru 0144870S

P/N - 9020-7316

*Revised July 6, 2007*



***JLG***<sup>®</sup>

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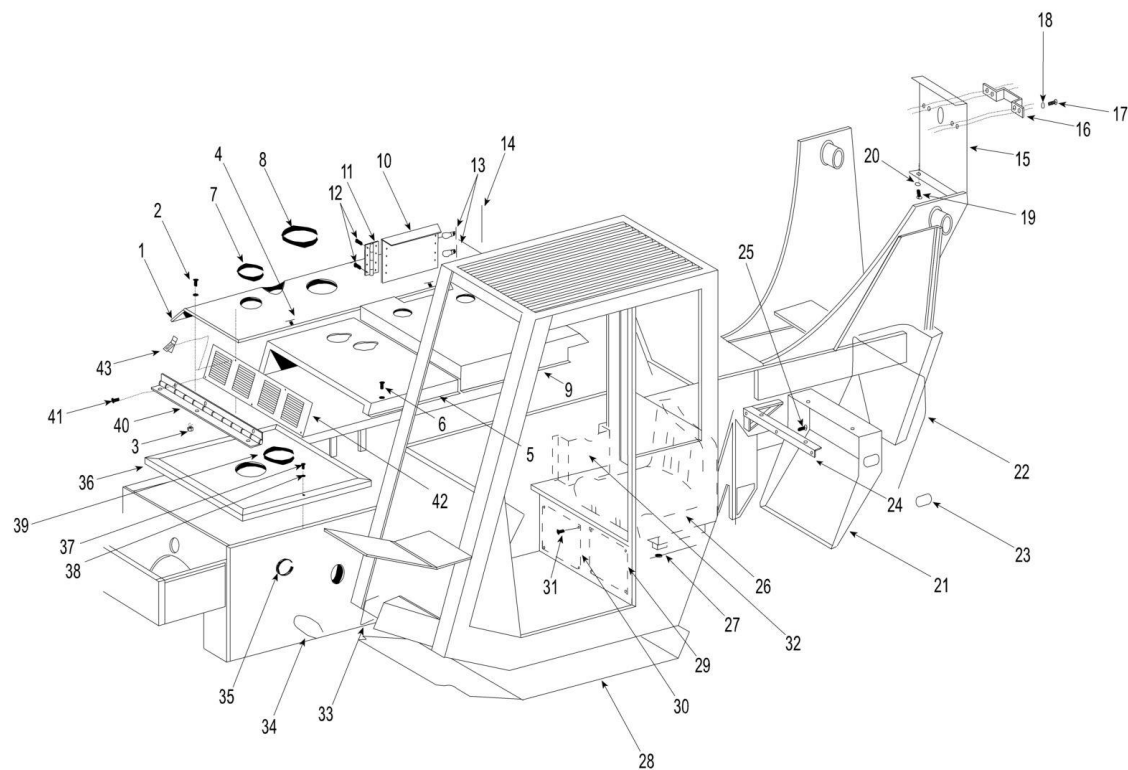
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## **SECTION 1 - FRAME SHROUDING AND TRIM**

## **SECTION 1 - FRAME SHROUDING AND TRIM**

SECTION 1 - FRAME SHROUDING AND TRIM

FIGURE 1-1. FRAME SHROUDING AND TRIM (SN 01444687J to Present)





## SECTION 1 - FRAME SHROUDING AND TRIM

**FIGURE 1-1. FRAME SHROUDING AND TRIM (SN 01444687J to Present)**

| ITEM | PART NUMBER | QTY   | DESCRIPTION                        | REV |
|------|-------------|-------|------------------------------------|-----|
| 1    | 91031260    | 1     | TANK COVER                         |     |
| 2    | 88201066    | 4     | HEX HD CAPSCREW, 1/2-13X1-1/4, GR5 |     |
| 2    | 88561111    | 4     | FLATWASHER, 1/2                    |     |
| 3    | 88551013    | 4     | LOCKWASHER, 1/2                    |     |
| 3    | 88521308    | 4     | HEX LOCKNUT, 1/2-13                |     |
| 4    | 77163020    | 2     | TANK COVER FASTENER                |     |
| 5    | 91036016    | 1     | FRONT HOOD                         |     |
| 6    | 88201003    | 8     | HEX HD CAPSCREW, 1/4-20X3/4, GR5   |     |
| 6    | 88551009    | 8     | LOCKWASHER, 1/4                    |     |
| 6    | 88561107    | 8     | FLATWASHER, 1/4                    |     |
| 7    | 90206196    | 25 ft | TRIM                               |     |
| 8    | 90206196    | 25 ft | TRIM                               |     |
| 9    | 91045027    | 1     | REAR HOOD                          |     |
| 10   | 91031067    | 1     | SERVICE DOOR                       |     |
| 11   | 91033077    | 1     | DOOR HINGE                         |     |
| 12   | 88261009    | 8     | BUTTON HD CAPSCREW, #10-24X5/8     |     |
| 12   | 88561105    | 8     | FLATWASHER, #10                    |     |
| 12   | 88521605    | 8     | HEX HD LOCKNUT #10                 |     |
| 13   | 90207458    | 2     | DRAW LATCH                         |     |
| 14   | 90206196    | 25 ft | TRIM                               |     |
| 15   | 90403352    | 1     | REAR BOOM COVER                    |     |
| 16   | 91041510    | 1     | BOOM CABLE GUARD                   |     |
| 17   | 88201067    | 6     | HEX HD CAPSCREW, 1/2-13X1-1/2      |     |
| 18   | 88501013    | 6     | LOCKWASHER, 1/2                    |     |
| 18   | 88561111    | 6     | FLATWASHER, 1/2                    |     |
| 19   | 88201033    | 2     | HEX HD CAPSCREW, 3/8-16X3/4        |     |
| 20   | 88551011    | 2     | LOCKWASHER, 3/8                    |     |
| 20   | 88561004    | 2     | FLATWASHER, 3/8                    |     |
| 21   | 91036079    | 1     | REAR CAB COVER                     |     |
| 22   | 90206194    | 25 ft | TRIM                               |     |
| 23   | 90206196    | 25 ft | TRIM                               |     |
| 24   | 90602885    | 1     | REAR WINDOW BRACKET                |     |
| 25   | 88201005    | 3     | HEX HD CAPSCREW, 1/4-20X1, GR5     |     |
| 26   | 90207278    | 1     | SEAT                               |     |
| 27   | 86671164    | 2     | SPACER                             |     |
| 27   | 77143006    | 4     | NUT                                |     |
| 28   | 91031363    | 1     | CAB BOTTOM COVER                   |     |
| 29   | 90205746    | 1     | HEATER COVER                       |     |
| 29   | 77143003    | 4     | BOLT                               |     |
| 29   | 77143006    | 4     | NUT                                |     |
| 30   | 90205730    | 1     | VALVE COVER                        |     |
| 31   | 77143003    | 4     | BOLT                               |     |
| 31   | 77103044    | 4     | CLIP NUT                           |     |
| 32   | 91033102    | 1     | MANUAL HOLDER                      |     |
| 33   | 90206196    | 25 ft | TRIM                               |     |
| 34   | 90206196    | 25 ft | TRIM                               |     |
| 35   | 90206200    | 25 ft | TRIM                               |     |
| 36   | 91035096    | 1     | MAINTENANCE DECK                   |     |
| 37   | 88201033    | 2     | HEX HD CAPSCREW, 3/8-16X3/4, GR5   |     |
| 38   | 88561109    | 2     | LOCKWASHER, 3/8                    |     |

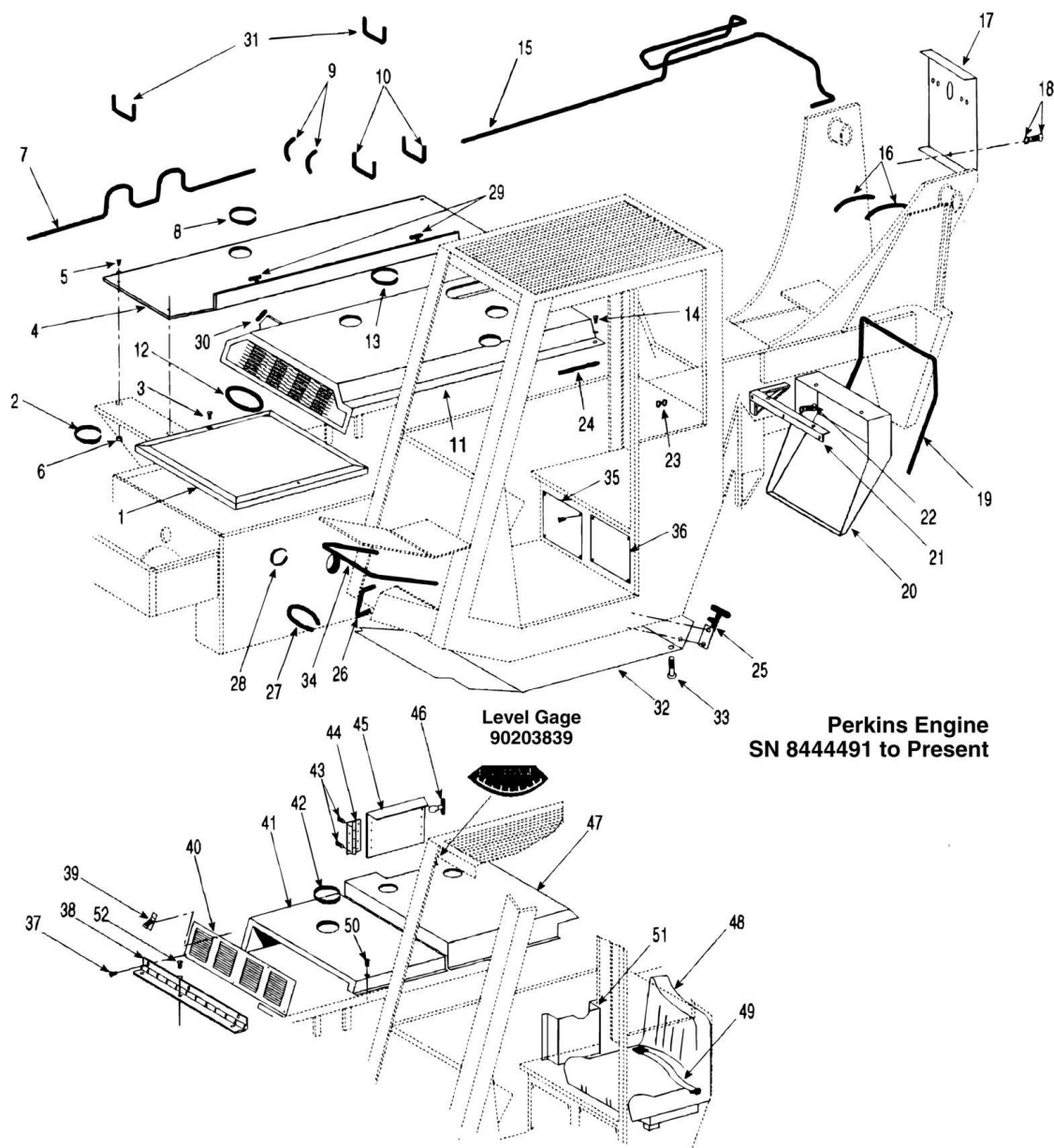
**SECTION 1 - FRAME SHROUDING AND TRIM**

| ITEM | PART NUMBER | QTY   | DESCRIPTION                    | REV |
|------|-------------|-------|--------------------------------|-----|
| 39   | 90206194    | 25 ft | TRIM                           |     |
| 40   | 91031075    | 1     | HINGE                          |     |
| 41   | 88321047    | 3     | SELF-TAPPING SCREW, 1/4-20X3/8 |     |
| 42   | 91031261    | 1     | FRONT SERVICE DOOR             |     |
| 43   | 90207458    | 2     | DRAW LATCH                     |     |



SECTION 1 - FRAME SHROUDING AND TRIM

FIGURE 1-2. FRAME SHROUDING AND TRIM WAUKESHA ENGINE AND PERKINS ENGINE (SN 8344001L through 8444490, Including 8444491)



## SECTION 1 - FRAME SHROUDING AND TRIM

**FIGURE 1-2. FRAME SHROUDING AND TRIM WAUKESHA ENGINE AND PERKINS ENGINE (SN 8344001L through 8444490, Including 8444491)**

| ITEM | PART NUMBER | QTY   | DESCRIPTION                             | REV |
|------|-------------|-------|-----------------------------------------|-----|
| 1    | 90602887    | 1     | MAINTENENCE DECK                        |     |
| 2    | 90206200    | 25 ft | TRIM                                    |     |
| 3    | 88201033    | 2     | HEX HD CAPSCREW, 3/8-16X3/4, GR5        |     |
| 3    | 88561109    | 2     | FLAT WASHER, 3/8                        |     |
| 4    | 90801339    | 1     | TANK COVER (Waukesha)                   |     |
| 4    | 91031076    | 1     | TANK COVER (SN 8444490 through 8644765) |     |
| 4    | 91031260    | 1     | TANK COVER (SN 8644766 to Present)      |     |
| 5    | 88201066    | 4     | HEX HD CAPSCREW, 1/2-13X1-1/4, GR5      |     |
| 5    | 88561111    | 4     | FLATWASHER, 1/2                         |     |
| 6    | 88551013    | 4     | LOCKWASHER, 1/2                         |     |
| 6    | 88521308    | 4     | HEX LOCKNUT, 1/2-13                     |     |
| 7    | 90206196    | 25 ft | TRIM                                    |     |
| 8    | 90206196    | 25 ft | TRIM                                    |     |
| 9    | 90206200    | 25 ft | TRIM                                    |     |
| 10   | 90206194    | 25 ft | TRIM                                    |     |
| 11   | 90801338    | 1     | ENGINE COMPARTMENT COVER                |     |
| 12   | 90206200    | 25 ft | TRIM                                    |     |
| 13   | 90206194    | 25 ft | TRIM                                    |     |
| 14   | 90207512    | 1     | COVER FASTENER                          |     |
| 15   | 90206194    | 25 ft | TRIM                                    |     |
| 16   | 90206203    | 25 ft | TRIM                                    |     |
| 17   | 90403352    | 1     | REAR BOOM COVER                         |     |
| 18   | 90203959    | 4     | WING BOLT                               |     |
| 18   | 88561109    | 4     | WASHER                                  |     |
| 19   | 90206194    | 25 ft | TRIM                                    |     |
| 20   | 90602888    | 1     | REAR CAB COVER                          |     |
| 21   | 90602885    | 1     | REAR WINDOW BRACKET                     |     |
| 22   | 88201005    | 3     | HEX HD CAPSCREW, 1/4-20X1, GR5          |     |
| 23   | 88561107    | 3     | FLAT WASHER, 1/4                        |     |
| 23   | 88501004    | 3     | HEX NUT, 1/4-20                         |     |
| 24   | 90206200    | 25 ft | TRIM                                    |     |
| 25   | 90207458    | 2     | REAR CAB COVER FASTENERS                |     |
| 26   | 90206196    | 25 ft | TRIM                                    |     |
| 27   | 90206196    | 25 ft | TRIM                                    |     |
| 28   | 90206200    | 25 ft | TRIM                                    |     |
| 29   | 77163020    | 2     | TANK COVER FASTENERS                    |     |
| 30   | 90200755    | 1     | WEATHER STRIP                           |     |
| 31   | 90206196    | 25 ft | TRIM                                    |     |
| 32   | 90602886    | 1     | CAB BOTTOM COVER                        |     |
| 33   | 77143003    | 7     | BOLT                                    |     |
| 34   | 90206196    | 25 ft | TRIM                                    |     |
| 35   | 90205730    | 1     | VALVE COVER                             |     |
| 35   | 77143003    | 4     | BOLT                                    |     |
| 35   | 77103044    | 4     | CLIP NUT                                |     |
| 36   | 90205746    | 1     | HEATER COVER                            |     |
| 36   | 77143003    | 4     | BOLT                                    |     |
| 36   | 77143006    | 4     | NUT                                     |     |
| 37   | 88261017    | 3     | SOCKET BUTTON HD CAPSCREW, 1/4-20-7/8   |     |
| 37   | 88561107    | 6     | FLATWASHER, 1/4                         |     |

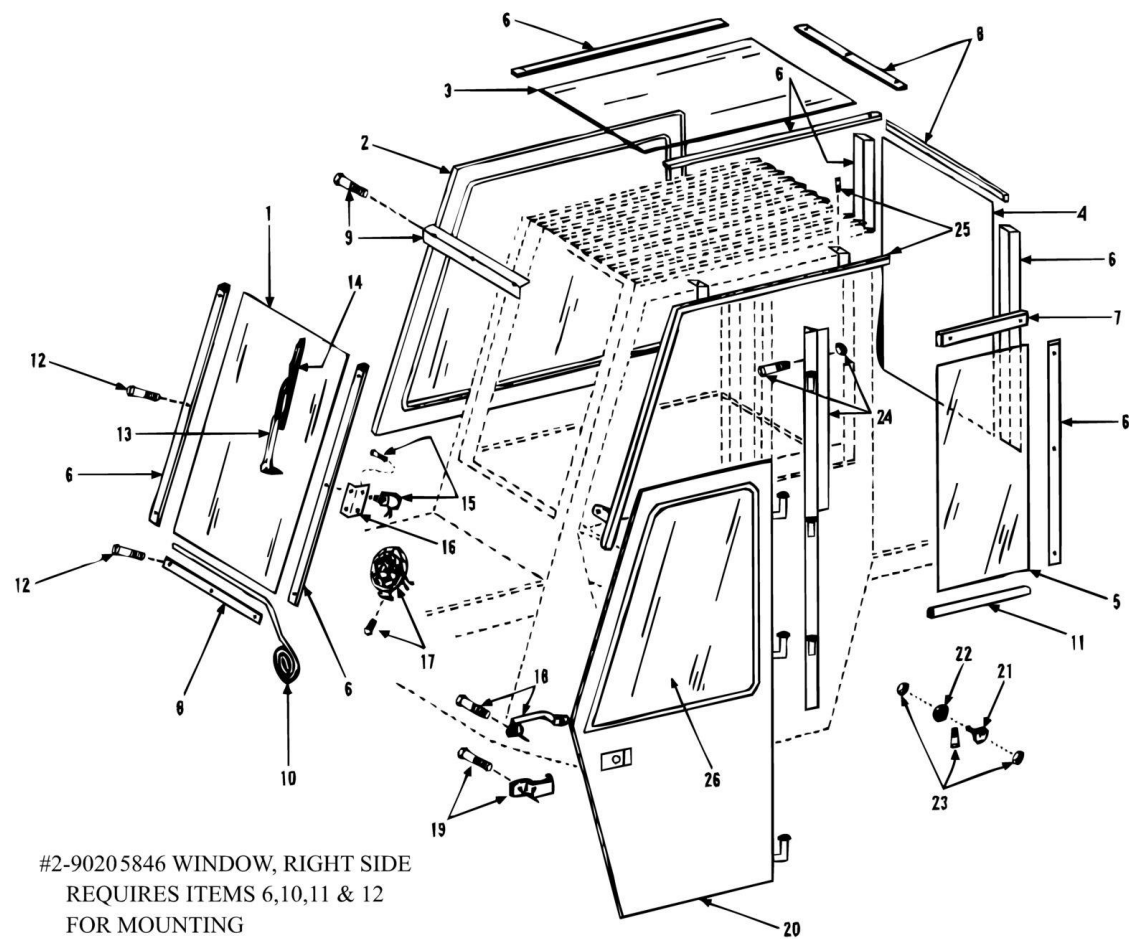
## SECTION 1 - FRAME SHROUDING AND TRIM

| ITEM | PART NUMBER | QTY   | DESCRIPTION                                | REV |
|------|-------------|-------|--------------------------------------------|-----|
| 37   | 88521304    | 3     | HEX LOCKNUT, 1/4-20                        |     |
| 38   | 91031075    | 1     | HINGE                                      |     |
| 39   | 83683311    | 2     | PAWL LATCH                                 |     |
| 39   | 91033214    | 2     | DRAW LATCH (SN 8644733 to Present)         |     |
| 40   | 91031074    | 1     | FRONT SERVICE DOOR                         |     |
| 40   | 91031261    | 1     | FRONT SERVICE DOOR (SN 8644733 to Present) |     |
| 41   | 91036016    | 1     | FRONT HOOD                                 |     |
| 42   | 90206194    | 25 ft | TRIM                                       |     |
| 43   | 88261009    | 16    | SOCKET BUTTON HD CAPSCRW, 10-24X5/8        |     |
| 43   | 88561105    | 16    | FLAT WASHER, #10                           |     |
| 43   | 88521605    | 16    | HEX LOCKNUT, #10-24                        |     |
| 44   | 91033077    | 1     | HINGE                                      |     |
| 45   | 91031067    | 1     | SIDE SERVICE DOOR                          |     |
| 46   | 90207458    | 2     | DRAW LATCH                                 |     |
| 47   | 91036015    | 1     | REAR HOOD                                  |     |
| 47   | 91036038    | 1     | REAR HOOD (SN 8544539 to Present)          |     |
| 48   | 90207278    | 1     | SEAT                                       |     |
| 48   | 88671164    | 2     | SPACER                                     |     |
| 48   | 77143006    | 4     | NUT                                        |     |
| 49   | 91033029    | 1     | SEAT BELT                                  |     |
| 49   | 88201050    | 2     | HEX HD CAPSCREW, 7/16-14X1, GR5            |     |
| 49   | 88501007    | 2     | HEX NUT, 7/16-14                           |     |
| 50   | 88201003    | 8     | HEX HD CAPSCREW, 1/4-20X3/4, GR5           |     |
| 50   | 88551009    | 8     | LOCKWASHER, 1/4                            |     |
| 50   | 88561107    | 8     | FLATWASHER, 1/4                            |     |
| 51   | 91033102    | 1     | MANUAL HOLDER                              |     |
| 51   | 88301193    | 4     | RDHD MACH. SCREW, #10-32X1/2               |     |
| 52   | 88321047    | 3     | SELF TAPPING SCREW, 1/4-20X3/8             |     |



SECTION 1 - FRAME SHROUDING AND TRIM

FIGURE 1-3. CAB ENCLOSURE, WIPER AND DEFROSTER (SN 8344001L to Present)





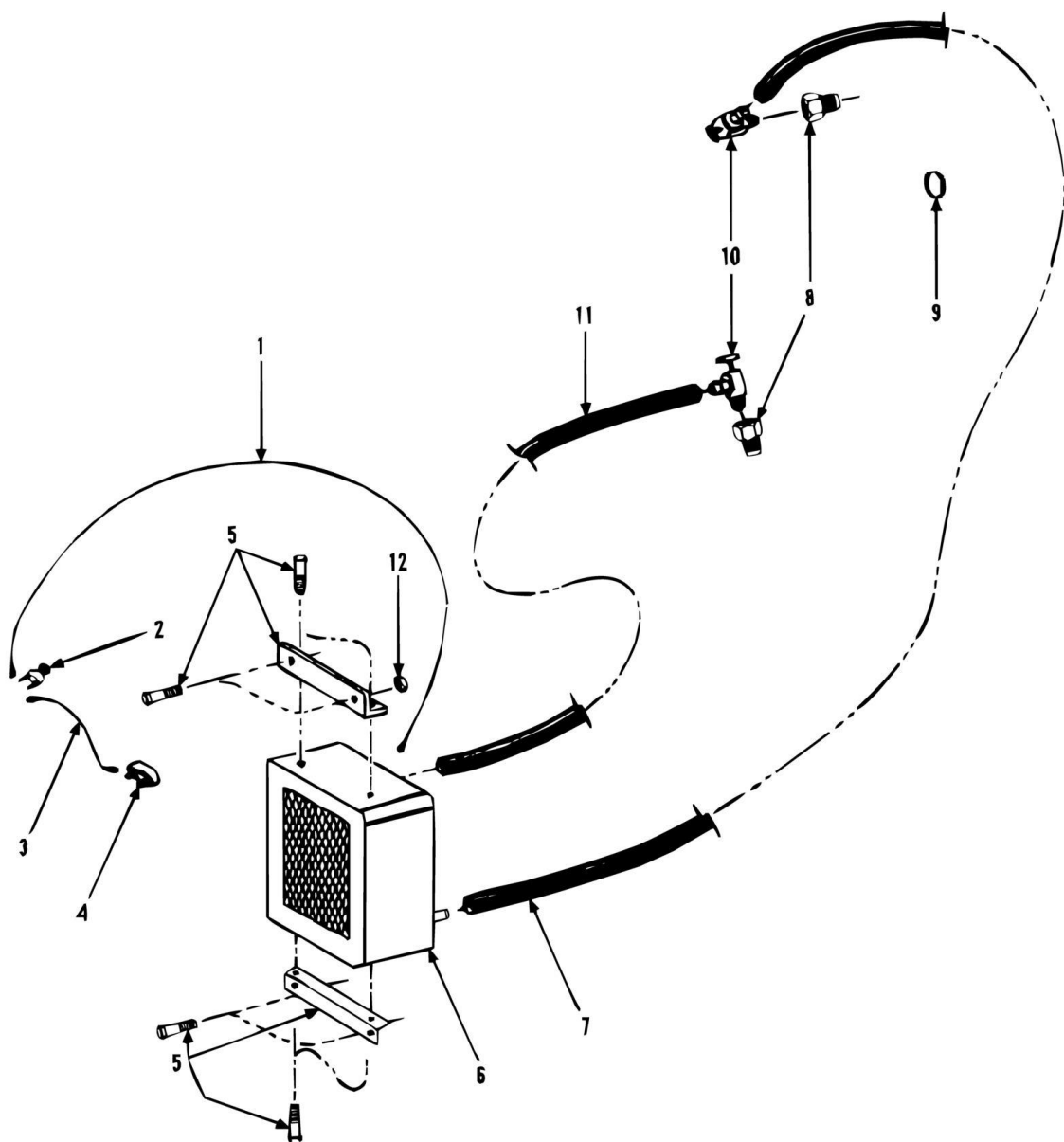
## SECTION 1 - FRAME SHROUDING AND TRIM

**FIGURE 1-3. CAB ENCLOSURE, WIPER AND DEFROSTER (SN 8344001L to Present)**

| ITEM | PART NUMBER | QTY   | DESCRIPTION                                             | REV |
|------|-------------|-------|---------------------------------------------------------|-----|
| 1    | 90403036    | 1     | FRONT WINDOW                                            |     |
| 2    | 90205846    | 1     | RIGHT SIDE WINDOW                                       |     |
| 3    | 90403034    | 1     | TOP WINDOW                                              |     |
| 4    | 90403035    | 1     | REAR WINDOW                                             |     |
| 5    | 90403033    | 1     | LEFT SIDE WINDOW                                        |     |
| 6    | 90206019    | AR    | WINDOW HOLD DOWN BAR                                    |     |
| 7    | 90206017    | 1     | HOLD DOWN BAR (left top)                                |     |
| 8    | 90206018    | 3     | HOLD DOWN BAR                                           |     |
| 9    | 90206613    | 1     | SUPPORT ANGLE (window top cab)                          |     |
| 9    | 88201031    | 2     | HEX HD CAPSCREW, 3/8-16X1/2, GR5                        |     |
| 9    | 88551011    | 2     | LOCKWASHER, 1/2                                         |     |
| 10   | 90200755    | 50 ft | WEATHERS STRIPPING (bulk)                               |     |
| 11   | 90206100    | AR    | RUBBER GLAZING STRIP                                    |     |
| 12   | 90027319    | AR    | SELF TAPPING SCREW, 1/4-14X1-1/4 (window bar hold down) |     |
| 13   | 91033464    | 1     | WINDSHIELD WIPER ARM                                    |     |
| 14   | 91033465    | 1     | WIPER BLADE                                             |     |
| 15   | 90206023    | 1     | WIPER MOTOR                                             |     |
| 15   | 90027214    | 1     | WIPER SHAFT GROMMET (not shown)                         |     |
| 16   | 90206025    | 1     | WIPER MOTOR MOUNTING ANGLE                              |     |
| 16   | 88201003    | 1     | HEX HD CAPSCREW, 1/4-20X3/4, GR5                        |     |
| 16   | 88501004    | 1     | HEX NUT, 1/4-20                                         |     |
| 17   | 90200680    | 1     | DEFROSTER FAN                                           |     |
| 17   | 88321015    | 4     | SELF TAPPING SCREW                                      |     |
| 18   | 90203840    | 1     | DOOR PULL HANDLE                                        |     |
| 18   | 88321039    | 2     | SELF TAPPING SCREW, #10-32X1/2                          |     |
| 19   | 90203627    | 1     | HANDLE                                                  |     |
| 19   | 88201031    | 1     | HEX HD CAPSCREW, 3/8-16X1/2, GR5                        |     |
| 20   | 90801238    | 1     | DOOR ASSY                                               |     |
| 20   | 91034033    | 1     | DOOR LATCH                                              |     |
| 21   | 90205886    | 1     | DOOR HOLD PLUNGER                                       |     |
| 22   | 90205888    | 1     | PLUNGER SOCKET                                          |     |
| 23   | 88301309    | 4     | FLAT HD MACHINE SCREW, 1/4-20X3/4                       |     |
| 23   | 88521304    | 4     | HEX NUT, 1/4-20                                         |     |
| 24   | 90403082    | 1     | DOOR POST                                               |     |
| 24   | 88201039    | 4     | HEX HD CAPSCREW, 3/8-16X2, GR5                          |     |
| 24   | 88501006    | 4     | HEX NUT, 3/8-16                                         |     |
| 25   | 90403032    | 1     | DOOR TROUGH                                             |     |
| 25   | 90027319    | 3     | SELF TAPPING SCREW, 1/4 NC X 1                          |     |
| 26   | 90410229    | 1     | DOOR WINDOW                                             |     |
| 26   | 83661145    | 8 ft  | WEATHER STRIPPING (bulk)                                |     |

SECTION 1 - FRAME SHROUDING AND TRIM

FIGURE 1-4. HEATER AND PIPING WAUKESHA AND PERKINS ENGINE (SN 8344001L to Present)



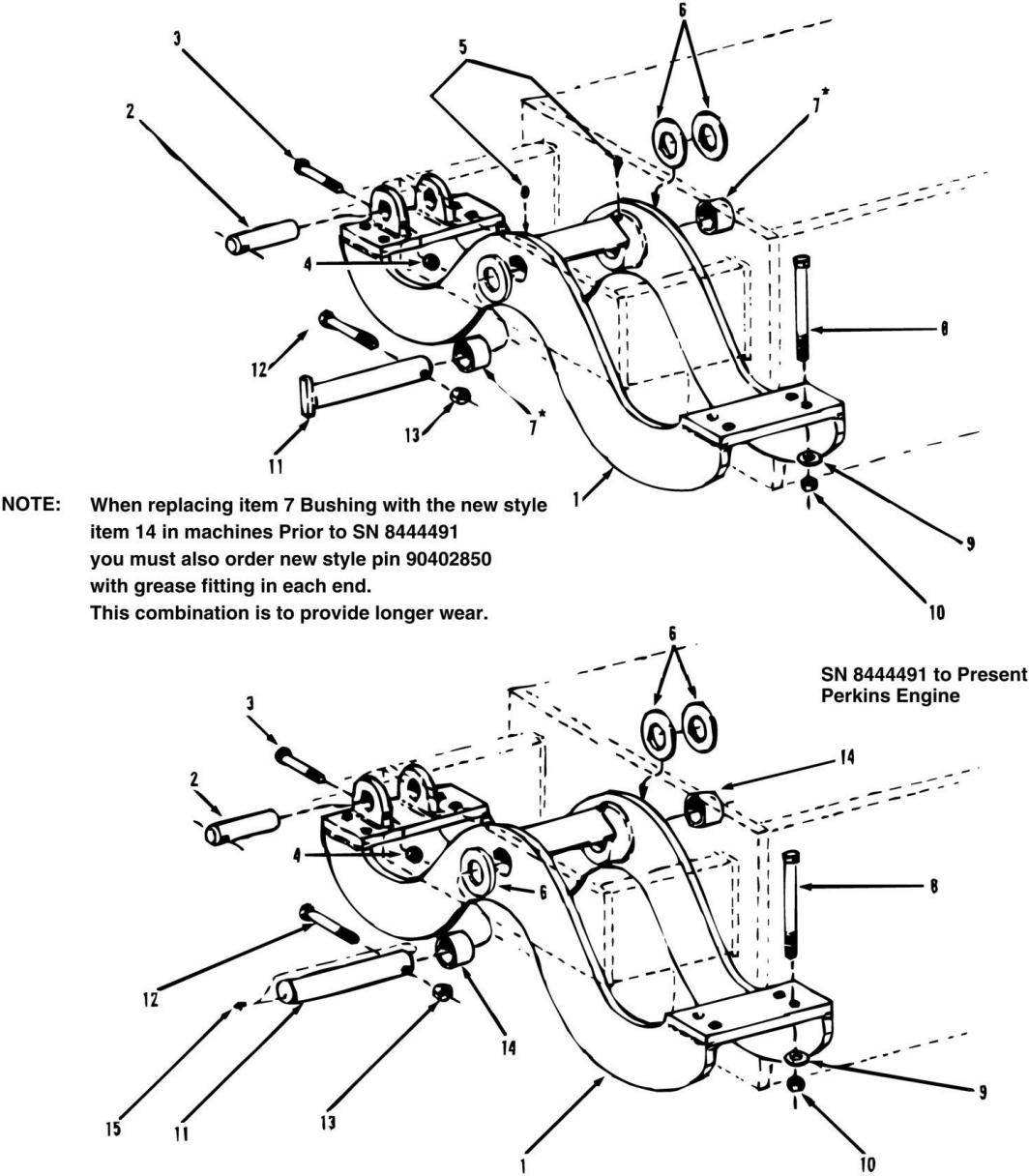
## SECTION 1 - FRAME SHROUDING AND TRIM

**FIGURE 1-4. HEATER AND PIPING WAUKESHA AND PERKINS ENGINE (SN 8344001L to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                   | REV |
|------|-------------|-----|---------------------------------------------------------------|-----|
| 1    | 90206134    | 1   | JUMPER WIRE                                                   |     |
| 2    | 91034098    | 1   | SWITCH (comes with heater)                                    |     |
| 3    | 90206133    | 1   | JUMPER WIRE                                                   |     |
| 4    | 90206131    | 1   | CIRCUIT BREAKER                                               |     |
| 5    | 90205731    | 2   | MOUNTING BRACKET                                              |     |
| 5    | 88201005    | 8   | HEX HD CAPSCREW 1/4-20x1 GR5                                  |     |
| 6    | 90200679    | 1   | HEATER (includes item #2 switch)                              |     |
| 7    |             | Ref | HOSE, 5/8IN ID                                                |     |
| 8    | 88711383    | 2   | REDUCING BUSHING 1/2x3/8                                      |     |
| 9    | 86683193    | 4   | CLAMP                                                         |     |
| 10   | 24641328    | 2   | SHUT-OFF VALVE                                                |     |
| 11   |             | Ref | HOSE, 5/8IN ID                                                |     |
| 12   | 88501004    | 4   | HEX NUT, 1/4-20                                               |     |
|      |             | Ref | NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE. |     |

# SECTION 1 - FRAME SHROUDING AND TRIM

FIGURE 1-5. FRONT AXLE AND MOUNTING WAUKESHA ENGINE (SN 8344001L through 8444490)



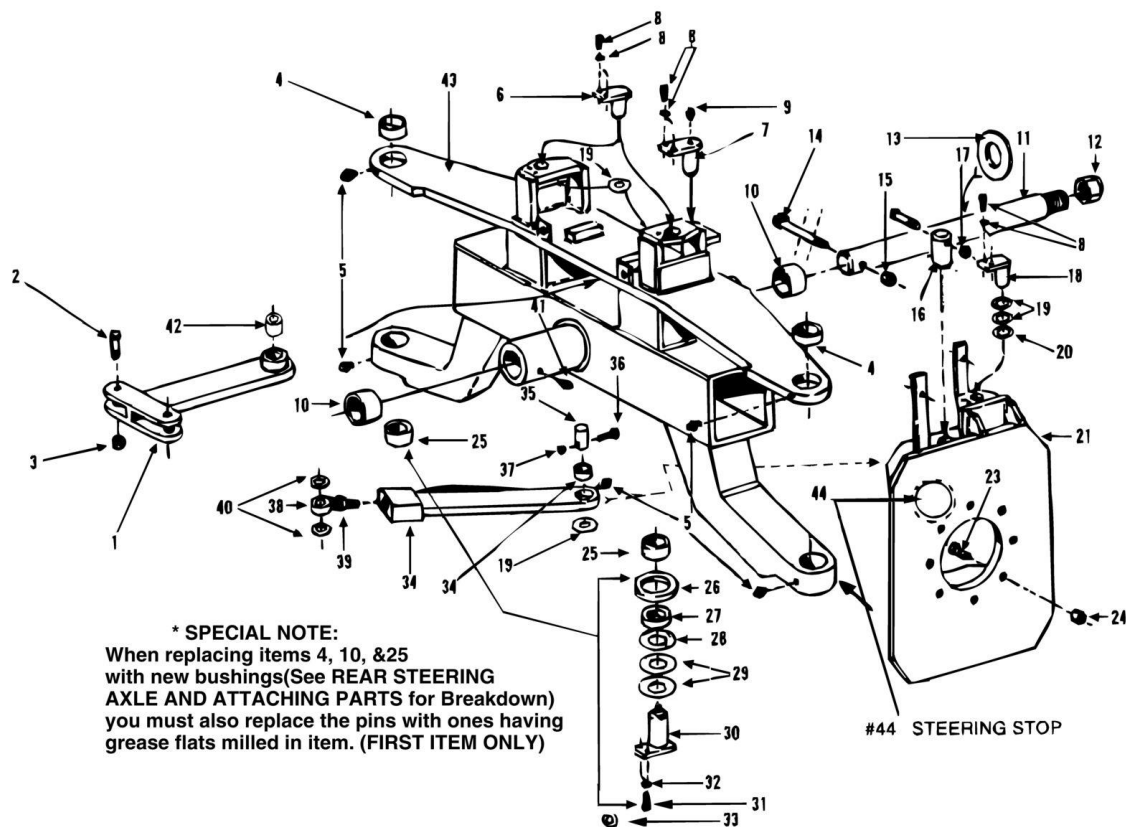
## SECTION 1 - FRAME SHROUDING AND TRIM

**FIGURE 1-5. FRONT AXLE AND MOUNTING WAUKESHA ENGINE (SN 8344001L through 8444490)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                       | REV |
|------|-------------|-----|-----------------------------------|-----|
| 1    | 90801303    | 1   | FRONT AXLE CRADLE                 |     |
| 2    | 90206847    | 1   | SWAY CYLINDER ROD PIN             |     |
| 3    | 88201119    | 1   | HEX HEAD CAPSCREW 3/4-10x4, GR5   |     |
| 4    | 88501012    | 1   | HEX NUT 3/4-10                    |     |
| 5    | 88671008    | 2   | LUBE FITTING-STRAIGHT 1/4-28      |     |
| 6    | 90205891    | 2   | SPACER                            |     |
| 7    | 90205489    | 2   | BUSHING                           |     |
| 8    | 90041002    | 8   | HEX HEAD CAPSCREW 1-8x9-1/2       |     |
| 9    | 90027475    | 8   | WASHER                            |     |
| 10   | 88521216    | 8   | HEX LOCKNUT 1-8                   |     |
| 11   | 90402850    | 1   | FRAME PIN                         |     |
| 11   | 91031243    | 1   | FRAME PIN (SN 8544706 to Present) |     |
| 12   | 83201031    | 1   | HEX HEAD CAPSCREW 1-8x5, GR8      |     |
| 13   | 88521016    | 1   | HEX LOCKNUT 1-8                   |     |
| 14   | 91031096    | 2   | BUSHING                           |     |
| 15   | 88671001    | 2   | LUBE FITTING-STRAIGHT 1/8         |     |

SECTION 1 - FRAME SHROUDING AND TRIM

FIGURE 1-6. REAR STEERING AXLE AND ATTACHING PARTS (SN 8344001L through 8444490)



## SECTION 1 - FRAME SHROUDING AND TRIM

**FIGURE 1-6. REAR STEERING AXLE AND ATTACHING PARTS (SN 8344001L through 8444490)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                     | REV |
|------|-------------|-----|-------------------------------------------------|-----|
| 1    | 90602826    | 1   | ARM, IDLER                                      |     |
| 2    | 83201074    | 2   | CAPSCREW, HEX HEAD 1-8x4                        |     |
| 3    | 88521216    | 2   | NUT, 1-8                                        |     |
| 4    | 90205462    | 2   | BUSHING, UPPER FRAME                            |     |
| 5    | 88671008    | 8   | FITTING, GREASE                                 |     |
| 6    | 90207419    | 2   | PIN, STEERING CYLINDER BASE                     |     |
| 7    | 90206895    | 1   | PIN, IDLER ARM MOUNT                            |     |
| 8    | 83201011    | 10  | CAPSCREW, 3/8-16x1                              |     |
| 8    | 90027470    | 10  | WASHER, 3/8                                     |     |
| 9    | 88671022    | 2   | FITTING, GREASE                                 |     |
| 10   | 90205482    | 2   | BUSHING                                         |     |
| 11   | 90403196    | 1   | PIN, REAR AXLE TO FRAME (Prior to SN 8344200L)  |     |
| 11   | 90410287    | 1   | PIN, REAR AXLE TO FRAME (SN 8444135 to Present) |     |
| 12   | 90022234    | 1   | NUT, HEX SELF LOCKING                           |     |
| 13   | 90206846    | AR  | SHIM, 1/8                                       |     |
| 13   | 91031009    | AR  | SHIM, 1/16                                      |     |
| 14   | 90020247    | 1   | CAPSCREW, 1-1/4-7x6                             |     |
| 15   | 85101098    | 1   | LOCKNUT, 1-1/4-7                                |     |
| 15   | 88561119    | 1   | WASHER                                          |     |
| 16   | 90206897    | 2   | PIN, STEERING KNUCKLE TO FRAME (upper)          |     |
| 17   | 88201077    | 2   | CAPSCREW, 1/2-13x4                              |     |
| 17   | 88501008    | 2   | NUT, HEX 1/2-13                                 |     |
| 18   | 90206895    | 2   | PIN, STEERING CYLINDER                          |     |
| 19   | 90203139    | AR  | SHIM, 1/16                                      |     |
| 20   | 90201918    | 2   | BEARING, THRUST, 1/8                            |     |
| 21   | 90801312    | 1   | KNUCKLE, L.H. STEER (shown)                     |     |
| 22   | 90801311    | 1   | KNUCKLE, R.H. STEER (not shown)                 |     |
| 23   | 83201062    | 16  | BOLT, TORQUE HUB MOUNT (grade 8)                |     |
| 23   | 90027472    | 16  | WASHER, HARDENED                                |     |
| 24   | 88501110    | 16  | NUT, 5/8-11                                     |     |
| 25   | 90205465    | 2   | BUSHING, LOWER FRAME                            |     |
| 26   | 90207484    | AR  | FELT, 1/2                                       |     |
| 26   | 90207485    | AR  | FELT, 1/4                                       |     |
| 27   | 90206542    | 2   | BEARING, THRUST                                 |     |
| 28   | 90200253    | 2   | WASHER, THRUST                                  |     |
| 29   | 90203039    | AR  | SHIM, 1/16                                      |     |
| 29   | 90203040    | AR  | SHIM, 1/8                                       |     |
| 30   | 90206900    | 2   | PIN, STEERING, KNUCKLE TO FRAME (lower)         |     |
| 31   | 83201026    | 4   | CAPSCREW, 1/2-13x1-1/2                          |     |
| 32   | 85401340    | 4   | WASHER, 1/2                                     |     |
| 33   | 90203168    | AR  | WIRE, SAFETY LOCK 50 FT                         |     |
| 34   | 90403184    | 2   | ARM                                             |     |
| 34   | 90206375    | 2   | BUSHING                                         |     |
| 35   | 90206896    | 2   | PIN                                             |     |
| 36   | 88201041    | 2   | CAPSCREW, 3/8-16x2-1/2                          |     |
| 37   | 88521306    | 2   | NUT, HEX                                        |     |
| 38   | 90201902    | 2   | BUSHING, SELF ALIGNING                          |     |
| 39   | 88501420    | 2   | NUT, LOCK 1-1/4-12                              |     |
| 40   | 90205653    | 4   | SHIM                                            |     |
| 41   | 88671001    | 2   | FITTING, GREASE                                 |     |

**SECTION 1 - FRAME SHROUDING AND TRIM**

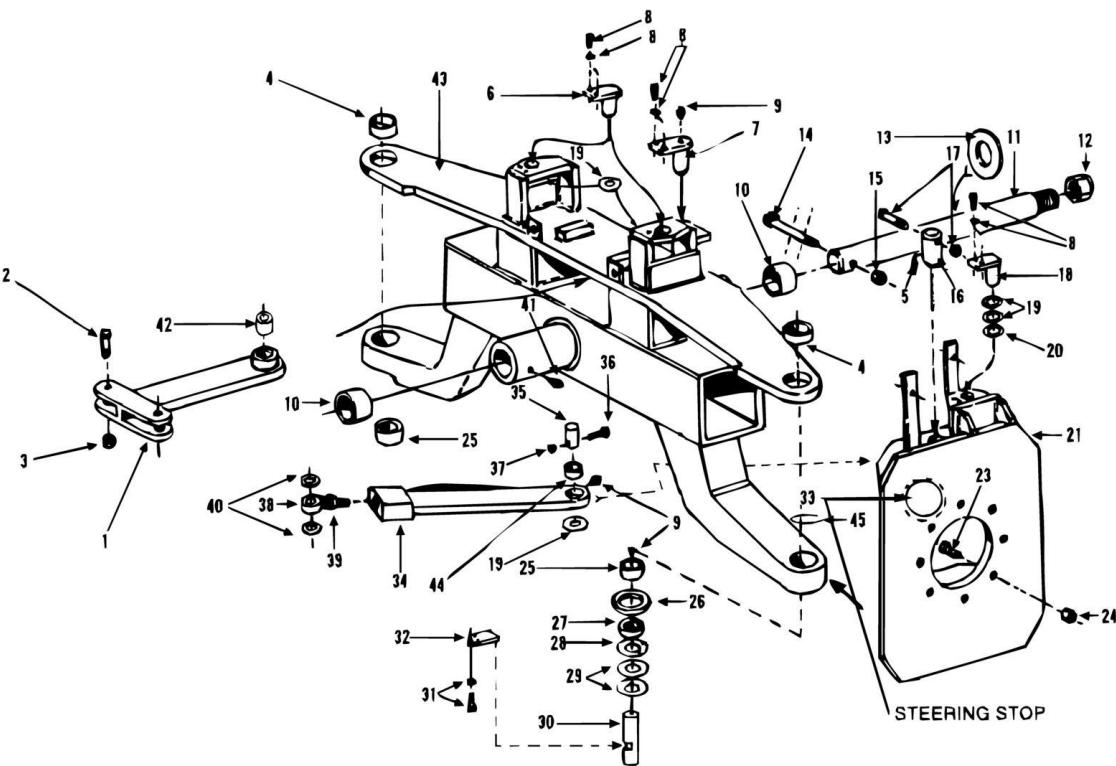
| ITEM | PART NUMBER | QTY | DESCRIPTION        | REV |
|------|-------------|-----|--------------------|-----|
| 42   | 90205340    | 1   | BUSHING            |     |
| 43   | 90801306    | 1   | AXLE, WELDMENT     |     |
| 44   | 88201097    | 2   | CAPSCREW, 5/8-11x2 |     |
| 44   | 88501110    | 2   | NUT, 5/8-11        |     |





SECTION 1 - FRAME SHROUDING AND TRIM

FIGURE 1-7. REAR STEERING AXLE AND ATTACHING PARTS PERKINS ENGINE ONLY (SN 8444491G through 8644030G)



## SECTION 1 - FRAME SHROUDING AND TRIM

**FIGURE 1-7. REAR STEERING AXLE AND ATTACHING PARTS PERKINS ENGINE ONLY (SN 8444491G through 8644030G)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                                                       | REV |
|------|-------------|-----|---------------------------------------------------------------------------------------------------|-----|
|      | 91035128    | 1   | AXLE REBUILD KIT (consists of items 4, 6, 7, 10, 16, 18, 20, 25, 28, 29, 30, 32, 35, 40, 42 & 44) |     |
|      | 91035122    | 1   | STEERING KNUCKLE KIT (consists of items 4, 16, 25 thru 30 & 32)                                   |     |
| 1    | 90602826    | 1   | IDLER ARM                                                                                         |     |
| 2    | 83201040    | 2   | HEX HD CAPSCREW, 1-8x4-1/4, GR8                                                                   |     |
| 3    | 88521316    | 2   | HEX LOCKOUT, 1-8                                                                                  |     |
| 4    | 91031374    | 2   | BUSHING                                                                                           |     |
| 5    | 88671001    | 4   | LUBE FITTING- STRAIGHT 1/8                                                                        |     |
| 6    | 90207419    | 2   | PIN (steering cylinder base)                                                                      |     |
| 7    | 90206895    | 1   | PIN (idler arm mount)                                                                             |     |
| 8    | 83201024    | 10  | HEX HD CAPSCREW, 3/8-16X1, GR8                                                                    |     |
| 9    | 88671022    | 12  | LUBE FITTING-90, 1/8                                                                              |     |
| 10   | 91031369    | 2   | BUSHING                                                                                           |     |
| 11   | 90410287    | 1   | PIN (rear axle to frame)                                                                          |     |
| 12   | 90022234    | 1   | SELF LOCKING HEX NUT                                                                              |     |
| 13   | 90206846    | AR  | SHIM, 1/8                                                                                         |     |
| 13   | 91031009    | AR  | SHIM, 1/16                                                                                        |     |
| 14   | 90020247    | 1   | HEX HD CAPSCREW, 1-1/4-7X6                                                                        |     |
| 15   | 85101098    | 1   | HEX LOCKNUT, 1-1/4-7                                                                              |     |
| 15   | 88561119    | 1   | FLATWASHER, 1-1/4                                                                                 |     |
| 16   | 91031340    | 2   | PIN (steering, knuckle to frame)                                                                  |     |
| 17   | 88201077    | 2   | HEX HD CAPSCREW, 1/2-13x4, GR5                                                                    |     |
| 17   | 88501008    | 2   | HEX NUT, 1/2-13                                                                                   |     |
| 18   | 90206895    | 2   | PIN (steering cylinder rod)                                                                       |     |
| 19   | 90203139    | AR  | SHIM, 1/16                                                                                        |     |
| 20   | 90201918    | 2   | THRUST BEARING, 1/8                                                                               |     |
| 21   | 90801312    | 1   | STEERING KNUCKLE (left)                                                                           |     |
| 22   | 90801311    | 1   | STEERING KNUCKLE (right)                                                                          |     |
| 23   | 83201062    | 16  | CAPSCREW, (torque hub mount) GR8                                                                  |     |
| 23   | 90027472    | 16  | WASHER                                                                                            |     |
| 24   | 88501110    | 16  | HEX NUT, 5/8-11                                                                                   |     |
| 25   | 91031391    | 2   | BUSHING                                                                                           |     |
| 26   | 90207484    | AR  | FELT, 1/2                                                                                         |     |
| 26   | 90207485    | AR  | FELT, 1/4                                                                                         |     |
| 27   | 90206542    | 2   | THRUST BEARING                                                                                    |     |
| 28   | 90200253    | 2   | THRUST WASHER                                                                                     |     |
| 29   | 90203039    | AR  | SHIM, 1/16                                                                                        |     |
| 29   | 90203040    | AR  | SHIM, 1/8                                                                                         |     |
| 30   | 91031344    | 2   | PIN (steering knuckle to frame)                                                                   |     |
| 31   | 83201129    | 6   | HEX HD CAPSCREW, 1/2-13x1-1/4, GR8                                                                |     |
| 31   | 85401340    | 6   | WASHER, 1/2                                                                                       |     |
| 32   | 91031345    | 2   | KEY PLATE                                                                                         |     |
| 33   | 83201102    | 2   | HEX HD CAPSCREW, 5/8-11x2                                                                         |     |
| 33   | 88501110    | 2   | HEX NUT, 5/8-11                                                                                   |     |
| 34   | 90403184    | 2   | ARM                                                                                               |     |
| 35   | 90206896    | 2   | PIN                                                                                               |     |
| 36   | 88201041    | 2   | HEX HD CAPSCREW, 3/8-16x2-1/2, GR5                                                                |     |
| 37   | 88521306    | 2   | HEX LOCKNUT, 3/8-16                                                                               |     |
| 38   | 90207842    | 2   | SELF ALIGNING BUSHING                                                                             |     |

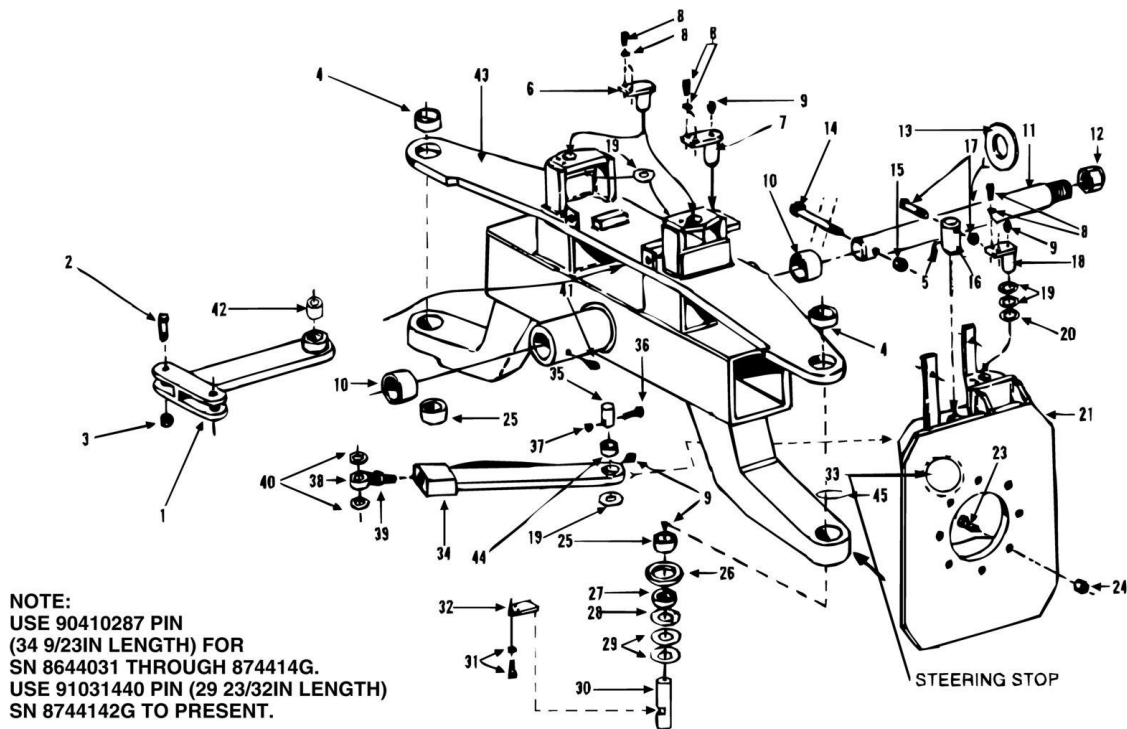
**SECTION 1 - FRAME SHROUDING AND TRIM**

| ITEM | PART NUMBER | QTY | DESCRIPTION            | REV |
|------|-------------|-----|------------------------|-----|
| 39   | 88501420    | 2   | HEX LOCKNUT, 1-1/4-12  |     |
| 40   | 90205653    | 4   | SHIM                   |     |
| 41   | 88671018    | 2   | LUBE FITTING - 45, 1/8 |     |
| 42   | 90205340    | 1   | BUSHING                |     |
| 43   | 90801306    | 1   | AXLE WELDMENT          |     |
| 44   | 91031397    | 2   | BUSHING                |     |
| 45   | 88581144    | 2   | RETAINING RING         |     |



SECTION 1 - FRAME SHROUDING AND TRIM

FIGURE 1-8. REAR STEERING AXLE AND ATTACHING PARTS (SN 8644031G to Present)



## SECTION 1 - FRAME SHROUDING AND TRIM

**FIGURE 1-8. REAR STEERING AXLE AND ATTACHING PARTS (SN 8644031G to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                                                | REV |
|------|-------------|-----|--------------------------------------------------------------------------------------------|-----|
|      | 91065036    | 1   | AXLE REBUILD KIT (consists of items 4, 7, 16, 18, 19, 20, 25 thru 30, 32, 35, 40, 42 & 44) |     |
|      | 91035122    | 1   | STEERING KNUCKLE KIT (consists of items 4, 16, 25 thru 30 & 32)                            |     |
| 1    | 90602826    | 1   | IDLER ARM                                                                                  |     |
| 2    | 83201040    | 2   | HEX HD CAPSCREW, 1-8x4-1/4, GR8                                                            |     |
| 3    | 88521316    | 2   | HEX LOCKOUT, 1-8                                                                           |     |
| 4    | 91031374    | 2   | BUSHING                                                                                    |     |
| 5    | 88671001    | 4   | LUBE FITTING- STRAIGHT 1/8                                                                 |     |
| 6    | 90207419    | 2   | PIN (steering cylinder base)                                                               |     |
| 7    | 90206895    | 1   | PIN (idler arm mount)                                                                      |     |
| 8    | 83201024    | 10  | HEX HD CAPSCREW, 3/8-16X1, GR8                                                             |     |
| 8    | 90027470    | 10  | WASHER, 3/8                                                                                |     |
| 9    | 88671022    | 12  | LUBE FITTING- 90, 1/8                                                                      |     |
| 10   | 91031369    | 2   | BUSHING                                                                                    |     |
| 11   | See Note    | 1   | REAR AXLE MOUNTING PIN                                                                     |     |
| 12   | 90022234    | 1   | SELF LOCKING HEX NUT                                                                       |     |
| 13   | 90206846    | AR  | SHIM, 1/8                                                                                  |     |
| 13   | 91031009    | AR  | SHIM, 1/16                                                                                 |     |
| 14   | 90020247    | 1   | HEX HD CAPSCREW, 1-1/4-7X6                                                                 |     |
| 15   | 85101098    | 1   | LOCKNUT, 1-1/4-7                                                                           |     |
| 15   | 88561119    | 1   | FLATWASHER, 1-1/4                                                                          |     |
| 16   | 91031340    | 1   | PIN (steering, knuckle to frame)                                                           |     |
| 17   | 88201077    | 2   | HEX HD CAPSCREW, 1/2-13x4, GR5                                                             |     |
| 17   | 88501008    | 2   | HEX NUT, 1/2-13                                                                            |     |
| 18   | 91036043    | 2   | PIN (steering cylinder rod)                                                                |     |
| 19   | 90203139    | AR  | SHIM, 1/16                                                                                 |     |
| 20   | 90201918    | 2   | THRUST BEARING, 1/8                                                                        |     |
| 21   | 91030003    | 1   | STEERING KNUCKLE (left)                                                                    |     |
| 22   | 91030004    | 1   | STEERING KNUCKLE (right)                                                                   |     |
| 23   | 83201062    | 16  | CAPSCREW, (torgue hub mount) GR8                                                           |     |
| 23   | 99027472    | 16  | WASHER                                                                                     |     |
| 24   | 88501110    | 16  | HEX NUT, 5/8-11                                                                            |     |
| 25   | 91031391    | 2   | BUSHING                                                                                    |     |
| 26   | 90207484    | AR  | FELT, 1/2                                                                                  |     |
| 26   | 90207485    | AR  | FELT, 1/4                                                                                  |     |
| 27   | 90206542    | 2   | THRUST BEARING                                                                             |     |
| 28   | 90200253    | 2   | THRUST WASHER                                                                              |     |
| 29   | 90203039    | AR  | SHIM, 1/16                                                                                 |     |
| 29   | 90203040    | AR  | SHIM, 1/8                                                                                  |     |
| 30   | 91031344    | 2   | PIN (steering knuckle to frame)                                                            |     |
| 31   | 83201129    | 6   | HEX HD CAPSCREW, 1/2-13x1-1/4, GR8                                                         |     |
| 31   | 85401340    | 6   | WASHER, 1/2                                                                                |     |
| 32   | 91031345    | 2   | KEY PLATE                                                                                  |     |
| 33   | 83201102    | 2   | HEX HD CAPSCREW, 5/8-11x2, GR8                                                             |     |
| 33   | 88501110    | 2   | HEX NUT, 5/8-11                                                                            |     |
| 34   | 90403184    | 2   | ARM                                                                                        |     |
| 35   | 90206896    | 2   | PIN                                                                                        |     |
| 36   | 88201041    | 2   | HEX HD CAPSCREW, 3/8-16x2-1/2, GR5                                                         |     |
| 37   | 88521306    | 2   | HEX LOCKNUT, 3/8-16                                                                        |     |
| 38   | 90207842    | 2   | SELF ALIGNING BUSHING                                                                      |     |

**SECTION 1 - FRAME SHROUDING AND TRIM**

| ITEM | PART NUMBER | QTY | DESCRIPTION            | REV |
|------|-------------|-----|------------------------|-----|
| 39   | 88501420    | 2   | HEX JAM NUT, 1-1/4-12  |     |
| 40   | 90205653    | 4   | SHIM                   |     |
| 41   | 88671018    | 2   | LUBE FITTING - 45, 1/8 |     |
| 42   | 90205340    | 1   | BUSHING                |     |
| 43   | 90801306    | 1   | AXLE WELDMENT          |     |
| 44   | 91031397    | 2   | BUSHING                |     |
| 45   | 88581144    | 2   | RETAINING RING         |     |

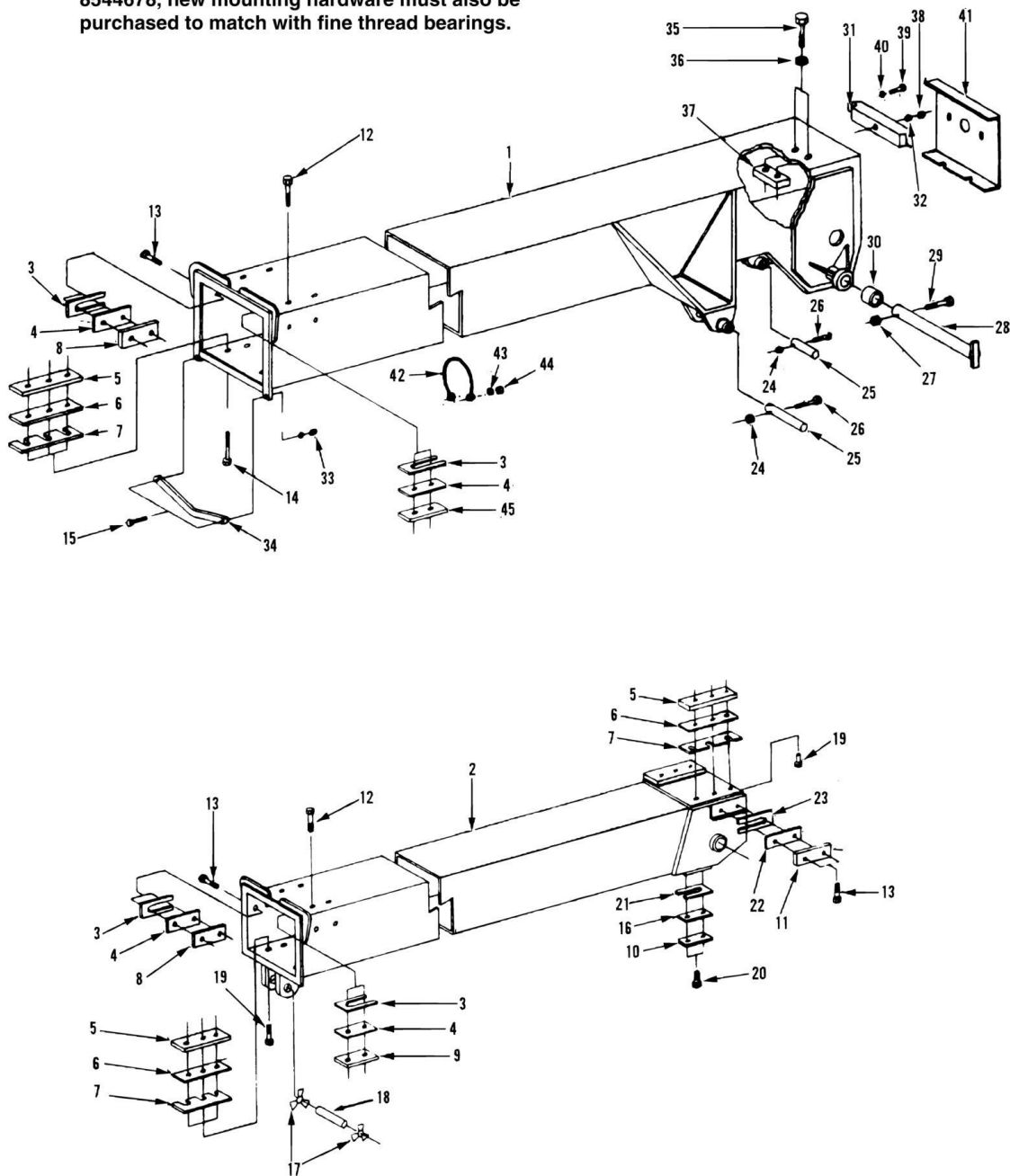


**SECTION 2 - BOOM**

SECTION 2 - BOOM

FIGURE 2-1. 1ST & 2ND BOOM SECTIONS (SN 8344001L to Present)

NOTE: When ordering items no. 2,4,6,10,23, & 27 bearings for machines Prior to SN 8544678, new mounting hardware must also be purchased to match with fine thread bearings.



## SECTION 2 - BOOM

**FIGURE 2-1. 1ST & 2ND BOOM SECTIONS (SN 8344001L to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                               | REV |
|------|-------------|-----|-------------------------------------------|-----|
| 1    | 91036035    | 1   | 1ST BOOM SECTION (Prior to SN 8744142G)   |     |
| 1    | 91035148    | 1   | 1ST BOOM SECTION (SN 8744142G to Present) |     |
| 1    | 91036070    | 1   | BOOM WELDMENT                             |     |
| 1    | 91031384    | 2   | BUSHING                                   |     |
| 2    | 91036036    | 1   | 2ND BOOM SECTION                          |     |
| 3    | 90205870    | 12  | SLOTTED SHIM                              |     |
| 4    | 91031236    | 12  | PUNCHED HOLE SHIM                         |     |
| 5    | 91033190    | 6   | BEARING                                   |     |
| 6    | 91031237    | 12  | PUNCHED HOLE SHIM                         |     |
| 7    | 90205497    | 12  | SLOTTED SHIM                              |     |
| 8    | 91033186    | 4   | BEARING                                   |     |
| 9    | 91033189    | 2   | BEARING                                   |     |
| 10   | 91033188    | 2   | BEARING                                   |     |
| 11   | 91033184    | 2   | BEARING                                   |     |
| 12   | 88201533    | 8   | HEX HD CAPSCREW, 3/8-24x7/8 GR5           |     |
| 13   | 88201532    | 12  | HEX HD CAPSCREW, 3/8-24x3/4 GR5           |     |
| 14   | 88201566    | 6   | HEX HD CAPSCREW, 1/2-20x1-1/2 GR5         |     |
| 15   | 88201067    | 2   | HEX HD CAPSCREW, 1,2-13x1-1/2 GR5         |     |
| 16   | 91031234    | 2   | PUNCHED HOLE SHIM                         |     |
| 17   | 90028935    | 2   | SNAP RING                                 |     |
| 18   | 90207352    | 1   | CROWD CYLINDER ROD PIN                    |     |
| 19   | 88201563    | 12  | HEX HD CAPSCREW, 1/2-20x7/8 GR5           |     |
| 20   | 88201534    | 4   | HEX HD CAPSCREW, 3/8-24X1, GR5            |     |
| 21   | 90207029    | 2   | SLOTTED SHIM                              |     |
| 22   | 91031235    | 4   | PUNCHED HOLE SHIM                         |     |
| 23   | 90207030    | 4   | SLOTTED SHIM                              |     |
| 23   | 91031383    | 2   | SHIM                                      |     |
| 24   | 88501010    | 3   | HEX NUT, 5/8-11                           |     |
| 25   | 90206892    | 3   | CROWD BASE AND LIFT ROD PIN               |     |
| 26   | 88201105    | 3   | HEX HD CAPSCREW, 5/8-11X4, GR5            |     |
| 27   | 88501010    | 1   | HEX NUT, 5/8-11                           |     |
| 28   | 90403280    | 1   | BOOM BASE PIN                             |     |
| 29   | 88201106    | 1   | HEX HD CAPSCREW, 5/8-11x4-1/2 GR5         |     |
| 30   | 91031369    | 2   | BUSHING                                   |     |
| 31   | 90602842    | 1   | STRONGBACK                                |     |
| 32   | 90028965    | 1   | HEX NUT, 1-8                              |     |
| 33   | 88501008    | 2   | HEX NUT, 1/2-13                           |     |
| 34   | 90403212    | 1   | CROWD CYLINDER HANGER                     |     |
| 35   | 85081016    | 2   | CAPSCREW                                  |     |
| 36   | 05101441    | 2   | HARDENED WASHER                           |     |
| 37   | 91031163    | 1   | STOP BAR                                  |     |
| 38   | 88501116    | 1   | HEAVY HEX JAM NUT, 1-8                    |     |
| 39   | 88501069    | 2   | HEX HD CAPSCREW, 1/2-13x2, GR5            |     |
| 40   | 85401340    | 2   | WASHER                                    |     |
| 41   | 90403352    | 1   | BOOM COVER                                |     |
| 41   | 88561109    | 4   | FLATWASHER, 3/8                           |     |
| 41   | 90203959    | 4   | WING BOLT                                 |     |
| 42   | 90207575    | 1   | TIE DOWN CORD                             |     |
| 43   | 88561109    | 2   | FLAT WASHER, 3/8                          |     |
| 44   | 88501004    | 2   | HEX NUT, 1/4-20                           |     |

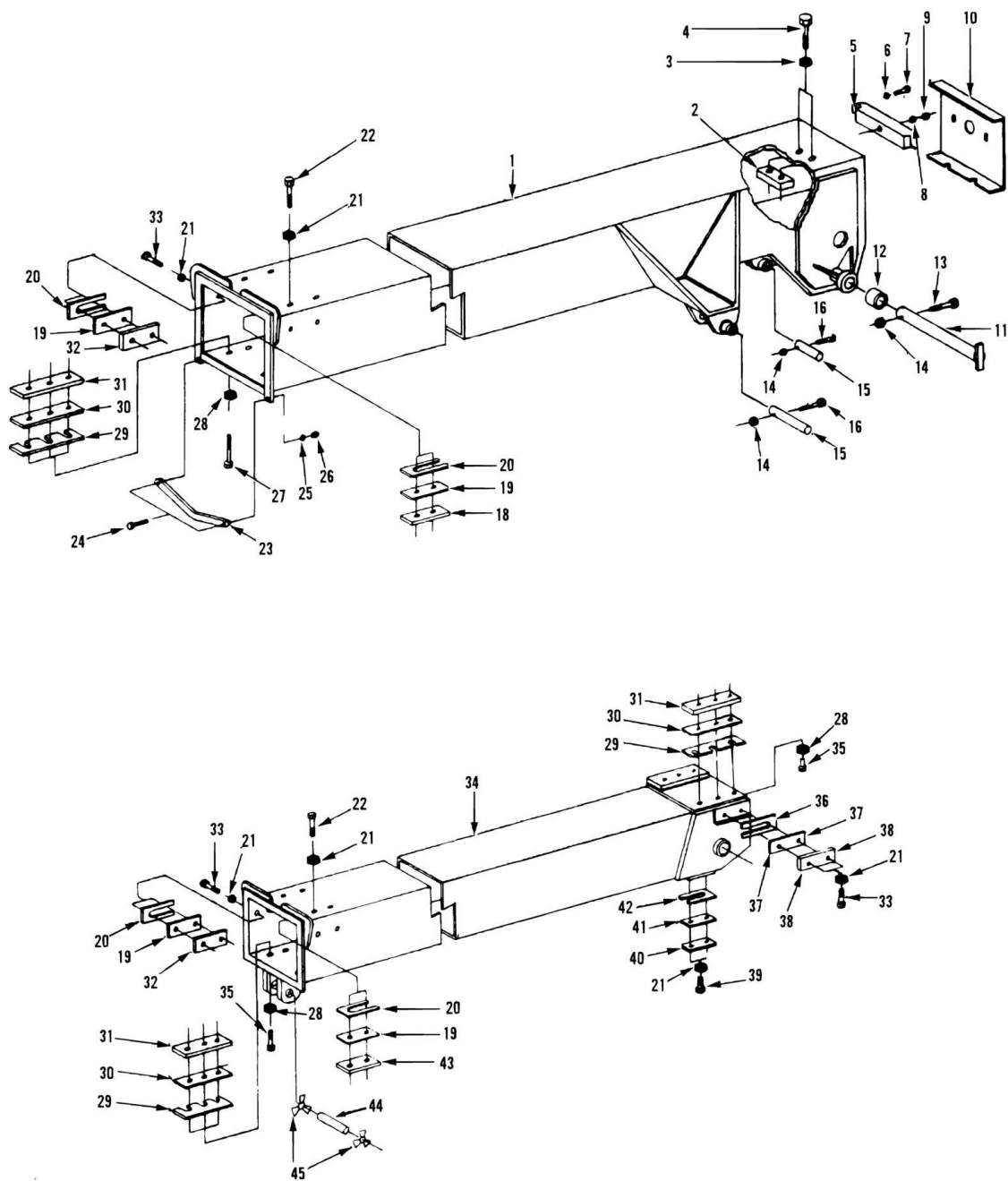
SECTION 2 - BOOM

| ITEM | PART NUMBER | QTY      | DESCRIPTION                                                                                                                                                                                                                     | REV |
|------|-------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| 45   | 91033185    | 2<br>Ref | BEARING<br>NOTE: For service replacement of 1st section boom on units with serial number 8744142G thru 0144297J machine 0144263J, provide 91035148 1st section boom, consisting of 91036070 weldment and two 91031384 bushings. |     |



SECTION 2 - BOOM

FIGURE 2-2. 1ST & 2ND BOOM SECTIONS (SN 0144298J to Present, Including 0144263J)



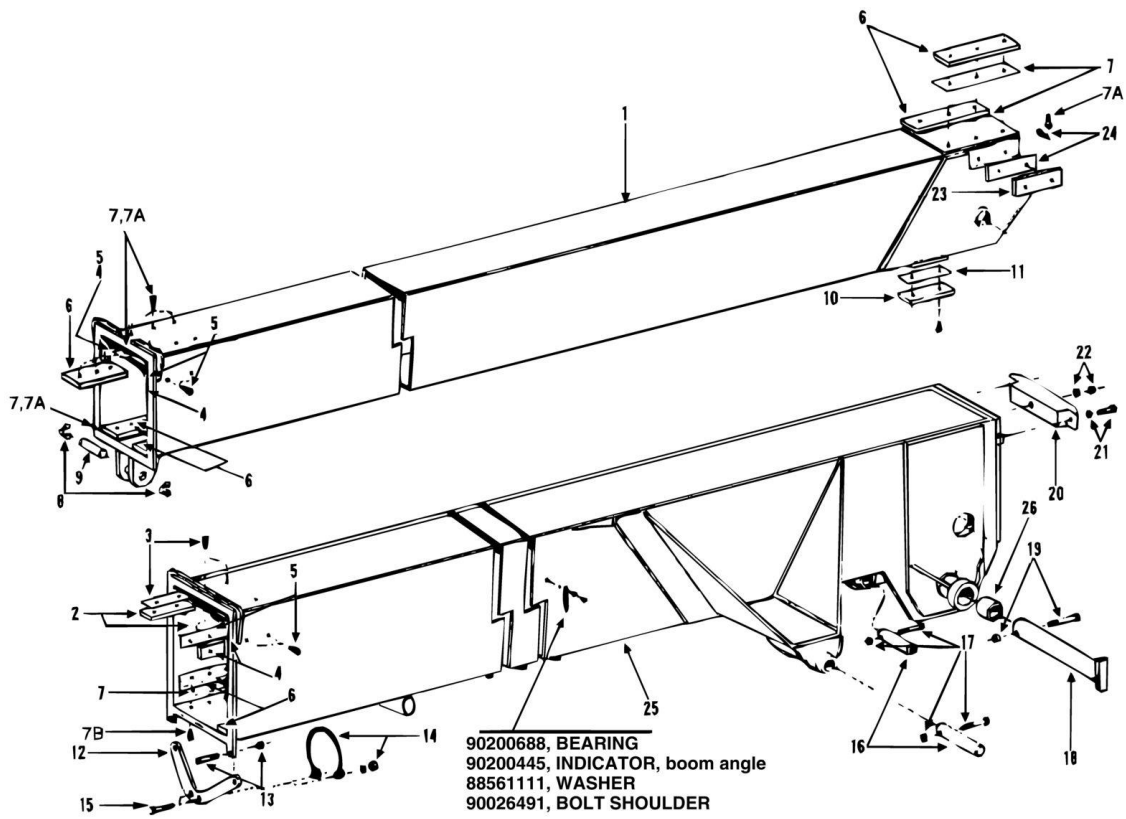
## SECTION 2 - BOOM

**FIGURE 2-2. 1ST & 2ND BOOM SECTIONS (SN 0144298J to Present, Including 0144263J)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                        | REV |
|------|-------------|-----|------------------------------------|-----|
| 1    | 91036070    | 1   | 1ST BOOM SECTION                   |     |
| 2    | 91031163    | 1   | STOP BAR                           |     |
| 3    | 05101441    | 2   | HARDENED WASHER                    |     |
| 4    | 83201053    | 3   | HEX HD CAPSCREW, 1-8X3, GR8        |     |
| 5    | 90602842    | 1   | STRONG BACK                        |     |
| 6    | 85401340    | 2   | WASHER                             |     |
| 7    | 88201069    | 2   | HEX HD CAPSCREW, 1/2-13X2, GR5     |     |
| 8    | 90028965    | 1   | HEX NUT, 1-8                       |     |
| 9    | 88501116    | 1   | HEAVY HEX JAM NUT, 1-8             |     |
| 10   | 90403352    | 1   | BOOM END COVER                     |     |
| 10   | 88561109    | 4   | FLAT WASHER, 3/8                   |     |
| 10   | 90203959    | 4   | WING BOLT                          |     |
| 11   | 91031389    | 1   | BOOM BASE PIN                      |     |
| 12   | 91031371    | 2   | BUSHING                            |     |
| 13   | 83481645    | 1   | HEX HD CAPSCREW, 5/8-11X6, GR8     |     |
| 14   | 88501010    | 4   | HEX LOCKNUT, 5/8-11                |     |
| 15   | 90206892    | 3   | CROWD BASE AND LIFT ROD PIN        |     |
| 16   | 83201044    | 3   | HEX HD CAPSCREW, 5/8-11X4, GR8     |     |
| 18   | 91033185    | 2   | BEARING PAD                        |     |
| 19   | 91031236    | 12  | PUNCHED HOLE SHIM                  |     |
| 20   | 90205870    | 12  | SLOTTED SHIM                       |     |
| 21   | 88561109    | 48  | FLAT WASHER, 3/8                   |     |
| 22   | 88201533    | 8   | HEX HD CAPSCREW, 3/8-24X7/8, GR5   |     |
| 23   | 90403212    | 1   | CROWD CYLINDER HANGER              |     |
| 24   | 88201067    | 2   | HEX HD CAPSCREW, 1/2-13X1-1/2, GR5 |     |
| 25   | 88551013    | 2   | LOCKWASHER, 1/2                    |     |
| 26   | 88501008    | 2   | HEX NUT, 1/2-13                    |     |
| 27   | 88201567    | 6   | HEX HD CAPSCREW, 1/2-20X1-3/4, GR5 |     |
| 28   | 88561111    | 18  | FLAT WASHER, 1/2                   |     |
| 29   | 90205497    | 12  | SLOTTED SHIM                       |     |
| 30   | 91031237    | 12  | PUNCHED HOLE SHIM                  |     |
| 31   | 91033190    | 6   | BEARING PAD                        |     |
| 32   | 91033186    | 4   | BEARING PAD                        |     |
| 33   | 88201532    | 12  | HEX HD CAPSCREW, 3/8-24X3/4, GR5   |     |
| 34   | 91036036    | 1   | 2ND BOOM SECTION                   |     |
| 35   | 88201563    | 12  | HEX HD CAPSCREW, 1/2-20X7/8, GR5   |     |
| 36   | 90207030    | 4   | SLOTTED SHIM                       |     |
| 37   | 91031235    | 4   | PUNCHED HOLE SHIM                  |     |
| 38   | 91033184    | 2   | BEARING PAD                        |     |
| 39   | 88201534    | 2   | HEX HD CAPSCREW, 3/8-24X1, GR5     |     |
| 40   | 91033188    | 2   | BEARING PAD                        |     |
| 41   | 91031234    | 2   | PUNCHED HOLE SHIM                  |     |
| 42   | 90207029    | 2   | SLOTTED SHIM                       |     |
| 43   | 91033189    | 2   | BEARING PAD                        |     |
| 44   | 90207352    | 1   | CROWD CYLINDER PIN                 |     |
| 45   | 90028935    | 2   | SNAP RING                          |     |

SECTION 2 - BOOM

FIGURE 2-3. 1ST & 2ND BOOM SECTIONS (SN 8544556 to Present)





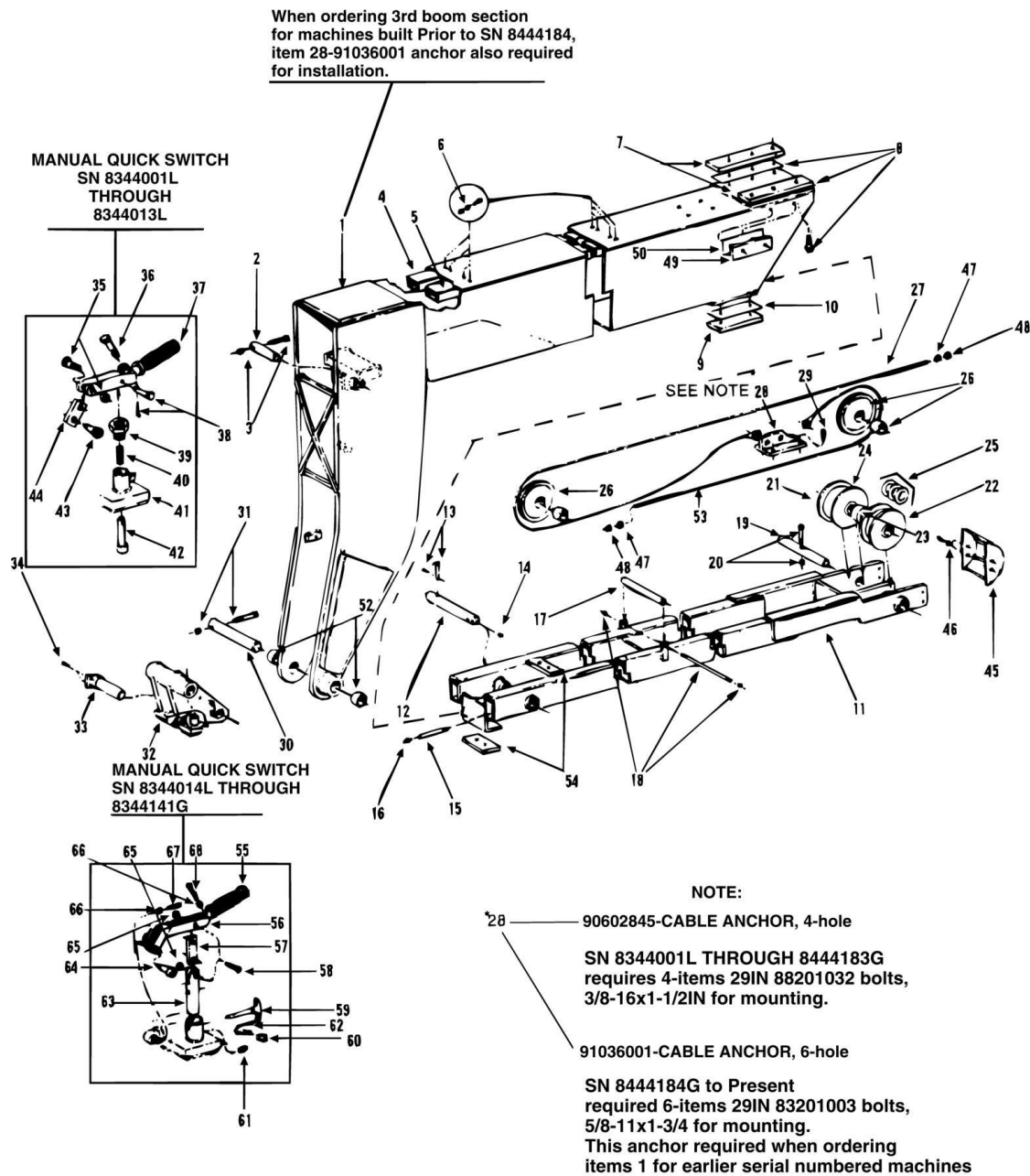
## SECTION 2 - BOOM

**FIGURE 2-3. 1ST & 2ND BOOM SECTIONS (SN 8544556 to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                                    | REV |
|------|-------------|-----|--------------------------------------------------------------------------------|-----|
| 1    | 91036036    | 1   | 2ND BOOM SECTION, 3S BOOM                                                      |     |
| 2    | 90205298    | 2   | BEARING                                                                        |     |
| 3    | 90205870    | 2   | SHIM                                                                           |     |
| 3    | 88201035    | 4   | HEX HD CAPSCREW 3/8-16x1                                                       |     |
| 4    | 90206238    | 4   | FRONT SIDE BEARING                                                             |     |
| 5    | 90205870    | AR  | SHIM                                                                           |     |
| 5    | 88201033    | 8   | HEX HD CAPSCREW, 3/8-16X3/4                                                    |     |
| 6    | 90402801    | 8   | BEARING                                                                        |     |
| 7    | 90205497    | AR  | SHIM                                                                           |     |
| 7A   | 88201064    | 18  | HEX HD CAPSCREW, 3/8-16x7/8                                                    |     |
| 7B   | 88201068    | 6   | HEX HD CAPSCREW, 3/8-16x1-3/4                                                  |     |
| 7B   | 90203168    | 2   | SAFETY WIRE FOR 90028963 CAPSCREW                                              |     |
| 8    | 90028935    | 2   | RETAINING RING                                                                 |     |
| 9    | 90207352    | 1   | CROWD CYLINDER ROD PIN                                                         |     |
| 10   | 90206873    | 2   | BEARING                                                                        |     |
| 11   | 90207029    | AR  | SHIM                                                                           |     |
| 11   | 88201035    | 4   | HEX HD CAPSCREW, 3/8-16X1                                                      |     |
| 12   | 90403212    | 1   | CROWD CYLINDER, HANGER                                                         |     |
| 13   | 88201067    | 2   | HEX HD CAPSCREW, 1/2-13X1-1/2                                                  |     |
| 13   | 88551013    | 2   | LOCKWASHER, 1/2                                                                |     |
| 13   | 88501008    | 2   | HEX NUT, 1/2-13                                                                |     |
| 14   | 90207575    | 1   | CYLINDER TIE DOWN CORD                                                         |     |
| 15   | 88201008    | 2   | HEX HD CAPSCREW, 1/4-20X1-3/4                                                  |     |
| 15   | 88561111    | 2   | WASHER                                                                         |     |
| 15   | 88501004    | 2   | HEX NUT, 1/4-20                                                                |     |
| 16   | 90206892    | 3   | CROWD BASE AND LIFT ROD PIN                                                    |     |
| 17   | 88201105    | 3   | HEX HEAD CAPSCREW, 5/8-11x4                                                    |     |
| 17   | 88501010    | 3   | HEX NUT, 5/8-11                                                                |     |
| 18   | 90403280    | 1   | BOOM BASE PIN                                                                  |     |
| 18   | 88671001    | 1   | GREASE FITTING                                                                 |     |
| 19   | 83481182    | 1   | HEX HD CAPSCREW, 5/8-11x5-1/4 GR8                                              |     |
| 19   | 88501010    | 1   | HEX NUT, 5/8-11                                                                |     |
| 20   | 90602842    | 1   | STRONG BACK                                                                    |     |
| 21   | 88201069    | 1   | HEX HD CAPSCREW, 1/2-13X2                                                      |     |
| 21   | 85401340    | 2   | WASHER                                                                         |     |
| 22   | 90028965    | 1   | HEX NUT, 1-8                                                                   |     |
| 22   | 88501116    | 1   | HEX JAM NUT, 1-8                                                               |     |
| 23   | 90207027    | 2   | BEARING                                                                        |     |
| 24   | 90207030    | AR  | SHIM                                                                           |     |
| 24   | 88201033    | 4   | HEX HD CAPSCREW, 3/8-16X3/4                                                    |     |
| 25   | 91036035    | 1   | 1ST SECTION, 3S BOOM                                                           |     |
| 26   | 90205482    | 2   | BUSHING                                                                        |     |
| 26   | 91031092    | 2   | BUSHING, STARTING SERIAL 8444491 REPLACES 90205482 WHEN NEW STYLE PIN IS USED. |     |

SECTION 2 - BOOM

FIGURE 2-4. 3RD BOOM SECTION, PUSH BEAM AND CABLE (SN 8344001L to Present)



## SECTION 2 - BOOM

**FIGURE 2-4. 3RD BOOM SECTION, PUSH BEAM AND CABLE (SN 8344001L to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                          | REV |
|------|-------------|-----|------------------------------------------------------|-----|
| 1    | 91036037    |     | 3RD BOOM SECTION                                     |     |
| 2    | 90206892    | 1   | TILT CYLINDER BASE PIN                               |     |
| 3    | 88201105    | 1   | HEX HD CAPSCREW, 5/8-11X4, GR5                       |     |
| 3    | 88501010    | 1   | HEX NUT, 5/8-11                                      |     |
| 4    | 90403350    | 1   | HOSE SUPPORT WELDMENT                                |     |
| 5    | 90403203    | 1   | HOSE SUPPORT WELDMENT                                |     |
| 6    | 88501005    | 12  | HEX NUT, 5/16-18                                     |     |
| 6    | 88561108    | 12  | FLAT WASHER, 5/16                                    |     |
| 7    | 91033190    | 2   | BEARING (top rear)                                   |     |
| 8    | 90205497    | 4   | SLOTTED SHIM                                         |     |
| 8    | 91031237    | 4   | PUNCHED HOLE SHIM                                    |     |
| 8    | 88201564    | 6   | HEX HD CAPSCREW, 1/2-20X1, GR5                       |     |
| 8    | 88561111    | 6   | FLAT WASHER, 1/2                                     |     |
| 9    | 91033184    | 2   | BEARING (lower rear)                                 |     |
| 10   | 90207030    | 4   | SLOTTED SHIM                                         |     |
| 10   | 91031235    | 4   | PUNCHED HOLE SHIM                                    |     |
| 10   | 88201536    | 4   | HEX HD CAPSCREW, 3/8-24X1-1/2, GR5                   |     |
| 10   | 88561109    | 4   | FLATWASHER, 3/8                                      |     |
| 11   | 90801349    | 1   | PUSH BEAM                                            |     |
| 12   | 90207621    | 1   | PIN                                                  |     |
| 13   | 90021608    | 1   | CLEVIS PIN                                           |     |
| 13   | 88631310    | 1   | COTTER PIN 3/32x1                                    |     |
| 14   | 88711284    | 1   | HEX SOCKET PIPE PLUG, 3/4                            |     |
| 15   | 88701035    | 1   | NIPPLE, 1/8x12                                       |     |
| 16   | 90028740    | 1   | GREASE FITTING                                       |     |
| 17   | 90207215    | 0   | ROLLER (not required) <b>(SN 8444459 to Present)</b> |     |
| 18   | 90207302    | 1   | STUD                                                 |     |
| 18   | 88521305    | 2   | HEX LOCKNUT 5/16-18                                  |     |
| 19   | 90207710    | 1   | PIN                                                  |     |
| 20   | 88201045    | 1   | HEX HD CAPSCREW, 3/8-16X3-1/2, GR5                   |     |
| 20   | 88501106    | 1   | HEAVY HEX JAM NUT, 3/8-16                            |     |
| 21   | 91043101    | 1   | SHEAVE                                               |     |
| 22   | 91043100    | 1   | SHEAVE                                               |     |
| 23   | 90206046    | 4   | BUSHING                                              |     |
| 24   | 90207043    | 1   | SPACER (if item 21 is not used)                      |     |
| 25   | 90200253    | AR  | SHIM                                                 |     |
| 25   | 90203039    | AR  | SHIM                                                 |     |
| 25   | 90203040    | AR  | SHIM                                                 |     |
| 26   | 91035147    | 2   | SHEAVE ASSEMBLY (includes sheave and bushing)        |     |
| 26   | 91031373    | 2   | CABLE SHEAVE                                         |     |
| 26   | 91031374    | 2   | BUSHING                                              |     |
| 27   | 90206886    | 1   | EXTEND CABLE (includes pins)                         |     |
| 28   |             | Ref | SEE NOTE                                             |     |
| 29   |             | Ref | SEE NOTE FOR ITEM 28                                 |     |
| 30   | 91041365    | 1   | PIN (boom to male coupler)                           |     |
| 31   | 88201107    | 1   | HEX HD CAPSCREW, 5/8-11X5, GR5                       |     |
| 31   | 88521310    | 1   | HEX LOCKNUT, 5/8-11                                  |     |
| 32   | 90602838    | 1   | MALER COUPLER                                        |     |
| 33   | 90207046    | 1   | TILT CYLINDER ROD PIN                                |     |
| 34   | 88201065    | 2   | HEX HD CAPSCREW, 1/2-13X1, GR5                       |     |

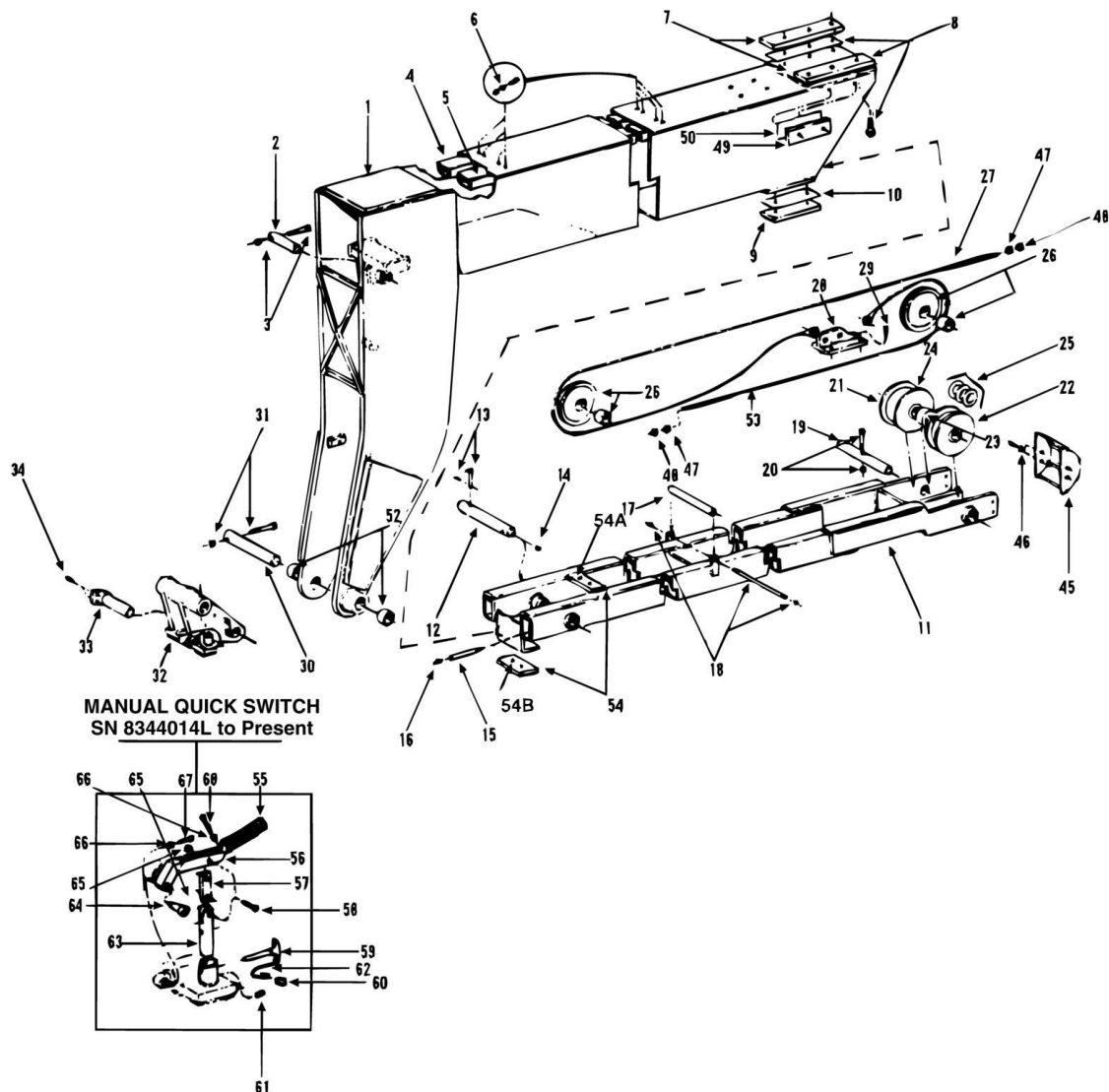
## SECTION 2 - BOOM

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                                                                                                                                       | REV |
|------|-------------|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| 35   | 88201069    | 1   | HEX HD CAPSCREW, 1/2-13X2, GR5                                                                                                                                                    |     |
| 35   | 88521308    | 1   | HEX LOCKNUT, 1/2-13                                                                                                                                                               |     |
| 36   | 90403232    | 1   | HANDLE ASSEMBLY                                                                                                                                                                   |     |
| 36   | 88201068    | 1   | HEX HD CAPSCREW, 1/2-13X1-3/4, GR5                                                                                                                                                |     |
| 37   | 90206976    | 1   | HANDLE GRIP                                                                                                                                                                       |     |
| 38   | 90021561    | 1   | CLEVIS PIN                                                                                                                                                                        |     |
| 38   | 88631310    | 1   | COTTER PIN 3/32x1                                                                                                                                                                 |     |
| 39   | 90206983    | 1   | SPRING RETAINER                                                                                                                                                                   |     |
| 40   | 90206901    | 1   | SPRING                                                                                                                                                                            |     |
| 41   | 90206906    | 1   | OIL CUP                                                                                                                                                                           |     |
| 42   | 90207527    | 1   | PLUNGER                                                                                                                                                                           |     |
| 43   | 88251036    | 1   | SOCKET HD SHOULDER SCREW, 1/2x3/4 (5/16-18 thread)                                                                                                                                |     |
| 44   | 90206980    | 1   | LINK                                                                                                                                                                              |     |
| 45   | 90403384    | 1   | CABLE AND HOSE RETAINER                                                                                                                                                           |     |
| 46   | 88201033    | 4   | HEX HD CAPSCREW, 3/8-16x3/4 GR5                                                                                                                                                   |     |
| 46   | 88561109    | 4   | FLAT WASHER, 3/8                                                                                                                                                                  |     |
| 47   | 90028965    | 2   | NUT                                                                                                                                                                               |     |
| 48   | 88501116    | 2   | HEAVY HEX JAM NUT 1-8                                                                                                                                                             |     |
| 49   | 91033186    | 2   | BEARING (side)                                                                                                                                                                    |     |
| 50   | 90205870    | 4   | SLOTTED SHIM                                                                                                                                                                      |     |
| 50   | 91031236    | 4   | PUNCHED HOLE SHIM                                                                                                                                                                 |     |
| 51   | 88201532    | 4   | HEX HD CAPSCREW, 3/8-24x3/4 GR5                                                                                                                                                   |     |
| 51   | 88561109    | 4   | FLAT WASHER, 3/8                                                                                                                                                                  |     |
| 52   | 91031136    | 2   | BUSHING                                                                                                                                                                           |     |
| 53   | 90206887    | 1   | RETRACT CABLE (includes pin)                                                                                                                                                      |     |
| 54   | 91033187    | 2   | BEARING                                                                                                                                                                           |     |
| 54   | 91031111    | 4   | SLOTTED SHIM                                                                                                                                                                      |     |
| 54   | 91031233    | 4   | PUNCHED HOLE SHIM                                                                                                                                                                 |     |
| 54A  | 88201533    | 2   | HEX HD CAPSCREW, 3/8-24x7/8 GR5                                                                                                                                                   |     |
| 54B  | 88201532    | 2   | HEX HD CAPSCREW, 3/8-24x3/4 GR5                                                                                                                                                   |     |
| 54B  | 88561109    | 4   | FLAT WASHER, 3/8                                                                                                                                                                  |     |
| 55   | 90206976    | 1   | HANDLE GRIP                                                                                                                                                                       |     |
| 56   | 90602906    | 1   | HANDLE WELDMENT                                                                                                                                                                   |     |
| 57   | 90207894    | 1   | LINK                                                                                                                                                                              |     |
| 58   | 88201038    | 2   | HEX HD CAPSCREW, 3/8-16x1-3/4 GR5                                                                                                                                                 |     |
| 59   | 90207902    | 1   | RELEASE PIN                                                                                                                                                                       |     |
| 60   | 91033039    | 1   | CONNECTION LINK                                                                                                                                                                   |     |
| 61   | 88671008    | 1   | LUBE FITTING STRAIGHT 1/4-28                                                                                                                                                      |     |
| 62   | 90203288    | 1   | CHAIN                                                                                                                                                                             |     |
| 63   | 90403441    | 1   | PLUNGER                                                                                                                                                                           |     |
| 64   | 88251037    | 1   | SOCKET HD SHOULDER SCREW, (1/2x1 (3/8-16 thread)                                                                                                                                  |     |
| 66   | 88501104    | 2   | HEAVY HEX JAM NUT, 1/4-20                                                                                                                                                         |     |
| 67   | 88201003    | 1   | HEX HD CAPSCREW, 1/4-20x3/4 GR5                                                                                                                                                   |     |
| 68   | 88201007    | 1   | HEX HD CAPSCREW, 1/4-20x1-1/2 GR5                                                                                                                                                 |     |
|      |             | Ref | NOTE: When ordering items number 7,9,49 & 54, bearings for machines new mounting hardware must also be purchased to match with fine thread bearings. <b>(Prior to SN 8544678)</b> |     |



SECTION 2 - BOOM

FIGURE 2-5. 3RD BOOM SECTION, PUSH BEAM AND CABLE (SN 8544556 to Present)



## SECTION 2 - BOOM

**FIGURE 2-5. 3RD BOOM SECTION, PUSH BEAM AND CABLE (SN 8544556 to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                              | REV |
|------|-------------|-----|------------------------------------------|-----|
| 1    | 91036037    | 1   | 3RD SECTION 3S BOOM                      |     |
| 2    | 90206892    | 1   | TILT CYLINDER BASE END PIN               |     |
| 3    | 88201105    | 1   | 5/8-11x4 HEX HD CAPSCREW                 |     |
| 3    | 88521310    | 1   | 5/8-11 LOCKNUT                           |     |
| 4    | 90403350    | 1   | HOSE SUPPORT WELDMENT                    |     |
| 5    | 90403203    | 1   | HOSE SUPPORT WELDMENT                    |     |
| 6    | 77143006    | 6   | 5/16-18 WHIZ LOCK NUT                    |     |
| 7    | 91033190    | 2   | BEARING, TOP GEAR                        |     |
| 8    | 90205497    | 4   | SHIM, SLOTTED                            |     |
| 8    | 91031237    | 4   | SHIM, PUNCHED HOLE                       |     |
| 8    | 88201564    | 6   | BOLT, 1/2x20-1IN                         |     |
| 8    | 90021470    | 6   | BEARING, TOOTH LOCK                      |     |
| 9    | 91033184    | 2   | BEARING, LOWER REAR                      |     |
| 10   | 90207030    | 4   | SHIM, SLOTTED                            |     |
| 10   | 91031235    | 4   | SHIM, PUNCHED HOLE                       |     |
| 10   | 88201536    | 4   | BOLT, 3/8-24x1 1/2                       |     |
| 10   | 90021469    | 4   | WASHER, TOOTH LOCK                       |     |
| 11   | 90801349    | 1   | PUSH BEAM                                |     |
| 12   | 90207621    | 1   | FRONT PIN                                |     |
| 13   | 90021608    | 1   | CLEVIS PIN                               |     |
| 13   | 88631310    | 1   | COTTER PIN                               |     |
| 14   | 88711284    | 1   | PLUG                                     |     |
| 15   | 90028941    | 1   | GREASE TUBE                              |     |
| 16   | 90028740    | 1   | GREASE FITTING                           |     |
| 16   | 88521305    | 2   | 5/16-18 HEX NUT                          |     |
| 19   | 90207710    | 1   | REAR PIN                                 |     |
| 20   | 88201045    | 1   | 3/8-16x3-1/2 HEX HD CAPSCREW             |     |
| 20   | 88501106    | 1   | 3/8-16 HEX JAM NUT                       |     |
| 21   | 90602852    | 1   | SHEAVE                                   |     |
| 22   | 90602830    | 1   | SHEAVE                                   |     |
| 23   | 90206046    | 4   | BUSHING                                  |     |
| 24   | 90207043    | 1   | SPACER (if item 21, sheave, is not used) |     |
| 25   | 90200253    | AR  | WASHER                                   |     |
| 25   | 90203039    | AR  | THRUST WASHER                            |     |
| 25   | 90203040    | AR  | THRUST WASHER                            |     |
| 26   | 90403182    | 2   | CABLE SHEAVE                             |     |
| 26   | 90205407    | 2   | BUSHING                                  |     |
| 27   | 90206886    | 1   | EXTEND CABLE (includes pins)             |     |
| 28   | 91036001    | 1   | CABLE ANCHOR                             |     |
| 29   | 83201022    |     | 5/8-11x2-1/4 BOLT                        |     |
| 29   | 77141077    | 6   | FLAT WASHER                              |     |
| 30   | 90207042    | 1   | BOOM TO MALE COUPLER PIN                 |     |
| 31   | 88201107    | 1   | 5/8-11x5 HEX HD CAPSCREW                 |     |
| 31   | 88521310    | 1   | 5/8-11 HEX NUT                           |     |
| 32   | 90602838    | 1   | MALE COUPLER                             |     |
| 33   | 90207046    | 1   | TILT CYLINDER ROD END PIN                |     |
| 34   | 88201065    | 2   | 1/2-13x1 HEX HD CAPSCREW                 |     |
| 45   | 90403384    | 1   | CABLE AND HOSE RETAINER                  |     |
| 46   | 88201033    | 4   | 3/8-16x3/4 HEX HD CAPSCREW               |     |
| 46   | 88561109    | 4   | WASHER                                   |     |

## SECTION 2 - BOOM

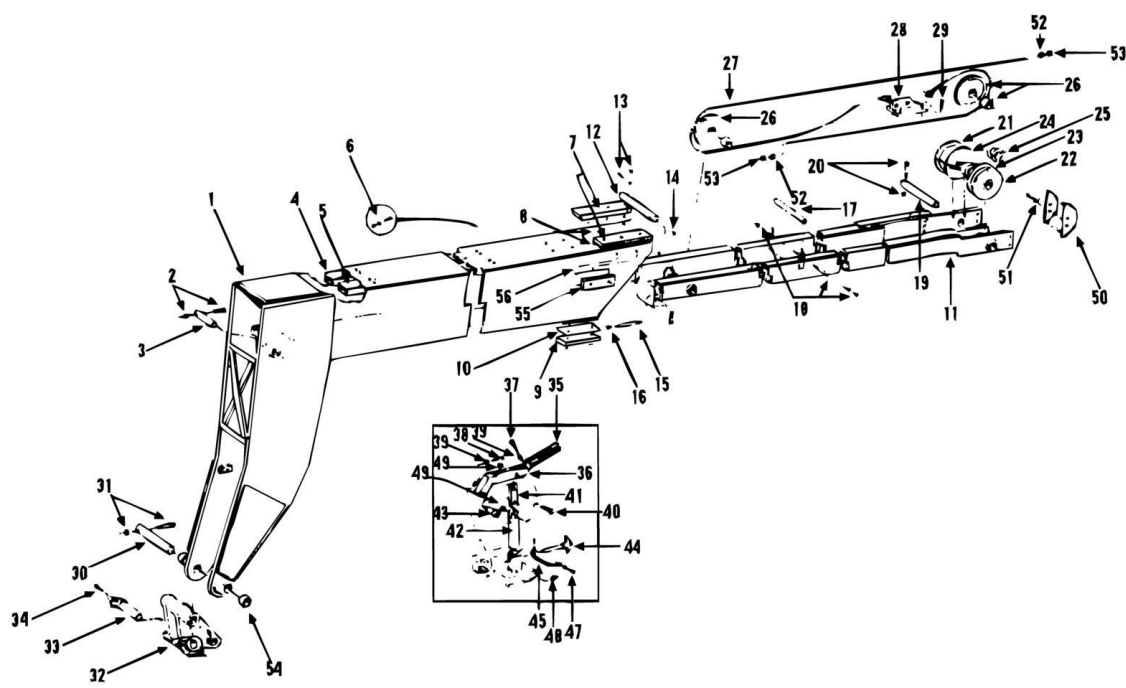
| ITEM | PART NUMBER | QTY | DESCRIPTION                           | REV |
|------|-------------|-----|---------------------------------------|-----|
| 46   | 88551011    | 4   | LOCKWASHER                            |     |
| 47   | 90028965    | 2   | NUT                                   |     |
| 48   | 88501116    | 2   | 7/8-9 NUT                             |     |
| 49   | 91033186    | 2   | BEARING, SIDE                         |     |
| 50   | 90205870    | 4   | SHIM, SLOTTED                         |     |
| 50   | 91031236    | 4   | SHIM, PUNCHED HOLE                    |     |
| 51   | 88201532    | 4   | BOLT, 3/8-24x3/4 (not shown-items 49) |     |
| 51   | 90021469    | 4   | WASHERS, TOOTH LOCK                   |     |
| 52   | 90205475    | 2   | BUSHING                               |     |
| 53   | 90206887    | 1   | RETRACT CABLE, INCLUDES PIN           |     |
| 54   | 91033187    | 2   | BEARING                               |     |
| 54   | 91031111    | 4   | SHIM, SLOTTED                         |     |
| 54   | 91031233    | 4   | SHIM, PUNCHED HOLE                    |     |
| 54A  | 88201533    | 2   | BOLT, 3/8-24x7/8                      |     |
| 54B  | 88201532    | 2   | BOLT, 3/8-24x3/4                      |     |
| 54B  | 90021469    | 4   | WASHERS, TOOTH LOCK                   |     |
| 55   | 90206976    | 1   | HANDLE GRIP                           |     |
| 56   | 90602906    | 1   | HANDLE WELDMENT                       |     |
| 57   | 90207894    | 1   | LINK                                  |     |
| 58   | 88201038    | 2   | 3/8-16x1-3/4 HEX HD CAPSCREW          |     |
| 59   | 90207902    | 1   | RELEASE PIN                           |     |
| 60   | 91033039    | 1   | CONNECTION LINK                       |     |
| 61   | 88671008    | 1   | GREASE FITTING                        |     |
| 62   | 90203288    | 1   | CHAIN                                 |     |
| 63   | 90403441    | 1   | PLUNGER                               |     |
| 64   | 88251037    | 1   | SHOULDER BOLT                         |     |
| 65   | 88521306    | 2   | 3/8-16 LOCKNUT                        |     |
| 66   | 88501104    | 2   | 1/4-20 LOCKNUT                        |     |
| 67   | 88201003    | 1   | 1/4-20x3/4 HEX HD CAPSCREW            |     |
| 68   | 88201007    | 1   | 1/4-20x1-1/2 HEX HD CAPSCREW          |     |





SECTION 2 - BOOM

FIGURE 2-6. 3RD BOOM SECTION, PUSH BEAM AND CABLE (SN 8344001L to Present)



## SECTION 2 - BOOM

**FIGURE 2-6. 3RD BOOM SECTION, PUSH BEAM AND CABLE (SN 8344001L to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                      | REV |
|------|-------------|-----|----------------------------------|-----|
| 1    | 90801296    | 1   | 3S BOOM, 3RD SECTION             |     |
| 2    | 90206892    | 1   | PIN, TILT CYLINDER BASE END      |     |
| 3    | 90020199    | 1   | CAPSCREW, HEX HD 5/8-11x4        |     |
| 3    | 90021101    | 1   | NUT, HEX 5/8-11                  |     |
| 4    | 90403350    | 1   | TUBE, AUXILARY HOSE              |     |
| 5    | 90403203    | 1   | TUBE, TILT HOSE                  |     |
| 6    | 90021095    | 12  | NUT, HEX 5/16-18                 |     |
| 6    | 90021455    | 12  | WASHER                           |     |
| 7    | 90402801    | 2   | BEARING, REAR TOP                |     |
| 8    | 90205497    | AR  | SHIM (use as required)           |     |
| 8    | 90203167    | 6   | BOLT, SPECIAL                    |     |
| 9    | 90207027    | 2   | BEARING, REAR LOWER              |     |
| 10   | 90207029    | 2   | SHIM                             |     |
| 10   | 90200007    | 4   | CAPSCREW, HEX HD 3/8-16x1        |     |
| 11   | 90801349    | 1   | BEAM, PUSH                       |     |
| 12   | 90207621    | 1   | PIN, FRONT                       |     |
| 13   | 90201608    | 1   | PIN, CLEVIS                      |     |
| 13   | 90207221    | 1   | PIN, COTTER                      |     |
| 14   | 90027264    | 1   | PLUG                             |     |
| 15   | 90028941    | 1   | GREASE TUBE                      |     |
| 16   | 90028740    | 1   | FITTING, GREASE                  |     |
| 17   | 90207215    | 1   | ROLLER, HOSE SUPPORT             |     |
| 18   | 90207302    | 1   | STUD                             |     |
| 18   | 90022224    | 2   | NUT, HEX 5/16-18                 |     |
| 19   | 90207710    | 1   | PIN, REAR                        |     |
| 20   | 90020085    | 1   | CAPSCREW, HEX HD 3/8-16X3-1/2    |     |
| 20   | 90021117    | 1   | NUT, HEX JAM 3/8-16              |     |
| 21   | 90602852    | 1   | SHEAVE                           |     |
| 22   | 90602830    | 1   | SHEAVE                           |     |
| 23   | 90206046    | 4   | BUSHING                          |     |
| 24   | 90207043    | 1   | SPACER, (if item 21 is not used) |     |
| 25   | 90200253    | AR  | SHIM                             |     |
| 25   | 90200253    | AR  | SHIM                             |     |
| 25   | 90203039    | AR  | SHIM                             |     |
| 25   | 90203040    | AR  | SHIM                             |     |
| 26   | 90403182    | 2   | CABLE SHEAVE                     |     |
| 26   | 90205407    | 2   | NEEDLE BEARING                   |     |
| 27   | 90206886    | 1   | CABLE, INCLUDES PINS             |     |
| 28   | 90602845    | 1   | ANCHOR, CABLE                    |     |
| 29   | 90020121    | 4   | CAPSCREW, HEX HD 3/8-16x1 1/2    |     |
| 30   | 90207042    | 1   | PIN, BOOM TO MALE COUPLER        |     |
| 31   | 90020219    | 1   | CAPSCREW, HEX HEAD 5/8-11x5      |     |
| 31   | 90021101    | 1   | NUT, HEX 5/8-11                  |     |
| 32   | 90602838    | 1   | COUPLER, MALE                    |     |
| 33   | 90207046    | 1   | PIN, TILT CYLINDER ROD PIN       |     |
| 34   | 90029976    | 2   | CAPSCREW, HEX HD 1/2-13x1        |     |
| 35   | 90206976    | 1   | GRIP, HANDLE                     |     |
| 36   | 90602906    | 1   | HANDLE                           |     |
| 37   | 90020017    | 1   | CAPSCREW, HEX HD 1/4-20x1 1/2    |     |
| 38   | 90020009    | 1   | CAPSCREW, HEX HD 1/4-20x1 1/4    |     |

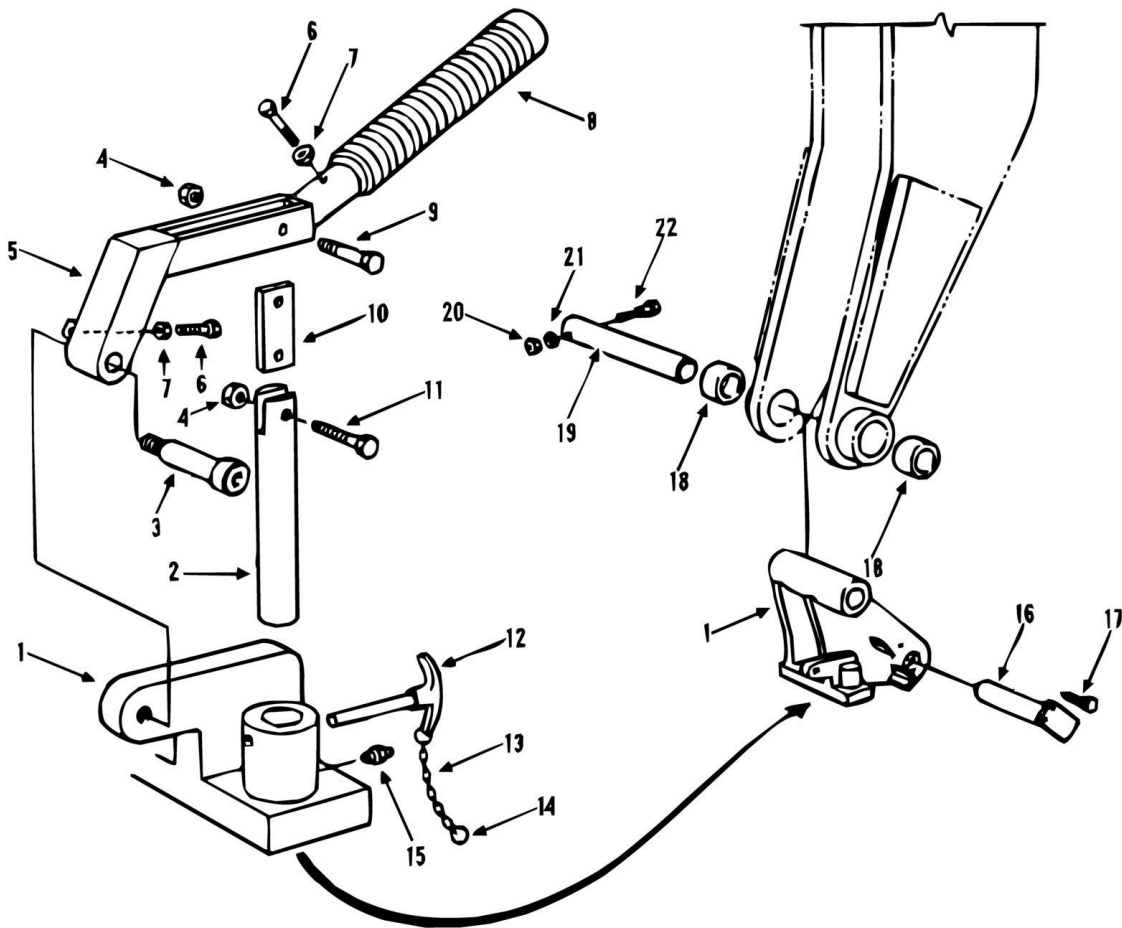
## SECTION 2 - BOOM

| ITEM | PART NUMBER | QTY | DESCRIPTION                       | REV |
|------|-------------|-----|-----------------------------------|-----|
| 39   | 90021113    | 2   | NUT, 1/4-20                       |     |
| 40   | 90020021    | 2   | CAPSCREW, HEX HD 3/8-16x1 1/2     |     |
| 41   | 90207894    | 1   | LINK                              |     |
| 42   | 90403441    | 1   | PLUNGER                           |     |
| 43   | 90026523    | 1   | BOLT, SHOULDER                    |     |
| 44   | 90207902    | 1   | HANDLE                            |     |
| 45   | 90203288    | 1   | WELDMENT, CHAIN                   |     |
| 47   | 90029976    | 1   | CAPSCREW, HEX HD 1/2-13x1         |     |
| 47   | 90027471    | 1   | WASHER, 1/2                       |     |
| 48   | 90022218    | 1   | FITTING, GREASE                   |     |
| 49   | 90022225    | 2   | NUT, 3/8-16                       |     |
| 50   | 90403384    | 1   | RETAINER, CABLE AND HOSE RETAINER |     |
| 51   | 90026019    | 4   | CAPSCREW, HEX HD 3/8-16x3/4       |     |
| 51   | 90021456    | 4   | WASHER, 3/8                       |     |
| 52   | 90028965    | 2   | NUT, CABLE END                    |     |
| 53   | 90021203    | 2   | NUT, CABLE END JAM                |     |
| 54   | 90205475    | 2   | BUSHING                           |     |
| 55   | 90206238    | 2   | BEARING, TOP SIDE                 |     |
| 56   | 90205870    | AR  | SHIM                              |     |
| 56   | 90026019    | 4   | BOLT, 3/8-16x3/4                  |     |



SECTION 2 - BOOM

FIGURE 2-7. (91045006) QUICK SWITCH ASSEMBLY (SN 8744142G to Present)



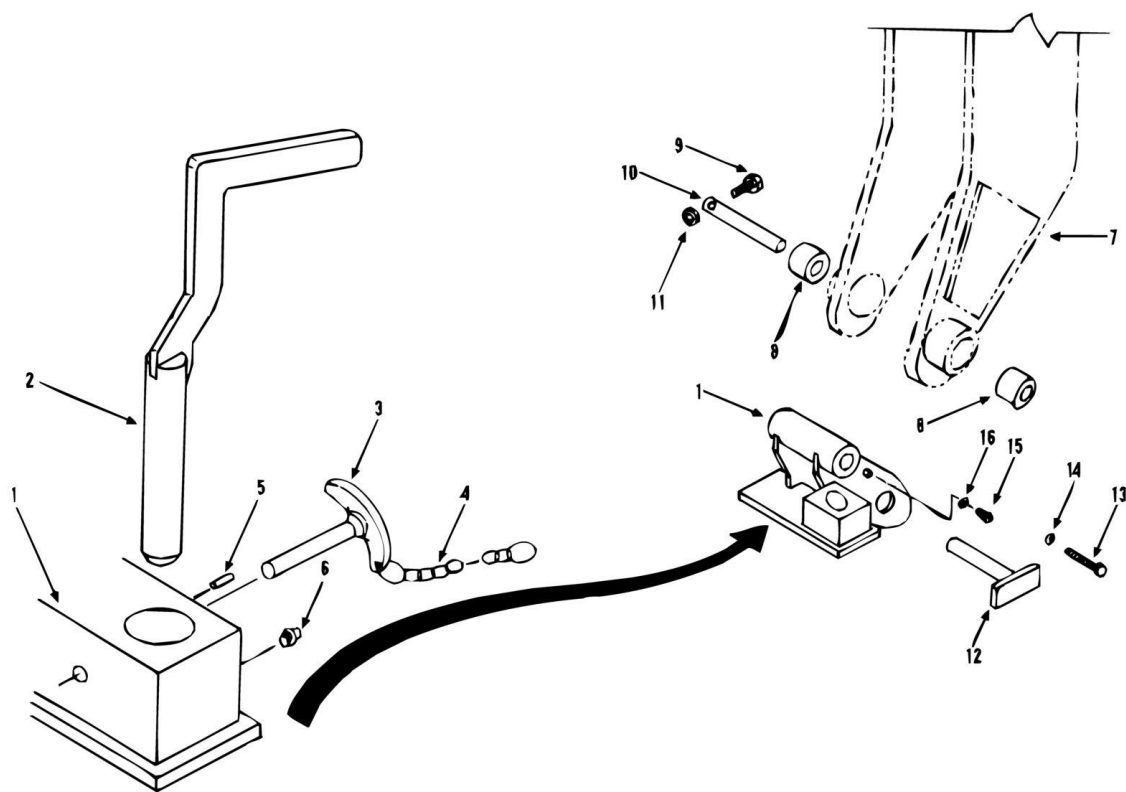
## SECTION 2 - BOOM

**FIGURE 2-7. (91045006) QUICK SWITCH ASSEMBLY (SN 8744142G to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                    | REV |
|------|-------------|-----|----------------------------------------------------------------|-----|
|      | 91045006    | 1   | QUICK SWITCH ASSY (includes all items except items 16 thru 22) |     |
| 1    | 91046027    | 1   | QUICK SWITCH WELDMENT                                          |     |
| 2    | 91041091    | 1   | PLUNGER                                                        |     |
| 3    | 88251037    | 1   | SOCKET HD SHOULDER SCREW, 1/2x1 (3/8-16 THREAD)                |     |
| 4    | 88521306    | 2   | HEX LOCKNUT, 3/8-16                                            |     |
| 5    | 90602906    | 1   | HANDLE WELDMENT                                                |     |
| 6    | 88201005    | 2   | HEX HD CAPSCREW, 1/4-20x1-1/2, GR5                             |     |
| 7    | 88501104    | 2   | HEX NUT, 1/4-20                                                |     |
| 8    | 90206979    | 1   | HANDLE GRIP                                                    |     |
| 9    | 88201037    | 1   | HEX HD CAPSCREW, 3/8-16x1-1/2, GR5                             |     |
| 10   | 90207894    | 1   | LINK                                                           |     |
| 11   | 88201038    | 1   | HEX HD CAPSCREW, 3/8-16x1-3/4. GR5                             |     |
| 12   | 90207902    | 1   | QUICK RELEASE PIN                                              |     |
| 13   | 1033038     | 1   | JACK CHAIN, 8IN LONG, SIZE 12                                  |     |
| 14   | 91033039    | 1   | CHAIN CONNECTION                                               |     |
| 15   | 88671008    | 1   | LUBE FITTING STRAIGHT 1/4-28                                   |     |
| 16   | 90207046    | 1   | TILT CYLINDER ROD END PIN                                      |     |
| 17   | 88201065    | 2   | HEX HD CAPSCREW, 1/2-13X1, GR5                                 |     |
| 18   | 91031136    | 2   | BUSHING                                                        |     |
| 19   | 91041365    | 1   | HEAD PIN                                                       |     |
| 20   | 88521010    | 1   | HEX LOCKNUT, 5/8-11                                            |     |
| 21   | 88551013    | 2   | LOCKWASHER, 1/2                                                |     |
| 22   | 86641057    | 1   | HEX HD CAPSCREW                                                |     |

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FIGURE 2-8. QUICK SWITCH ASSEMBLY (SN 0144698J to Present)





## SECTION 2 - BOOM

**FIGURE 2-8. QUICK SWITCH ASSEMBLY (SN 0144698J to Present)**

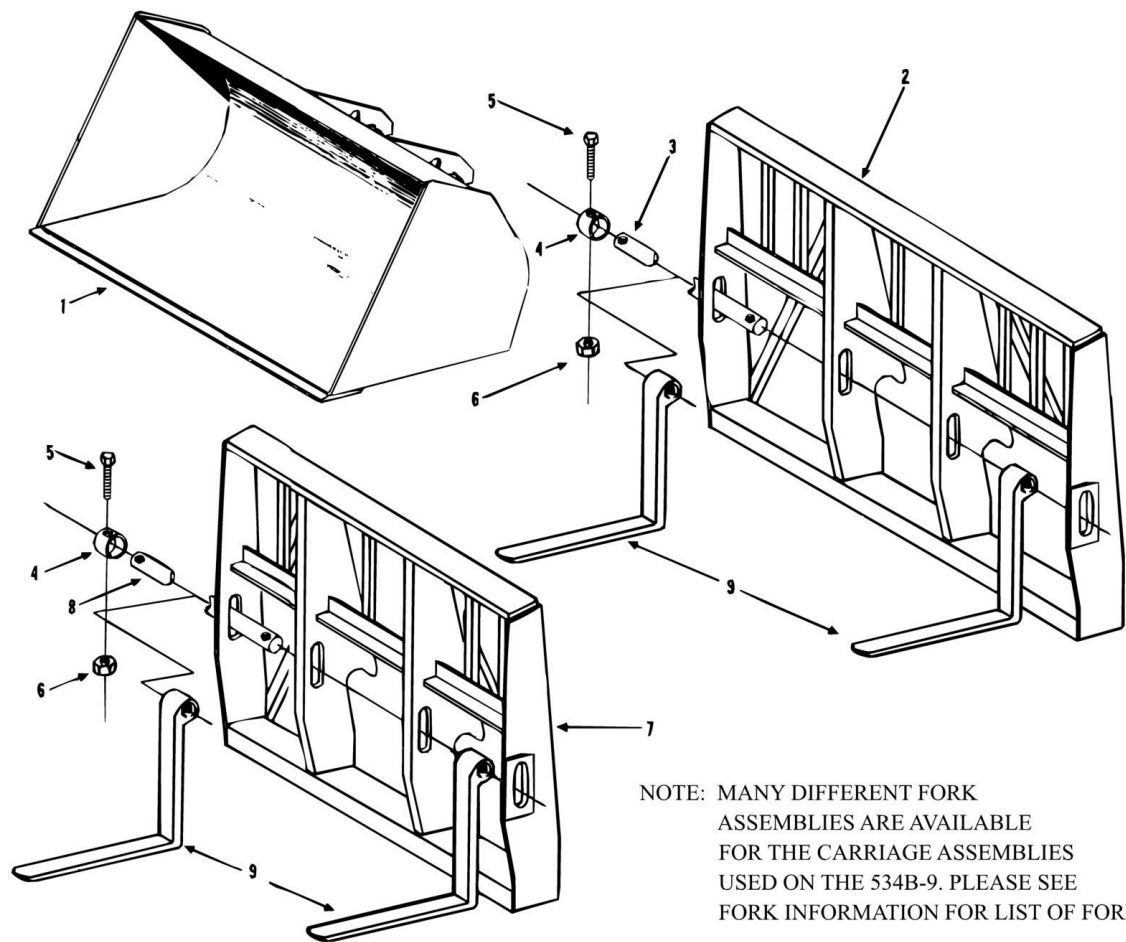
| ITEM | PART NUMBER | QTY | DESCRIPTION                    | REV |
|------|-------------|-----|--------------------------------|-----|
|      | 91045095    | 1   | QUICK SWITCH ASSEMBLY          |     |
| 1    | 91046074    | 1   | QUICK SWITCH WELDMENT          |     |
| 2    | 91086073    | 1   | PLUNGER WELDMENT               |     |
| 3    | 90207902    | 1   | QUICK RELEASE PIN              |     |
| 4    | 91033038    | 1   | JAC CHAIN, 8IN LONG, SIZE 12   |     |
| 5    | 88631509    | 1   | ROLL PIN, 1/4INX2              |     |
| 6    | 88671008    | 1   | LUBE FITTING, STRAIGHT, 1/4-28 |     |
| 7    | 91046020    | REF | FOURTH BOOM SECTION WELDMENT   |     |
| 8    | 91031136    | REF | BUSHING                        |     |
| 9    | 88641057    | 1   | HEX HD CAPSCREW                |     |
| 10   | 91041365    | 1   | HEAD PIN                       |     |
| 11   | 88521010    | 1   | HEX LOCKNUT, 5/8-11            |     |
| 12   | 90207046    | 1   | TILT CYLINDER ROD END PIN      |     |
| 13   | 88201065    | 2   | HEX HD CAPSCREW, 1/2-13X1, GR5 |     |
| 14   | 88551013    | 2   | LOCKWASHER, 1/2                |     |
| 15   | 88301090    | 1   | RD HD MACH SCREW #10-24x1/2    |     |
| 16   | 88561105    | 1   | FLATWASHER #10                 |     |



**SECTION 3 - ATTACHMENTS**

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FIGURE 3-1. CARRIAGE ASSEMBLY (SN 8344001L to Present)



NOTE: MANY DIFFERENT FORK  
ASSEMBLIES ARE AVAILABLE  
FOR THE CARRIAGE ASSEMBLIES  
USED ON THE 534B-9. PLEASE SEE  
FORK INFORMATION FOR LIST OF FORKS.

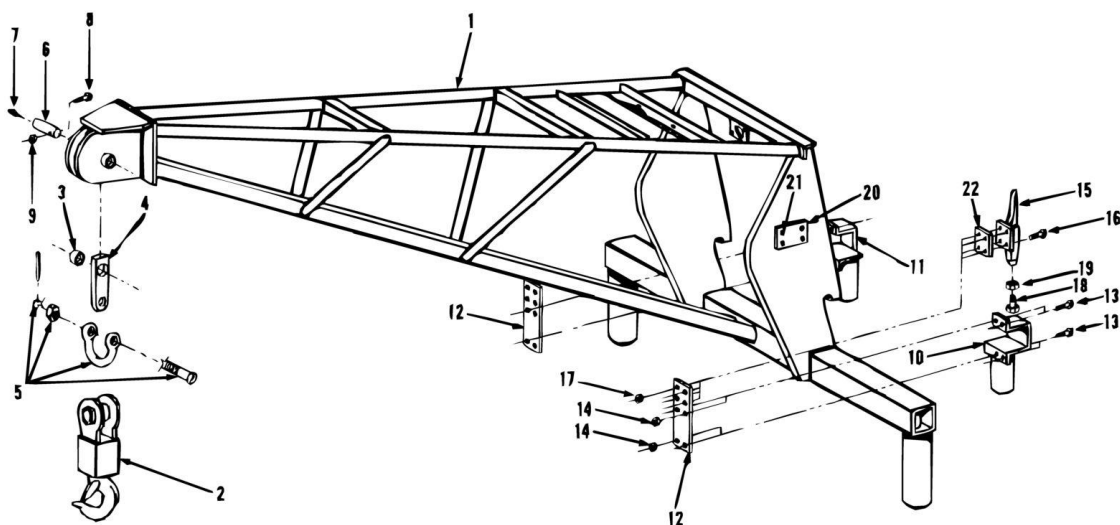
## SECTION 3 - ATTACHMENTS

**FIGURE 3-1. CARRIAGE ASSEMBLY (SN 8344001L to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                  | REV |
|------|-------------|-----|--------------------------------------------------------------|-----|
| 1    | 90455049    | 1   | 60IN BUCKET                                                  |     |
| 2    | 90801314    | 1   | 66IN CARRIAGE                                                |     |
| 3    | 90402478    | 1   | 66IN FORK PIN                                                |     |
| 4    | 90200003    | 2   | FORK PIN COLLAR                                              |     |
| 5    | 88201105    | 2   | HEX HD CAPSCREW, 5/8-11X4, GR5                               |     |
| 6    | 88521310    | 2   | HEX LOCKNUT, 5/8-11                                          |     |
| 7    | 90801315    | 1   | 48IN CARRIAGE                                                |     |
| 8    | 90402477    | 1   | 48IN FORK PIN                                                |     |
| 9    | 90802132    | 2   | PALLET FORK, 1-3/4X5X42 6000# CAPACITY                       |     |
| 9    | 90802221    | 2   | PALLET FORK, 2X4X48 6000# CAPACITY                           |     |
| 9    | 90802164    | 2   | PALLET FORK, 1-3/4X5X60 6000# CAPACITY                       |     |
| 9    | 90600390    | 2   | CUBING FORK, 2X2X50 3000# CAPACITY (USES 2 90410246 SPACERS) |     |
| 9    | 90601819    | 2   | PALLET FORK, 1-3/4X6X48 8000# CAPACITY                       |     |
| 9    | 90601818    | 2   | PALLET FORK, 2X6X60 8000# CAPACITY                           |     |
| 9    | 90453002    | 2   | PALLET FORK, 2X4X48 8000# CAPACITY                           |     |

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**FIGURE 3-2. (90455011) TRUSS BOOM (SN 8344001L to Present)**



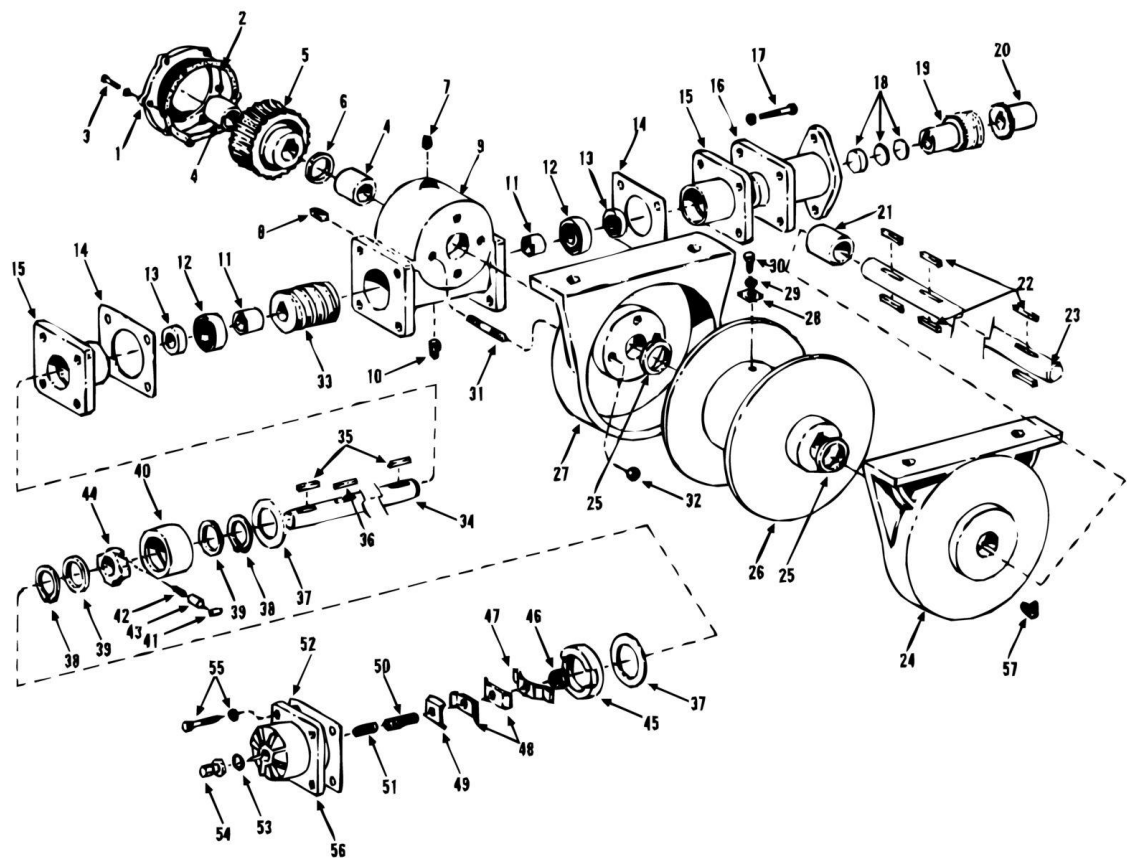
## SECTION 3 - ATTACHMENTS

**FIGURE 3-2. (90455011) TRUSS BOOM (SN 8344001L to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                             | REV |
|------|-------------|-----|-----------------------------------------|-----|
|      | 90455011    | 1   | TRUSS BOOM, (includes all items)        |     |
| 1    | 90801353    | 1   | TRUSS BOOM WELDMENT                     |     |
| 2    | 90453040    | 1   | SWIVEL HOOK                             |     |
| 3    | 90206046    | 1   | BUSHING                                 |     |
| 4    | 90451053    | 1   | HANGER                                  |     |
| 5    | 90453041    | 1   | SHACKLE, (includes attachment hardware) |     |
| 5    |             | Ref | BOLT                                    |     |
| 5    |             | Ref | NUT                                     |     |
| 5    |             | Ref | COTTER PIN                              |     |
| 6    | 90402948    | 1   | PIN                                     |     |
| 7    | 88671001    | 1   | LUBE FITTING, STRAIGHT, 1/8             |     |
| 8    | 88201073    | 1   | HEX HD CAPSCREW, 1/2-13X3, GR5          |     |
| 9    | 88501008    | 1   | HEXNUT, 1/2-13                          |     |
| 10   | 90602905    | 1   | SLIDER BRACKET                          |     |
| 11   | 90602904    | 1   | SLIDER BRACKET                          |     |
| 12   | 90403437    | 2   | SLIDER BAR                              |     |
| 13   | 88201036    | 8   | HEX HD CAPSCREW, 3/8-16X1-1/4, GR5      |     |
| 14   | 88501006    | 8   | HEX NUT, 3/8-16                         |     |
| 15   | 90207884    | 2   | LOCKING CLAMP                           |     |
| 16   | 88201021    | 8   | HEX HD CAPSCREW, 5/16-18X1-1/4, GR5     |     |
| 17   | 88501005    | 8   | HEX NUT, 5/16-18                        |     |
| 18   | 88201035    | 2   | HEX HD CAPSCREW, 3/8-16X1, GR5          |     |
| 19   | 88501106    | 2   | HEAVY HEX JAM NUT, 3/8-16               |     |
| 20   | 90153001    | 1   | SERIAL NO PLATE                         |     |
| 21   | 88341022    | 4   | DRIVE SCREW, #10X3/8                    |     |
| 22   | 90451047    | 2   | SPACER                                  |     |

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FIGURE 3-3. WINCH-TRUSS BOOM (SN 8344001L to Present)





## SECTION 3 - ATTACHMENTS

**FIGURE 3-3. WINCH-TRUSS BOOM (SN 8344001L to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                           | REV |
|------|-------------|-----|---------------------------------------|-----|
|      | 90207878    | 1   | TRUSS BOOM WINCH (includes all items) |     |
| 1    | 90208147    | 1   | GEAR CASE COVER                       |     |
| 2    | 90208171    | 1   | GEAR CASE GASKET                      |     |
| 3    | 88201035    | 6   | HEX HD CAPSCREW, 3/8-16x1, GR5        |     |
| 4    | 90208154    | 2   | BUSHING                               |     |
| 5    | 90208150    | 1   | WORM GEAR                             |     |
| 6    | 90208174    | 1   | BUSHING                               |     |
| 7    | 90208168    | 1   | OIL FILL PLUG                         |     |
| 8    | 90208185    | 1   | OIL LEVEL PLUG                        |     |
| 9    | 90208142    | 1   | GEAR CASE                             |     |
| 10   | 90208186    | 1   | OIL DRAIN PLUG                        |     |
| 11   | 90208156    | 2   | COLLAR                                |     |
| 12   | 90208183    | 2   | BEARING                               |     |
| 13   | 90208189    | 2   | OIL SEAL                              |     |
| 14   | 90208170    | 2   | BEARING HUB GASKET                    |     |
| 15   | 90208188    | 2   | BEARING HUB                           |     |
| 16   | 90208180    | 1   | MOTOR MOUNT ADAPTER                   |     |
| 17   | 88201037    | 4   | HEX HD CAPSCREW, 3/8-16x1-1/2 GR5     |     |
| 17   | 88551011    | 4   | LOCK WASHER, 3/8                      |     |
| 18   | 90208187    | AR  | COUPLER SPACER                        |     |
| 19   | 90208181    | 1   | COUPLER WINCH SHAFT                   |     |
| 20   | 90208182    | 1   | COUPLER MOTOR SHAFT                   |     |
| 21   | 90208153    | 1   | LOCK SEAT BUSHING                     |     |
| 22   | 90208152    | 6   | CABLE DRUM SHAFT KEY                  |     |
| 23   | 90208148    | 1   | CABLE DRUM SHAFT                      |     |
| 24   | 91404384    | 1   | LOCK SEAT                             |     |
| 25   | 90208173    | 2   | WASHER                                |     |
| 26   | 90208145    | 1   | CABLE DRUM                            |     |
| 27   | 90208143    | 1   | LOCK SEAT                             |     |
| 28   | 90208169    | 1   | WIRE ROPE LOCK                        |     |
| 29   | 88551011    | 1   | LOCKWASHER, 3/8                       |     |
| 30   | 88201036    | 1   | HEX HD CAPSCREW, 3/8-16x1-1/4 GR5     |     |
| 31   | 90208155    | 4   | STUD BOLT, 1/2-13X1-1/2               |     |
| 32   | 88501008    | 4   | HEX NUT, 1/2-13                       |     |
| 33   | 90208151    | 1   | WORM                                  |     |
| 34   | 90208149    | 1   | WORM SHAFT                            |     |
| 35   | 90208176    | 2   | WORM SHAFT KEY                        |     |
| 36   | 90208177    | 1   | WORM SHAFT KEY                        |     |
| 37   | 90208164    | 2   | BRAKE LINING                          |     |
| 38   | 90208184    | 2   | LOCK RING (V.C. type)                 |     |
| 39   | 90208175    | 2   | SEAL                                  |     |
| 40   | 90208158    | 1   | BRAKE HOUSING                         |     |
| 41   | 90208163    | 1   | ROLLER                                |     |
| 42   | 90208179    | 1   | BRAKE DRUM SPRING                     |     |
| 43   | 90208162    | 1   | SPRING SEAT                           |     |
| 44   | 90208159    | 1   | BRAKE DRUM                            |     |
| 45   | 90208157    | 1   | BRAKE PLATE                           |     |
| 46   | 88501006    | 1   | HEX NUT, 3/8-16                       |     |
| 47   | 90208165    | 1   | BRAKE PLATE                           |     |
| 48   | 90208166    | 2   | BRAKE PLATE                           |     |

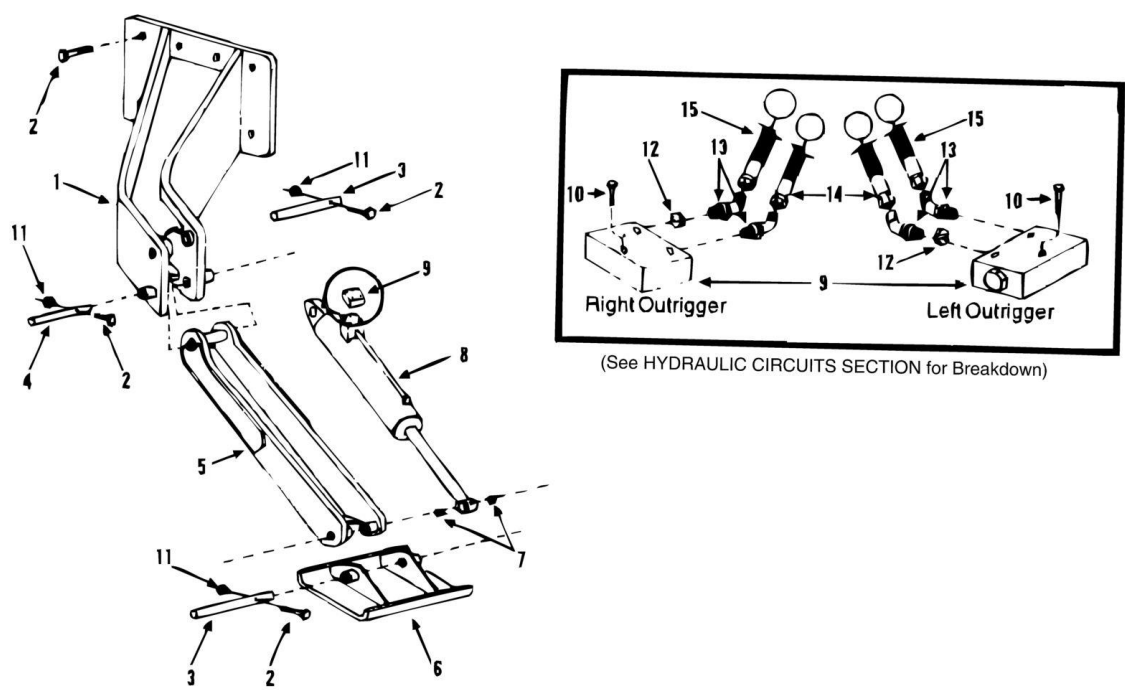
## SECTION 3 - ATTACHMENTS

| ITEM | PART NUMBER | QTY | DESCRIPTION                       | REV |
|------|-------------|-----|-----------------------------------|-----|
| 49   | 90208167    | 1   | FIXING PLATE                      |     |
| 50   | 90208160    | 1   | ADJUSTING BOLT                    |     |
| 51   | 90208178    | 1   | SPRING                            |     |
| 52   | 90208190    | 1   | BRAKE COVER GASKET                |     |
| 53   | 90208172    | 1   | O-RING                            |     |
| 54   | 90208161    | 1   | ADJUSTING NUT                     |     |
| 55   | 88201037    | 8   | HEX HD CAPSCREW, 3/8-16x1-1/2 GR5 |     |
| 55   | 88551011    | 4   | LOCKWASHER, 3/8                   |     |
| 56   | 90208146    | 1   | BRAKE DRUM                        |     |
| 57   | 88671001    |     | LUBE FITTING - STRAIGHT 1/8       |     |



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FIGURE 3-4. OUTRIGGERS



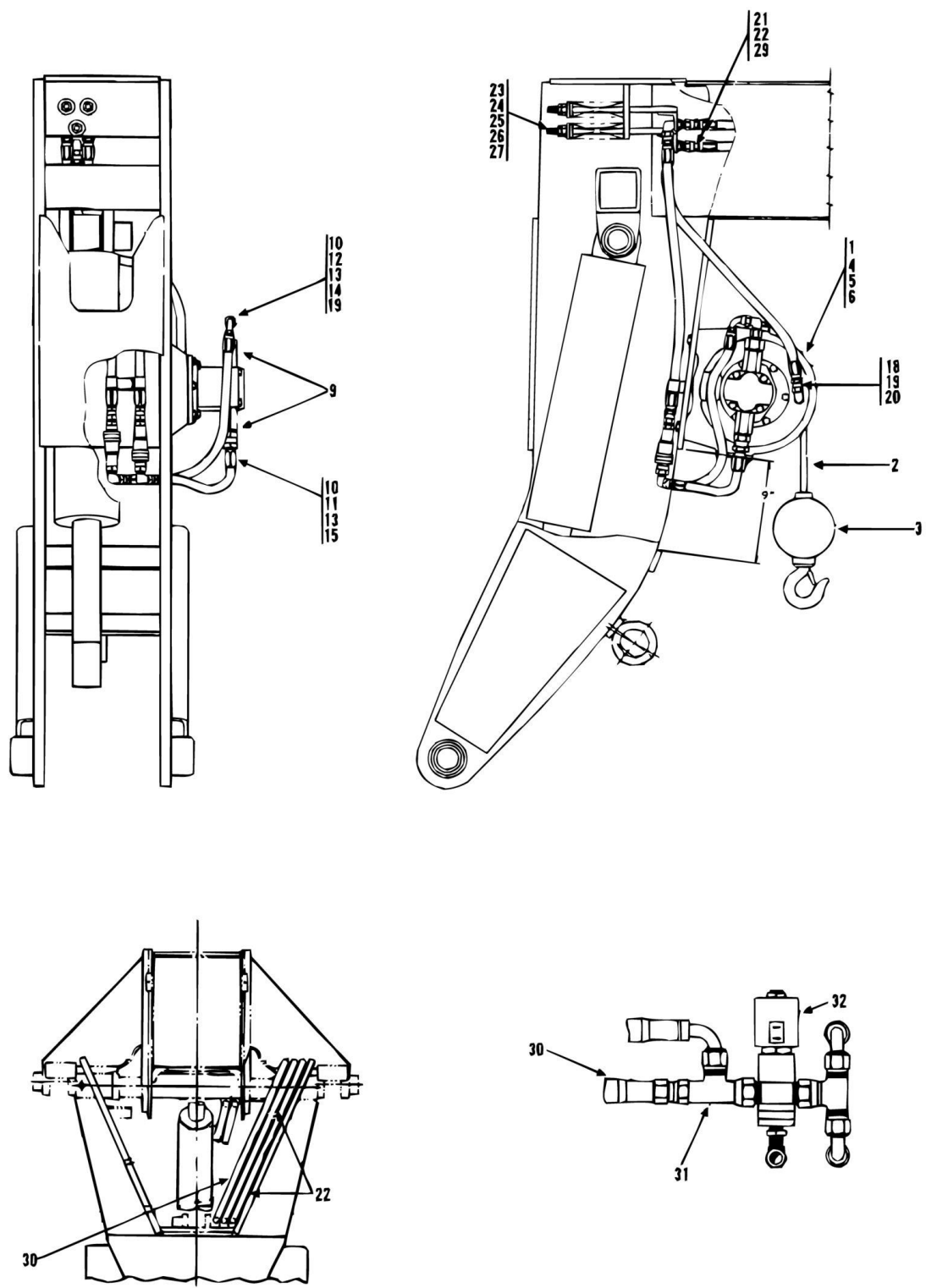
## SECTION 3 - ATTACHMENTS

**FIGURE 3-4. OUTRIGGERS**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                       | REV |
|------|-------------|-----|-------------------------------------------------------------------|-----|
| 1    | 91036029    | 1   | LEFT OUTRIGGER BRACKET                                            |     |
| 1    | 91036030    | 1   | RIGHT OUTRIGGER BRACKET                                           |     |
| 2    | 85081016    | 11  | HEX HD CAPSCREW                                                   |     |
| 2    | 05101441    | 11  | SPECIAL WASHER                                                    |     |
| 3    | 91031141    | 4   | SHOE PIN                                                          |     |
| 4    | 91031140    | 2   | ARM PIN                                                           |     |
| 5    | 91036041    | 2   | ARM WELDMENT                                                      |     |
| 6    | 91036032    | 2   | OUTRRIGER SHOE                                                    |     |
| 7    | 91031136    | 4   | BUSHING                                                           |     |
| 8    |             | Ref | CYLINDER, (See OPTIONAL EQUIPMENT SECTION for Breakdown)          |     |
| 9    | 91043258    | 2   | DUAL P.O. CHECK, (See HYDRAULIC COMPONENTS SECTION for Breakdown) |     |
| 10   | 88201040    | 6   | HEX HD CAPSCREW, 3/8-16X2-1/4 GR5                                 |     |
| 10   | 88551011    | 6   | LOCKWASHER, 3/8                                                   |     |
| 11   | 88521206    | 6   | HEX LOCKNUT, 3/8-16                                               |     |
| 12   | 91033201    | 2   | ORIFICE CHECK, (barrel side only)                                 |     |
| 13   | 88662085    | 4   | ELBOW, 45, (includes o-ring)                                      |     |
| 13   | 88591205    | 4   | O-RING                                                            |     |
| 14   | 84717527    | 2   | HOSE ASSY                                                         |     |
| 15   | 84717528    | 2   | HOSE ASSY                                                         |     |

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FIGURE 3-5. WINCH ASSEMBLY



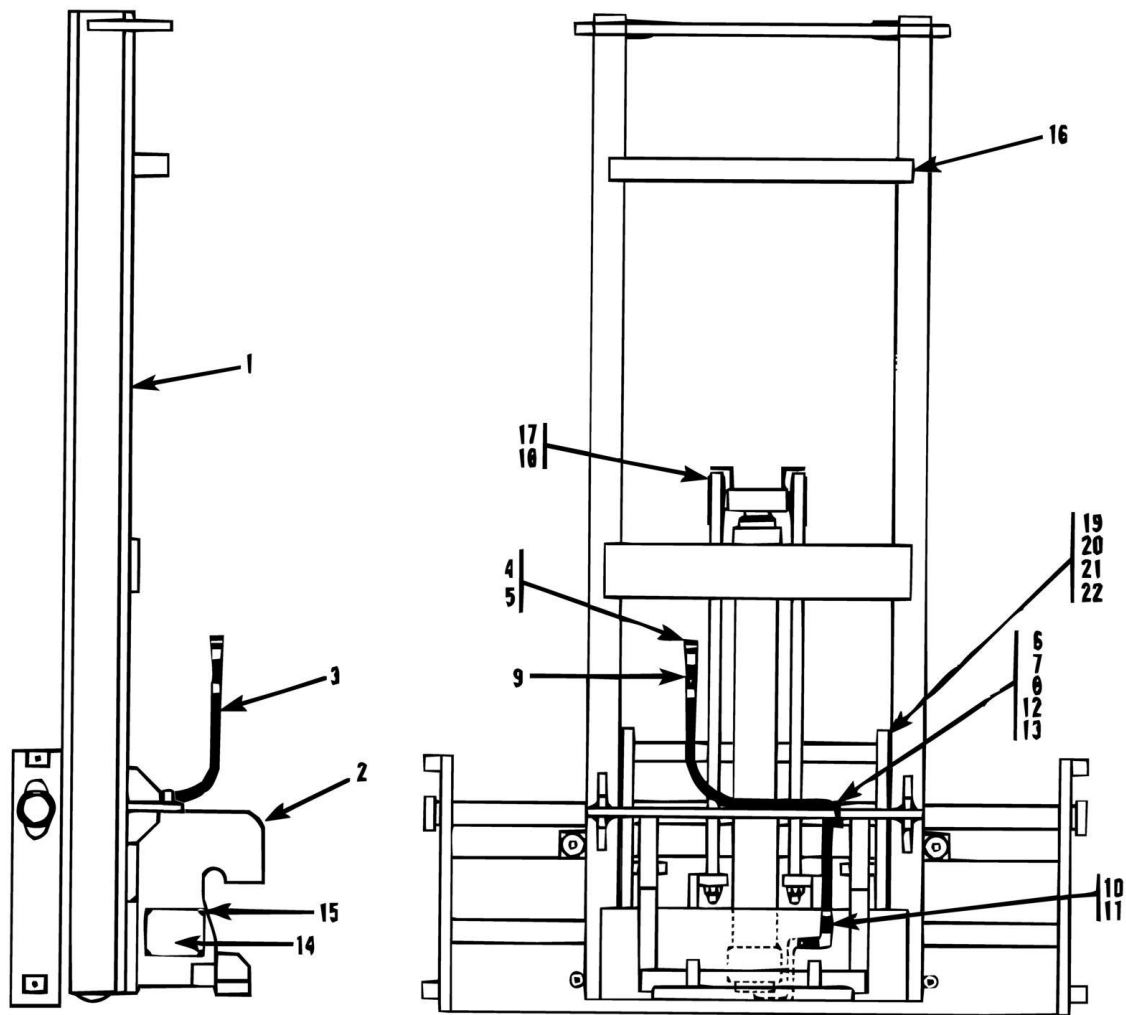
## SECTION 3 - ATTACHMENTS

**FIGURE 3-5. WINCH ASSEMBLY**

| ITEM | PART NUMBER | QTY | DESCRIPTION                    | REV |
|------|-------------|-----|--------------------------------|-----|
| 1    | 91033196    | 1   | WINCH                          |     |
| 2    | 90207882    | 1   | CABLE                          |     |
| 3    | 90201443    | 1   | HOOK AND BALL                  |     |
| 4    | 88201069    | 4   | HEX HD CAPSCREW, 1/2-13X2, GR5 |     |
| 5    | 88551013    | 4   | LOCKWASHER, 1/2                |     |
| 6    | 88501008    | 4   | HEX NUT, 1/2-13                |     |
| 7    | 91031007    | 1   | BAR (not shown)                |     |
| 8    | 91021009    | 1   | RING (not shown)               |     |
| 9    | 91033161    | 2   | FLOW REGULATOR                 |     |
| 10   | 88661113    | 2   | MALE ELBOW - 90, 1/2x1/2 TUBE  |     |
| 11   | 90204245    | 1   | HYDRAULIC COUPLER - FEMALE     |     |
| 12   | 90204244    | 1   | HYDRAULIC COUPLER - MALE       |     |
| 13   | 91033230    | 2   | REDUCER                        |     |
| 14   | 77133226    | 1   | HOSE ASSEMBLY                  |     |
| 15   | 77133459    | 1   | HOSE ASSEMBLY                  |     |
| 16   | 91043126    | 1   | DUST CAP (not shown)           |     |
| 17   | 91043125    | 1   | DUST PLUG (not shown)          |     |
| 18   | 88661011    | 1   | MALE CONNECTOR 1/4X1/2 TUBE    |     |
| 19   | 88662106    | 2   | ELBOW - 90, (swivel nut)       |     |
| 20   | 84717252    | 1   | HOSE ASSEMBLY                  |     |
| 21   | 90027180    | 1   | 90, BULKHEAD FITTING           |     |
| 22   | 90206888    | 1   | HOSE ASSEMBLY                  |     |
| 23   | 90403249    | 1   | HOSE TAKE-UP                   |     |
| 24   | 90200313    | 1   | SPRING                         |     |
| 25   | 90207041    | 1   | SPRING RETAINER                |     |
| 26   | 88501008    | 1   | HEX NUT, 1/2-13                |     |
| 27   | 88501108    | 1   | HEAVY HEX JAM NUT, 1/2-13      |     |
| 28   | 91043101    | 1   | HOSE TAKE-UP SHEAVE            |     |
| 29   | 88661065    | 1   | UNION, 1/2 TUBE                |     |
| 30   | 84716377    | 1   | HOSE ASSEMBLY                  |     |
| 31   | 88662240    | 1   | SWIVEL NUT RUN TEE, 1/2 TUBE   |     |
| 32   | 91035067    | 1   | SOLENOID VALVE ASSEMBLY        |     |

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FIGURE 3-6. 6 FT VERTICAL MAST





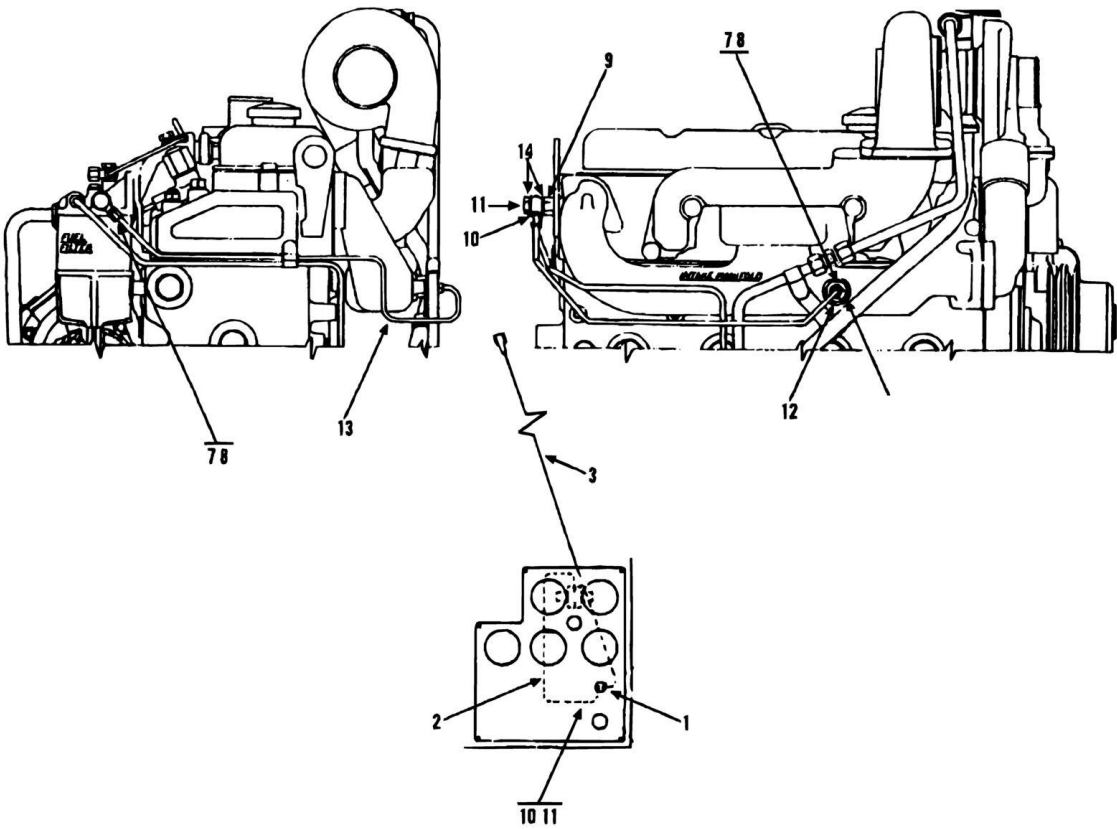
## SECTION 3 - ATTACHMENTS

**FIGURE 3-6. 6 FT VERTICAL MAST**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                       | REV |
|------|-------------|-----|-------------------------------------------------------------------|-----|
|      | 90455035    | 1   | 6 FT MAST ASSY, (48in carriage), (includes all items)             |     |
|      | 90455037    | 1   | 6 FT MAST ASSY, (66in carriage), (includes all items)             |     |
|      | 91033243    | 1   | 6K CAPACITY CHART, (located in cab)                               |     |
|      | 91033242    | 1   | 8K CAPACITY CHART, (located in cab)                               |     |
| 1    | 90453031    | 1   | CARRIAGE WELDMENT - 48IN                                          |     |
| 1    | 90453032    | 1   | CARRIAGE WELDMENT - 66IN                                          |     |
| 2    | 90456002    | 1   | ADAPTER WELDMENT                                                  |     |
| 3    | 84717640    | 1   | HOSE ASSY                                                         |     |
| 4    | 91163138    | 1   | MALE HYDRAULIC COUPLING (Prior to SN 2005283-01)                  |     |
| 4    | 91403414    | 1   | MALE HYDRAULIC COUPLING, (SN 2005283-01 to Present)               |     |
| 5    | 91043126    | 1   | DUST CAP                                                          |     |
| 6    | 24431386    | 2   | CLAMP                                                             |     |
| 7    | 88201037    | 2   | HEX HD CAPSCREW, 3/8-16X1-1/2, GR5                                |     |
| 8    | 88561004    | 2   | FLAT WASHER, 3/8                                                  |     |
| 9    | 88661013    | 1   | MALE CONNECTOR, 1/2X1/2 TUBE (Prior to SN 2005283-01)             |     |
| 9    | 88662006    | 1   | CONNECTOR, (includes 88591205 o-ring), (SN 2005283-01 to Present) |     |
| 10   | 88661016    | 1   | MALE CONNECTOR, 5/8X1/2 TUBE                                      |     |
| 11   | 88661180    | 1   | FEMALE ELBOW, 90, 1/2X1/2 TUBE                                    |     |
| 12   | 88501006    | 2   | HEX NUT, 3/8-16                                                   |     |
| 13   | 88551011    | 2   | LOCKWASHER, 3/8                                                   |     |
| 14   | 90153001    | 1   | SERIAL NO PLATE                                                   |     |
| 15   | 88341022    | 4   | DRIVE SCREW, #10X3/8                                              |     |
| 16   | 90451039    | 1   | STOP TUBE                                                         |     |
| 17   | 91034372    | 2   | RETAINING RING                                                    |     |
| 18   | 91034373    | 2   | CHAIN ROLLER                                                      |     |
| 19   | 91034374    | 6   | LOAD ROLLER, (inside carriage frame)                              |     |
| 20   | 91034375    | AR  | SHIM                                                              |     |
| 21   | 91034376    | 4   | SIDE THRUST ROLLER, (small outside roller)                        |     |
| 22   | 91034377    | 2   | SCREW                                                             |     |

SECTION 3 - ATTACHMENTS

FIGURE 3-7. GLOW PLUG INSTALLATION



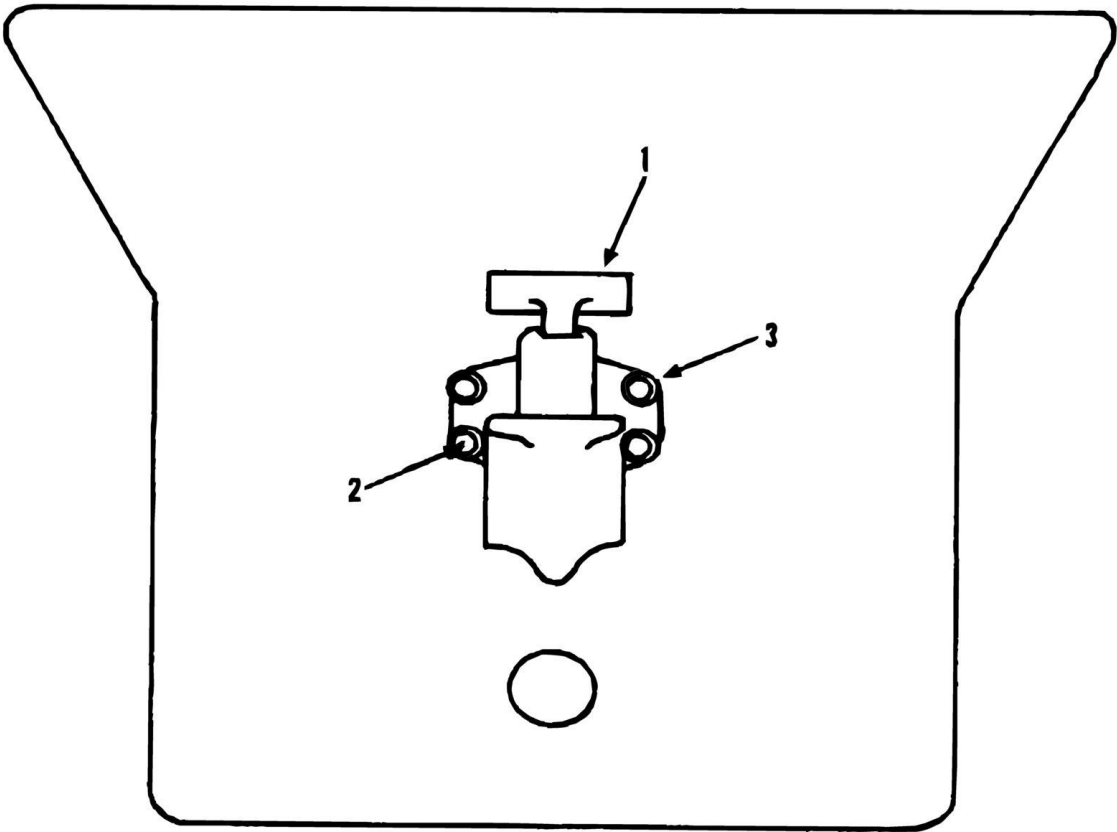
## SECTION 3 - ATTACHMENTS

**FIGURE 3-7. GLOW PLUG INSTALLATION**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                                                                               | REV |
|------|-------------|-----|---------------------------------------------------------------------------------------------------------------------------|-----|
|      | 91035105    |     | GLOW PLUG INSTALLATION (includes all items below)                                                                         |     |
| 1    | 24771004    | 1   | PUSH BUTTON SWITCH                                                                                                        |     |
| 2    | 91031277    | 1   | JUMPER WIRE                                                                                                               |     |
| 3    | 91031278    | 1   | JUMPER WIRE                                                                                                               |     |
| 4    | 91033251    | 1   | BUTTON DECAL                                                                                                              |     |
| 5    | 91033252    | 1   | INSTRUCTION DECAL                                                                                                         |     |
| 6    | 91033250    | 1   | GLOW PLUG KIT (consists of items 7 thru 14)                                                                               |     |
| 7    | Kit         | 2   | TUBE NUT                                                                                                                  |     |
| 8    | Kit         | 2   | RUBBER FERRULE                                                                                                            |     |
| 9    | Kit         | 1   | VALVE                                                                                                                     |     |
| 10   | Kit         | 1   | CONNECTOR                                                                                                                 |     |
| 11   | Kit         | 1   | BOLT                                                                                                                      |     |
| 12   | Kit         | 1   | HEATER                                                                                                                    |     |
| 13   | Kit         | 1   | TUBE                                                                                                                      |     |
| 14   | Kit         | 3   | WASHER                                                                                                                    |     |
|      |             | Ref | NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.                                                             |     |
|      |             | Ref | NOTE: SWITCH ASSEMBLY, SWITCH PLATE, AND DECAL SHEET, WHICH ARE PART OF THE ABOVE KIT, ARE NOT USED IN THIS INSTALLATION. |     |

SECTION 3 - ATTACHMENTS

FIGURE 3-8. PINTLE HOOK INSTALLATION



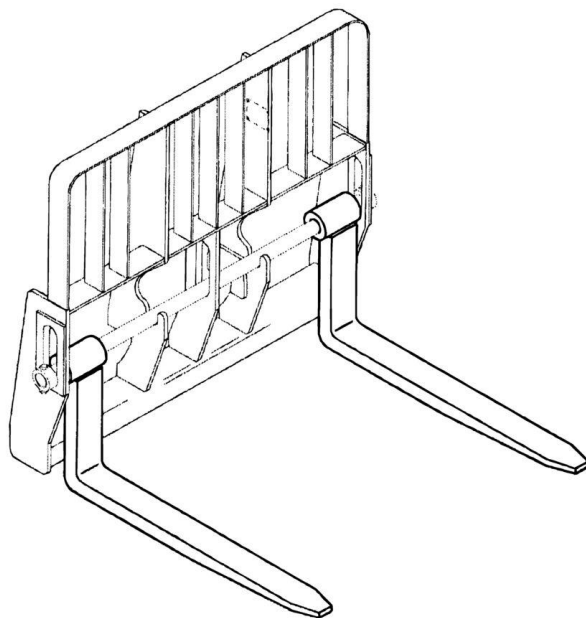
## SECTION 3 - ATTACHMENTS

**FIGURE 3-8. PINTLE HOOK INSTALLATION**

| ITEM | PART NUMBER | QTY | DESCRIPTION                         | REV |
|------|-------------|-----|-------------------------------------|-----|
| 1    | 90200602    | 1   | PINTLE HOOK                         |     |
| 2    | 88201068    | 4   | HEX HD CAPSCREW, 1/2-13X1-3/4, GR.5 |     |
| 3    | 88551013    | 4   | LOCKWASHER 1/2                      |     |

## SECTION 3 - ATTACHMENTS

FIGURE 3-9. ATTACHMENTS AND ACCESSORIES FORK INFORMATION



NOTE: FORKS RATED LESS THAN THE ATTACHMENT OR MACHINE'S CAPACITY DECREASE CAPACITY OF THE ATTACHMENT OR MACHINE TO THAT OF THE FORKS. FORKS RATED MORE THAN THE ATTACHMENT OR MACHINE'S CAPACITY DO NOT INCREASE ATTACHMENT OR MACHINE'S CAPACITY.

NOTE: PLEASE CONSULT THE GRADALL PARTS DEPARTMENT TO DETERMINE THE CORRECT FORKS APPLICABLE TO YOUR SPECIFIC CARRIAGE ASSEMBLY AND APPLICATION.

## SECTION 3 - ATTACHMENTS

**FIGURE 3-9. ATTACHMENTS AND ACCESSORIES FORK INFORMATION**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                                    | REV |
|------|-------------|-----|--------------------------------------------------------------------------------|-----|
|      | 90600390    | 2   | 48IN CUBING FORK, 2X2, 3000 lbs, (B, C, and D series)                          |     |
|      | 90601819    | 2   | 48IN PALLET FORK, 1-3/4X6, 9000 lbs, (B, C, and D series)                      |     |
|      | 90453002    | 2   | 48IN PALLET FORK, 2X4, 3000 lbs, (B, C, and D series)                          |     |
|      | 90553005    | 2   | 48IN PALLET FORK, 2X6, 3000 lbs, (B, C, and D series)                          |     |
|      | 90553008    | 2   | 48IN PALLET FORK, 2X2, 3000 lbs, (used on 6ft swing mast only, P/N 90455047)   |     |
|      | 90601015    | 2   | 60IN PALLET FORK, 2X6, 3000 lbs, (B, C, and D series)                          |     |
|      | 90063269    | 2   | 60IN PALLET FORK, 2X6, 3000 lbs, (B, C, and D series)                          |     |
|      | 90453045    | 2   | 60IN PALLET FORK, 2X2, 10,000 lbs, (used on 6ft swing mast only, P/N 90455054) |     |
|      | 90553018    | 2   | 72IN PALLET FORK, 2X6, 10,000 lbs, (B, C, and D series)                        |     |
|      | 91123132    | 2   | 72IN PALLET FORK, 2X6, 10,000 lbs, (B, C, and D series)                        |     |
|      | 90600832    | 2   | 48IN FORK, 2-1/4X8, 16,000 lbs, (used on the 542, 552, & 554)                  |     |
|      | 90601873    | 2   | 48IN FORK, 2-1/4X7, 15,000 lbs, (used on the 542, 552, & 554)                  |     |
|      | 90600833    | 2   | 60IN PALLET FORK, 2-1/4X8, 16,000 lbs, (used on the 542, 552, & 554)           |     |
|      | 90601219    | 2   | 60IN FORK, 2-1/4X8, 16,000 lbs, (used on the 542, 552, & 554)                  |     |
|      | 90601874    | 2   | 60IN FORK, 2-1/4X7, 15,000 lbs, (used on the 542, 552, & 554)                  |     |

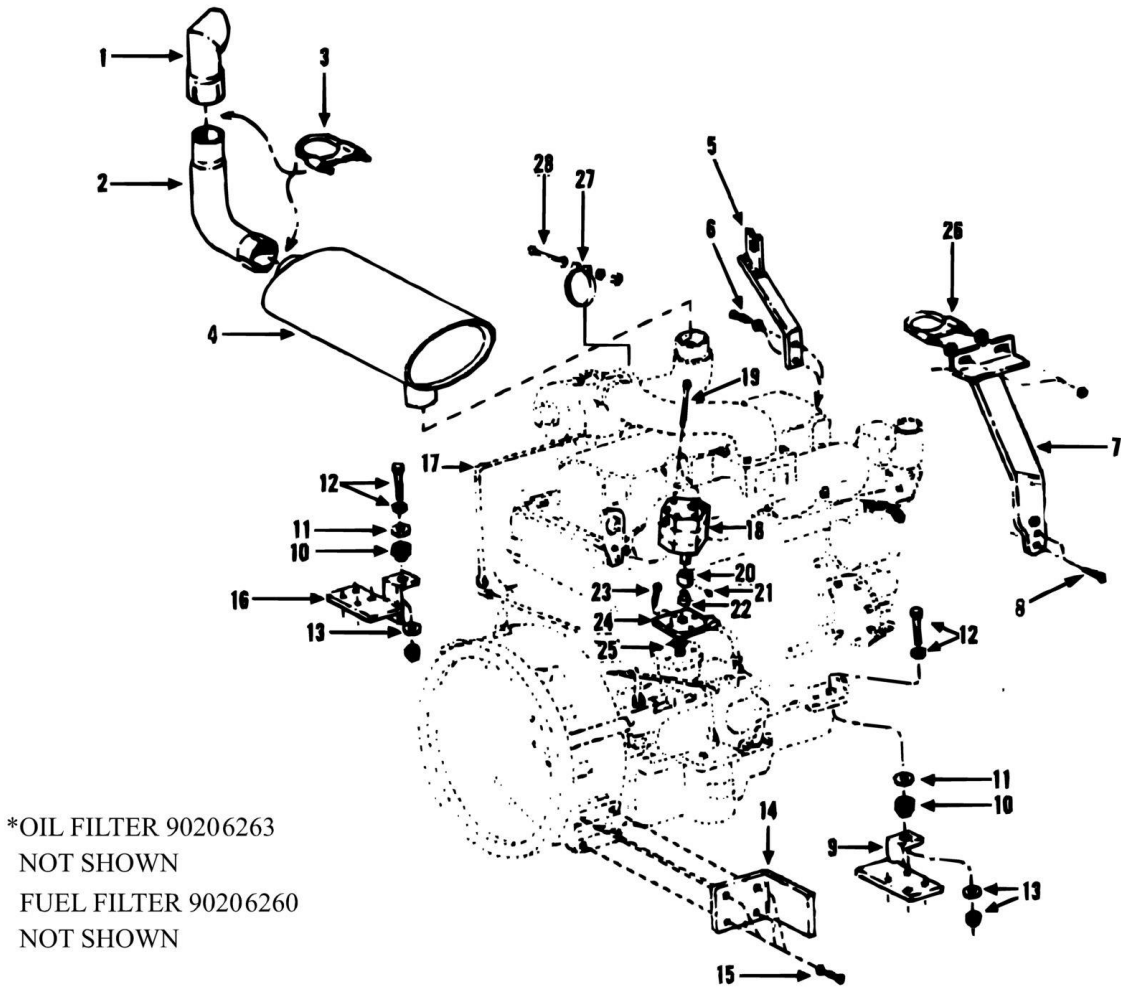




**SECTION 4 - ENGINE AND ATTACHING PARTS**

SECTION 4 - ENGINE AND ATTACHING PARTS

FIGURE 4-1. WAUKESHA DIESEL ENGINE MOUNTING WAUKESHA ENGINE ONLY (SN 8344001L through 8444490)



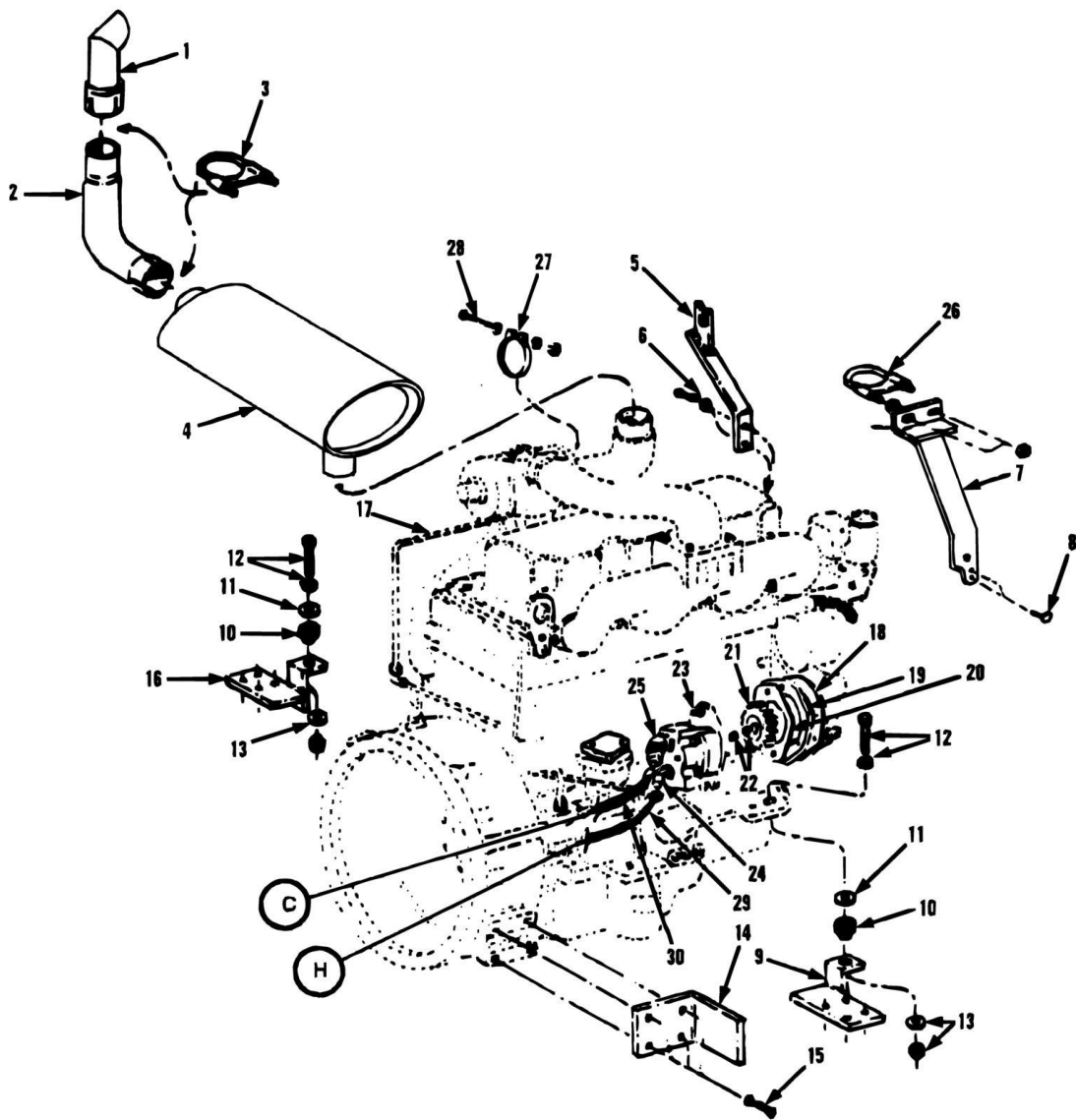
## SECTION 4 - ENGINE AND ATTACHING PARTS

**FIGURE 4-1. WAUKESHA DIESEL ENGINE MOUNTING WAUKESHA ENGINE ONLY (SN 8344001L through 8444490)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                                | REV |
|------|-------------|-----|----------------------------------------------------------------------------|-----|
| 1    | 90205861    | 1   | STACK CAP                                                                  |     |
| 2    | 90206634    | 1   | EXHAUST ELBOW                                                              |     |
| 3    | 24921332    | 2   | EXHAUST CLAMP                                                              |     |
| 4    | 90207291    | 1   | MUFFLER                                                                    |     |
| 5    | 90205971    | 1   | ACCELERATOR CABLE BRACKET                                                  |     |
| 6    | 88201033    | 2   | HEX HD CAPSCREW, 3/8-16X3/4, GR5                                           |     |
| 6    | 88561109    | 2   | FLATWASHER, 3/8                                                            |     |
| 7    | 90403079    | 1   | MUFFLER MOUNTING BRACKET                                                   |     |
| 8    | 88201037    | 2   | HEX HD CAPSCREW, 3/8-16X1-1/2, GR5                                         |     |
| 9    | 90403174    | 1   | ENGINE MOUNT BRACKET, (left)                                               |     |
| 10   | 90205032    | 2   | CENTER BONDED COMPRESSION MOUNT                                            |     |
| 11   | 90205654    | 2   | SPECIAL WASHER                                                             |     |
| 12   | 88201073    | 2   | HEX HD CAPSCREW, 1/2-13X3, GR5                                             |     |
| 12   | 85401340    | 2   | WASHER, 1/2                                                                |     |
| 13   | 90205031    | 2   | SPECIAL WASHER                                                             |     |
| 14   | 90403431    | 1   | OIL FILTER GUARD                                                           |     |
| 15   | 88201065    | 4   | HEX HD CAPSCREW, 1/2-13X3, GR5                                             |     |
| 15   | 88561111    | 4   | FLATWASHER, 1/2                                                            |     |
| 16   | 90403175    | 1   | ENGINE MOUNT BRACKET, (right)                                              |     |
| 17   |             | Ref | WAUKESHA DIESEL ENGINE, (For parts information see separate engine manual) |     |
| 18   | 90403305    | 1   | PILOT PUMP                                                                 |     |
| 19   | 88201030    | 2   | HEX HD CAPSCREW, 5/16-18X3-1/2, GR5                                        |     |
| 20   | 90207250    | 1   | ADAPTER                                                                    |     |
| 21   | 90028751    | 1   | SET SCREW                                                                  |     |
| 22   | 90207251    | 1   | DOWEL                                                                      |     |
| 23   | 88211069    | 2   | SOCKET HD CAPSCREW, 3/8-16X3/4, GR8                                        |     |
| 24   | 90207249    | 1   | ADAPTER PLATE                                                              |     |
| 25   | 90207284    | 1   | GASKET                                                                     |     |
| 26   | 90205866    | 1   | EXHAUST PIPE CLAMP                                                         |     |
| 27   | 90207818    | 1   | CLAMP                                                                      |     |
| 27   | 91001002    | 1   | GASKET                                                                     |     |
| 28   | 88201029    | 1   | HEX HD CAPSCREW, 5/16-18X3-1/4, GR5                                        |     |
| 28   | 88521005    | 1   | HEX LOCKNUT, 5/16-18                                                       |     |
| 28   | 88561108    | 1   | FLAT WASHER, 5/16                                                          |     |
| 29   | 91034057    | 1   | STARTER, (not shown)                                                       |     |

SECTION 4 - ENGINE AND ATTACHING PARTS

FIGURE 4-2. WAUKESHA DIESEL ENGINE MOUNTING WAUKESHA ENGINE ONLY (SN 8344001L through 8444490)



C - See HYDRAULIC CIRCUITS SECTION for Breakdown  
H - See HYDRAULIC CIRCUITS SECTION for Breakdown

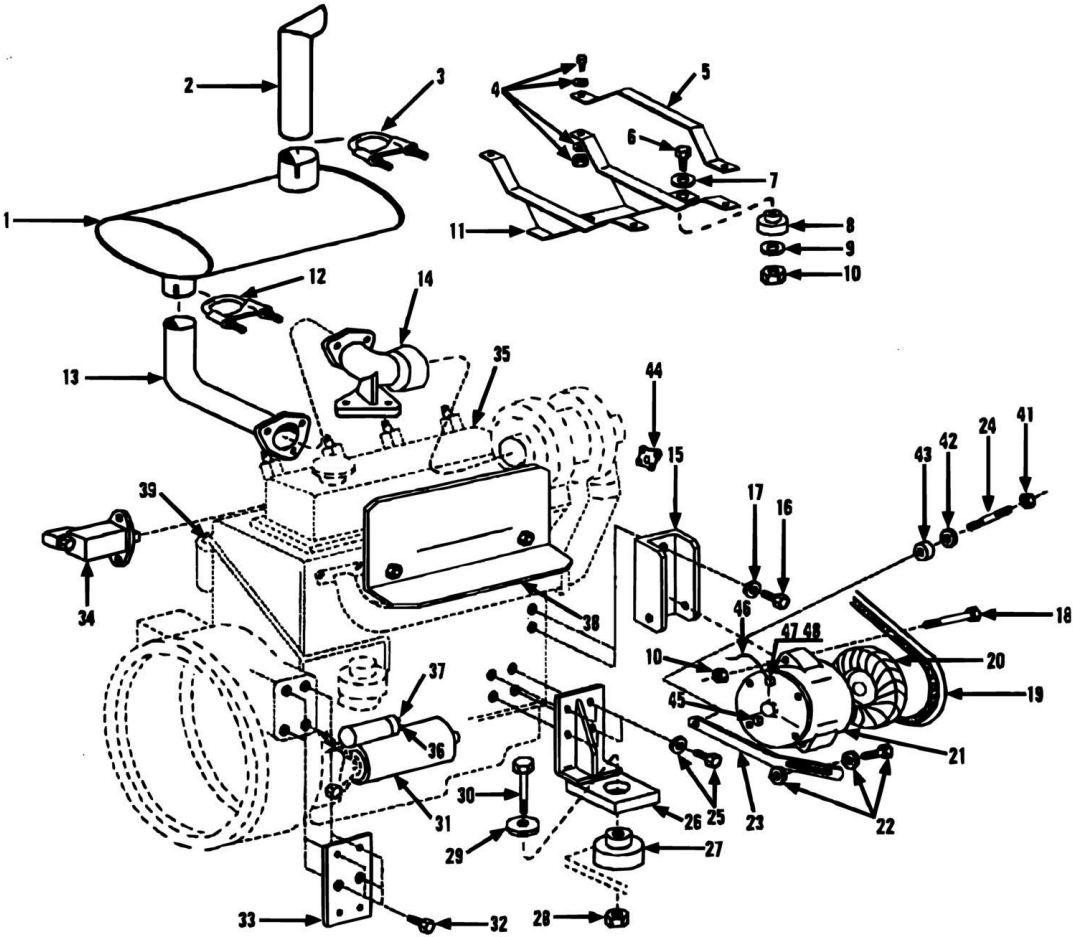
## SECTION 4 - ENGINE AND ATTACHING PARTS

**FIGURE 4-2. WAUKESHA DIESEL ENGINE MOUNTING WAUKESHA ENGINE ONLY (SN 8344001L through 8444490)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                                | REV |
|------|-------------|-----|----------------------------------------------------------------------------|-----|
| 1    | 90205861    | 1   | STACK CAP                                                                  |     |
| 2    | 90206634    | 1   | EXHAUST ELBOW                                                              |     |
| 3    | 24921332    | 2   | EXHAUST CLAMP                                                              |     |
| 4    | 90207291    | 1   | MUFFLER                                                                    |     |
| 5    | 90205971    | 1   | ACCELERATOR CABLE BRACKET                                                  |     |
| 6    | 88201033    | 2   | 3/8IN-16X3/4IN CAPSCREW                                                    |     |
| 6    | 88561109    | 2   | 3/8in WASHER                                                               |     |
| 7    | 90403079    | 1   | MUFFLER MOUNTING BRACKET                                                   |     |
| 8    | 88201037    | 2   | 3/8IN-16X1-1/2IN CAPSCREW                                                  |     |
| 9    | 90403174    | 1   | ENGINE MOUNTING BRACKET, (left)                                            |     |
| 10   | 90205032    | 2   | CENTER BONDED COMPRESSION MOUNT                                            |     |
| 11   | 90205654    | 2   | SPECIAL WASHER                                                             |     |
| 12   | 88201073    | 2   | 1/2IN-13X3IN CAPSCREW                                                      |     |
| 12   | 85401340    | 2   | 1/2IN WASHER                                                               |     |
| 13   | 90205031    | 2   | SPECIAL WASHER                                                             |     |
| 13   | 88501008    | 2   | 1/2IN-13 NUT                                                               |     |
| 14   | 90403431    | 1   | OIL FILTER GUARD                                                           |     |
| 15   | 88201065    | 4   | 1/2IN-13X1IN CAPSCREW                                                      |     |
| 15   | 88561107    | 4   | WASHER                                                                     |     |
| 16   | 90403175    | 1   | ENGINE MOUNTING BRACKET, (right)                                           |     |
| 17   |             | Ref | WAUKESHA DIESEL ENGINE, (For parts information see separate engine manual) |     |
| 18   | 91034034    | 1   | ADAPTER GASKET                                                             |     |
| 19   | 31034035    | 1   | PUMP ADAPTER PLATE                                                         |     |
| 20   | 91034036    | 1   | HYDRAULIC PUMP GASKET                                                      |     |
| 21   | 91034037    | 1   | HYDRAULIC PUMP GEAR                                                        |     |
| 22   | 91034038    | 1   | WASHER                                                                     |     |
| 22   | 91034039    | 1   | CASTLE NUT                                                                 |     |
| 23   | 91033156    | 1   | HYDRAULIC GEAR PUMP                                                        |     |
| 24   | 86561309    | 1   | REDUCER/EXPANDER                                                           |     |
| 24   | 88591207    | 1   | O-RING                                                                     |     |
| 24   | 88662085    | 1   | ELBOW, 45                                                                  |     |
| 25   | 91033182    | 1   | BEADED INSERT, 45                                                          |     |
| 25   | 88591209    | 1   | O-RING                                                                     |     |
| 26   | 90205866    | 1   | EXHAUST PIPE CLAMP                                                         |     |
| 27   | 90207818    | 1   | CLAMP                                                                      |     |
| 28   | 88201029    | 1   | 5/16IN-18X3-1/4IN BOLT                                                     |     |
| 28   | 88521005    | 1   | 5/16IN-18 NUT                                                              |     |
| 28   | 88561108    | 2   | 5/16IN WASHER                                                              |     |
| 29   | 84717470    | 1   | HOSE ASSEMBLY                                                              |     |
| 30   | 91033179    | 1   | HOSE                                                                       |     |
| 31   | 91033139    | 1   | OIL PRESSURE SENDER (not shown)                                            |     |
| 31   | 88712031    | 1   | ELBOW, 45                                                                  |     |
| 32   | 90206263    |     | OIL FILTER (not shown)                                                     |     |
| 33   | 90206260    |     | FUEL FILTER (not shown)                                                    |     |

SECTION 4 - ENGINE AND ATTACHING PARTS

FIGURE 4-3. PERKINS DIESEL ENGINE MOUNTING PERKINS ENGINE ONLY (SN 8444491G to Present)



## SECTION 4 - ENGINE AND ATTACHING PARTS

**FIGURE 4-3. PERKINS DIESEL ENGINE MOUNTING PERKINS ENGINE ONLY (SN 8444491G to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                              | REV |
|------|-------------|-----|------------------------------------------|-----|
|      | 91035141    | 1   | ENGINE AND TRANSMISSION FILTER KIT       |     |
|      | 90204732    | 1   | TRANSMISSION FILTER                      |     |
|      | 90206262    | 1   | AIR FILTER                               |     |
|      | 91034005    | 1   | FUEL FILTER                              |     |
|      | 91034006    | 1   | OIL FILTER                               |     |
| 1    | 91033053    | 1   | MUFFLER                                  |     |
| 2    | 91033381    | 1   | STACK CAP                                |     |
| 3    | 24921332    | 1   | CLAMP                                    |     |
| 4    | 88201009    | 4   | HEX HD CAPSCREW, 1/4-20X2, GR5           |     |
| 4    | 88561107    | 8   | FLAT WASHER, 1/4                         |     |
| 4    | 88521304    | 4   | HEX LOCKNUT, 1/4-20                      |     |
| 5    | 91031045    | 2   | MUFFLER STRAP                            |     |
| 6    | 88201037    | 2   | HEX HD CAPSCREW, 3/8-16X1-1/2, GR5       |     |
| 7    | 83681481    | 2   | WASHER                                   |     |
| 8    | 83683308    | 2   | SHOCK MOUNT                              |     |
| 9    | 88561109    | 2   | FLAT WASHER, 3/8                         |     |
| 10   | 88521306    | 3   | HEX LOCKNUT, 3/8-16                      |     |
| 11   | 91036010    | 1   | MUFFLER SUPPORT                          |     |
| 11   | 91036072    | 1   | MUFFLER SUPPORT (SN 0144312J to Present) |     |
| 12   | 83683175    | 1   | CLAMP                                    |     |
| 13   | 91036011    | 1   | HEADER PIPE                              |     |
| 13   | 91036073    | 1   | HEADER PIPE (SN 0144312J to Present)     |     |
| 13   | 91036099    | 1   | HEADER PIPE (SN 0144687J to Present)     |     |
| 14   | 91036012    | 1   | EXHAUST MANIFOLD                         |     |
| 14   | 88201534    | 3   | HEX HD CAPSCREW, 3/8-24X1, GRS           |     |
| 14   | 88551011    | 3   | LOCKWASHER, 3/8                          |     |
| 15   | 91031395    | 1   | ALTERNATOR BRACKET                       |     |
| 16   | 88201534    | 2   | HEX HD CAPSCREW, 3/8-24X1, GR5           |     |
| 17   | 12001234    | 2   | HARDENED WASHER, 3/8                     |     |
| 18   | 88201045    | 1   | HEX HD CAPSCREW, 3/8-16X3-1/2, GR5       |     |
| 19   | 91033248    | 1   | FAN BELT                                 |     |
| 20   | 91033074    | 1   | ALTERNATOR FAN                           |     |
| 21   | 91033234    | 1   | ALTERNATOR                               |     |
| 22   | 83191028    | 1   | BOLT, M8X1.25, GR8                       |     |
| 22   | 83191011    | 1   | LOCKWASHER, M8                           |     |
| 22   | 90027469    | 1   | HARDENED WASHER                          |     |
| 23   | 91031404    | 1   | ALTERNATOR ADJUSTMENT STRAP              |     |
| 24   | 91033329    | 1   | STUD                                     |     |
| 25   | 88201549    | 8   | HEX HD CAPSCREW, 7/16-20X1, GR5          |     |
| 25   | 88551012    | 8   | LOCKWASHER, 7/16                         |     |
| 26   | 91036009    | 2   | MOTOR MOUNT                              |     |
| 27   | 90205032    | 2   | SHOCK MOUNT                              |     |
| 28   | 88521208    | 2   | HEX LOCKNUT, 1/2-13                      |     |
| 29   | 90205031    | 2   | SPECIAL WASHER                           |     |
| 30   | 88201072    | 2   | HEX HD CAPSCREW, 1/2-13X3-3/4, GR5       |     |
| 31   | 91033323    | 1   | STARTER MOTOR                            |     |
| 31   | 91033268    | 3   | MOUNTING STUD                            |     |
| 32   | 88201066    | 2   | HEX HD CAPSCREW, 1/2-13X3, GR5           |     |
| 32   | 88551013    | 2   | LOCKWASHER, 1/2                          |     |

## SECTION 4 - ENGINE AND ATTACHING PARTS

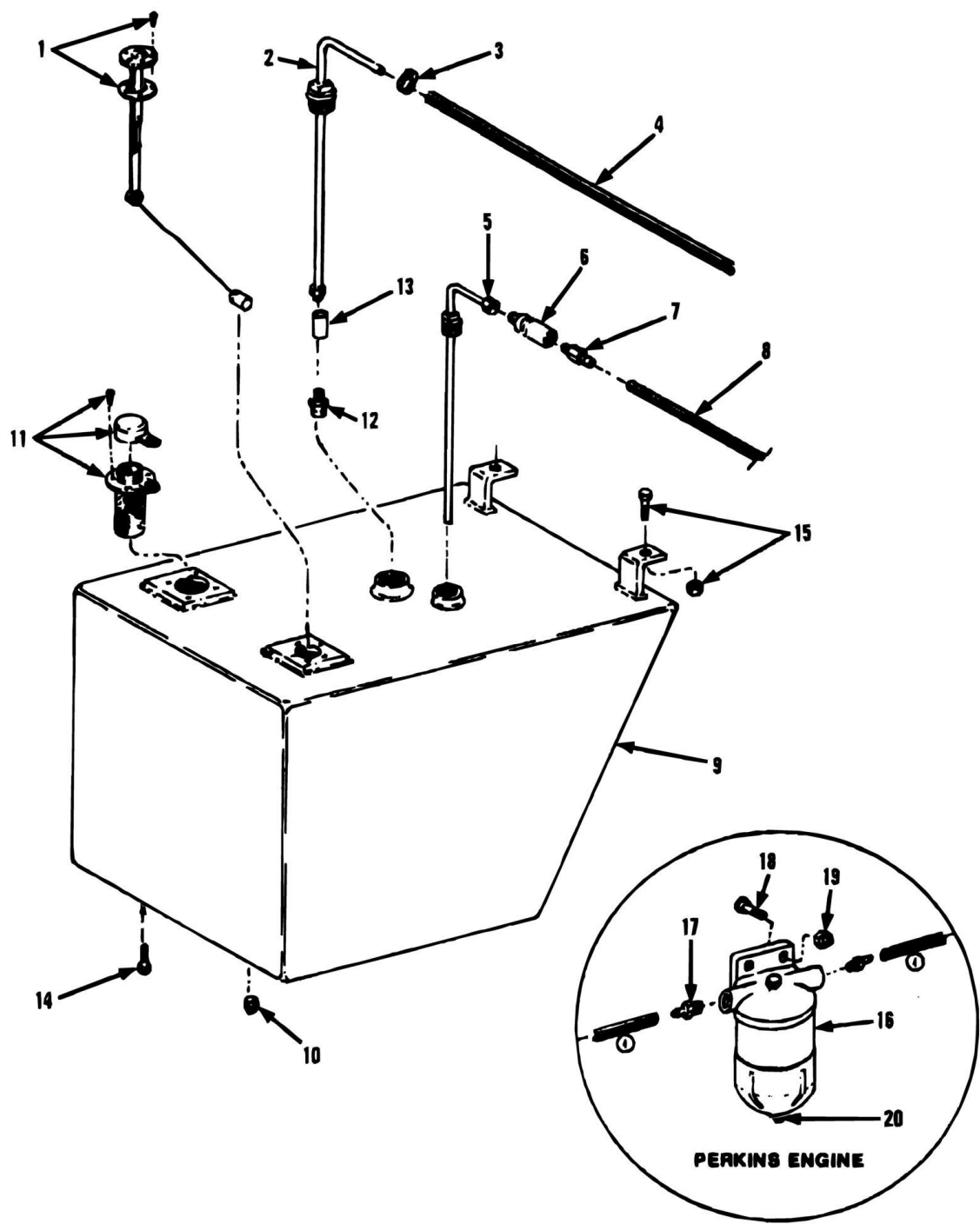
| ITEM | PART NUMBER | QTY | DESCRIPTION                                                              | REV |
|------|-------------|-----|--------------------------------------------------------------------------|-----|
| 33   | 91031041    | 1   | MOUNTING PLATE                                                           |     |
| 34   |             | Ref | PILOT PUMP (See HYDRAULIC COMPONENT SECTION for Breakdown)               |     |
| 35   | 91033258    | 1   | PERKINS DIESEL ENGINE (see separate engine manual for parts information) |     |
| 36   | 91033133    | 2   | NUT, M5X.08                                                              |     |
| 37   | 91033134    | 1   | NUT, M10X1.5                                                             |     |
| 38   | 91031152    | 1   | HEAT SHIELD                                                              |     |
| 39   | 91033136    | 1   | 1/4IN X 3IN TUBE (fuel filter)                                           |     |
| 40   | 91033246    | 1   | OIL PRESSURE SENDER (100PSI) (not shown)                                 |     |
| 41   | 88501005    | 1   | HEX NUT, 5/16-18                                                         |     |
| 42   | 88501010    | 1   | LOCKWASHER, 5/16                                                         |     |
| 43   | 86671164    | 3   | SPACER                                                                   |     |
| 44   | 91033256    | 1   | FAN BLADE SPACER                                                         |     |
| 45   | 83191019    | 1   | HEX NUT, M6X1                                                            |     |
| 46   | 90207497    | 1   | JUMPER WIRE                                                              |     |
| 47   | 83191007    | 1   | HEX HD CAPSCREW, M8X1.25, GR8                                            |     |
| 48   | 83191011    | 1   | LOCKWASHER, M8                                                           |     |





SECTION 4 - ENGINE AND ATTACHING PARTS

FIGURE 4-4. FUEL TANK AND LINES WAUKESHA AND PERKINS ENGINE (SN 8344001L to Present)



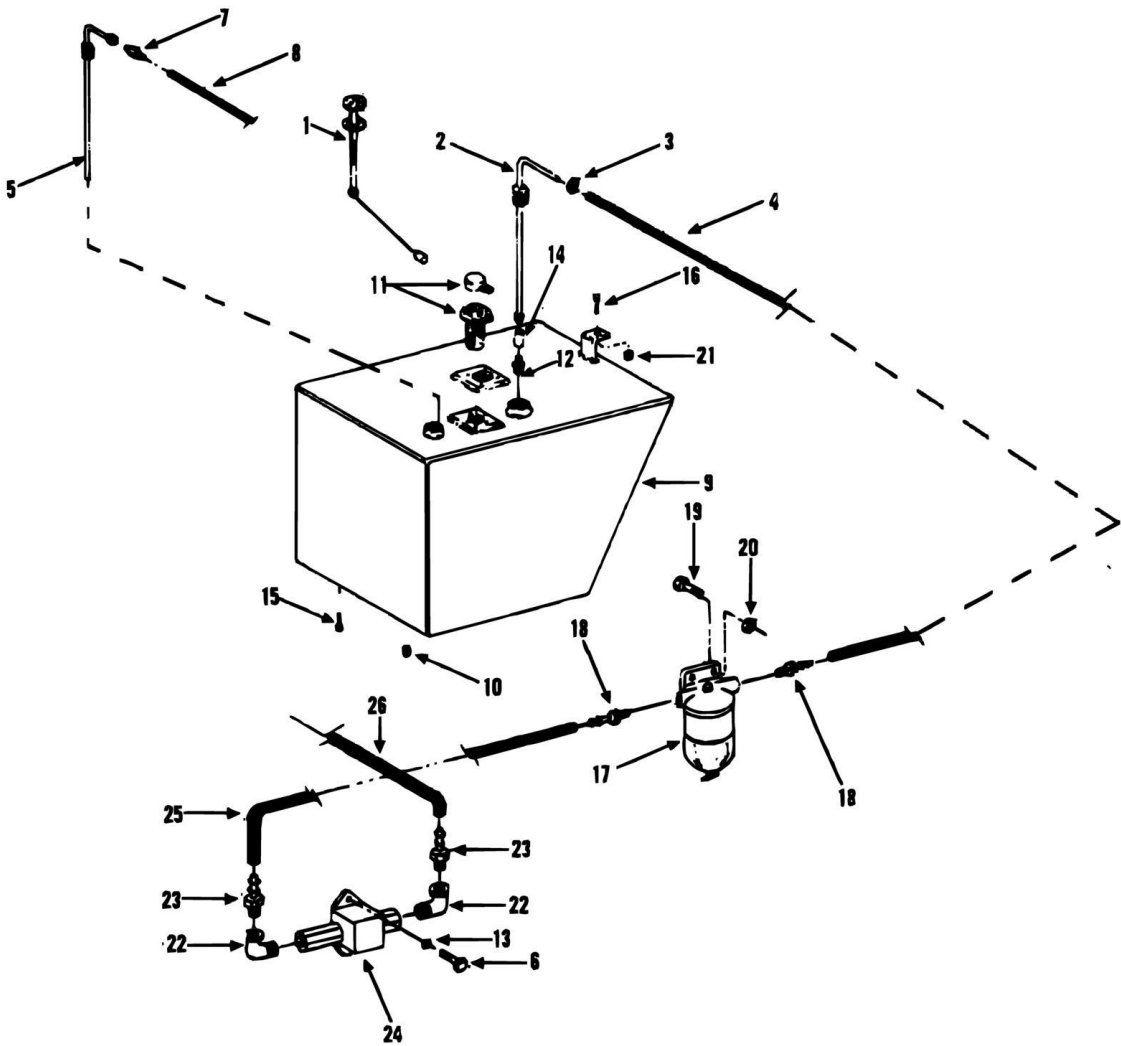
## SECTION 4 - ENGINE AND ATTACHING PARTS

**FIGURE 4-4. FUEL TANK AND LINES WAUKESHA AND PERKINS ENGINE (SN 8344001L to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                               | REV |
|------|-------------|-----|-----------------------------------------------------------|-----|
| 1    | 90400654    | 1   | FUEL LEVEL SENDER (includes gasket and mounting hardware) |     |
| 2    | 91056106    | 1   | FUEL LINE (to engine filter)                              |     |
| 3    | 83483497    | AR  | HOSE CLAMP                                                |     |
| 4    |             | Ref | HOSE 3/8IN ID (Waukesha)                                  |     |
| 4    |             | Ref | HOSE 5/16IN ID (Perkins)                                  |     |
| 5    | 90402827    | 1   | FUEL RETURN LINE (Diesel)                                 |     |
| 6    | 86683330    | 1   | CHECK VALVE (not used SN 8444490 to Present)              |     |
| 7    | 90028674    | 1   | PUSH LOCK FITTING                                         |     |
| 8    |             | Ref | HOSE 1/4IN ID                                             |     |
| 9    | 90801199    | 1   | FUEL TANK (SN 8344001L through 8644765)                   |     |
| 9    | 91036047    | 1   | FUEL TANK (SN 8644766 to Present)                         |     |
| 10   | 88711255    | 1   | SQ. HD PIPE PLUG, 1IN                                     |     |
| 11   | 91003186    | 1   | FILLER BREATHER (includes gasket and mounting hardware)   |     |
| 11   | 86541381    | 1   | SCREW ON GAS CAP                                          |     |
| 12   | 90205223    | 1   | SUCTION SCREEN                                            |     |
| 13   | 88711212    | 1   | PIPE COUPLING, 3/8                                        |     |
| 14   | 88201065    | 1   | HEX HD CAPSCREW, 1/2-13X1, GR5                            |     |
| 15   | 88201071    | 1   | HEX HD CAPSCREW, 1/2-13X2-1/2, GR5                        |     |
| 15   | 88501008    | 1   | HEX NUT, 1/2-13                                           |     |
| 16   | 91033054    | 1   | WATER SEPARATOR                                           |     |
| 17   | 91033131    | 2   | BARB CONNECTOR                                            |     |
| 18   | 88201021    | 2   | HEX HD CAPSCREW, 5/16-18X1-1/4, GR5                       |     |
| 19   | 88521305    | 2   | HEX LOCKNUT, 5/16-18                                      |     |
| 20   | 91034396    | 1   | SCREW ASSY (push-on type)                                 |     |

SECTION 4 - ENGINE AND ATTACHING PARTS

FIGURE 4-5. FUEL TANK AND LINES (SN 8644013G to Present)



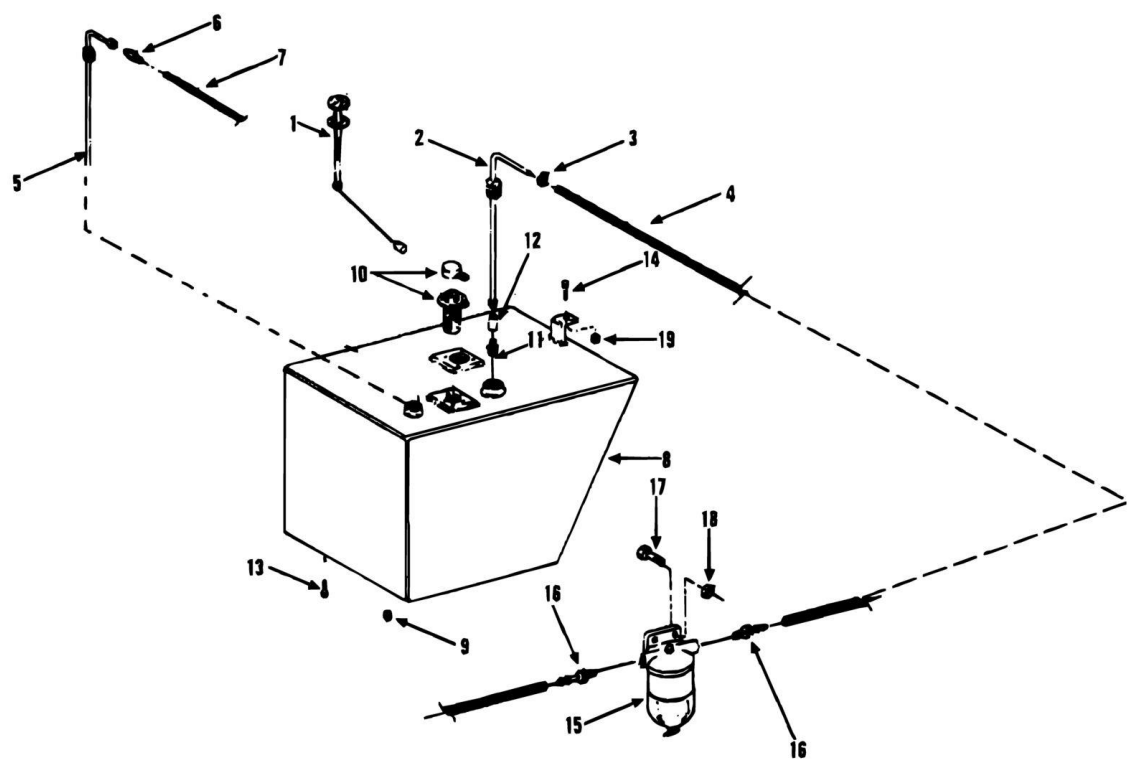
## SECTION 4 - ENGINE AND ATTACHING PARTS

**FIGURE 4-5. FUEL TANK AND LINES (SN 8644013G to Present)**

| ITEM | PART NUMBER | QTY   | DESCRIPTION                                                   | REV |
|------|-------------|-------|---------------------------------------------------------------|-----|
| 1    | 90400654    | 1     | FUEL LEVEL SENDER, (includes gasket and mounting hardware)    |     |
| 2    | 91056106    | 1     | FUEL LINE, (to engine filter)                                 |     |
| 3    | 83483497    | AR    | HOSE CLAMP                                                    |     |
| 4    | 82092118    | 20 in | HOSE, 5/16IN ID                                               |     |
| 5    | 90402827    | 1     | FUEL RETURN LINE                                              |     |
| 6    | 88201001    | 2     | HEX HD CAPSCREW, 1/4-20X1/2, GR5                              |     |
| 7    | 90028674    | 1     | PUSH LOCK FITTING                                             |     |
| 8    | 90207422    | 1     | HOSE, 1/4IN ID                                                |     |
| 9    | 91036047    | 1     | FUEL TANK                                                     |     |
| 10   | 88711255    | 1     | SQUARE HD PIPE PLUG, 1IN                                      |     |
| 11   | 91003186    | 1     | FILLER-BREATHER, (includes cap, gasket and mounting hardware) |     |
| 11   | 91034224    | 1     | RESERVIOR CAP, (with locking tab)                             |     |
| 12   | 90205223    | 1     | SUCTION SCREEN                                                |     |
| 13   | 88551009    | 2     | LOCKWASHER, 1/4                                               |     |
| 14   | 88711212    | 1     | PIPE COUPLING, 3/8                                            |     |
| 15   | 88201065    | 1     | HEX HD CAPSCREW, 1/2-13X1, GR5                                |     |
| 16   | 88201071    | 1     | HEX HD CAPSCREW, 1/2-13X2-1/2, GR5                            |     |
| 17   | 91033054    | 1     | WATER SEPARATOR                                               |     |
| 18   | 91033131    | 2     | BARB CONNECTOR                                                |     |
| 19   | 88201021    | 2     | HEX HD CAPSCREW, 5/16-18X1-1/4 GR5                            |     |
| 20   | 88521305    | 2     | HEX LOCKNUT, 5/16-18                                          |     |
| 21   | 88501008    | 1     | HEX NUT, 1/2-13                                               |     |
| 22   | 88712081    | 2     | STREET ELBOW-90, 3/8                                          |     |
| 23   | 88741801    | 2     | HOSE NIPPLE                                                   |     |
| 24   | 91033270    | 1     | PRIMER PUMP                                                   |     |
| 25   | 82092118    | 12 in | HOSE, 5/16IN ID                                               |     |
| 26   | 82092118    | 70 in | HOSE, 5/16IN ID                                               |     |

SECTION 4 - ENGINE AND ATTACHING PARTS

FIGURE 4-6. FUEL TANK AND LINES (SN 0144638J to Present)



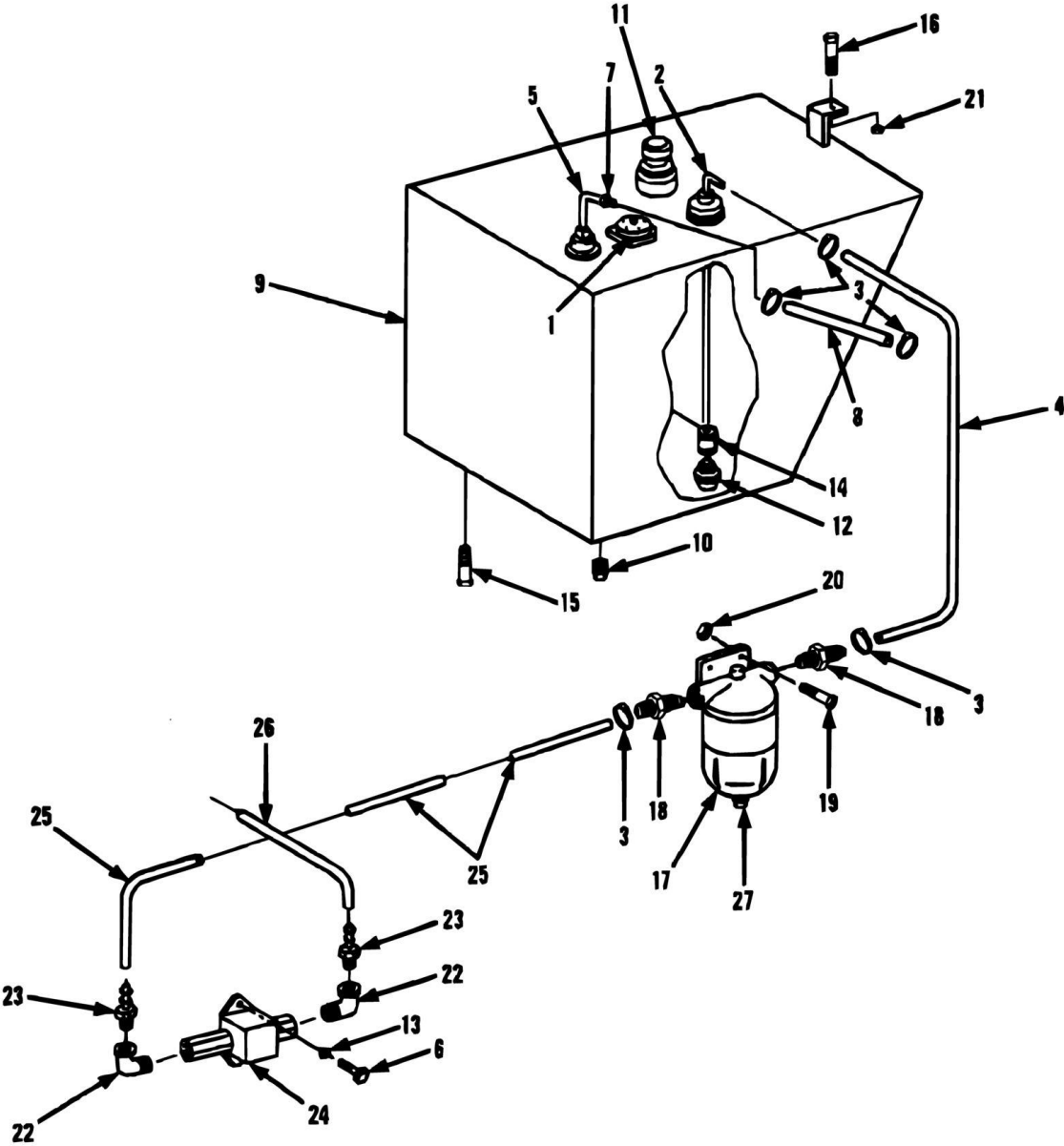
## SECTION 4 - ENGINE AND ATTACHING PARTS

**FIGURE 4-6. FUEL TANK AND LINES (SN 0144638J to Present)**

| ITEM | PART NUMBER | QTY   | DESCRIPTION                                                   | REV |
|------|-------------|-------|---------------------------------------------------------------|-----|
| 1    | 90400654    | 1     | FUEL LEVEL SENDER, (includes gasket and mounting hardware)    |     |
| 2    | 91056106    | 1     | FUEL LINE, (to engine filter)                                 |     |
| 3    | 83483497    | AR    | HOSE CLAMP                                                    |     |
| 4    | Bulk        | 20 in | HOSE, 3/16IN ID                                               |     |
| 5    | 90402827    | 1     | FUEL RETURN LLINE                                             |     |
| 6    | 90028674    | 1     | PUSH LOCK FITTING                                             |     |
| 7    | 90207422    | 1     | HOSE, 1/4IN ID                                                |     |
| 8    | 91036047    | 1     | FUEL TANK                                                     |     |
| 9    | 88711255    | 1     | SQUARE HD PIPE PLUG, 1IN                                      |     |
| 10   | 91003186    | 1     | FILLER-BREATHER, (includes cap, gasket and mounting hardware) |     |
| 10   | 91034224    | AR    | RESERVIOR CAP, (includes locking tab)                         |     |
| 11   | 90205223    | 1     | SUCTION SCREEN                                                |     |
| 12   | 88711212    | 1     | PIPE COUPLING, 3/8                                            |     |
| 13   | 88201065    | 1     | HEX HD CAPSCREW, 1/2-13X1, GR5                                |     |
| 14   | 88201071    | 1     | HEX HD CAPSCREW, 1/2-13X2-1/2, GR5                            |     |
| 15   | 91033054    | 1     | WATER SEPARATOR                                               |     |
| 16   | 91033131    | 2     | BARB CONNECTOR                                                |     |
| 17   | 88201021    | 2     | HEX HD CAPSCREW, 5/16-18X1-1/4, GR5                           |     |
| 18   | 88521305    | 2     | HEX LOCKNUT, 5/16-18                                          |     |
| 19   | 88501008    | 1     | HEX NUT, 1/2-13                                               |     |

SECTION 4 - ENGINE AND ATTACHING PARTS

FIGURE 4-7. FUEL TANK AND LINES (SN 8644013G to Present)





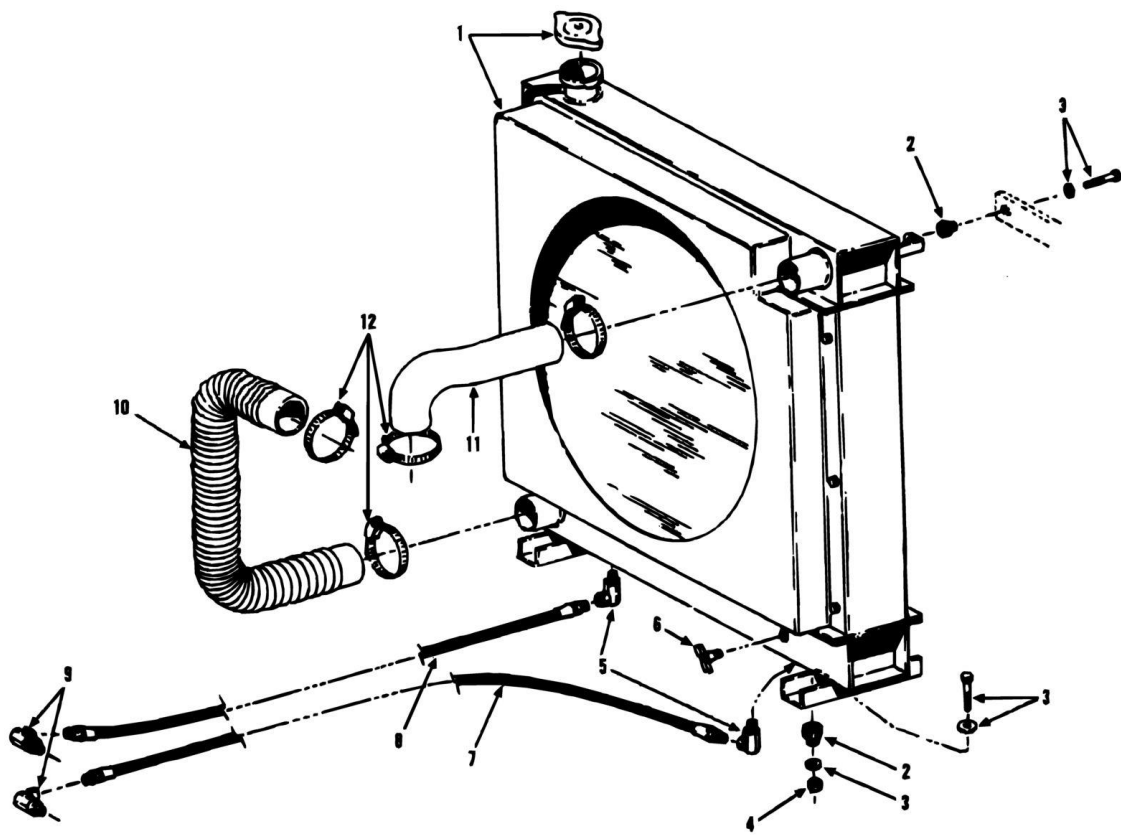
## SECTION 4 - ENGINE AND ATTACHING PARTS

**FIGURE 4-7. FUEL TANK AND LINES (SN 8644013G to Present)**

| ITEM | PART NUMBER | QTY   | DESCRIPTION                                               | REV |
|------|-------------|-------|-----------------------------------------------------------|-----|
| 1    | 90400654    | 1     | FUEL LEVEL SENDER (includes gasket and mounting hardware) |     |
| 2    | 91056106    | 1     | FULE LINE (to engine filter)                              |     |
| 3    | 83483497    | AR    | HOSE CLAMP                                                |     |
| 4    | Bulk        | 20 in | HOSE 5/16IN ID                                            |     |
| 5    | 90402827    | 1     | FUEL RETURN LINE (Diesel)                                 |     |
| 6    | 88201001    | 2     | HEX HD CAPSCREW, 1/4-20X1/2, GR5                          |     |
| 7    | 90028674    | 1     | PUSH LOCK FITTING                                         |     |
| 8    |             | Ref   | HOSE 1/4IN ID                                             |     |
| 9    | 91036047    | 1     | FUEL TANK                                                 |     |
| 10   | 88711255    | 1     | SQ. HD PIPE PLUG, 1IN                                     |     |
| 11   | 91003186    | 1     | FILLER BREATHER (includes gasket and mounting hardware)   |     |
| 11   | 86541381    | 1     | SCREW ON GAS CAP                                          |     |
| 12   | 90205223    | 1     | SUCTION SCREEN                                            |     |
| 13   | 88551009    | 2     | LOCKWASHER, 1/4                                           |     |
| 14   | 88711212    | 1     | PIPE COUPLING, 3/8                                        |     |
| 15   | 88201065    | 1     | HEX HD CAPSCREW, 1/2-13X1, GR5                            |     |
| 16   | 88201071    | 1     | HEX HD CAPSCREW, 1/2-13X2-1/2, GR5                        |     |
| 17   | 91033054    | 1     | WATER SEPARATOR                                           |     |
| 18   | 91033131    |       | BARB CONNECTOR                                            |     |

SECTION 4 - ENGINE AND ATTACHING PARTS

FIGURE 4-8. RADIATOR AND HOSES WAUKESHA ENGINE ONLY (SN 8344001L through 8444490G)



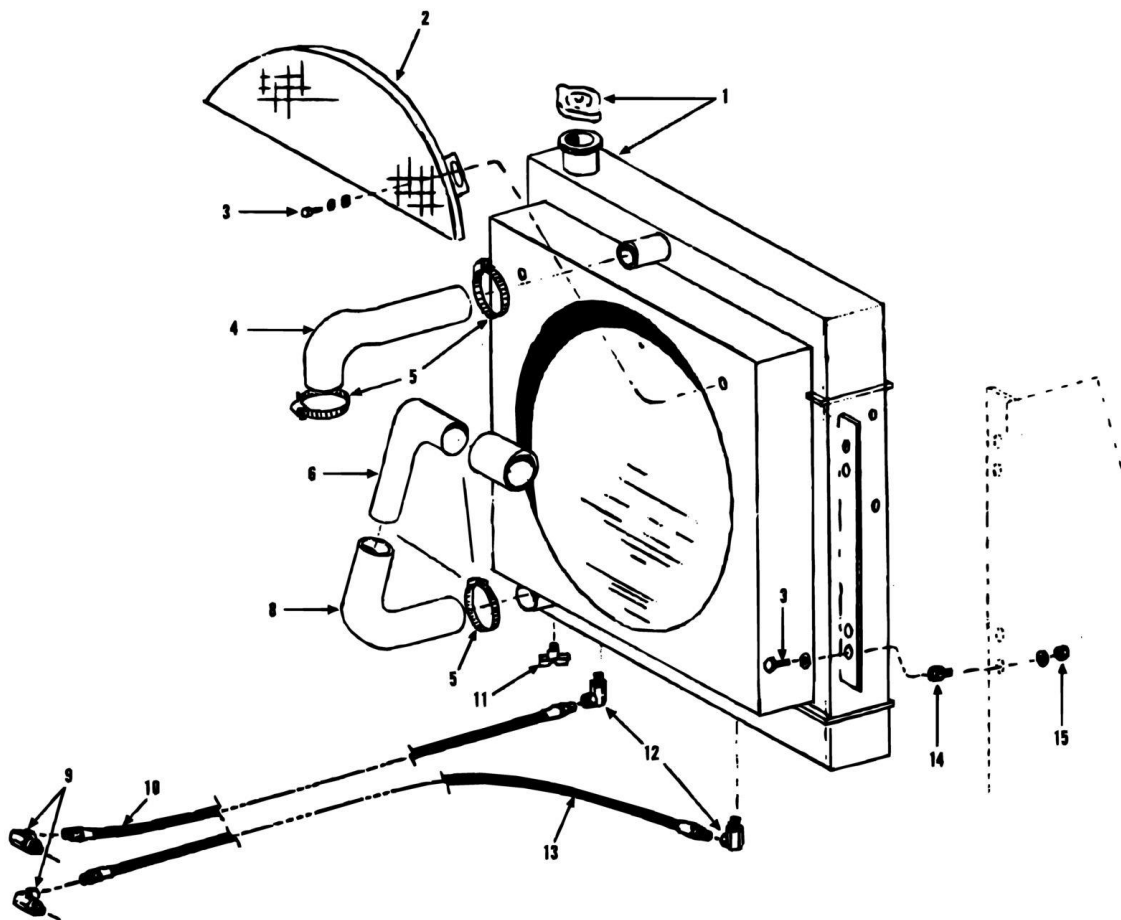
## SECTION 4 - ENGINE AND ATTACHING PARTS

**FIGURE 4-8. RADIATOR AND HOSES WAUKESHA ENGINE ONLY (SN 8344001L through 8444490G)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                     | REV |
|------|-------------|-----|---------------------------------|-----|
| 1    | 90601917    | 1   | RADIATOR, (no longer available) |     |
| 1    |             | Ref | CAP                             |     |
| 2    | 90200342    | 4   | COMPRESSION MOUNTING            |     |
| 3    | 88201038    | AR  | HEX HD CAPSCREW, 3/8-16 X 1 3/4 |     |
| 3    | 90205918    | 10  | WASHER, 3/8IN                   |     |
| 4    | 88521206    | AR  | HEX LOCKNUT, 3/8-16             |     |
| 5    | 90028492    | 2   | ELBOW - 90                      |     |
| 6    | 90200557    | 1   | DRAIN PETCOCK                   |     |
| 7    | 90205195    | 1   | HIGH PRESSURE HOSE              |     |
| 8    | 90205194    | 1   | HIGH PRESSURE HOSE              |     |
| 9    | 90028496    | 2   | ELBOW - 90                      |     |
| 10   | 86671224    | 1   | BOTTOM RADIATOR HOSE            |     |
| 11   | 90206105    | 1   | TOP RADIATOR HOSE               |     |
| 12   | 84231107    | 4   | HOSE CLAMP                      |     |

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FIGURE 4-9. RADIATOR AND HOSES PERKINS ENGINE ONLY (SN 8444491 to Present)



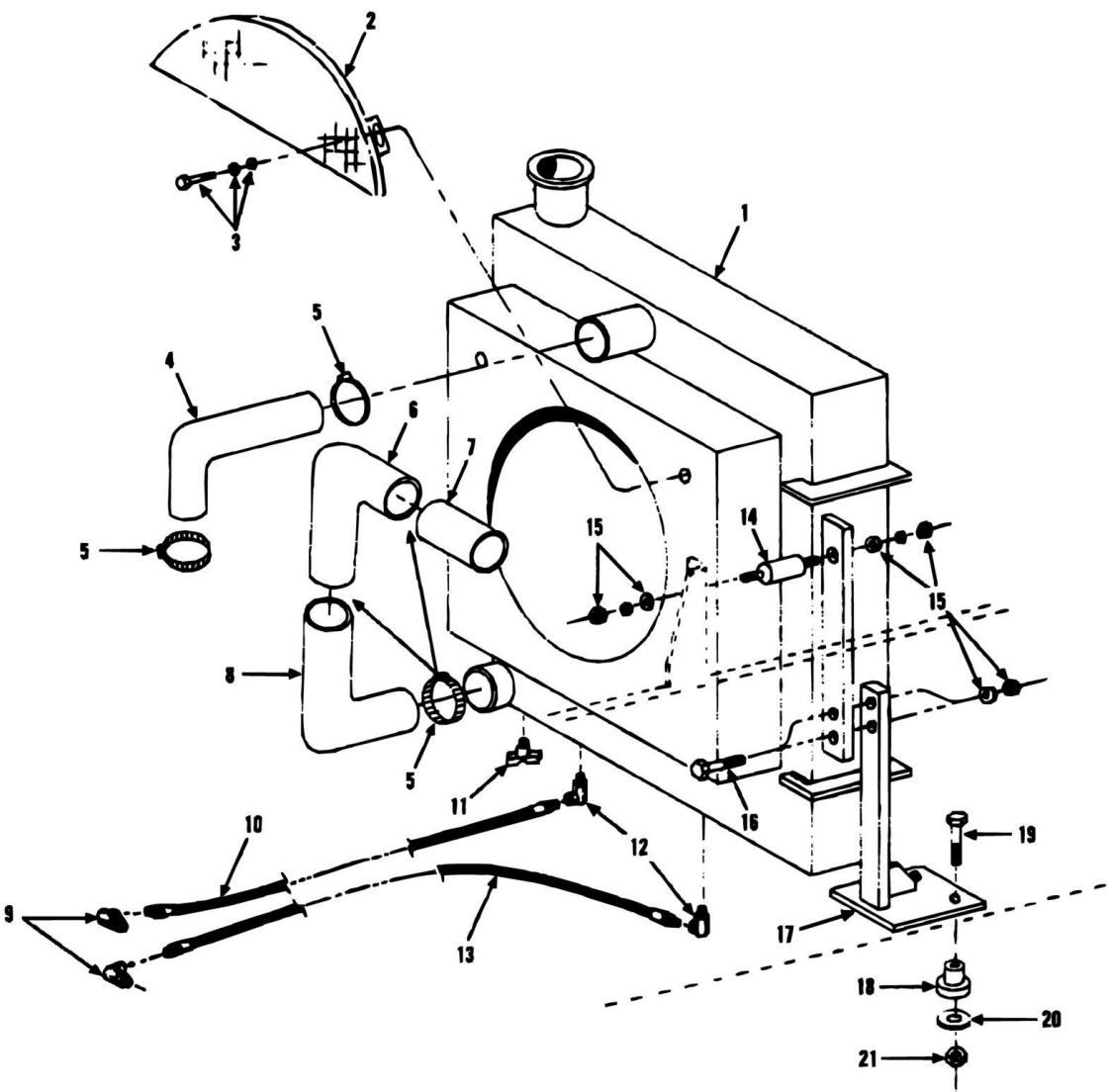
## SECTION 4 - ENGINE AND ATTACHING PARTS

**FIGURE 4-9. RADIATOR AND HOSES PERKINS ENGINE ONLY (SN 8444491 to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION          | REV |
|------|-------------|-----|----------------------|-----|
| 1    | 91033048    | 1   | RADIATOR             |     |
| 2    | 91036033    | 1   | FAN GUARD            |     |
| 3    | 88201003    | 6   | CAPSCREW, 1/4-20X3/4 |     |
| 3    | 88551009    | 14  | LOCKWASHER, 1/4      |     |
| 3    | 88561107    | 14  | FLATWASHER, 1/4      |     |
| 4    | 91033132    | 1   | HOSE, UPPER RADIATOR |     |
| 5    | 85071128    | 6   | HOSE CLAMP           |     |
| 6    | 91033061    | 1   | WATER PIPE           |     |
| 7    | 91033062    | 1   | HOSE, CONNECTOR      |     |
| 8    | 91033063    | 1   | HOSE, LOWER RADIATOR |     |
| 9    | 90028496    | 2   | ELBOW, 90            |     |
| 10   | 90205194    | 1   | HOSE, HIGH PRESSURE  |     |
| 11   | 84521056    | 1   | PETCOCK, DRAIN       |     |
| 12   | 90028492    | 2   | ELBOW, 90            |     |
| 13   | 90205195    | 1   | HOSE, HIGH PRESSURE  |     |
| 14   | 91033137    | 4   | SHOCK MOUNT          |     |
| 15   | 88521305    | 4   | NUT, 1/4X20          |     |

SECTION 4 - ENGINE AND ATTACHING PARTS

FIGURE 4-10. RADIATOR AND HOSES (SN 8544551G to Present)



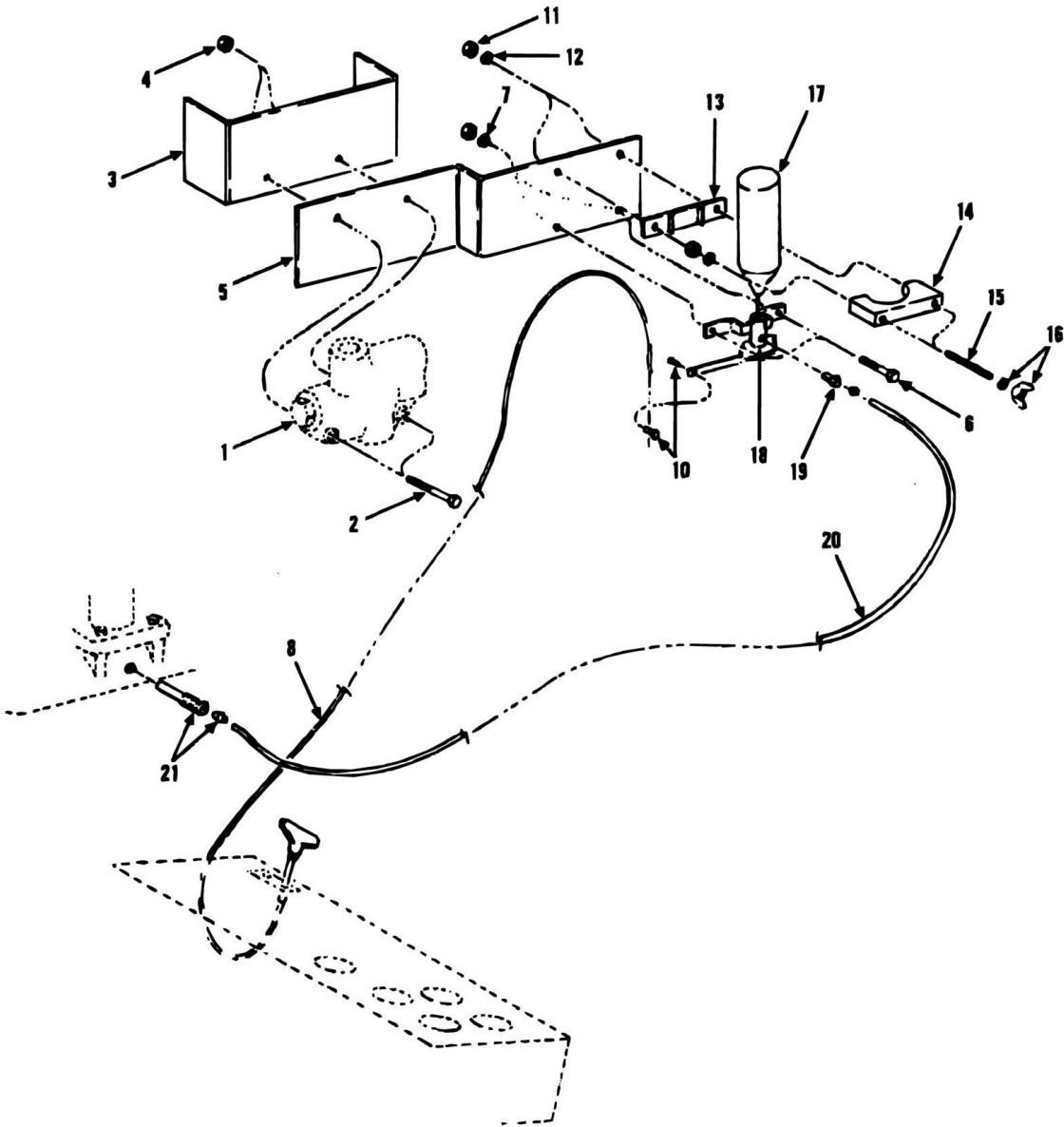
## SECTION 4 - ENGINE AND ATTACHING PARTS

**FIGURE 4-10. RADIATOR AND HOSES (SN 8544551G to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                          | REV |
|------|-------------|-----|--------------------------------------|-----|
| 1    | 91033254    | 1   | RADIATOR (includes cap)              |     |
| 1    | 91034160    | 1   | CAP                                  |     |
| 2    | 91036051    | 1   | FAN GUARD                            |     |
| 3    | 88201003    | 2   | HEX HD CAPSCREW, 1/4-20x3/4 GR5      |     |
| 3    | 88551009    | 2   | LOCKWASHER, 1/4                      |     |
| 3    | 88561107    | 2   | FLAT WASHER, 1/4                     |     |
| 4    | 91033132    | 1   | UPPER RADIATOR HOSE                  |     |
| 5    | 85041654    | 6   | HOSE CLAMP                           |     |
| 6    | 91033061    | 1   | LOWER WATER PIPE                     |     |
| 7    | 91033062    | 1   | CONNECTOR HOSE                       |     |
| 8    | 91033063    | 1   | LOWER RADIATOR HOSE                  |     |
| 9    | 88662067    | 2   | ELBOW-90, (includes o-ring)          |     |
| 9    | 88591207    | 2   | O-RING                               |     |
| 10   | 84717571    | 1   | HOSE ASSY                            |     |
| 11   | 84521056    | 1   | DRAIN PETCOCK                        |     |
| 12   | 88661118    | 2   | MALE ELBOW, 90, 3/4X3/4 TUBE         |     |
| 13   | 84717570    | 1   | HOSE ASSY                            |     |
| 14   | 91033137    | 2   | SHOCK MOUNT                          |     |
| 15   | 88521305    | 8   | HEX LOCKNUT, 5/16-18                 |     |
| 15   | 88561108    | 8   | FLAT WASHER, 5/16                    |     |
| 16   | 88201022    | 4   | HEX HD CAPSCREW, 5/16-18X1 - 1/2 GR5 |     |
| 17   | 91006016    | 1   | L.H. RADIATOR MOUNT                  |     |
| 17   | 91006017    | 1   | R.H. RADIATOR MOUNT                  |     |
| 18   | 83683308    | 4   | SHOCK MOUNT                          |     |
| 19   | 88201039    | 4   | HEX HD CAPSCREW, 3/8-16X2, GR5       |     |
| 20   | 90205918    | 4   | SPECIAL WASHER                       |     |
| 21   | 88521206    | 4   | HEX LOCKNUT, 3/8-16                  |     |
| 22   | 90207622    | 1   | HOSE GUARD                           |     |

SECTION 4 - ENGINE AND ATTACHING PARTS

FIGURE 4-11. ETHER STARTING KIT (SN 8344001L to Present)





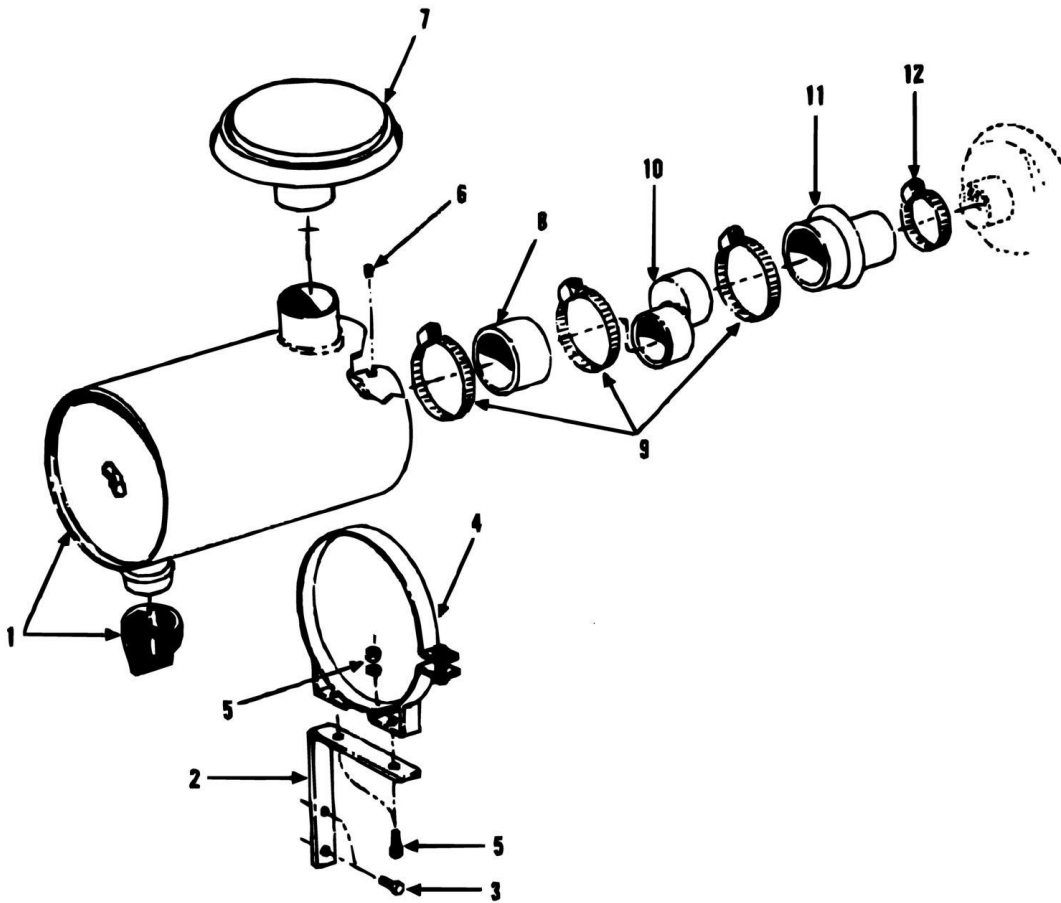
## SECTION 4 - ENGINE AND ATTACHING PARTS

**FIGURE 4-11. ETHER STARTING KIT (SN 8344001L to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                 | REV |
|------|-------------|-----|---------------------------------------------|-----|
| 1    | 90205585    |     | PRIORITY VALVE (2000 PSI relief setting)    |     |
| 1    | 91033240    |     | PRIORITY VALVE (2000 PSI relief setting)    |     |
| 2    | 88201029    | 2   | HEX HD CAPSCREW, 5/16-18X3 1/4, GR5         |     |
| 3    | 90205767    | 1   | VALVE MOUNTING BRACKET (existing)           |     |
| 4    | 88501005    | 2   | HEX NUT 5/16-18                             |     |
| 5    | 90403110    | 1   | ETHER START MOUNTING BRACKET                |     |
| 6    | 88201003    | 2   | HEX HD CAPSCREW, 1/4-20X3/4, GR5            |     |
| 7    | 88561107    | 2   | FLAT WASHER, 1/4                            |     |
| 7    | 88501004    | 2   | HEX NUT, 1/4-20                             |     |
| 8    | 90200308    | 1   | CABLE                                       |     |
| 9    | 90206316    | AR  | ETHER START KIT (includes items 10 thru 21) |     |
| 10   | N.S.S.      | 1   | CABLE STOP                                  |     |
| 11   | N.S.S.      | 4   | NUT                                         |     |
| 12   | N.S.S.      | 4   | LOCKWASHER                                  |     |
| 13   | N.S.S.      | 1   | TANK MOUNTING BRACKET                       |     |
| 14   | N.S.S.      | 1   | CLAMP                                       |     |
| 15   | N.S.S.      | 2   | STUD                                        |     |
| 16   | N.S.S.      | 6   | LOCKWASHER                                  |     |
| 16   | N.S.S.      | 2   | WING NUT                                    |     |
| 17   | N.S.S.      | 1   | ETHER TANK                                  |     |
| 18   | N.S.S.      | 1   | VALVE                                       |     |
| 19   | N.S.S.      | 1   | VALVE FITTING                               |     |
| 20   | N.S.S.      | 1   | HOSE                                        |     |
| 21   | N.S.S.      | 1   | ATOMIZER                                    |     |

SECTION 4 - ENGINE AND ATTACHING PARTS

FIGURE 4-12. AIR CLEANER PIPING WAUKESHA DIESEL ENGINE WAUKESHA ENGINE ONLY (SN 8344001L through 8444490G)



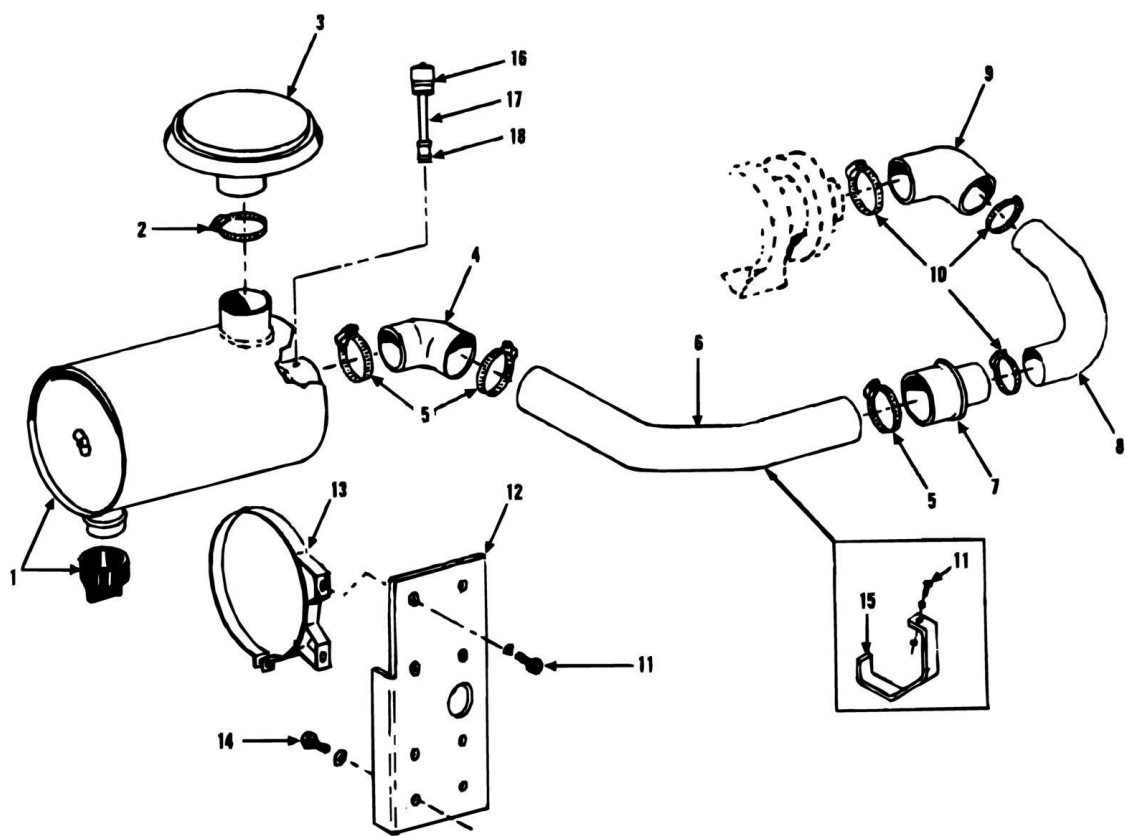
## SECTION 4 - ENGINE AND ATTACHING PARTS

**FIGURE 4-12. AIR CLEANER PIPING WAUKESHA DIESEL ENGINE WAUKESHA ENGINE ONLY (SN 8344001L through 8444490G)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                     | REV |
|------|-------------|-----|---------------------------------|-----|
| 1    | 90205663    | 1   | AIR CLEANER                     |     |
| 2    | 90207469    | 2   | AIR CLEANER MOUNTING BAR        |     |
| 3    | 88201035    | 4   | HEX HD CAPSCREW, 3/8-16X1, GR5  |     |
| 4    | 77103138    | 2   | AIR CLEANER MOUNTING BANDS      |     |
| 5    | 88201020    | 4   | HEX HD CAPSCREW, 5/16-18X1, GR5 |     |
| 5    | 88521205    | 4   | HEX LOCKNUT, 5/16-18            |     |
| 5    | 88551010    | 4   | LOCKWASHER, 5/16                |     |
| 6    | 90028682    | 1   | CAP, 1/8 NPT                    |     |
| 7    | 91033028    | 1   | FILTER CAP                      |     |
| 8    | 90207869    | 1   | HOSE                            |     |
| 9    | 90027713    | 3   | CLAMP                           |     |
| 10   | 90207863    | 1   | ADAPTER                         |     |
| 11   | 90205667    | 1   | REDUCER                         |     |
| 12   | 85111214    | 1   | CLAMP                           |     |

SECTION 4 - ENGINE AND ATTACHING PARTS

FIGURE 4-13. AIR CLEANER PIPING PERKINS DIESEL ENGINE (SN 8444491 to Present)



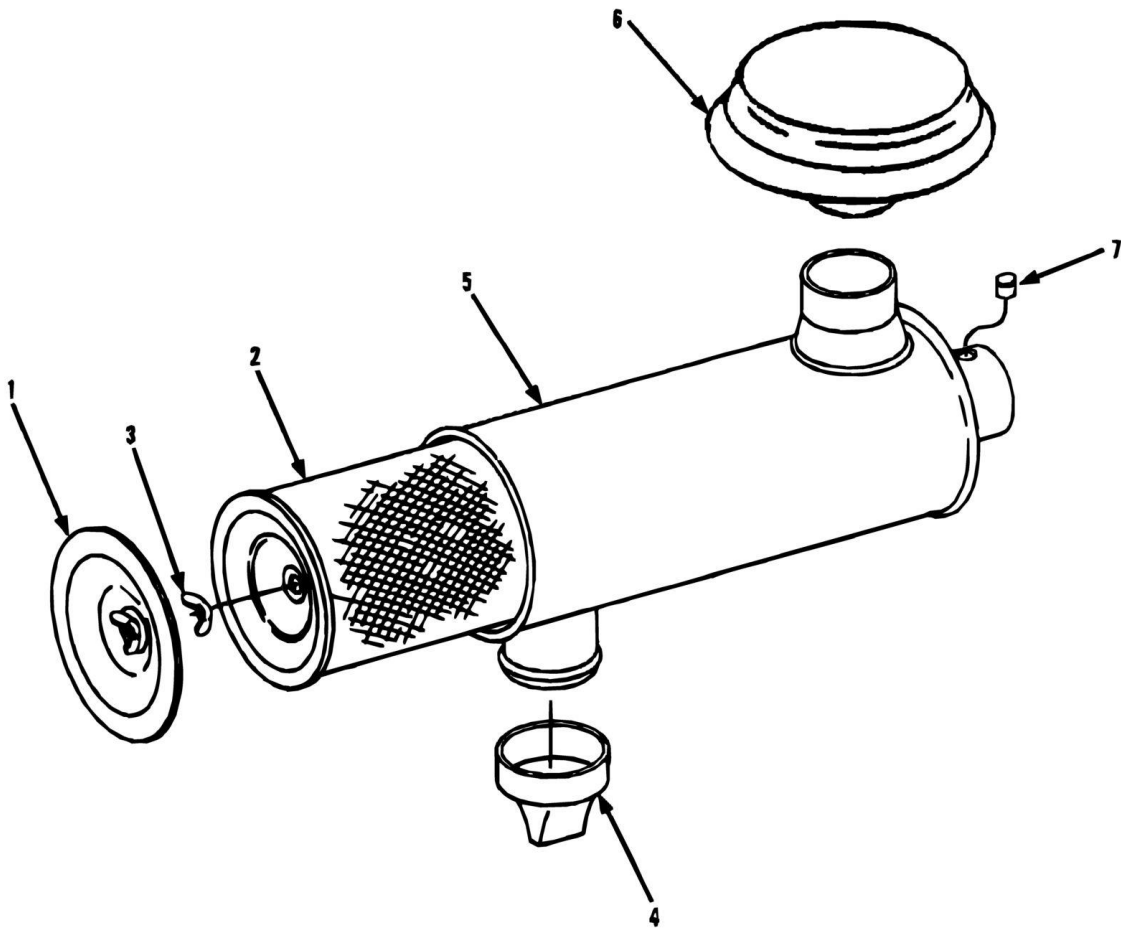
## SECTION 4 - ENGINE AND ATTACHING PARTS

**FIGURE 4-13. AIR CLEANER PIPING PERKINS DIESEL ENGINE (SN 8444491 to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                       | REV |
|------|-------------|-----|-----------------------------------|-----|
| 1    | 90205663    | 1   | AIR CLEANER                       |     |
| 2    | 85031160    | 1   | CLAMP                             |     |
| 3    | 91033028    | 1   | INLET CAP                         |     |
| 4    | 91033056    | 1   | ELBOW - 90                        |     |
| 5    | 90027713    | 3   | HOSE CLAMP                        |     |
| 6    | 91033060    | 1   | INTAKE TUBE                       |     |
| 7    | 91033055    | 1   | REDUCER                           |     |
| 8    | 91033059    | 1   | INTAKE TUBE                       |     |
| 9    | 91033058    | 1   | REDUCING ELBOW                    |     |
| 10   | 86883327    | 3   | CLAMP                             |     |
| 11   | 88201020    | 5   | HEX HD CAPSCREW, 5/16-18X1, GR5   |     |
| 11   | 88561108    | 5   | FLATWASHER, 5/16                  |     |
| 11   | 88521205    | 5   | HEX LOCKNUT, 5/16-18              |     |
| 12   | 91031042    | 1   | AIR CLEANER BRACKET               |     |
| 13   | 77103138    | 2   | MOUNTING BANDS                    |     |
| 14   | 88201018    | 4   | HEX HD CAPSCREW, 5/16-18X3/4, GR5 |     |
| 14   | 88551010    | 4   | LOCKWASHER, 5/16                  |     |
| 15   | 91031154    | 1   | BRACKET                           |     |
| 16   | 77383154    | 1   | SERVICE INDICATOR                 |     |
| 17   | 88701023    | 1   | NIPPLE, 1/8X3                     |     |
| 18   | 88711210    | 1   | PIPE COUPLING, 1/8                |     |

SECTION 4 - ENGINE AND ATTACHING PARTS

FIGURE 4-14. AIR CLEANER



## SECTION 4 - ENGINE AND ATTACHING PARTS

FIGURE 4-14. AIR CLEANER

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                 | REV |
|------|-------------|-----|-------------------------------------------------------------|-----|
|      | 90205663    | 1   | AIR CLEANER (includes items 1 thru 5)                       |     |
| 1    | 90206606    | 1   | COVER                                                       |     |
| 2    | 90206262    | 1   | ELEMENT                                                     |     |
| 3    | 90201414    | 1   | WING NUT W/SEAL                                             |     |
| 4    | 90200807    | 1   | VACUATOR                                                    |     |
| 5    |             | Ref | BODY (not sold separately, for service, order p/n 90205663) |     |
| 6    | 91033028    | 1   | AIR INLET                                                   |     |
| 7    | 90028682    | 1   | CAP, 1/8IN NPT                                              |     |

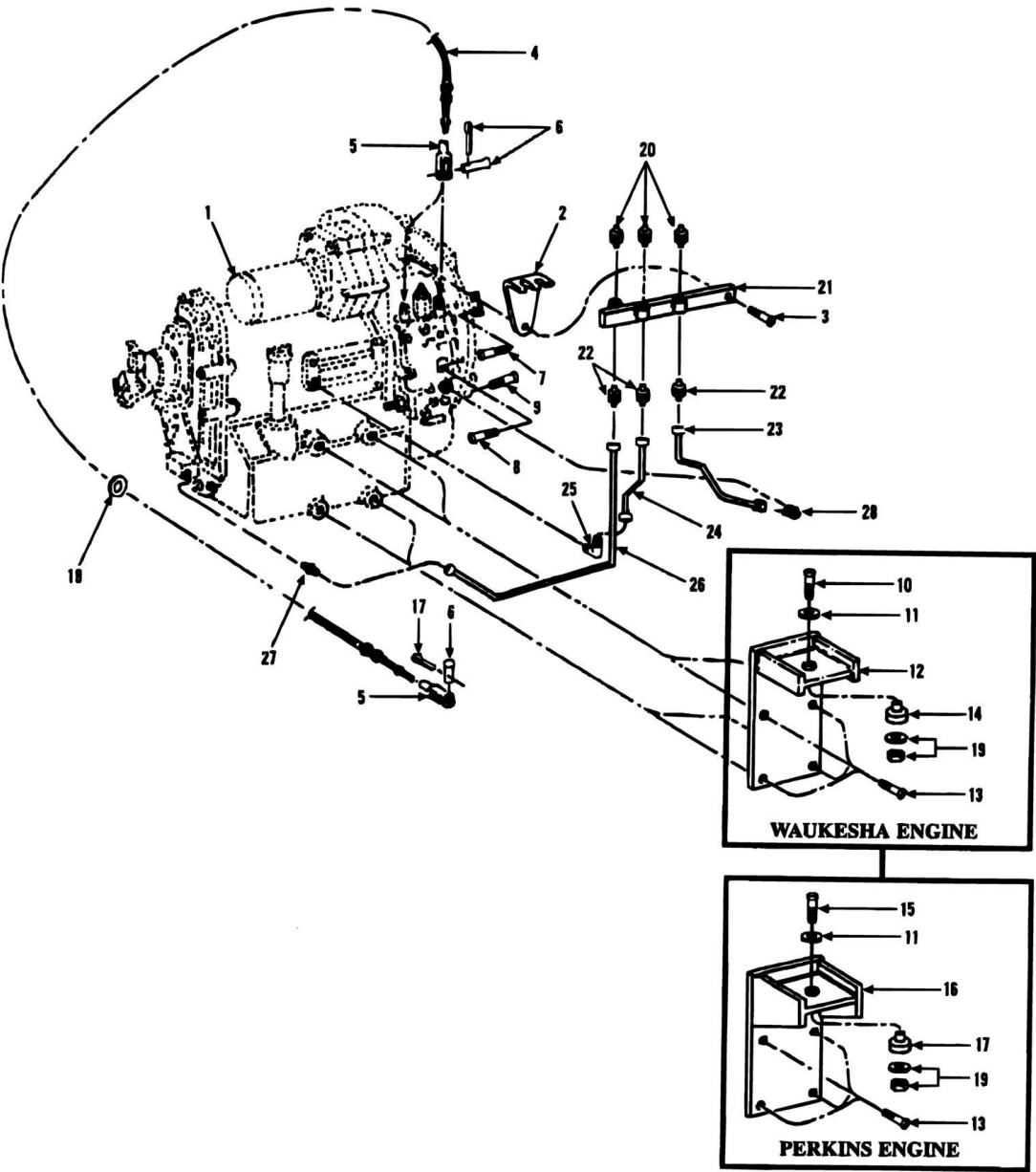




**SECTION 5 - DRIVE TRAIN**

SECTION 5 - DRIVE TRAIN

FIGURE 5-1. TRANSMISSION MOUNTING AND CONTROLS (SN 8344001L to Present)



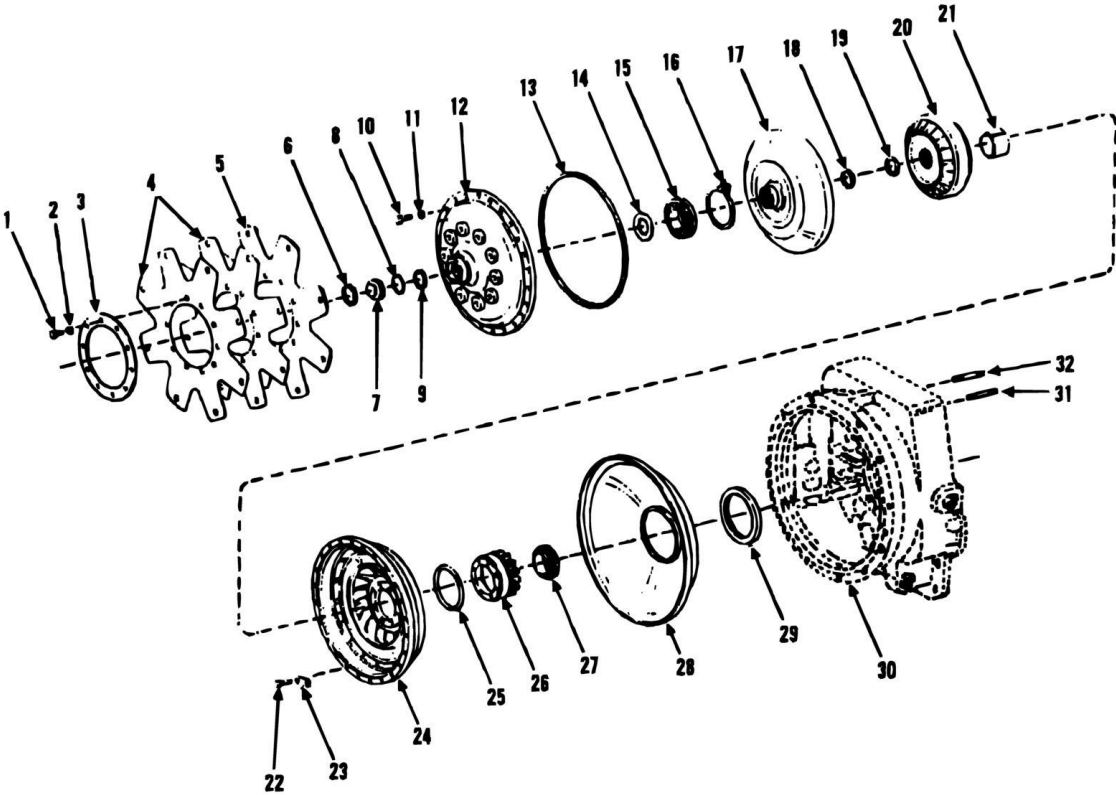
## SECTION 5 - DRIVE TRAIN

**FIGURE 5-1. TRANSMISSION MOUNTING AND CONTROLS (SN 8344001L to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                        | REV |
|------|-------------|-----|--------------------------------------------------------------------|-----|
|      | 91035141    | 1   | ENGINE AND TRANSMISSION FILTER KIT                                 |     |
|      | 90204732    | 1   | TRANSMISSION FILTER                                                |     |
|      | 90206262    | 1   | AIR FILTER                                                         |     |
|      | 91034005    | 1   | FUEL FILTER                                                        |     |
|      | 91034006    | 1   | OIL FILTER                                                         |     |
|      | 91034326    | 1   | TRANSMISSION O-RING KIT                                            |     |
|      | 91034327    | 1   | TORQUE CONVERTER O-RING KIT                                        |     |
| 1    | 90205166    | 1   | TRANSMISSION                                                       |     |
| 2    | 90402642    | 1   | CABLE MOUNTING BRACKET                                             |     |
| 3    | 88201066    | 1   | HEX HD CAPSCREW, 1/2-13X 1-1/4, GR5                                |     |
| 4    | 90203374    | 2   | CONTROL CABLE                                                      |     |
| 5    | 88821003    | 4   | ADJUSTABLE YOKE END                                                |     |
| 6    | 90027720    | 4   | CLEVIS AND COTTER PIN                                              |     |
| 7    | 90028664    | 8   | BOLT, 12PT 3/8X1-1/14 (waukesha)                                   |     |
| 7    | 88201537    | 8   | HEX HD CAPSCREW, 3/8-24X1-3/4, GR5 (perkins only)                  |     |
| 8    | 88201036    | 11  | HEX HD CAPSCREW, 3/8-16X1-1/4, GR5                                 |     |
| 8    | 88551011    | 11  | LOCKWASHER, 3/8                                                    |     |
| 9    | 90205002    | 1   | STUD, 3/8-16X1-3/4                                                 |     |
| 9    | 88501006    | 1   | HEX NUT, 3/8-16                                                    |     |
| 10   | 88201119    | 2   | HEX HD CAPSCREW, 3/4-10X4, GR5                                     |     |
| 11   | 90207219    | 2   | WASHER                                                             |     |
| 12   | 90601946    | 1   | MOUNTING BRACKET (left)                                            |     |
| 12   | 90601947    | 1   | MOUNTING BRACKET (right)                                           |     |
| 13   | 88201110    | 8   | HEX HD CAPSCREW, 3/4-10X1-3/4, GR5                                 |     |
| 13   | 88551016    | 8   | LOCKWASHER, 3/4                                                    |     |
| 14   | 90600097    | 2   | COMPRESSION MOUNTING                                               |     |
| 15   | 88201120    | 2   | HEX HD CAPSCREW, 3/4-10X4-1/2, GR5                                 |     |
| 16   | 91036008    | 2   | MOUNTING BRACKET                                                   |     |
| 17   | 85071340    | 2   | COMPRESSION MOUNTING                                               |     |
| 18   | 90202303    | 2   | CABLE GROMMET                                                      |     |
| 19   | 88501012    | 2   | HEX NUT, 3/4-10                                                    |     |
| 19   | 88561115    | 2   | FLAT WASHER, 3/4                                                   |     |
| 20   | 91035112    | 3   | PRESSURE SWITCH                                                    |     |
| 21   | 90403349    | 1   | SWITCH BRACKET                                                     |     |
| 22   | 2220574     | 3   | ADPT,ST S JIC/NPTF 4-2 FG                                          |     |
| 23   | 90207258    | 1   | TUBE LINE                                                          |     |
| 24   | 90207257    | 1   | TUBE LINE                                                          |     |
| 25   | 88743055    | 1   | MALE ELBOW, 90, 1/4X1/4 TUBE                                       |     |
| 26   | 90207256    | 1   | TUBE LINE                                                          |     |
| 27   | 90028750    | 1   | ADAPTER                                                            |     |
| 28   | 88743041    | 1   | MALE ELBOW, 90, 1/8X1/4 TUBE                                       |     |
| 29   | 91033283    | 1   | TRANS TEMP SENDER (not shown)                                      |     |
| 30   | 91033282    | 1   | TRANS TEMP GAGE (not shown) (See ELECTRICAL SECTION for Breakdown) |     |

SECTION 5 - DRIVE TRAIN

FIGURE 5-2. FLEX PLATE AND TORQUE CONVERTER (SN 8344001L to Present)



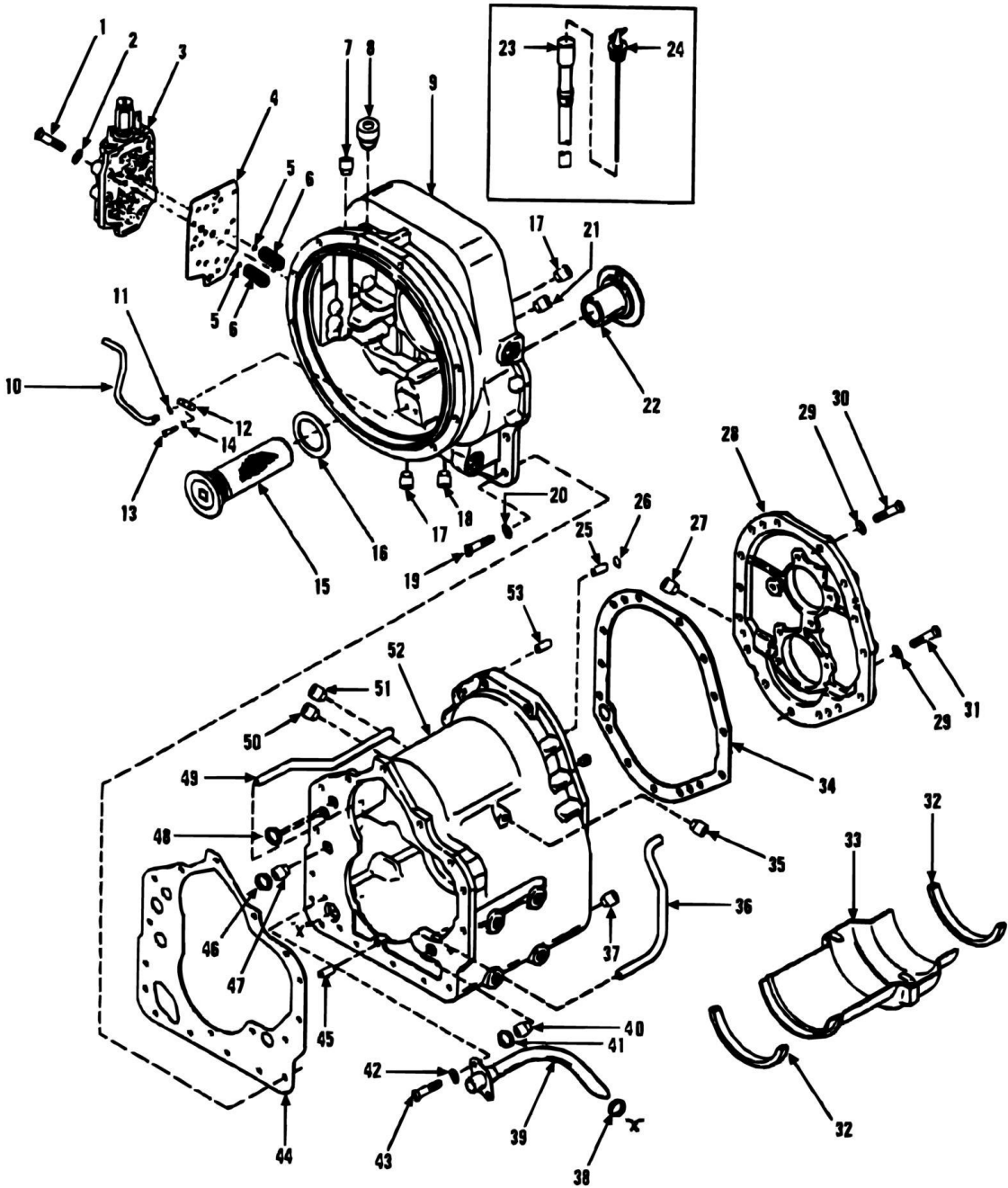
## SECTION 5 - DRIVE TRAIN

**FIGURE 5-2. FLEX PLATE AND TORQUE CONVERTER (SN 8344001L to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                              | REV |
|------|-------------|-----|--------------------------------------------------------------------------|-----|
| 1    | 88201033    | 10  | HEX HD CAPSCREW, 3/8-16X3/4, GR5                                         |     |
| 2    | 88551011    | 10  | LOCKWASHER, 3/8                                                          |     |
| 3    | 77104044    | 1   | DRIVE PLATE BACKING RING                                                 |     |
| 4    | 77104043    | 2   | DRIVE PLATE                                                              |     |
| 5    | 90204783    | 1   | DRIVE PLATE ASSY                                                         |     |
| 6    | 90204782    | 1   | BORE PLUG RETAINING RING                                                 |     |
| 7    | 90204781    | 1   | BORE PLUG                                                                |     |
| 8    | 77104039    | 1   | O-RING                                                                   |     |
| 9    | 77104032    | 1   | TURBINE RETAINING RING                                                   |     |
| 10   | 77104046    | 24  | HEX HD CAPSCREW AND LOCK WASHER ASSY, (includes item 11)                 |     |
| 11   |             | Ref | LOCKWASHER, (included with item 10)                                      |     |
| 12   | 90204779    | 1   | IMPELLER COVER                                                           |     |
| 13   | 77104037    | 1   | O-RING                                                                   |     |
| 14   | 8032594     | 1   | BEARING RETAINING WASHER                                                 |     |
| 15   | 77104035    | 1   | TURBINE HUB BEARING                                                      |     |
| 16   | 77104034    | 1   | BEARING LOCATING RING                                                    |     |
| 17   | 77104033    | 1   | TURBINE                                                                  |     |
| 18   | 77104032    | 1   | TURBINE RETAINING RING                                                   |     |
| 19   | 77104031    | 1   | RETAINING RING                                                           |     |
| 20   | 91044048    | 1   | REACTION MEMBER                                                          |     |
| 21   | 90206387    | 1   | SPACER                                                                   |     |
| 22   | 88201352    | 8   | HEX HD CAPSCREW, 3/8-24X3/4, GR5                                         |     |
| 23   | 77104027    | 4   | LOCK TAB                                                                 |     |
| 24   | 90204767    | 1   | IMPELLER                                                                 |     |
| 25   | 77104012    | 1   | O-RING                                                                   |     |
| 26   | 90206386    | 1   | IMPELLER HUB GEAR                                                        |     |
| 27   | 90206385    | 1   | IMPELLER HUB GEAR BEARING                                                |     |
| 28   | 90204756    | 1   | OIL BAFFLE ASSY                                                          |     |
| 29   | 90204755    | 1   | OIL ASSY                                                                 |     |
| 30   |             | Ref | CONVERTER HOUSING, (See CONVERTER HOUSING ATTACHING PARTS for Breakdown) |     |
| 31   | 90206378    | 1   | PUMP MOUNTING STUD                                                       |     |
| 32   | 90206379    | 1   | PUMP MOUNTING STUD                                                       |     |

SECTION 5 - DRIVE TRAIN

FIGURE 5-3. CASE AND CONVERTER HOUSING (SN 8344001L to Present)



## SECTION 5 - DRIVE TRAIN

**FIGURE 5-3. CASE AND CONVERTER HOUSING (SN 8344001L to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                          | REV |
|------|-------------|-----|------------------------------------------------------|-----|
| 1    | 88201046    | 9   | HEX HD CAPSCREW, 3/8-16X3-3/4, GR5                   |     |
| 2    | 88551011    | 9   | LOCK WASHER, 3/8                                     |     |
| 3    |             | Ref | MODULATOR VALVE ASSY (See DRIVE SHAFT for Breakdown) |     |
| 4    | 77104283    | 1   | GASKET                                               |     |
| 5    | 77104284    | 2   | DETENT BALL                                          |     |
| 6    | 77104285    | 2   | DETENT SPRING                                        |     |
| 7    | 77104112    | 1   | PIPE PLUG                                            |     |
| 8    | 8032509     | 1   | AIR BREATHER                                         |     |
| 9    | 91034246    | 1   | CONVERTER HOUSING ASSY (includes items 10 thru 14)   |     |
| 10   | 91044050    | 1   | LUBE BYPASS TUBE                                     |     |
| 11   | 91044051    | 1   | O-RING                                               |     |
| 12   | 91044052    | 1   | TUBE CLIP                                            |     |
| 13   | 77104102    | 1   | HEX HD CAPSCREW                                      |     |
| 14   | 77104103    | 1   | LOCKWASHER                                           |     |
| 15   | 90204800    | 1   | SCREEN ASSY                                          |     |
| 16   | 90204799    | 1   | SCREEN GASKET                                        |     |
| 17   | 90027267    | 2   | PIPE PLUG                                            |     |
| 18   | 77104116    | 1   | PIPE PLUG                                            |     |
| 19   | 77104086    | 16  | HEX HD CAPSCREW                                      |     |
| 20   | 77104085    | 16  | LOCKWASHER                                           |     |
| 21   | 77104116    | 1   | PIPE PLUG                                            |     |
| 22   | 77104097    | 1   | CONVERTER HOUSING SLEEVE                             |     |
| 23   | 90204823    | 1   | DIPSTICK TUBE                                        |     |
| 24   | 90204824    | 1   | DIPSTICK                                             |     |
| 25   | 8032522     | 1   | Sleeve, Tube                                         |     |
| 26   | 77104111    | 1   | O-RING                                               |     |
| 27   | 77104116    | 1   | PIPE PLUG                                            |     |
| 28   | 90204798    | 1   | COVER AND PLUG ASSY (includes item 27)               |     |
| 29   | 77104085    | 15  | LOCKWASHER                                           |     |
| 30   | 88201053    | 9   | HEX HD CAPSCREW, 7/16-14X1-3/4, GR5                  |     |
| 31   | 77104086    | 6   | HEX HD CAPSCREW                                      |     |
| 32   | 90204806    | 2   | OIL BAFFLE SEAL                                      |     |
| 33   | 90204807    | 1   | OIL BAFFLE                                           |     |
| 34   | 90204802    | 1   | GASKET                                               |     |
| 35   | 91474192    | 2   | PIPE PLUG                                            |     |
| 36   | 90204804    | 1   | CLUTCH LUBE TUBE                                     |     |
| 37   | 77104119    | 1   | MAGNETIC DRAIN PLUG                                  |     |
| 38   | 77104057    | 1   | O-RING                                               |     |
| 39   | 90204809    | 1   | SUCTION TUBE ASSY                                    |     |
| 40   | 77104107    | 1   | TUBE SLEEVE                                          |     |
| 41   | 77104111    | 1   | O-RING                                               |     |
| 42   | 88551010    | 2   | LOCKWASHER, 5/16                                     |     |
| 43   | 88201017    | 2   | HEX HD CAPSCREW, 5/16-18X1-5/8, GR5                  |     |
| 44   | 77104098    | 1   | GASKET                                               |     |
| 45   | 77104113    | 1   | DOWEL PIN                                            |     |
| 46   | 77104111    | 1   | O-RING                                               |     |
| 47   | 77104109    | 1   | TUBE SLEEVE                                          |     |
| 48   | 77104048    | 2   | O-RING                                               |     |
| 49   | 77104110    | 1   | LOW SPEED CLUTCH PRESSURE TUBE                       |     |
| 50   | 77104112    | 1   | PIPE PLUG                                            |     |

**SECTION 5 - DRIVE TRAIN**

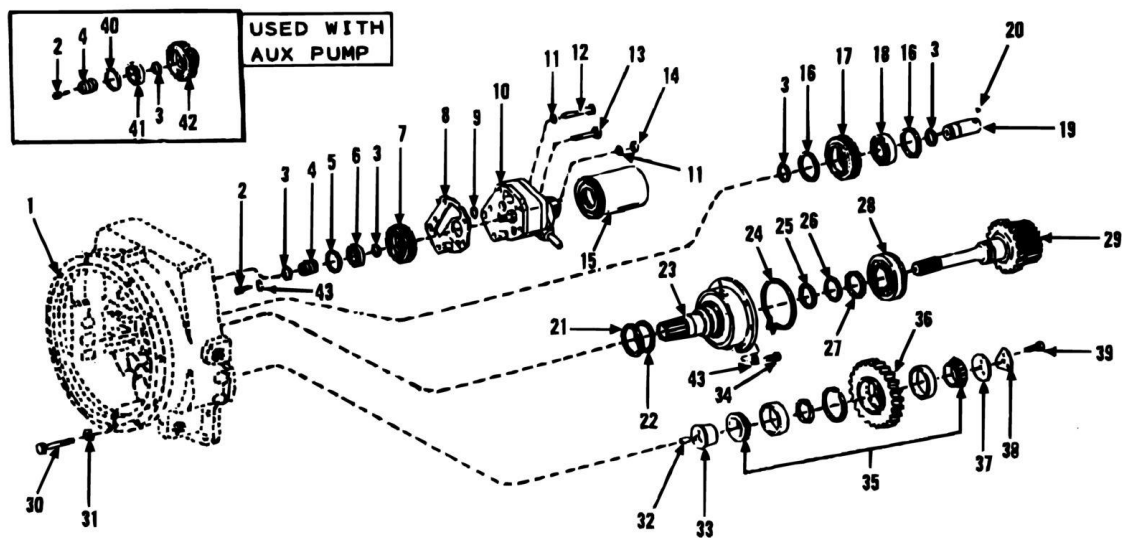
| ITEM | PART NUMBER | QTY | DESCRIPTION                                                                         | REV |
|------|-------------|-----|-------------------------------------------------------------------------------------|-----|
| 51   | 77104118    | 1   | PIPE PLUG                                                                           |     |
| 52   | 90204817    | 1   | TRANSMISSION CASE ASSY (includes items 25, 32, 33, 36, 38, 39, 40, 42, 43, 47 & 49) |     |
| 53   | 77104113    | 2   | DOWEL PIN                                                                           |     |





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FIGURE 5-4. CONVERTER HOUSING ATTACHING PARTS (SN 8344001L to Present)



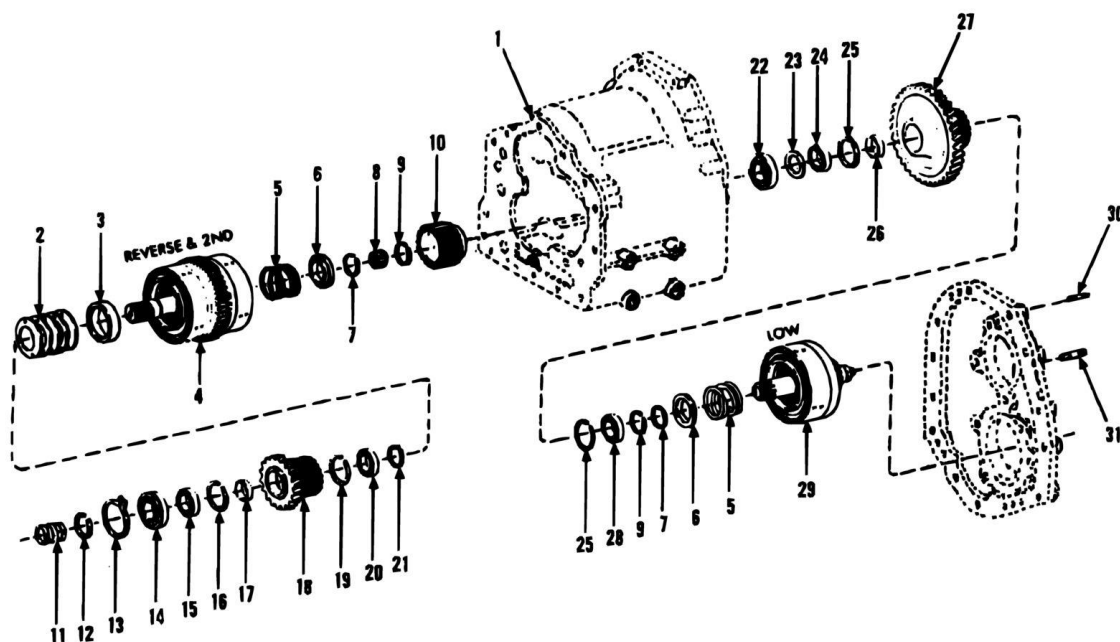
## SECTION 5 - DRIVE TRAIN

**FIGURE 5-4. CONVERTER HOUSING ATTACHING PARTS (SN 8344001L to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                        | REV |
|------|-------------|-----|------------------------------------|-----|
| 1    |             | Ref | CONVERTER HOUSING                  |     |
| 2    | 88201036    | AR  | HEX HD CAPSCREW, 3/8-16X1-1/4, GR5 |     |
| 3    | 90204733    | AR  | BEARING LOCATING RING              |     |
| 4    | 90204734    | AR  | PUMP DRIVE BEARING SUPPORT         |     |
| 5    | 90204735    | 1   | BEARING RETAINING RING             |     |
| 6    | 90204793    | 1   | PUMP DRIVE GEAR BEARING            |     |
| 7    | 90204737    | 1   | PUMP DRIVE GEAR                    |     |
| 8    | 90204730    | 1   | GASKET                             |     |
| 9    | 77104048    | 1   | O-RING                             |     |
| 10   | 90204731    | 1   | CHARGING PUMP ASSY                 |     |
| 10   | 91034331    | 1   | CHARGE PUMP SEAL KIT               |     |
| 11   | 77104085    | 3   | LOCKWASHER                         |     |
| 12   | 90028641    | 1   | HEX HD CAPSCREW                    |     |
| 13   | 88201062    | 2   | HEX HD CAPSCREW, 7/16-14X4, GR5    |     |
| 14   | 77104204    | 2   | HEX NUT                            |     |
| 15   | 90204732    | 1   | FILTER                             |     |
| 16   | 77104181    | 2   | BEARING RETAINING RING             |     |
| 17   | 90204740    | 1   | IDLER GEAR                         |     |
| 18   | 90204741    | 1   | IDLER STUB SHAFT BEARING           |     |
| 19   | 90204738    | 1   | IDLER GEAR SHAFT                   |     |
| 20   | 90205047    | 1   | LOCK BALL                          |     |
| 21   | 90206377    | 1   | PISTON RING                        |     |
| 22   | 77104016    | 1   | PISTON RING EXPANDER SPRING        |     |
| 23   | 90206376    | 1   | STATOR SUPPORT                     |     |
| 24   | 90204749    | 1   | SNAP RING                          |     |
| 25   | 90204748    | 1   | PISTON RING                        |     |
| 26   | 77104164    | 1   | BEARING RETAINING RING             |     |
| 27   | 77104197    | 1   | BEARING LOCATING WASHER            |     |
| 28   | 91044053    | 1   | TURBINE SHAFT WASHER               |     |
| 29   | 91044054    | 1   | HUB ASSY                           |     |
| 30   | 77104250    | 3   | HEX HD CAPSCREW                    |     |
| 31   | 77104085    | 3   | LOCKWASHER                         |     |
| 32   | 77104253    | 1   | IDLER SHAFT PIN                    |     |
| 33   | 77104254    | 1   | REVERSE IDLER SHAFT                |     |
| 34   | 88201035    | 6   | HEX HD CAPSCREW, 3/8-16X1, GR5     |     |
| 35   | 77104255    | 1   | BEARING ASSY                       |     |
| 36   | 90206382    | 1   | REVERSE IDLER GEAR                 |     |
| 37   | 77104257    | 1   | BEARING RETAINING PLATE            |     |
| 38   | 77104258    | 1   | LOCK PLATE                         |     |
| 39   | 90206384    | 3   | HEX HD CAPSCREW                    |     |
| 40   | 90204787    | 1   | BEARING RETAINING RING             |     |
| 41   | 90204788    | 1   | AUXILIARY PUMP GEAR BEARING        |     |
| 42   | 90204790    | 1   | AUXILIARY PUMP DRIVE GEAR          |     |
| 43   | 88551011    | AR  | LOCKWASHER, 3/8                    |     |

## SECTION 5 - DRIVE TRAIN

**FIGURE 5-5. CLUTCH AND GEAR GROUP (REVERSE, 2ND AND LOW) (SN 8344001L to Present)**



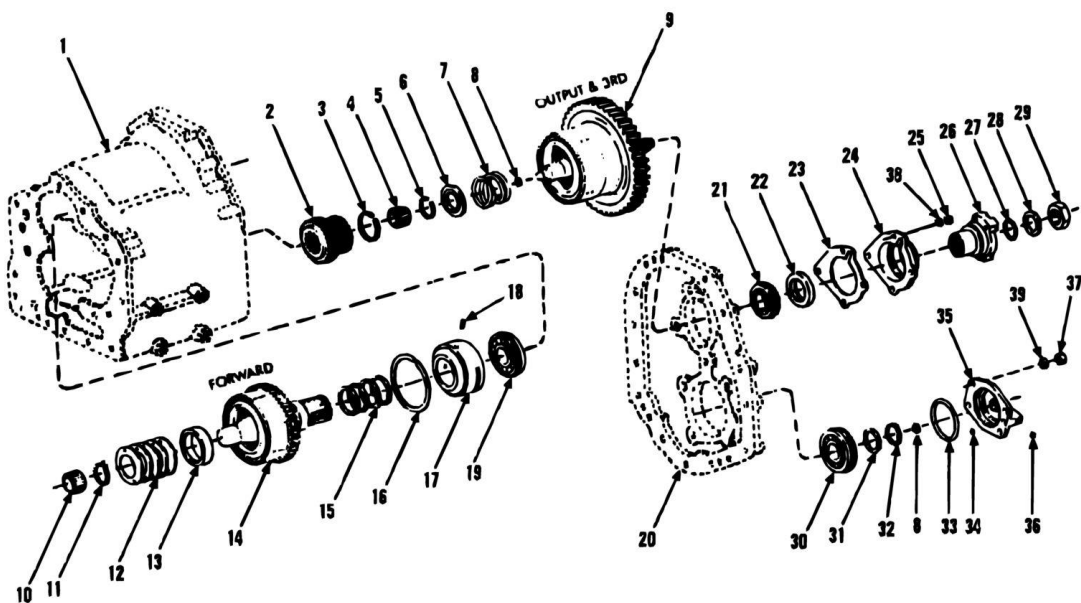
## SECTION 5 - DRIVE TRAIN

**FIGURE 5-5. CLUTCH AND GEAR GROUP (REVERSE, 2ND AND LOW) (SN 8344001L to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                                  | REV |
|------|-------------|-----|------------------------------------------------------------------------------|-----|
| 1    |             | Ref | TRANSMISSION CASE ASSY (See CONVERTER HOUSING ATTACHING PARTS for Breakdown) |     |
| 2    | 77104207    | 5   | PISTON RETURN SPRING                                                         |     |
| 3    | 77104208    | 1   | RETURN SPRING SPACER                                                         |     |
| 4    |             | Ref | REVERSE AND 2ND SHAFT DRUM AND PLUG ASSY (See MODULATOR VALVE for Breakdown) |     |
| 5    | 77104187    | 1   | PISTON RETURN SPRING                                                         |     |
| 6    | 77104186    | 2   | SPRING RETAINER                                                              |     |
| 7    | 77104185    | 2   | SNAP RING                                                                    |     |
| 8    | 77104231    | 1   | REVERSE AND 2ND SHAFT REAR BEARING                                           |     |
| 9    | 77104184    | 2   | RETAINING RING                                                               |     |
| 10   | 77104232    | 1   | CLUTCH DISC HUB                                                              |     |
| 11   | 77104219    | 3   | PISTON RING                                                                  |     |
| 12   | 77104220    | 1   | RETAINING RING                                                               |     |
| 13   | 77104221    | 1   | SNAP RING                                                                    |     |
| 14   | 77104222    | 1   | REVERSE AND 2ND SHAFT FRONT BEARING                                          |     |
| 15   | 77104223    | 1   | CLUTCH DRIVER GEAR BEARING                                                   |     |
| 16   | 77104224    | 1   | RETAINING RING                                                               |     |
| 17   | 77104225    | 1   | SPACER                                                                       |     |
| 18   | 77104226    | 1   | REVERSE CLUTCH GEAR AND HUB ASSY                                             |     |
| 19   | 77104224    | 1   | RETAINING RING                                                               |     |
| 20   | 77104227    | 1   | CLUTCH DRIVEN GEAR BEARING                                                   |     |
| 21   | 77104206    | 1   | SNAP RING                                                                    |     |
| 22   | 77104158    | 1   | LOW SPEED SHAFT FRONT BEARING                                                |     |
| 23   | 77104179    | 1   | SPACER                                                                       |     |
| 24   | 77104180    | 1   | LOW SPEED GEAR BEARING                                                       |     |
| 25   | 77104181    | 2   | LOCATING RING                                                                |     |
| 26   | 77104182    | 1   | SPACER                                                                       |     |
| 27   | 90204874    | 1   | LOW GEAR AND HUB ASSY                                                        |     |
| 28   | 77104180    | 1   | LOW SPEED GEAR BEARING                                                       |     |
| 29   |             | Ref | LOW CLUTCH DRUM AND BLEED VALVE ASSY (See MODULATOR VALVE for Breakdown)     |     |
| 30   | 77104177    | 4   | BEARING CAP STUD                                                             |     |
| 31   | 77104203    | 4   | BEARING CAP STUD                                                             |     |

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FIGURE 5-6. CLUTCH AND GEAR GROUP (FORWARD, OUTPUT AND 3RD) (SN 8344001L to Present)



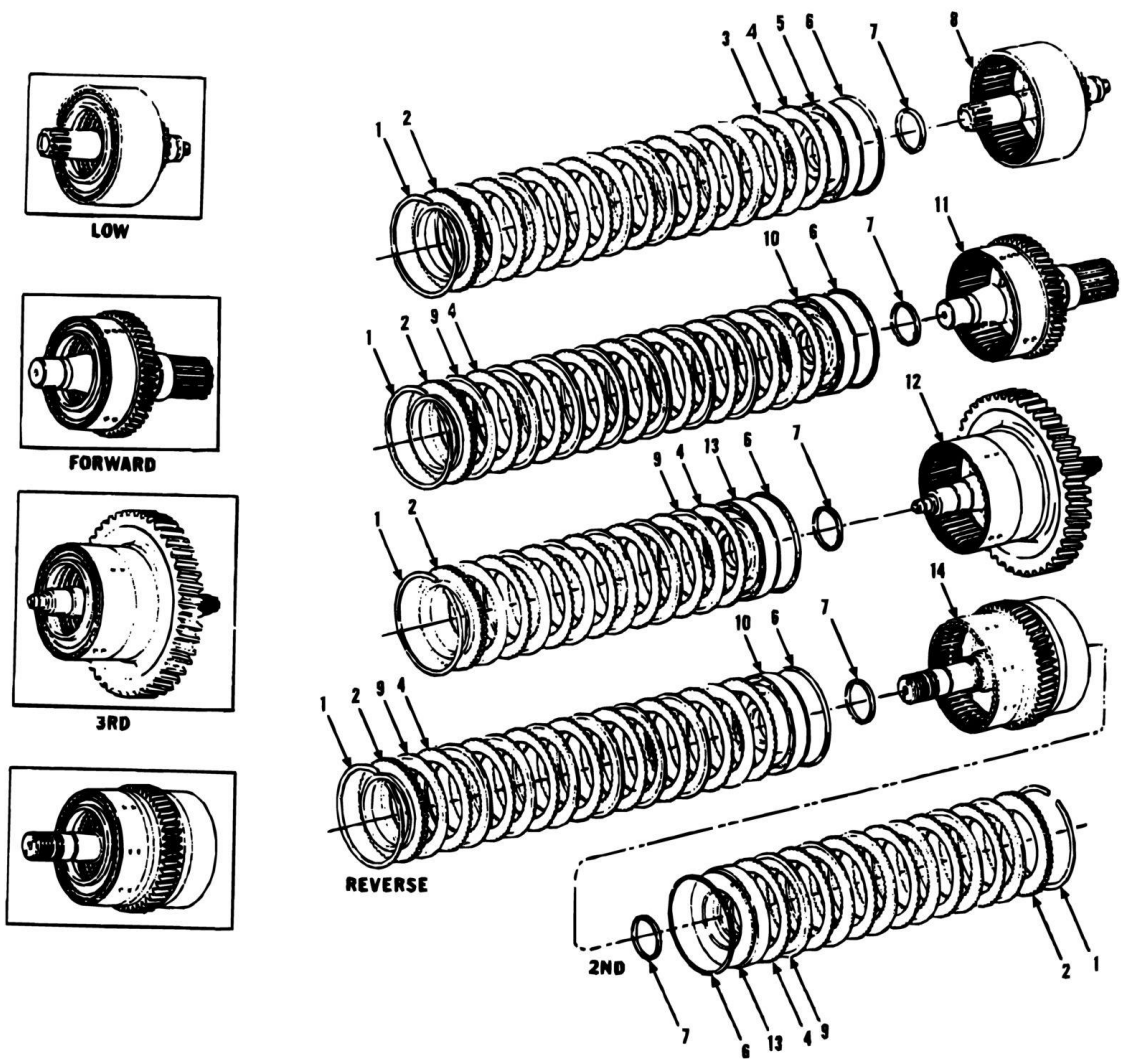
## SECTION 5 - DRIVE TRAIN

**FIGURE 5-6. CLUTCH AND GEAR GROUP (FORWARD, OUTPUT AND 3RD) (SN 8344001L to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                                  | REV |
|------|-------------|-----|------------------------------------------------------------------------------|-----|
| 1    |             | Ref | TRANSMISSION CASE ASSY (See CONVERTER HOUSING ATTACHING PARTS for Breakdown) |     |
| 2    | 90204866    | 1   | THIRD GEAR AND HUB ASSY                                                      |     |
| 3    | 90204864    | 1   | RETAINING RING                                                               |     |
| 4    | 90204862    | 1   | PILOT BEARING                                                                |     |
| 5    | 77104185    | 1   | SNAP RING                                                                    |     |
| 6    | 77104186    | 1   | SPRING RETAINER                                                              |     |
| 7    | 77104187    | 1   | PISTON RETURN SPRING                                                         |     |
| 8    | 77104198    | 1   | PISTON RING                                                                  |     |
| 9    |             | Ref | OUTPUT SHAFT AND 3RD CLUTCH ASSY (See MODULATOR VALVE for Breakdown)         |     |
| 10   | 77104205    | 1   | SHAFT PILOT BEARING                                                          |     |
| 11   | 77104206    | 1   | SNAP RING                                                                    |     |
| 12   | 77104207    | 5   | PISTON RETURN SPRING                                                         |     |
| 13   | 77104208    | 1   | SPACER                                                                       |     |
| 14   |             | Ref | FORWARD SHAFT DRUM AND PLUG ASSY (See MODULATOR VALVE for Breakdown)         |     |
| 15   | 77104211    | 4   | PISTON RING                                                                  |     |
| 16   | 77104212    | 1   | RETAINER RING                                                                |     |
| 17   | 77104213    | 1   | PISTON RING SLEEVE                                                           |     |
| 18   | 77104214    | 1   | ROLL PIN                                                                     |     |
| 19   | 77104215    | 1   | FORWARD SHAFT BEARING                                                        |     |
| 20   |             | Ref | COVER AND PLUG ASSY (See CONVERTER HOUSING ATTACHING PARTS for Breakdown)    |     |
| 21   | 90204829    | 1   | OUTPUT SHAFT BEARING                                                         |     |
| 22   | 90204831    | 1   | OIL SEAL                                                                     |     |
| 23   | 90206394    | 1   | GASKET                                                                       |     |
| 24   | 90206395    | 1   | CAP                                                                          |     |
| 25   | 77104142    | 4   | HEX NUT                                                                      |     |
| 26   | 90206396    | 1   | OUTPUT FLANGE                                                                |     |
| 27   | 77104128    | 1   | O-RING                                                                       |     |
| 28   | 77104088    | 1   | FLANGE WASHER                                                                |     |
| 29   | 77104087    | 1   | FLANGE NUT                                                                   |     |
| 30   | 90204842    | 1   | LOW SPEED SHAFT BEARING                                                      |     |
| 31   | 77104197    | 1   | BEARING SUPPORT WASHER                                                       |     |
| 32   | 77104184    | 1   | BEARING RING                                                                 |     |
| 33   | 77104202    | 1   | O-RING                                                                       |     |
| 34   | 77104199    | 1   | O-RING                                                                       |     |
| 35   | 90204851    | 1   | REAR BEARING CAP AND PLUG ASSY (includes item 36)                            |     |
| 36   | 77104201    | 1   | PIPE PLUG                                                                    |     |
| 37   | 77104204    | 4   | HEX NUT                                                                      |     |
| 38   | 77104143    | 4   | LOCKWASHER                                                                   |     |
| 39   | 77104085    | 4   | LOCKWASHER                                                                   |     |

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FIGURE 5-7. CLUTCH ASSEMBLIES (SN 8344001L to Present)





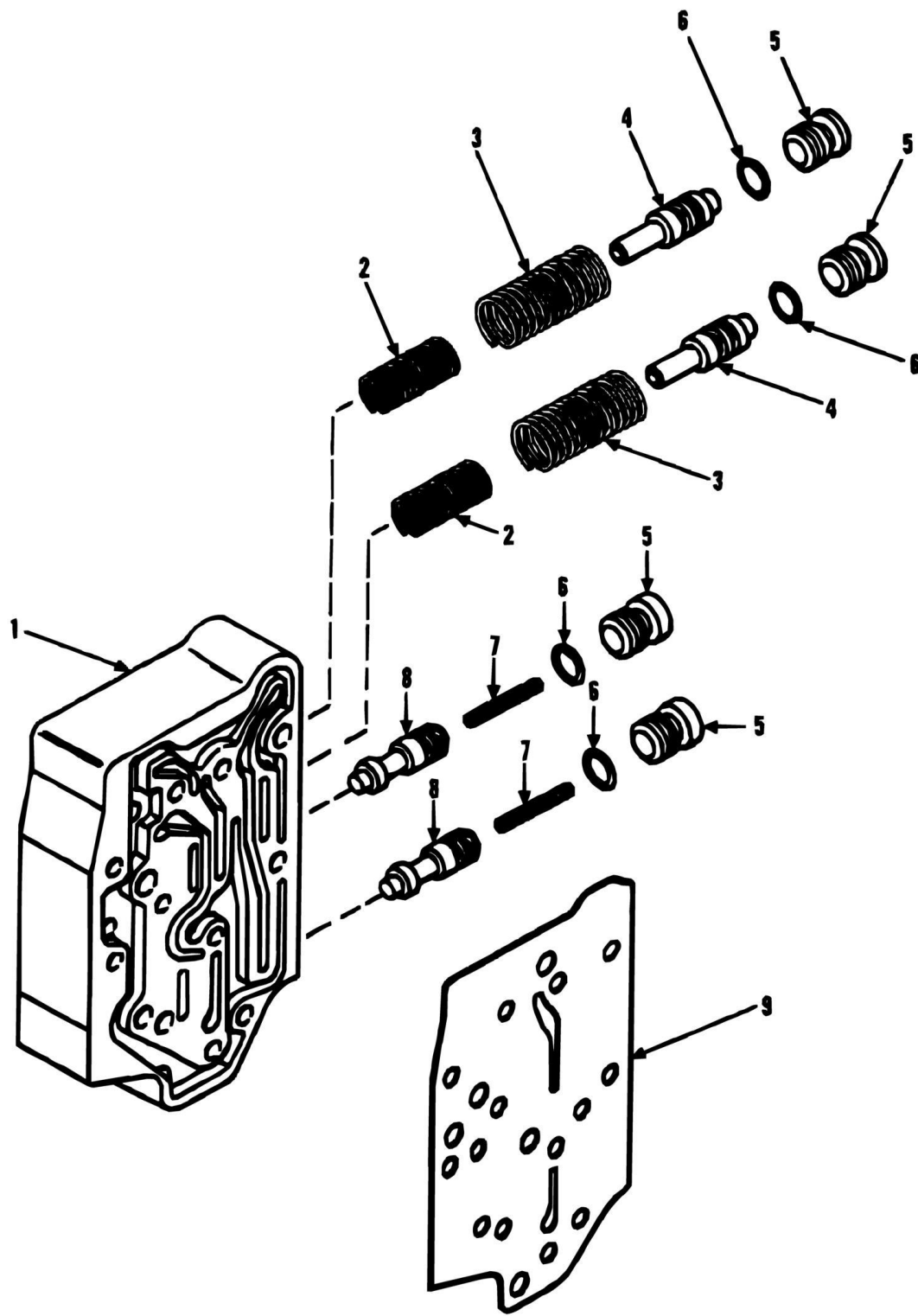
## SECTION 5 - DRIVE TRAIN

**FIGURE 5-7. CLUTCH ASSEMBLIES (SN 8344001L to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                          | REV |
|------|-------------|-----|------------------------------------------------------|-----|
| 1    | 77104188    | 5   | SNAP RING                                            |     |
| 2    | 77104189    | 5   | CLUTCH DISC BREAKING PLATE                           |     |
| 3    | 77104190    | 8   | CLUTCH INNER DISC (low)                              |     |
| 4    | 77104191    | 36  | CLUTCH OUTER DISC                                    |     |
| 5    | 77104192    | 1   | CLUTCH PISTON (low)                                  |     |
| 6    | 77104193    | 5   | OUTER CLUTCH PISTON RING                             |     |
| 7    | 77104194    | 5   | INNER CLUTCH PISTON SEAL                             |     |
| 8    | 90204935    | 1   | LOW CLUTCH SHAFT, DRUM AND BLEED VALVE ASSY          |     |
| 9    | 77104209    | 28  | CLUTCH INNER DISC (forward, 3rd, reverse and second) |     |
| 10   | 90204938    | 2   | CLUTCH PISTON (forward, reverse and 2nd)             |     |
| 11   | 90204939    | 1   | FORWARD SHAFT, DRUM AND PLUG ASSY                    |     |
| 12   | 90206403    | 1   | THIRD CLUTCH SHAFT, DRUM AND PLUG ASSY               |     |
| 13   | 77104230    | 2   | CLUTCH PISTON (3rd & 2nd)                            |     |
| 14   | 90204944    | 1   | REVERSE AND 2ND SHAFT, DRUM AND PLUG ASSY            |     |

SECTION 5 - DRIVE TRAIN

FIGURE 5-8. MODULATOR VALVE (SN 8344001L to Present)



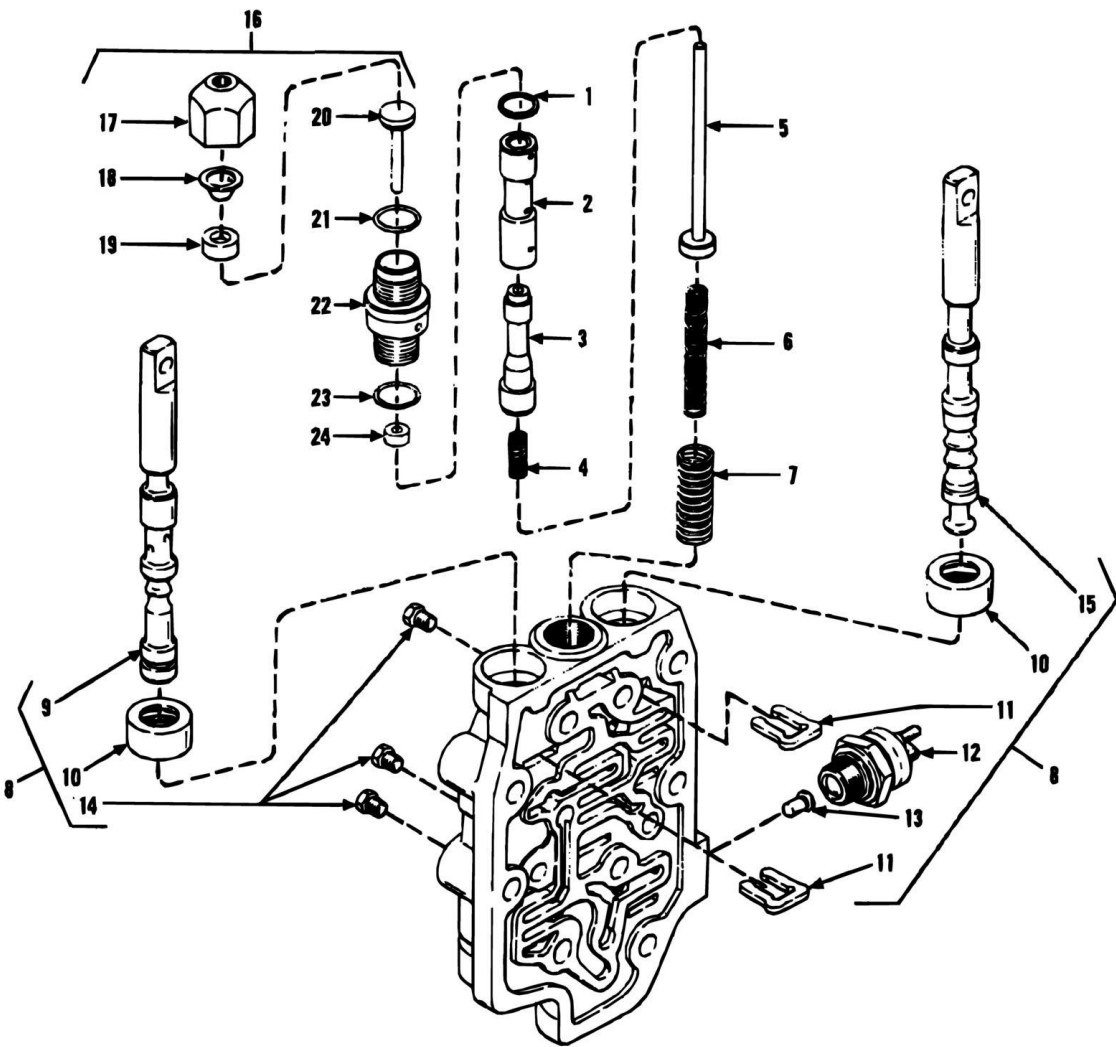
## SECTION 5 - DRIVE TRAIN

**FIGURE 5-8. MODULATOR VALVE (SN 8344001L to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                          | REV |
|------|-------------|-----|--------------------------------------|-----|
|      | 90204990    | 1   | MODULATOR VALVE (includes all items) |     |
| 1    | N.S.S.      | 1   | VALVE HOUSING                        |     |
| 2    | 90204991    | 2   | ACCUMULATOR SPRING (inner)           |     |
| 3    | 90204992    | 2   | ACCUMULATOR SPRING (outer)           |     |
| 4    | N.S.S.      | 2   | VALVE                                |     |
| 5    | 90205057    | 4   | SPOOL STOP PLUG (includes item 6)    |     |
| 6    | 90205056    | 4   | O-RING                               |     |
| 7    | 90204822    | 2   | REGULATOR SPRING                     |     |
| 8    | N.S.S.      | 2   | REGULATOR SPOOL                      |     |
| 9    | 90204820    | 1   | GASKET, VALVE TO HOUSING             |     |

SECTION 5 - DRIVE TRAIN

FIGURE 5-9. CONTROL VALVE (SN 8344001L to Present)



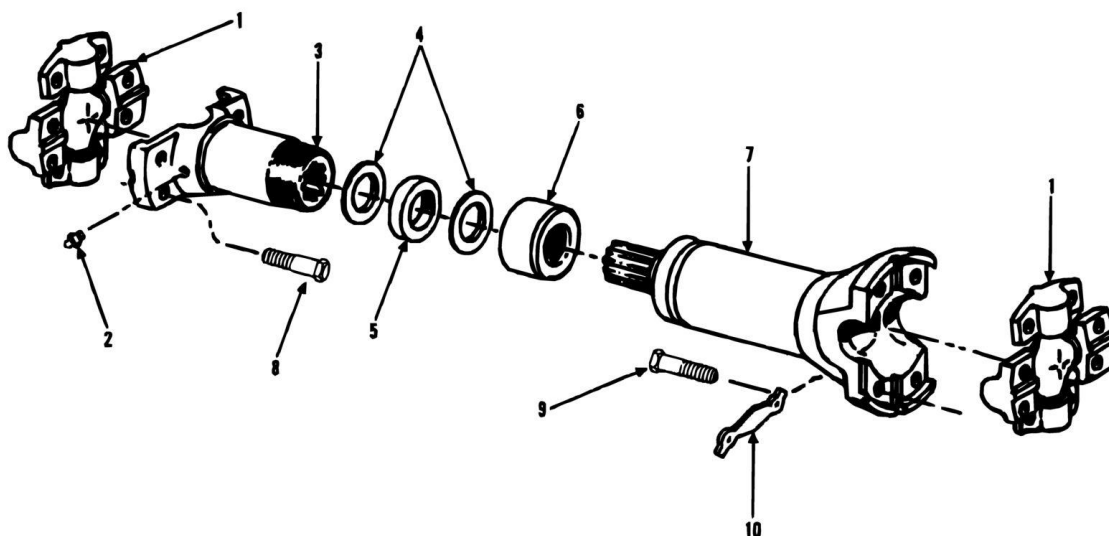
## SECTION 5 - DRIVE TRAIN

**FIGURE 5-9. CONTROL VALVE (SN 8344001L to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                                                                                                         | REV |
|------|-------------|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------|-----|
|      | 90204988    |     | CONTROL VALVE (includes all items)                                                                                                                  |     |
| 1    | 90204957    | 1   | RETAINING RING                                                                                                                                      |     |
| 2    | 90204959    | 1   | INCHING VALVE SLEEVE                                                                                                                                |     |
| 3    | 90204960    | 1   | VALVE SPOOL                                                                                                                                         |     |
| 4    | 90204962    | 1   | BALANCING SPRING                                                                                                                                    |     |
| 5    | 90204964    | 1   | ROD                                                                                                                                                 |     |
| 6    | 90204966    | 1   | RETURN SPRING (inner)                                                                                                                               |     |
| 7    | 90204968    | 1   | RETURN SPRING (outer)                                                                                                                               |     |
| 8    | 77104272    | 1   | VALVE HOUSING (consists of items 9 thru 15)                                                                                                         |     |
| 9    | 77104273    | 1   | SPEED SELECTOR SPOOL AND PLUG ASSY                                                                                                                  |     |
| 10   | 90204971    | 1   | OIL SEAL                                                                                                                                            |     |
| 11   | 77104277    | 2   | SPOOL STOP                                                                                                                                          |     |
| 12   | 77104278    | 1   | NEUTRAL SWITCH                                                                                                                                      |     |
| 13   | 77104279    | 1   | SWITCH ACTUATING PIN                                                                                                                                |     |
| 14   | 90026763    | 3   | PIPE PLUG 1/8-27 NPTF                                                                                                                               |     |
| 15   | 77104276    | 1   | FORWARD AND REVERSE SPOOL                                                                                                                           |     |
| 16   | 90204955    | 1   | INCHING SLAVE CYLINDER ASSY (consists of items 17 thru 24)                                                                                          |     |
| 17   | 90204980    | 1   | CAP                                                                                                                                                 |     |
| 18   | 90204981    | 1   | PISTON CUP STOP                                                                                                                                     |     |
| 19   | 90204982    | 1   | PISTON CUP                                                                                                                                          |     |
| 20   | 90204983    | 1   | PISTON                                                                                                                                              |     |
| 21   | 90205058    | 1   | O-RING                                                                                                                                              |     |
| 22   | 90204984    | 1   | PISTON HOUSING AND FILTER DISC ASSY                                                                                                                 |     |
| 23   | 88591013    | 1   | O-RING                                                                                                                                              |     |
| 24   | 90204986    | 1   | OIL SEAL                                                                                                                                            |     |
|      |             | Ref | NOTE: FIELD SERVICE OF ITEM 12 NEUTRAL SWITCH<br>REQUIRES REMOVAL AND REPLACEMENT OF STUDS WITH 2<br>PAN HEAD SCREWS. GRADALL PART NUMBER 89981036. |     |

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**FIGURE 5-10. DRIVE SHAFT (SN 8744115G to Present, Including 8744079G)**



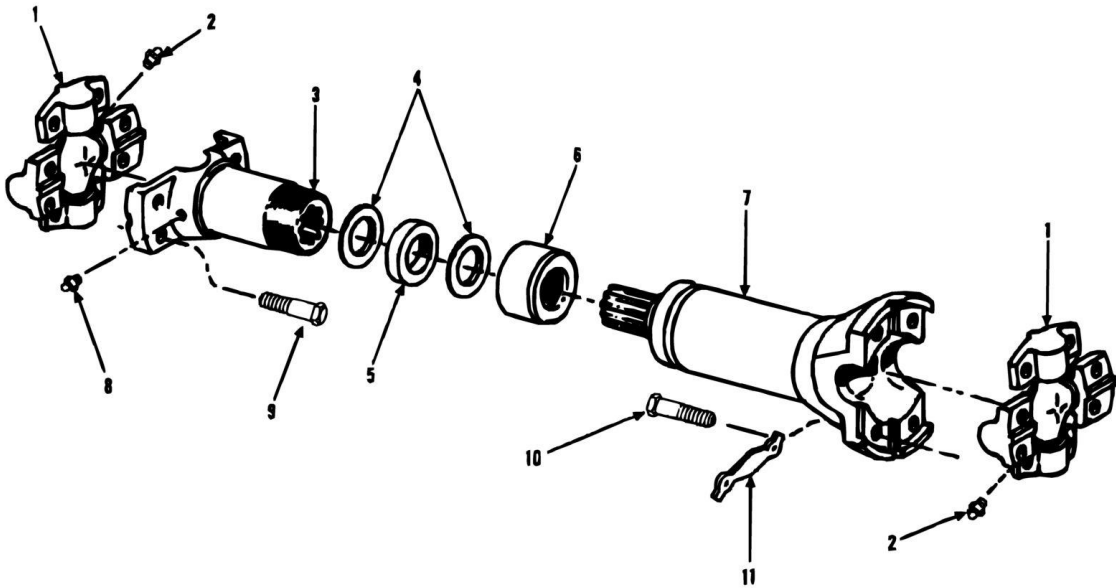
## SECTION 5 - DRIVE TRAIN

**FIGURE 5-10. DRIVE SHAFT (SN 8744115G to Present, Including 8744079G)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                   | REV |
|------|-------------|-----|---------------------------------------------------------------|-----|
|      | 91043032    | 1   | DRIVE SHAFT ASSY (includes all items)                         |     |
| 1    | 90201058    | 2   | SPIDER AND BEARING ASSY                                       |     |
| 2    | 88671008    | 1   | LUBE FITTING - STRAIGHT - 1/8                                 |     |
| 3    | 91044008    | 1   | SLIP YOKE ASSY (includes items 4, 5, & 6)                     |     |
| 4    | 90206545    | 2   | WASHER                                                        |     |
| 5    | 90206546    | 1   | FELT SEAL                                                     |     |
| 6    | 90206544    | 1   | CAP                                                           |     |
| 7    |             | Ref | TUBE ASSY                                                     |     |
| 8    | 91044009    | 8   | HEX HD CAPSCREW                                               |     |
| 9    | 91044010    | 8   | HEX HD CAPSCREW                                               |     |
| 10   | 91031194    | 8   | LOCKSTRAP                                                     |     |
|      | Note        |     | NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE. |     |

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FIGURE 5-11. DRIVE SHAFT (SN 8344001L through 8744114G, Excluding 8744079G)





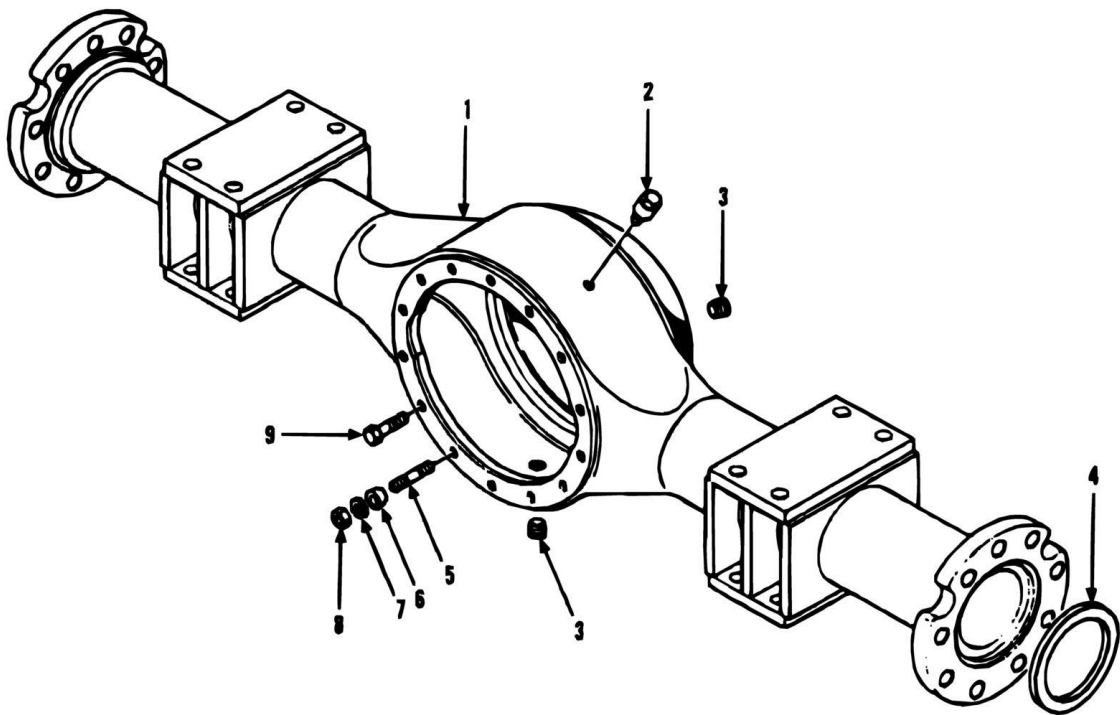
## SECTION 5 - DRIVE TRAIN

**FIGURE 5-11. DRIVE SHAFT (SN 8344001L through 8744114G, Excluding 8744079G)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                   | REV |
|------|-------------|-----|---------------------------------------------------------------|-----|
|      | 91033126    | 1   | DRIVE SHAFT (Perkins)                                         |     |
|      | 90801286    | 1   | DRIVE SHAFT (Waukesha) (includes items 1 thru 10)             |     |
| 1    | 90201058    | 2   | SPIDER AND BEARING ASSEMBLY                                   |     |
| 2    | 88671008    | 2   | LUBE FITTING - STRAIGHT 1/4-28                                |     |
| 3    | 90206543    | 1   | SLIP YOKE                                                     |     |
| 4    | 90206545    | 2   | WASHER                                                        |     |
| 5    | 90206546    | 1   | FELT SEAL                                                     |     |
| 6    | 90206544    | 1   | CAP                                                           |     |
| 7    |             | Ref | TUBE ASSEMBLY                                                 |     |
| 8    | 88671001    | 1   | LUBE FITTING - STRAIGHT 1/8                                   |     |
| 9    | 90030029    | 8   | HEX HD CAPSCREW, 3/8-24X1-3/4 GR8                             |     |
| 10   | 90030045    | 8   | HEX HD CAPSCREW, 3/8-24X2-1/4 GR8                             |     |
| 11   | 91031194    | 8   | LOCKSTRAP                                                     |     |
|      | Note        |     | NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE. |     |

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FIGURE 5-12. FRONT AXLE HOUSING (SN 8744115G to Present, Including 8744079G)



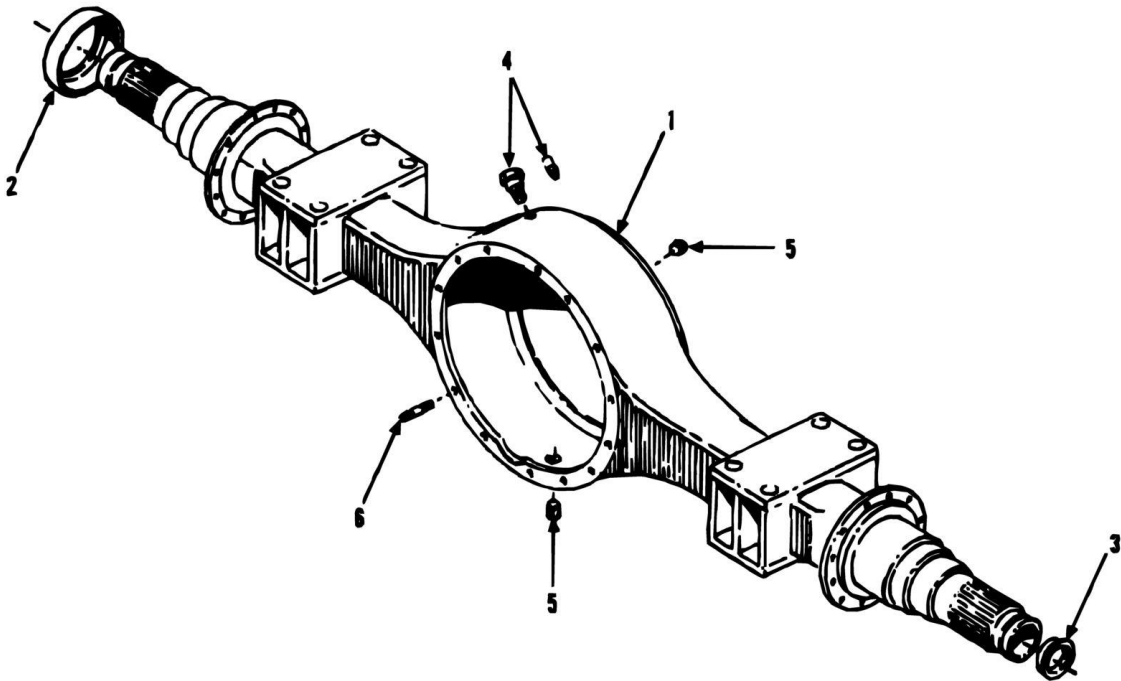
## SECTION 5 - DRIVE TRAIN

**FIGURE 5-12. FRONT AXLE HOUSING (SN 8744115G to Present, Including 8744079G)**

| ITEM | PART NUMBER | QTY | DESCRIPTION           | REV |
|------|-------------|-----|-----------------------|-----|
| 1    | 91044137    | 1   | AXLE HOUSING          |     |
| 2    | 90401203    | 1   | BREATHER              |     |
| 3    | 90401204    | 2   | FILLER AND DRAIN PLUG |     |
| 4    | 91044138    | 2   | THRUST WASHER         |     |
| 5    | 91044139    | 3   | STUD                  |     |
| 6    | 91044140    | 3   | CENTERING CONE        |     |
| 7    | 91044141    | 14  | FLAT WASHER           |     |
| 8    | 91044142    | 3   | HEX NUT               |     |
| 9    | 91044143    | 11  | HEX HD CAPSCREW       |     |

**SECTION 5 - DRIVE TRAIN**

**FIGURE 5-13. HOUSING ASSEMBLY (SN 8344001L through 8744114G, Excluding 8744079G)**



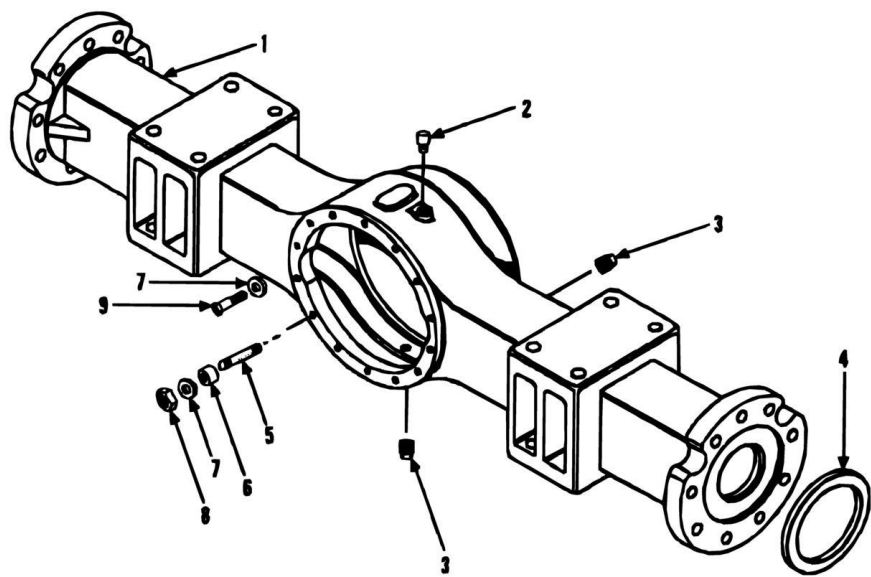
## SECTION 5 - DRIVE TRAIN

**FIGURE 5-13. HOUSING ASSEMBLY (SN 8344001L through 8744114G, Excluding 8744079G)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                                  | REV |
|------|-------------|-----|------------------------------------------------------------------------------|-----|
| 1    | 90207907    | 1   | AXLE HOUSING                                                                 |     |
| 2    | 90207908    | 2   | OIL SEAL DRIVER                                                              |     |
| 3    | 90401232    | 2   | THRUST SPACER                                                                |     |
| 4    | 90401203    | AR  | BREATHER (large)                                                             |     |
| 4    | 91034078    | AR  | BREATHER (small)                                                             |     |
| 5    | 90401204    | 2   | OIL PLUG                                                                     |     |
| 6    | 90207909    | 3   | STUD M10 X 50                                                                |     |
|      |             | Ref | NOTE: PLEASE CHECK BREATHER STYLE BEFORE ORDERING<br>ITEM NUMBER 4 BREATHER. |     |

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FIGURE 5-14. HOUSING ASSEMBLY (SN 0144658J to Present)



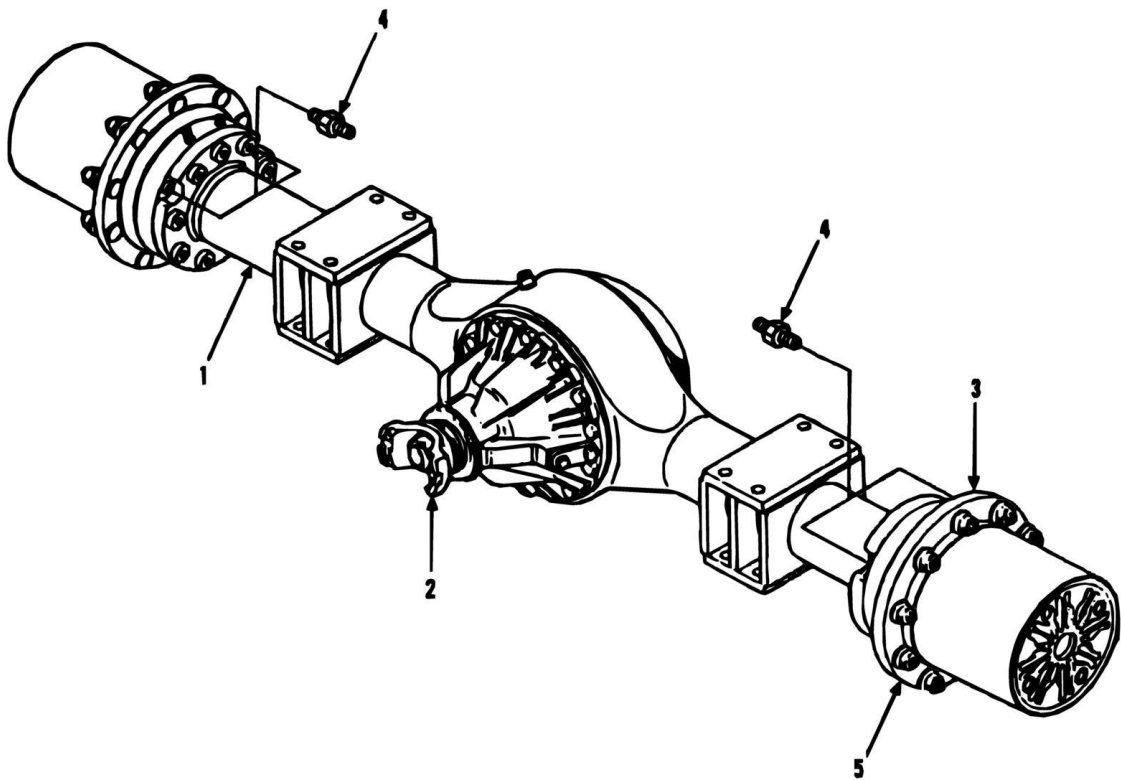
## SECTION 5 - DRIVE TRAIN

**FIGURE 5-14. HOUSING ASSEMBLY (SN 0144658J to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                  | REV |
|------|-------------|-----|--------------------------------------------------------------|-----|
|      | 91044447    | 1   | DIFFERENTIAL CARRIER FASTENING SET (includes items 5 thru 9) |     |
| 1    | 91044444    | 1   | AXLE HOUSING                                                 |     |
| 2    | 91044445    | 1   | BREATHER                                                     |     |
| 3    | 91044446    | 2   | FILLER AND DRAIN PLUG                                        |     |
| 4    | 91044138    | 2   | THRUSTWASHER                                                 |     |
| 5    | 91044139    | 3   | STUD                                                         |     |
| 6    | 91044140    | 3   | CENTERING CONE                                               |     |
| 7    | 91044141    | 14  | FLATWASHER                                                   |     |
| 8    | 91044142    | 3   | HEX NUT                                                      |     |
| 9    | 91044143    | 11  | HEX HD CAPSCREW                                              |     |

**SECTION 5 - DRIVE TRAIN**

**FIGURE 5-15. FRONT AXLE ASSEMBLY (SN 8744114G to Present, Including 8744079G)**





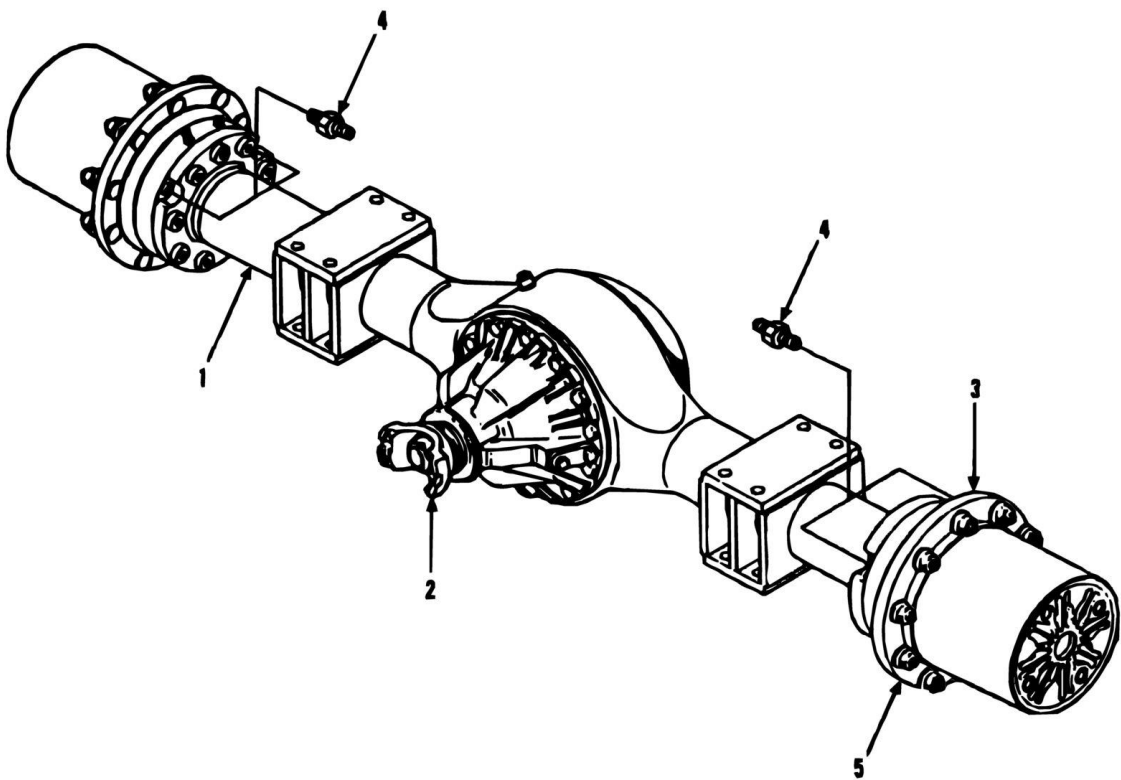
## SECTION 5 - DRIVE TRAIN

**FIGURE 5-15. FRONT AXLE ASSEMBLY (SN 8744114G to Present, Including 8744079G)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                                      | REV |
|------|-------------|-----|----------------------------------------------------------------------------------|-----|
|      | 91043071    | Ref | FRONT AXLE ASSY (includes items 1 thru 4)                                        |     |
| 1    | 91044137    | 1   | AXLE HOUSING ASSY (See FRONT AXLE DIFFERENTIAL CARRIER for Breakdown)            |     |
| 2    | 91044144    | 1   | DIFFERENTIAL CARRIER ASSY (See AXLE SHAFT AND PLANETARY WHEEL END for Breakdown) |     |
| 3    | 91044165    | 1   | AXLE SHAFT AND PLANETARY WHEEL END ASSY (See WHEELS AND TIRES for Breakdown)     |     |
| 4    | 83193009    | 4   | FITTING                                                                          |     |
| 5    | 91043146    | 24  | LUG NUT                                                                          |     |

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FIGURE 5-16. FRONT AXLE ASSEMBLY (SN 0144658J to Present)



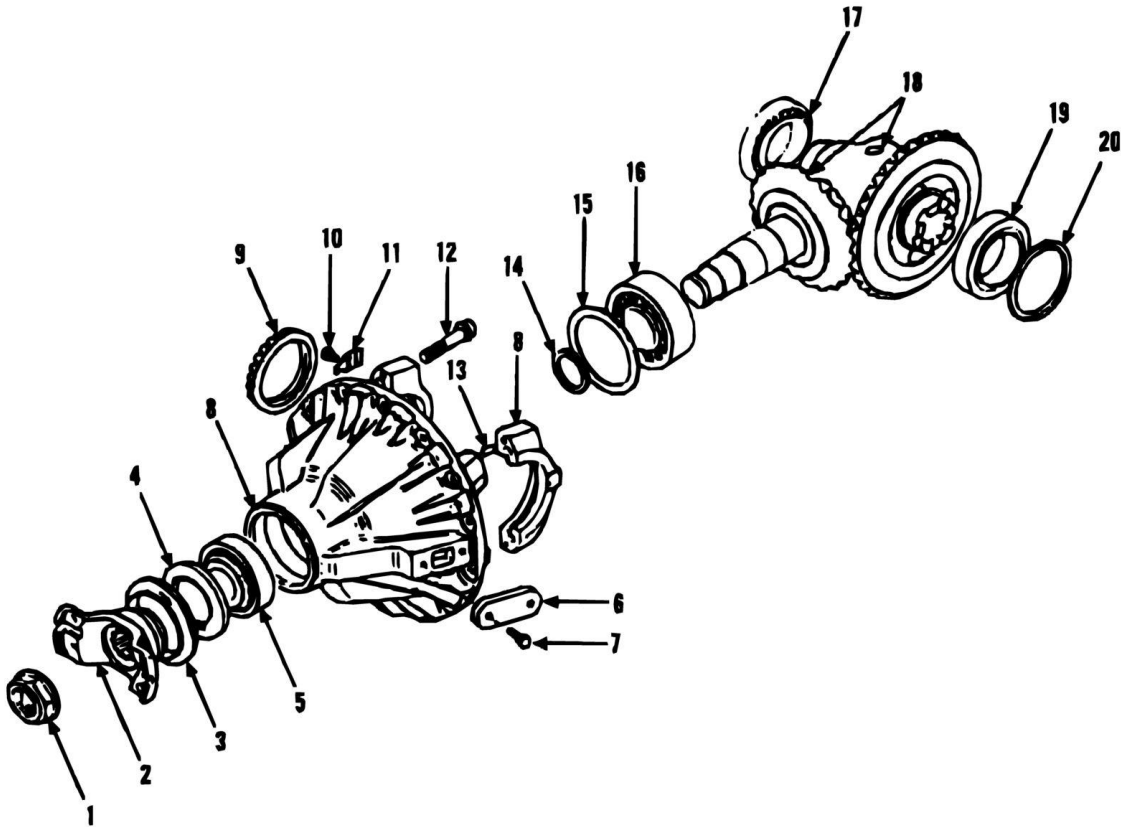
## SECTION 5 - DRIVE TRAIN

**FIGURE 5-16. FRONT AXLE ASSEMBLY (SN 0144658J to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                                      | REV |
|------|-------------|-----|----------------------------------------------------------------------------------|-----|
|      | 91043291    | Ref | FRONT AXLE ASSY (includes items 1 thru 4)                                        |     |
| 1    | 91044444    | 1   | AXLE HOUSING ASSY (See FRONT AXLE DIFFERENTIAL CARRIERS for Breakdown)           |     |
| 2    | 91044448    | 1   | DIFFERENTIAL CARRIER ASSY (See AXLE SHAFT AND PLANETARY WHEEL END for Breakdown) |     |
| 3    | 91034309    | 1   | AXLE SHAFT AND PLANETARY WHEEL END ASSY (See WHEELS AND TIRES for Breakdown)     |     |
| 4    | 83193009    | 4   | FITTING                                                                          |     |
| 5    | 91043146    | 24  | LUG NUT (lubricate and torque to 350-400 ft lbs)                                 |     |

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FIGURE 5-17. FRONT AXLE DIFFERENTIAL CARRIER (SN 8744115G to Present, Including 8744079G)



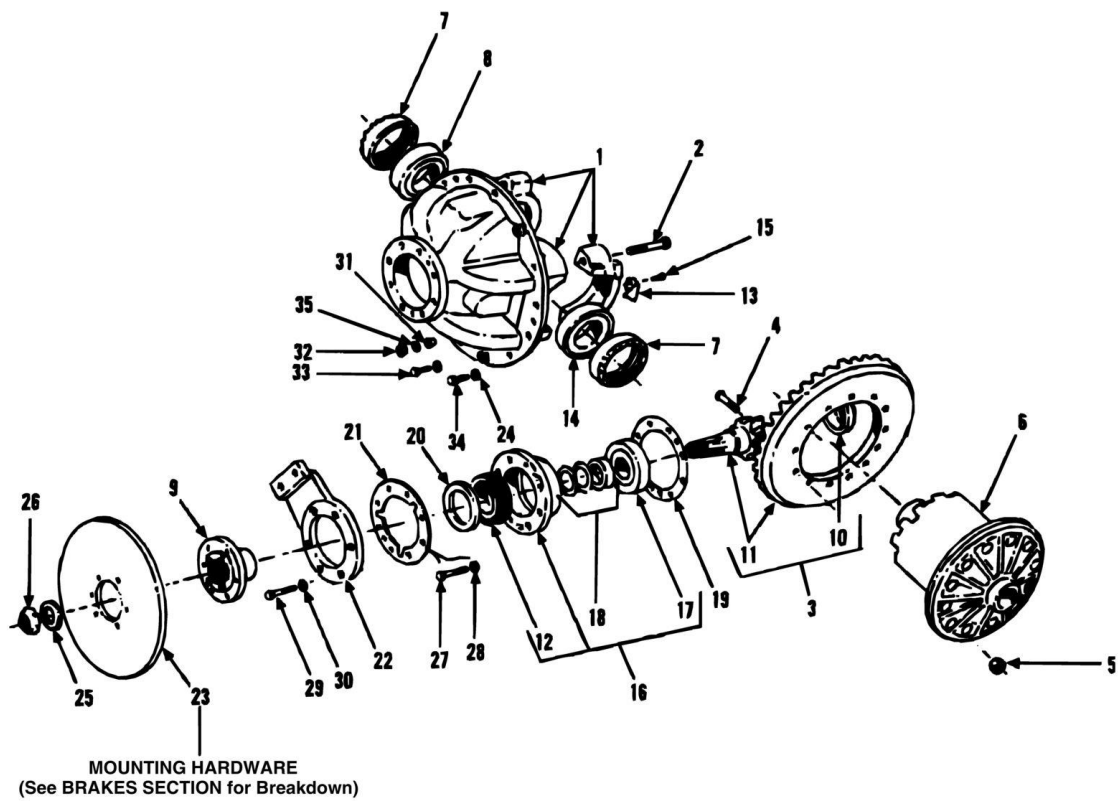
## SECTION 5 - DRIVE TRAIN

**FIGURE 5-17. FRONT AXLE DIFFERENTIAL CARRIER (SN 8744115G to Present, Including 8744079G)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                          | REV |
|------|-------------|-----|------------------------------------------------------|-----|
|      | 91044144    | 1   | DIFFERENTIAL CARRIER ASSY (includes all items)       |     |
| 1    | 91044145    | 1   | PINION NUT                                           |     |
| 2    | 91044146    | 1   | YOKE ASSY (includes item 3)                          |     |
| 3    | 91044147    | 1   | DUST SHIELD                                          |     |
| 4    | 91044148    | 1   | OIL SEAL                                             |     |
| 5    | 91044149    | 1   | BEARING ASSY                                         |     |
| 6    | 91044150    | 1   | COVER PLATE                                          |     |
| 7    | 91044151    | 2   | HEX HD CAPSCREW                                      |     |
| 8    | 91044152    | 1   | DIFFERENTIAL HOUSING ASSY (includes items 9 thru 13) |     |
| 9    | 91044153    | 1   | ADJUSTING NUT                                        |     |
| 10   | 91044154    | 1   | ADJUSTING NUT LOCK BOLT                              |     |
| 11   | 91044155    | 1   | ADJUSTING NUT LOCK                                   |     |
| 12   | 91044156    | 4   | DIFFERENTIAL CAP BOLT                                |     |
| 13   | 91044157    | 4   | LOCATING PIN                                         |     |
| 14   | 91044158    | 1   | SHIM KIT                                             |     |
| 15   | 91044159    | 1   | SHIM KIT                                             |     |
| 16   | 91044160    | 1   | BEARING ASSY                                         |     |
| 17   | 91044161    | 1   | BEARING ASSY                                         |     |
| 18   | 91044162    | 1   | DIFFERENTIAL ASSY                                    |     |
| 19   | 91044163    | 1   | BEARING ASSY                                         |     |
| 20   | 91044164    | 1   | ADJUSTING SHIM KIT                                   |     |

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FIGURE 5-18. DIFFERENTIAL CARRIER (SN 8344001L through 8744114G, Excluding 8744079G)



90210079 Dust cap for  
item #9 input yoke.

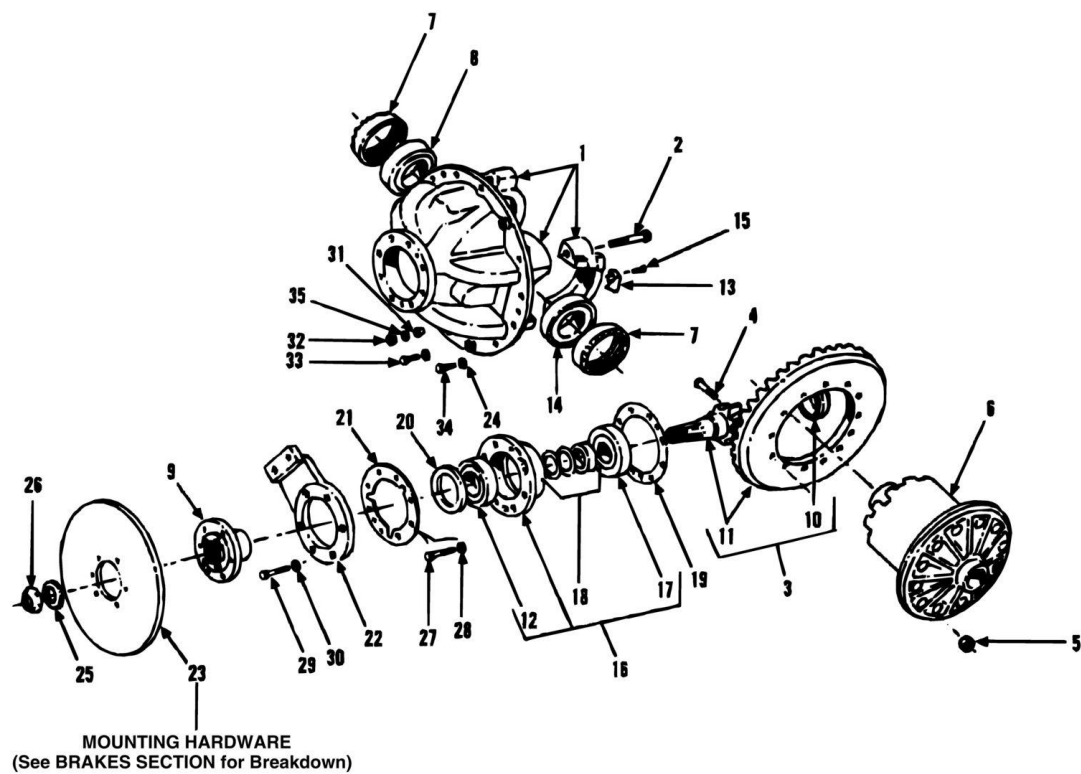
## SECTION 5 - DRIVE TRAIN

**FIGURE 5-18. DIFFERENTIAL CARRIER (SN 8344001L through 8744114G, Excluding 8744079G)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                      | REV |
|------|-------------|-----|--------------------------------------------------|-----|
|      | 91034077    | 1   | DROP UNIT (includes all items except nos 9 & 22) |     |
| 1    | 90207910    | 1   | DIFFERENTIAL CARRIER CASE ASSY                   |     |
| 2    | 90207911    | 4   | BEARING CAP BOLT                                 |     |
| 3    | 90207212    | 1   | GEAR SET ASSY 6 X 37 (includes items 10 & 11)    |     |
| 4    | 90207913    | 12  | RING GEAR BOLT                                   |     |
| 5    | 90207914    | 12  | RING GEAR NUT                                    |     |
| 6    | 90207915    | 1   | STOP-GLISS ASSY                                  |     |
| 7    | 90207916    | 2   | DIFFERENTIAL ADJUSTING NUT                       |     |
| 8    | 90207917    | 1   | DIFFERENTIAL BEARING                             |     |
| 9    | 90410247    | 1   | INPUT YOKE                                       |     |
| 10   | 90207918    | 1   | NOSE BEARING                                     |     |
| 11   | 90207919    | 1   | GEAR SET 6 X 37                                  |     |
| 12   | 90207920    | 1   | BEARING                                          |     |
| 13   | 90207921    | 2   | DIFFERENTIAL ADJUSTING NUT LOCK                  |     |
| 14   | 90207922    | 1   | DIFFERENTIAL BEARING                             |     |
| 15   | 90207923    | 2   | BOLT, HM 10 X 1.50 X 20                          |     |
| 16   | 90207924    | 1   | BEARING CAGE ASSY (includes items 12,17 & 18)    |     |
| 17   | 90207925    | 1   | BEARING                                          |     |
| 18   | 90207926    | 1   | SHIM KIT                                         |     |
| 19   | 90207927    | 1   | SHIM KIT                                         |     |
| 20   | 90210080    | 1   | PINION SEAL                                      |     |
| 21   | 90210081    | 1   | GASKET                                           |     |
| 22   | 90210039    | 1   | BRAKE BRACKET                                    |     |
| 23   | 90610038    | 1   | BRAKE DISC                                       |     |
| 24   | 90401294    | 11  | WASHER W-10                                      |     |
| 25   | 90207932    | 1   | PINION WASHER                                    |     |
| 26   | 83483419    | 1   | PINION NUT                                       |     |
| 27   | 90401326    | 1   | BOLT HM 12 X 1.50                                |     |
| 28   | 90401288    | 1   | WASHER W-12                                      |     |
| 29   | 90208133    | 5   | BOLT HM 14 X 1.50                                |     |
| 29   | 90208134    | 1   | BOLT HM 12 X 1.5                                 |     |
| 30   | 90203877    | 5   | WASHER W-14                                      |     |
| 31   | 90207935    | 3   | CENTERING CONE                                   |     |
| 32   | 90207936    | 3   | NUT                                              |     |
| 33   | 90207937    | 2   | BOLT HM 10 X 1.50 X 40/20                        |     |
| 34   | 90207938    | 9   | BOLT HM 10 X 1.50 X 30/20                        |     |
| 35   | 90207939    | 3   | WASHER                                           |     |

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FIGURE 5-19. FRONT AXLE DIFFERENTIAL CARRIER (SN 0144658J to Present)



90210079 Dust cap for  
item #9 input yoke.



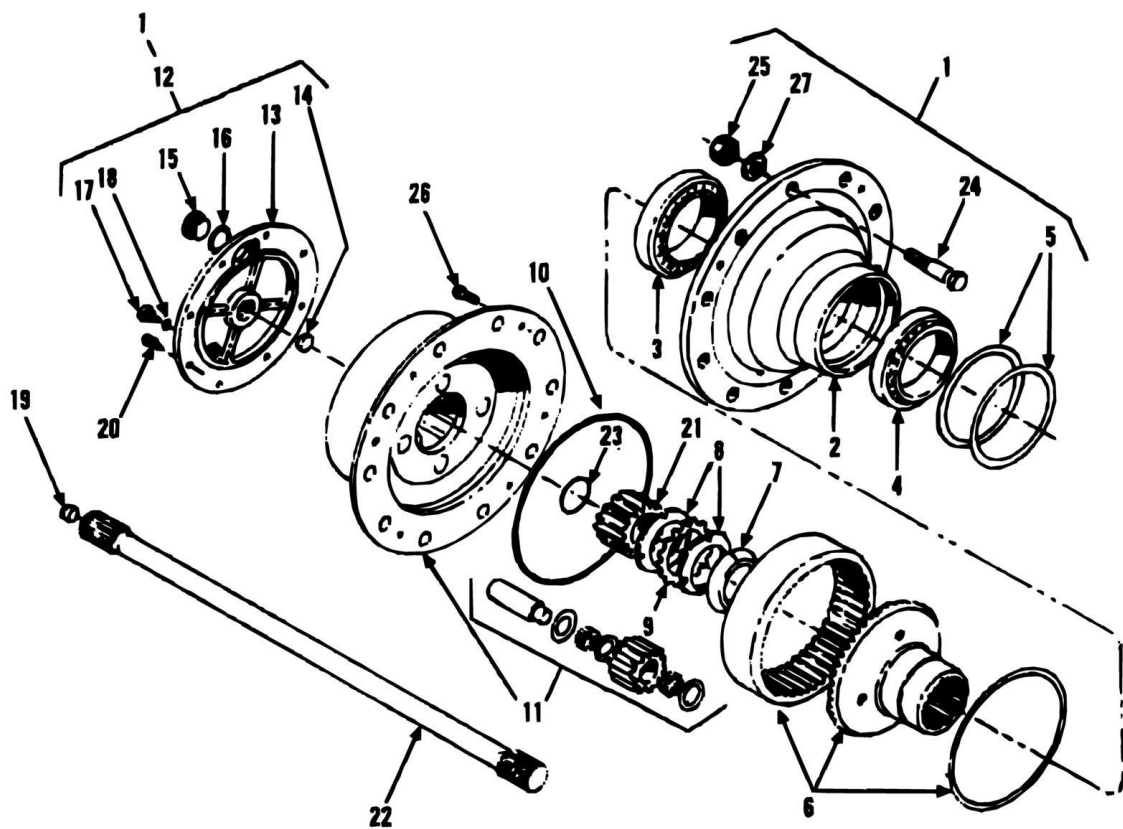
## SECTION 5 - DRIVE TRAIN

**FIGURE 5-19. FRONT AXLE DIFFERENTIAL CARRIER (SN 0144658J to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                          | REV |
|------|-------------|-----|------------------------------------------------------|-----|
|      | 91044448    | 1   | DIFFERENTIAL CARRIER ASSY (includes all items)       |     |
| 1    | 91044145    | 1   | PINION NUT                                           |     |
| 2    | 91044452    | 1   | FLANGE ASSY (includes item 3)                        |     |
| 3    | 91044147    | 1   | DUST SHIELD                                          |     |
| 4    | 91044451    | 1   | OIL SEAL                                             |     |
| 5    | 91044450    | 1   | TAPER BEARING KIT                                    |     |
| 6    | 91044150    | 1   | COVER PLATE                                          |     |
| 7    | 91044151    | 2   | HEX HD CAPSCREW                                      |     |
| 8    | 91044152    | 1   | DIFFERENTIAL HOUSING ASSY (includes items 9 thru 13) |     |
| 9    | 91044153    | 1   | ADJUSTING NUT                                        |     |
| 10   | 91044154    | 1   | ADJUSTING NUT LOCK BOLT                              |     |
| 11   | 91044155    | 1   | ADJUSTING NUT LOCK                                   |     |
| 12   | 91044156    | 4   | DIFFERENTIAL CAP BOLT                                |     |
| 13   | 91044157    | 4   | LOCATING PIN                                         |     |
| 14   | 91044158    | 1   | SHIM KIT                                             |     |
| 15   | 91044159    | 1   | SHIM KIT                                             |     |
| 16   | 91044161    | 1   | BEARING ASSY                                         |     |
| 17   | 91044449    | 1   | DIFFERENTIAL AND BEVEL GEAR SET                      |     |
| 18   | 91044163    | 1   | BEARING ASSY                                         |     |
| 19   | 91044164    | 1   | ADJUSTING SHIM KIT                                   |     |

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FIGURE 5-20. AXLE SHAFT AND PLANETARY WHEEL END (SN 8344001L through 8744114G, Excluding 8744079G)



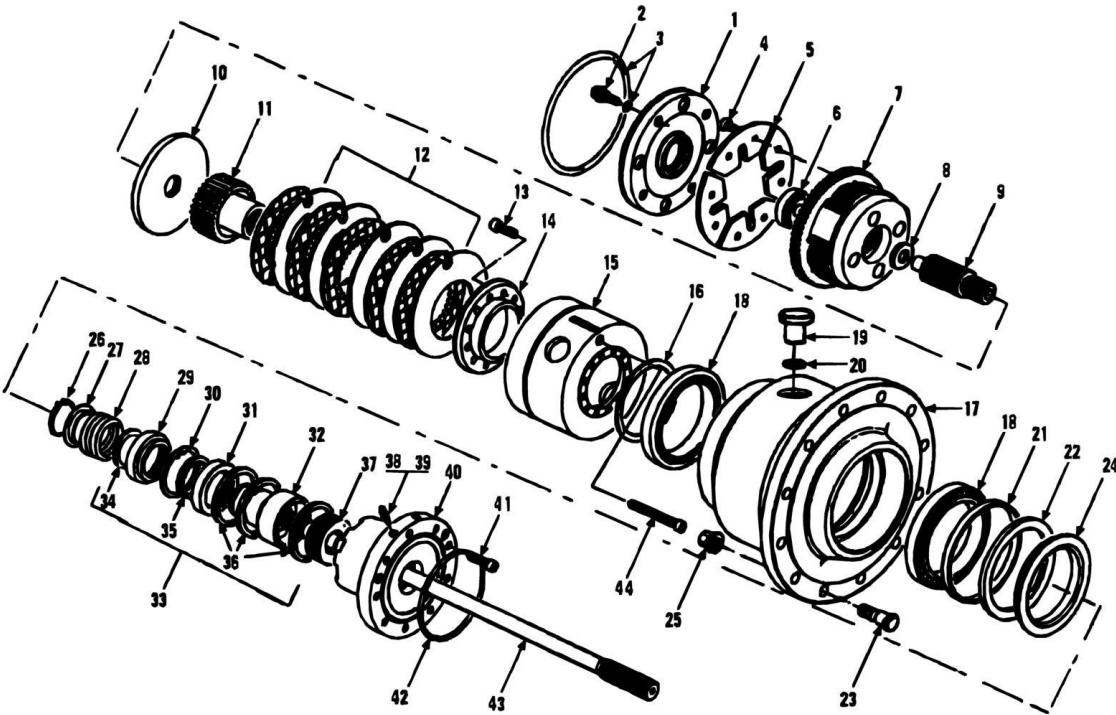
## SECTION 5 - DRIVE TRAIN

**FIGURE 5-20. AXLE SHAFT AND PLANETARY WHEEL END (SN 8344001L through 8744114G,  
Excluding 8744079G)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                            | REV |
|------|-------------|-----|----------------------------------------|-----|
| 1    | 90207940    | -   | PLANETARY WHEEL END ASSY               |     |
| 2    | 90207941    | 1   | HUB                                    |     |
| 3    | 90201833    | 1   | BEARING                                |     |
| 4    | 90201834    | 1   | BEARING                                |     |
| 5    | 90201805    | 2   | OIL SEAL (134.5 X 155.6 X 9.52)        |     |
| 6    | 90201836    | 1   | RING GEAR AND CARRIER ASSY             |     |
| 7    | 90201837    | 1   | CONE                                   |     |
| 8    | 90201838    | 2   | NUT                                    |     |
| 9    | 90201839    | 1   | LOCKWASHER                             |     |
| 10   | 90201840    | 1   | SEAL (257 X 263)                       |     |
| 11   | 90207942    | 1   | PLANETARY CARRIER ASSY                 |     |
| 12   | 90201842    | 1   | COVER ASSY (includes items 13 thru 18) |     |
| 13   | 90401254    | 1   | COVER                                  |     |
| 14   | 90401255    | 1   | THRUST BUTTON                          |     |
| 15   | 90401256    | 1   | PLUG                                   |     |
| 16   | 90401257    | 1   | GASKET                                 |     |
| 17   | 90401258    | 1   | PLUG                                   |     |
| 18   | 90401259    | 1   | GASKET                                 |     |
| 19   | 90203891    | 1   | SHIM KIT                               |     |
| 20   | 90203845    | 8   | BOLT H8 X 1.25 1R25                    |     |
| 21   | 90201846    | 1   | SUN GEAR                               |     |
| 22   | 90207943    | 1   | AXLE SHAFT                             |     |
| 23   | 90201848    | 2   | SNAP RING                              |     |
| 24   | 90207944    | 10  | WHEEL STUD                             |     |
| 25   | 90201853    | 10  | WHEEL NUT                              |     |
| 26   | 90201849    | 3   | BOLT (CHC F-90-M10 X 1.5 X 25)         |     |
| 27   | 90201854    | 10  | WASHER                                 |     |

SECTION 5 - DRIVE TRAIN

FIGURE 5-21. FRONT AXLE SHAFT AND PLANETARY WHEEL END (SN 0144658J to Present)



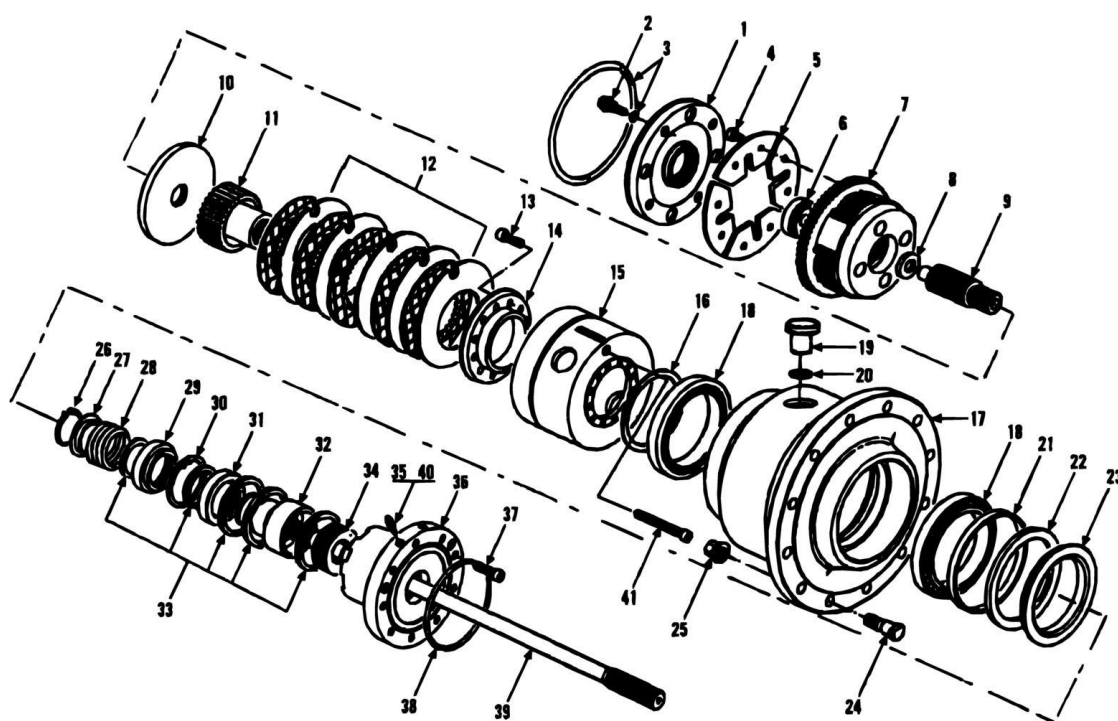
## SECTION 5 - DRIVE TRAIN

**FIGURE 5-21. FRONT AXLE SHAFT AND PLANETARY WHEEL END (SN 0144658J to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                       | REV |
|------|-------------|-----|-------------------------------------------------------------------|-----|
|      | 91034309    | 1   | BRAKE WHEEL ASSY (includes all items)                             |     |
| 1    | 91044166    | 1   | COVER ASSY (includes items 2 thru 6)                              |     |
| 2    | 91044167    | 1   | HEX HD CAPSCREW                                                   |     |
| 3    | 91044168    | 1   | O-RING KIT                                                        |     |
| 4    | 91044169    | 4   | HEX HD CAPSCREW                                                   |     |
| 5    | 91044170    | 4   | SECTOR PLATE                                                      |     |
| 6    | 91044171    | 1   | BEARING ASSY                                                      |     |
| 7    | 91044460    | 1   | PLANETARY CARRIER ASSY                                            |     |
| 8    | 91044173    | 4   | SPACER                                                            |     |
| 9    | 91044174    | 1   | MID-SHAFT                                                         |     |
| 10   | 91044175    | 1   | ROTATING BRAKE DISC STOP                                          |     |
| 11   | 91044176    | 1   | DISC HUB                                                          |     |
| 12   | 91044177    | 1   | BRAKE DISC ASSY                                                   |     |
| 13   | 91044178    | 10  | SOCKET HEAD CAPSCREW                                              |     |
| 14   | 91044179    | 1   | FIXED BRAKE DISC STOP                                             |     |
| 15   | 91044180    | 1   | RING GEAR AND CARRIER ASSY                                        |     |
| 16   | 91044181    | 1   | ADJUSTING SHIM KIT                                                |     |
| 17   | 91044459    | 1   | WHEEL HUB ASSY (includes items 18 thru 23)                        |     |
| 18   | 91044183    | 2   | BEARING ASSY                                                      |     |
| 19   | 91044184    | 1   | PLUG                                                              |     |
| 20   | 91044185    | 1   | SEALING WASHER                                                    |     |
| 21   | 91044186    | 1   | SPACER                                                            |     |
| 22   | 91044187    | 1   | HUB SEAL                                                          |     |
| 23   | 91044189    | 12  | WHEEL STUD                                                        |     |
| 24   | 91044458    | 1   | SEAL RACE                                                         |     |
| 25   | 91043146    | 12  | SWIVEL NUT                                                        |     |
| 26   | 91044191    | 1   | SNAP RING                                                         |     |
| 27   | 91044192    | 1   | THRUST WASHER                                                     |     |
| 28   | 91044193    | 1   | SPARING                                                           |     |
| 29   | 91044194    | 1   | SERVICE BRAKE PISTON                                              |     |
| 30   | 91044195    | 1   | SNAP RING                                                         |     |
| 31   | 91044196    | 1   | PARK BRAKE SEAL RING                                              |     |
| 32   | 91044197    | 1   | PARK BRAKE PISTON                                                 |     |
| 33   | 91044335    | 1   | SEALING KIT (includes items 34, 35, & 36)                         |     |
| 34   | Kit         | 1   | OIL SEAL                                                          |     |
| 35   | Kit         | 1   | OIL SEAL                                                          |     |
| 36   | Kit         | 3   | OIL SEAL                                                          |     |
| 37   | 91044453    | 1   | SPRING WASHER KIT                                                 |     |
| 38   | 91044200    | 2   | BLEEDER SCREW                                                     |     |
| 39   | 91044298    | 2   | BLEEDER SCREW CAP                                                 |     |
| 40   | 91044201    | 1   | SPINDLE ASSY                                                      |     |
| 41   | 91044461    | 9   | SOCKET HD CAPSCREW                                                |     |
| 42   | 91044203    | 1   | O-RING                                                            |     |
| 43   | 91044204    | 1   | AXLE SHAFT                                                        |     |
| 44   | 91034397    | 1   | PIN (holds brake diacs in place)                                  |     |
|      |             | Ref | NOTE: QUANTITIES SHOWN ARE FOR ONE BRAKE WHEEL END ASSEMBLY ONLY. |     |
|      |             | Ref | NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.     |     |

## SECTION 5 - DRIVE TRAIN

**FIGURE 5-22. (91044165) FRONT AXLE SHAFT AND PLANETARY WHEEL END (SN 8744115G to Present, Including 8744079G)**



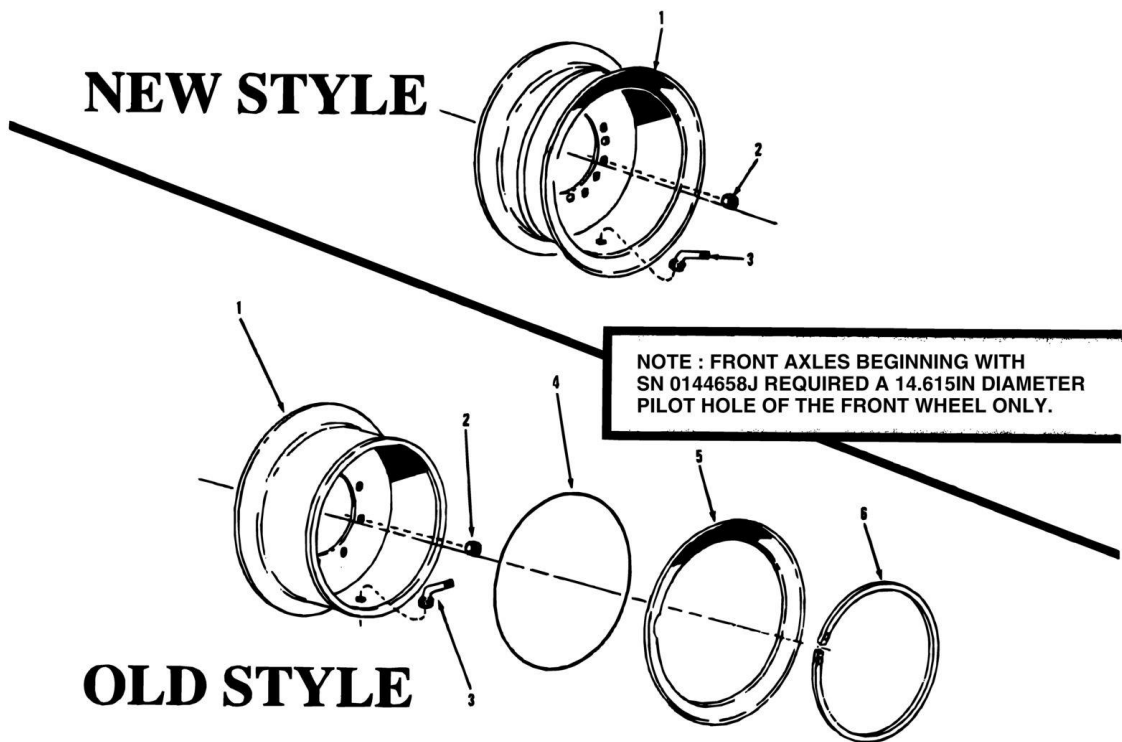
## SECTION 5 - DRIVE TRAIN

**FIGURE 5-22. (91044165) FRONT AXLE SHAFT AND PLANETARY WHEEL END (SN 8744115G to Present, Including 8744079G)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                       | REV |
|------|-------------|-----|-------------------------------------------------------------------|-----|
|      | 91044165    | 1   | BRAKE WHEEL END ASSY (includes all items)                         |     |
| 1    | 91044166    | 1   | COVER ASSY (includes items 2 thru 6)                              |     |
| 2    | 91044167    | 4   | HEX HD CAPSCREW                                                   |     |
| 3    | 91044168    | 1   | O-RING KIT                                                        |     |
| 4    | 91044169    | 4   | HEX HD CAPSCREW                                                   |     |
| 5    | 91044170    | 4   | SECTOR PLATE                                                      |     |
| 6    | 91044171    | 1   | BEARING ASSY                                                      |     |
| 7    | 91044460    | 1   | PLANETARY CARRIER ASSY                                            |     |
| 8    | 91044173    | 4   | SPACER                                                            |     |
| 9    | 91044174    | 1   | MID-SHAFT                                                         |     |
| 10   | 91044175    | 1   | ROTATING BRAKE DISC STOP                                          |     |
| 11   | 91044176    | 1   | DISC HUB                                                          |     |
| 12   | 91044177    | 1   | BRAKE DISC ASSY                                                   |     |
| 13   | 91044178    | 10  | SOCKET HEAD CAPSCREW                                              |     |
| 14   | 91044179    | 1   | FIXED BRAKE DISC STOP                                             |     |
| 15   | 91044180    | 1   | RING GEAR AND CARRIER ASSY                                        |     |
| 16   | 91044181    | 1   | ADJUSTING SHIM KIT                                                |     |
| 17   | 91044182    | 1   | WHEEL HUB ASSY (includes items 18 thru 22)                        |     |
| 18   | 91044183    | 2   | BEARING ASSY                                                      |     |
| 19   | 91044184    | 1   | PLUG                                                              |     |
| 20   | 91044185    | 1   | SEALING WASHER                                                    |     |
| 21   | 91044186    | 1   | SPACER                                                            |     |
| 22   | 91044187    | 1   | HUB SEAL                                                          |     |
| 23   | 91044188    | 1   | HUB SEAL RUNNER                                                   |     |
| 24   | 91044189    | 10  | WHEEL STUD                                                        |     |
| 25   | 91043146    | 10  | SWIVEL NUT                                                        |     |
| 26   | 91044191    | 1   | SNAP RING                                                         |     |
| 27   | 91044192    | 1   | THRUST WASHER                                                     |     |
| 28   | 91044193    | 1   | SPRING                                                            |     |
| 29   | 91044194    | 1   | SERVICE BRAKE PISTON                                              |     |
| 30   | 91044195    | 1   | SNAP RING                                                         |     |
| 31   | 91044196    | 1   | PARK BRAKE SEAL RING                                              |     |
| 32   | 91044197    | 1   | PARK BRAKE PISTON                                                 |     |
| 33   | 91044335    | 1   | SEALING KIT                                                       |     |
| 34   | 91044199    | 1   | SPRING WASHER KIT                                                 |     |
| 35   | 91044200    | 2   | BLEEDER SCREW                                                     |     |
| 36   | 91044201    | 1   | SPINDLE ASSY                                                      |     |
| 37   | 91044202    | 9   | SOCKET HD CAPSCREW                                                |     |
| 38   | 91044203    | 1   | O-RING                                                            |     |
| 39   | 91044204    | 1   | AXLE SHAFT                                                        |     |
| 40   | 91044298    | 2   | BLEEDER SCREW CAP                                                 |     |
| 41   | 91034397    | 1   | PIN (holds brake discs in place)                                  |     |
|      | Note        |     | NOTE: QUANTITIES SHOWN ARE FOR ONE BRAKE WHEEL END ASSEMBLY ONLY. |     |

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FIGURE 5-23. WHEELS AND TIRES FRONT-STANDARD (SN 0144658J to Present)





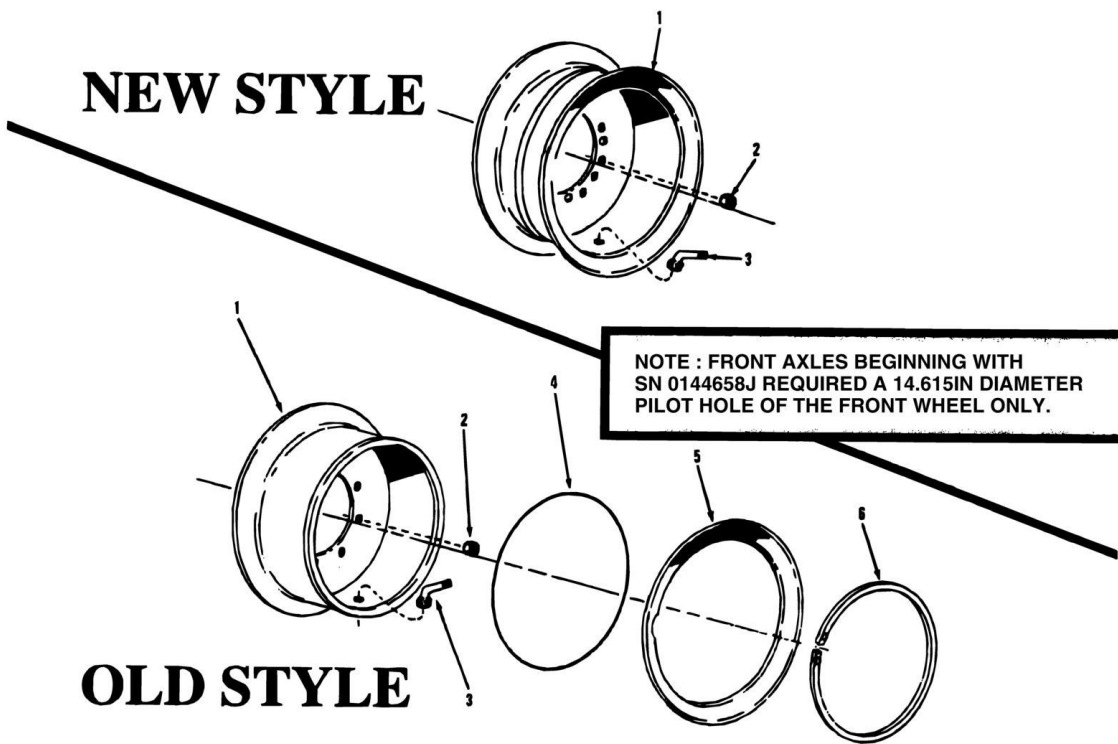
## SECTION 5 - DRIVE TRAIN

**FIGURE 5-23. WHEELS AND TIRES FRONT-STANDARD (SN 0144658J to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                        | REV |
|------|-------------|-----|--------------------------------------------------------------------|-----|
| 1    | 91043276    | NLA | RIM, 8.00 TG X 24 NOTE: (NO LONGER AVAILABLE REPLACED BY 91043430) |     |
| 1    | 91043430    | 1   | RIM, 9.00 X 24 (New One Piece Style)                               |     |
| 2    | 91043146    | 12  | LUG NUT (lubricate and torque to 350-400 ft lbs)                   |     |
| 3    | 90200339    | 1   | VALVE (air/liquid) NOTE: (USE WITH 91043276 ONLY)                  |     |
| 3    | 91083385    | 1   | VALVE (air/liquid) (Use with 91033430)                             |     |
| 4    | 90200561    | 1   | O-RING                                                             |     |
| 5    | 90200772    | 1   | GUTTER RING                                                        |     |
| 6    | 90201615    | 1   | LOCK RING                                                          |     |
| 7    | 91033104    | 1   | TIRE, 13.00 X 24, 12 PLY (not illustrated)                         |     |

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FIGURE 5-24. WHEELS AND TIRES REAR-STANDARD (SN 0144658J to Present)



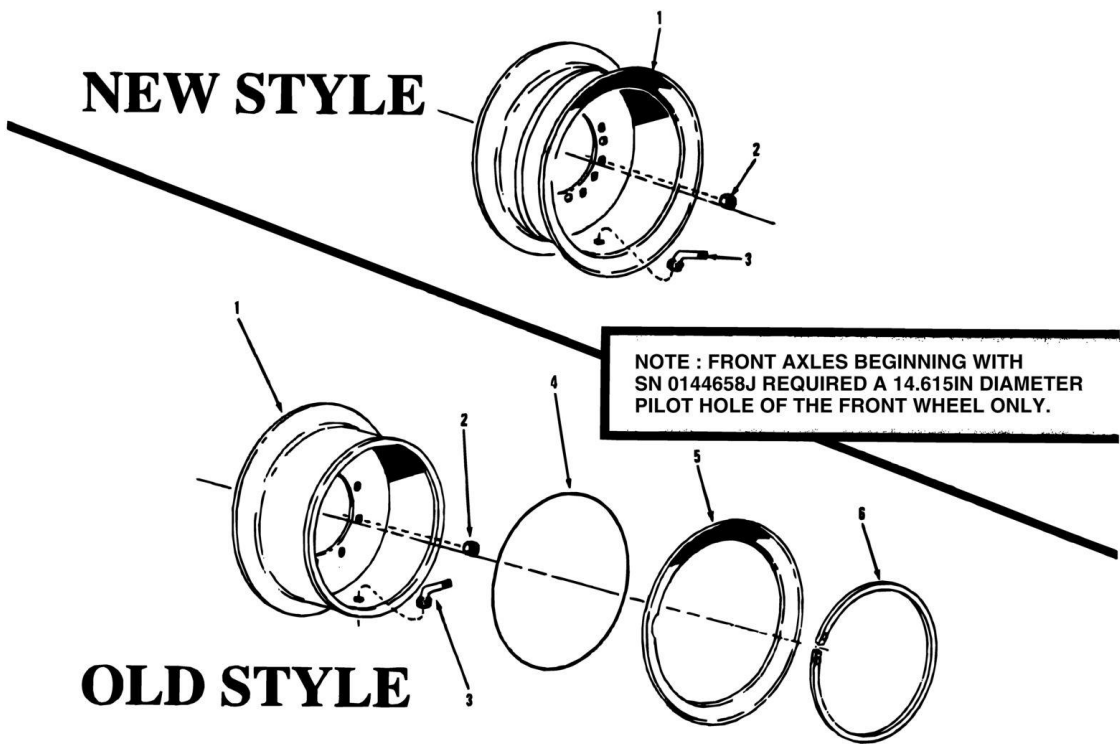
## SECTION 5 - DRIVE TRAIN

**FIGURE 5-24. WHEELS AND TIRES REAR-STANDARD (SN 0144658J to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                        | REV |
|------|-------------|-----|--------------------------------------------------------------------|-----|
| 1    | 90602638    | NLA | RIM, 8.00 TG X 24 NOTE: (NO LONGER AVAILABLE REPLACED BY 91033467) |     |
| 1    | 91033467    | 1   | RIM, 9.00 X 24 (New One Piece Style)                               |     |
| 2    | 90202141    | 10  | LUG NUTS                                                           |     |
| 3    | 90200339    | 1   | VALVE (air/liquid) NOTE: (USE WITH 90602638 ONLY)                  |     |
| 3    | 91083385    | 1   | VALVE (air/liquid) (Use with 9103-3467)                            |     |
| 4    | 90200561    | 1   | O-RING                                                             |     |
| 5    | 90200772    | 1   | GUTTER RING                                                        |     |
| 6    | 90201615    | 1   | LOCK RING                                                          |     |
| 7    | 90602040    | 1   | TIRE, 13.00 X 24, 8 PLY (not illustrated)                          |     |
| 7    | 91033104    | 1   | TIRE, 13.00 X 24, 12 PLY (not illustrated)                         |     |

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FIGURE 5-25. WHEELS AND TIRES FRONT-FLOATATION (SN 0144658J to Present)



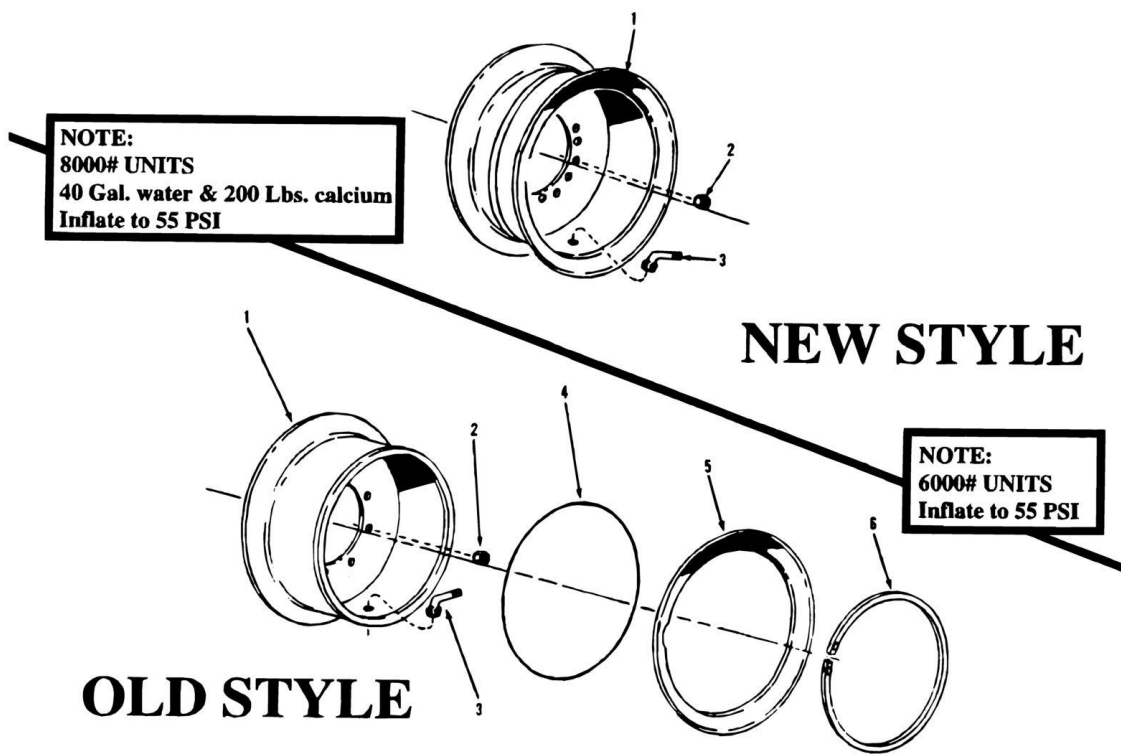
## SECTION 5 - DRIVE TRAIN

**FIGURE 5-25. WHEELS AND TIRES FRONT-FLOATATION (SN 0144658J to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                          | REV |
|------|-------------|-----|------------------------------------------------------|-----|
| 1    | 91043081    | 1   | RIM, 14.00 X 25                                      |     |
| 2    | 91043146    | 10  | LUG NUT (lubricate and torque to 350-400 ft lbs)     |     |
| 3    | 90201452    | 1   | VALVE (air / liquid)                                 |     |
| 4    | 90201441    | 1   | O-RING                                               |     |
| 5    | 90201762    | 1   | GUTTER RING                                          |     |
| 6    | 90201766    | 1   | LOCK RING                                            |     |
| 7    | 90201439    | 1   | TIRE, 17.5 X 25, 14 PLY (L-2 TRACTION REGULAR TREAD) |     |

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FIGURE 5-26. WHEELS AND TIRES FRONT-STANDARD (SN 8344001L through 8744114G, Excluding 8744079G)



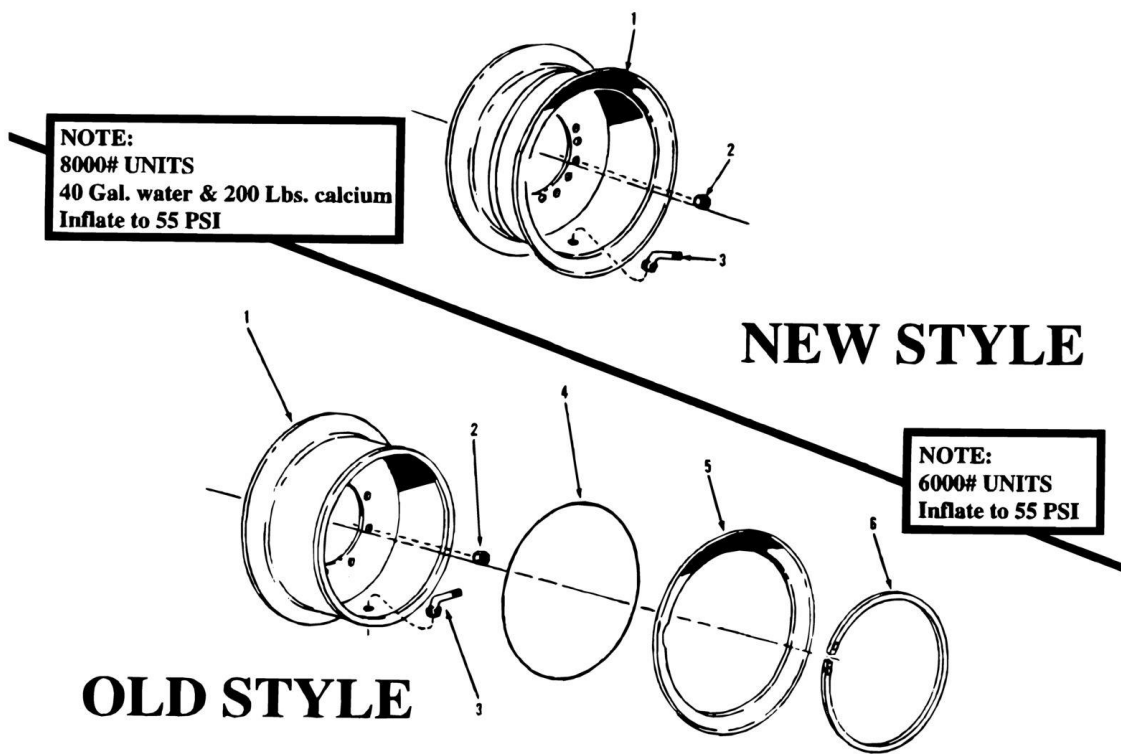
## SECTION 5 - DRIVE TRAIN

**FIGURE 5-26. WHEELS AND TIRES FRONT-STANDARD (SN 8344001L through 8744114G, Excluding 8744079G)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                         | REV |
|------|-------------|-----|---------------------------------------------------------------------|-----|
| 1    | 90602780    | NLA | RIM, 8.00 TG X 24 NOTE: (NO LONGER AVAILABLE, REPLACED BY 91033468) |     |
| 1    | 91033468    | 1   | RIM, 9.00 X 24 (New One Piece Style)                                |     |
| 2    | 90201853    | 10  | LUG NUT                                                             |     |
| 3    | 90200339    | 1   | VALVE (air/liquid) NOTE: (USE WITH 90602780 ONLY)                   |     |
| 3    | 91083385    | 1   | VALVE (air/liquid) (Use with 91033468)                              |     |
| 4    | 90200561    | 1   | O-RING                                                              |     |
| 5    | 90200772    | 1   | GUTTER RING                                                         |     |
| 6    | 90201615    | 1   | LOCK RING                                                           |     |
| 7    | 90602040    | 1   | TIRE, 13.00 X 24, 8 PLY (not illustrated)                           |     |
| 7    | 91033104    | 1   | TIRE, 13.00 X 24, 12 PLY (not illustrated)                          |     |

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FIGURE 5-27. WHEELS AND TIRES REAR-STANDARD (SN 8344001L through 8744114G, Excluding 8744079G)





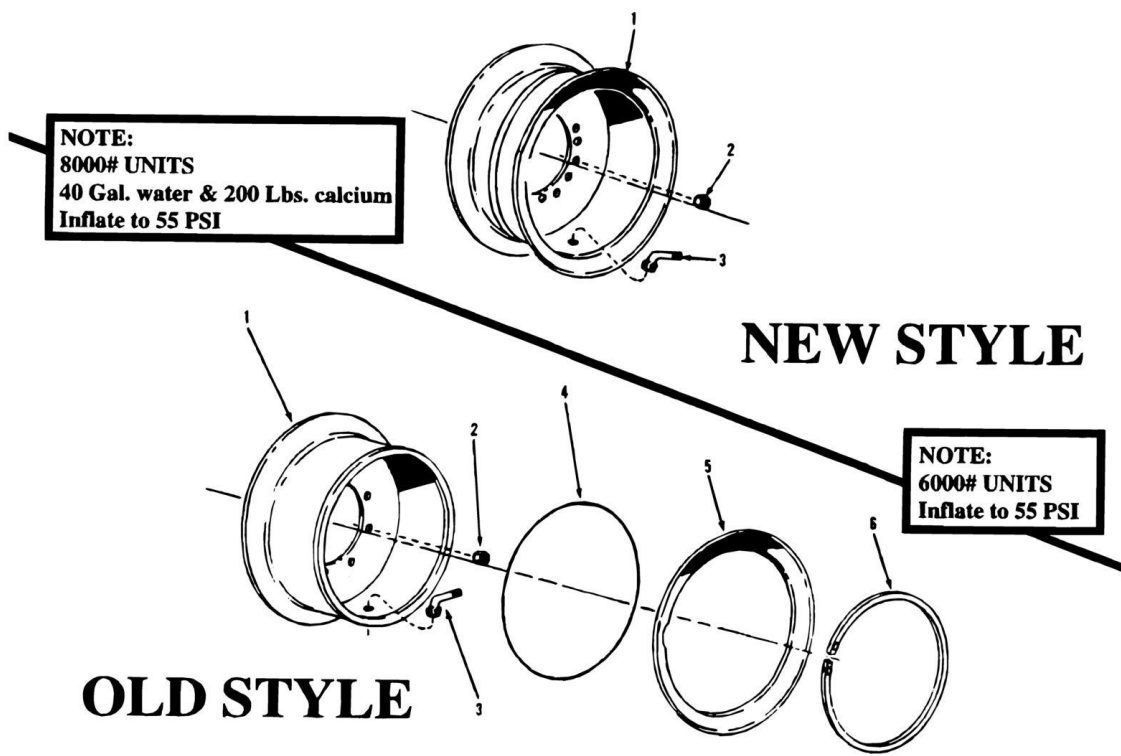
## SECTION 5 - DRIVE TRAIN

**FIGURE 5-27. WHEELS AND TIRES REAR-STANDARD (SN 8344001L through 8744114G, Excluding 8744079G)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                        | REV |
|------|-------------|-----|--------------------------------------------------------------------|-----|
| 1    | 90602638    | NLA | RIM, 8.00 TG X 24 NOTE: (NO LONGER AVAILABLE REPLACED BY 91033467) |     |
| 1    | 91033467    | 1   | RIM, 9.00 X 24 (New One Piece Style)                               |     |
| 2    | 90202141    | 10  | LUG NUTS                                                           |     |
| 3    | 90200339    | 1   | VALVE (air/liquid) NOTE: (USE WITH 90602638 ONLY)                  |     |
| 3    | 91083385    | 1   | VALVE (air/liquid) (Use with 91033467)                             |     |
| 4    | 90200561    | 1   | O-RING                                                             |     |
| 5    | 90200772    | 1   | GUTTER RING                                                        |     |
| 6    | 90201615    | 1   | LOCK RING                                                          |     |
| 7    | 90602040    | 1   | TIRE, 13.00 X 24, 8 PLY (not illustrated)                          |     |
| 7    | 91033104    | 1   | TIRE, 13.00 X 24, 12 PLY (not illustrated)                         |     |

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FIGURE 5-28. WHEELS AND TIRES FRONT-FLOATATION (SN 8344001L through 8744114G, Excluding 8744079G)



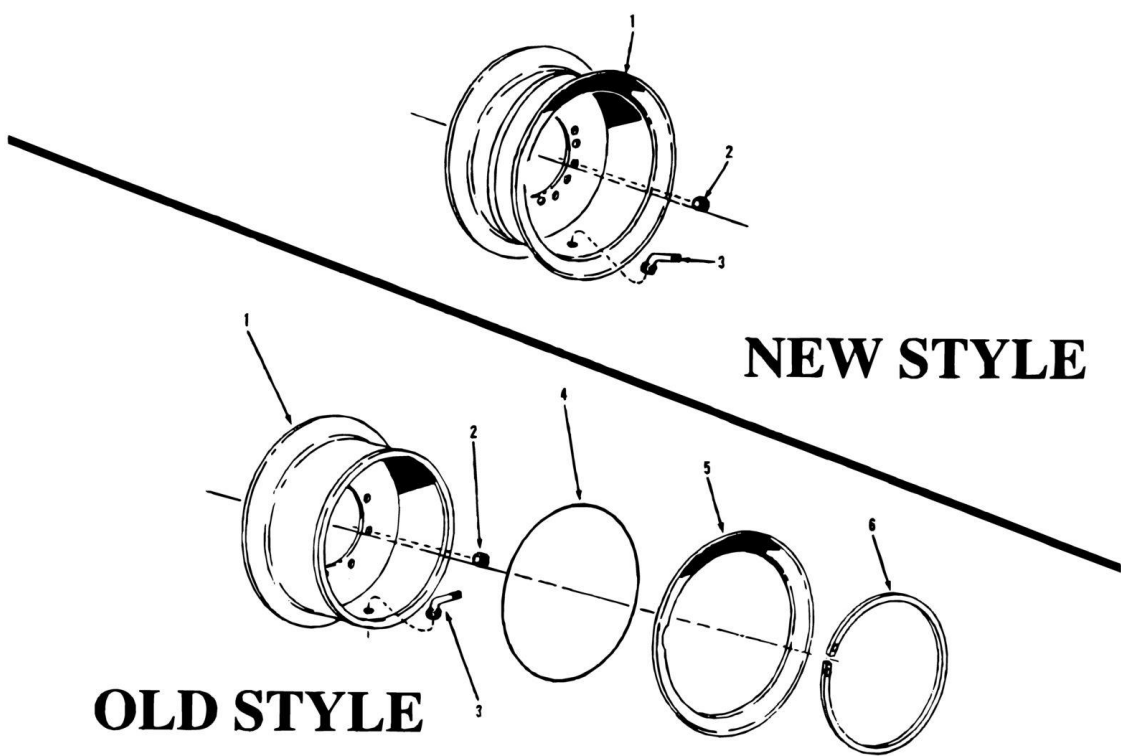
## SECTION 5 - DRIVE TRAIN

**FIGURE 5-28. WHEELS AND TIRES FRONT-FLOATATION (SN 8344001L through 8744114G,  
Excluding 8744079G)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                               | REV |
|------|-------------|-----|-------------------------------------------|-----|
| 1    | 90602870    | 1   | RIM, 12.00 X 25                           |     |
| 2    | 90201853    | 10  | LUG NUT                                   |     |
| 3    | 90207413    | 1   | VALVE (air / liquid)                      |     |
| 4    | 90207416    | 1   | O-RING                                    |     |
| 5    | 90207415    | 1   | GUTTER RING                               |     |
| 6    | 90207414    | 1   | LOCK RING                                 |     |
| 7    | 90207412    | 1   | TIRE, 15.5 X 25, 12 PLY (not illustrated) |     |

**SECTION 5 - DRIVE TRAIN**

**FIGURE 5-29. WHEELS AND TIRES FRONT-STANDARD (SN 8744115G through 0144657, Including 8744079G)**



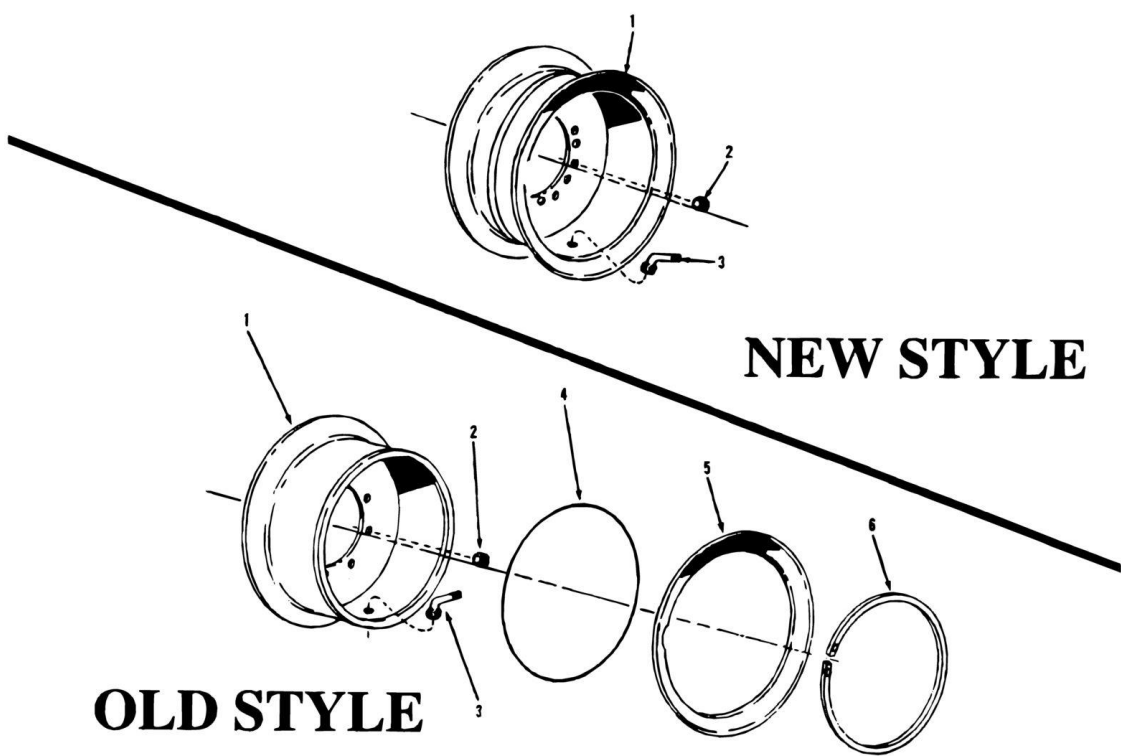
## SECTION 5 - DRIVE TRAIN

**FIGURE 5-29. WHEELS AND TIRES FRONT-STANDARD (SN 8744115G through 0144657, Including 8744079G)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                         | REV |
|------|-------------|-----|---------------------------------------------------------------------|-----|
| 1    | 91043080    | NLA | RIM, 8.00 TG X 24 NOTE: (NO LONGER AVAILABLE, REPLACED BY 91033469) |     |
| 1    | 91033469    | 1   | RIM, 9.00 X 24 (New One Piece Style)                                |     |
| 2    | 91043146    | 10  | LUG NUT (lubricate and torque to 350-400 ft lbs)                    |     |
| 3    | 90200339    | 1   | VALVE (air/liquid) NOTE: (USE WITH 91043080 ONLY)                   |     |
| 3    | 91083385    | 1   | VALVE (air/liquid) (Use with 91033469)                              |     |
| 4    | 90200561    | 1   | O-RING                                                              |     |
| 5    | 90200772    | 1   | GUTTER RING                                                         |     |
| 6    | 90201615    | 1   | LOCK RING                                                           |     |
| 7    | 91033104    | 1   | TIRE, 13.00 X 24, 12 PLY (not illustrated)                          |     |

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**FIGURE 5-30. WHEELS AND TIRES REAR-STANDARD (SN 8744115G through 0144657, Including 8744079G)**



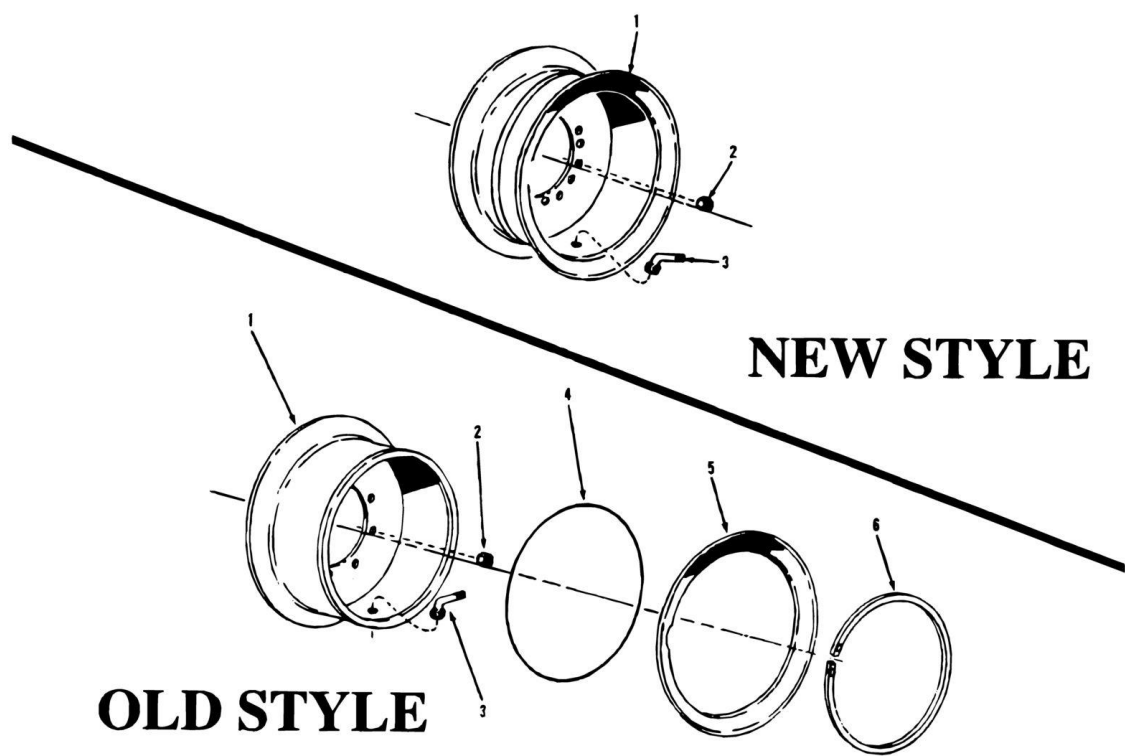
## SECTION 5 - DRIVE TRAIN

**FIGURE 5-30. WHEELS AND TIRES REAR-STANDARD (SN 8744115G through 0144657, Including 8744079G)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                        | REV |
|------|-------------|-----|--------------------------------------------------------------------|-----|
| 1    | 90602638    | NLA | RIM, 8.00 TG X 24 NOTE: (NO LONGER AVAILABLE REPLACED BY 91033467) |     |
| 1    | 91033467    | 1   | RIM, 9.00 X 24 (New One Piece Style)                               |     |
| 2    | 90202141    | 10  | LUG NUTS                                                           |     |
| 3    | 90200339    | 1   | VALVE (air/liquid) NOTE: (USE WITH 90602638 ONLY)                  |     |
| 3    | 91083385    | 1   | VAVLE (air/liquid) (Use with 91033467)                             |     |
| 4    | 90200561    | 1   | O-RING                                                             |     |
| 5    | 90200772    | 1   | GUTTER RING                                                        |     |
| 6    | 90201615    | 1   | LOCK RING                                                          |     |
| 7    | 90602040    | 1   | TIRE, 13.00 X 24, 8 PLY (not illustrated)                          |     |
| 7    | 91033104    | 1   | TIRE, 13.00 X 24, 12 PLY (not illustrated)                         |     |

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FIGURE 5-31. WHEELS AND TIRES FRONT-FLOATATION (SN 8744115G through 0144657, Including 8744079G)





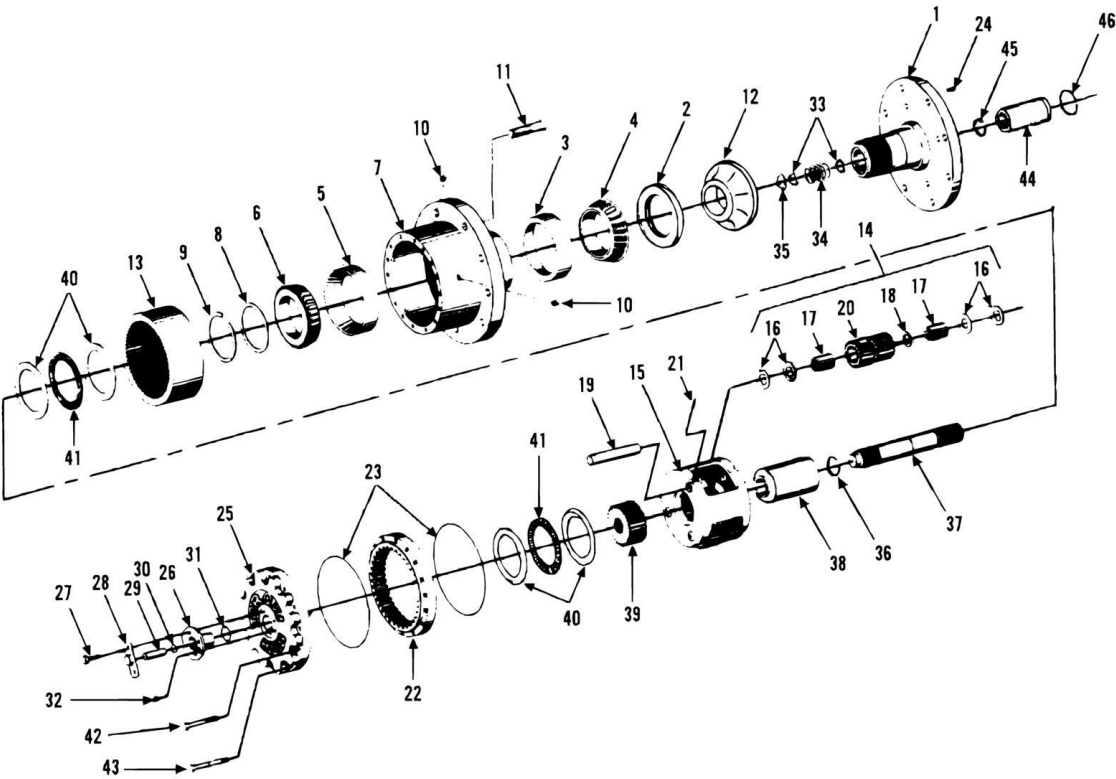
## SECTION 5 - DRIVE TRAIN

**FIGURE 5-31. WHEELS AND TIRES FRONT-FLOATATION (SN 8744115G through 0144657, Including 8744079G)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                           | REV |
|------|-------------|-----|-----------------------------------------------------------------------|-----|
| 1    | 91043081    | 1   | RIM, 14.00 X 25                                                       |     |
| 2    | 91043146    | 10  | LUG NUT (lubricate and torque to 350-400 ft lbs)                      |     |
| 3    | 90201452    | 1   | VALVE (air/liquid)                                                    |     |
| 4    | 90201441    | 1   | O-RING                                                                |     |
| 5    | 90201762    | 1   | GUTTER RING                                                           |     |
| 6    | 90201766    | 1   | LOCK RING                                                             |     |
| 7    | 90201439    | 1   | TIRE, 17.5 X 25, 14 PLY (L-2 TRACTION REGULAR TREAD (not illustrated) |     |

SECTION 5 - DRIVE TRAIN

FIGURE 5-32. PLANETARY HUB (SN 8344001L to Present)



## SECTION 5 - DRIVE TRAIN

**FIGURE 5-32. PLANETARY HUB (SN 8344001L to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                    | REV |
|------|-------------|-----|------------------------------------------------|-----|
|      | 91033095    |     | PLANETARY HUB ASSY, (cast)                     |     |
|      | 90206746    |     | PLANETARY HUB ASSY, (steel)                    |     |
| 1    | 90208017    | 1   | SPINDLE                                        |     |
| 2    | 77124002    | 1   | SEAL                                           |     |
| 3    | 90202500    | 1   | CUP BEARING                                    |     |
| 4    | 90202501    | 1   | CONE BEARING                                   |     |
| 5    | 90202502    | 1   | CUP BEARING                                    |     |
| 6    | 90202503    | 1   | CONE BEARING                                   |     |
| 7    | 90202504    | 1   | HUB, (steel)                                   |     |
| 7    | 91034029    | 1   | HUB, (cast)                                    |     |
| 8    | 90202505    | 1   | SPACER                                         |     |
| 9    | 90202506    | 1   | RETAINING RING                                 |     |
| 10   | 90202507    | 1   | PIPE PLUG                                      |     |
| 11   | 90202508    | 10  | WHEEL STUD, (for steel hub)                    |     |
| 11   | 91034028    | 10  | WHEEL STUD, (for cast hub)                     |     |
| 12   | 90206761    | 1   | SEAL BOOT                                      |     |
| 13   | 90202509    | 1   | INTERNAL GEAR                                  |     |
| 14   | 90208018    | 1   | CARRIER ASSY, (includes items 15 thru 21)      |     |
| 15   | 90202511    | 1   | CARRIER                                        |     |
| 16   | 91034026    | 6   | TAB WASHER                                     |     |
| 16   | 91034027    | 6   | BRASS THRUST WASHER                            |     |
| 17   | 90202513    | 84  | NEEDLE BEARING                                 |     |
| 18   | 91034158    | 3   | SPACER                                         |     |
| 19   | 90202515    | 3   | PINION SHAFT                                   |     |
| 20   | 91034122    | 3   | CLUSTER GEAR KIT, (includes items 16, 18 & 21) |     |
| 21   | 90202517    | 3   | ROLL PIN                                       |     |
| 22   | 90208020    | 1   | RING GEAR                                      |     |
| 23   | 90202519    | 2   | O-RING                                         |     |
| 24   | 88221119    | 2   | SOCKET SET SCREW, (cup point), 3/8-16X3/8      |     |
| 25   | 90202521    | 1   | COVER                                          |     |
| 26   | 90202522    | 1   | COVERCAP                                       |     |
| 27   | 90202523    | 4   | CAPSCREW                                       |     |
| 28   | 90202524    | 1   | DISCONNECT CAP                                 |     |
| 29   | 90202525    | 1   | DISCONNECT ROD                                 |     |
| 30   | 90202526    | 1   | O-RING                                         |     |
| 31   | 90202527    | 1   | O-RING                                         |     |
| 32   | 90202528    | 1   | PIPE PLUG                                      |     |
| 33   | 90202531    | 2   | WASHER                                         |     |
| 34   | 90202532    | 1   | SPRING                                         |     |
| 35   | 90202533    | 1   | RETAINING RING                                 |     |
| 36   | 90202534    | 1   | RETAINING RING                                 |     |
| 37   | 90202536    | 1   | INPUT SHAFT                                    |     |
| 38   | 90202537    | 1   | THRUST SPACER                                  |     |
| 39   | 90208021    | 1   | INPUT GEAR                                     |     |
| 40   | 90202542    | 4   | THRUST WASHER                                  |     |
| 41   | 90202543    | 2   | THRUST BEARING                                 |     |
| 42   | 90202544    | 8   | CAPSCREW                                       |     |
| 43   | 90202545    | 4   | SHOULDER BOLT                                  |     |
| 44   | 90202546    | 1   | COUPLING                                       |     |
| 45   | 90202547    | 1   | RETAINING RING                                 |     |

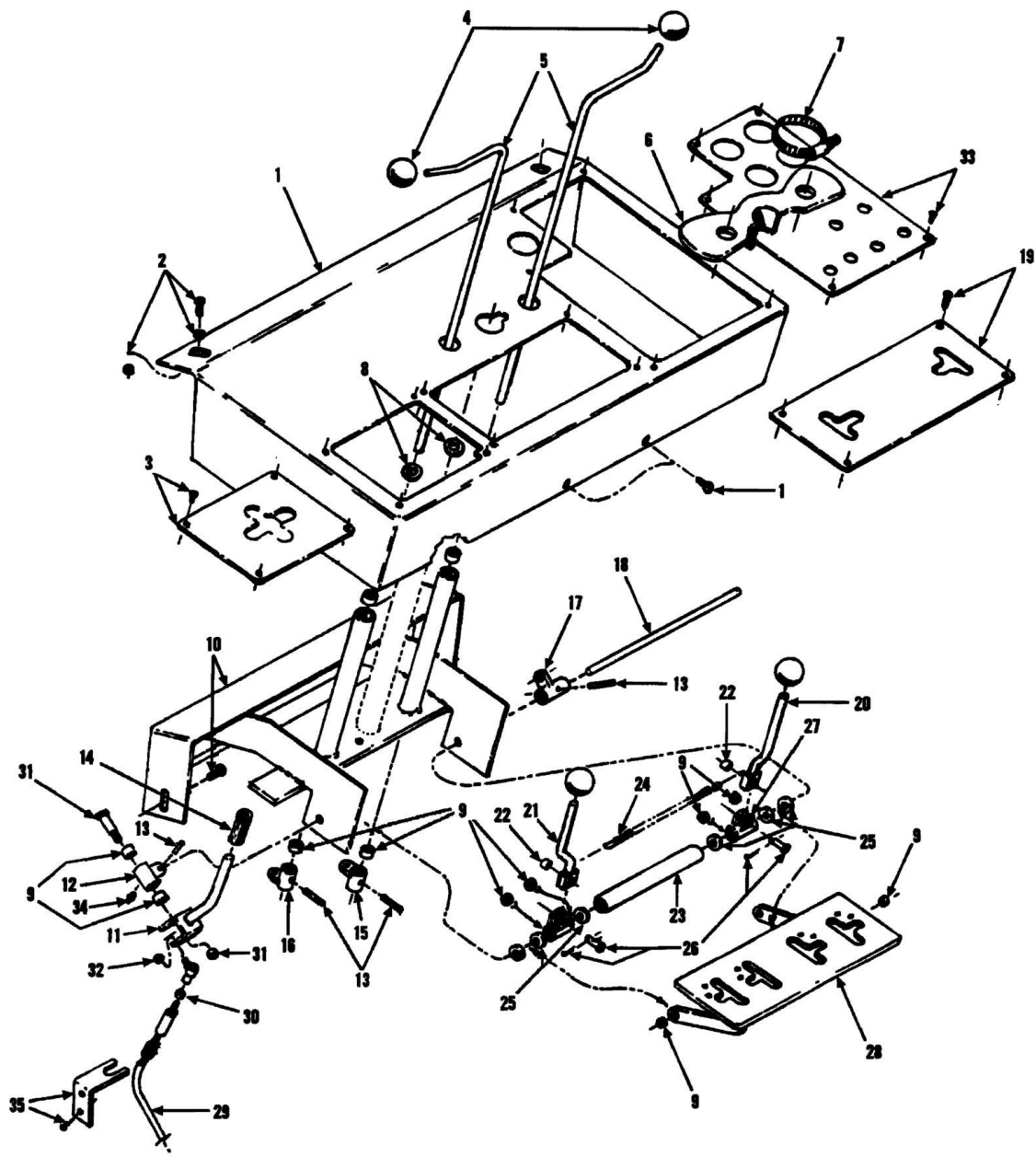
**SECTION 5 - DRIVE TRAIN**

| ITEM | PART NUMBER | QTY | DESCRIPTION    | REV |
|------|-------------|-----|----------------|-----|
| 46   | 90202548    | 1   | RETIANING RING |     |

**SECTION 6 - CONTROLS**

SECTION 6 - CONTROLS

FIGURE 6-1. TRANSMISSION - TILT, AUXILIARY AND SWAY WITH MOUNTING PARTS (SN 8344001L to Present)



## SECTION 6 - CONTROLS

**FIGURE 6-1. TRANSMISSION - TILT, AUXILIARY AND SWAY WITH MOUNTING PARTS (SN 8344001L to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                            | REV |
|------|-------------|-----|--------------------------------------------------------|-----|
| 1    | 90602789    | 1   | CONTROL AND INSTRUMENT PANEL                           |     |
| 1    | 90027319    | 2   | SELF TAPPING SCREW                                     |     |
| 2    | 77143004    | 2   | WHIZ LOCK SCREW                                        |     |
| 2    | 77143006    | 2   | WHIZ LOCK NUT                                          |     |
| 3    | 90207707    | 1   | COVER PLATE                                            |     |
| 3    | 88321015    | 4   | SELF TAPPING SCREW, 6-32 X 1/2                         |     |
| 4    | 90200299    | 4   | KNOB                                                   |     |
| 5    | 90205542    | 2   | CONTROL ROD                                            |     |
| 6    | 90402903    | 1   | CONTROL ROD BRACKET                                    |     |
| 7    | 90028695    | 1   | CLAMP (bracket to steering column)                     |     |
| 8    | 90027472    | 2   | HARDENED WASHER 5/8                                    |     |
| 9    | 90200290    | AR  | NEEDLE BEARING                                         |     |
| 10   | 90801213    | 1   | CONTROL BRACKET                                        |     |
| 10   | 88201065    | 2   | HEX HD CAPSCREW 1/2-13 X 1 GR5                         |     |
| 11   | 90403406    | 1   | CONTROL HANDLE                                         |     |
| 12   | 90206859    | 1   | BELLCRANK                                              |     |
| 13   | 88631479    | 4   | ROLL PIN                                               |     |
| 14   | 90200774    | 1   | HANDLE GRIP                                            |     |
| 14   | 90206005    | 1   | WINCH BUTTON                                           |     |
| 15   | 90205973    | 1   | BELLCRANK                                              |     |
| 16   | 91036042    | 1   | BELLCRANK                                              |     |
| 17   | 90205541    | 1   | BELL CRANK                                             |     |
| 18   | 90205571    | 1   | BELLCRANK SHAFT                                        |     |
| 19   | 90206045    | 1   | CONTROL PANEL                                          |     |
| 19   | 88321015    | 4   | SELF TAPPING SCREW 6-32 X 1/2                          |     |
| 20   | 90206128    | 1   | CONTROL ROD                                            |     |
| 21   | 90205981    | 1   | CONTROL ROD                                            |     |
| 22   | 90200688    | 2   | CONTROL ROD BEARING                                    |     |
| 23   | 90206222    | 1   | SPACER                                                 |     |
| 24   | 90200559    | 1   | SPRING                                                 |     |
| 25   | 88561113    | 6   | FLAT WASHER 5/8                                        |     |
| 26   | 90021557    | 2   | CLEVIS PIN                                             |     |
| 26   | 88631309    | 2   | COTTER PIN 3/32 X 3/4                                  |     |
| 27   | 90205983    | 2   | BELLCRANK                                              |     |
| 28   | 90402904    | 1   | CONTROL PANEL                                          |     |
| 29   | 90206861    | 1   | CABLE (tilt sway control)                              |     |
| 30   | 90200406    | 1   | BALL JOINT 3/8                                         |     |
| 30   | 88501406    | 1   | HEX JAM NUT 3/8-24                                     |     |
| 30   | 86683117    | 1   | BALL JOINT 5/16                                        |     |
| 30   | 88501305    | 1   | HEX NUT 5/16-24                                        |     |
| 30   | 88551010    | 1   | LOCKWASHER 5/16                                        |     |
| 31   | 90203502    | 1   | SHOULDER BOLT                                          |     |
| 31   | 88501008    | 1   | HEX NUT 1/2-13                                         |     |
| 32   | 88501306    | 1   | HEX NUT 3/8-24                                         |     |
| 33   | 90403178    | 1   | INSTRUMENT PANEL PLATE WAUKESHA (Prior to SN 8444491)  |     |
| 33   | 91031102    | 1   | INSTRUMENT PANEL PLATE PERKINS (SN 8444492 to Present) |     |
| 33   | 88321015    | 5   | SELF TAPPING SCREW 6-32 X 1/2                          |     |
| 34   | 88671008    | 1   | LUBE FITTING STRAIGHT 1/4-28                           |     |
| 35   | 91031013    | 1   | CABLE BRACKET                                          |     |

**SECTION 6 - CONTROLS**

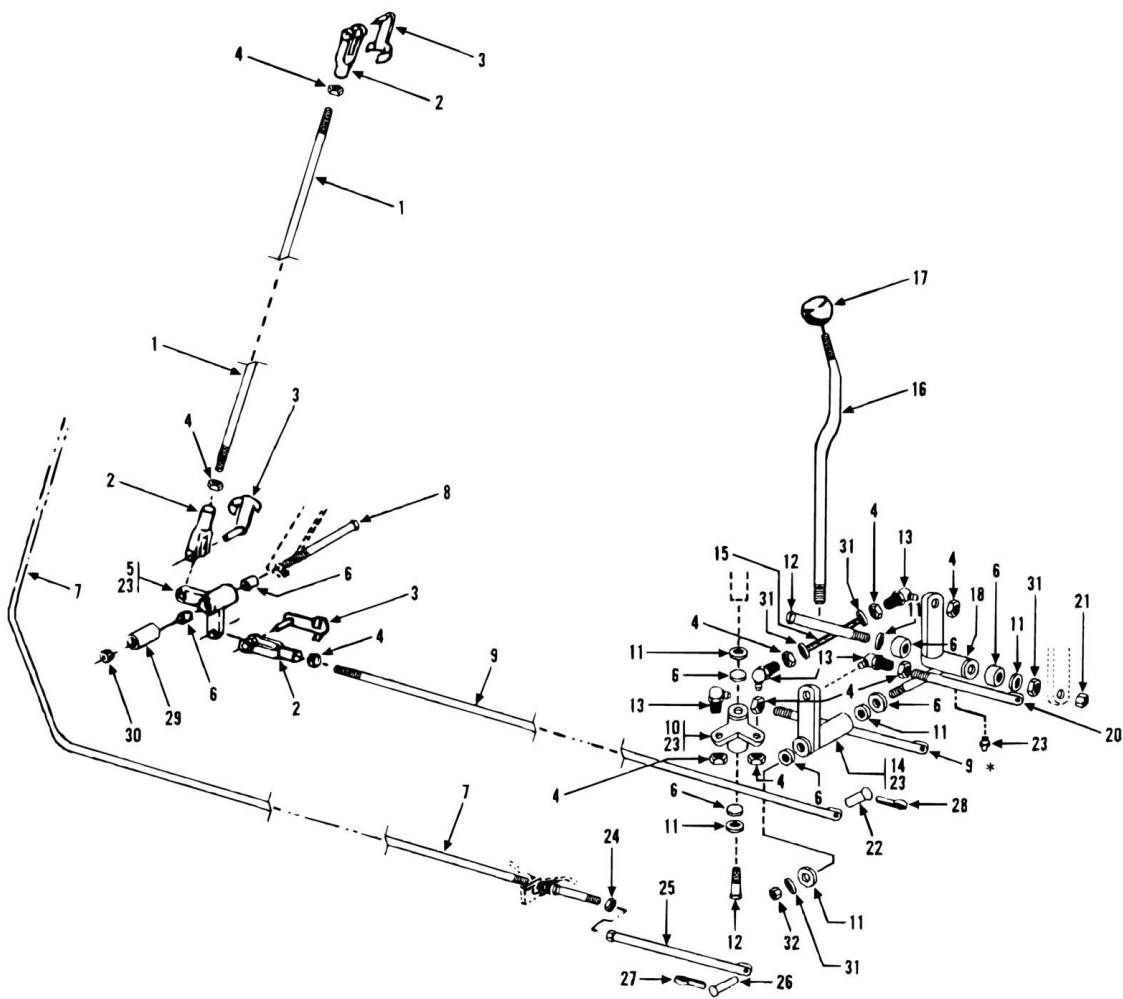
| ITEM | PART NUMBER | QTY | DESCRIPTION                              | REV |
|------|-------------|-----|------------------------------------------|-----|
| 35   | 88261030    | 2   | SOCKET BUTTON HD CAPSCREW 3/8-16 X 1 1/4 |     |
| 35   | 88501006    | 2   | HEX NUT 3/8-16                           |     |





SECTION 6 - CONTROLS

FIGURE 6-2. BOOM TILT AND SWAY CONTROL (SN 8344001L to Present)



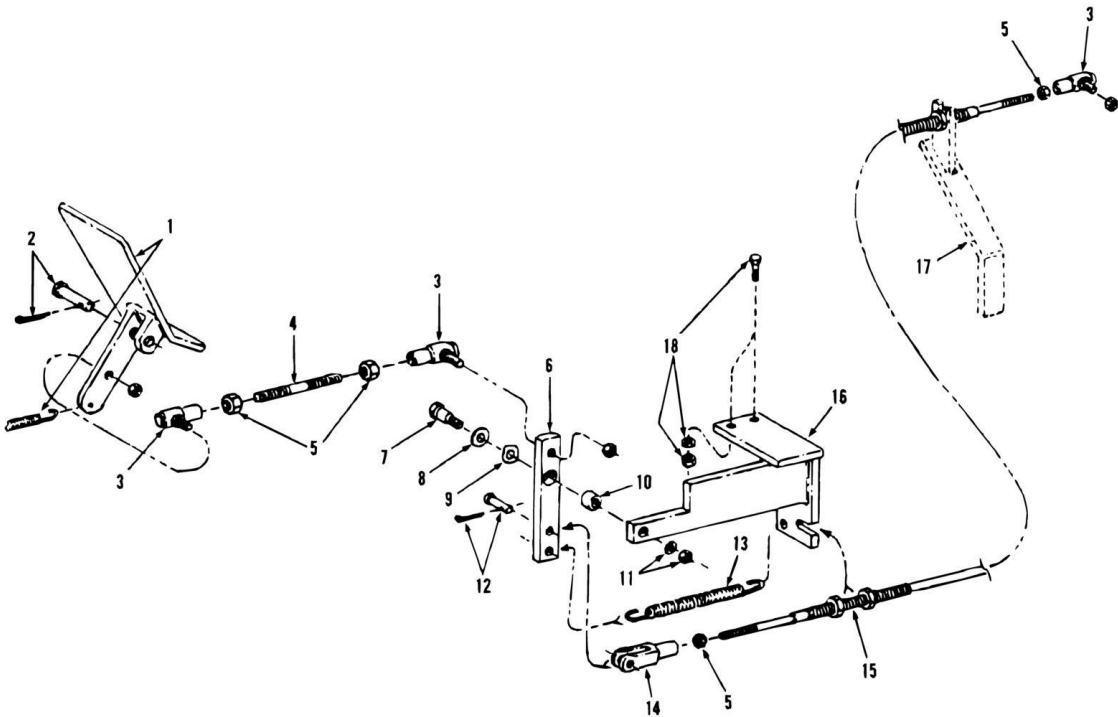
## SECTION 6 - CONTROLS

**FIGURE 6-2. BOOM TILT AND SWAY CONTROL (SN 8344001L to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                           | REV |
|------|-------------|-----|-------------------------------------------------------|-----|
| 1    | 90202361    | 1   | CONTROL LINKAGE ROD (tilt)                            |     |
| 2    | 88821004    | 3   | ADJUSTABLE YOKE END                                   |     |
| 3    | 90027987    | 3   | SPRING CLEVIS                                         |     |
| 4    | 88501406    | AR  | HEX NUT, 3/8-24                                       |     |
| 5    | 90205533    | 1   | BELLCRANK                                             |     |
| 6    | 90200290    | 8   | NEEDLE SPRING                                         |     |
| 7    | 90206861    | 1   | TILT, SWAY CONTROL CABLE                              |     |
| 8    | 88201328    | 1   | HEX HD CAPSCREW, 5/8-11X6-1/2, GR5                    |     |
| 9    | 91046051    | 1   | LINKAGE ROD                                           |     |
| 10   | 90205534    | 1   | BELLCRANK                                             |     |
| 11   | 90028662    | 6   | WAVE WASHER                                           |     |
| 12   | 90203502    | 2   | SHOULDER BOLT                                         |     |
| 13   | 90200406    | 4   | BALL JOINT                                            |     |
| 14   | 90205765    | 1   | BELLCRANK                                             |     |
| 15   | 90400543    | 1   | STUD                                                  |     |
| 16   | 90205759    | 1   | BOOM CONTROL HANDLE                                   |     |
| 17   | 90200638    | 1   | KNOB                                                  |     |
| 18   | 90205558    | 1   | BELLCRANK                                             |     |
| 19   | 91066021    | 1   | LINKAGE ROD                                           |     |
| 20   | 91066020    | 1   | LINKAGE ROD                                           |     |
| 21   | 88501108    | 1   | HEX JAM NUT, 1/2-13                                   |     |
| 22   | 90021552    | 4   | CLEVIS PIN                                            |     |
| 23   | 88671008    | 4   | LUBE FITTING, STRAIGHT, 1/4-28                        |     |
| 24   | 88501305    | 1   | HEX NUT                                               |     |
| 25   | 91041236    | 1   | CABLE END                                             |     |
| 26   | 90021552    | 1   | CLEVIS PIN                                            |     |
| 27   | 88631302    | 1   | COTTER PIN, 1-16X3/4                                  |     |
| 28   | 88631301    | 4   | COTTER PIN, 1/16X1/2                                  |     |
| 29   | 90205580    | 1   | SPACER (not require with auxiliary hydraulics option) |     |
| 30   | 88501010    | 2   | HEX NUT, 5/8-11                                       |     |
| 31   | 88561113    | 9   | FLAT WASHER, #4                                       |     |
| 32   | 88501110    | 1   | HEX JAM NUT, 5/8-11                                   |     |

SECTION 6 - CONTROLS

FIGURE 6-3. ACCELERATOR LINKAGE WAUKESHA ENGINE ONLY (SN 834001L through 8444490)



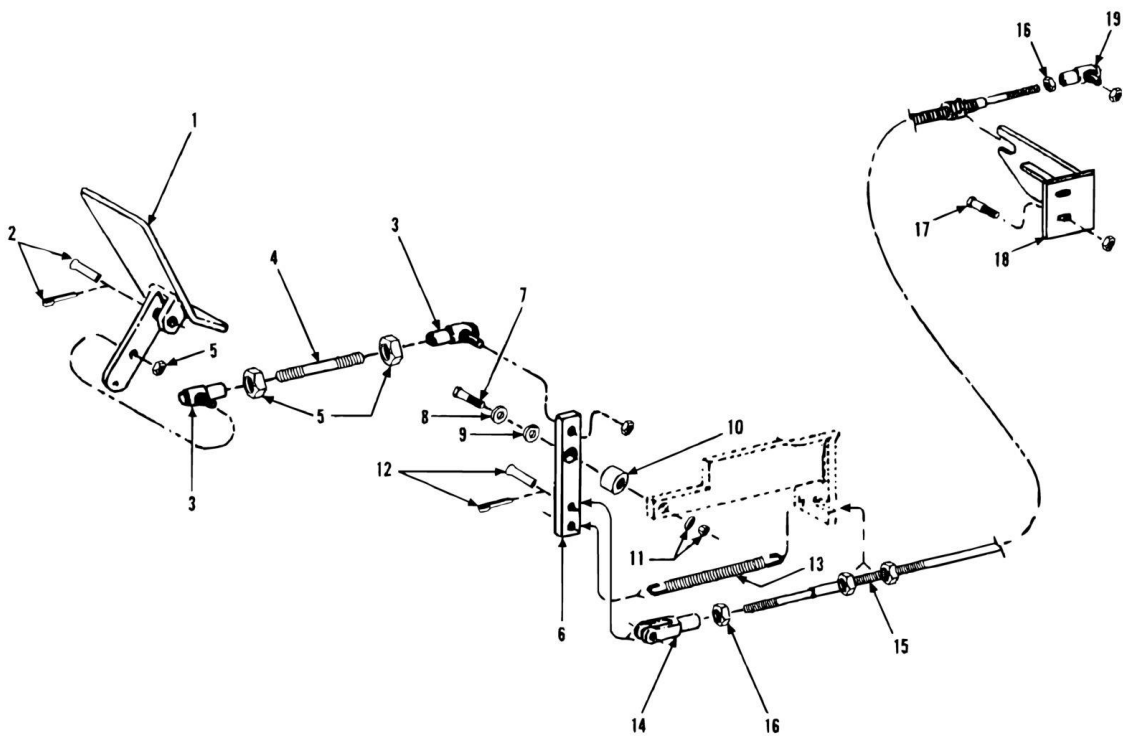
## SECTION 6 - CONTROLS

**FIGURE 6-3. ACCELERATOR LINKAGE WAUKESHA ENGINE ONLY (SN 834001L through 8444490)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                | REV |
|------|-------------|-----|----------------------------|-----|
| 1    | 90200289    | 1   | PEDAL, ACCELERATOR         |     |
| 1    | 90200559    | 1   | SPRING                     |     |
| 2    | 90021584    | 1   | PIN, CLEVIS                |     |
| 2    | 88631318    | 1   | PIN, COTTER                |     |
| 3    | 90027908    | 3   | JOINT, BALL                |     |
| 4    | 90207800    | 1   | ROD, LINKAGE               |     |
| 5    | 88501613    | 4   | NUT, 10-32                 |     |
| 6    | 90207803    | 1   | BELLCRANK                  |     |
| 7    | 90026492    | 1   | BOLT, SHOULDER             |     |
| 8    | 88561108    | 1   | WASHER                     |     |
| 9    | 90028946    | AR  | WASHER,WAVE                |     |
| 10   | 91033037    | 1   | BEARING                    |     |
| 11   | 88501004    | 1   | NUT                        |     |
| 11   | 88561111    | 1   | WASHER                     |     |
| 12   | 90027685    | 1   | PIN AND COTTER             |     |
| 13   | 90207801    | 1   | SPRING                     |     |
| 14   | 90028977    | 1   | YOKE                       |     |
| 15   | 90200795    | 1   | CABLE, ACCELERATOR         |     |
| 16   | 90403424    | 1   | BRACKET, ACCELERATOR CABLE |     |
| 17   | 90205971    | 1   | BRACKET, ENGINE CABLE      |     |
| 18   | 88201020    | 2   | BOLT, 5/16-18X1            |     |
| 18   | 88561108    | 2   | WASHER, 5/16IN             |     |
| 18   | 88501005    | 2   | NUT, 5/16IN-18             |     |

SECTION 6 - CONTROLS

FIGURE 6-4. ACCELERATOR LINKAGE PERKINS ENGINE ONLY (SN 8444491 to Present)



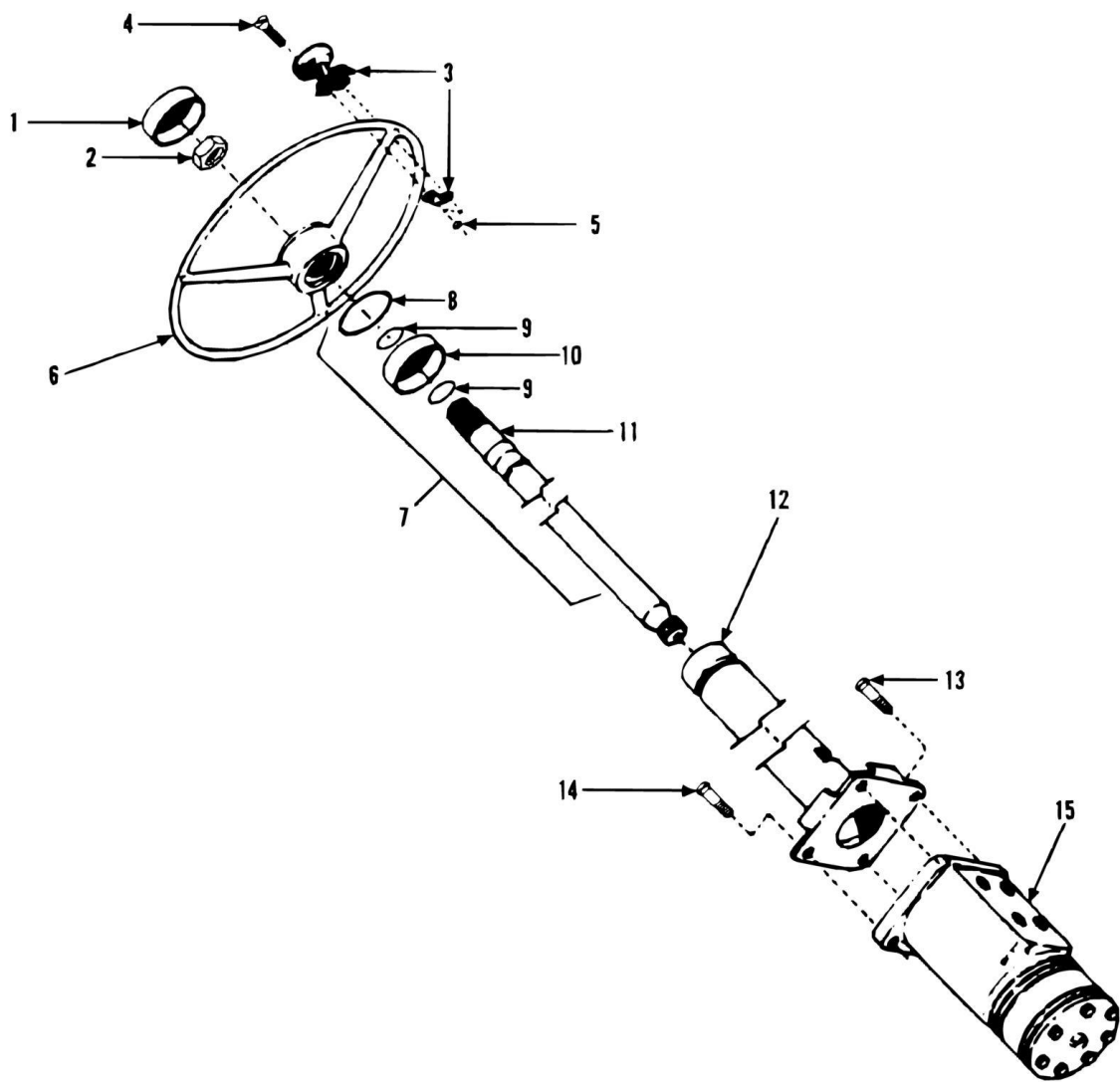
## SECTION 6 - CONTROLS

**FIGURE 6-4. ACCELERATOR LINKAGE PERKINS ENGINE ONLY (SN 8444491 to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                     | REV |
|------|-------------|-----|-------------------------------------------------|-----|
| 1    | 91036022    | 1   | ACCELERATOR PEDAL                               |     |
| 2    | 90021584    | 1   | CLEVIS PIN                                      |     |
| 2    | 88631318    | 1   | COTTER PIN, 1/8X1                               |     |
| 3    | 86683118    | 2   | BALL JOINT                                      |     |
| 4    | 91031088    | 1   | LINKAGE ROD                                     |     |
| 5    | 88501404    | 2   | HEX JAM NUT, 1/4-28                             |     |
| 6    | 91031087    | 1   | BELLCRANK                                       |     |
| 7    | 88251018    | 1   | SOCKET HD SHOULDER SCREW, 3/8X1/2 (5/16-18 thd) |     |
| 8    | 88561109    | 1   | FLAT WASHER, 3/8                                |     |
| 9    | 90028946    | AR  | WAVE WASHER                                     |     |
| 10   | 91033281    | 1   | BEARING                                         |     |
| 11   | 88501105    | 1   | HEAVY HEX JAM NUT, 5/16-18                      |     |
| 11   | 88561111    | 1   | FLAT WASHER, 1/2                                |     |
| 12   | 90027685    | 1   | PIN AND COTTER                                  |     |
| 13   | 90207801    | 1   | SPRING                                          |     |
| 14   | 90028977    | 1   | YOKE                                            |     |
| 15   | 90200795    | 1   | ACCELERATOR CABLE                               |     |
| 16   | 88501613    | 2   | HEX NUT, #10-32                                 |     |
| 17   | 88201021    | 2   | HEX HD CAPSCREW, 5/16-18X1 1/4 GR5              |     |
| 17   | 88521305    | 2   | HEX LOCKNUT, 5/16-18                            |     |
| 18   | 91036014    | 1   | CABLE BRACKET                                   |     |
| 19   | 90027908    | 1   | BALL JOINT                                      |     |

SECTION 6 - CONTROLS

FIGURE 6-5. STEERING COLUMN (SN 8344001L to Present)





## SECTION 6 - CONTROLS

**FIGURE 6-5. STEERING COLUMN (SN 8344001L to Present)**

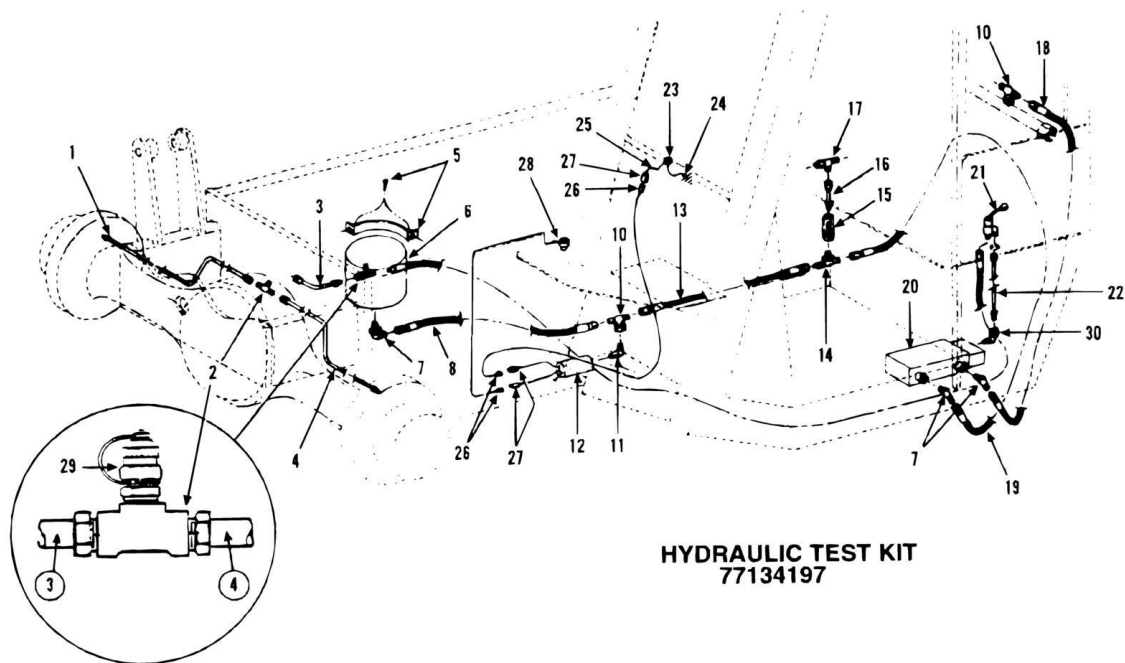
| ITEM | PART NUMBER | QTY | DESCRIPTION                           | REV |
|------|-------------|-----|---------------------------------------|-----|
| 1    | 90600274    | 1   | STEERING CAP                          |     |
| 2    | 90200266    | 1   | STEERING WHEEL NUT                    |     |
| 3    | 90202230    | 1   | SPINNER KNOB (includes items 4 & 5)   |     |
| 4    | 90020397    | 2   | FLATHEAD SCREW, 1/4 NC X 1            |     |
| 5    | 88501004    | 2   | HEX NUT, 1/4-20                       |     |
| 6    | 90600273    | 1   | STEERING WHEEL                        |     |
| 7    | 90600267    | 1   | STEERING COLUMN (includes items 8-12) |     |
| 8    | 90201347    | 1   | RETIANING RING                        |     |
| 9    | 90201346    | 2   | RETIANING RING                        |     |
| 10   | 90201348    | 1   | BEARING                               |     |
| 11   | 90201349    | 1   | SHAFT                                 |     |
| 12   | 90201350    | 1   | TUBE AND FLANGE                       |     |
| 13   | 88201037    | 2   | HEX HD CAPSCREW, 3/8-16X1-1/2, GR5    |     |
| 14   | 88201033    | 1   | HEX HD CAPSCREW, 3/8-16X3/4, GR5      |     |
| 15   | 90206762    | 1   | ORBITROL                              |     |
| 15   | 90206567    | 1   | ORBITROL SEAL KIT                     |     |



**SECTION 7 - BRAKES**

SECTION 7 - BRAKES

FIGURE 7-1. BRAKE BOOSTER HYDRAULICS AND BRAKE LINES WAUKESHA ENGINE ONLY (SN 8344001L through 8444490)



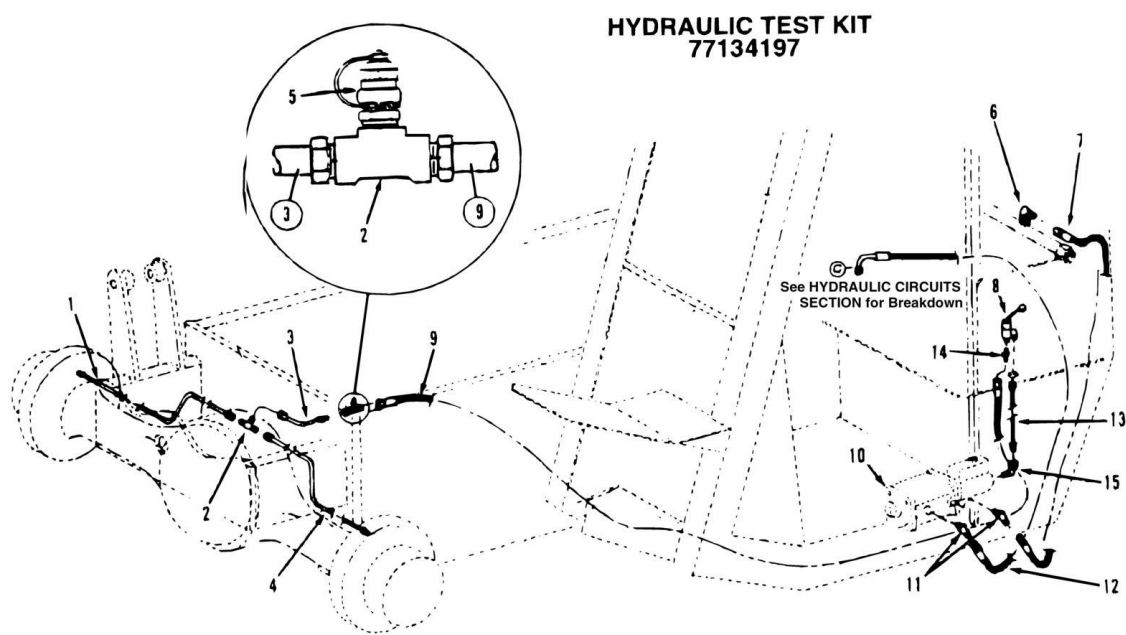
## SECTION 7 - BRAKES

**FIGURE 7-1. BRAKE BOOSTER HYDRAULICS AND BRAKE LINES WAUKESHA ENGINE ONLY (SN 8344001L through 8444490)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                               | REV |
|------|-------------|-----|-----------------------------------------------------------|-----|
| 1    | 90207851    | 1   | TUBE ASSEMBLY                                             |     |
| 2    | 90200437    | 2   | TEE                                                       |     |
| 3    | 90207853    | 1   | TUBE ASSEMBLY                                             |     |
| 4    | 90207852    | 1   | TUBE ASSEMBLY                                             |     |
| 5    | 90207834    | 1   | CLAMP                                                     |     |
| 5    | 88201031    | 2   | HEX HD CAPSCREW, 3/8-16X1/2, GR5                          |     |
| 6    | 90207816    | 1   | ACCUMULATOR                                               |     |
| 7    | 88662065    | 3   | ELBOW - 90, (includes o-ring)                             |     |
| 7    | 88591205    | 3   | O-RING                                                    |     |
| 8    | 90207838    | 1   | HIGH PRESSURE HOSE                                        |     |
| 9    | 91033245    | 1   | HIGH PRESSURE HOSE                                        |     |
| 10   | 88662224    | 2   | SWIVEL NUT BRANCH TEE, 3/8 TUBE                           |     |
| 11   | 88743043    | 1   | MALE ELBOW - 90, 1/4X3/8 TUBE                             |     |
| 12   | 90207823    | 1   | BRAKE SWITCH                                              |     |
| 13   | 90207839    | 1   | HIGH PRESSURE HOSE                                        |     |
| 14   | 88662153    | 1   | BRANCH TEE (includes o-ring)                              |     |
| 14   | 88591205    | 1   | O-RING                                                    |     |
| 15   | 90202926    | 1   | CHECK VALVE                                               |     |
| 16   | 90400527    | 1   | ADAPTER                                                   |     |
| 17   | 88662240    | 1   | SWIVEL NUT RUN TEE, 1/2 TUBE                              |     |
| 18   | 90207836    | 1   | HYDRAULIC HOSE                                            |     |
| 19   | 90207837    | 1   | HYDRAULIC HOSE                                            |     |
| 20   | 91033275    | 1   | BRAKE BOOSTER (See SERVICE BRAKE-SOMA AXLE for Breakdown) |     |
| 20   | 90207856    | 1   | GASKET                                                    |     |
| 21   | 90400835    | 1   | MICO LOCK BRAKE CONTROL (includes decals)                 |     |
| 22   | 90207854    | 1   | TUBE ASSEMBLY                                             |     |
| 22   | 90207855    | 1   | PLUG                                                      |     |
| 23   | 90200192    | 1   | WARNING LIGHT                                             |     |
| 24   | 90200349    | 1   | GROUND WIRE                                               |     |
| 25   | 90207857    | 1   | WIRE                                                      |     |
| 26   | 90028960    | 3   | MALE CONNECTOR                                            |     |
| 27   | 90028959    | 3   | FEMALE CONNECTOR                                          |     |
| 28   | 89031425    | 1   | EYE CONNECTOR                                             |     |
| 29   | 91033033    | 1   | MINI-CHECK                                                |     |
| 30   | 90027970    | 1   | ELBOW-90, (swivel)                                        |     |

SECTION 7 - BRAKES

FIGURE 7-2. BRAKE BOOSTER HYDRAULICS AND BRAKE LINES PERKINS ENGINE ONLY (SN 83444491 through 8744114G, Excluding 8744079G)



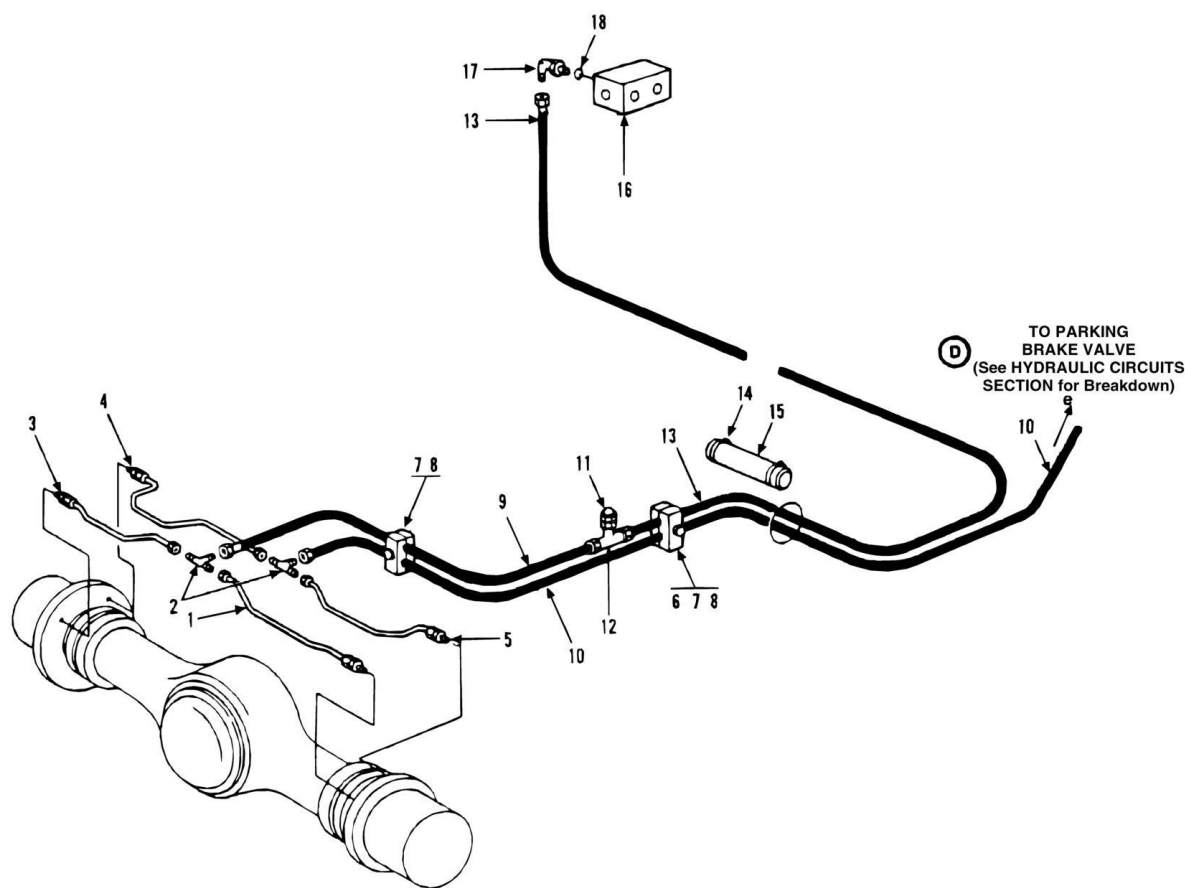
## SECTION 7 - BRAKES

**FIGURE 7-2. BRAKE BOOSTER HYDRAULICS AND BRAKE LINES PERKINS ENGINE ONLY (SN 83444491 through 8744114G, Excluding 8744079G)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                                                     | REV |
|------|-------------|-----|-------------------------------------------------------------------------------------------------|-----|
| 1    | 90207851    | 1   | TUBE ASSEMBLY                                                                                   |     |
| 2    | 90200437    | 2   | TEE                                                                                             |     |
| 3    | 90207853    | 1   | TUBE ASSY                                                                                       |     |
| 4    | 90207852    | 1   | TUBE ASSY                                                                                       |     |
| 5    | 91033033    | 1   | MINI-CHECK                                                                                      |     |
| 6    | 88662105    | 1   | ELBOW - 90, (swivel nut)                                                                        |     |
| 7    | 90207836    | 1   | HYDRAULIC HOSE                                                                                  |     |
| 8    | 90400835    | 1   | MICO LOCK BRAKE CONTROL (includes decals) (See PARKING BRAKE CONTROL (MICO LOCK) for Breakdown) |     |
| 9    | 91033245    | 1   | HIGH PRESSURE HOSE                                                                              |     |
| 10   | 91033275    | 1   | BRAKE BOOSTER (See SERVICE BRAKE-SOMA AXLE for Breakdown)                                       |     |
| 10   | 90207856    | 2   | GASKET                                                                                          |     |
| 10   | 90207855    | 2   | PLUG                                                                                            |     |
| 11   | 88662065    | 2   | ELBOW - 90, (includes o-ring)                                                                   |     |
| 11   | 88591205    | 2   | O-RING                                                                                          |     |
| 12   | 84717604    | 1   | HOSE ASSY                                                                                       |     |
| 13   | 90207854    | 1   | TUBE ASSY                                                                                       |     |
| 14   | 90027769    | 1   | STRAIGHT ADAPTER                                                                                |     |
| 15   | 90027970    | 1   | ELBOW - 90, (swivel)                                                                            |     |

SECTION 7 - BRAKES

FIGURE 7-3. HYDRAULICS AND SERVICE BRAKE LINES (SN 8344115G to Present, Including 8744079G)





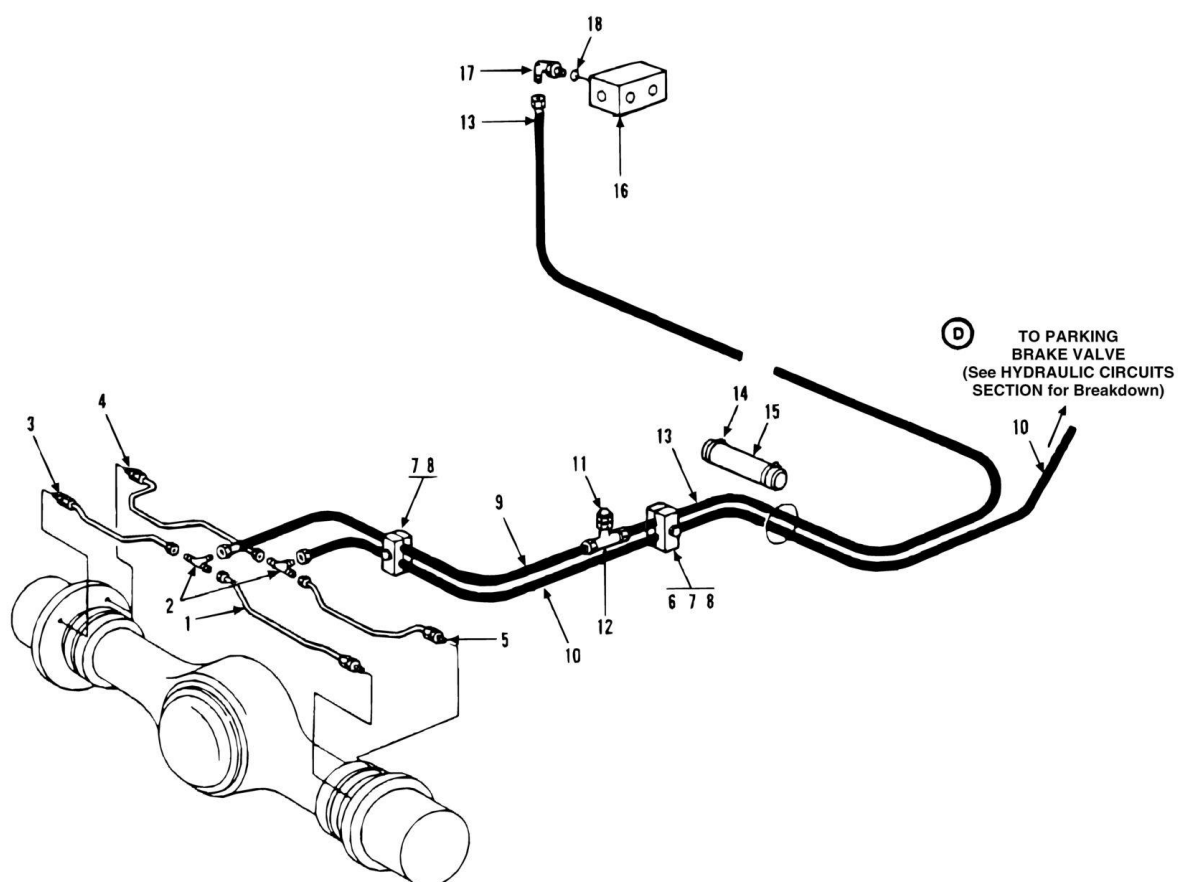
## SECTION 7 - BRAKES

**FIGURE 7-3. HYDRAULICS AND SERVICE BRAKE LINES (SN 8344115G to Present, Including 8744079G)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                       | REV |
|------|-------------|-----|-------------------------------------------------------------------|-----|
| 1    | 91043188    | 1   | TUBE ASSY                                                         |     |
| 2    | 88661305    | 2   | UNION TEE, 3/8 TUBE                                               |     |
| 3    | 91043072    | 1   | TUBE ASSY                                                         |     |
| 4    | 91043189    | 1   | TUBE ASSY                                                         |     |
| 5    | 91043190    | 1   | TUBE ASSY                                                         |     |
| 6    | 77133177    | 2   | HEX HD CAPSCREW                                                   |     |
| 7    | 77133140    | 2   | COVER PLATE                                                       |     |
| 8    | 77133139    | 2   | CLAMP SET                                                         |     |
| 9    | 84717524    | 1   | HOSE ASSY                                                         |     |
| 10   | 84717522    | 1   | HOSE ASSY                                                         |     |
| 11   | 91033032    | 1   | MINI-CHECK COUPLING                                               |     |
| 12   | 91043091    | 1   | FEMALE BRACH TEE                                                  |     |
| 13   | 84717523    | 1   | HOSE ASSY                                                         |     |
| 14   | 90027178    | 6   | NYLON HOSE TIE                                                    |     |
| 15   | 91041258    | 3   | SLOTTED HOSE                                                      |     |
| 16   | 91033307    | REF | BRAKE VALVE ASSY (See HYDRAULIC COMPONENTS SECTION for Breakdown) |     |
| 17   | 88662064    | 1   | ELBOW, 90, (includes item 18)                                     |     |
| 18   | 88591204    | 1   | O-RING                                                            |     |

## SECTION 7 - BRAKES

**FIGURE 7-4. HYDRAULICS AND SERVICE BRAKE LINES (SN 0144452 to Present)**



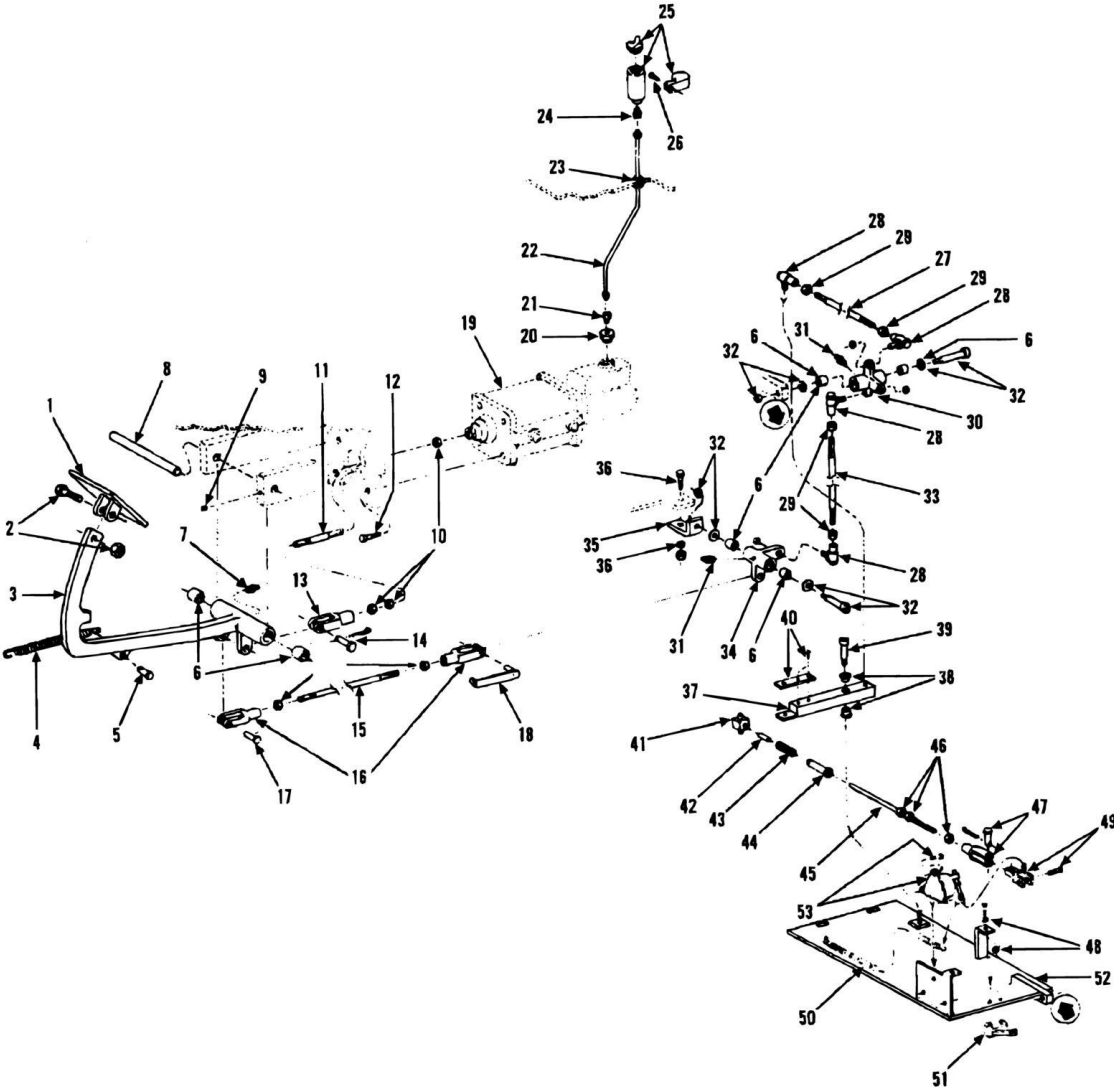
## SECTION 7 - BRAKES

**FIGURE 7-4. HYDRAULICS AND SERVICE BRAKE LINES (SN 0144452 to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                       | REV |
|------|-------------|-----|-------------------------------------------------------------------|-----|
| 1    | 91043188    | 1   | TUBE ASSY                                                         |     |
| 2    | 88661305    | 2   | UNION TEE, 3/8 TUBE                                               |     |
| 3    | 91043072    | 1   | TUBE ASSY                                                         |     |
| 4    | 91043189    | 1   | TUBE ASSY                                                         |     |
| 5    | 91043190    | 1   | TUBE ASSY                                                         |     |
| 6    | 77133177    | 2   | HEX HD CAPSCREW                                                   |     |
| 7    | 77133140    | 2   | COVER PLATE                                                       |     |
| 8    | 77133139    | 2   | CLAMP SET                                                         |     |
| 9    | 84717524    | 1   | HOSE ASSY                                                         |     |
| 10   | 84717522    | 1   | HOSE ASSY                                                         |     |
| 11   | 91033032    | 1   | MINI-CHECK COUPLING                                               |     |
| 12   | 91043091    | 1   | FEMALE BRACH TEE                                                  |     |
| 13   | 84717523    | 1   | HOSE ASSY                                                         |     |
| 14   | 90027178    | 6   | NYLON HOSE TIE                                                    |     |
| 15   | 91041258    | 3   | SLOTTED HOSE                                                      |     |
| 16   | 91033307    | REF | BRAKE VALVE ASSY (See HYDRAULIC COMPONENTS SECTION for Breakdown) |     |
| 17   | 88662064    | 1   | ELBOW, 90, (includes item 18)                                     |     |
| 18   | 88591204    | 1   | O-RING                                                            |     |

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FIGURE 7-5. BRAKE AND INCHING LINKAGE WAUKESHA ENGINE ONLY (SN 8344001L through 8444490)



## SECTION 7 - BRAKES

**FIGURE 7-5. BRAKE AND INCHING LINKAGE WAUKESHA ENGINE ONLY (SN 8344001L through 8444490)**

| ITEM | PART NUMBER | QTY   | DESCRIPTION                                               | REV |
|------|-------------|-------|-----------------------------------------------------------|-----|
| 1    | 90201463    | 1     | BRAKE PEDAL                                               |     |
| 2    | 88201068    | 1     | HEX HD CAPSCREW, 1/2-13X1-3/4 GR5                         |     |
| 2    | 88501008    | 1     | HEX NUT,1/2-13                                            |     |
| 3    | 90403371    | 1     | BRAKE LEVER                                               |     |
| 4    | 90200559    | 2     | SPRING                                                    |     |
| 5    | 90021553    | 1     | CLEVIS PIN                                                |     |
| 6    | 90200290    | 6     | BEARING                                                   |     |
| 7    | 88671008    | 3     | LUBE FITTING - STRAIGHT 1/4-28                            |     |
| 8    | 90201562    | 1     | PIN                                                       |     |
| 9    | 88401001    | 2     | SQ HD SET SCREW (cup point) 1/4-20X1/2                    |     |
| 10   | 88501408    | 5     | HEX JAM NUT, 1/2-20                                       |     |
| 11   | 90207835    | 1     | SLIP ROD                                                  |     |
| 12   | 88201066    | 4     | HEX HD CAPSCREW, 1/2-13X1-1/4 GR5                         |     |
| 13   | 91033237    | 1     | SLIP YOLE                                                 |     |
| 14   | 90021553    | 1     | PIN                                                       |     |
| 14   | 88631318    | 1     | COTTER PIN, 1/8X1                                         |     |
| 15   | 90207766    | 1     | ROD                                                       |     |
| 16   | 88821004    | 2     | ADJUSTABLE YOKE END                                       |     |
| 17   | 90021558    | 1     | CLEVIS PIN                                                |     |
| 18   | 90027987    | 1     | SPRING CLEVIS                                             |     |
| 19   | 91033275    | 1     | BRAKE BOOSTER (See SERVICE BRAKE-SOMA AXLE for Breakdown) |     |
| 20   | 90207887    | 1     | CAP                                                       |     |
| 21   | 90027769    | 1     | FITTING                                                   |     |
| 22   | N.S.S.      | 36 in | NYLON TUBE LINE, 3/8IN                                    |     |
| 23   | 90202303    | 1     | GROMMET                                                   |     |
| 24   | 90027769    | 1     | FITTING                                                   |     |
| 25   | 90207888    | 1     | RESERVOIR FILL KIT                                        |     |
| 26   | 88201032    | 1     | HEX HD CAPSCREW, 3/8-16X5/8 GR5                           |     |
| 26   | 88561109    | 1     | FLATWASHER, 3/8                                           |     |
| 27   | 90207768    | 1     | ROD                                                       |     |
| 28   | 90200406    | 4     | BALL JOINT                                                |     |
| 29   | 88501406    | 6     | HEX JAM NUT, 3/8-24                                       |     |
| 30   | 90207805    | 1     | BELLCRANK                                                 |     |
| 31   | 88671008    | 2     | LUBE FITTING - STRAIGHT 1/4-28                            |     |
| 32   | 90203502    | 2     | SHOULDER BOLT                                             |     |
| 32   | 88561113    | 4     | FLATWASHER, 5/8                                           |     |
| 32   | 90028662    | AR    | WAVE WASHER                                               |     |
| 32   | 88501108    | 2     | HEX NUT, 1/2-13                                           |     |
| 33   | 90207767    | 1     | ROD                                                       |     |
| 34   | 90207833    | 1     | BELLCRANK                                                 |     |
| 35   | 90207769    | 1     | BELLCRANK MOUNTING BRACKET                                |     |
| 36   | 88201066    | 1     | HEX HD CAPSCREW, 1/2-13X1-1/4 GR5                         |     |
| 36   | 85401340    | 1     | WASHER, 1/2                                               |     |
| 36   | 88501008    | 1     | HEX NUT, 1/2-13                                           |     |
| 37   | 90403415    | 1     | PIVOT ARM                                                 |     |
| 38   | 90028971    | 2     | BUSHING                                                   |     |
| 39   | 90026511    | 1     | SHOULDER BOLT                                             |     |
| 40   | 90207745    | 1     | TOP PLATE                                                 |     |

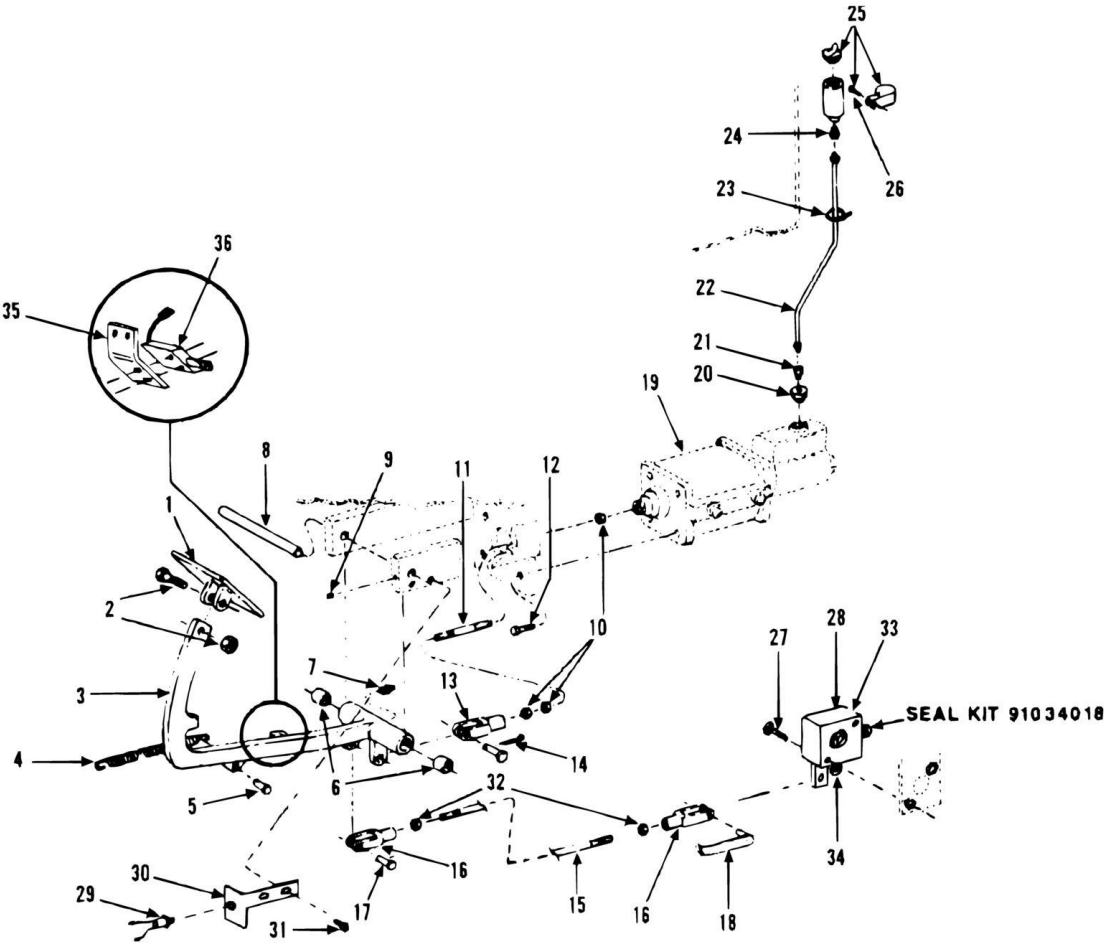
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| ITEM | PART NUMBER | QTY | DESCRIPTION                                                                                                                                                                             | REV |
|------|-------------|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| 40   | 88201005    | 2   | HEX HD CAPSCREW, 1/4-20X1 GR5                                                                                                                                                           |     |
| 41   | 90207742    | 1   | SWIVEL                                                                                                                                                                                  |     |
| 42   | 91033007    | 1   | BUSHING                                                                                                                                                                                 |     |
| 43   | 90208214    | 1   | SPRING                                                                                                                                                                                  |     |
| 44   | 90208213    | 1   | SPRING GUIDE                                                                                                                                                                            |     |
| 45   | 90207743    | 1   | SLIP ROD                                                                                                                                                                                |     |
| 46   | 88501304    | 3   | HEX NUT, 1/4-28                                                                                                                                                                         |     |
| 47   | 90027684    | 1   | CLEVIS AND PIN YOKE                                                                                                                                                                     |     |
| 48   | 88201005    | 4   | HEX HD CAPSCREW, 1/4-20X1 GR5                                                                                                                                                           |     |
| 48   | 88561107    | 4   | FLAT WASHER, 1/4                                                                                                                                                                        |     |
| 48   | 88501004    | 4   | HEX NUT, 1/4-20                                                                                                                                                                         |     |
| 49   | 90207750    | 1   | LINK                                                                                                                                                                                    |     |
| 49   | 90028974    | 1   | CLEVIS PIN                                                                                                                                                                              |     |
| 50   | 90207753    | 1   | SPRING                                                                                                                                                                                  |     |
| 51   | 90200616    | 1   | MICRO SWITCH                                                                                                                                                                            |     |
| 51   | 90028962    | 2   | NUT                                                                                                                                                                                     |     |
| 52   | 90602897    | 1   | INCHING BASE PLATE                                                                                                                                                                      |     |
| 53   | 90207752    | 1   | POTENTIOMETER (mounting inst. dwg. 90602899)                                                                                                                                            |     |
| 53   | 90020494    | 3   | BOLT                                                                                                                                                                                    |     |
| 53   | 90028976    | 3   | WASHER                                                                                                                                                                                  |     |
| 53   | 90028975    | 3   | NUT                                                                                                                                                                                     |     |
|      |             | Ref | 91035070 Waukesha inching kit. Used to provide improved inching system for Waukesha powered machines.                                                                                   |     |
|      |             | Ref | 91035111 Perkins inching kit. Used to provide updated inching system when changing from Waukesha to Perkins engine. Microswitch kit 91035110 must be used in conjunction with this kit. |     |



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FIGURE 7-6. BRAKE AND INCHING LINKAGE PERKINS ENGINE ONLY (SN 8444491 through 8744114G, Excluding 8744079G)





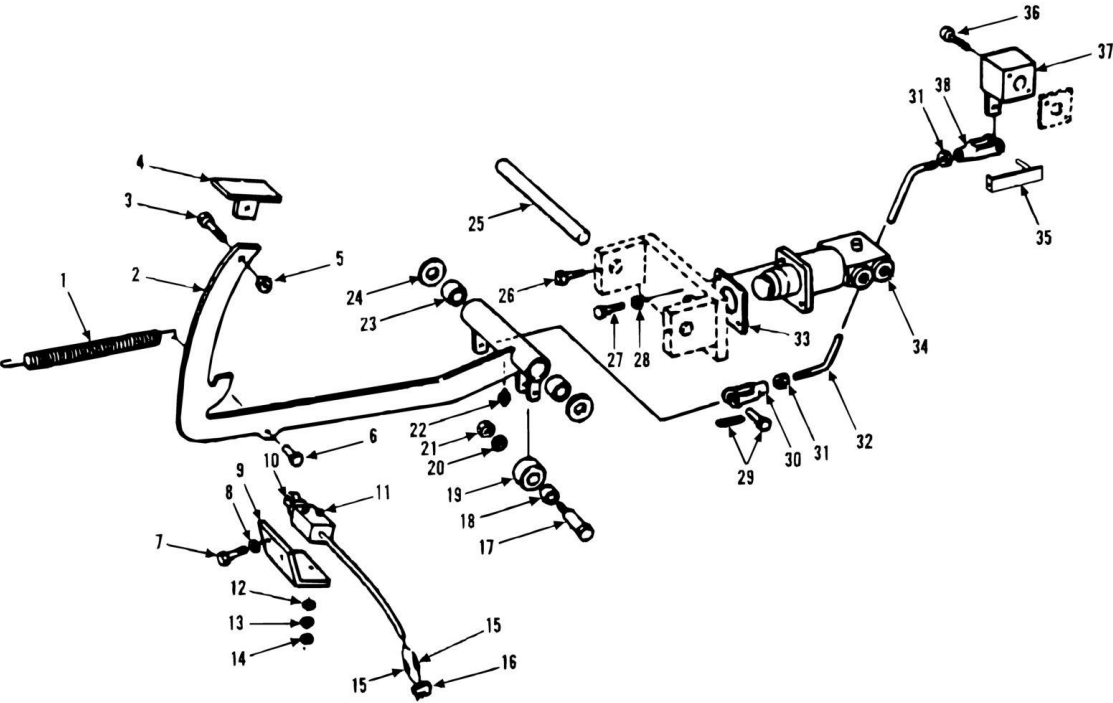
## SECTION 7 - BRAKES

**FIGURE 7-6. BRAKE AND INCHING LINKAGE PERKINS ENGINE ONLY (SN 8444491 through 8744114G, Excluding 8744079G)**

| ITEM | PART NUMBER | QTY   | DESCRIPTION                                                  | REV |
|------|-------------|-------|--------------------------------------------------------------|-----|
| 1    | 90201463    | 1     | BRAKE PEDAL                                                  |     |
| 2    | 88201068    | 1     | HEX HD CAPSCREW, 1/2-13X1-3/4 GR5                            |     |
| 2    | 88501008    | 1     | HEX NUT, 1/2-13                                              |     |
| 3    | 90403371    | 1     | BRAKE LEVER                                                  |     |
| 4    | 90200559    | 2     | SPRING                                                       |     |
| 5    | 90021553    | 1     | CLEVIS PIN                                                   |     |
| 6    | 90200290    | 6     | BEARING                                                      |     |
| 7    | 88671008    | 3     | LUBE FITTING - STRAIGHT 1/4-28                               |     |
| 8    | 90201562    | 1     | PIN                                                          |     |
| 9    | 88441001    | 2     | SQUARE HD SET SCREW (cup point) 1/4-20x1/2                   |     |
| 10   | 88501408    | 5     | HEX JAM NUT, 1/2-20                                          |     |
| 11   | 90207835    | 1     | SLIP ROD                                                     |     |
| 12   | 88201066    | 4     | HEX HD CAPSCREW, 1/2-13X1-1/4 GR5                            |     |
| 13   | 91033237    | 1     | SLIP YOKE                                                    |     |
| 14   | 90021553    | 1     | PIN                                                          |     |
| 14   | 88631318    | 1     | COTTER PIN, 1/8X1                                            |     |
| 15   | 91031085    | 1     | ROD                                                          |     |
| 16   | 88821004    | 2     | ADJUSTABLE YOKE END                                          |     |
| 17   | 90021558    | 1     | CLEVIS PIN                                                   |     |
| 18   | 90027987    | 1     | CLEVIS SPRING                                                |     |
| 19   | 91033275    | 1     | BRAKE BOOSTER (See BRAKE CYLINDER AND BOOSTER for Breakdown) |     |
| 20   | 90207887    | 1     | CAP                                                          |     |
| 21   | 90027769    | 1     | FITTING                                                      |     |
| 22   | N.S.S.      | 36 in | NYLON TUBE LINE, 3/8IN                                       |     |
| 23   | 90027187    | 1     | TRAP                                                         |     |
| 24   | 90027769    | 1     | FITTING                                                      |     |
| 25   | 90207888    | 1     | RESERVOIR FILL KIT                                           |     |
| 26   | 88201032    | 1     | HEX HD CAPSCREW, 3/8-16X5/8 GR5                              |     |
| 26   | 88561109    | 1     | FLAT WASHER, 3/8                                             |     |
| 27   | 88201008    | 2     | HEX HD CAPSCREW, 1/4-20x1-3/4 GR5                            |     |
| 27   | 88501004    | 2     | HEX NUT, 1/4-20                                              |     |
| 28   | 91033096    | 1     | INCHING VALVE                                                |     |
| 29   | 91033098    | 1     | TRANS DISCONNECT SWITCH (SN 8444491 through 8544670)         |     |
| 30   | 91031084    | 1     | SWITCH BRACKET (SN 8444491 through 8544670)                  |     |
| 31   | 88201037    | 2     | HEX HD CAPSCREW, 3/8-16X1-1/2 GR5                            |     |
| 31   | 88561004    | 2     | FLAT WASHER, 3/8                                             |     |
| 31   | 88501006    | 2     | HEX NUT, 3/8-16                                              |     |
| 32   | 88501406    | 2     | HEX JAM NUT, 3/8-24                                          |     |
| 33   | 83193008    | 1     | METRIC ELBOW                                                 |     |
| 34   | 83193009    | 1     | METRIC ADAPTER                                               |     |
| 35   | 91031232    | 1     | SWITCH BRACKET (SN 8544671 to Present)                       |     |
| 36   | 91033439    | 1     | TRANS DISCONNECT SWITCH (SN 8544671 to Present)              |     |

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FIGURE 7-7. BRAKE PEDAL AND INCHING LINKAGE (SN 8744115G to Present, Including 8744079G)



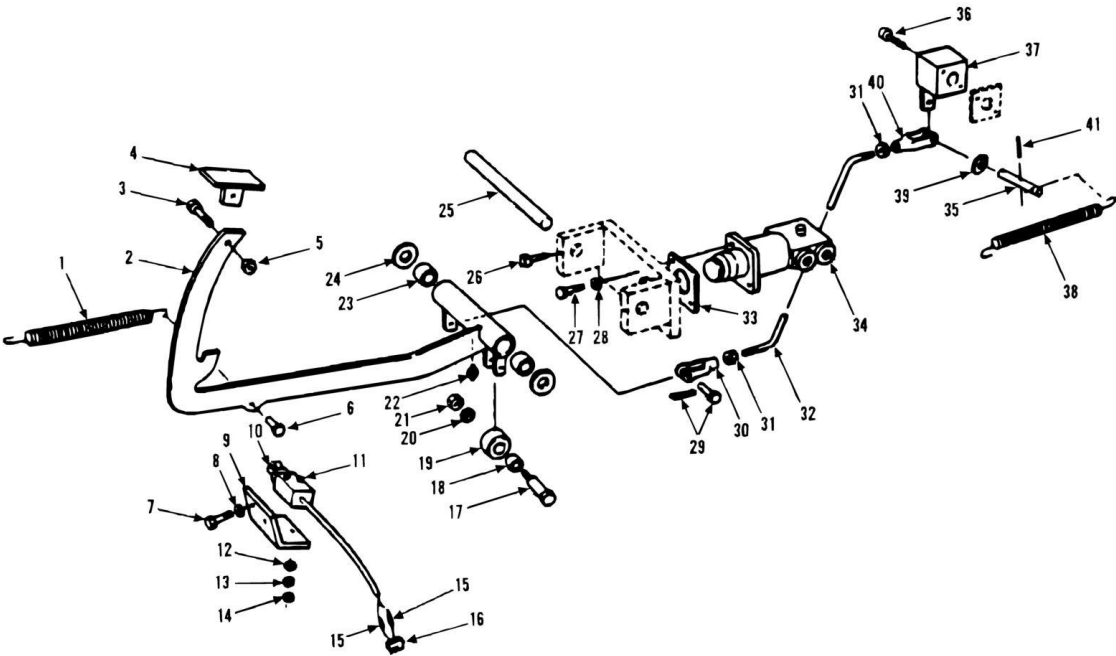
## SECTION 7 - BRAKES

**FIGURE 7-7. BRAKE PEDAL AND INCHING LINKAGE (SN 8744115G to Present, Including 8744079G)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                       | REV |
|------|-------------|-----|-------------------------------------------------------------------|-----|
| 1    | 91043154    | 1   | RETURN SPRING                                                     |     |
| 2    | 91046057    | 1   | BRAKE LEVER WELDMENT                                              |     |
| 3    | 88201068    | 1   | HEX HD CAPSCREW, 1/2-13X1 3/4 GR5                                 |     |
| 4    | 90201463    | 1   | PEDAL WELDMENT                                                    |     |
| 5    | 88501008    | 1   | HEX NUT, 1/2-13                                                   |     |
| 6    | 88633002    | 1   | YOKE PIN, 5/16                                                    |     |
| 7    | 88201003    | 2   | HEX HD CAPSCREW, 1/4-20X3/4, GR5                                  |     |
| 8    | 88551009    | 2   | LOCKWASHER, 1/4                                                   |     |
| 9    | 91031232    | 1   | SWITCH MOUNTING BRACKET                                           |     |
| 10   | 91033439    | 1   | TRANSMISSION DISCONNECT SWITCH                                    |     |
| 11   | 88211032    | 2   | SOCKET HD CAPSCREW, #10-24, GR8                                   |     |
| 12   | 88561105    | 2   | FLAT WASHER, #10                                                  |     |
| 13   | 88551007    | 2   | LOCKWASHER, #10                                                   |     |
| 14   | 88501612    | 2   | HEX NUT, #10-24                                                   |     |
| 15   | 86683480    | 2   | CRIMP ON CONNECTOR                                                |     |
| 16   | 83483114    | 1   | MALE CONNECTOR                                                    |     |
| 17   | 88251023    | 1   | SOCKET HD SHOULDER SCREW 3/8X1 1/2, 5/16-18 THREAD                |     |
| 18   | 91043086    | 1   | BEARING                                                           |     |
| 19   | 91041196    | 1   | ROLLER                                                            |     |
| 20   | 88551010    | 1   | LOCKWASHER, 5/16                                                  |     |
| 21   | 88501005    | 1   | HEX NUT, 5/16-18                                                  |     |
| 22   | 88671008    | 1   | LUBE FITTING, STRAIGHT, 1/4-28                                    |     |
| 23   | 90200290    | 2   | BEARING                                                           |     |
| 24   | 90028662    | 2   | WASHER                                                            |     |
| 25   | 90201562    | 1   | PIN                                                               |     |
| 26   | 88441001    | 2   | SQUARE HD SET SCREW, 1/4-20X1/2 (cup point)                       |     |
| 27   | 83191028    | 2   | HEX HD CAPSCREW, M8X1.25                                          |     |
| 28   | 83191011    | 2   | LOCKWASHER, M8                                                    |     |
| 29   | 90021558    | 1   | CLEVIS PIN AND COTTER PIN                                         |     |
| 30   | 88821004    | 2   | ADJUSTABLE YOKE END, 3/8-24                                       |     |
| 31   | 88501406    | 6   | HEX JAM NUT, 5/16-24                                              |     |
| 32   | 91031085    | 1   | ROD                                                               |     |
| 33   | 91041197    | 2   | SHIM                                                              |     |
| 34   |             | Ref | BRAKE VALVE ASSY (See HYDRAULIC COMPONENTS SECTION for Breakdown) |     |
| 35   | 90027987    | 1   | CLEVIS SPRING                                                     |     |
| 36   | 88212228    | 2   | SOCKET HD CAPSCREW, 5/16-18X1 1/4, GR8                            |     |
| 37   | 91033096    | 1   | INCHING VALVE                                                     |     |
| 37   | 91034018    | 1   | INCHING VALVE SEAL KIT                                            |     |

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FIGURE 7-8. BRAKE PEDAL AND INCHING LINKAGE (SN 0144337H to Present)



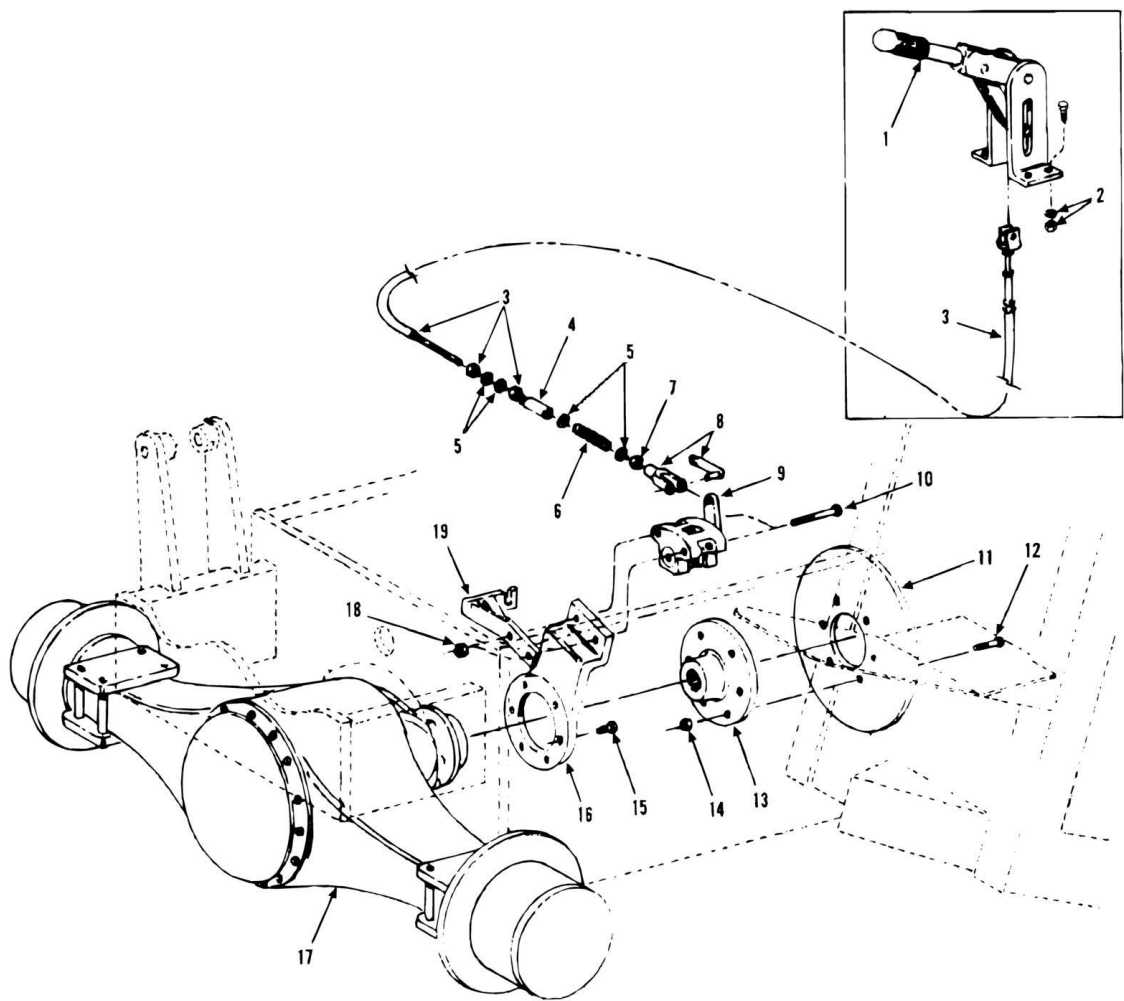
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**FIGURE 7-8. BRAKE PEDAL AND INCHING LINKAGE (SN 0144337H to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                       | REV |
|------|-------------|-----|-------------------------------------------------------------------|-----|
| 1    | 91043214    | 1   | RETURN SPRING                                                     |     |
| 2    | 91046083    | 1   | BRAKE LEVER WELDMENT                                              |     |
| 3    | 88201068    | 1   | HEX HD CAPSCREW, 1/2-13X1-3/4 GR5                                 |     |
| 4    | 90201463    | 1   | PEDAL WELDMENT                                                    |     |
| 5    | 88501008    | 1   | HEX NUT, 1/2-13                                                   |     |
| 6    | 91041402    | 1   | SPECIAL CLEVIS PIN                                                |     |
| 7    | 88201003    | 2   | HEX HD CAPSCREW, 1/4-20X3/4, GR5                                  |     |
| 8    | 88551009    | 2   | LOCKWASHER, 1/4                                                   |     |
| 9    | 91041431    | 1   | SWITCH MOUNTING BRACKET                                           |     |
| 10   | 91033439    | 1   | TRANSMISSION DISCONNECT SWITCH                                    |     |
| 11   | 88211032    | 2   | SOCKET HD CAPSCREW, #10-24, GR8                                   |     |
| 12   | 88561105    | 2   | FLAT WASHER, #10                                                  |     |
| 13   | 88551007    | 2   | LOCKWASHER, #10                                                   |     |
| 14   | 88501612    | 2   | HEX NUT, #10-24                                                   |     |
| 15   | 86683480    | 2   | CRIMP ON CONNECTOR                                                |     |
| 16   | 83483114    | 1   | MALE CONNECTOR                                                    |     |
| 17   | 88251023    | 1   | SOCKET HD SHOULDER SCREW 3/8X1-1/2, 5/16-18 THREAD                |     |
| 18   | 91043086    | 1   | BEARING                                                           |     |
| 19   | 91041196    | 1   | ROLLER                                                            |     |
| 20   | 88551010    | 1   | LOCKWASHER, 5/16                                                  |     |
| 21   | 88501005    | 1   | HEX NUT, 5/16-18                                                  |     |
| 22   | 88671008    | 1   | LUBE FITTING, STRAIGHT, 1/4-28                                    |     |
| 23   | 90200290    | 2   | BEARING                                                           |     |
| 24   | 90028662    | 2   | WASHER                                                            |     |
| 25   | 90201562    | 1   | PIN                                                               |     |
| 26   | 88441001    | 2   | SQUARE HD SET SCREW, 1/4-20X1/2 (cup point)                       |     |
| 27   | 83191028    | 2   | HEX HD CAPSCREW, M8X1.25                                          |     |
| 28   | 83191011    | 2   | LOCKWASHER, M8                                                    |     |
| 29   | 90021558    | 1   | CLEVIS PIN AND COTTER PIN                                         |     |
| 30   | 88821004    | 2   | ADJUSTABLE YOKE END, 3/8-24                                       |     |
| 31   | 88501406    | 6   | HEX JAM NUT, 5/16-24                                              |     |
| 32   | 91031085    | 1   | ROD                                                               |     |
| 33   | 91041197    | 2   | SHIM                                                              |     |
| 34   |             | Ref | BRAKE VALVE ASSY (See HYDRAULIC COMPONENTS SECTION for Breakdown) |     |
| 35   | 91041425    | 1   | SPECIAL CLEVIS PIN                                                |     |
| 36   | 88212228    | 2   | SOCKET HD CAPSCREW, 5/16-18x1-1/4, GR8                            |     |
| 37   | 91033096    | 1   | INCHING VALVE                                                     |     |
| 37   | 91034018    | 1   | INCHING VALVE SEAL KIT                                            |     |
| 38   | 90207801    | 1   | SPRING                                                            |     |
| 39   | 88561004    | 1   | FLAT WASHER, 3/8                                                  |     |
| 40   | 91041424    | 1   | SPECIAL YOKE END                                                  |     |
| 41   | 88631303    | 1   | COTTER PIN, 1/16X1                                                |     |

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FIGURE 7-9. PARKING BRAKE AND CONTROL (SN 8344001L through 8744114G, Excluding 8744079G)



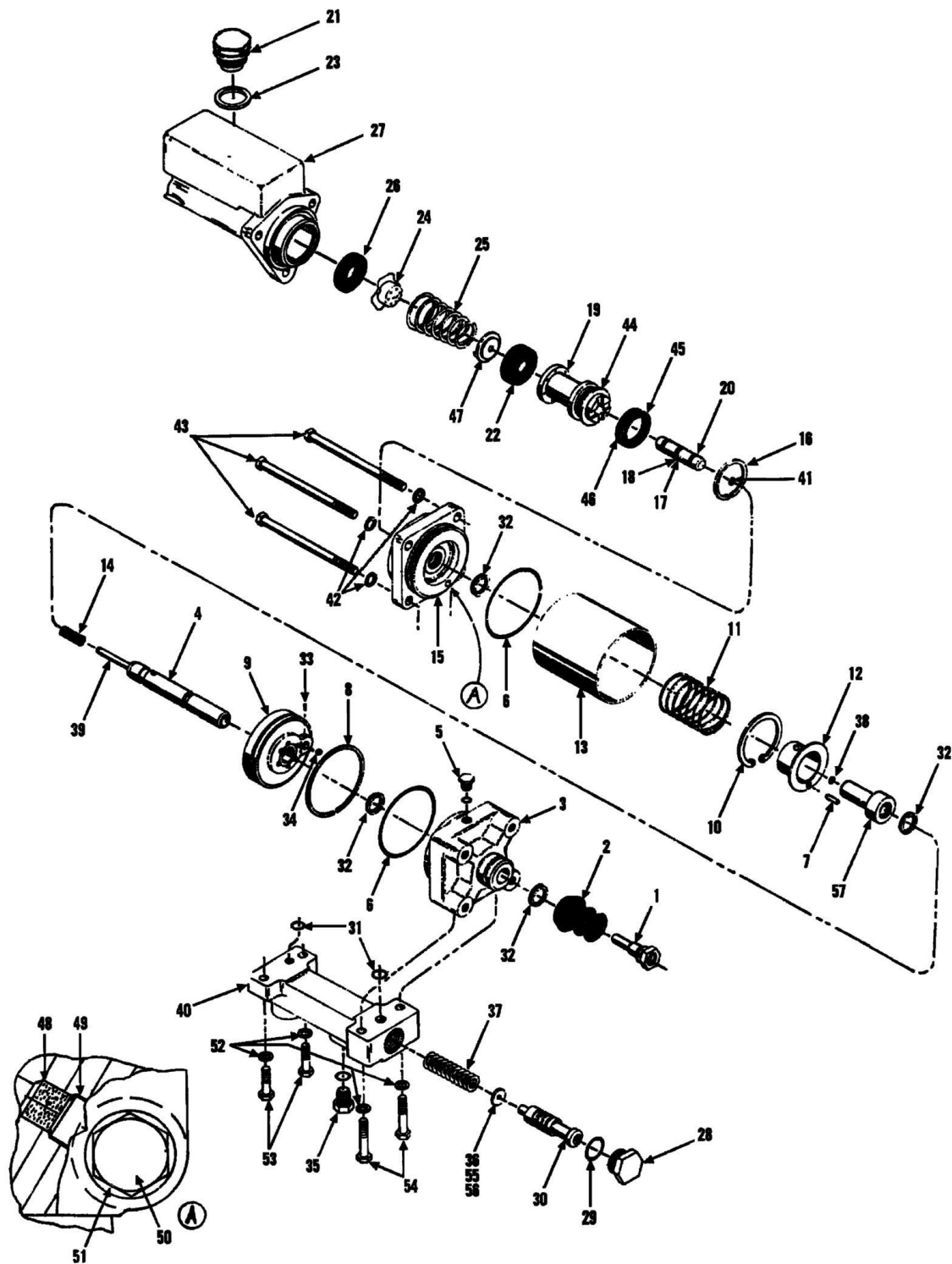
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**FIGURE 7-9. PARKING BRAKE AND CONTROL (SN 8344001L through 8744114G, Excluding 8744079G)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                                   | REV |
|------|-------------|-----|-------------------------------------------------------------------------------|-----|
| 1    | 90206029    | 1   | PARKING BRAKE LEVER                                                           |     |
| 2    | 88201037    | 4   | HEX HD CAPSCREW, 3/8-16X1 1/2 GR5                                             |     |
| 2    | 88501006    | 4   | HEX NUT, 3/8-16                                                               |     |
| 2    | 88551011    | 4   | LOCKWASHER, 3/8                                                               |     |
| 3    | 91033253    | 1   | CABLE                                                                         |     |
| 4    | 90207356    | 1   | BOOT                                                                          |     |
| 5    | 88561109    | 3   | FLAT WASHER, 3/8                                                              |     |
| 6    | 90201831    | 1   | SPRING                                                                        |     |
| 7    | 88501406    | 1   | HEX JAM NUT, 3/8-24                                                           |     |
| 8    | 88821004    | 1   | ADJUSTABLE YOKE END                                                           |     |
| 8    | 90027987    | 1   | SPRING CLEVIS                                                                 |     |
| 9    | 90401570    | 1   | EMERGENCY BRAKE CALIPER (See PARKING BRAKE CONTROL (MICO LOCK) for Breakdown) |     |
| 10   | 91031003    | 2   | BOLT, 1/2X5 1/2                                                               |     |
| 11   | 90610038    | 1   | BRAKE DISC                                                                    |     |
| 12   | 88201037    | 6   | HEX HD CAPSCREW, 3/8-16X1 1/2 GR5                                             |     |
| 13   | 90410247    | 1   | YOKE                                                                          |     |
| 14   | 88501006    | 6   | HEX NUT, 3/8-16                                                               |     |
| 15   | 90208133    | 5   | BOLT, HM 14X1.5                                                               |     |
| 15   | 90208134    | 1   | BOLT, GM 12X1.5                                                               |     |
| 16   | 90610039    | 1   | EMERGENCY BRAKE MOUNTING BRACKET                                              |     |
| 17   | 90207905    | 1   | FRONT AXLE (See DRIVE TRAIN SECTION for Breakdown)                            |     |
| 18   | 88501108    | 2   | HEAVY HEX JAM NUT, 1/2-13                                                     |     |
| 19   | 90410283    | 1   | CABLE MOUNTING BRACKET                                                        |     |

SECTION 7 - BRAKES

FIGURE 7-10. BRAKE CYLINDER AND BOOSTER (SN 8344001L to Present)





## SECTION 7 - BRAKES

**FIGURE 7-10. BRAKE CYLINDER AND BOOSTER (SN 8344001L to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                | REV |
|------|-------------|-----|--------------------------------------------|-----|
|      | 90207810    | 1   | BOOSTER AND BRAKE MASTER CYLINDER ASSEMBLY |     |
| 1    | 90208074    | 1   | PUSH ROD                                   |     |
| 2    | 90208075    | 1   | BOOT                                       |     |
| 3    |             | Ref | HOUSING                                    |     |
| 4    |             | Ref | PISTON                                     |     |
| 5    |             | Ref | PLUG                                       |     |
| 6    |             | Ref | O-RING                                     |     |
| 7    |             | Ref | PIN                                        |     |
| 8    |             | Ref | PISTON RING                                |     |
| 9    |             | Ref | PISTON                                     |     |
| 10   |             | Ref | RETAINING RING                             |     |
| 11   |             | Ref | SPRING                                     |     |
| 12   |             | Ref | RETAINER                                   |     |
| 13   |             | Ref | TUBE                                       |     |
| 14   |             | Ref | SPRING                                     |     |
| 15   |             | Ref | HOUSING                                    |     |
| 16   | 90208089    | 1   | RETAINING RING                             |     |
| 17   | 90208090    | 1   | BACK-UP RING                               |     |
| 18   | 90208091    | 1   | O-RING                                     |     |
| 19   | 90208092    | 1   | PISTON                                     |     |
| 20   | 90208093    | 1   | PISTON                                     |     |
| 21   | 90208094    | 1   | FILLER PLUG                                |     |
| 22   | 90208095    | 1   | CUP                                        |     |
| 23   | 90208096    | 1   | GASKET                                     |     |
| 24   | 90208097    | 1   | CHECK VALVE                                |     |
| 25   | 90208098    | 1   | SPRING                                     |     |
| 26   | 90208099    | 1   | SEAT                                       |     |
| 27   | 90208100    | 1   | HOUSING                                    |     |
| 28   |             | Ref | PLUG                                       |     |
| 29   |             | Ref | O-RING                                     |     |
| 30   |             | Ref | SPOOL                                      |     |
| 31   |             | Ref | O-RING                                     |     |
| 32   |             | Ref | CUP                                        |     |
| 33   |             | Ref | PIN                                        |     |
| 34   |             | Ref | BALL                                       |     |
| 35   |             | Ref | PLUG                                       |     |
| 36   |             | Ref | SHIM (as required)                         |     |
| 37   |             | Ref | SPRING                                     |     |
| 38   |             | Ref | O-RING                                     |     |
| 39   |             | Ref | ROD                                        |     |
| 40   |             | Ref | HOUSING                                    |     |
| 41   | 90208114    | 1   | RETAINING RING                             |     |
| 42   |             | Ref | LOCKWASHER                                 |     |
| 43   |             | Ref | CAPSCREW                                   |     |
| 44   |             | Ref | SILICONE GREASE                            |     |
| 45   | 90208118    | 1   | CUP                                        |     |
| 46   | 90208119    | 2   | CUP                                        |     |
| 47   | 90208120    | 1   | RETAINER                                   |     |
| 48   |             | Ref | SNUBBER                                    |     |
| 49   |             | Ref | RETAINER                                   |     |

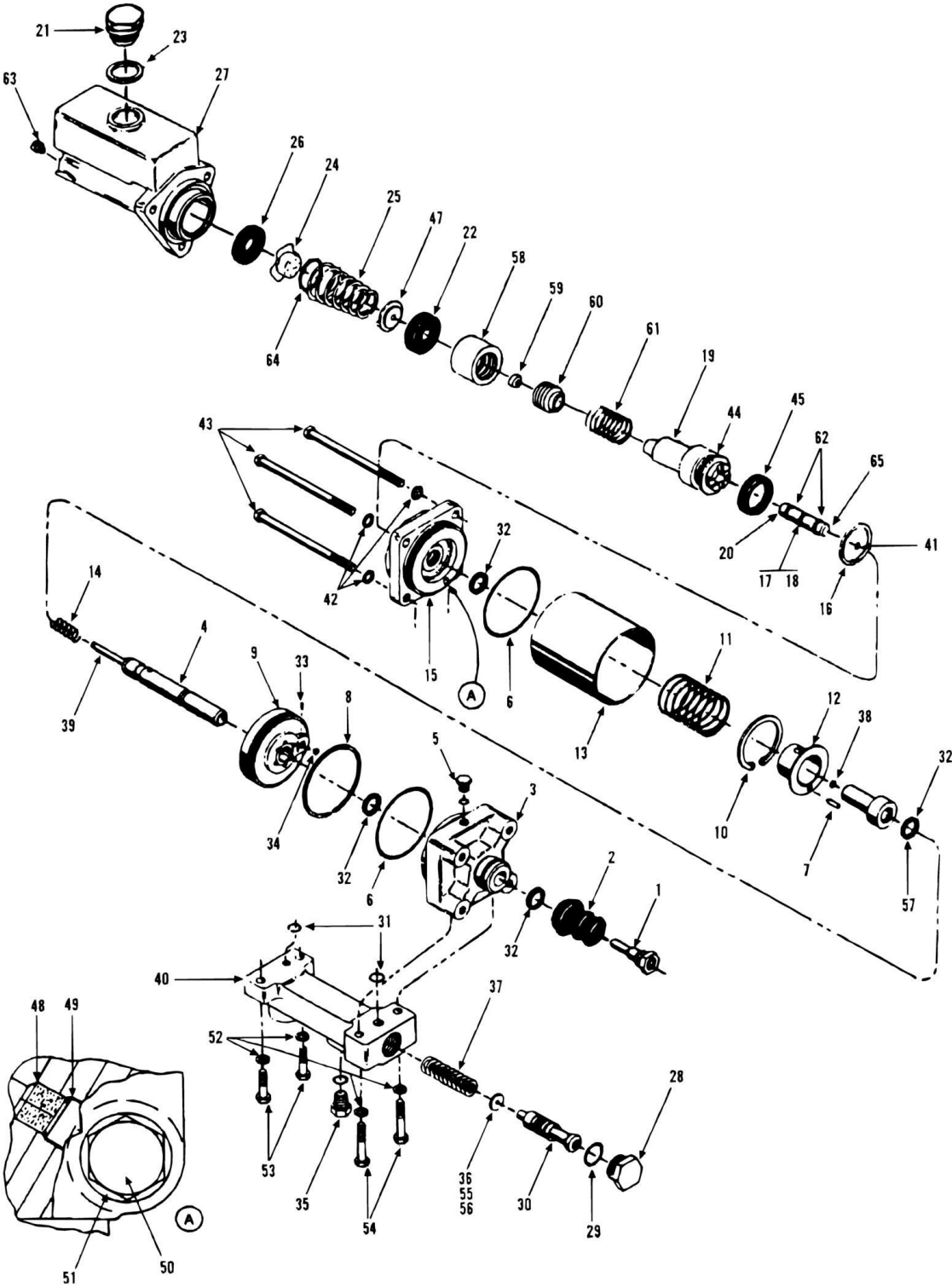
SECTION 7 - BRAKES

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                              | REV |
|------|-------------|-----|--------------------------------------------------------------------------|-----|
| 50   |             | Ref | CAPSCREW                                                                 |     |
| 51   |             | Ref | LOCKWASHER                                                               |     |
| 52   |             | Ref | LOCKWASHER                                                               |     |
| 53   |             | Ref | CAPSCREW                                                                 |     |
| 54   |             | Ref | CAPSCREW                                                                 |     |
| 55   |             | Ref | SHIM                                                                     |     |
| 56   |             | Ref | SHIM                                                                     |     |
| 57   | 90208131    | Ref | PISTON                                                                   |     |
| 57   |             | AR  | REPAIR KIT (consists of items 16 thru 20, 22 thru 24, 26 & 45 thru 47)   |     |
| 58   | 91034056    |     | MASTER CYLINDER ASSEMBLY (consists of items 16 thru 27, 41 & 44 thru 47) |     |



SECTION 7 - BRAKES

FIGURE 7-11. BRAKE CYLINDER AND BOOSTER (SN 8744013G to Present, Excluding 8744079G)



## SECTION 7 - BRAKES

**FIGURE 7-11. BRAKE CYLINDER AND BOOSTER (SN 8744013G to Present, Excluding 8744079G)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                                      | REV |
|------|-------------|-----|----------------------------------------------------------------------------------|-----|
|      | 91033275    | 1   | BOOSTER AND BRAKE MASTER CYLINDER ASSY (includes all items)                      |     |
|      | 91034079    | AR  | REPAIR KIT (includes items 16, 17, 18, 20, 22, 23, 26, 45, 58, 59, 60, 62, & 64) |     |
|      | 91034088    | AR  | MASTER CYLINDER ASSY (includes items 16 thru 27, 41, 44, 45, 47 & 58 thru 64)    |     |
|      | 90208132    | AR  | BOOSTER SEAL KIT (includes items 2, 6, 8, 29, 31, 32, 35, & 38)                  |     |
| 1    | 90208074    | 1   | PUSH ROD                                                                         |     |
| 2    | 90208075    | 1   | BOOT                                                                             |     |
| 3    |             | Ref | HOUSING                                                                          |     |
| 4    |             | Ref | PISTON                                                                           |     |
| 5    |             | Ref | PLUG                                                                             |     |
| 6    | Kit         | 1   | O-RING                                                                           |     |
| 7    |             | Ref | PIN                                                                              |     |
| 8    | Kit         | 1   | PISTON RING                                                                      |     |
| 9    |             | Ref | PISTON                                                                           |     |
| 10   |             | Ref | RETAINING RING                                                                   |     |
| 11   |             | Ref | SPRING                                                                           |     |
| 12   |             | Ref | RETAINER                                                                         |     |
| 13   |             | Ref | TUBE                                                                             |     |
| 14   |             | Ref | SPRING                                                                           |     |
| 15   |             | Ref | HOUSING                                                                          |     |
| 16   | 91034080    | 1   | RETAINING RING                                                                   |     |
| 17   | 90208090    | 1   | BACK-UP RING                                                                     |     |
| 18   | 90208091    | 1   | O-RING                                                                           |     |
| 19   | 91034093    | 1   | PISTON                                                                           |     |
| 20   | 91034084    | 1   | PISTON                                                                           |     |
| 21   | 90208094    | 1   | FILLER PLUG                                                                      |     |
| 22   | 90208095    | 1   | CUP                                                                              |     |
| 23   | 90208096    | 1   | GASKET                                                                           |     |
| 24   | 90208097    | 1   | CHECK VALVE                                                                      |     |
| 25   | 91034095    | 1   | SPRING                                                                           |     |
| 26   | 90208099    | 1   | SEAT                                                                             |     |
| 27   | 91034096    | 1   | HOUSING                                                                          |     |
| 28   |             | Ref | PLUG                                                                             |     |
| 29   | Kit         | 1   | O-RING                                                                           |     |
| 30   |             | Ref | SPOOL                                                                            |     |
| 31   | Kit         | 1   | O-RING                                                                           |     |
| 32   | Kit         | 4   | CUP                                                                              |     |
| 33   |             | Ref | PIN                                                                              |     |
| 34   |             | Ref | BALL                                                                             |     |
| 35   | Kit         | 1   | PLUG                                                                             |     |
| 36   |             | Ref | SHIM                                                                             |     |
| 37   |             | Ref | SPRING                                                                           |     |
| 38   | Kit         | 1   | O-RING                                                                           |     |
| 39   |             | Ref | ROD                                                                              |     |
| 40   |             | Ref | HOUSING                                                                          |     |
| 41   | 90208114    | 1   | RETAINING RING                                                                   |     |
| 42   |             | Ref | LOCKWASHER                                                                       |     |
| 43   |             | Ref | CAPSCREW                                                                         |     |

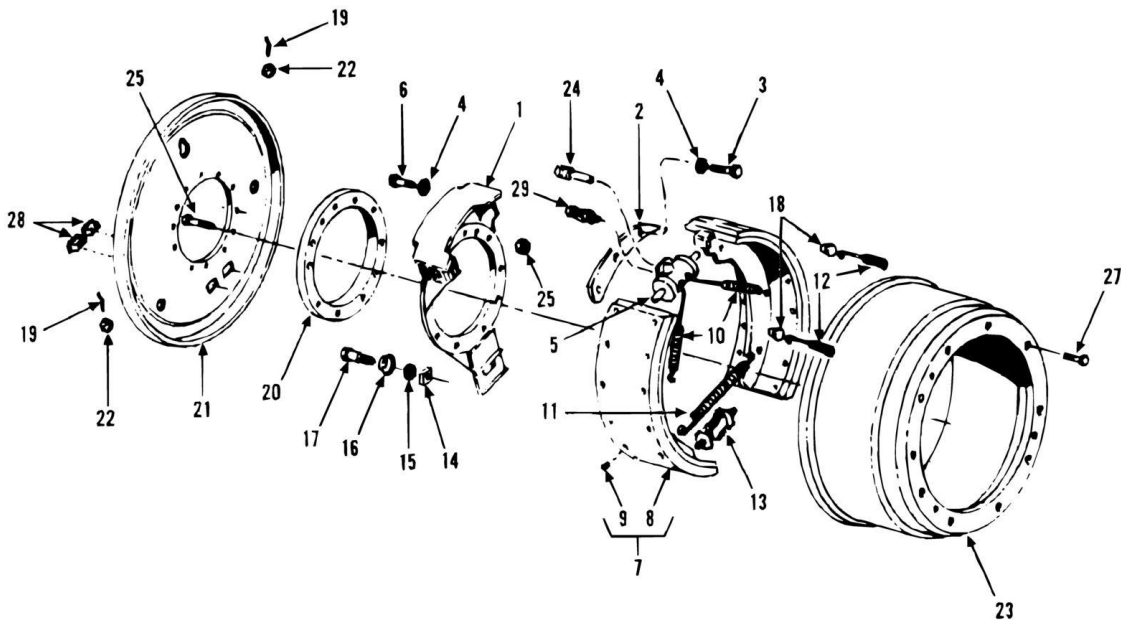
## SECTION 7 - BRAKES

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                   | REV |
|------|-------------|-----|---------------------------------------------------------------|-----|
| 44   |             | Ref | SILICONE GREASE                                               |     |
| 45   | 91034081    | 1   | CUP                                                           |     |
| 47   | 90208120    | 1   | RETAINER                                                      |     |
| 48   |             | Ref | SNUBBER                                                       |     |
| 49   |             | Ref | RETAINER                                                      |     |
| 50   |             | Ref | CAPSCREW                                                      |     |
| 51   |             | Ref | LOCKWASHER                                                    |     |
| 52   |             | Ref | LOCKWASHER                                                    |     |
| 53   |             | Ref | CAPSCREW                                                      |     |
| 54   |             | Ref | CAPSCREW                                                      |     |
| 55   |             | Ref | SHIM                                                          |     |
| 56   |             | Ref | SHIM                                                          |     |
| 57   |             | Ref | PISTON                                                        |     |
| 58   | 91034086    | 1   | PISTON                                                        |     |
| 59   | 91034087    | 1   | SEAT                                                          |     |
| 60   | 91034085    | 1   | RETAINER                                                      |     |
| 61   | 91034094    | 1   | SPRING                                                        |     |
| 62   | 90208119    | 2   | CUP                                                           |     |
| 63   | 91034092    | 1   | CONNECTOR                                                     |     |
| 64   | 91034082    | 1   | O-RING                                                        |     |
| 65   | 91034090    | 1   | RETAINING RING                                                |     |
| 65   | 91034091    | 1   | WASHER                                                        |     |
|      | Note        |     | NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE. |     |



SECTION 7 - BRAKES

FIGURE 7-12. SERVICE BRAKE-SOMA AXLE (SN 8344001L to Present)





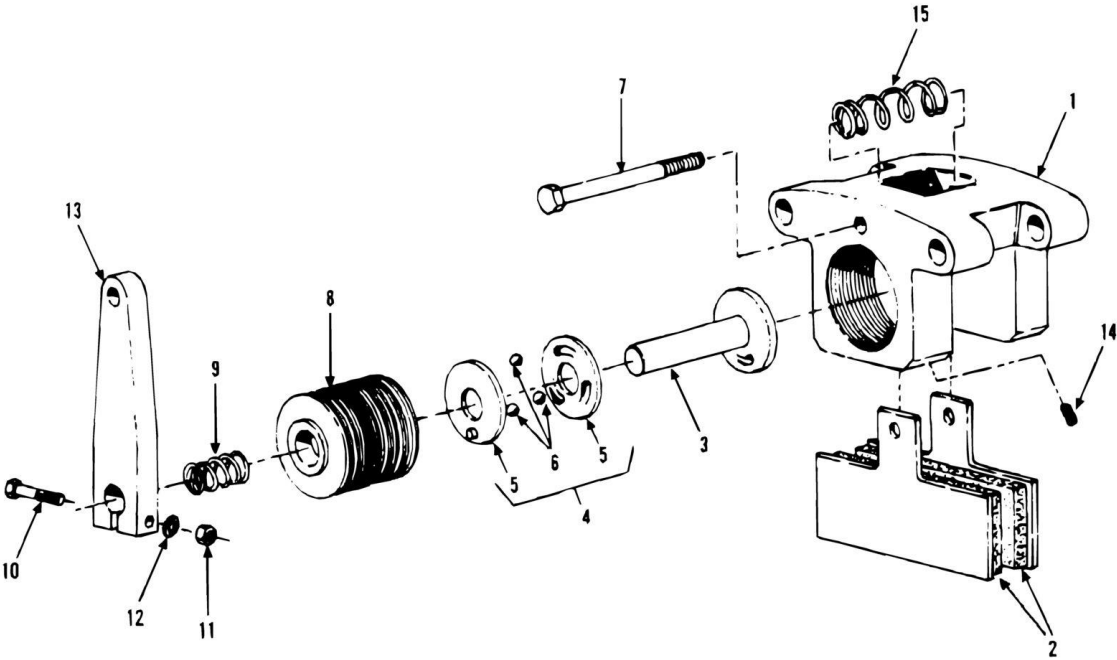
## SECTION 7 - BRAKES

**FIGURE 7-12. SERVICE BRAKE-SOMA AXLE (SN 8344001L to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                   | REV |
|------|-------------|-----|-----------------------------------------------|-----|
|      | 90203894    | Ref | BRAKE ASSEMBLY (includes all items)           |     |
|      | 90207951    | Ref | REPAIR KIT (wheel cylinder w/o piston)        |     |
|      | 90207952    | Ref | REPAIR KIT (wheel cylinder w/piston)          |     |
| 1    | 90207945    | 1   | BACKING PLATE                                 |     |
| 2    | 90203897    | 1   | SPRING ATTACHMENT PLATE                       |     |
| 3    | 90203899    | 2   | BOLT HM 8X18                                  |     |
| 4    | 90203900    | 4   | WASHER, W-5                                   |     |
| 5    | 90203901    | 1   | CYLINDER ASSEMBLY                             |     |
| 6    | 90203902    | 2   | BOLT HM 8X40                                  |     |
| 7    | 90203903    | 2   | BRAKE SHOE ASSY (includes items 8 & 9)        |     |
| 8    | 90203904    | 2   | BRAKE SHOE LINING                             |     |
| 9    | 90203905    | 32  | RIVET                                         |     |
| 10   | 90203906    | 2   | SPRING                                        |     |
| 11   | 90203907    | 1   | SPRING                                        |     |
| 12   | 90203908    | 2   | SPRING                                        |     |
| 13   | 90203909    | 1   | AUTOMATIC ADJUSTER                            |     |
| 14   | 90203910    | 1   | WASHER                                        |     |
| 15   | 90207946    | 1   | SEAL                                          |     |
| 16   | 90203911    | 1   | DUST BOOT                                     |     |
| 17   | 90203912    | 1   | BOLT                                          |     |
| 18   | 90207947    | 2   | SPRING GUIDE                                  |     |
| 19   | 90203914    | 2   | SPRING RETAINER                               |     |
| 20   | 90203915    | 1   | BRAKE SPACER                                  |     |
| 21   | 90203916    | 1   | DUST COVER                                    |     |
| 22   | 90203913    | 2   | PLUG                                          |     |
| 23   | 90203917    | 1   | BRAKE DRUM (ID 400 MM minimum)                |     |
| 24   | 90203919    | 1   | BLEEDER SCREW                                 |     |
| 25   | 90401237    | 11  | NUT M 14X1.50                                 |     |
| 26   | 90401228    | 11  | BOLT HM 14X1.50X60/30                         |     |
| 27   | 90203918    | 3   | BOLT F 90 HM 10X1.50X25                       |     |
| 28   | 90207950    | 2   | PLUG                                          |     |
| 29   | 90203920    | 1   | BANJO FITTING (with bolt)                     |     |
|      |             | Ref | NOTE: QUANTITIES SHOWN ARE FOR ONE SIDE ONLY. |     |

SECTION 7 - BRAKES

FIGURE 7-13. PARKING BRAKE CALIPER (SN 8344001L through 8744114G, Excluding 8744079G)



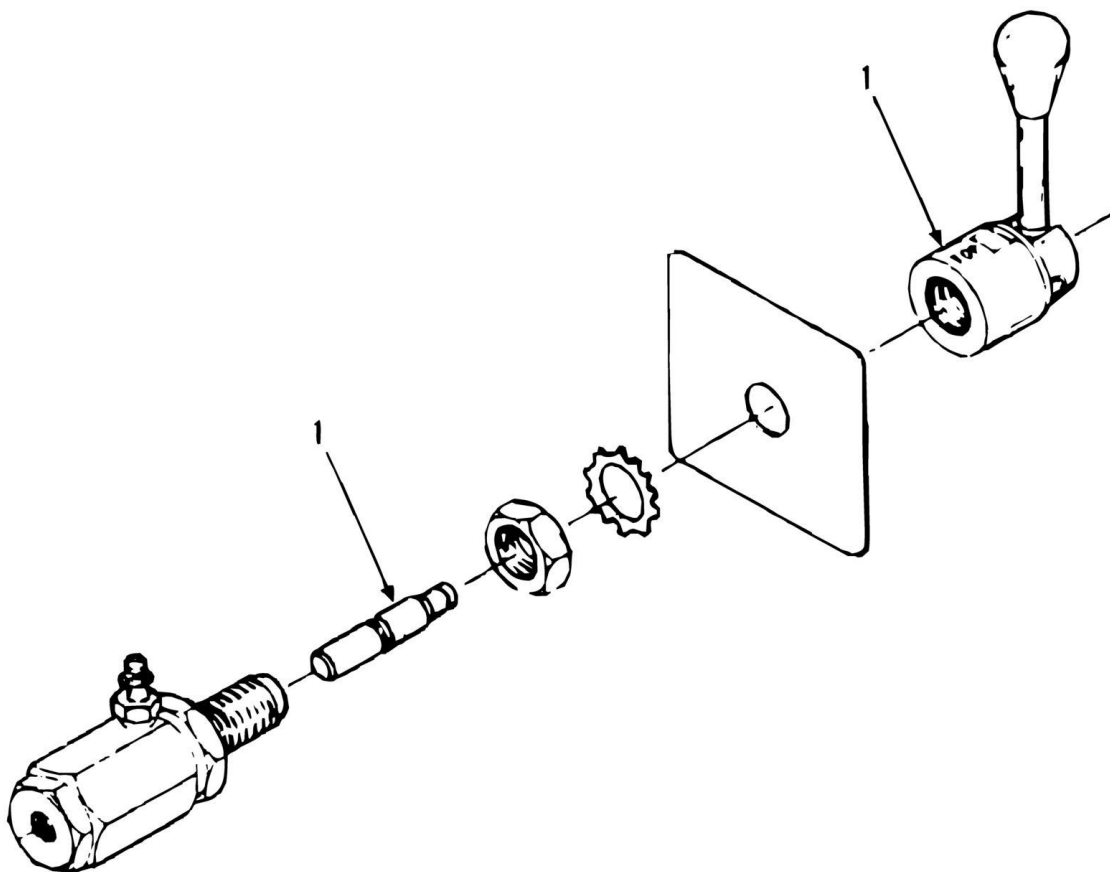
## SECTION 7 - BRAKES

**FIGURE 7-13. PARKING BRAKE CALIPER (SN 8344001L through 8744114G, Excluding 8744079G)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                       | REV |
|------|-------------|-----|-----------------------------------|-----|
|      | 90401570    |     | PARKING BRAKE CYLINDER            |     |
|      | N.S.S.      | 1   | CALIPER HOUSING                   |     |
| 2    | 90201927    | 2   | LINING                            |     |
| 3    | 90401466    | 1   | PISTON                            |     |
| 4    | 90401463    |     | REPAIR KIT (includes items 5 & 6) |     |
| 5    | 90401465    | 2   | CAM PLATE                         |     |
| 6    | 90401464    | 3   | BALL                              |     |
| 7    | 90203190    | 1   | BOLT                              |     |
|      | N.S.S.      | 1   | BODY                              |     |
| 9    | 90401462    | 1   | SPRING                            |     |
| 10   | 90203191    | 1   | BOLT                              |     |
| 11   | 90203192    | 1   | NUT                               |     |
| 12   | 90203193    | 1   | WASHER                            |     |
| 13   | 90401461    | 1   | LEVER                             |     |
| 14   | 90401460    | 1   | SETSCREW                          |     |
| 15   | 90401459    | 1   | SPRING                            |     |

## SECTION 7 - BRAKES

FIGURE 7-14. PARKING BRAKE CONTROL (MICO LOCK) (SN 8344001L through 8744114G,  
Excluding 8744079G)



## SECTION 7 - BRAKES

**FIGURE 7-14. PARKING BRAKE CONTROL (MICO LOCK) (SN 8344001L through 8744114G,  
Excluding 8744079G)**

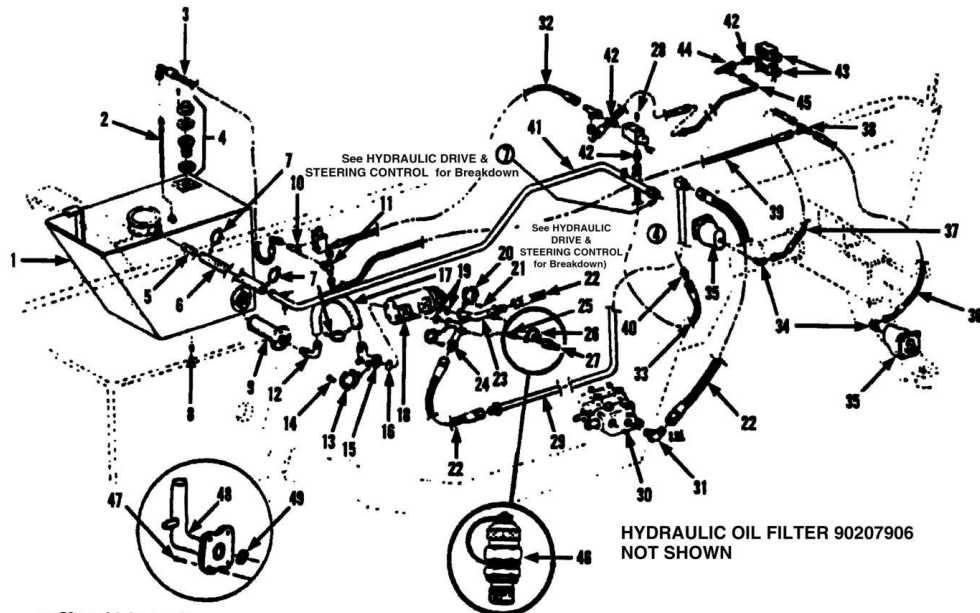
| ITEM | PART NUMBER | QTY | DESCRIPTION                     | REV |
|------|-------------|-----|---------------------------------|-----|
| 1    | 90400835    | 1   | BRAKE CONTROL VALVE (mico-lock) |     |
|      | 90203341    | -   | REPAIR KIT                      |     |



**SECTION 8 - HYDRAULIC CIRCUIT**

## SECTION 8 - HYDRAULIC CIRCUIT

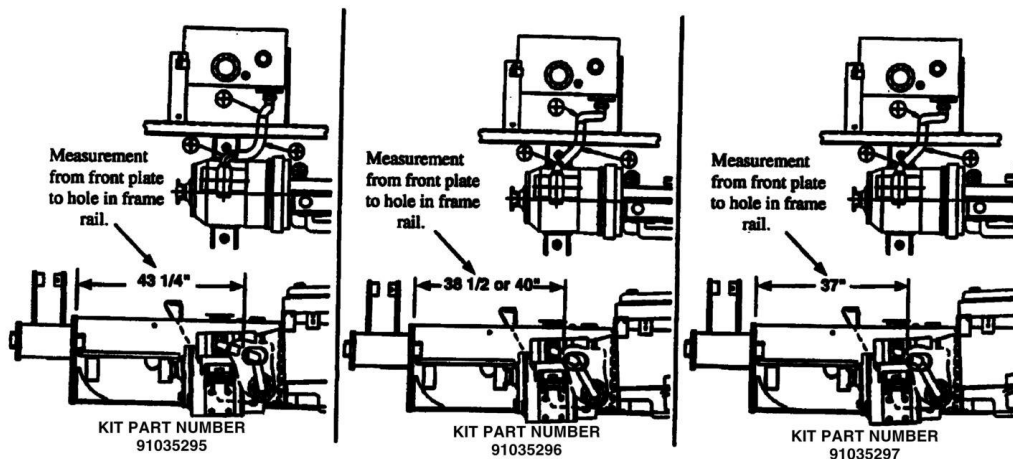
FIGURE 8-1. TANK TO PUMP, DRIVE MOTOR DRAINS AND RETURN TO TANK (SN 8344001L through 8444277)



\*\* Use with hydraulic gear pump 91033156. Replaces items 13, 14, 15, & 16.

### SERVICE NOTE:

Item 18, 90207615 is no longer available from the vendor. It is replaced by 91033226, however it is not positioned the same. In order to attach the new pump to the hydraulic reservoir, one of the following kits will be needed. You will need to know the measurement from the front plate on your machine to the front edge of the hole on frame rail as shown to order the correct kit for your installation.





## SECTION 8 - HYDRAULIC CIRCUIT

**FIGURE 8-1. TANK TO PUMP, DRIVE MOTOR DRAINS AND RETURN TO TANK (SN 8344001L through 8444277)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                                                                                     | REV |
|------|-------------|-----|---------------------------------------------------------------------------------------------------------------------------------|-----|
|      | 91035295    | Ref | PUMP MODIFICATION KIT                                                                                                           |     |
|      | 91033531    | 1   | TUBE ASSY                                                                                                                       |     |
|      | 91033533    | 1   | ELBOW, 90                                                                                                                       |     |
|      | 77363065    | 1   | SUCTION HOSE, 2IN                                                                                                               |     |
|      | 91035296    | Ref | PUMP MODIFICATION KIT                                                                                                           |     |
|      | 91033477    | 1   | TUBE ASSY                                                                                                                       |     |
|      | 91033534    | 1   | ELBOW, 45                                                                                                                       |     |
|      | 83673079    | 1   | SUCTION HOSE, 2IN                                                                                                               |     |
|      | 91035297    | Ref | PUMP MODIFICATION KIT                                                                                                           |     |
|      | 91033532    | 1   | TUBE ASSY                                                                                                                       |     |
|      | 91033049    | 1   | TUBE ASSY                                                                                                                       |     |
|      | 91033125    | 1   | SUCTION HOSE, 2IN                                                                                                               |     |
|      | 91035295    | 1   | PUMP MODIFICATION KIT (for mach. with 43-1/4in spacing) (see illustration)                                                      |     |
|      | 91035296    | 1   | PUMP MODIFICATION KIT (for mach. with 38-1/2in or 40in spacing) (see illustration)                                              |     |
|      | 91035297    | 1   | PUMP MODIFICATION KIT (for mach. with 37in spacing) (see illustration)                                                          |     |
| 1    | 91035023    | 1   | OIL TANK (includes items 2, 4, 5, 8, & 9)                                                                                       |     |
| 2    | 90403419    | 1   | STANDPIPE                                                                                                                       |     |
| 3    | 90207599    | 1   | HIGH PRESSURE HOSE                                                                                                              |     |
| 4    | 90205222    | 1   | DIPSTICK/FILLER (includes cap, screen, gaskets and hardware)                                                                    |     |
| 5    | 90205776    | 1   | ADAPTER (tank to low pressure line)                                                                                             |     |
| 6    | 90207365    | 1   | LOW PRESSURE HOSE                                                                                                               |     |
| 7    | 90028482    | 4   | HOSE CLAMP                                                                                                                      |     |
| 8    | 88711255    | 1   | SQ. HD PIPE PLUG, 1IN                                                                                                           |     |
| 9    | 90207686    | 1   | OIL FILTER SCREEN                                                                                                               |     |
| 10   | 88661245    | 1   | MALE OUTLET TEE, 3/8X1/2 TUBE                                                                                                   |     |
| 11   | 88662225    | 1   | SWIVEL NUT BRANCH TEE, 1/2 TUBE                                                                                                 |     |
| 12   | 90026632    | 1   | TUBE ASSY                                                                                                                       |     |
| 13   | 84711342    | 2   | FLANGE CLAMP                                                                                                                    |     |
| 14   | 88201067    | 4   | HEX HD CAPSCREW, 1/2-13X1-1/2, GR5                                                                                              |     |
| 15   | 90207688    | 1   | TUBE ASSY                                                                                                                       |     |
| 16   | 90023223    | 1   | O-RING                                                                                                                          |     |
| 17   | 90207687    | 1   | LOW PRESSURE HOSE                                                                                                               |     |
| 18   | 90207615    | NLA | <b>MAIN HYDRAULIC PUMP (NO LONGER AVAILABLE, SEE BELOW)</b>                                                                     |     |
| 18   | 91033226    | 1   | <b>MAIN HYDRAULIC PUMP (ORDER CORRECT MODIFICATION KIT TO INSTALL) (Items in kit will be used in place of items 12 thru 17)</b> |     |
| 19   | 88591019    | 2   | O-RING                                                                                                                          |     |
| 20   | 84711369    | 4   | FLANGE CLAMP                                                                                                                    |     |
| 21   | 88201036    | 8   | FLANGE HD CAPSCREW, 3/8-16X1-1/4, GR5                                                                                           |     |
| 22   | 90022045    | 3   | HIGH PRESSURE HOSE                                                                                                              |     |
| 23   | 90207689    | 1   | TUBE ASSY                                                                                                                       |     |
| 24   | 90207691    | 1   | TUBE ASSY                                                                                                                       |     |
| 25   | 88701002    | 2   | CLOSE NIPPLE, 1/4X7/8                                                                                                           |     |
| 26   | 90207330    | 2   | CAP                                                                                                                             |     |
| 27   | 90207329    | 2   | QUICK DISCONNECT (aeroquip)                                                                                                     |     |
| 28   | 90027266    | 1   | PLUG                                                                                                                            |     |

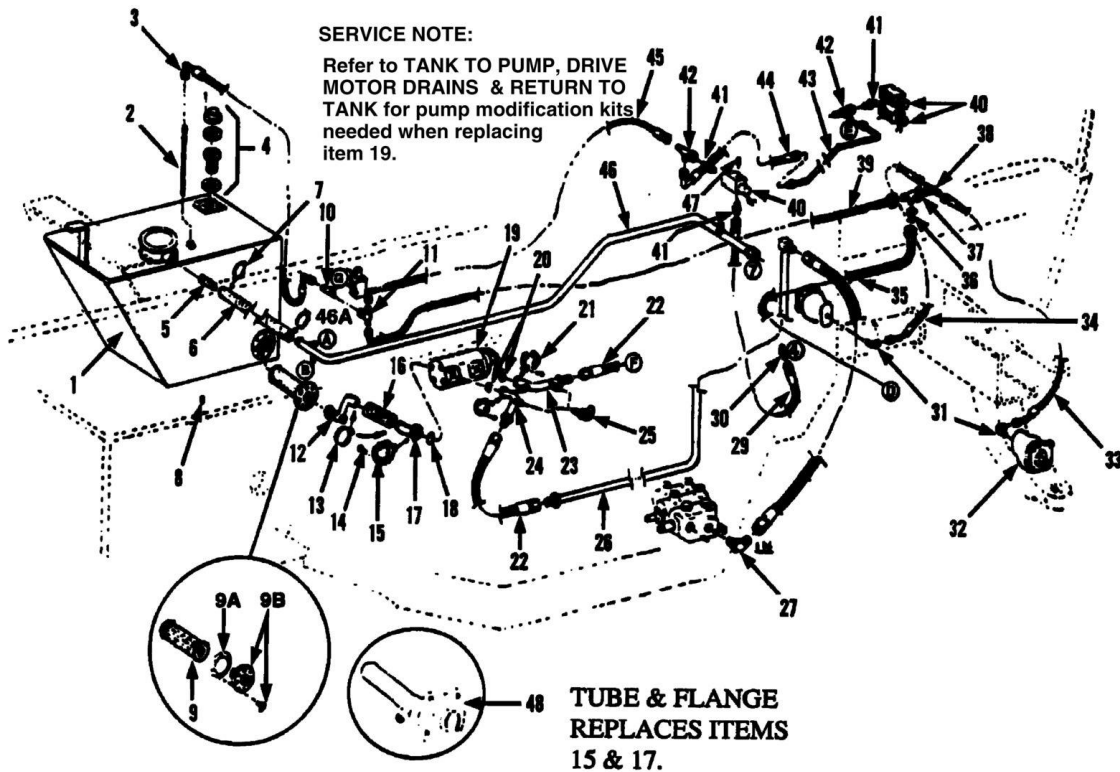
## SECTION 8 - HYDRAULIC CIRCUIT

| ITEM | PART NUMBER | QTY | DESCRIPTION                        | REV |
|------|-------------|-----|------------------------------------|-----|
| 29   | 90207692    | 1   | TUBE ASSY                          |     |
| 30   | 91033168    | 1   | MAIN HYD CONTROL VALVE             |     |
| 31   | 88662070    | 1   | ELBOW, 90, (includes o-ring)       |     |
| 31   | 88591210    | 1   | O-RING                             |     |
| 32   | 90207694    | 1   | HIGH PRESSURE HOSE                 |     |
| 33   | 90207491    | 1   | HIGH PRESSURE HOSE                 |     |
| 34   | 88662064    | 2   | ELBOW, 90, (includes o-ring)       |     |
| 34   | 88591204    | 2   | O-RING                             |     |
| 35   | 90206748    | 2   | HYDRAULIC DRIVE MOTOR              |     |
| 36   | 84717586    | 1   | HIGH PRESSURE HOSE                 |     |
| 37   | 84717587    | 1   | HIGH PRESSURE HOSE                 |     |
| 38   | 88661306    | 1   | UNION TEE, 1/2 TUBE                |     |
| 39   | 90207765    | 1   | HIGH PRESSURE HOSE                 |     |
| 40   | 88743002    | 1   | MALE ADAPTER, 1/4X3/8 TUBE         |     |
| 41   | 90207363    | 1   | TUBE ASSY                          |     |
| 42   | 90029915    | 3   | STRAIGHT CONNECTOR                 |     |
| 43   | 90206739    | 4   | SOLENOID VALVE                     |     |
| 44   | 88662239    | 2   | SWIVEL NUT RUN TEE, 1/2 TUBE       |     |
| 45   | 90207712    | 1   | TUBE ASSY                          |     |
| 46   | 91033032    | 2   | MINI-CHECK (stauff)                |     |
| 47   | 88201067    | 4   | HEX HD CAPSCREW, 1/2-13X1-1/2, GR5 |     |
| 48   | 91033178    | 1   | SUCTION TUBE AND FLANGE            |     |
| 49   | 90028225    | 1   | O-RING                             |     |



## SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-2. TANK TO PUMP, DRIVE MOTOR DRAINS AND RETURN TO TANK (SN 8444278G through 8744114G, Excluding 8744079G)



- A - See HYDRAULICS-OIL COOLER AND PILOT PUMP for Breakdown
- B - See HYDRAULICS-DRIVE AND STEERING CONTROL for Breakdown
- D - See HYDRAULICS-OIL COOLER AND PILOT PUMP for Breakdown
- E - See HYDRAULICS-OIL COOLER AND PILOT PUMP for Breakdown
- F - See HYDRAULICS-DRIVE AND STEERING CONTROL for Breakdown
- G - See HYDRAULICS-OIL COOLER AND PILOT PUMP for Breakdown
- 4 - See HYDRAULICS-DRIVE AND STEERING CONTROL for Breakdown
- 7 - See HYDRAULICS-DRIVE AND STEERING CONTROL for Breakdown

## SECTION 8 - HYDRAULIC CIRCUIT

**FIGURE 8-2. TANK TO PUMP, DRIVE MOTOR DRAINS AND RETURN TO TANK (SN 8444278G through 8744114G, Excluding 8744079G)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                                                                                                         | REV |
|------|-------------|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| 1    | 91036002    | 1   | HYDRAULIC OIL TANK                                                                                                                                  |     |
| 2    | 90403419    | 1   | STANDPIPE                                                                                                                                           |     |
| 3    | 90207599    | 1   | HIGH PRESSURE HOSE                                                                                                                                  |     |
| 4    | 90205222    | 1   | DIPSTICK/FILLER (includes cap, screen, gaskets and hardware)                                                                                        |     |
| 5    | 90205776    | 1   | ADAPTER (tank to low pressure line)                                                                                                                 |     |
| 6    | 90207365    | 1   | LOW PRESSURE HOSE                                                                                                                                   |     |
| 7    | 90028482    | 2   | HOSE CLAMP                                                                                                                                          |     |
| 8    | 88711255    | 1   | SQ HD PIPE PLUG, 1IN                                                                                                                                |     |
| 9    | 90410295    | 1   | SUCTION FILTER                                                                                                                                      |     |
| 9A   | 90410294    | 1   | GASKET                                                                                                                                              |     |
| 9B   | 91036003    | 1   | FLANGE                                                                                                                                              |     |
| 9B   | 88201035    | 8   | HEX HD CAPSCREW, 3/8-16X1, GR5                                                                                                                      |     |
| 9B   | 88551011    | 8   | LOCKWASHER, 3/8                                                                                                                                     |     |
| 10   | 88661245    | 1   | MALE OUTLET TEE, 3/8X1/2 TUBE                                                                                                                       |     |
| 11   | 88662225    | 1   | SWIVEL NUT BRANC TEE, 1/2 TUBE                                                                                                                      |     |
| 12   | 90410298    | 1   | ELBOW                                                                                                                                               |     |
| 13   | 90028720    | 2   | HOSE CLAMP                                                                                                                                          |     |
| 14   | 88201067    | 4   | HEX HD CAPSCREW, 1/2-13X1-1/2, GR5                                                                                                                  |     |
| 14   | 88551013    | 4   | LOCKWASHER, 1/2                                                                                                                                     |     |
| 15   | 91031079    | 1   | FLANGE (one piece)                                                                                                                                  |     |
| 16   | 91033125    | 1   | LOW PRESSURE HOSE                                                                                                                                   |     |
| 17   | 91033049    | 1   | TUBE LINE                                                                                                                                           |     |
| 18   | 90028225    | 1   | O-RING                                                                                                                                              |     |
| 19   | 90207615    | NLA | <b>MAIN HYDRAULIC PUMP (NO LONGER AVAILABLE, SEE BELOW)</b>                                                                                         |     |
| 19   | 77134059    | 1   | GASKET                                                                                                                                              |     |
| 19   | 91033226    | 1   | <b>MAIN HYDRAULIC PUMP (ORDER CORRECT MODIFICATION KIT TO INSTALL) (see service note on HYDRAULIC CIRCUIT SN 8344001L for further instructions)</b> |     |
| 20   | 88591207    | 2   | O-RING                                                                                                                                              |     |
| 21   | 84711369    | 4   | CLAMP                                                                                                                                               |     |
| 22   | 90022045    | 3   | HIGH PRESSURE HOSE                                                                                                                                  |     |
| 23   | 90207689    | 1   | TUBE ASSY                                                                                                                                           |     |
| 24   | 90207691    | 1   | TUBE ASSY                                                                                                                                           |     |
| 25   | 91033032    | 2   | MINI CHECK (stauff)                                                                                                                                 |     |
| 26   | 91033069    | 1   | TUBE ASSY                                                                                                                                           |     |
| 26   | 90200481    | 2   | CLAMP                                                                                                                                               |     |
| 26   | 88201033    | 2   | HEX HD CAPSCREW, 3/8-16X3/4, GR5                                                                                                                    |     |
| 27   | 91033168    | 1   | MAIN CONTROL VALVE                                                                                                                                  |     |
| 28   | 88662070    | 1   | ELBOW, 90, (includes o-ring)                                                                                                                        |     |
| 28   | 88591210    | 1   | O-RING                                                                                                                                              |     |
| 29   | 90207491    | 1   | HIGH PRESSURE HOSE                                                                                                                                  |     |
| 30   | 88743002    | 1   | MALE ADAPTER, 1/4X3/8 TUBE                                                                                                                          |     |
| 31   | 88662064    | 2   | ELBOW, 90, (includes o-ring)                                                                                                                        |     |
| 31   | 88591204    | 2   | O-RING                                                                                                                                              |     |
| 32   | 90206748    | 2   | DRIVE MOTOR                                                                                                                                         |     |
| 33   | 84717586    | 1   | HIGH PRESSURE HOSE                                                                                                                                  |     |
| 34   | 84717587    | 1   | HIGH PRESSURE HOSE                                                                                                                                  |     |
| 35   | 77133167    | 1   | HOSE (Perkins engine only)                                                                                                                          |     |

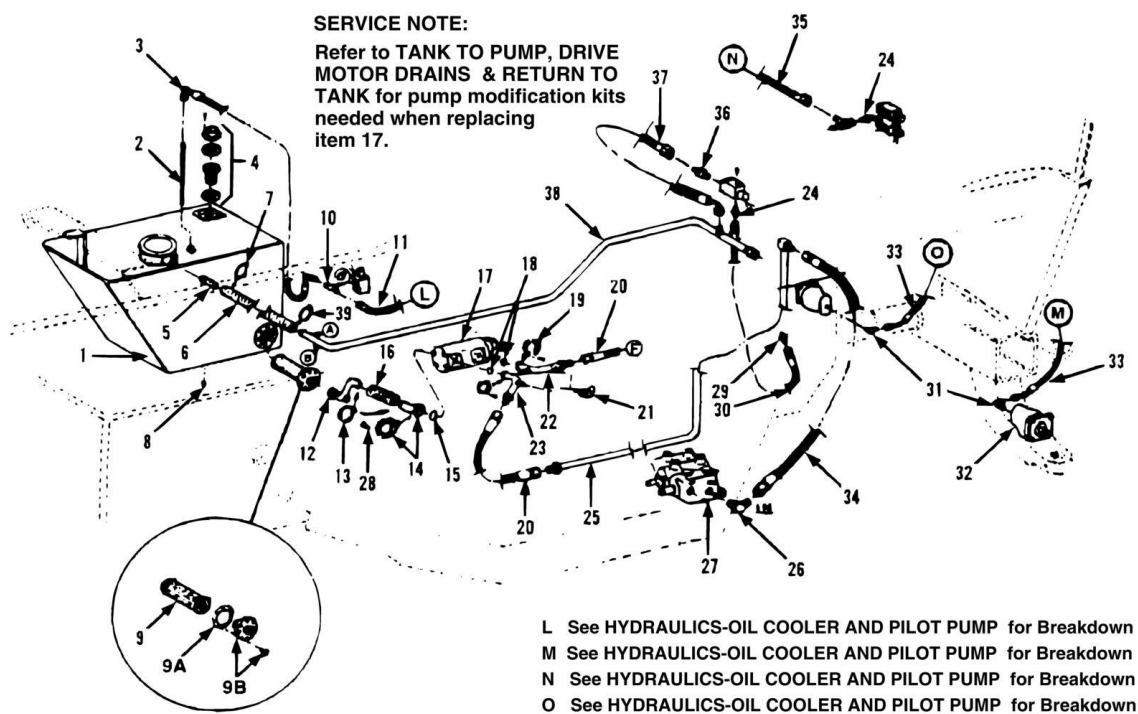
## SECTION 8 - HYDRAULIC CIRCUIT

| ITEM | PART NUMBER | QTY | DESCRIPTION                              | REV |
|------|-------------|-----|------------------------------------------|-----|
| 36   | 86883469    | 1   | REDUCER (Perkins engine only)            |     |
| 37   | 88662240    | 1   | SWIVEL NUT RUN TEE, 1/2 TUBE             |     |
| 38   | 88661306    | 1   | UNION TUBE, 1/2 TUBE                     |     |
| 39   | 90207765    | 1   | HIGH PRESSURE HOSE                       |     |
| 40   | 90206739    | 3   | SOLENOID VALVE                           |     |
| 41   | 90029915    | 2   | CONNECTOR                                |     |
| 42   | 88662239    | 2   | SWIVEL NUT RUN TEE, 1/2 TUBE             |     |
| 43   | 90207712    | 1   | TUBE ASSY                                |     |
| 44   | 77133342    | 1   | HOSE ASSY                                |     |
| 45   | 90207694    | 1   | HIGH PRESSURE HOSE                       |     |
| 46   | 90207363    | 1   | TUBE ASSY                                |     |
| 46A  | 90205793    | 2   | CLAMP ASSY                               |     |
| 47   | 88711282    | 1   | HEX SOCKET PIPE PLUG, 3/8                |     |
| 48   | 91033178    | 1   | TUBE ASSY (SN 8344001L through 8444288G) |     |
| 48   | 91033177    | 1   | TUBE ASSY (SN 8444289G through 8444491G) |     |



SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-3. TANK TO PUMP, DRIVE MOTOR DRAINS AND RETURN TO TANK (SN 8744115G to Present, Including 8744079G)





## SECTION 8 - HYDRAULIC CIRCUIT

**FIGURE 8-3. TANK TO PUMP, DRIVE MOTOR DRAINS AND RETURN TO TANK (SN 8744115G to Present, Including 8744079G)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                                                                                                        | REV |
|------|-------------|-----|----------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| 1    | 91036002    | 1   | HYDRAULIC OIL TANK                                                                                                                                 |     |
| 2    | 90403419    | 1   | STANDPIPE                                                                                                                                          |     |
| 3    | 90207599    | 1   | HIGH PRESSURE HOSE                                                                                                                                 |     |
| 4    | 90205222    | 1   | DIPSTICK/FILLER (includes cap, screen, gaskets and hardware)                                                                                       |     |
| 5    | 90205776    | 1   | ADAPTER (tank to low pressure line)                                                                                                                |     |
| 6    | 90207365    | 1   | LOW PRESSURE HOSE                                                                                                                                  |     |
| 7    | 90028482    | 2   | HOSE CLAMP                                                                                                                                         |     |
| 8    | 88711255    | 1   | SQ HD PIPE PLUG, 1IN                                                                                                                               |     |
| 9    | 90410295    | 1   | SUCTION FILTER                                                                                                                                     |     |
| 9A   | 90410294    | 1   | GASKET                                                                                                                                             |     |
| 9B   | 91036003    | 1   | FLANGE                                                                                                                                             |     |
| 9B   | 88201035    | 8   | HEX HD CAPSCREW, 3/8-16X1, GR5                                                                                                                     |     |
| 9B   | 88551011    | 8   | LOCKWASHER, 3/8                                                                                                                                    |     |
| 10   | 88661245    | 1   | MALE OUTLET TEE, 3/8X1/2 TUBE                                                                                                                      |     |
| 11   | 84717520    | 1   | HOSE ASSY                                                                                                                                          |     |
| 12   | 91033257    | 1   | ELBOW                                                                                                                                              |     |
| 13   | 90028720    | 2   | HOSE CLAMP                                                                                                                                         |     |
| 14   | 91033049    | 1   | TUBE ASSY                                                                                                                                          |     |
| 14   | 91031079    | 1   | FLANGE (one piece)                                                                                                                                 |     |
| 15   | 90028225    | 1   | O-RING                                                                                                                                             |     |
| 16   | 91033125    | 1   | LOW PRESSURE HOSE                                                                                                                                  |     |
| 17   | 90207615    | NLA | <b>MAIN HYDRAULIC PUMP (NO LONGER AVAILABLE, SEE BELOW)</b>                                                                                        |     |
| 17   | 91033226    | 1   | <b>MAIN HYDRAULIC PUMP (ORDER CORRECT MODIFICATION KIT TO INSTALL)(see service note on HYDRAULIC CIRCUIT SN 8344001L for further instructions)</b> |     |
| 18   | 88591207    | 2   | O-RING                                                                                                                                             |     |
| 19   | 84711369    | 4   | CLAMP                                                                                                                                              |     |
| 20   | 90022045    | 3   | HIGH PRESSURE HOSE                                                                                                                                 |     |
| 21   | 91033032    | 2   | MINI CHECK (stauff)                                                                                                                                |     |
| 22   | 90207689    | 1   | TUBE ASSY                                                                                                                                          |     |
| 23   | 90207691    | 1   | TUBE ASSY                                                                                                                                          |     |
| 24   | 90029915    | 2   | CONNECTOR                                                                                                                                          |     |
| 25   | 91033069    | 1   | TUBE ASSY                                                                                                                                          |     |
| 25   | 90200481    | 2   | CLAMP                                                                                                                                              |     |
| 25   | 88201033    | 2   | HEX HD CAPSCREW, 3/8-16X3/4, GR5                                                                                                                   |     |
| 26   | 88662070    | 1   | ELBOW, 90, (includes o-ring)                                                                                                                       |     |
| 26   | 88591210    | 1   | O-RING                                                                                                                                             |     |
| 27   | 91033168    | 1   | MAIN CONTROL VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)                                                                                |     |
| 28   | 88201067    | 4   | HEX HD CAPSCREW, 1/2-13X1-1/2, GR5                                                                                                                 |     |
| 29   | 88743002    | 1   | MALE ADAPTER, 1/4X3/8 TUBE                                                                                                                         |     |
| 30   | 90207491    | 1   | HOSE ASSY                                                                                                                                          |     |
| 31   | 88662064    | 2   | ELBOW, 90, (includes o-ring)                                                                                                                       |     |
| 31   | 88591204    | 2   | O-RING                                                                                                                                             |     |
| 32   | 90206748    | 2   | DRIVE MOTOR (See HYDRAULIC COMPONENTS SECTION for Breakdown)                                                                                       |     |
| 33   | 84717577    | 2   | HOSE ASSY                                                                                                                                          |     |
| 34   | 90022045    | 1   | HOSE ASSY                                                                                                                                          |     |
| 35   | 77133198    | 1   | HOSE ASSY                                                                                                                                          |     |

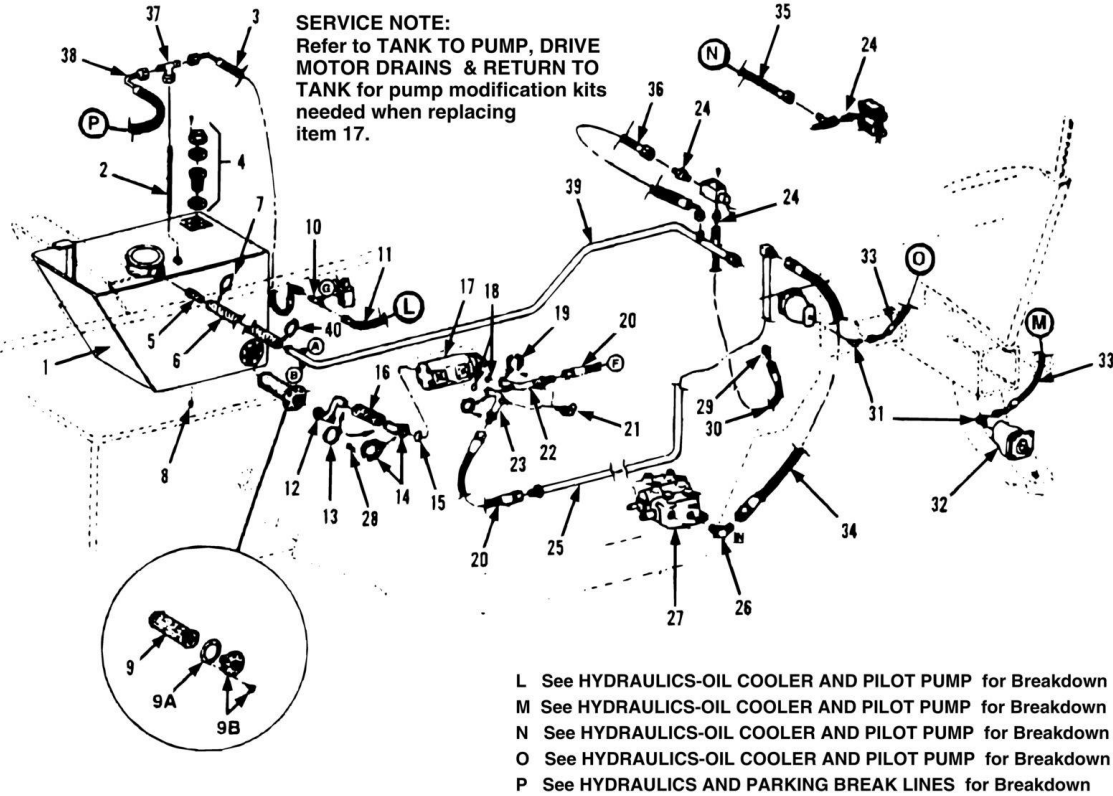
**SECTION 8 - HYDRAULIC CIRCUIT**

| ITEM | PART NUMBER | QTY | DESCRIPTION | REV |
|------|-------------|-----|-------------|-----|
| 36   | 90029915    | 1   | CONNECTOR   |     |
| 37   | 77133447    | 1   | HOSE ASSY   |     |
| 38   | 90207363    | 1   | TUBE ASSY   |     |
| 39   | 90205793    | 1   | CLAMP ASSY  |     |



SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-4. TANK TO PUMP, DRIVE MOTOR DRAINS AND RETURN TO TANK (SN 0144452 to Present)



## SECTION 8 - HYDRAULIC CIRCUIT

**FIGURE 8-4. TANK TO PUMP, DRIVE MOTOR DRAINS AND RETURN TO TANK (SN 0144452 to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                                                                                                         | REV |
|------|-------------|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| 1    | 91036002    | 1   | HYDRAULIC OIL TANK                                                                                                                                  |     |
| 2    | 90403419    | 1   | STANDPIPE                                                                                                                                           |     |
| 3    | 90207599    | 1   | HIGH PRESSURE HOSE                                                                                                                                  |     |
| 4    | 90205222    | 1   | DIPSTICK/FILLER (includes cap, screen, gaskets and hardware)                                                                                        |     |
| 5    | 90205776    | 1   | ADAPTER (tank to low pressure line)                                                                                                                 |     |
| 6    | 90207365    | 1   | LOW PRESSURE HOSE                                                                                                                                   |     |
| 7    | 90028482    | 2   | HOSE CLAMP                                                                                                                                          |     |
| 8    | 88711255    | 1   | SQ HD PIPE PLUG, 1IN                                                                                                                                |     |
| 9    | 90410295    | 1   | SUCTION FILTER                                                                                                                                      |     |
| 9A   | 90410294    | 1   | GASKET                                                                                                                                              |     |
| 9B   | 91036003    | 1   | FLANGE                                                                                                                                              |     |
| 9B   | 88201035    | 8   | HEX HD CAPSCREW, 3/8-16X1, GR5                                                                                                                      |     |
| 9B   | 88551011    | 8   | LOCKWASHER, 3/8                                                                                                                                     |     |
| 10   | 88661245    | 1   | MALE OUTLET TEE, 3/8X1/2 TUBE                                                                                                                       |     |
| 11   | 84717520    | 1   | HOSE ASSY                                                                                                                                           |     |
| 12   | 91033257    | 1   | ELBOW                                                                                                                                               |     |
| 13   | 90028720    | 2   | HOSE CLAMP                                                                                                                                          |     |
| 14   | 91033049    | 1   | TUBE ASSY                                                                                                                                           |     |
| 14   | 91031079    | 1   | FLANGE (one piece)                                                                                                                                  |     |
| 15   | 90028225    | 1   | O-RING                                                                                                                                              |     |
| 16   | 91033125    | 1   | LOW PRESSURE HOSE                                                                                                                                   |     |
| 17   | 90207615    | NLA | <b>MAIN HYDRAULIC PUMP (NO LONGER AVAILABLE, SEE BELOW)</b>                                                                                         |     |
| 17   | 91033226    | 1   | <b>MAIN HYDRAULIC PUMP (ORDER CORRECT MODIFICATION KIT TO INSTALL) (see service note on HYDRAULIC CIRCUIT SN 8344001L for further instructions)</b> |     |
| 18   | 88591207    | 2   | O-RING                                                                                                                                              |     |
| 19   | 84711369    | 4   | CLAMP                                                                                                                                               |     |
| 20   | 90022045    | 3   | HIGH PRESSURE HOSE                                                                                                                                  |     |
| 21   | 91033032    | 2   | MINI CHECK (stauff)                                                                                                                                 |     |
| 22   | 90207689    | 1   | TUBE ASSY                                                                                                                                           |     |
| 23   | 90207691    | 1   | TUBE ASSY                                                                                                                                           |     |
| 24   | 90029915    | 2   | CONNECTOR                                                                                                                                           |     |
| 25   | 91033069    | 1   | TUBE ASSY                                                                                                                                           |     |
| 25   | 90200481    | 2   | CLAMP                                                                                                                                               |     |
| 25   | 88201033    | 2   | HEX HD CAPSCREW, 3/8-16X3/4, GR5                                                                                                                    |     |
| 26   | 88662070    | 1   | ELBOW, 90, (includes o-ring)                                                                                                                        |     |
| 26   | 88591210    | 1   | O-RING                                                                                                                                              |     |
| 27   | 91033168    | 1   | MAIN CONTROL VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)                                                                                 |     |
| 28   | 88201067    | 4   | HEX HD CAPSCREW, 1/2-13X1-1/2, GR5                                                                                                                  |     |
| 29   | 88743002    | 1   | MALE ADAPTER, 1/4X3/8 TUBE                                                                                                                          |     |
| 30   | 90207491    | 1   | HOSE ASSY                                                                                                                                           |     |
| 31   | 88662064    | 2   | ELBOW, 90, (includes o-ring)                                                                                                                        |     |
| 31   | 88591204    | 2   | O-RING                                                                                                                                              |     |
| 32   | 90206748    | 2   | DRIVE MOTOR (See HYDRAULIC COMPONENTS SECTION for Breakdown)                                                                                        |     |
| 33   | 84717577    | 2   | HOSE ASSY                                                                                                                                           |     |
| 34   | 90022045    | 1   | HOSE ASSY                                                                                                                                           |     |
| 35   | 77133167    | 1   | HOSE ASSY                                                                                                                                           |     |

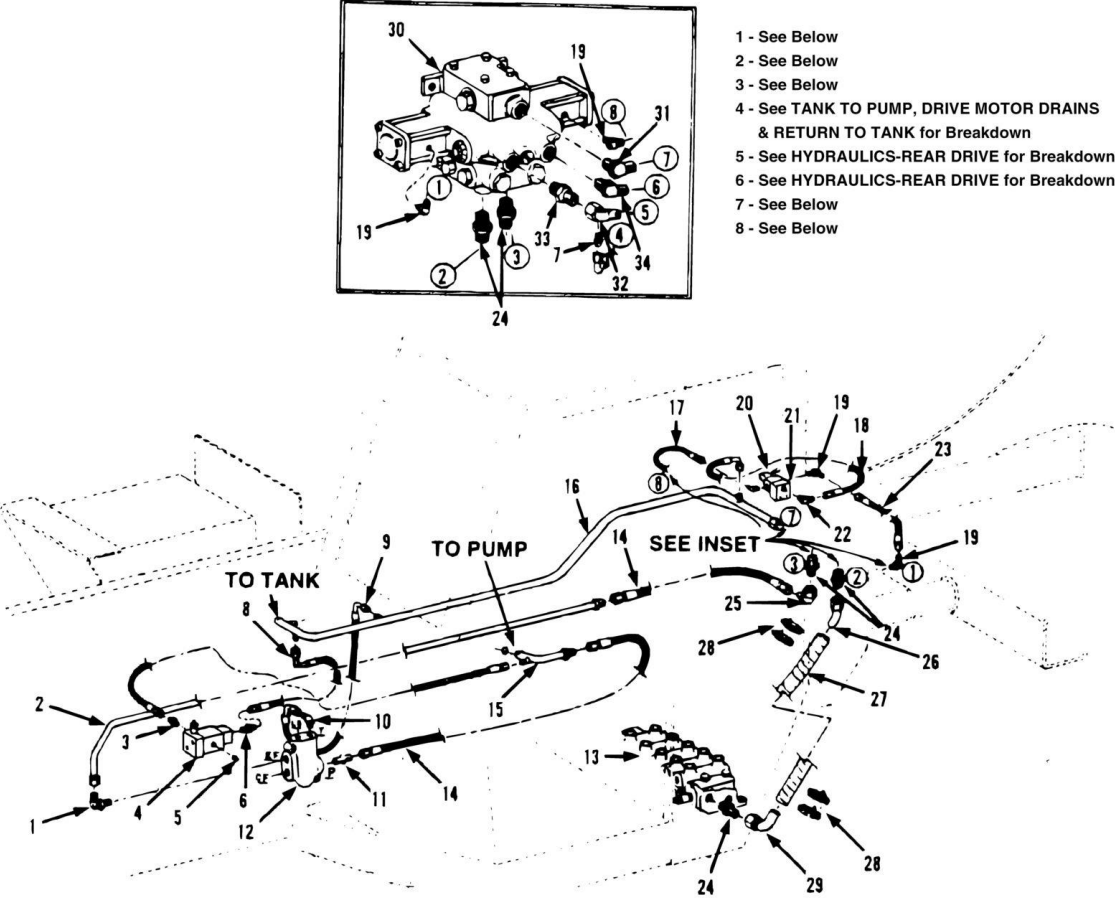
**SECTION 8 - HYDRAULIC CIRCUIT**

| ITEM | PART NUMBER | QTY | DESCRIPTION                     | REV |
|------|-------------|-----|---------------------------------|-----|
| 36   | 77133447    | 1   | HOSE ASSY                       |     |
| 37   | 88662225    | 1   | SWIVEL NUT BRANCH TEE, 1/4 TUBE |     |
| 38   | 84717842    | 1   | HOSE ASY                        |     |
| 39   | 90207363    | 1   | TUBE ASSY                       |     |
| 40   | 90205793    | 1   | CLAMP ASSY                      |     |



SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-5. HYDRAULIC-DRIVE AND STEERING CONTROL WAUKESHA ENGINE (SN 8344001L through 8444490)





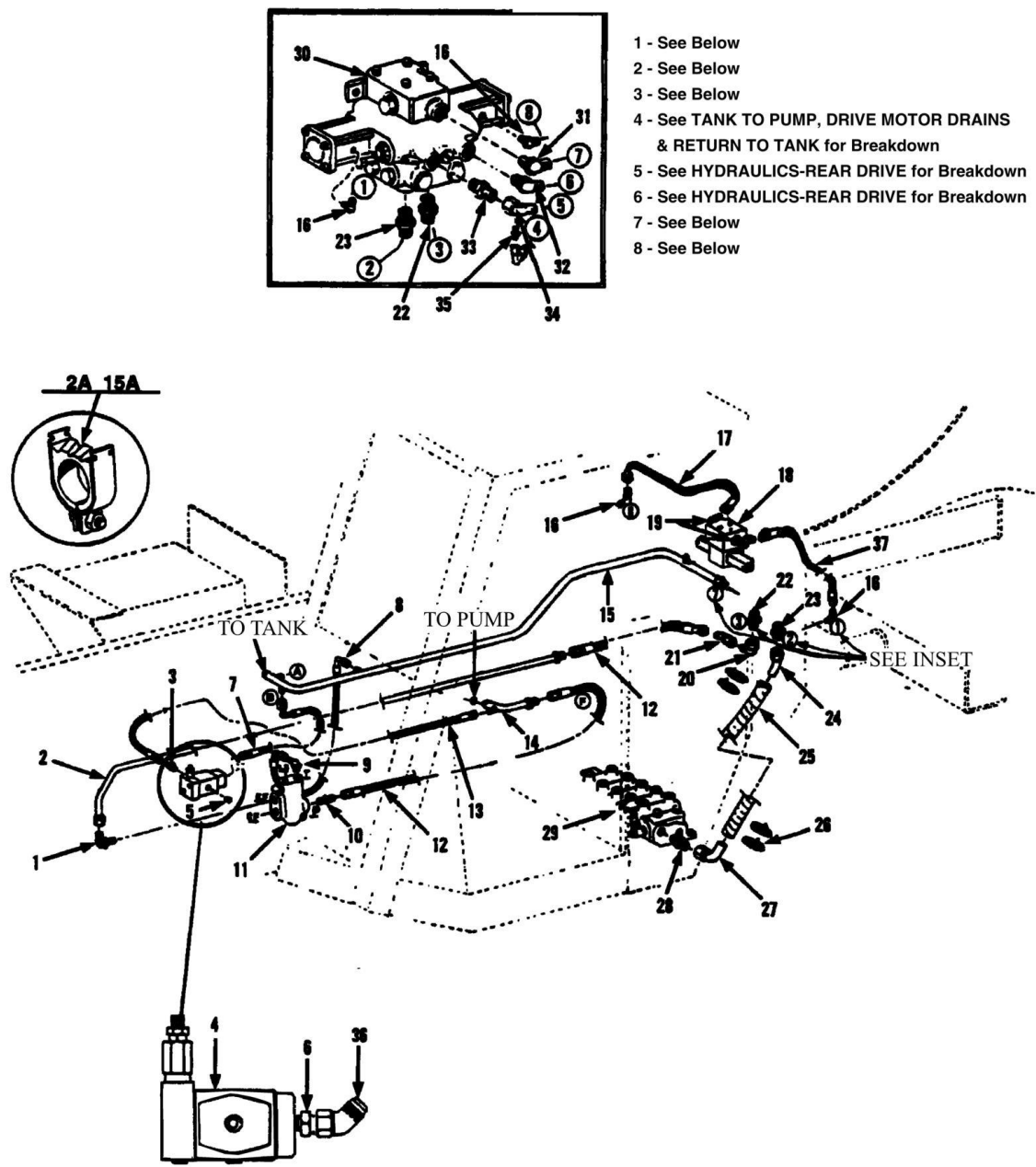
## SECTION 8 - HYDRAULIC CIRCUIT

**FIGURE 8-5. HYDRAULIC-DRIVE AND STEERING CONTROL WAUKESHA ENGINE (SN 8344001L through 8444490)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                               | REV |
|------|-------------|-----|-------------------------------------------|-----|
| 1    | 88662069    | 1   | ELBOW - 90, (includes o-ring)             |     |
| 1    | 88591209    | 1   | O-RING                                    |     |
| 2    | 90207690    | 1   | TUBE ASSEMBLY                             |     |
| 3    | 88743018    | 1   | MALE ADAPTER, 3/8X5/8 TUBE                |     |
| 4    | 90207314    | 1   | DRIVE CIRCUIT RELIEF VALVE                |     |
| 5    | 88711282    | 1   | HEX SOCKET PIPE PLUG, 3/8                 |     |
| 6    | 90027360    | 1   | CONNECTOR                                 |     |
| 7    | 88743002    | 1   | MALE ADAPTER, 1/4X3/8 TUBE                |     |
| 8    | 90207360    | 1   | HIGH PRESSURE HOSE                        |     |
| 9    | 90207411    | 1   | HIGH PRESSURE HOSE                        |     |
| 10   | 83661316    | 1   | STRAIGHT CONNECTOR                        |     |
| 11   | 88662010    | 1   | CONNECTOR (includes o-ring)               |     |
| 11   | 88591209    | 1   | O-RING                                    |     |
| 12   | 90205585    | 1   | LOAD SENSING PRIORITY FLOW CONTROL VALVE  |     |
| 13   | 91033168    | 1   | MAIN HYDRAULIC CONTROL VALVE              |     |
| 14   | 90022045    | 2   | HIGH PRESSURE HOSE                        |     |
| 15   | 90207689    | 1   | TUBE ASSEMBLY                             |     |
| 16   | 90207363    | 1   | TUBE ASSEMBLY                             |     |
| 17   | 90207695    | 1   | HIGH PRESSURE HOSE                        |     |
| 18   | 90207697    | 1   | HIGH PRESSURE HOSE                        |     |
| 19   | 88662064    | 3   | ELBOW - 90, (includes o-ring)             |     |
| 19   | 88591204    | 3   | O-RING                                    |     |
| 20   | 90207755    | 1   | CONTROL VALVE                             |     |
| 21   | 90602895    | 1   | ADAPTER BLOCK                             |     |
| 22   | 90026687    | 1   | ELBOW - 90, ADJUSTABLE                    |     |
| 23   | 90207696    | 1   | HIGH PRESSURE HOSE                        |     |
| 24   | 88662011    | 3   | CONNECTOR (includes o-ring)               |     |
| 24   | 88591210    | 3   | O-RING                                    |     |
| 25   | 88662110    | 1   | ELBOW 90, (swivel nut)                    |     |
| 26   | 90207299    | 1   | TUBE ASSEMBLY (low pressure hose)         |     |
| 27   | 90207362    | 1   | LOW PRESSURE HOSE                         |     |
| 28   | 90028482    | 4   | HOSE CLAMP                                |     |
| 29   | 90205783    | 1   | TUBE ASSEMBLY (low pressure hose adapter) |     |
| 30   | 90206737    | 1   | FORWARD - REVERSE VALVE                   |     |
| 31   | 90041003    | 1   | ELBOW - 90, ADJUSTABLE                    |     |
| 32   | 88662069    | 1   | ELBOW - 90, (includes o-ring)             |     |
| 32   | 88591209    | 1   | O-RING                                    |     |
| 33   | 88662010    | 1   | CONNECTOR (includes o-ring)               |     |
| 33   | 88591209    | 1   | O-RING                                    |     |
| 34   | 90207567    | 1   | ELBOW - 90, SWIVEL                        |     |

SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-6. HYDRAULIC-DRIVE AND STEERING CONTROL PERKINS ENGINE ONLY (SN 8444491 through 8744109G, Excluding 8744114G)



## SECTION 8 - HYDRAULIC CIRCUIT

**FIGURE 8-6. HYDRAULIC-DRIVE AND STEERING CONTROL PERKINS ENGINE ONLY (SN 8444491 through 8744109G, Excluding 8744114G)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                                   | REV |
|------|-------------|-----|-------------------------------------------------------------------------------|-----|
| 1    | 88662069    | 1   | ELBOW - 90, (includes o-ring)                                                 |     |
| 1    | 88591209    | 1   | O-RING                                                                        |     |
| 2    | 90207690    | 1   | TUBE ASSEMBLY                                                                 |     |
| 2A   | 90205792    | 1   | CLAMP ASSEMBLY                                                                |     |
| 3    | 88743018    | 1   | MALE ADAPTER, 3/8X5/8 TUBE                                                    |     |
| 4    | 90207314    | 1   | RELIEF VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)                 |     |
| 4    | 88201020    | 2   | HEX HD CAPSCREW, 5/16-18X1, GR5                                               |     |
| 5    | 88711282    | 1   | HEX SOCKET PIPE PLUG, 3/8                                                     |     |
| 6    | 88743003    | 1   | MALE ADAPTER, 3/8X1/2 TUBE                                                    |     |
| 7    | 90207360    | 1   | HIGH PRESSURE HOSE                                                            |     |
| 8    | 90207411    | 1   | HIGH PRESSURE HOSE                                                            |     |
| 9    | 83661316    | 1   | STRAIGHT THREAD CONNECTOR                                                     |     |
| 10   | 88662010    | 1   | CONNECTOR (includes o-ring)                                                   |     |
| 10   | 88591209    | 1   | O-RING                                                                        |     |
| 11   | 90205585    | 1   | PRIORITY FLOW VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)          |     |
| 11   | 88201028    | 2   | HEX HD CAPSCREW, 5/16-18X3, GR5                                               |     |
| 12   | 90022045    | 2   | HIGH PRESSURE HOSE                                                            |     |
| 13   | 90022043    | 1   | HIGH PRESSURE HOSE                                                            |     |
| 14   | 90207689    | 1   | TUBE ASSEMBLY                                                                 |     |
| 15   | 90207363    | 1   | TUBE ASSEMBLY                                                                 |     |
| 15A  | 90205793    | 2   | CLAMP ASSEMBLY                                                                |     |
| 16   | 88662064    | 2   | ELBOW - 90, (includes o-ring)                                                 |     |
| 16   | 88591204    | 2   | O-RING                                                                        |     |
| 17   | 90027485    | 1   | HIGH PRESSURE HOSE                                                            |     |
| 18   | 91033097    | 1   | DIRECTIONAL CONTROL VALVE                                                     |     |
| 19   | 88662003    | 2   | CONNECTOR (includes o-ring)                                                   |     |
| 19   | 88591202    | 2   | O-RING                                                                        |     |
| 20   | 88662110    | 1   | ELBOW - 90, (swivel nut)                                                      |     |
| 21   | 88662124    | 1   | ELBOW - 45, (swivel nut)                                                      |     |
| 22   | 88662028    | 1   | CONNECTOR (includes o-ring)                                                   |     |
| 22   | 88591210    | 1   | O-RING                                                                        |     |
| 23   | 88662011    | 1   | CONNECTOR (o-ring)                                                            |     |
| 23   | 88591210    | 1   | O-RING                                                                        |     |
| 24   | 90205783    | 1   | TUBE ASSEMBLY                                                                 |     |
| 25   | 90207362    | 1   | LOW PRESSURE HOSE                                                             |     |
| 26   | 90028482    | 4   | HOSE CLAMP                                                                    |     |
| 27   | 90205783    | 1   | TUBE ASSEMBLY                                                                 |     |
| 28   | 88662011    | 1   | CONNECTOR (includes o-ring)                                                   |     |
| 28   | 88591210    | 1   | O-RING                                                                        |     |
| 29   | 91033168    | 1   | MAIN HYDRAULIC CONTROL VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown) |     |
| 30   | 90206737    | 1   | FORWARD AND REVERSE VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)    |     |
| 30   | 88201068    | 2   | HEX HD CAPSCREW, GR5                                                          |     |
| 30   | 88201070    | 1   | HEX HD CAPSCREW, GR5                                                          |     |
| 30   | 88501008    | 3   | HEX NUT                                                                       |     |
| 31   | 90041003    | 1   | ELBOW - 90                                                                    |     |
| 32   | 88662069    | 1   | ELBOW - 90, (includes o-ring)                                                 |     |

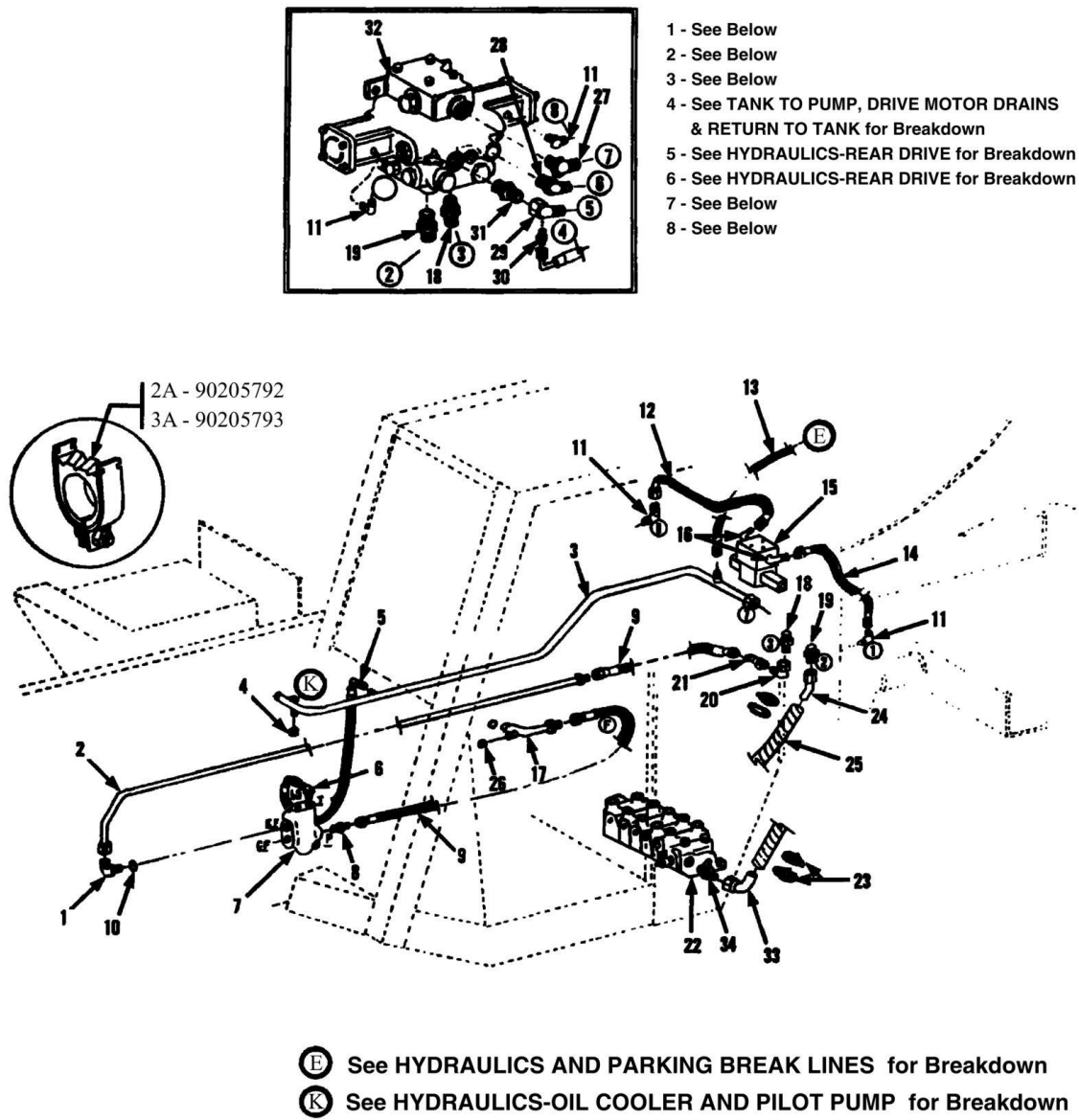
SECTION 8 - HYDRAULIC CIRCUIT

| ITEM | PART NUMBER | QTY | DESCRIPTION                 | REV |
|------|-------------|-----|-----------------------------|-----|
| 32   | 88591209    | 1   | O-RING                      |     |
| 33   | 88662010    | 1   | CONNECTOR (includes o-ring) |     |
| 33   | 88591209    | 1   | O-RING                      |     |
| 34   | 90207567    | 1   | ELBOW - 90                  |     |
| 35   | 88743002    | 1   | MALE ADAPTER, 1/4X3/8 TUBE  |     |
| 36   | 88662120    | 1   | ELBOW - 45, (swivel nut)    |     |
| 37   | 84717464    | 1   | HOSE                        |     |



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FIGURE 8-7. HYDRAULIC-DRIVE AND STEERING CONTROL (SN 8744115G to Present, Including 8744079G)



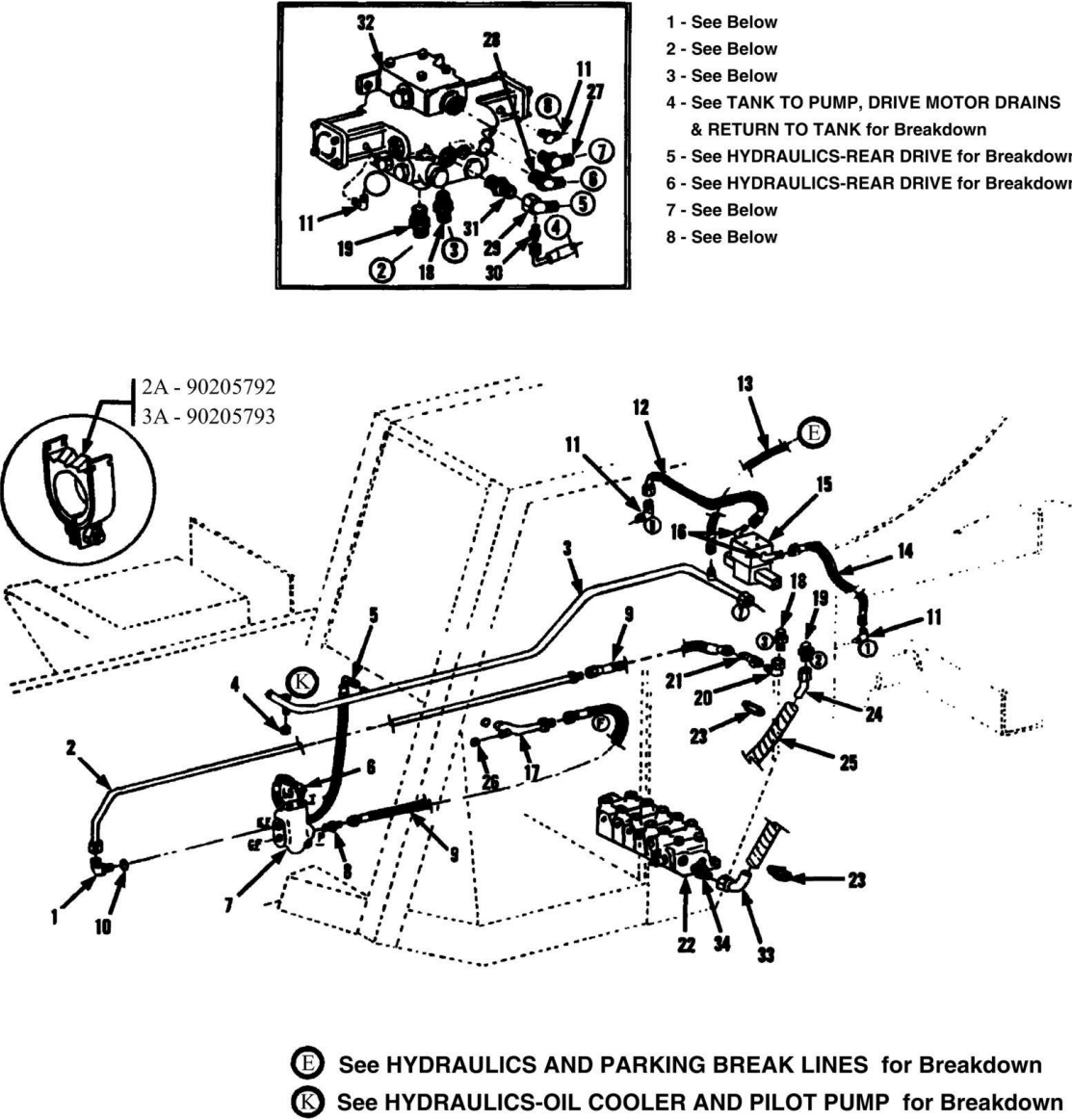
## SECTION 8 - HYDRAULIC CIRCUIT

**FIGURE 8-7. HYDRAULIC-DRIVE AND STEERING CONTROL (SN 8744115G to Present, Including 8744079G)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                                  | REV |
|------|-------------|-----|------------------------------------------------------------------------------|-----|
| 1    | 88662069    | 1   | ELBOW - 90, (includes items 10)                                              |     |
| 2    | 90207690    | 1   | TUBE ASSY                                                                    |     |
| 3    | 91033144    | 1   | TUBE ASSY                                                                    |     |
| 4    | 88661365    | 1   | HEX CAP, 1/2 TUBE                                                            |     |
| 5    | 77133447    | 1   | HIGH PRESSURE HOSE                                                           |     |
| 6    | 83661316    | 1   | STRAIGHT THREAD CONNECTOR                                                    |     |
| 7    | 91033240    | 1   | PRIORITY FLOW VALVE (See HYDRAULIC COMPONENTS SECTION for Brakdown)          |     |
| 8    | 88661210    | 1   | CONNECTOR (includes item 10)                                                 |     |
| 9    | 90022045    | 2   | HIGH PRESSURE HOSE                                                           |     |
| 10   | 88591209    | AR  | O-RING                                                                       |     |
| 11   | 88662064    | 2   | ELBOW - 90, (includes o-ring)                                                |     |
| 11   | 88591204    | 1   | O-RING                                                                       |     |
| 12   | 90027485    | 1   | HIGH PRESSURE HOSE                                                           |     |
| 13   | 77133167    | 1   | HOSE ASSY                                                                    |     |
| 14   | 84717464    | 1   | HOSE ASSY                                                                    |     |
| 15   | 91033097    | 1   | DIRECTIONAL CONTROL VALVE                                                    |     |
| 16   | 88662003    | 2   | CONNECTOR (includes o-ring)                                                  |     |
| 16   | 88591202    | 2   | O-RING                                                                       |     |
| 17   | 90207689    | 1   | TUBE ASSY                                                                    |     |
| 18   | 88662028    | 1   | CONNECTOR (includes o-ring)                                                  |     |
| 18   | 88591210    | 1   | O-RING                                                                       |     |
| 19   | 88662011    | 1   | CONNECTOR (includes o-ring)                                                  |     |
| 19   | 88591210    | 1   | O-RING                                                                       |     |
| 20   | 88662110    | 1   | ELBOW - 90, (swivel nut)                                                     |     |
| 21   | 88662124    | 1   | ELBOW - 45, (swivel nut)                                                     |     |
| 22   | 91033168    | 1   | MAIN HYDRAULIC CONTROL VALVE (See HYDRAULIC COMPONENTS SECTION for Brakdown) |     |
| 23   | 90028482    | 4   | HOSE CLAMP                                                                   |     |
| 24   | 90205783    | 1   | TUBE ASSY                                                                    |     |
| 25   | 90207362    | 1   | LOW PRESSURE HOSE                                                            |     |
| 26   | 88661366    | 1   | HEX CAP, 5/8 TUBE                                                            |     |
| 27   | 90041003    | 1   | ELBOW - 90                                                                   |     |
| 28   | 88662069    | 1   | ELBOW - 90, (includes item 10)                                               |     |
| 29   | 90207567    | 1   | ELBOW - 90                                                                   |     |
| 30   | 88743002    | 1   | MALE ADAPTER, 1/4X3/8 TUBE                                                   |     |
| 31   | 88662010    | 1   | CONNECTOR (includes item 10)                                                 |     |
| 32   | 90206737    | 1   | FORWARD/REVERSE VALVE (See HYDRAULIC COMPONENTS SECTION for Brakdown)        |     |
| 33   | 90205783    | 1   | TUBE ASSY                                                                    |     |
| 34   | 88662011    | 1   | CONNECTOR (includes o-ring)                                                  |     |
| 34   | 88591210    | 1   | O-RING                                                                       |     |

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FIGURE 8-8. HYDRAULIC-DRIVE AND STEERING CONTROL (SN 0144407 to Present)





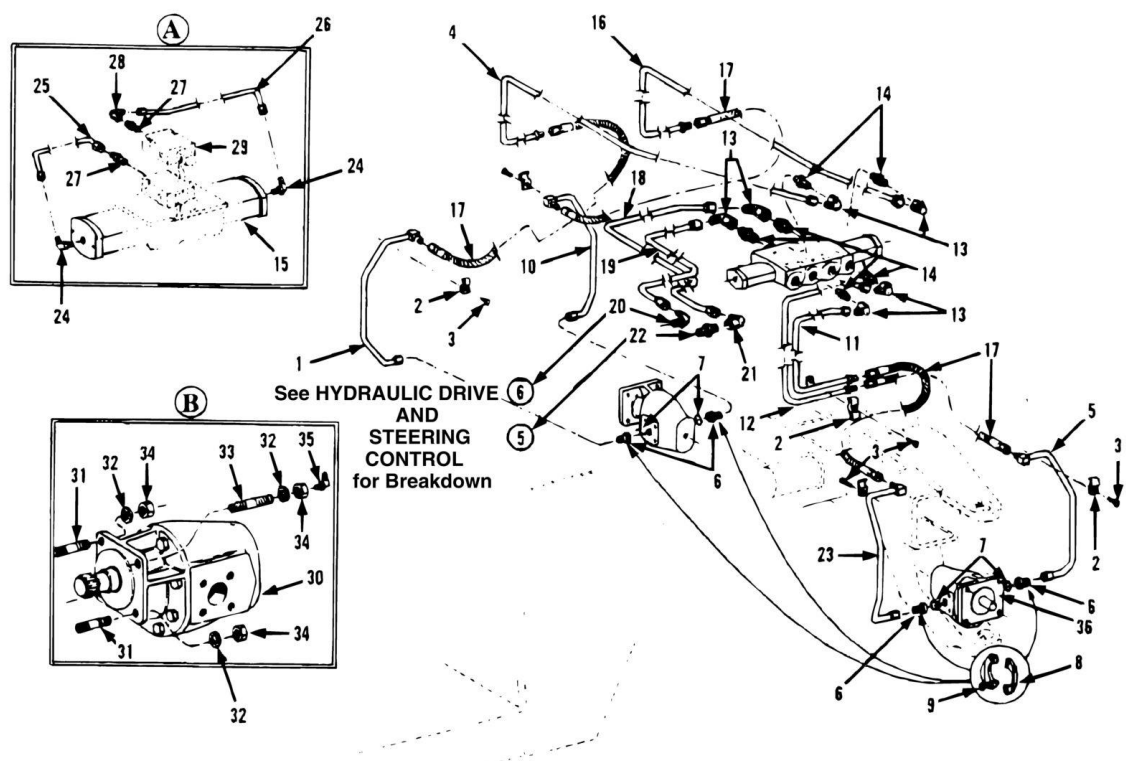
## SECTION 8 - HYDRAULIC CIRCUIT

**FIGURE 8-8. HYDRAULIC-DRIVE AND STEERING CONTROL (SN 0144407 to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                                   | REV |
|------|-------------|-----|-------------------------------------------------------------------------------|-----|
| 1    | 88662069    | 1   | ELBOW - 90, (includes items 10)                                               |     |
| 2    | 90207690    | 1   | TUBE ASSY                                                                     |     |
| 3    | 91033144    | 1   | TUBE ASSY                                                                     |     |
| 4    | 88661365    | 1   | HEX CAP, 1/2 TUBE                                                             |     |
| 5    | 77133447    | 1   | HIGH PRESSURE HOSE                                                            |     |
| 6    | 83661316    | 1   | STRAIGHT THREAD CONNECTOR                                                     |     |
| 7    | 91033240    | 1   | PRIORITY FLOW VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)          |     |
| 8    | 88661210    | 1   | CONNECTOR (includes item 10)                                                  |     |
| 9    | 90022045    | 2   | HIGH PRESSURE HOSE                                                            |     |
| 10   | 88591209    | AR  | O-RING                                                                        |     |
| 11   | 88662064    | 2   | ELBOW - 90, (includes o-ring)                                                 |     |
| 11   | 88591204    | 1   | O-RING                                                                        |     |
| 12   | 90027485    | 1   | HIGH PRESSURE HOSE                                                            |     |
| 13   | 77133167    | 1   | HOSE ASSY                                                                     |     |
| 14   | 84717464    | 1   | HOSE ASSY                                                                     |     |
| 15   | 91033097    | 1   | DIRECTIONAL CONTROL VALVE                                                     |     |
| 16   | 88662003    | 2   | CONNECTOR (includes o-ring)                                                   |     |
| 16   | 88591202    | 2   | O-RING                                                                        |     |
| 17   | 90207689    | 1   | TUBE ASSY                                                                     |     |
| 18   | 88662028    | 1   | CONNECTOR (includes o-ring)                                                   |     |
| 18   | 88591210    | 1   | O-RING                                                                        |     |
| 19   | 88662011    | 1   | CONNECTOR (includes o-ring)                                                   |     |
| 19   | 88591210    | 1   | O-RING                                                                        |     |
| 20   | 88662110    | 1   | ELBOW - 90, (swivel nut)                                                      |     |
| 21   | 88662124    | 1   | ELBOW - 45, (swivel nut)                                                      |     |
| 22   | 91033168    | 1   | MAIN HYDRAULIC CONTROL VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown) |     |
| 23   | 90028482    | 4   | HOSE CLAMP                                                                    |     |
| 24   | 90205783    | 1   | TUBE ASSY                                                                     |     |
| 25   | 91043153    | 1   | LOW PRESSURE HOSE                                                             |     |
| 26   | 88661366    | 1   | HEX CAP, 5/8 TUBE                                                             |     |
| 27   | 90041003    | 1   | ELBOW - 90                                                                    |     |
| 28   | 88662069    | 1   | ELBOW - 90, (includes item 10)                                                |     |
| 29   | 90207567    | 1   | ELBOW - 90                                                                    |     |
| 30   | 88743002    | 1   | MALE ADAPTER, 1/4X3/8 TUBE                                                    |     |
| 31   | 88662010    | 1   | CONNECTOR (includes item 10)                                                  |     |
| 32   | 90206737    | 1   | FORWARD/REVERSE VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)        |     |
| 33   | 90205783    | 1   | TUBE ASSY                                                                     |     |
| 34   | 88662011    | 1   | CONNECTOR (includes o-ring)                                                   |     |
| 34   | 88591210    | 1   | O-RING                                                                        |     |

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FIGURE 8-9. HYDRAULICS-REAR DRIVE (SN 8344001L to Present)



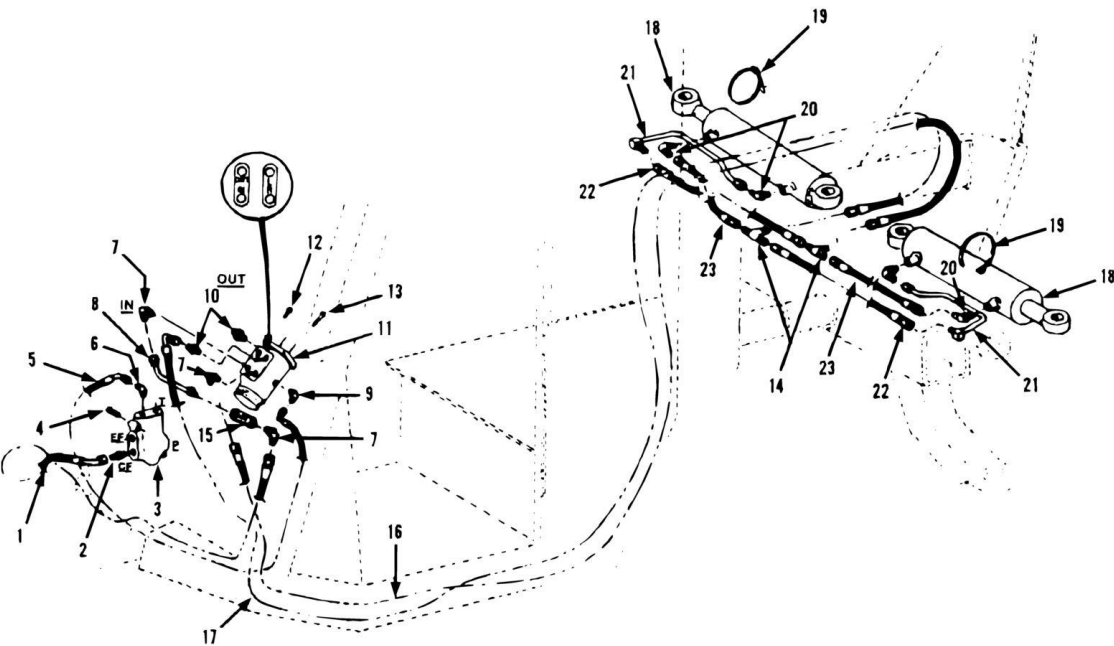
## SECTION 8 - HYDRAULIC CIRCUIT

**FIGURE 8-9. HYDRAULICS-REAR DRIVE (SN 8344001L to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                            | REV |
|------|-------------|-----|------------------------------------------------------------------------|-----|
| 1    | 90207295    | 1   | TUBE ASSY                                                              |     |
| 1    | 91043113    | 1   | TUBE ASSY (SN 8644031G to Present)                                     |     |
| 2    | 90202343    | 5   | TUBE CLAMP                                                             |     |
| 3    | 88201036    | 5   | HEX HD CAPSCREW, 3/8-16x1-1/4 GR5                                      |     |
| 3    | 88501006    | 5   | HEX NUT, 3/8-16                                                        |     |
| 4    | 90207371    | 1   | TUBE ASSY                                                              |     |
| 4    | 91043168    | 1   | TUBE ASSY (SN 8744115G to Present)                                     |     |
| 5    | 90207297    | 1   | TUBE ASSY                                                              |     |
| 5    | 91043115    | 1   | TUBE ASSY (SN 8644031G to Present)                                     |     |
| 6    | 90207372    | 4   | ADAPTER                                                                |     |
| 7    | 90028225    | 4   | O-RING                                                                 |     |
| 8    | 84711342    | 8   | FLANGE HALF                                                            |     |
| 9    | 88201067    | 16  | HEX HD CAPSCREW, 1/2-13x1-1/2 GR5                                      |     |
| 10   | 90207296    | 1   | TUBE ASSY                                                              |     |
| 10   | 91043116    | 1   | TUBE ASSY (SN 8644031G to Present)                                     |     |
| 11   | 90207376    | 1   | TUBE ASSY                                                              |     |
| 12   | 90207375    | 1   | TUBE ASSY                                                              |     |
| 13   | 83621122    | 6   | ELBOW - 90, (swivel nut)                                               |     |
| 14   | 88662028    | 6   | CONNECTOR (includes o-ring)                                            |     |
| 14   | 88591210    | 6   | O-RING                                                                 |     |
| 15   | 90206738    | 1   | SERIES PARALLEL VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown) |     |
| 16   | 90207373    | 1   | TUBE ASSY                                                              |     |
| 17   | 90207290    | 4   | HIGH PRESSURE HOSE (armored)                                           |     |
| 18   | 90207377    | 1   | TUBE ASSY                                                              |     |
| 19   | 90207370    | 1   | TUBE ASSY                                                              |     |
| 20   | 88662069    | 1   | ELBOW - 90, (includes o-ring)                                          |     |
| 20   | 88591209    | 1   | O-RING                                                                 |     |
| 21   | 90207567    | 1   | ELBOW - 90, (swivel)                                                   |     |
| 22   | 88662010    | 1   | CONNECTOR (includes o-ring)                                            |     |
| 22   | 88591209    | 1   | O-RING                                                                 |     |
| 23   | 90207298    | 1   | TUBE ASSY                                                              |     |
| 23   | 91043114    | 1   | TUBE ASSY (SN 8644031G to Present)                                     |     |
| 24   | 88662064    | 2   | ELBOW - 90                                                             |     |
| 24   | 88591204    | 2   | O-RING                                                                 |     |
| 25   | 90207667    | 1   | TUBE ASSY                                                              |     |
| 26   | 90207665    | 1   | TUBE ASSY                                                              |     |
| 27   | 88661009    | 2   | CONNECTOR (includes o-ring)                                            |     |
| 28   | 90029930    | 1   | ELBOW - 90, (swivel)                                                   |     |
| 29   | 90206739    | 2   | SOLENOID VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)        |     |
| 30   | 90206748    | 2   | DRIVE MOTOR (See HYDRAULIC COMPONENTS SECTION for Breakdown)           |     |
| 31   | 90202327    | 3   | MOTOR MOUNT STUD                                                       |     |
| 32   | 90203506    | 4   | WASHER                                                                 |     |
| 33   | 90206750    | 1   | HOLLOW STUD                                                            |     |
| 34   | 88501008    | 4   | HEX NUT, 1/2-13                                                        |     |
| 35   | 88671027    | 1   | LUBE FITING - 45 1/4-28                                                |     |
| 36   | 85681076    | 2   | GASKET (drive motor to hub)                                            |     |

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FIGURE 8-10. STEERING HYDRAULICS (SN 8344001L to Present)



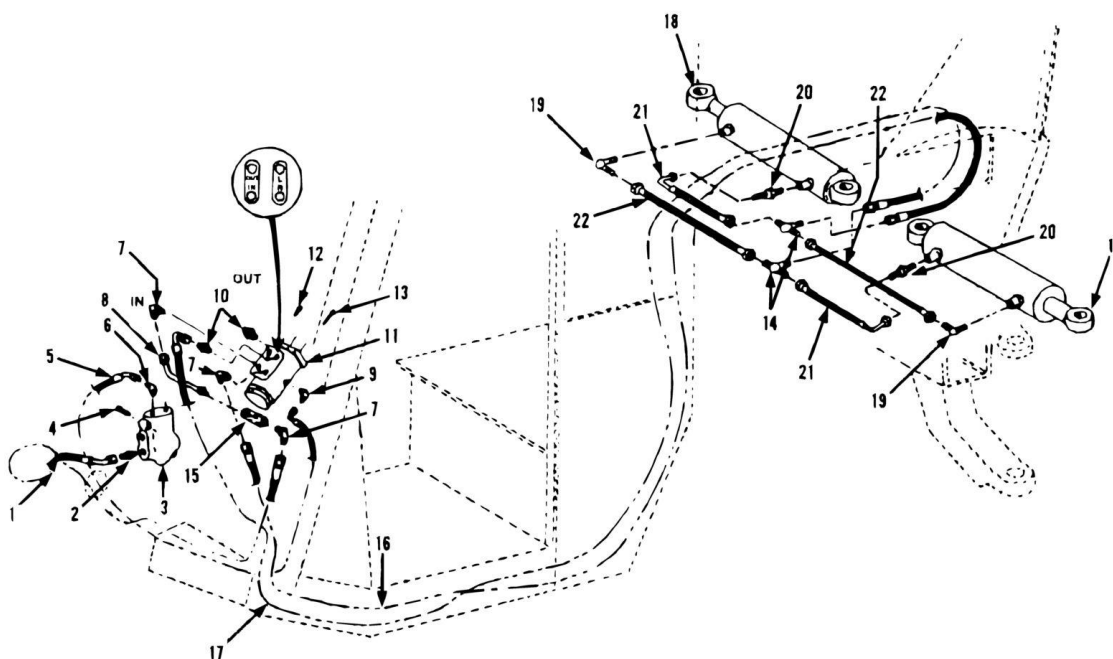
## SECTION 8 - HYDRAULIC CIRCUIT

**FIGURE 8-10. STEERING HYDRAULICS (SN 8344001L to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                              | REV |
|------|-------------|-----|------------------------------------------|-----|
| 1    | 90207410    | 1   | HIGH PRESSURE HOSE                       |     |
| 2    | 88662007    | 1   | CONNECTOR (includes o-ring)              |     |
| 2    | 88591206    | 1   | O-RING                                   |     |
| 3    | 90205585    | 1   | LOAD SENSING PRIORITY FLOW CONTROL VALVE |     |
| 4    | 88201028    | 2   | HEX HD CAPSCREW, 5/16-18X3 GR5           |     |
| 5    | 90205799    | 1   | HIGH PRESSURE HOSE                       |     |
| 6    | 83661316    | 1   | CONNECTOR                                |     |
| 7    | 88662065    | 3   | ELBOW - 90, (includes o-ring)            |     |
| 7    | 88591205    | 3   | ORING                                    |     |
| 8    | 90206003    | 1   | TUBE ASSY                                |     |
| 9    | 90028499    | 1   | ELBOW - 90, STRAIGHT                     |     |
| 10   | 88662006    | 2   | CONNECTOR (includes O-ring)              |     |
| 10   | 88591205    | 2   | O-RING                                   |     |
| 11   | 90206762    | 1   | STEERING ORBITOL                         |     |
| 12   | 88201033    | 2   | HEX HD CAPSCREW, 3/8-16x3/4 GR5          |     |
| 13   | 88201037    | 2   | HEX HD CAPSCREW, 3/8-16X1-1/2 GR5        |     |
| 14   | 90027913    | 2   | STRAIGHT TEE                             |     |
| 15   | 90202926    | 1   | CHECK VALVE                              |     |
| 16   | 90207369    | 1   | HIGH PRESSURE HOSE                       |     |
| 17   | 90207368    | 1   | HIGH PRESSURE HOSE                       |     |
| 18   | 90801313    | 2   | STEERING CYLINDER                        |     |
| 19   | 90027713    | 2   | CLAMP                                    |     |
| 20   | 77131088    | 4   | ELBOW - 90, ADJUSTABLE                   |     |
| 21   | 90601364    | 2   | TUBE ASSY                                |     |
| 22   | 90207301    | 2   | HIGH PRESSURE HOSE                       |     |
| 23   | 90205121    | 2   | HIGH PRESSURE HOSE                       |     |

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**FIGURE 8-11. STEERING HYDRAULICS (SN 0144638J to Present)**



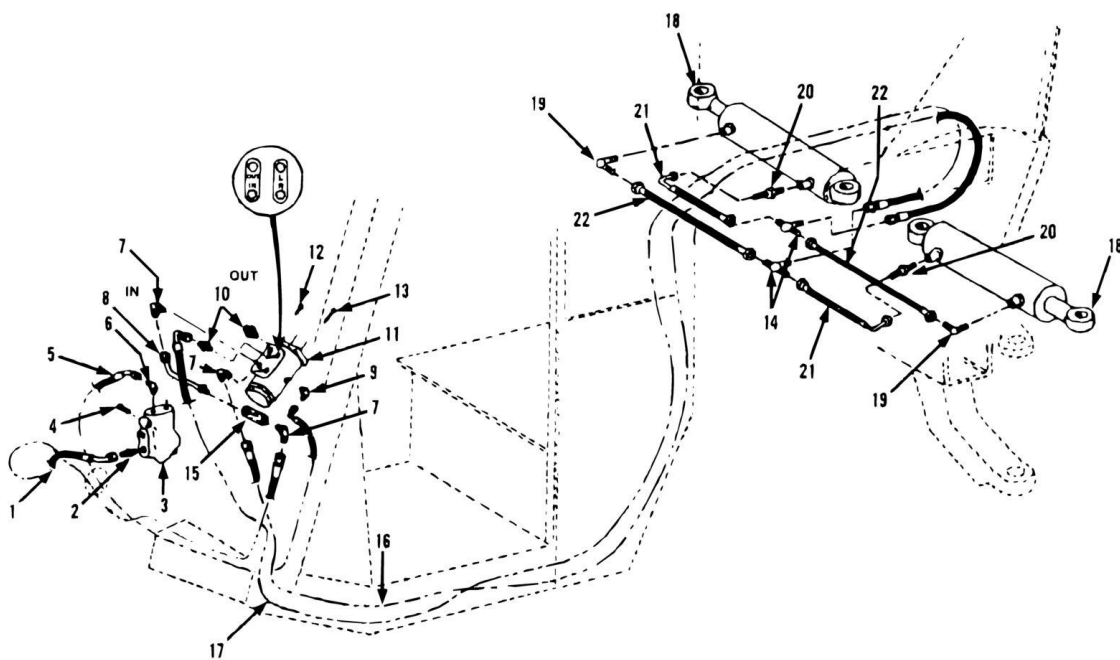
## SECTION 8 - HYDRAULIC CIRCUIT

**FIGURE 8-11. STEERING HYDRAULICS (SN 0144638J to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                                  | REV |
|------|-------------|-----|------------------------------------------------------------------------------|-----|
| 1    | 84717550    | 1   | HOSE ASSY                                                                    |     |
| 2    | 88662007    | 1   | CONNECTOR (includes o-ring)                                                  |     |
| 2    | 88591206    | 1   | O-RING                                                                       |     |
| 3    | 91033240    | 1   | PRIORITY FLOW CONTROL VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown) |     |
| 4    | 88201028    | 2   | HEX HD CAPSCREW, 5/16-18X3 GR5                                               |     |
| 5    | 84717547    | 1   | HOSE ASSY                                                                    |     |
| 6    | 83661316    | 1   | CONNECTOR                                                                    |     |
| 7    | 88662065    | 3   | ELBOW - 90, (includes o-ring)                                                |     |
| 7    | 88591205    | 3   | O-RING                                                                       |     |
| 8    | 90206003    | 1   | TUBE ASSY                                                                    |     |
| 9    | 90028499    | 1   | ELBOW - 90                                                                   |     |
| 10   | 88662006    | 2   | CONNECTOR (includes O-ring)                                                  |     |
| 11   | 90206762    | 1   | STEERING ORBITOL                                                             |     |
| 12   | 88201033    | 2   | HEX HD CAPSCREW, 3/8-16X3/4 GR5 (column to orbitrol)                         |     |
| 13   | 88201037    | 2   | HEX HD CAPSCREW, 3/8-16X1-1/2 GR5 (orbitrol to instrument panel)             |     |
| 14   | 88661306    | 2   | UNION TEE, 1/2 TUBE                                                          |     |
| 15   | 90202926    | 1   | CHECK VALVE                                                                  |     |
| 16   | 84717549    | 1   | HOSE ASSY                                                                    |     |
| 17   | 84717548    | 1   | HOSE ASSY                                                                    |     |
| 18   | 90801313    | 2   | STEERING CYLINDER (See HYDRAULIC COMPONENTS SECTION for Breakdown)           |     |
| 19   | 88662064    | 2   | ELBOW - 90, (includes o-ring)                                                |     |
| 19   | 88591204    | 2   | O-RING                                                                       |     |
| 20   | 88662005    | 2   | CONNECTOR (includes o-ring)                                                  |     |
| 20   | 88591204    | 2   | O-RING                                                                       |     |
| 21   | 84717546    | 2   | HOSE ASSY                                                                    |     |
| 22   | 84717525    | 2   | HOSE ASSY                                                                    |     |

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**FIGURE 8-12. STEERING HYDRAULICS (SN 8644862G to Present)**





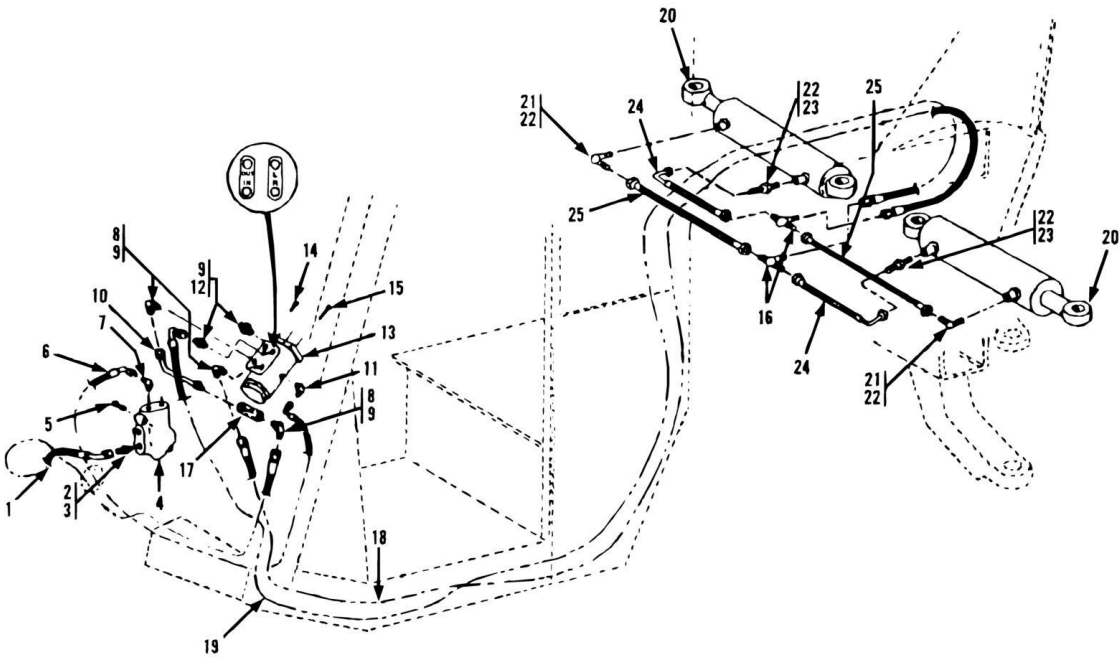
## SECTION 8 - HYDRAULIC CIRCUIT

**FIGURE 8-12. STEERING HYDRAULICS (SN 8644862G to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                                  | REV |
|------|-------------|-----|------------------------------------------------------------------------------|-----|
| 1    | 84717550    | 1   | HOSE ASSY                                                                    |     |
| 2    | 88662007    | 1   | CONNECTOR (includes o-ring)                                                  |     |
| 2    | 88591206    | 1   | O-RING                                                                       |     |
| 3    | 91033240    | 1   | PRIORITY FLOW CONTROL VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown) |     |
| 4    | 88201028    | 2   | HEX HD CAPSCREW, 5/16-18X3 GR5                                               |     |
| 5    | 84717547    | 1   | HOSE ASSY                                                                    |     |
| 6    | 83661316    | 1   | CONNECTOR                                                                    |     |
| 7    | 88662065    | 3   | ELBOW - 90, (includes o-ring)                                                |     |
| 7    | 88591205    | 3   | O-RING                                                                       |     |
| 8    | 90206003    | 1   | TUBE ASSY                                                                    |     |
| 9    | 90028499    | 2   | ELBOW - 90                                                                   |     |
| 10   | 88662006    | 2   | CONNECTOR (includes O-ring)                                                  |     |
| 11   | 90206762    | 1   | STEERING ORBITROL                                                            |     |
| 12   | 88201033    | 2   | HEX HD CAPSCREW, 3/8-16X3/4 GR5 (column to orbitrol)                         |     |
| 13   | 88201037    | 2   | HEX HD CAPSCREW, 3/8-16X1-1/2 GR5 (orbitrol to instrument panel)             |     |
| 14   | 90027913    | 2   | STRAIGHT TEE                                                                 |     |
| 15   | 90202926    | 1   | CHECK VALVE                                                                  |     |
| 16   | 84717882    | 1   | HIGH PRESSURE HOSE                                                           |     |
| 17   | 84717548    | 1   | HIGH PRESSURE HOSE                                                           |     |
| 18   | 90801313    | 2   | STEERING CYLINDER (See HYDRAULIC COMPONENTS SECTION for Breakdown)           |     |
| 19   | 77131088    | 2   | ELBOW - 90, ADJUSTABLE                                                       |     |
| 20   | 88662035    | 2   | CONNECTOR (includes O-ring)                                                  |     |
| 20   | 88591204    | 2   | O-RING                                                                       |     |
| 21   | 84717546    | 1   | HIGH PRESSURE HOSE                                                           |     |
| 22   | 84717553    | 1   | HIGH PRESSURE HOSE                                                           |     |

SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-13. STEERING HYDRAULICS (SN 0144784S to Present)



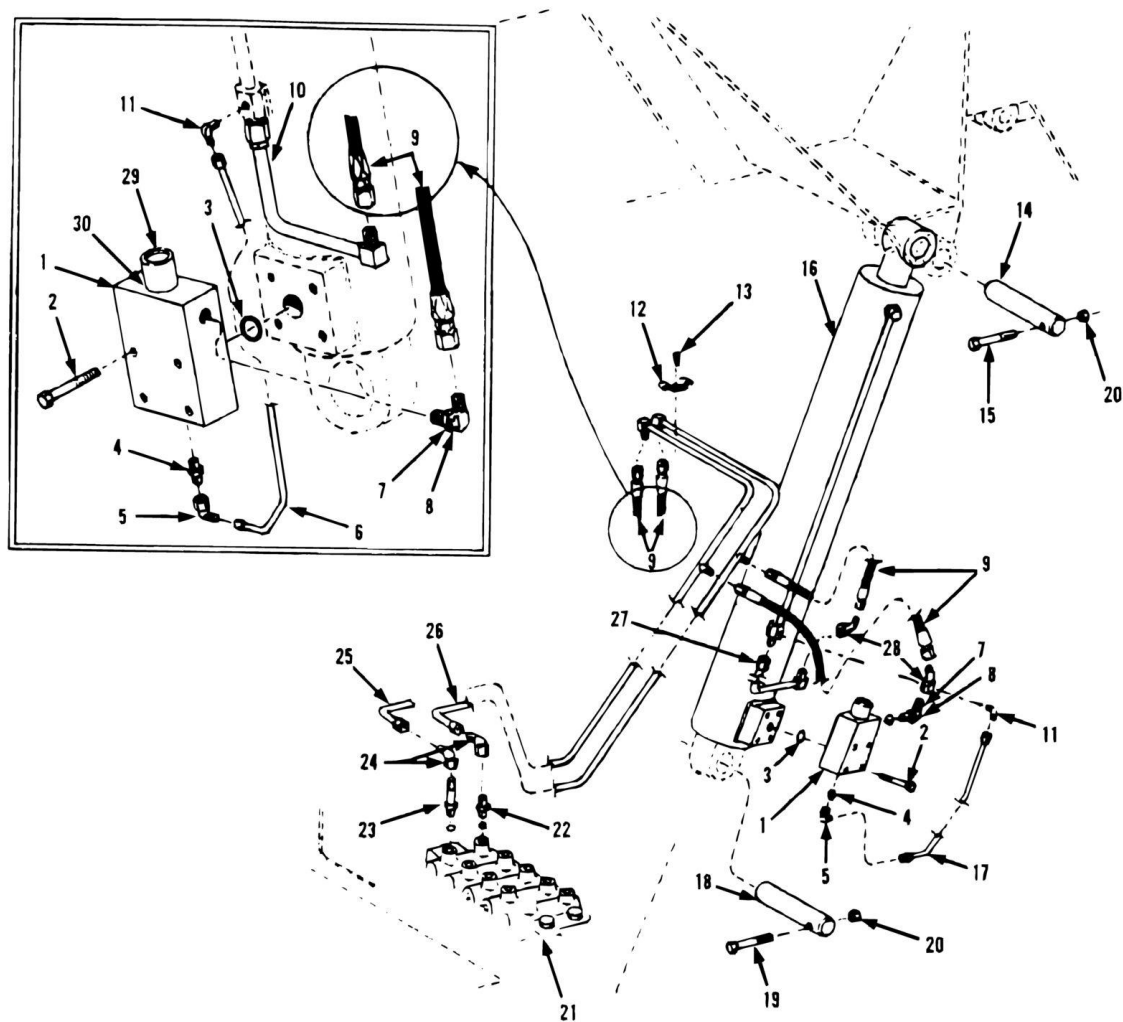
## SECTION 8 - HYDRAULIC CIRCUIT

**FIGURE 8-13. STEERING HYDRAULICS (SN 0144784S to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                                       | REV |
|------|-------------|-----|-----------------------------------------------------------------------------------|-----|
| 1    | 84717550    | 1   | HOSE ASSY                                                                         |     |
| 2    | 88662007    | 1   | CONNECTOR, (includes item 3)                                                      |     |
| 3    | 88591206    | 1   | O-RING                                                                            |     |
| 4    |             | Ref | LOAD SENSING FLOW CONTROL VALVE, (See HYDRAULIC COMPONENTS SECTION for Breakdown) |     |
| 5    | 88201028    | 2   | HEX HD CAPSCREW, 5/16-18X3, GR5                                                   |     |
| 6    | 84717547    | 1   | HOSE ASSY                                                                         |     |
| 7    | 83661316    | 1   | CONNECTOR                                                                         |     |
| 8    | 88662065    | 3   | ELBOW, 90, (includes item 9)                                                      |     |
| 9    | 88591205    | 5   | O-RING                                                                            |     |
| 10   | 90206003    | 1   | TUBE ASSY                                                                         |     |
| 11   | 90028499    | 2   | ELBOW, 90, (straight)                                                             |     |
| 12   | 88662006    | 2   | CONNECTOR, (includes item 9)                                                      |     |
| 13   | 90206762    | 1   | STEERING ORBITROL                                                                 |     |
| 14   | 88201033    | 2   | HEX HD CAPSCREW, 3/8-16X3/4, GR5, (column to orbitrol)                            |     |
| 15   | 88201037    | 2   | HEX HD CAPSCREW, 3/8-16X1-1/2, GR5, (orbitrol to instrument panel)                |     |
| 16   | 88661306    | 2   | UNION TEE, 1/2 TUBE                                                               |     |
| 17   | 90202926    | 1   | CHECK VALVE                                                                       |     |
| 18   | 84717882    | 1   | HOSE ASSY                                                                         |     |
| 19   | 84717548    | 1   | HOSE ASSY                                                                         |     |
| 20   |             | Ref | STEERING CYLINDER, (See HYDRAULIC COMPONENTS SECTION for Breakdown)               |     |
| 21   | 88662064    | 2   | ELBOW, 90, (includes item 22)                                                     |     |
| 22   | 88591204    | 4   | O-RING                                                                            |     |
| 23   | 88662005    | 2   | CONNECTOR, (includes item 22)                                                     |     |
| 24   | 84717546    | 1   | HOSE ASSY                                                                         |     |
| 25   | 84717525    | 1   | HOSE ASSY                                                                         |     |

SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-14. HYDRAULICS-BOOM LIFT WAUKESHA ENGINE ONLY (SN 8344001L through 8444490)



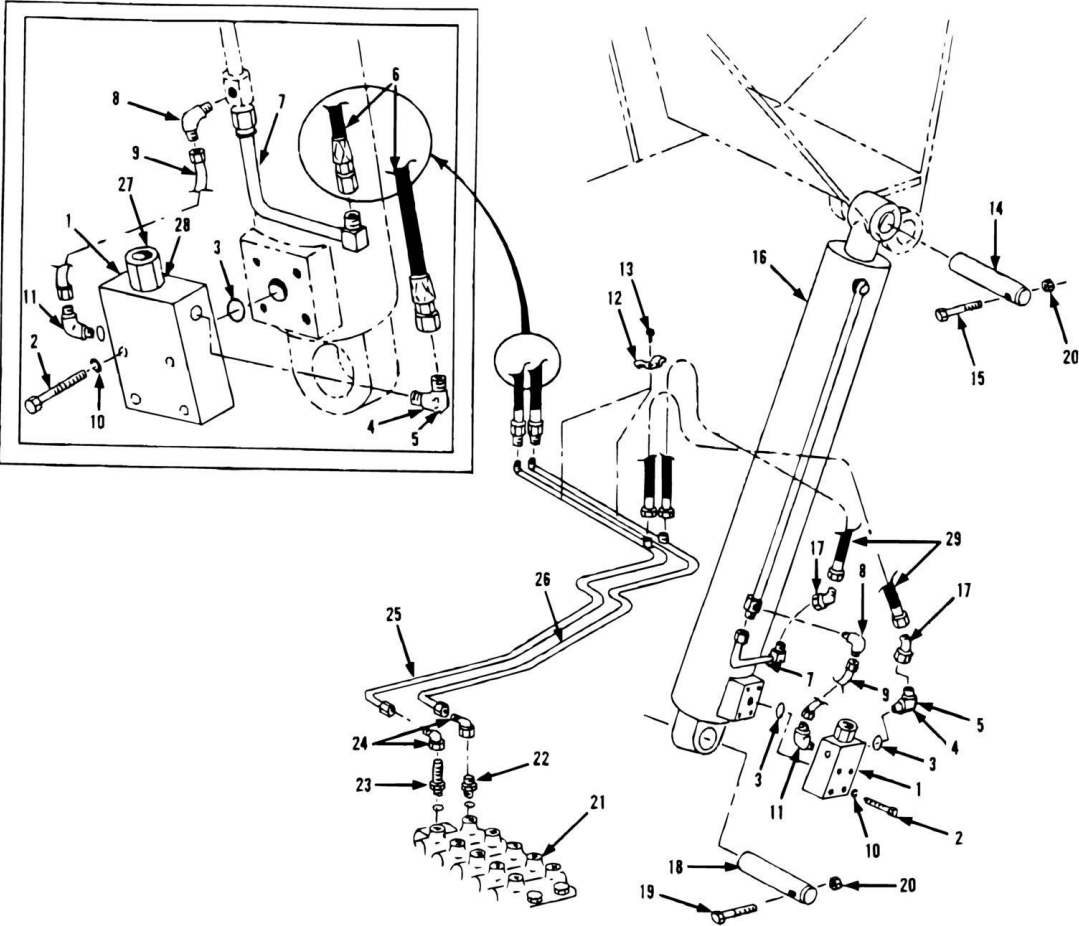
## SECTION 8 - HYDRAULIC CIRCUIT

**FIGURE 8-14. HYDRAULICS-BOOM LIFT WAUKESHA ENGINE ONLY (SN 8344001L through 8444490)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                                   | REV |
|------|-------------|-----|-------------------------------------------------------------------------------|-----|
| 1    | 90205237    | 2   | COUNTERBALANCE VALVE                                                          |     |
| 1    | 91034030    | AR  | SEAL KIT                                                                      |     |
| 2    | 88201071    | 8   | HEX HD CAPSCREW, 1/2-13X2-1/2 GR5                                             |     |
| 3    | 88591102    | 2   | O-RING (valve to cylinder)                                                    |     |
| 4    | 88662017    | 2   | CONNECTOR (includes o-ring)                                                   |     |
| 4    | 88591204    | 2   | O-RING                                                                        |     |
| 5    | 88662103    | 2   | ELBOW - 90, (swivel nut)                                                      |     |
| 6    | 90207380    | 1   | TUBE ASSY                                                                     |     |
| 7    | 90207379    | 2   | ELBOW - 90, ADJUSTABLE                                                        |     |
| 8    | 90208215    | 2   | ORIFICE ELBOW                                                                 |     |
| 9    | 90022043    | 4   | HIGH PRESSURE HOSE                                                            |     |
| 10   | 90207381    | 1   | TUBE ASSY                                                                     |     |
| 11   | 88743041    | 2   | MALE ELBOW - 90, 1/8X1/4 TUBE                                                 |     |
| 12   | 90200483    | 1   | TUBE CLAMP                                                                    |     |
| 13   | 88201035    | 1   | HEX HD CAPSCREW, 3/8-16X1, GR5                                                |     |
| 14   | 90206892    | 2   | PIN (lift cyl rod end)                                                        |     |
| 15   | 88201105    | 2   | HEX HD CAPSCREW, 5/8-11X4, GR5                                                |     |
| 16   |             | Ref | LIFT CYLINDER (See HYDRAULIC COMPONENTS SECTION for Breakdown)                |     |
| 17   | 90207383    | 1   | TUBE ASSY                                                                     |     |
| 18   | 90402875    | 2   | PIN (lift cyl rod end)                                                        |     |
| 19   | 88201104    | 2   | HEX HD CAPSCREW, 5/8-11X3-3/4 GR5                                             |     |
| 20   | 88501010    | 4   | HEX NUT 5/8-11                                                                |     |
| 21   |             | Ref | MAIN HYDRAULIC CONTROL VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown) |     |
| 22   | 88662025    | 1   | CONNECTOR (includes o-ring)                                                   |     |
| 22   | 88591209    | 1   | O-RING                                                                        |     |
| 23   | 88662038    | 1   | CONNECTOR (includes o-ring)                                                   |     |
| 23   | 88591207    | 1   | O-RING                                                                        |     |
| 24   | 88662108    | 2   | ELBOW - 90, (swivel nut)                                                      |     |
| 25   | 90207378    | 1   | TUBE ASSY                                                                     |     |
| 26   | 90207382    | 1   | TUBE ASSY                                                                     |     |
| 27   | 90207381    | 1   | TUBE ASSY                                                                     |     |
| 28   | 88662121    | 2   | ELBOW - 45, (swivel nut)                                                      |     |
| 29   | 90205773    | 2   | CARTRIDGE                                                                     |     |
| 30   | 88591210    | 2   | O-RING (cartridge to valve)                                                   |     |

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FIGURE 8-15. HYDRAULICS-BOOM LIFT (SN 0144637J to Present)



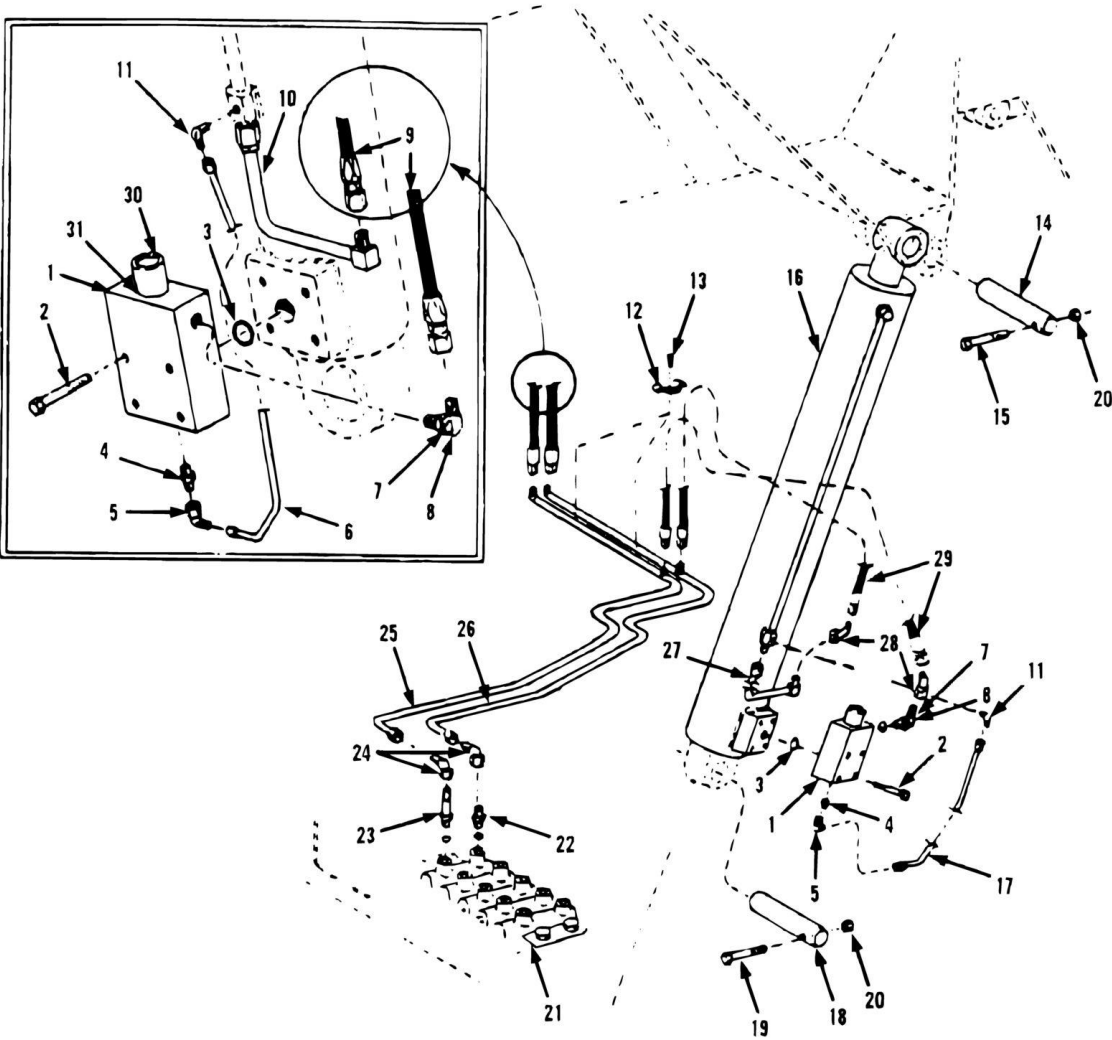
## SECTION 8 - HYDRAULIC CIRCUIT

**FIGURE 8-15. HYDRAULICS-BOOM LIFT (SN 0144637J to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                                   | REV |
|------|-------------|-----|-------------------------------------------------------------------------------|-----|
| 1    | 91043232    | 2   | COUNTERBALANCE VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)         |     |
| 2    | 88201071    | 8   | HEX HD CAPSCREW, 1/2-13X2-1/3 GR5                                             |     |
| 3    | 88591102    | 2   | O-RING                                                                        |     |
| 4    | 90207379    | 2   | ELBOW - 90, ADJUSTABLE                                                        |     |
| 5    | 90208215    | 2   | ORIFICE ELBOW                                                                 |     |
| 6    | 84716448    | 2   | HOSE ASSY                                                                     |     |
| 7    | 90207381    | 1   | TUBE ASSY                                                                     |     |
| 8    | 88743041    | 2   | MALE ELBOW - 90, 1/8X1/4 TUBE                                                 |     |
| 9    | 91043069    | 2   | TUBE ASSY                                                                     |     |
| 10   | 88551013    | 8   | LOCKWASHER 1/2                                                                |     |
| 11   | 88743041    | 2   | MALE ELBOW - 90, 1/8X1/4 TUBE                                                 |     |
| 12   | 90200483    | 2   | TUBE CLAMP                                                                    |     |
| 13   | 88201035    | 2   | HEX HD CAPSCREW, 3/8-16X1 GR5                                                 |     |
| 14   | 90206892    | 2   | PIN (lift cyl rod end)                                                        |     |
| 15   | 88201105    | 2   | HEX HD CAPSCREW, 5/8-11X4 GR5                                                 |     |
| 16   | 91033286    | 2   | LIFT CYLINDER (See HYDRAULIC COMPONENTS SECTION for Breakdown)                |     |
| 17   | 88662121    | 2   | ELBOW - 45, (swivel nut)                                                      |     |
| 18   | 90202875    | 2   | PIN (lift cyl base end)                                                       |     |
| 19   | 88201105    | 2   | HEX HD CAPSCREW, 5/8-11X4, GR5                                                |     |
| 20   | 88501010    | 4   | HEX NUT, 5/8-11                                                               |     |
| 21   | 91033168    | 1   | MAIN HYDRAULIC CONTROL VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown) |     |
| 22   | 88662025    | 1   | CONNECTOR (includes o-ring)                                                   |     |
| 22   | 88591209    | 1   | O-RING                                                                        |     |
| 23   | 88662038    | 1   | CONNECTOR (includes o-ring)                                                   |     |
| 23   | 88591207    | 1   | O-RING                                                                        |     |
| 24   | 88662121    | 2   | ELBOW - 45, (swivel nut)                                                      |     |
| 25   | 91033124    | 1   | TUBE ASSY                                                                     |     |
| 26   | 91033123    | 1   | TUBE ASSY                                                                     |     |
| 27   | 91043245    | 2   | CARTRIDGE                                                                     |     |
| 28   | 88591210    | 2   | O-RING (cartridge to valve                                                    |     |
| 29   | 84716015    | 2   | HOSE ASSY                                                                     |     |

SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-16. HYDRAULICS-BOOM LIFT (SN 0144407 to Present)





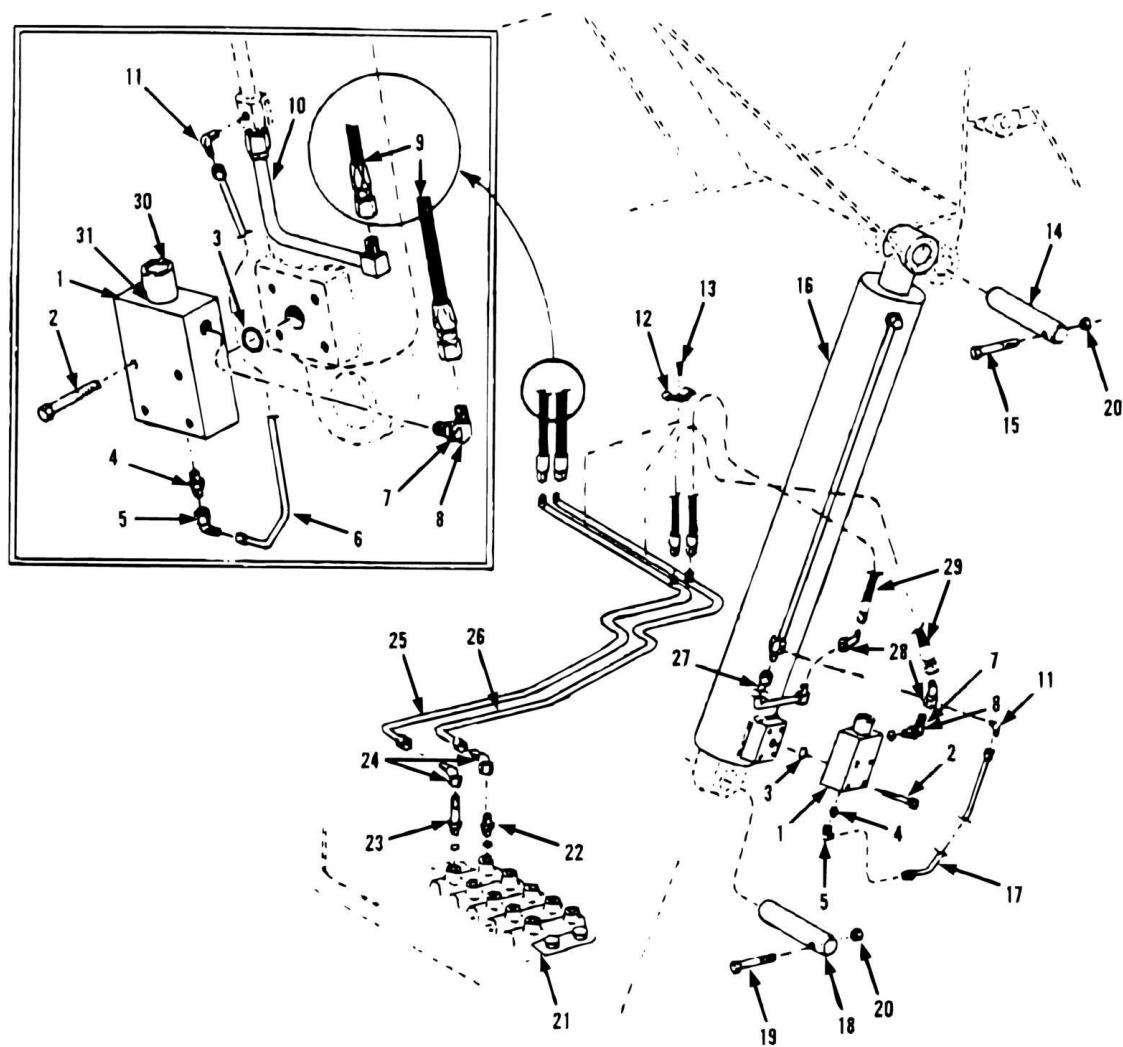
## SECTION 8 - HYDRAULIC CIRCUIT

**FIGURE 8-16. HYDRAULICS-BOOM LIFT (SN 0144407 to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                                   | REV |
|------|-------------|-----|-------------------------------------------------------------------------------|-----|
| 1    | 90205237    | 2   | COUNTERBALANCE VALVE                                                          |     |
| 1    | 91034030    | AR  | SEAL                                                                          |     |
| 2    | 88201071    | 8   | HEX HD CAPSCREW, 1/2-13X2-1/2 GR5                                             |     |
| 3    | 88591102    | 2   | O-RING                                                                        |     |
| 4    | 88662017    | 2   | CONNECTOR (includes o-ring)                                                   |     |
| 4    | 88591204    | 2   | O-RING                                                                        |     |
| 5    | 88662103    | 2   | ELBOW - 90, (swivel nut)                                                      |     |
| 6    | 90207380    | 1   | TUBE ASSY                                                                     |     |
| 7    | 90207379    | 2   | ELBOW - 90, ADJUSTABLE                                                        |     |
| 8    | 90208215    | 2   | ORIFICE ELBOW                                                                 |     |
| 9    | 84716448    | 2   | HOSE ASSY                                                                     |     |
| 10   | 90207381    | 1   | TUBE ASSY                                                                     |     |
| 11   | 88743041    | 2   | MALE ELBOW - 90, 1/8X1/4 TUBE                                                 |     |
| 12   | 90200483    | 2   | TUBE CLAMP                                                                    |     |
| 13   | 88201035    | 2   | HEX HD CAPSCREW, 3/8-16X1 GR5                                                 |     |
| 13   | 88501006    | 2   | HEX NUT, 3/8-16                                                               |     |
| 14   | 90206892    | 2   | PIN (rod end)                                                                 |     |
| 15   | 88201105    | 2   | HEX HD CAPSCREW, 5/8-11X4 GR5                                                 |     |
| 16   | 90801333    | Ref | LIFT CYLINDER (See HYDRAULIC COMPONENTS SECTION for Breakdown)                |     |
| 17   | 90207383    | 1   | TUBE ASSY                                                                     |     |
| 18   | 90402875    | 2   | PIN (base end)                                                                |     |
| 19   | 88201104    | 2   | HEX HD CAPSCREW, 5/8-11X3-3/4 GR5                                             |     |
| 20   | 88501010    | 4   | HEX NUT, 5/8-11                                                               |     |
| 21   | 91033168    | Ref | MAIN HYDRAULIC CONTROL VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown) |     |
| 22   | 88662025    | 1   | CONNECTOR (includes o-ring)                                                   |     |
| 22   | 88591209    | 1   | O-RING                                                                        |     |
| 23   | 88662038    | 1   | CONNECTOR (includes o-ring)                                                   |     |
| 23   | 88591207    | 1   | O-RING                                                                        |     |
| 24   | 88662108    | 2   | ELBOW - 90, (swivel nut)                                                      |     |
| 25   | 91043096    | 1   | TUBE ASSY                                                                     |     |
| 26   | 91043095    | 1   | TUBE ASSY                                                                     |     |
| 27   | 90207381    | 1   | TUBE ASSY                                                                     |     |
| 28   | 88662121    | 2   | ELBOW - 45, (swivel nut)                                                      |     |
| 29   | 84717799    | 2   | HOSE ASSY                                                                     |     |
| 30   | 90205773    | 2   | CARTRIDGE                                                                     |     |
| 31   | 88591210    | 2   | O-RING (cartridge to valve)                                                   |     |

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FIGURE 8-17. HYDRAULICS-BOOM LIFT START PERKINS ENGINE ONLY (SN 8444491 to Present)



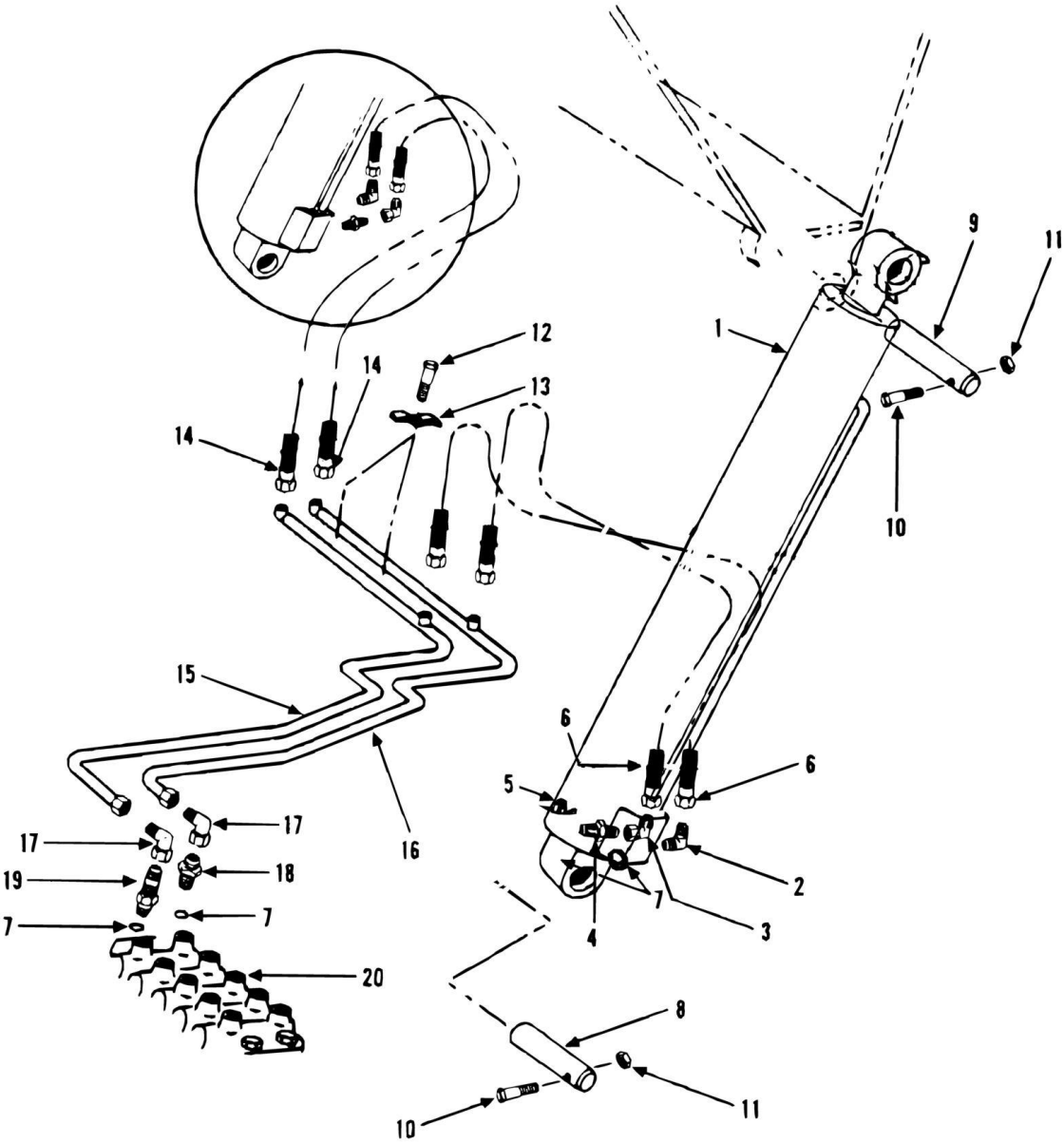
## SECTION 8 - HYDRAULIC CIRCUIT

**FIGURE 8-17. HYDRAULICS-BOOM LIFT START PERKINS ENGINE ONLY (SN 8444491 to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                                   | REV |
|------|-------------|-----|-------------------------------------------------------------------------------|-----|
| 1    | 90205237    | 2   | COUNTERBALANCE VALVE                                                          |     |
| 1    | 91034030    | AR  | SEAL KIT                                                                      |     |
| 2    | 88201071    | 8   | HEX HD CAPSCREW, 1/2-13X2-1/2 GR5                                             |     |
| 3    | 88591102    | 2   | O-RING                                                                        |     |
| 4    | 88662017    | 2   | CONNECTOR (includes o-ring)                                                   |     |
| 4    | 88591204    | 2   | O-RING                                                                        |     |
| 5    | 88662103    | 2   | ELBOW - 90, (swivel nut)                                                      |     |
| 6    | 90207380    | 1   | TUBE ASSY                                                                     |     |
| 7    | 90207379    | 2   | ELBOW - 90, ADJUSTABLE                                                        |     |
| 8    | 90208215    | 2   | ORIFICE ELBOW                                                                 |     |
| 9    | 84716448    | 2   | HOSE ASSY                                                                     |     |
| 10   | 90207381    | 1   | TUBE ASSY                                                                     |     |
| 11   | 88743041    | 2   | MALE ELBOW - 90, 1/8X1/4 TUBE                                                 |     |
| 12   | 90200483    | 2   | TUBE CLAMP                                                                    |     |
| 13   | 88201035    | 2   | HEX HD CAPSCREW, 3/8-16X1 GR5                                                 |     |
| 13   | 88501006    | 2   | HEX NUT, 3/8-16                                                               |     |
| 14   | 90206892    | 2   | PIN (lift cyl rod end)                                                        |     |
| 15   | 88201105    | 2   | HEX HD CAPSCREW, 5/8-11X4 GR5                                                 |     |
| 16   |             | Ref | LIFT CYLINDER (See HYDRAULIC COMPONENTS SECTION for Breakdown)                |     |
| 17   | 90207383    | 1   | TUBE ASSY                                                                     |     |
| 18   | 90402875    | 2   | PIN (lift cyl base end)                                                       |     |
| 19   | 88201104    | 2   | HEX HD CAPSCREW, 5/8-11X3-3/4 GR5                                             |     |
| 20   | 88501010    | 4   | HEX NUT, 5/8-11                                                               |     |
| 21   |             | Ref | MAIN HYDRAULIC CONTROL VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown) |     |
| 22   | 88662025    | 1   | CONNECTOR (includes o-ring)                                                   |     |
| 22   | 88591209    | 1   | O-RING                                                                        |     |
| 23   | 88662038    | 1   | CONNECTOR (includes o-ring)                                                   |     |
| 23   | 88591207    | 1   | O-RING                                                                        |     |
| 24   | 88662108    | 2   | ELBOW - 90, (swivel nut)                                                      |     |
| 25   | 91033124    | 1   | TUBE ASSY                                                                     |     |
| 26   | 91033123    | 1   | TUBE ASSY                                                                     |     |
| 27   | 90207381    | 1   | TUBE ASSY                                                                     |     |
| 28   | 88662121    | 2   | ELBOW - 45, (swivel nut)                                                      |     |
| 29   | 84716015    | 2   | HOSE ASSY                                                                     |     |
| 30   | 90205773    | 2   | CARTRIDGE                                                                     |     |
| 31   | 88591210    | 2   | O-RING (cartridge to valve)                                                   |     |

SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-18. BOOM LIFT (SN 0144784S to Present)



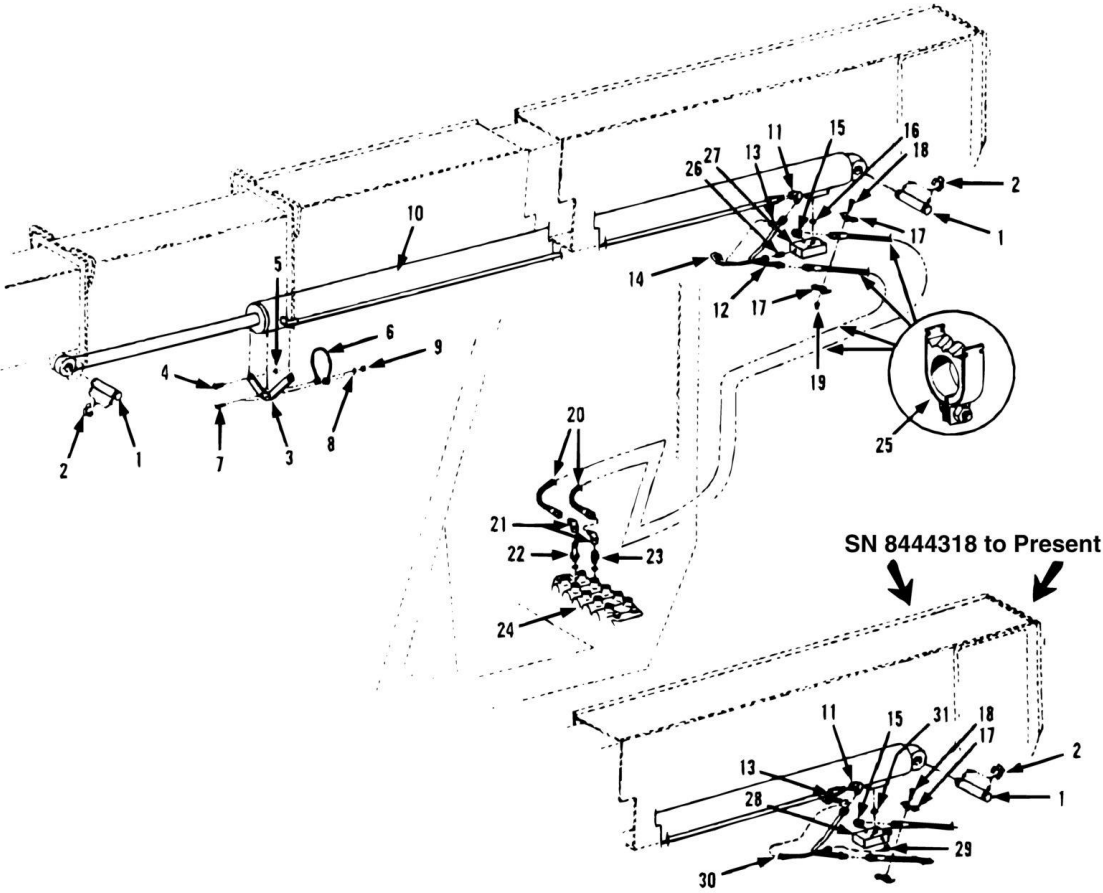
## SECTION 8 - HYDRAULIC CIRCUIT

**FIGURE 8-18. BOOM LIFT (SN 0144784S to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                               | REV |
|------|-------------|-----|---------------------------------------------------------------------------|-----|
| 1    |             | Ref | LIFT CYLINDER ASSY, (See HYDRAULIC COMPONENTS SECTION for Breakdown)      |     |
| 2    | 86821248    | 2   | ELBOW, 90, (includes item 7)                                              |     |
| 3    | 88662107    | 2   | ELBOW, 90, (swivel nut)                                                   |     |
| 4    | 88662022    | 2   | CONNECTOR, (includes item 7)                                              |     |
| 5    | 91034308    | 1   | COUNTERBALANCE VALVE                                                      |     |
| 6    | 84717799    | 2   | HOSE ASSY                                                                 |     |
| 7    | 88591207    | 6   | O-RING                                                                    |     |
| 8    | 90402875    | 1   | PIN                                                                       |     |
| 9    | 90206892    | 1   | PIN                                                                       |     |
| 10   | 83201044    | 4   | HEX HD CAPSCREW, 5/8-11X4, GR8                                            |     |
| 11   | 88501010    | 4   | HEX NUT, 5/8-11                                                           |     |
| 12   | 88201035    | 4   | HEX HD CAPSCREW, 3/8-16X1, GR5                                            |     |
| 13   | 90200483    | 2   | TUBE CLAMP                                                                |     |
| 14   | 84716448    | 2   | HOSE ASSY                                                                 |     |
| 15   | 91043096    | 1   | TUBE ASSY                                                                 |     |
| 16   | 91043095    | 1   | TUBE ASSY                                                                 |     |
| 17   | 88662108    | 2   | ELBOW, 90, (swivel nut)                                                   |     |
| 18   | 88662008    | 1   | CONNECTOR, (includes item 7)                                              |     |
| 19   | 88662038    | 1   | CONNECTOR, (includes item 7)                                              |     |
| 20   |             | Ref | MAIN CONTROL VALVE ASSY, (See HYDRAULIC COMPONENTS SECTION for Breakdown) |     |

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FIGURE 8-19. HYDRAULICS-CROWD (SN 8344001L through 8444317)



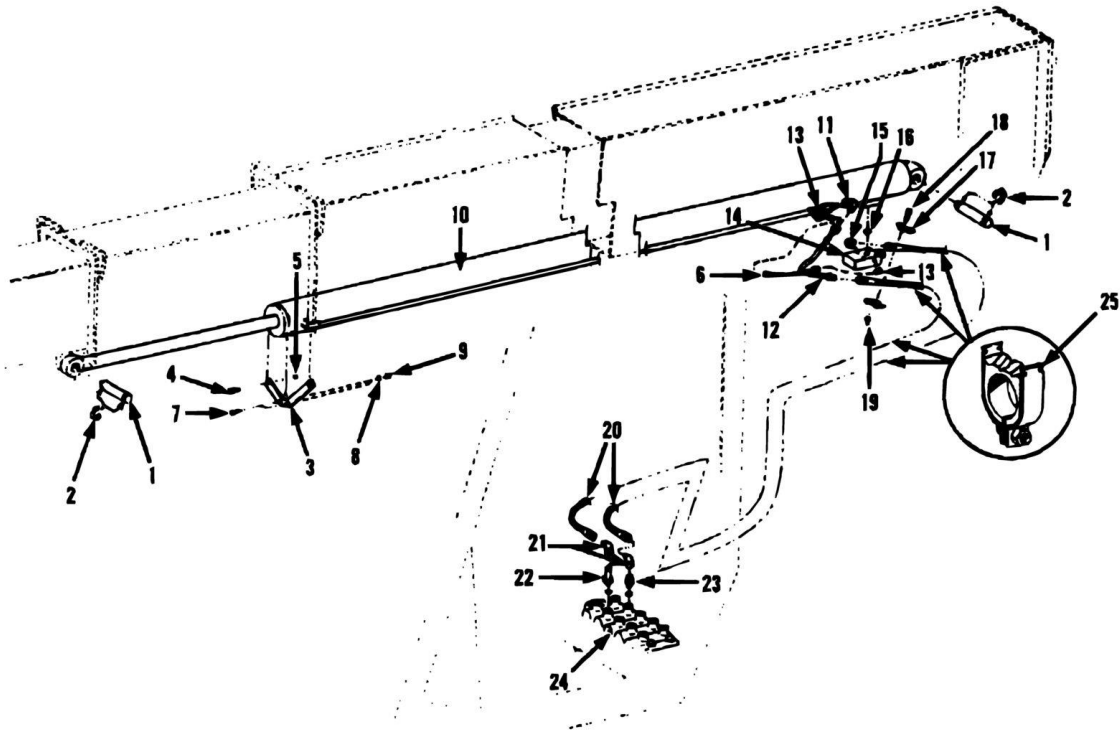
## SECTION 8 - HYDRAULIC CIRCUIT

**FIGURE 8-19. HYDRAULICS-CROWD (SN 8344001L through 8444317)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                         | REV |
|------|-------------|-----|---------------------------------------------------------------------|-----|
| 1    | 90207352    | 2   | PIN                                                                 |     |
| 2    | 90028935    | 2   | RETAINING RING                                                      |     |
| 3    | 90403212    | 1   | CROWD CYLINDER SUPPORT                                              |     |
| 4    | 88201067    | 2   | HEX HD CAPSCREW, 1/2-13x1-1/2 GR5                                   |     |
| 5    | 88501008    | 2   | HEX NUT, 1/2-13                                                     |     |
| 6    | 90207575    | 1   | TIE DOWN CROWD                                                      |     |
| 7    | 88201008    | 2   | HEX HD CAPSCREW, 1/4-20x1-3/4 GR5                                   |     |
| 8    | 88561107    | 2   | FLAT WASHER, 1/4                                                    |     |
| 9    | 88501004    | 2   | HEX NUT, 1/4-20                                                     |     |
| 10   |             | Ref | CROWD CYLINDER, (See HYDRAULIC COMPONENTS SECTION for Breakdown)    |     |
| 11   | 88743041    | 1   | MALE ELBOW - 90, 1/8X1/4 TUBE                                       |     |
| 12   | 90205825    | 1   | TUBE ASSY                                                           |     |
| 13   | 88662062    | 1   | ELBOW - 90, (includes o-ring)                                       |     |
| 13   | 88591202    | 1   | O-RING                                                              |     |
| 14   | 90205824    | 1   | TUBE ASSY                                                           |     |
| 15   | 88662067    | 1   | ELBOW - 90, (includes o-ring)                                       |     |
| 15   | 88591207    | 1   | O-RING                                                              |     |
| 16   | 88591102    | 1   | O-RING (valve to cylinder)                                          |     |
| 17   | 90200482    | 2   | HOSE CLAMP                                                          |     |
| 18   | 88201105    | 1   | HEX HD CAPSCREW, 5/8-11X4 GR5                                       |     |
| 19   | 88501006    | 1   | HEX NUT, 5/8-11                                                     |     |
| 20   | 84716039    | 2   | HOSE ASSY                                                           |     |
| 21   | 88662108    | 2   | ELBOW - 90, (swive nut)                                             |     |
| 22   | 88662038    | 1   | CONNECTOR (includes o-ring)                                         |     |
| 22   | 88591207    | 1   | O-RING                                                              |     |
| 23   | 88662025    | 1   | CONNECTOR (includes o-ring)                                         |     |
| 23   | 88591209    | 1   | O-RING                                                              |     |
| 24   |             | Ref | MAIN CONTROL VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown) |     |
| 25   | 90205792    | 4   | HOSE CLAMP                                                          |     |
| 26   | 88662017    | 1   | CONNECTOR (includes o-ring)                                         |     |
| 26   | 88591204    | 1   | O-RING                                                              |     |
| 27   | 90205237    | 1   | COUNTERBALANCE VALVE                                                |     |
| 27   | 91034030    | AR  | SEAL KIT                                                            |     |
| 27   | 88201072    | 4   | HEX HD CAPSCREW, 1/2-13X2-3/4 GR5                                   |     |
| 28   | 91043232    | 1   | COUNTERBALANCE VALVE                                                |     |
| 28   | 91043245    | 1   | LOAD CONTROL VALVE                                                  |     |
| 28   | 88201072    | 4   | HEX HD CAPSCREW, 1/2-13X2-3/4 GR5                                   |     |
| 29   | 88662062    | 1   | ELBOW - 90, (includes o-ring)                                       |     |
| 29   | 88591202    | 1   | O-RING                                                              |     |
| 30   | 91033092    | 1   | TUBE ASSY                                                           |     |
| 31   | 88591102    | 1   | O-RING (valve to cylinder)                                          |     |

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FIGURE 8-20. HYDRAULICS-CROWD (SN 0144407 to Present)





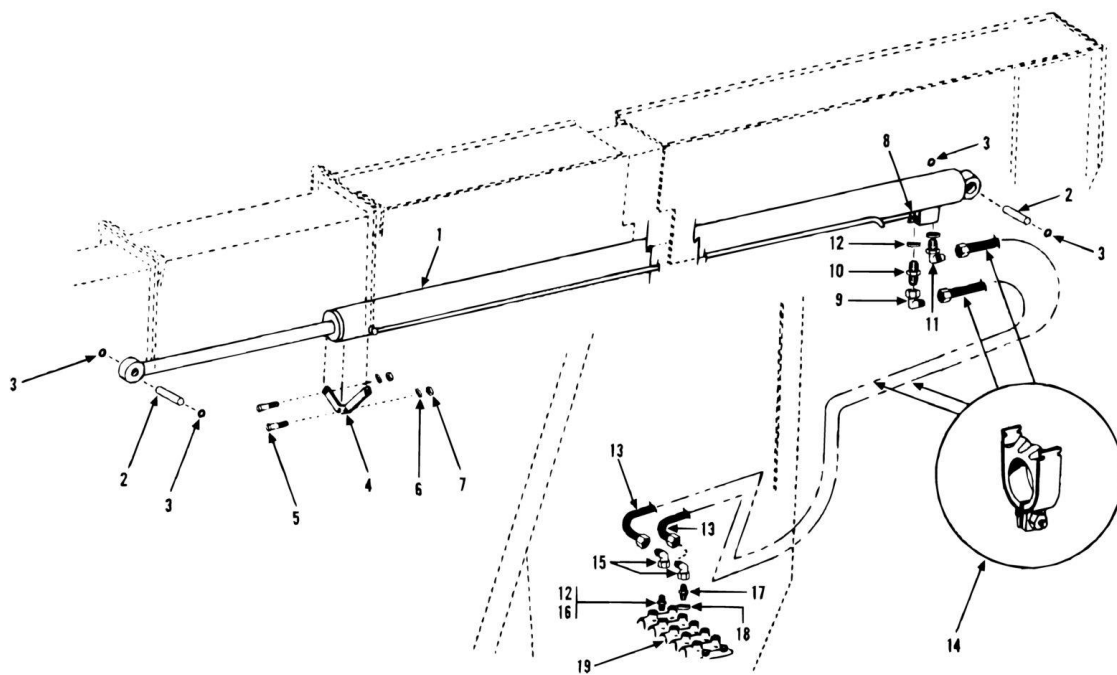
## SECTION 8 - HYDRAULIC CIRCUIT

**FIGURE 8-20. HYDRAULICS-CROWD (SN 0144407 to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                         | REV |
|------|-------------|-----|---------------------------------------------------------------------|-----|
| 1    | 90207352    | 2   | PIN                                                                 |     |
| 2    | 90028935    | 2   | RETAINING RING                                                      |     |
| 3    | 90403212    | 1   | CROWD CYLINDER SUPPORT                                              |     |
| 4    | 88201067    | 2   | HEX HD CAPSCREW, 1/2-13x1-1/2 GR5                                   |     |
| 5    | 88501008    | 2   | HEX NUT, 1/2-13                                                     |     |
| 6    | 91033092    | 1   | TUBE ASSY                                                           |     |
| 7    | 88201008    | 2   | HEX HD CAPSCREW, 1/4-20x1-3/4 GR5                                   |     |
| 8    | 88561107    | 2   | FLAT WASHER, 1/4                                                    |     |
| 9    | 88501004    | 2   | HEX NUT, 1/4-20                                                     |     |
| 10   | 90801293    | Ref | CROWD CYLINDER, (See HYDRAULIC COMPONENTS SECTION for Breakdown)    |     |
| 11   | 88743041    | 1   | MALE ELBOW - 90, 1/8X1/4 TUBE                                       |     |
| 12   | 90205825    | 1   | TUBE ASSY                                                           |     |
| 13   | 88662062    | 2   | ELBOW - 90, (includes o-ring)                                       |     |
| 13   | 88591202    | 2   | O-RING                                                              |     |
| 14   | 91043232    | 1   | COUNTERBALANCE VALVE                                                |     |
| 14   | 91043245    | 1   | LOAD CONTROL VALVE                                                  |     |
| 14   | 88201072    | 4   | HEX HD CAPSCREW, 1/2-13X2-3/4 GR5                                   |     |
| 15   | 88662067    | 1   | ELBOW - 90, (includes o-ring)                                       |     |
| 15   | 88591207    | 1   | O-RING                                                              |     |
| 16   | 88591102    | 1   | O-RING (valve to cylinder)                                          |     |
| 17   | 90200482    | 2   | HOSE CLAMP                                                          |     |
| 18   | 88201105    | 1   | HEX HD CAPSCREW, 5/8-11X4 GR5                                       |     |
| 19   | 88501106    | 1   | HEX NUT, 5/8-11                                                     |     |
| 20   | 84717608    | 2   | HOSE ASSY                                                           |     |
| 21   | 88662108    | 2   | ELBOW - 90, (swive nut)                                             |     |
| 22   | 88662038    | 1   | CONNECTOR (includes o-ring)                                         |     |
| 22   | 88591207    | 1   | O-RING                                                              |     |
| 23   | 88662025    | 1   | CONNECTOR (includes o-ring)                                         |     |
| 23   | 88591209    | 1   | O-RING                                                              |     |
| 24   | 91033168    | Ref | MAIN CONTROL VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown) |     |
| 25   | 90205792    | 4   | HOSE CLAMP                                                          |     |

## SECTION 8 - HYDRAULIC CIRCUIT

**FIGURE 8-21. CROWD (SN 0144784S to Present)**



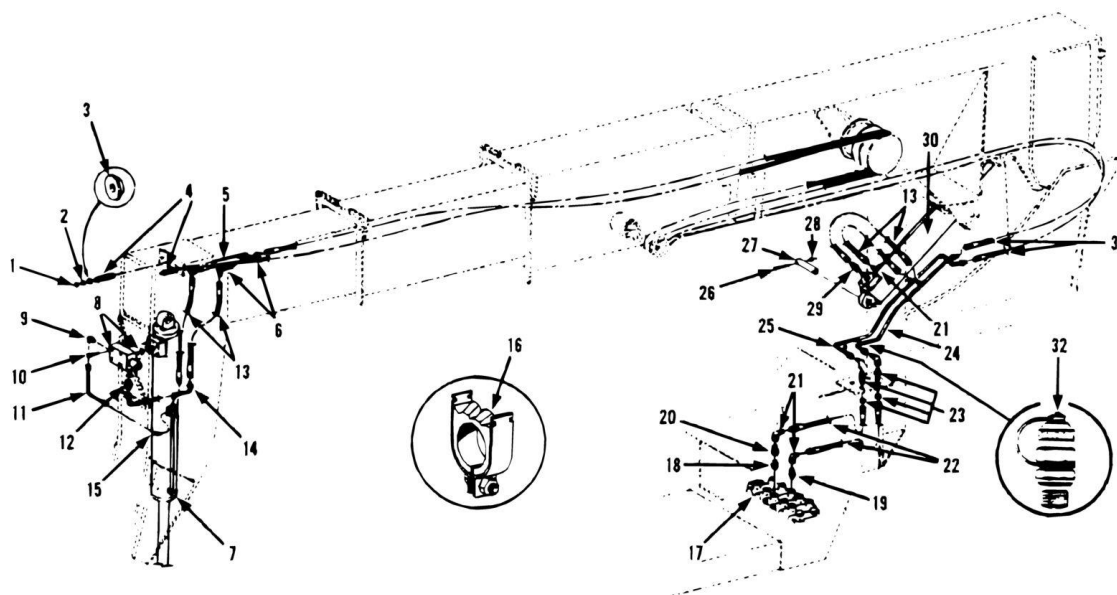
## SECTION 8 - HYDRAULIC CIRCUIT

**FIGURE 8-21. CROWD (SN 0144784S to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                               | REV |
|------|-------------|-----|---------------------------------------------------------------------------|-----|
| 1    |             | Ref | CROWD CYLINDER ASSY, (See HYDRAULIC COMPONENTS SECTION for Breakdown)     |     |
| 2    | 90207352    | 2   | PIN                                                                       |     |
| 3    | 90028935    | 4   | RETAINING RING                                                            |     |
| 4    | 90403212    | 1   | CROWD CYLINDER SUPPORT                                                    |     |
| 5    | 88201008    | 2   | HEX HD CAPSCREW, 1/4-20X1-3/4, GR5                                        |     |
| 6    | 88561107    | 2   | FLATWASHER, 1/4                                                           |     |
| 7    | 88501004    | 2   | HEX NUT, 1/4-20                                                           |     |
| 8    | 91034308    | 1   | COUNTERBALANCE VALVE, (includes o-ring)                                   |     |
| 9    | 88662108    | 1   | ELBOW, 90, (swivel nut)                                                   |     |
| 10   | 88662008    | 1   | CONNECTOR, (includes item 12)                                             |     |
| 11   | 88662067    | 1   | ELBOW, 90, (includes item 12)                                             |     |
| 12   | 88591207    | 3   | O-RING                                                                    |     |
| 13   | 84717608    | 2   | HOSE ASSY                                                                 |     |
| 14   | 90205792    | 4   | HOSE CLAMP                                                                |     |
| 15   | 88662108    | 2   | ELBOW, 90, (swivel nut)                                                   |     |
| 16   | 88662038    | 1   | CONNECTOR, (includes item, 12)                                            |     |
| 17   | 88662025    | 1   | CONNECTOR, (includes item, 18)                                            |     |
| 18   | 88591209    | 1   | O-RING                                                                    |     |
| 19   |             | Ref | MAIN CONTROL VALVE ASSY, (See HYDRAULIC COMPONENTS SECTION for Breakdown) |     |

## SECTION 8 - HYDRAULIC CIRCUIT

**FIGURE 8-22. HYDRAULICS-TILT AND TILT COMPENSATING (SN 8344001L to Present)**



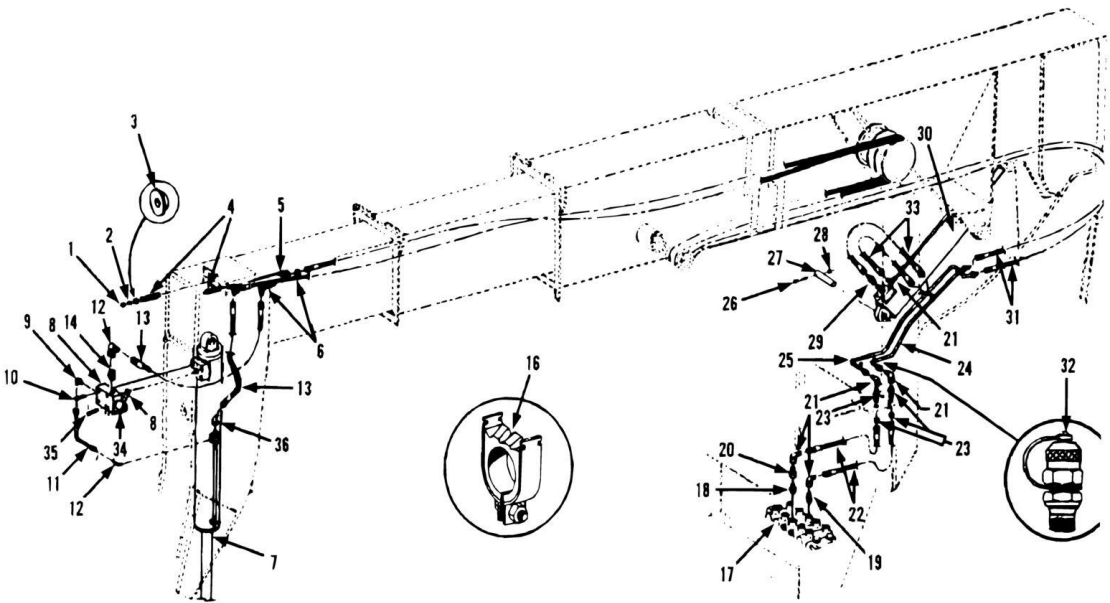
## SECTION 8 - HYDRAULIC CIRCUIT

**FIGURE 8-22. HYDRAULICS-TILT AND TILT COMPENSATING (SN 8344001L to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                  | REV |
|------|-------------|-----|--------------------------------------------------------------|-----|
| 1    | 88501008    | 2   | HEX NUT, 1/2-13                                              |     |
| 2    | 88501108    | 2   | HEAVY HEX JAM NUT 1/2-13                                     |     |
| 3    | 90207041    | 2   | RETAINER                                                     |     |
| 4    | 90200313    | 2   | SPRING                                                       |     |
| 5    | 90403249    | 2   | HOSE BULKHEAD BRACKET                                        |     |
| 6    | 90027180    | 2   | 90, FITTING WITH NUT                                         |     |
| 7    | 90801357    | 1   | TILT CYLINDER (6000# unit) (534B-6)                          |     |
| 7    | 90801327    | 1   | TILT CYLINDER (8000# unit) (534B-8)                          |     |
| 8    | 90205237    | 1   | COUNTERBALANCE VALVE (includes o-ring) (6000# unit) (534B-6) |     |
| 8    | 91034030    | AR  | EXTERNAL O-RING KIT                                          |     |
| 8    | 90028228    | 1   | O-RING                                                       |     |
| 8    | 91031272    | 1   | VALVE BLOCK (8000# unit) (534B-8)                            |     |
| 8    | 90205773    | 1   | VALVE CATRIDGE (8000# unit) (534B-8)                         |     |
| 9    | 90027906    | 1   | ELBOW - 90, ADJUSTABLE                                       |     |
| 10   | 88201071    | 4   | HEX HEAD CAPSCREW 1/2-13X2-1/2 GR5                           |     |
| 11   | 90207451    | 1   | TUBE ASSY                                                    |     |
| 12   | 88662020    | 1   | CONNECTOR (includes o-ring)                                  |     |
| 12   | 88591207    | 1   | O-RING                                                       |     |
| 13   | 90022043    | 4   | HIGH PRESSURE HOSE                                           |     |
| 14   | 90207452    | 1   | TUBE ASSY                                                    |     |
| 15   | 88743041    | 1   | MALE ELBOW - 90, 1/8X1/4 TUBE                                |     |
| 16   | 90207463    | 10  | HYDRA ZORB CLAMP                                             |     |
| 17   | 91033168    | 1   | MAIN HYDRAULIC CONTROL VALVE                                 |     |
| 18   | 88662025    | 1   | CONNECTOR (includes o-ring)                                  |     |
| 18   | 88591209    | 1   | O-RING                                                       |     |
| 19   | 83451104    | 1   | CONNECTOR                                                    |     |
| 20   | 86923006    | 1   | FEMALE CONNECTOR                                             |     |
| 21   | 88662107    | 5   | ELBOW - 90, (swivel nut)                                     |     |
| 22   | 90022043    | 2   | HIGH PRESSURE HOSE                                           |     |
| 23   | 90029939    | 2   | BULKHEAD ADAPTER WITH NUT                                    |     |
| 24   | 90207386    | 1   | TUBE ASSY                                                    |     |
| 25   | 90207387    | 1   | TUBE ASSY                                                    |     |
| 26   | 88201104    | 1   | HEX HD CAPSCREW 5/8-11X3-3/4 GR5                             |     |
| 27   | 90206892    | 1   | COMPENSATING CYLINDER BASE PIN                               |     |
| 28   | 88501010    | 1   | HEX NUT, 5/8-11                                              |     |
| 29   | 88662021    | 1   | CONNECTOR (includes o-ring)                                  |     |
| 29   | 88591205    | 1   | O-RING                                                       |     |
| 30   | 90801291    | 1   | TILT COMPENSATING CYLINDER (6000#unit) (534B-6)              |     |
| 30   | 90801328    | 1   | TILT COMPENSATING CULINDER (8000#unit) (534B-8)              |     |
| 31   | 90206888    | 2   | HIGH PRESSURE HOSE                                           |     |
| 32   | 91033032    | 2   | MINI-CHECK                                                   |     |

SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-23. TILT AND TILT COMPENSATING HYDRAULICS (SN 8744142G to Present)



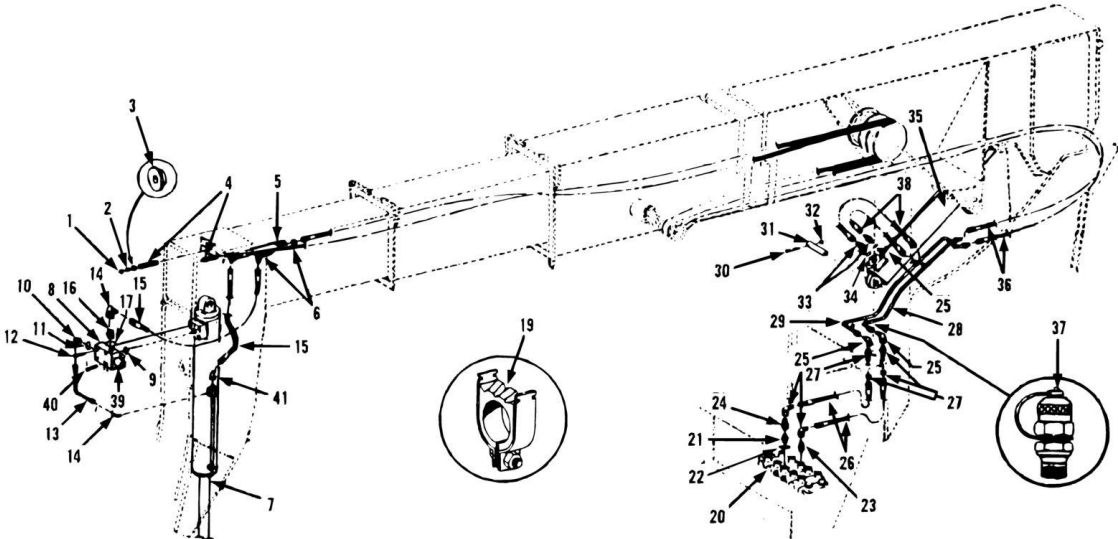
## SECTION 8 - HYDRAULIC CIRCUIT

**FIGURE 8-23. TILT AND TILT COMPENSATING HYDRAULICS (SN 8744142G to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                                   | REV |
|------|-------------|-----|-------------------------------------------------------------------------------|-----|
| 1    | 88501008    | 2   | HEX NUT, 1/2-13                                                               |     |
| 2    | 88501108    | 2   | HEAVY HEX JAM NUT 1/2-13                                                      |     |
| 3    | 90207041    | 2   | RETAINER                                                                      |     |
| 4    | 90200313    | 2   | SPRING                                                                        |     |
| 5    | 90403249    | 2   | BRACKET (hose bulkhead)                                                       |     |
| 6    | 90027180    | 2   | 90, BULKHEAD FITTING (with nut)                                               |     |
| 7    | 90801327    | 1   | TILT CYLINDER (See HYDRAULIC COMPONENTS SECTION for Breakdown)                |     |
| 8    | 91031272    | 1   | VALVE BLOCK                                                                   |     |
| 8    | 88591102    | 1   | O-RING (block to cylinder)                                                    |     |
| 9    | 88662062    | 1   | ELBOW - 90, (includes o-ring)                                                 |     |
| 9    | 88591202    | 1   | O-RING                                                                        |     |
| 10   | 88201073    | 2   | HEX HD CAPSCREW 1/2-13X3 GR5                                                  |     |
| 11   | 90207883    | 1   | TUBE ASSY                                                                     |     |
| 12   | 88662106    | 1   | ELBOW - 90, (swivel nut)                                                      |     |
| 13   | 90022043    | 2   | HOSE ASSY                                                                     |     |
| 14   | 88662020    | 1   | CONNECTOR (includes o-ring)                                                   |     |
| 14   | 88591207    | 1   | O-RING                                                                        |     |
| 15   | 88743041    | 1   | MALE ELBOW - 90, 1/8X1/4                                                      |     |
| 16   | 90207463    | 10  | CLAMP                                                                         |     |
| 17   |             | Ref | MAIN HYDRAULIC CONTROL VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown) |     |
| 18   | 88662025    | 1   | CONNECTOR (includes o-ring)                                                   |     |
| 18   | 88591209    | 1   | O-RING                                                                        |     |
| 19   | 83451102    | 1   | CONNECTOR                                                                     |     |
| 20   | 86923006    | 1   | FEMALE CONNECTOR                                                              |     |
| 21   | 88662107    | 5   | ELBOW - 90, (swivel nut)                                                      |     |
| 22   | 90022043    | 2   | HOSE ASSY                                                                     |     |
| 23   | 90029939    | 2   | BULKHEAD ADAPTER (with nut)                                                   |     |
| 24   | 90207386    | 1   | TUBE ASSY                                                                     |     |
| 25   | 90207387    | 1   | TUBE ASSY                                                                     |     |
| 26   | 88201104    | 1   | HEX HD CAPSCREW, 5/8-11X3-3/4 GR5                                             |     |
| 27   | 90206892    | 2   | PIN (comp cyl both ends)                                                      |     |
| 28   | 88501010    | 1   | HEX NUT, 5/8-11                                                               |     |
| 29   | 88662021    | 1   | CONNECTOR (includes o-ring)                                                   |     |
| 29   | 88591205    | 1   | O-RING                                                                        |     |
| 30   | 90801328    | 1   | TILT COMPENSATING CYLINDER (See HYDRAULIC COMPONENTS SECTION for Breakdown)   |     |
| 31   | 90206888    | 2   | HIGH PRESSURE HOSE                                                            |     |
| 32   | 91033032    | 2   | MINI-CHECK                                                                    |     |
| 33   | 90023042    | 2   | HOSE ASSY                                                                     |     |
| 34   | 90205773    | 1   | CARTRIDGE                                                                     |     |
| 35   | 88211105    | 2   | SOCKET HD CAPSCREW, 1/2-13X1 GR8                                              |     |
| 36   | 88662120    | 1   | ELBOW - 45, (swivel nut)                                                      |     |

SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-24. TILT AND TILT COMPENSATING HYDRAULICS (SN 0144784S to Present)





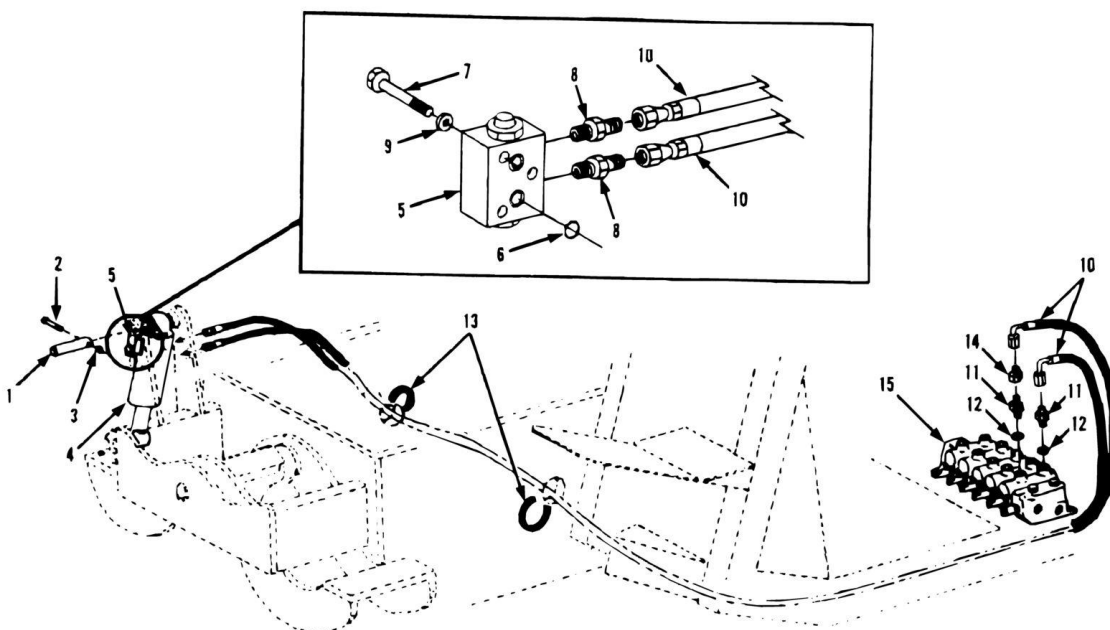
## SECTION 8 - HYDRAULIC CIRCUIT

**FIGURE 8-24. TILT AND TILT COMPENSATING HYDRAULICS (SN 0144784S to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                                    | REV |
|------|-------------|-----|--------------------------------------------------------------------------------|-----|
| 1    | 88501008    | 2   | HEX NUT, 1/2-13                                                                |     |
| 2    | 88501108    | 2   | HEAVY HEX JAM NUT, 1/2-13                                                      |     |
| 3    | 90207041    | 2   | RETAINER                                                                       |     |
| 4    | 90200313    | 2   | SPRING                                                                         |     |
| 5    | 90403249    | 2   | BRACKET, (hose bulkhead)                                                       |     |
| 6    | 90027180    | 2   | BULKHEAD FITTING-90, (with nut)                                                |     |
| 7    |             | Ref | TILT CYLINDER, (See HYDRAULIC COMPONENTS SECTION for Breakdown)                |     |
| 8    | 91031272    | 1   | VALVE BLOCK                                                                    |     |
| 9    | 88591102    | 1   | O-RING, (block to cylinder)                                                    |     |
| 10   | 88662062    | 1   | ELBOW, 90, (includes item 11)                                                  |     |
| 11   | 88591202    | 1   | O-RING                                                                         |     |
| 12   | 88201073    | 2   | HEX HD CAPSCREW, 1/2-13X3, GR5                                                 |     |
| 13   | 90207883    | 1   | TUBE ASSY                                                                      |     |
| 14   | 88662106    | 1   | ELBOW, 90, (swivel nut)                                                        |     |
| 15   | 84717922    | 2   | HOSE ASSY                                                                      |     |
| 16   | 88662020    | 1   | CONNECTOR, (includes item 17)                                                  |     |
| 17   | 88591207    | 1   | O-RING                                                                         |     |
| 18   | 88743041    | 1   | MALE ELBOW, 90, 1/8X1/4                                                        |     |
| 19   | 90207463    | 10  | CLAMP                                                                          |     |
| 20   |             | Ref | MAIN HYDRAULIC CONTROL VALVE, (See HYDRAULIC COMPONENTS SECTION for Breakdown) |     |
| 21   | 88662025    | 1   | CONNECTOR, (includes item 22)                                                  |     |
| 22   | 88591209    | 1   | O-RING                                                                         |     |
| 23   | 83451102    | 1   | CONNECTOR                                                                      |     |
| 24   | 86923006    | 1   | FEMALE CONNECTOR                                                               |     |
| 25   | 88662107    | 5   | ELBOW, 90, (swivel nut)                                                        |     |
| 26   | 90022043    | 2   | HOSE ASSY                                                                      |     |
| 27   | 90029939    | 2   | BULKHEAD ADAPTER, (with nut)                                                   |     |
| 28   | 90207386    | 1   | TUBE ASSY                                                                      |     |
| 29   | 90207387    | 1   | TUBE ASSY                                                                      |     |
| 30   | 88201104    | 1   | HEX HD CAPSCREW, 5/8-11X3-3/4, GR5                                             |     |
| 31   | 90206892    | 2   | PIN, (comp. cyl both ends)                                                     |     |
| 32   | 88501010    | 1   | HEX NUT, 5/8-11                                                                |     |
| 33   | 88662021    | 2   | CONNECTOR, (includes item 34)                                                  |     |
| 34   | 88591205    | 2   | O-RING                                                                         |     |
| 35   |             | Ref | TILT COMPENSATING CYLINDER, (See HYDRAULIC COMPONENTS SECTION for Breakdown)   |     |
| 36   | 90206888    | 2   | HIGH PRESSURE HOSE                                                             |     |
| 37   | 91033032    | 2   | MINI-CHECK                                                                     |     |
| 38   | 90023042    | 2   | HOSE ASSY                                                                      |     |
| 39   | 90205773    | 1   | CARTRIDGE                                                                      |     |
| 40   | 88211105    | 2   | SOCKET HD CAPSCREW, 1/2-13X1, GR8                                              |     |
| 41   | 88662120    | 1   | ELBOW, 45, (swivel nut)                                                        |     |

## SECTION 8 - HYDRAULIC CIRCUIT

**FIGURE 8-25. UNIT SWAY HYDRAULICS (SN 8644031G to Present)**



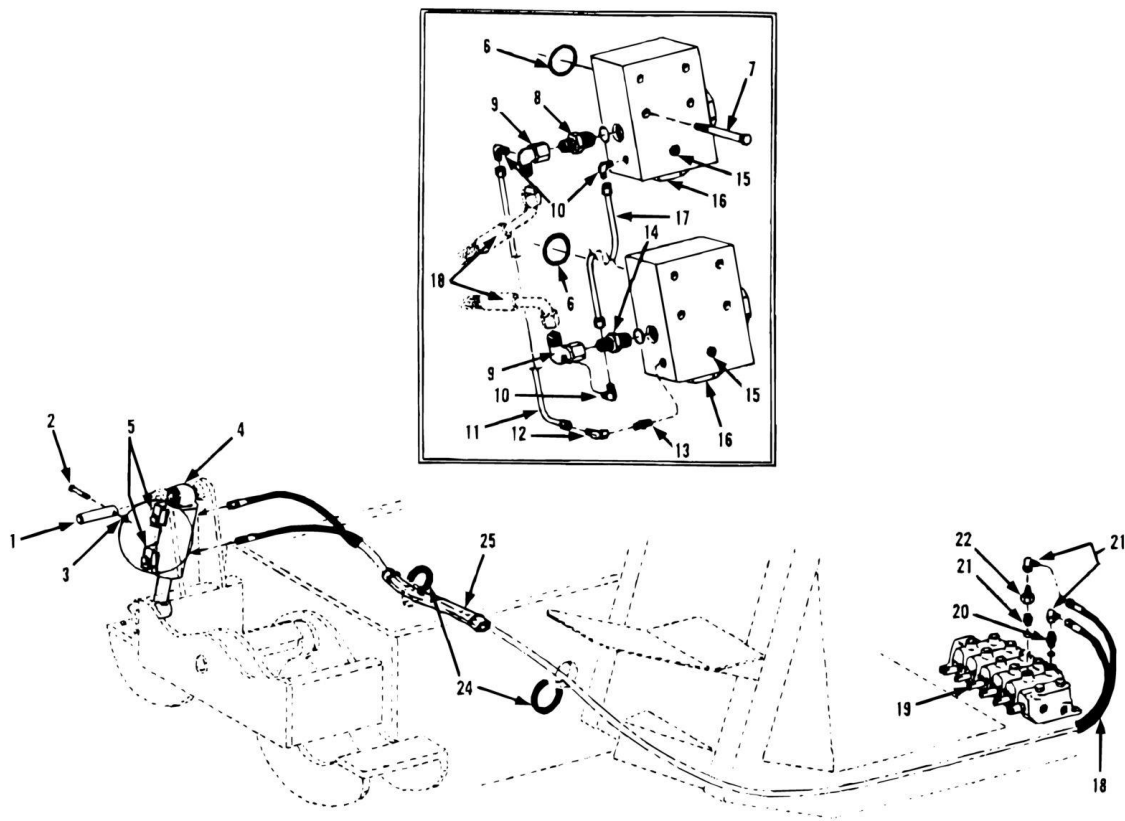
## SECTION 8 - HYDRAULIC CIRCUIT

**FIGURE 8-25. UNIT SWAY HYDRAULICS (SN 8644031G to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                              | REV |
|------|-------------|-----|--------------------------------------------------------------------------|-----|
| 1    | 90402876    | 1   | SWAY CYLINDER BASE PIN                                                   |     |
| 2    | 88201104    | 1   | HEX HD CAPSCREW, 5/8-11X3-3/4, GR5                                       |     |
| 3    | 88501010    | 1   | HEX NUT, 5/8-11                                                          |     |
| 4    | 91043139    | 1   | SWAY CYLINDER (See HYDRAULIC COMPONENTS SECTION for Breakdown)           |     |
| 5    | 91053354    | 1   | DUAL P.O. CHECK VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)   |     |
| 6    | 88591012    | 1   | O-RING                                                                   |     |
| 7    | 88201041    | 3   | HEX HD CAPSCREW, 3/8-16x2-1/2, GR5                                       |     |
| 8    | 88662006    | 2   | CONNECTOR (includes O-ring)                                              |     |
| 8    | 88591205    | 2   | O-RING                                                                   |     |
| 9    | 88551011    | 3   | LOCKWASHER, 3/8                                                          |     |
| 10   | 91033224    | 2   | HOSE ASSY                                                                |     |
| 11   | 88662020    | 2   | CONNECTOR (includes item 12)                                             |     |
| 12   | 88591207    | 2   | O-RING                                                                   |     |
| 13   | 90206200    | 2   | TRIM LOCK                                                                |     |
| 14   | 83651133    | 1   | REDUCER                                                                  |     |
| 15   | 91033168    | Ref | MAIN CONTROL VALVE ASSY (See HYDRAULIC COMPONENTS SECTION for Breakdown) |     |

SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-26. UNIT SWAY HYDRAULICS (SN 8344001L through 8644030G)



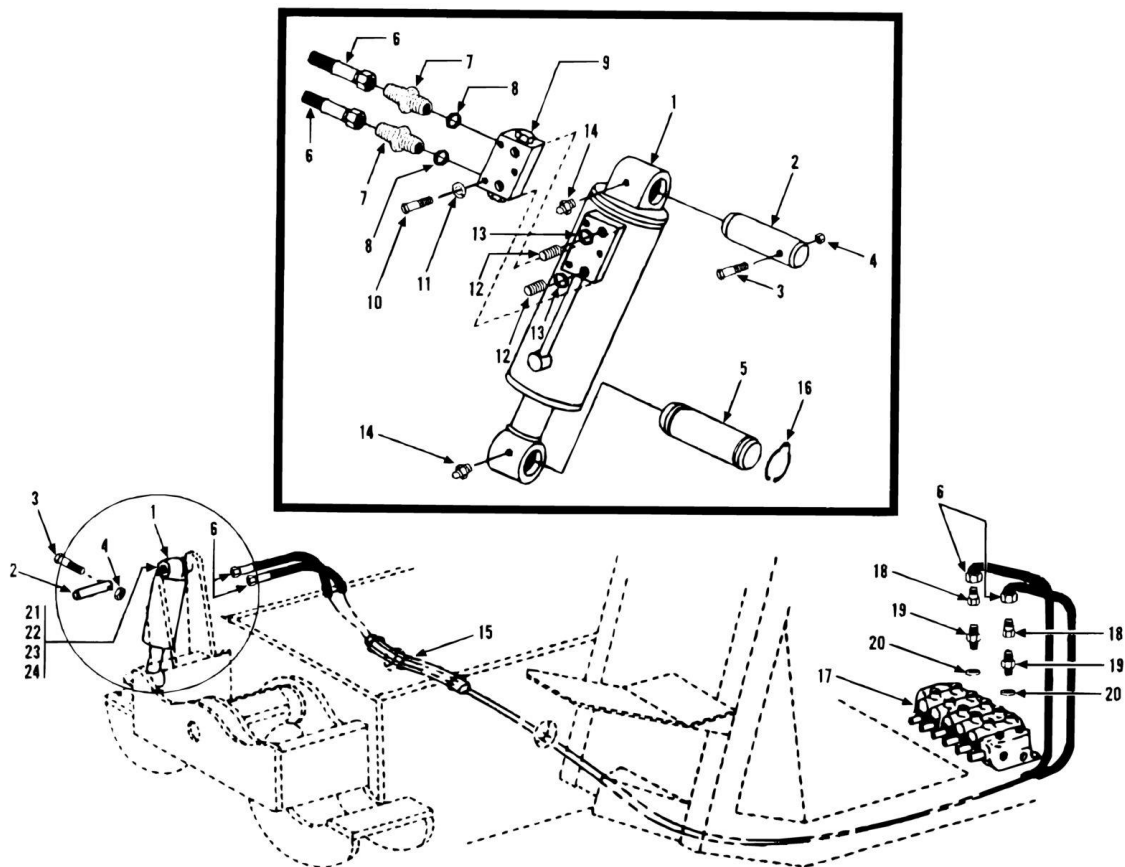
## SECTION 8 - HYDRAULIC CIRCUIT

**FIGURE 8-26. UNIT SWAY HYDRAULICS (SN 8344001L through 8644030G)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                              | REV |
|------|-------------|-----|------------------------------------------|-----|
| 1    | 90402876    | 1   | SWAY CYLINDER BASE PIN                   |     |
| 2    | 88201104    | 1   | HEX HD CAPSCREW, 5/8-11X3-3/4, GR5       |     |
| 3    | 88501010    | 1   | HEX NUT, 5/8-11                          |     |
| 4    | 90801270    | 1   | SWAY CYLINDER                            |     |
| 5    | 90400066    | 2   | BLOCK VALVE                              |     |
| 6    | 90028217    | 2   | O-RING (valve to cylinder)               |     |
| 7    | 88201042    | 8   | HEX HD CAPSCREW, 3/8-16X2-3/4, GR5       |     |
| 8    | 90207390    | 1   | CONNECTOR (with orifice) includes o-ring |     |
| 8    | 90203421    | 1   | ORIFICE (for connector above)            |     |
| 9    | 90207389    | 2   | SPECIAL, 90, ELBOW                       |     |
| 10   | 90026400    | 3   | 90, STRAIGHT ELBOW                       |     |
| 11   | 90207391    | 1   | TUBE ASSY                                |     |
| 12   | 88662103    | 1   | ELBOW - 90, (swivel nut)                 |     |
| 13   | 88743000    | 1   | MALE ADAPTER 1/8X1/4 TUBE                |     |
| 14   | 88662020    | 1   | CONNECTOR (includes o-ring)              |     |
| 14   | 88591207    | 1   | O-RING                                   |     |
| 15   | 88711280    | 2   | HEX SOCKET PIPE PLUG 1/8                 |     |
| 16   | 90600727    | 2   | VALVE CARTRIDGE                          |     |
| 17   | 90207392    | 1   | TUBE ASSY                                |     |
| 18   | 91033224    | 2   | HIGH PRESSURE HOSE                       |     |
| 19   | 91033168    | 1   | MAIN HYDRAULIC VALVE                     |     |
| 20   | 88662020    | 1   | CONNECTOR (includes o-ring)              |     |
| 20   | 88591207    | 1   | O-RING                                   |     |
| 21   | 88662106    | 2   | ELBOW - 90, (swivel nut)                 |     |
| 22   | 83651133    | 1   | REDUCER                                  |     |
| 23   | 88662008    | 1   | CONNECTOR (includes o-ring)              |     |
| 23   | 88591207    | 1   | O-RING                                   |     |
| 24   | 90206200    | 2   | RUBBER GROMMET (bulk, in frame)          |     |
| 25   | 91033043    | 1   | HOSE                                     |     |
| 25   | 90027184    | 3   | TY-RAP                                   |     |

SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-27. UNIT SWAY HYDRAULICS (SN 0144784S to Present)



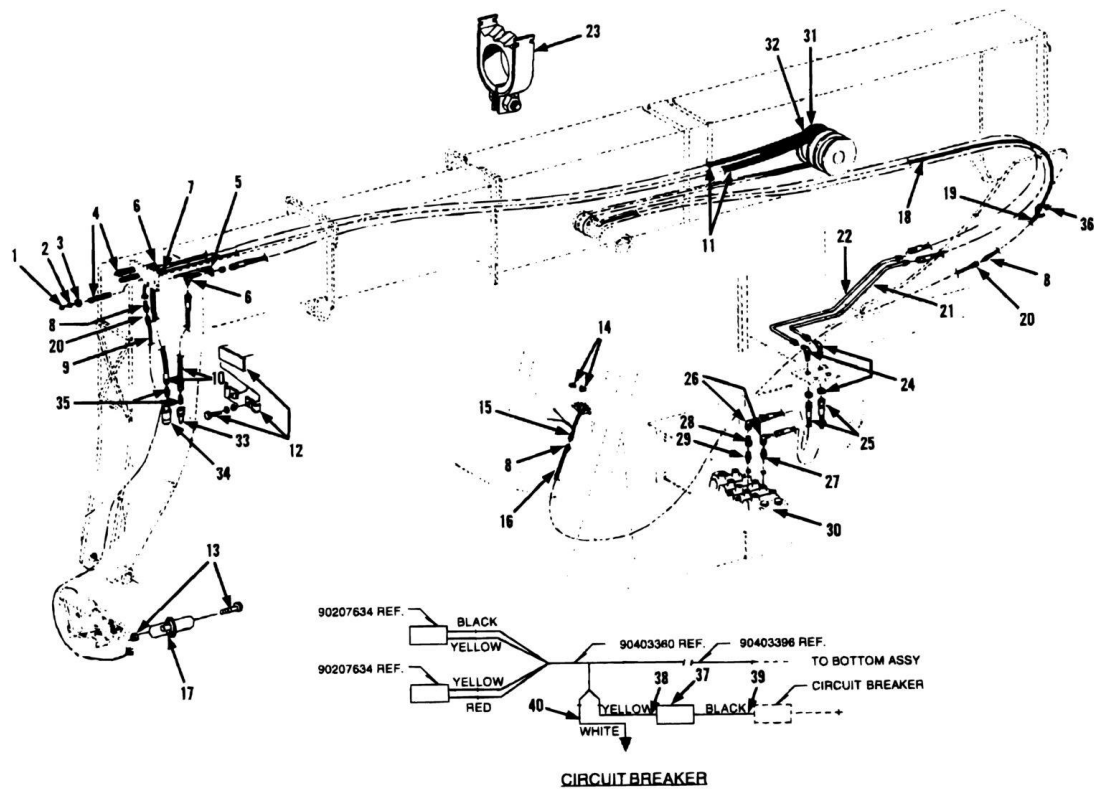
## SECTION 8 - HYDRAULIC CIRCUIT

**FIGURE 8-27. UNIT SWAY HYDRAULICS (SN 0144784S to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                                 | REV |
|------|-------------|-----|-----------------------------------------------------------------------------|-----|
| 1    | 91045103    | 1   | SWAY CYLINDER ASSY, (includes items 1,7 thru 11 & 13)                       |     |
|      |             | Ref | SWAY CYLINDER, (See HYDRAULIC COMPONENTS SECTION for Breakdown)             |     |
| 2    | 90402876    | 1   | PIN                                                                         |     |
| 3    | 83201044    | 1   | HEX HD CAPSCREW, 5/8-11X4, GR8                                              |     |
| 4    | 88501010    | 1   | HEX NUT, 5/8-11                                                             |     |
| 5    | 90207352    | 1   | PIN                                                                         |     |
| 6    | 91033224    | 1   | HOSE ASSY                                                                   |     |
| 7    | 88662006    | 2   | CONNECTOR, (includes item 8)                                                |     |
| 8    | 88591205    | 2   | O-RING                                                                      |     |
| 9    |             | Ref | DUAL P.O CHECK VALVE ASSY, (See HYDRAULIC COMPONENTS SECTION for Breakdown) |     |
| 10   | 88201041    | 3   | HEX HD CAPSCREW, 3/8-16x2-1/2, GR5                                          |     |
| 11   | 88551011    | 3   | LOCKWASHER, 3/8                                                             |     |
| 12   | 91041387    | 2   | ORIFICE PLUG                                                                |     |
| 13   | 88591012    | 2   | O-RING                                                                      |     |
| 14   | 88671033    | 2   | LUBE FITTING-STRAIGHT, 1/4-28                                               |     |
| 15   | 91033043    | 1   | HOSE                                                                        |     |
| 16   | 90028935    | 2   | RETAINING RING                                                              |     |
| 17   |             | Ref | MAIN CONTROL VALVE ASSY, (See HYDRAULIC COMPONENTS SECTION for Breakdown)   |     |
| 18   | 83651133    | 2   | REDUCER                                                                     |     |
| 19   | 88662008    | 2   | CONNECTOR, (includes item 20)                                               |     |
| 20   | 88591207    | 2   | O-RING                                                                      |     |
| 21   | 90207730    | AR  | SHIM, (1/4in thick)                                                         |     |
| 22   | 90207729    | AR  | SHIM, (10 gauge)                                                            |     |
| 23   | 90207728    | AR  | SHIM, (16 gauge)                                                            |     |
| 24   | 90207727    | AR  | SHIM, (20 gauge)                                                            |     |

SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-28. HYDRAULICS - AUXILIARY AND ELECTRICAL A (AUXILIARY HYDRAULIC ASSY) (SN 8344001L to Present)



\* NOTE: WHEN UTILIZING AJOINING PARTS LISTS PAY CAREFUL ATTENTION TO PAGES REFERENCED.



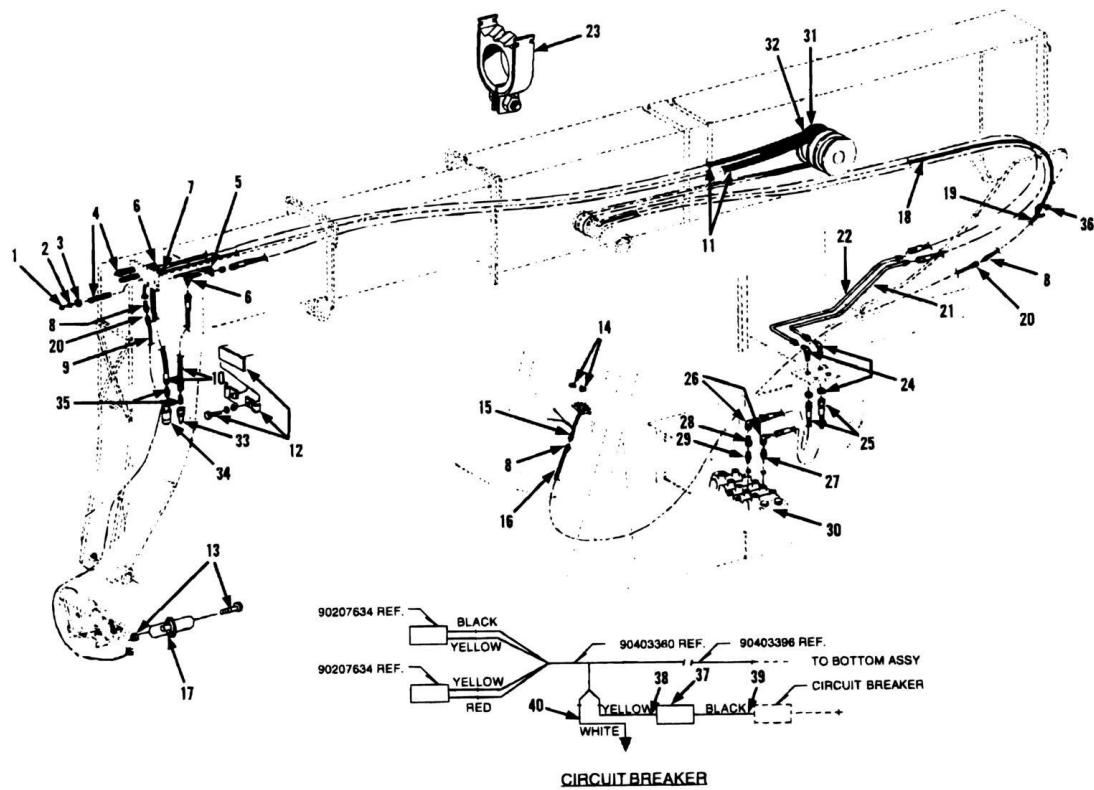
## SECTION 8 - HYDRAULIC CIRCUIT

**FIGURE 8-28. HYDRAULICS - AUXILIARY AND ELECTRICAL A (AUXILIARY HYDRAULIC ASSY) (SN 8344001L to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                                       | REV |
|------|-------------|-----|-----------------------------------------------------------------------------------|-----|
|      | 91035017    |     | <b>AUXILIARY HYDRAULIC ASSY (includes following items from CONTROLS SECTION )</b> |     |
| 9    | 90200290    | 6   | BEARING                                                                           |     |
| 19   | 90206045    | 1   | CONTROL PANEL                                                                     |     |
| 19   | 90020489    | 4   | #2 PAN HD SCREW                                                                   |     |
| 21   | 90205981    | 1   | CONTROL HANDLE                                                                    |     |
| 22   | 90200688    | 1   | CONTROL ROD BEARING                                                               |     |
| 24   | 90200559    | 1   | SPRING                                                                            |     |
| 25   | 88561113    | 10  | FLATWASHER                                                                        |     |
| 26   | 90021557    | 1   | CLEVIS PIN                                                                        |     |
| 26   | 88631309    | 1   | COTTER PIN, 3/32X3/4                                                              |     |
| 27   | 90205983    | 1   | BELLCRANK                                                                         |     |
| 28   | 90402904    | 1   | CONTROL PANEL                                                                     |     |
|      |             | Ref | <b>(includes following items from CONTROLS SECTION)</b>                           |     |
| 1    | 90202361    | 1   | CONTROL ROD                                                                       |     |
| 2    | 88821004    | 3   | ADJUSTABLE YOKE END                                                               |     |
| 3    | 90027987    | 3   | SPRING CLEVIS                                                                     |     |
| 4    | 88501406    | 3   | HEX NUT, 3/8-24                                                                   |     |
| 5    | 90205533    | 1   | BELLCRANK                                                                         |     |
| 9    | 90205546    | 1   | LINKAGE ROD                                                                       |     |
| 22   | 90021552    | 1   | CLEVIS PIN                                                                        |     |
| 22   | 88631301    | 1   | COTTER PIN, 1/16X1/2                                                              |     |
|      |             | Ref | <b>(includes following items from HYDRAULIC CIRCUIT SECTION)</b>                  |     |
| 21   | 90207393    | 1   | TUBE ASSY                                                                         |     |
| 22   | 91043196    | 1   | TUBE ASSY                                                                         |     |
| 24   | 90029938    | 2   | 90, BULKHEAD FITTING (includes nut)                                               |     |
| 25   | 90022043    | 2   | HOSE ASSY                                                                         |     |
| 26   | 88662107    | 2   | ELBOW - 90, (swivel nut)                                                          |     |
| 27   | 88662022    | 1   | CONNECTOR (includes O-ring)                                                       |     |
| 27   | 88591207    | 1   | O-RING                                                                            |     |
| 28   | 86923006    | 1   | REDUCER - EXPANDER                                                                |     |
| 29   | 88662008    | 1   | CONNECTOR (includes o-ring)                                                       |     |
| 29   | 88591207    | 1   | O-RING                                                                            |     |
| 37   | 90206347    | 1   | CIRCUIT BREAKER                                                                   |     |
| 38   | 90207645    | 1   | JUMPER WIRE                                                                       |     |
| 39   | 90200351    | 1   | JUMPER WIRE                                                                       |     |
| 40   | 90207716    | 1   | JUMPER WIRE                                                                       |     |

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FIGURE 8-29. HYDRAULICS - AUXILIARY AND ELECTRICAL B (AUXILIARY HYDRAULIC PARTS) (SN 8344001L to Present)



\* NOTE: WHEN UTILIZING AJOINING PARTS LISTS PAY CAREFUL ATTENTION TO PAGES REFERENCED.

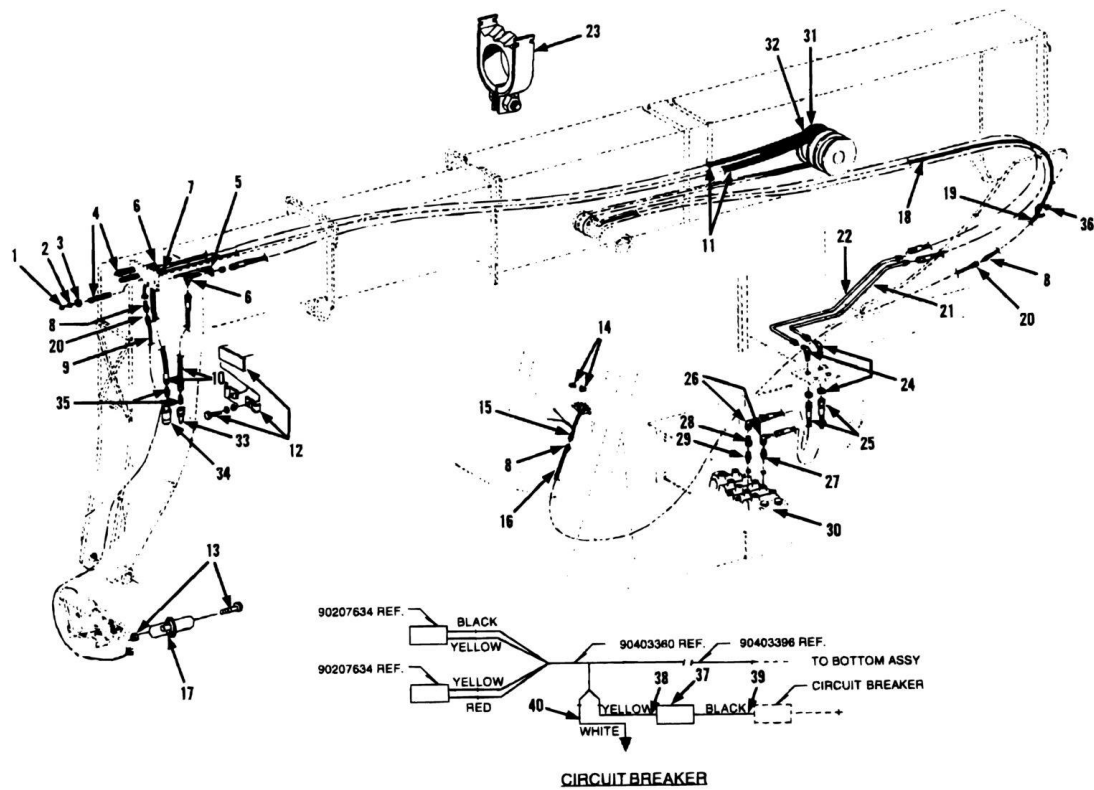
## SECTION 8 - HYDRAULIC CIRCUIT

**FIGURE 8-29. HYDRAULICS - AUXILIARY AND ELECTRICAL B (AUXILIARY HYDRAULIC PARTS) (SN 8344001L to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                                                    | REV |
|------|-------------|-----|------------------------------------------------------------------------------------------------|-----|
|      | 91035018    |     | <b>AUXILIARY HYDRAULIC PARTS (includes the following parts from HYDRAULIC CIRCUIT SECTION)</b> |     |
| 1    | 88501108    | 3   | HEX JAM NUT, 1/2-13                                                                            |     |
| 2    | 88501008    | 3   | HEX NUT, 1/2-13                                                                                |     |
| 3    | 90207041    | 3   | SPRING RETAINER                                                                                |     |
| 4    | 90200313    | 3   | SPRING                                                                                         |     |
| 5    | 90403249    | 3   | ADJUSTING BULKHEAD                                                                             |     |
| 6    | 90027180    | 2   | 90, BULKHEAD FITTING (includes nut)                                                            |     |
| 10   | 77133147    | 2   | HOSE ASSY                                                                                      |     |
| 11   | 90206888    | 2   | HOSE ASSY                                                                                      |     |
| 12   | 91031186    | 1   | HOSE MOUNTING BAR                                                                              |     |
| 12   | 88521144    | 2   | HOSE CLAMP                                                                                     |     |
| 12   | 88201032    | 1   | HEX HD CAPSCREW, 3/8-16X5/8, GR5                                                               |     |
| 12   | 88551011    | 1   | LOCKWASHER, 3/8                                                                                |     |
| 12   | 88551109    | 1   | FLAT WASHER, 3/8                                                                               |     |
| 31   | 91043100    | 1   | SHEAVE                                                                                         |     |
| 32   | 91031069    | 1   | SPACER                                                                                         |     |
| 33   | 90204244    | 1   | HYDRAULIC COUPLER - MALE                                                                       |     |
| 34   | 90204245    | 1   | HYDRAULIC COUPLER - FEMALE                                                                     |     |
| 35   | 88661013    | 2   | MALE CONNECTOR, 1/2X1/2 TUBE                                                                   |     |

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FIGURE 8-30. HYDRAULICS - AUXILIARY AND ELECTRICAL C (AUXILIARY ELECTRIC INSTALLATION) (SN 8344001L to Present)



\* NOTE: WHEN UTILIZING AJOINING PARTS LISTS PAY CAREFUL ATTENTION TO PAGES REFERENCED.

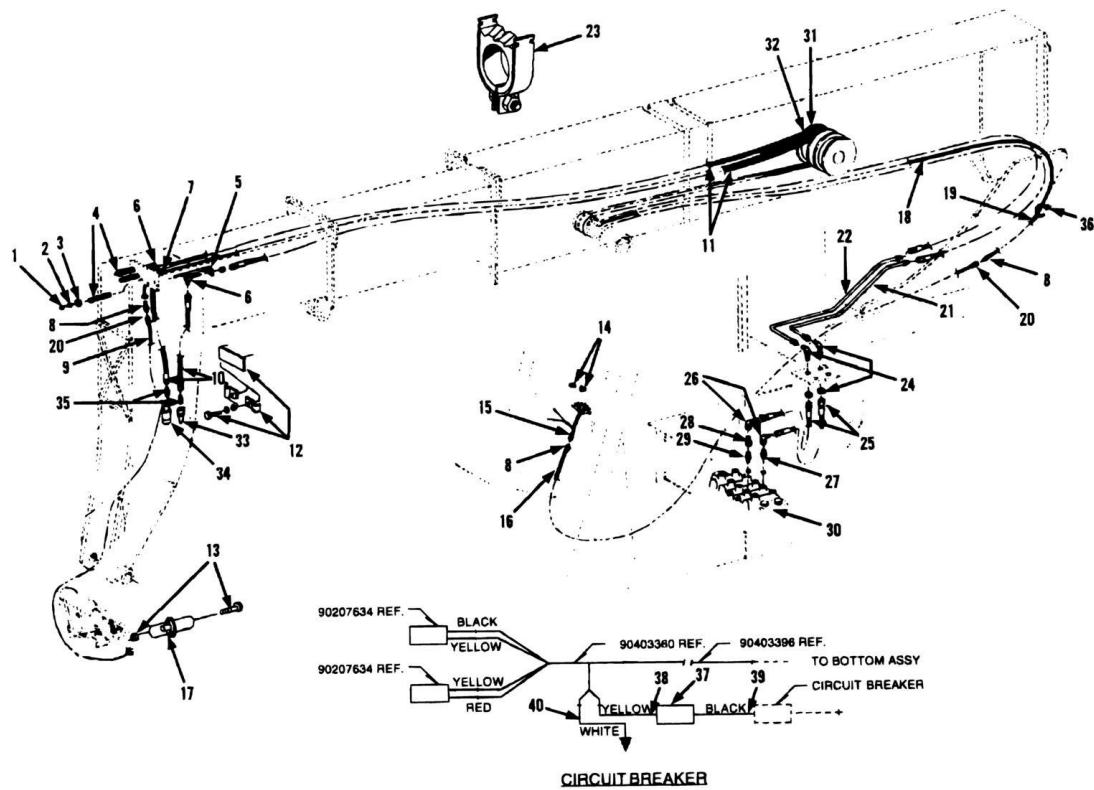
## SECTION 8 - HYDRAULIC CIRCUIT

**FIGURE 8-30. HYDRAULICS - AUXILIARY AND ELECTRICAL C (AUXILIARY ELECTRIC INSTALLATION) (SN 8344001L to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                                                 | REV |
|------|-------------|-----|---------------------------------------------------------------------------------------------|-----|
|      | 91035082    |     | <b>AUXILIARY ELECTRIC INSTALLATION (includes the following items from CONTROLS SECTION)</b> |     |
| 4    | 90200299    | 1   | KNOB                                                                                        |     |
| 9    | 90200290    | 2   | BEARING                                                                                     |     |
| 20   | 90206128    | 1   | CONTROL HANDLE                                                                              |     |
| 22   | 90200688    | 1   | BEARING                                                                                     |     |
| 23   | 90206222    | 1   | SPACER                                                                                      |     |
| 26   | 90021557    | 1   | CLEVIS PIN                                                                                  |     |
| 26   | 88631309    | 1   | COTTER PIN, 3/32X3/4                                                                        |     |
| 27   | 90205983    | 1   | BELLCRANK                                                                                   |     |
| 36   | 88671008    | 1   | LUBE FITTING - STRAIGHT, 1/4-28                                                             |     |
|      |             | Ref | <b>(includes the following items from HYDRAULIC CIRCUIT SECTION)</b>                        |     |
| 13   | 88201003    | 2   | HEX HD CAPSCREW, 1/4-20X3/4, GR5                                                            |     |
| 13   | 88551009    | 2   | LOCKWASHER, 1/4                                                                             |     |
| 13   | 88501004    | 2   | HEX NUT, 1/4-20                                                                             |     |
| 15   | 90403360    | 1   | AUXILIARY DASH HARNESS                                                                      |     |
| 16   | 90403396    | 1   | AUXILIARY WIRING HARNESS                                                                    |     |
| 17   | 90207661    | 1   | FEMALE ELECTRICAL SOCKET                                                                    |     |
| 36   | 90027187    | 20  | NYLON TIES                                                                                  |     |
| 37   | 90206347    | 1   | CIRCUIT BREAKER                                                                             |     |
| 38   | 90207645    | 1   | JUMPER WIRE                                                                                 |     |
| 39   | 90200351    | 1   | JUMPER WIRE                                                                                 |     |
| 40   | 90207716    | 1   | JUMPER WIRE                                                                                 |     |

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FIGURE 8-31. HYDRAULICS - AUXILIARY AND ELECTRICAL D (AUXILIARY HYDRAULIC WITH (SN 8344001L to Present)



\* NOTE: WHEN UTILIZING AJOINING PARTS LISTS PAY CAREFUL ATTENTION TO PAGES REFERENCED.

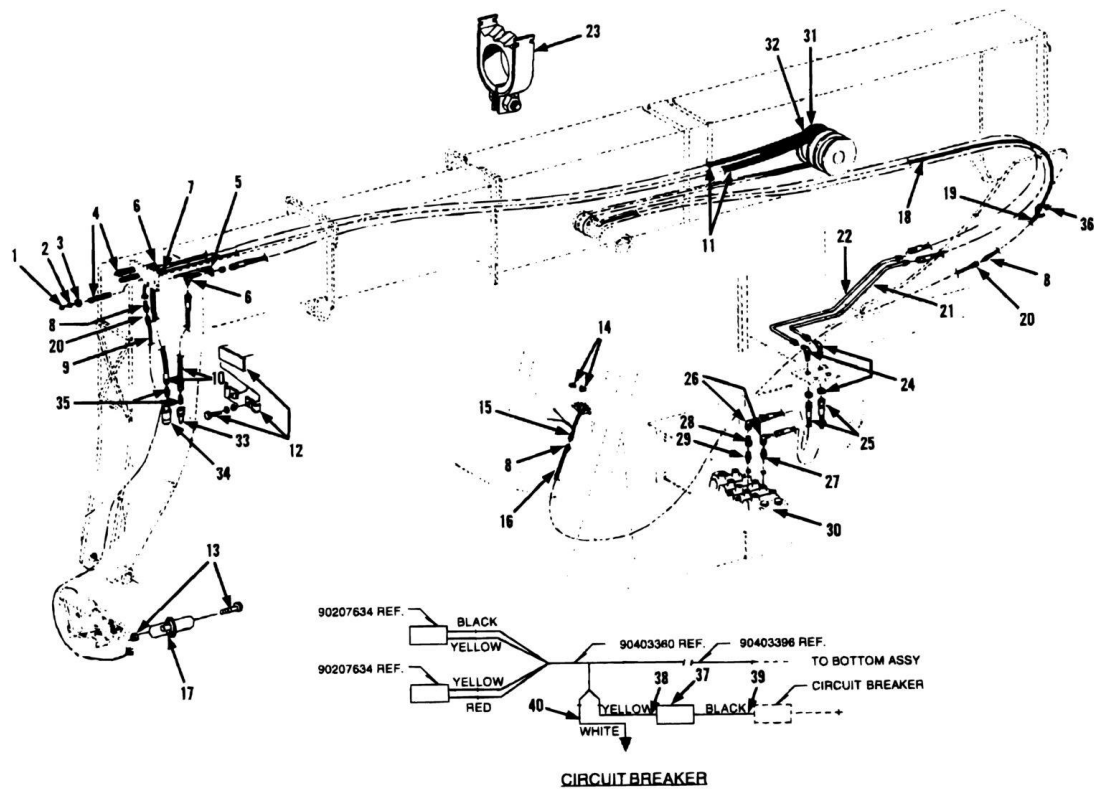
## SECTION 8 - HYDRAULIC CIRCUIT

**FIGURE 8-31. HYDRAULICS - AUXILIARY AND ELECTRICAL D (AUXILIARY HYDRAULIC WITH (SN 8344001L to Present))**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                                                    | REV |
|------|-------------|-----|------------------------------------------------------------------------------------------------|-----|
|      | 91035087    |     | <b>AUXILIARY HYDRAULIC WITH ELECTRICS (includes the following parts from CONTROLS SECTION)</b> |     |
| 1    | 88501108    | 3   | HEX JAM NUT, 1/2-13                                                                            |     |
| 2    | 88501008    | 3   | HEX NUT, 1/2-13                                                                                |     |
| 3    | 90207041    | 3   | SPRING RETAINER                                                                                |     |
| 4    | 90200313    | 3   | SPRING                                                                                         |     |
| 5    | 90403249    | 3   | ADJUSTABLE BULKHEAD                                                                            |     |
| 6    | 90027180    | 2   | 90, BULKHEAD FITTING (includes nut)                                                            |     |
| 8    | 90028955    | 3   | ELECTRICAL CONNECTOR (male)                                                                    |     |
| 9    | 90207470    | 1   | WIRING HARNESS                                                                                 |     |
| 10   | 77133147    | 2   | HOSE ASSY                                                                                      |     |
| 11   | 90206888    | 2   | HOSE ASSY                                                                                      |     |
| 12   | 91031186    | 1   | HOSE MOUNT BAR                                                                                 |     |
| 12   | 86521144    | 2   | HOSE CLAMP                                                                                     |     |
| 12   | 88201032    | 1   | HEX HD CAPSCREW, 3/8-16X5/8, GR5                                                               |     |
| 12   | 88551011    | 1   | LOCKWASHER, 3/8                                                                                |     |
| 12   | 88561109    | 1   | FLAT WASHER, 3/8                                                                               |     |
| 13   | 88201003    | 2   | HEX HD CAPSCREW, 1/4-20X3/4, GR5                                                               |     |
| 13   | 88551009    | 2   | LOCKWASHER, 1/4                                                                                |     |
| 13   | 88501004    | 2   | HEX NUT, 1/4-20                                                                                |     |
| 17   | 90207661    | 1   | FEMALE ELECTRICAL SOCKET                                                                       |     |
| 18   | 90207243    | 1   | CABLE COVER HOSE                                                                               |     |
| 19   | 90207633    | 1   | AUXILIARY WIRING HARNESS                                                                       |     |
| 31   | 91043101    | 1   | SHEAVE                                                                                         |     |
| 33   | 90204244    | 1   | HYDRAULIC COUPLER - MALE                                                                       |     |
| 34   | 90204245    | 1   | HYDRAULIC COUPLER - FEMALE                                                                     |     |
| 35   | 88661013    | 2   | MALE CONNECTOR, 1/2X1/2 TUBE                                                                   |     |
| 36   | 90027187    | 20  | NYLON TIES                                                                                     |     |
| 41   | 90028978    | 1   | CABLE CLAMP                                                                                    |     |

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FIGURE 8-32. HYDRAULICS - AUXILIARY AND ELECTRICAL E (AUXILIARY HYDRAULICS FIELD KIT)  
(SN 8344001L to Present)



\* NOTE: WHEN UTILIZING AJOINING PARTS LISTS PAY CAREFUL ATTENTION TO PAGES REFERENCED.



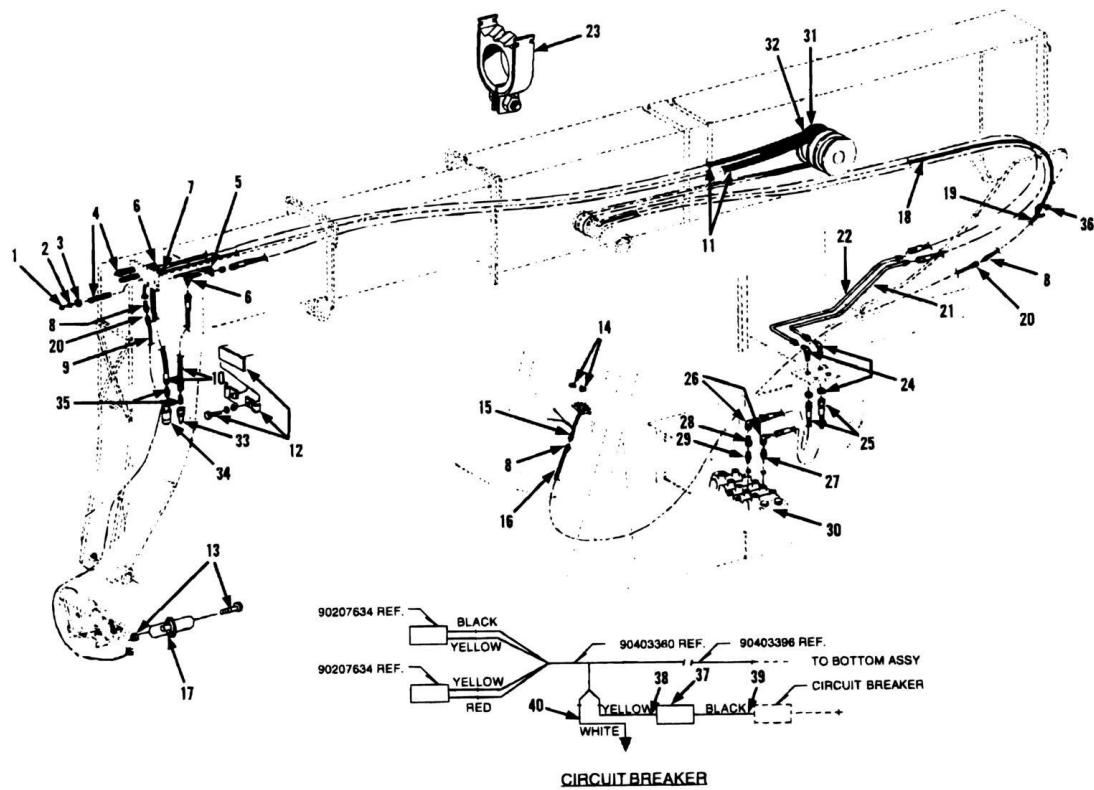
## SECTION 8 - HYDRAULIC CIRCUIT

**FIGURE 8-32. HYDRAULICS - AUXILIARY AND ELECTRICAL E (AUXILIARY HYDRAULICS FIELD KIT)  
(SN 8344001L to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                                               | REV |
|------|-------------|-----|-------------------------------------------------------------------------------------------|-----|
|      | 91035109    |     | <b>AUXILIARY HYDRAULIC FIELD KIT (includes the following items from CONTROLS SECTION)</b> |     |
| 9    | 90205546    | 1   | LINKAGE ROD (includes following items from pg 9-9)                                        |     |
| 26   | 88662107    | 2   | ELBOW - 90, (swivel nut)                                                                  |     |
| 27   | 88662022    | 1   | CONNECTOR (includes O-ring)                                                               |     |
| 27   | 88591207    | 1   | O-RING                                                                                    |     |
| 28   | 86923006    | 1   | REDUCER - EXPANDER                                                                        |     |
| 29   | 88662008    | 1   | CONNECTOR (includes o-ring)                                                               |     |
| 29   | 88591207    | 1   | O-RING                                                                                    |     |
|      |             | Ref | <b>(includes the following items from HYDRAULIC COMPONENTS SECTION)</b>                   |     |
|      | 91033239    | 1   | CONVERSION KIT                                                                            |     |

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FIGURE 8-33. HYDRAULICS - AUXILIARY AND ELECTRICAL F (AUXILIARY ELECTRICS FIELD KIT)  
(SN 8344001L to Present)



\* NOTE: WHEN UTILIZING AJOINING PARTS LISTS PAY CAREFUL ATTENTION TO PAGES REFERENCED.

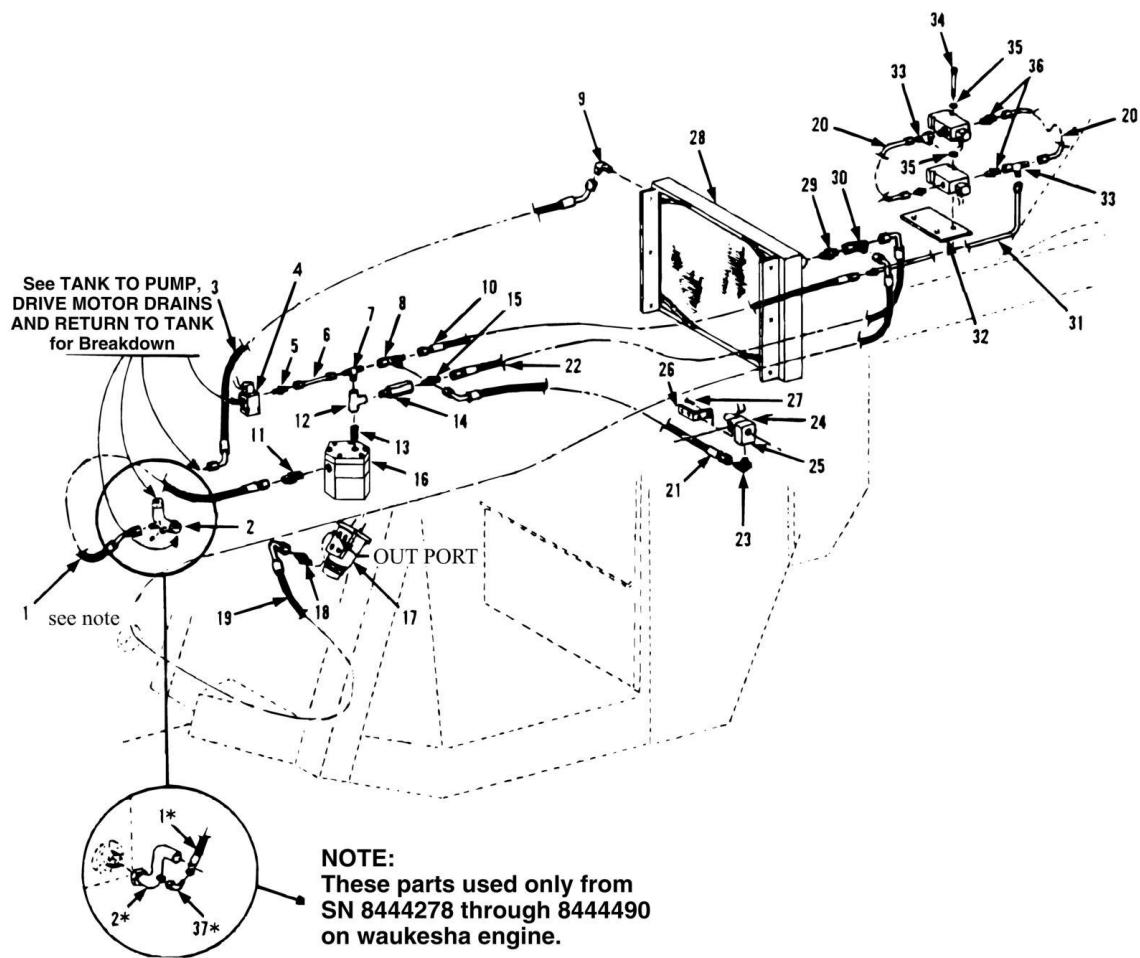
## SECTION 8 - HYDRAULIC CIRCUIT

**FIGURE 8-33. HYDRAULICS - AUXILIARY AND ELECTRICAL F (AUXILIARY ELECTRICS FIELD KIT)  
(SN 8344001L to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                                     | REV |
|------|-------------|-----|---------------------------------------------------------------------------------|-----|
|      | 91035169    |     | <b>AUXILIARY ELECTRICS FIELD KIT (includes the following items from pg 9-9)</b> |     |
| 1    | 88501108    | 1   | HEX JAM NUT, 1/2-13                                                             |     |
| 2    | 88501008    | 1   | HEX NUT, 1/2-13                                                                 |     |
| 3    | 90207041    | 1   | SPRING RETAINER                                                                 |     |
| 4    | 90200313    | 1   | SPRING                                                                          |     |
| 5    | 90403249    | 1   | ADJUSTABLE BULKHEAD                                                             |     |
| 7    | 90207583    | 1   | STRAIGHT BULKHEAD FITTING (includes nut)                                        |     |
| 8    | 90028955    | 1   | ELECTRICAL CONNECTOR (male)                                                     |     |
| 9    | 90207470    | 1   | WIRING HARNESS                                                                  |     |
| 18   | 90207243    | 1   | CABLE COVER HOSE                                                                |     |
| 19   | 90207633    | 1   | AUXILIARY WIRING HARNESS                                                        |     |
| 31   | 91043101    | 1   | SHEAVE                                                                          |     |
| 36   | 90027187    | 20  | NYLON TIES                                                                      |     |
| 41   | 90028978    | 1   | CABLE CLAMP                                                                     |     |
| 41   | 90207464    | 1   | CUSHION CLAMP (not shown)                                                       |     |

SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-34. HYDRAULICS-OIL COOLER AND PILOT PUMP (SN 8344001 through 8444277)



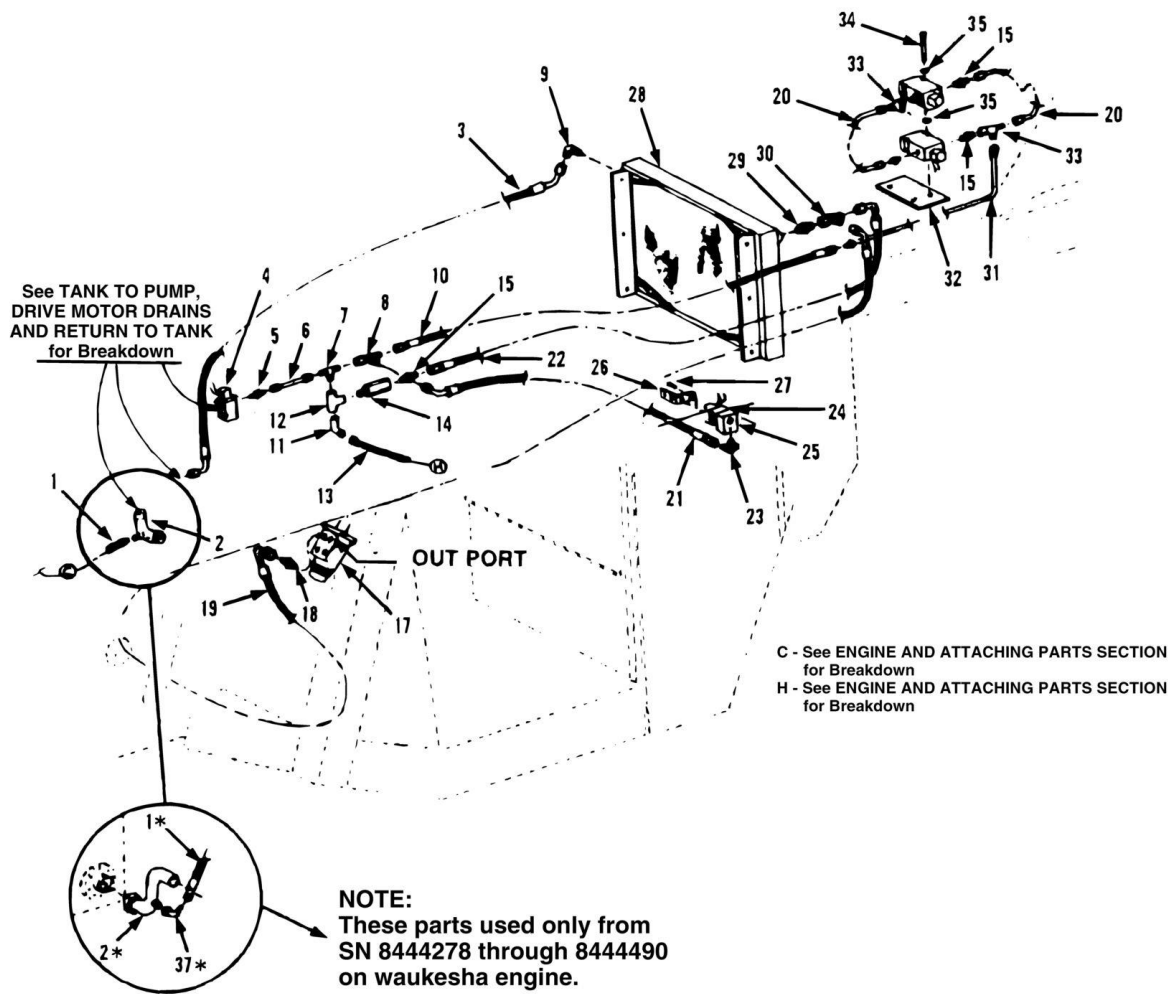
## SECTION 8 - HYDRAULIC CIRCUIT

**FIGURE 8-34. HYDRAULICS-OIL COOLER AND PILOT PUMP (SN 8344001 through 8444277)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                         | REV |
|------|-------------|-----|---------------------------------------------------------------------|-----|
| 1    | 91033051    | 1   | HOSE (Waukesha engine) (SN 8444278 through 8444490)                 |     |
| 2    | 90410297    | 1   | ELBOW (Waukesha engine) (SN 8444278 through 8444490)                |     |
| 37   | 88662108    | 1   | ELBOW - 90, (swivel) (Waukesha engine) (SN 8444278 through 8444490) |     |
| 1    | 90207407    | 1   | HIGH PRESSURE HOSE                                                  |     |
| 2    | 90207688    | 1   | TUBE ASSY                                                           |     |
| 3    | 90207398    | 1   | HIGH PRESSURE HOSE                                                  |     |
| 4    | 90206769    | 3   | SOLENOID VALVE                                                      |     |
| 5    | 90027360    | 1   | CONNECTOR                                                           |     |
| 6    | 90602566    | 1   | TUBE ASSY                                                           |     |
| 7    | 888661245   | 1   | MALE OUTLET TEE, 3/8X1/2 TUBE                                       |     |
| 8    | 88662240    | 1   | SWIVEL NUT RUN TEE, 1/2 TUBE                                        |     |
| 9    | 86821248    | 1   | ELBOW - 90                                                          |     |
| 10   | 90207664    | 1   | HIGH PRESSURE HOSE                                                  |     |
| 11   | 90028966    | 1   | CONNECTOR                                                           |     |
| 12   | 88712073    | 1   | TEE, 1/8                                                            |     |
| 13   | 88701003    | 1   | CLOSE NIPPLE, 3/8X1                                                 |     |
| 14   | 90207353    | 1   | CHECK VALVE                                                         |     |
| 15   | 88713038    | 1   | MALE ELBOW - 45, 3/8X3/8 TUBE                                       |     |
| 16   | 90403305    | 1   | PILOT PUMP                                                          |     |
| 17   | 90206762    | 1   | STEERING ORBITAL                                                    |     |
| 18   | 88662006    | 1   | CONNECTOR (includes O-ring)                                         |     |
| 18   | 88591205    | 1   | O-RING (out port)                                                   |     |
| 19   | 84717521    | 1   | HIGH PRESSURE HOSE                                                  |     |
| 20   | 90207666    | 2   | TUBE ASSY                                                           |     |
| 21   | 90207694    | 1   | HIGH PRESSURE HOSE                                                  |     |
| 22   | 90207408    | 1   | HIGH PRESSURE HOSE                                                  |     |
| 23   | 90028499    | 1   | 90, ELBOW (adjustable)                                              |     |
| 24   | 90207755    | 1   | CONTROL VALVE                                                       |     |
| 25   | 90602895    | 1   | ADAPTER BLOCK                                                       |     |
| 26   | 90207756    | 1   | ANGLE BRACKET                                                       |     |
| 27   | 88201005    | 2   | HEX HD CAPSCREW, 1/4-20X1, GR5                                      |     |
| 28   | 90206752    | 1   | HYDRAULIC OIL COOLER                                                |     |
| 29   | 88662020    | 1   | CONNECTOR (includes o-ring)                                         |     |
| 29   | 88591207    | 1   | O-RING                                                              |     |
| 30   | 88662240    | 1   | SWIVEL NUT RUN TEE, 3/8 TUBE                                        |     |
| 31   | 90207713    | 1   | TUBE ASSY                                                           |     |
| 32   | 90207693    | 1   | VALVE MOUNTING PLATE                                                |     |
| 33   | 88662239    | 2   | SWIVEL NUT RUN TEE, 3/8 TUBE                                        |     |
| 34   | 88201008    | 2   | HEX HD CAPSCREW, 1/4-20x1-3/4 GR5                                   |     |
| 35   | 88561107    | 4   | FLAT WASHER, 1/4                                                    |     |

SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-35. HYDRAULICS-OIL AND PILOT PUMP (SN 8344001L through 8444490)



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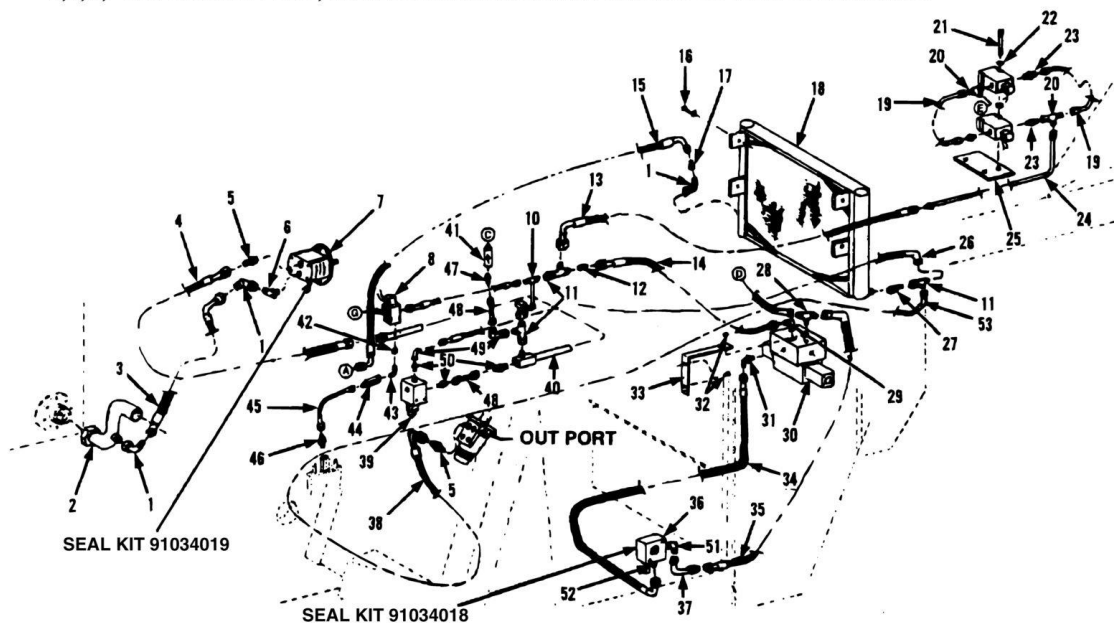
**FIGURE 8-35. HYDRAULICS-OIL AND PILOT PUMP (SN 8344001L through 8444490)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                        | REV |
|------|-------------|-----|--------------------------------------------------------------------|-----|
| 1    | 91033051    | 1   | HOSE (Waukesha engine) (SN 8444278 through 8444490)                |     |
| 2    | 90410297    | 1   | ELBOW (Waukesha engine) (SN 8444278 through 8444490)               |     |
| 37   | 88662108    | 1   | ELBOW, 90, (swivel) (Waukesha engine) (SN 8444278 through 8444490) |     |
| 1    | 91033179    | 1   | HOSE                                                               |     |
| 2    | 91033178    | 1   | SUCTION TUBE                                                       |     |
| 3    | 90207398    | 1   | HIGH PRESSURE HOSE                                                 |     |
| 4    | 90206739    | 3   | SOLENOID VALVE                                                     |     |
| 5    | 90027360    | 1   | CONNECTOR                                                          |     |
| 6    | 90602566    | 1   | TUBE ASSY                                                          |     |
| 7    | 88661245    | 1   | MALE OUTLET TEE, 3/8X1/2 TUBE                                      |     |
| 8    | 88662240    | 1   | SWIVEL NUT RUN TEE, 1/2 TUBE                                       |     |
| 9    | 86821248    | 1   | ELBOW - 90                                                         |     |
| 10   | 90207664    | 1   | HIGH PRESSURE HOSE                                                 |     |
| 11   | 88662085    | 1   | ELBOW - 45, (includes o-ring)                                      |     |
| 11   | 88591205    | 1   | O-RING                                                             |     |
| 12   | 88712073    | 1   | TEE, 1/8                                                           |     |
| 13   | 84717470    | 1   | HOSE ASSY                                                          |     |
| 14   | 90207353    | 1   | CHECK VALVE                                                        |     |
| 15   | 88713038    | 1   | MALE ELBOW - 45, 3/8X3/8 TUBE                                      |     |
| 16   | 91033156    | 1   | PILOT PUMP (See ENGINE AND ATTACHING PARTS SECTION for Breakdown)  |     |
| 17   | 90206762    | 1   | STEERING ORBITAL                                                   |     |
| 18   | 88662006    | 1   | CONNECTOR (includes O-ring)                                        |     |
| 18   | 88591205    | 1   | O-RING                                                             |     |
| 19   | 84717521    | 1   | HIGH PRESSURE HOSE                                                 |     |
| 20   | 90207666    | 2   | TUBE ASSY                                                          |     |
| 21   | 90207694    | 1   | HIGH PRESSURE HOSE                                                 |     |
| 22   | 90207408    | 1   | HIGH PRESSURE HOSE                                                 |     |
| 23   | 90028499    | 1   | ELBOW - 90, (adjustable)                                           |     |
| 24   | 90207755    | 1   | CONTROL VALVE                                                      |     |
| 25   | 90602895    | 1   | ADAPTER BLOCK                                                      |     |
| 26   | 90207756    | 1   | ANGLE BRACKET                                                      |     |
| 27   | 88201005    | 2   | HEX HD CAPSCREW, 1/4-20X1, GR5                                     |     |
| 28   | 90206752    | 1   | HYDRAULIC OIL COOLER                                               |     |
| 29   | 88662020    | 1   | CONNECTOR (includes o-ring)                                        |     |
| 29   | 88591207    | 1   | O-RING                                                             |     |
| 30   | 88662240    | 1   | SWIVEL NUT RUN TEE, 1/2 TUBE                                       |     |
| 31   | 90207713    | 1   | TUBE ASSY                                                          |     |
| 32   | 90207693    | 1   | VALVE MOUNTING PLATE                                               |     |
| 33   | 88662239    | 2   | SWIVEL NUT RUN TEE, 3/8 TUBE                                       |     |
| 34   | 88201008    | 2   | HEX HD CAPSCREW, 1/4-20X1-3/4, GR5                                 |     |
| 35   | 88591107    | 4   | FLAT WASHER, 1/4                                                   |     |

## SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-36. HYDRAULICS-OIL COOLER AND PILOT PUMP (SN 8444491 through 8744114G,  
Excluding 8744079G)

A - See HYDRAULIC-DRIVE AND STEERING CONTROL for Breakdown  
C - See BRAKES SECTION for Breakdown  
D,E,G, - See TANK TO PUMP, DRIVE MOTOR DRAINS AND RETURN TO TANK for Breakdown





## SECTION 8 - HYDRAULIC CIRCUIT

**FIGURE 8-36. HYDRAULICS-OIL COOLER AND PILOT PUMP (SN 8444491 through 8744114G,  
Excluding 8744079G)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                        | REV |
|------|-------------|-----|------------------------------------|-----|
| 1    | 88662108    | 3   | ELBOW - 90, (swivel nut)           |     |
| 2    | 90410298    | 1   | ELBOW                              |     |
| 3    | 84716985    | 1   | HOSE ASSY                          |     |
| 4    | 91033082    | 1   | HOSE ASSY                          |     |
| 5    | 88662024    | 2   | CONNECTOR (includes o-ring)        |     |
| 5    | 88591206    | 2   | O-RING                             |     |
| 6    | 88662067    | 1   | ELBOW - 90, (includes o-ring)      |     |
| 6    | 88591207    | 1   | O-RING                             |     |
| 7    | 91033122    | 1   | PILOT PUMP                         |     |
| 7    | 86671112    | 1   | GASKET                             |     |
| 8    | 90206739    | 1   | SOLENOID VALVE                     |     |
| 9    | 84717468    | 1   | HOSE ASSY                          |     |
| 10   | 91033073    | 1   | TUBE ASSY                          |     |
| 10   | 91033138    | AR  | CLAMP                              |     |
| 10   | 77133498    | 1   | COVE PLATE                         |     |
| 10   | 77133499    | AR  | HEX HD CAPSCREW                    |     |
| 11   | 88662240    | 3   | SWIVEL NUT RUN TEE, 1/2 TUBE       |     |
| 12   | 91033100    | 1   | INLINE STRAINER                    |     |
| 13   | 84717463    | 1   | HIGH PRESSURE HOSE                 |     |
| 14   | 77133147    | 1   | HOSE ASSY                          |     |
| 15   | 90207398    | 1   | HIGH PRESSURE HOSE                 |     |
| 16   | 88201031    | 4   | HEX HD CAPSCREW, 3/8-16X1/2, GR5   |     |
| 16   | 88551011    | 4   | LOCKWASHER, 3/8                    |     |
| 16   | 88561107    | 4   | FLAT WASHER, 3/8                   |     |
| 17   | 86923006    | 1   | CONNECTOR                          |     |
| 18   | 91033050    | 1   | OIL COOLER                         |     |
| 18   | 84521056    | 1   | DRAIN                              |     |
| 19   | 90207666    | 2   | TUBE LINE                          |     |
| 20   | 88662239    | 2   | SWIVEL NUT RUN TEE, 3/8 TUBE       |     |
| 21   | 88201008    | 2   | HEX HD CAPSCREW, 1/4-20X1-3/4, GR5 |     |
| 22   | 88561107    | 4   | FLAT WASHER, 1/4                   |     |
| 23   | 90029915    | 4   | CONNECTOR                          |     |
| 24   | 90207713    | 1   | TUBE ASSY                          |     |
| 25   | 90207693    | 1   | MOUNTING PLATE                     |     |
| 26   | 84717461    | 1   | HOSE ASSY                          |     |
| 27   | 83662107    | 1   | TUBE ASSY                          |     |
| 28   | 88662224    | 1   | SWIVEL NUT BRANCH TEE, 3/8 TUBE    |     |
| 29   | 77131088    | 1   | CONNECTOR                          |     |
| 30   | 91033097    | 1   | DIRECTIONAL CONTROL VALVE          |     |
| 31   | 90028499    | 1   | CONNECTOR                          |     |
| 32   | 88201005    | 6   | HEX HD CAPSCREW, 1/4-20X1, GR5     |     |
| 32   | 88501004    | 4   | HEX NUT, 1/4-20                    |     |
| 33   | 91031086    | 2   | MOUNTING BRACKET                   |     |
| 34   | 77133342    | 1   | HIGH PRESSURE HOSE                 |     |
| 35   | 84717466    | 1   | HOSE ASSY                          |     |
| 36   | 91033096    | 1   | INCHING VALVE                      |     |
| 37   | 91033130    | 1   | TUBE LINE                          |     |
| 38   | 84717521    | 1   | HOSE ASSY                          |     |
| 39   | 91033128    | 1   | RELIEF VALVE                       |     |

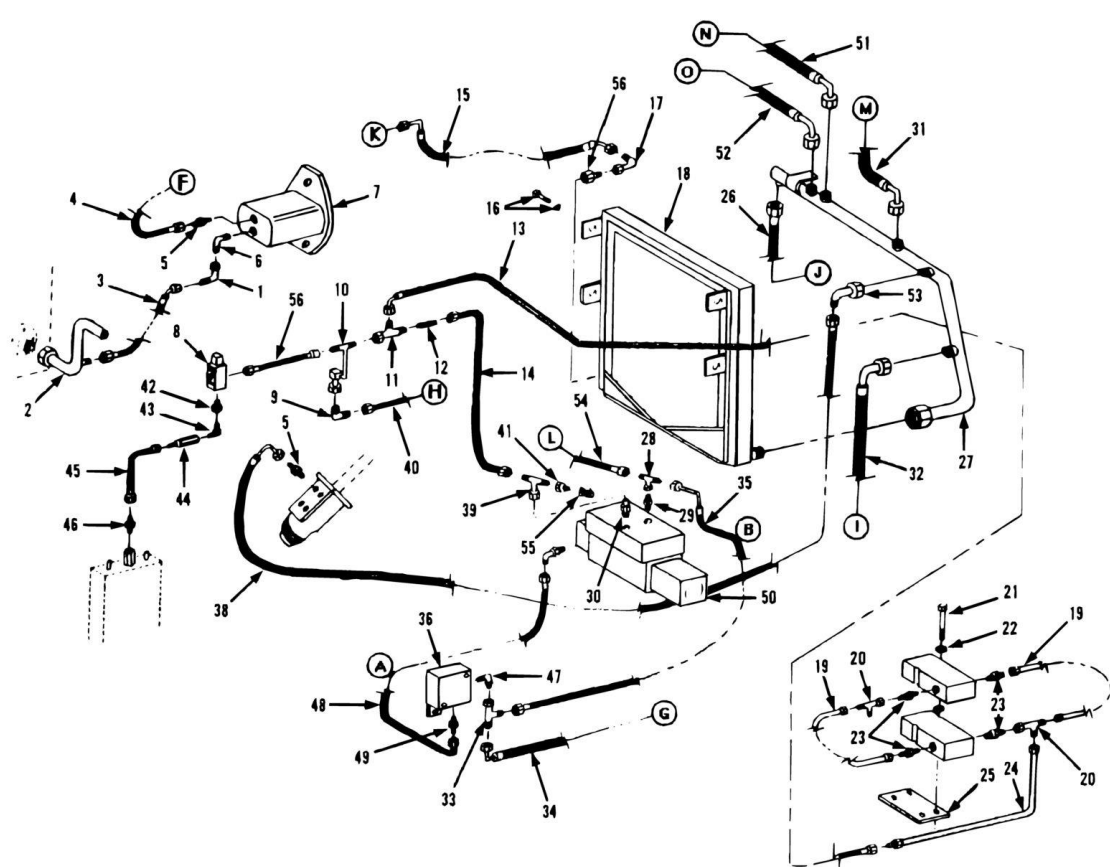
## SECTION 8 - HYDRAULIC CIRCUIT

| ITEM | PART NUMBER | QTY | DESCRIPTION                   | REV |
|------|-------------|-----|-------------------------------|-----|
| 40   | 91033075    | 1   | TUBE ASSY                     |     |
| 40   | 77133035    | AR  | CLAMP                         |     |
| 40   | 77133052    | 1   | COVER PLATE                   |     |
| 40   | 77133209    | AR  | HEX HD CAPSCREW               |     |
| 41   | 83663087    | 1   | CHECK VALVE                   |     |
| 42   | 88711381    | 1   | REDUCING BUSHING, 3/8X1/4     |     |
| 43   | 88473042    | 1   | MALE ELBOW, 90, 1/4X5/16 TUBE |     |
| 44   | 83431005    | 1   | ORIFICE CHECK VALVE           |     |
| 45   | 84716238    | 1   | HOSE ASSY                     |     |
| 46   | 88743036    | 1   | MALE ELBOW, 45, 1/8X5/16 TUBE |     |
| 47   | 88662006    | 1   | CONNECTOR (includes O-ring)   |     |
| 47   | 88591205    | 1   | O-RING                        |     |
| 48   | 90602566    | 2   | TUBE LINE                     |     |
| 49   | 88662106    | 2   | ELBOW - 90, (swivel nut)      |     |
| 50   | 88713003    | 3   | MALE ADAPTER, 3/8X1/2 TUBE    |     |
| 51   | 83193008    | 1   | METRIC ELBOW                  |     |
| 52   | 83193009    | 1   | METRIC ADAPTER                |     |
| 53   | 88662106    | 1   | ELBOW - 90, (swivel nut)      |     |



SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-37. HYDRAULICS-OIL COOLER AND PILOT PUMP (SN 0144259J to Present)



## SECTION 8 - HYDRAULIC CIRCUIT

**FIGURE 8-37. HYDRAULICS-OIL COOLER AND PILOT PUMP (SN 0144259J to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                     | REV |
|------|-------------|-----|-----------------------------------------------------------------|-----|
| 1    | 88662108    | 1   | ELBOW - 90, (swivel nut)                                        |     |
| 2    | 91033257    | 1   | ELBOW                                                           |     |
| 3    | 77133875    | 1   | HOSE ASSY                                                       |     |
| 4    | 84716251    | 1   | HOSE ASSY                                                       |     |
| 5    | 88662024    | 2   | CONNECTOR (includes o-ring)                                     |     |
| 5    | 88591206    | 2   | O-RING                                                          |     |
| 6    | 88662067    | 1   | ELBOW - 90, (includes O-Ring)                                   |     |
| 6    | 88591207    | 1   | O-RING                                                          |     |
| 7    | 91033122    | 1   | PILOT PUMP (See HYDRAULIC COMPONENTS SECTION for Breakdown)     |     |
| 8    | 90206739    | 1   | SOLENOID VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown) |     |
| 9    | 88661206    | 1   | UNION ELBOW, 90                                                 |     |
| 10   | 91033073    | 1   | TUBE ASSY                                                       |     |
| 11   | 88662240    | 1   | SWIVEL NUT RUN TEE, 1/2 TUBE                                    |     |
| 12   | 91033100    | 1   | INLINE STRAINER                                                 |     |
| 13   | 84717463    | 1   | HOSE ASSY                                                       |     |
| 14   | 77133147    | 1   | HOSE ASSY                                                       |     |
| 15   | 90207398    | 1   | HOSE ASSY                                                       |     |
| 16   | 88201031    | 4   | HEX HD CAPSCREW, 3/8-16X1/2, GR5                                |     |
| 16   | 88551011    | 4   | LOCKWASHER, 3/8                                                 |     |
| 16   | 88561109    | 4   | FLAT WASHER, 3/8                                                |     |
| 17   | 88662107    | 1   | ELBOW - 90, (swivel nut)                                        |     |
| 18   | 91033050    | 1   | OIL COOLER                                                      |     |
| 19   | 90207666    | 2   | TUBE LINE                                                       |     |
| 20   | 88662239    | 2   | SWIVEL NUT RUN TEE, 3/8 TUBE                                    |     |
| 21   | 88201008    | 2   | HEX HD CAPSCREW, 1/4-20X1-3/4, GR5                              |     |
| 22   | 88561107    | 2   | FLAT WASHER, 1/4                                                |     |
| 23   | 90029915    | 4   | CONNECTOR                                                       |     |
| 24   | 90207713    | 1   | TUBE ASSY                                                       |     |
| 25   | 90207693    | 1   | MOUNTING PLATE                                                  |     |
| 26   | 84717489    | 1   | HOSE ASSY                                                       |     |
| 27   | 91043145    | 1   | DRAIN MANIFOLD                                                  |     |
| 28   | 88662224    | 1   | SWIVEL NUT BRANCH TEE, 3/8 TUBE                                 |     |
| 29   | 88662005    | 1   | CONNECTOR (includes o-ring)                                     |     |
| 29   | 88591204    | 1   | O-RING                                                          |     |
| 30   | 88662026    | 1   | CONNECTOR (includes o-ring)                                     |     |
| 30   | 88591204    | 1   | O-RING                                                          |     |
| 31   | 84717577    | 1   | HOSE ASSY                                                       |     |
| 32   | 84717518    | 1   | HOSE ASSY                                                       |     |
| 33   | 88662239    | 1   | SWIVEL NUT RUN TEE, 3/8 TUBE                                    |     |
| 34   | 90207411    | 1   | HOSE ASSY                                                       |     |
| 35   | 84717466    | 1   | HOSE ASSY                                                       |     |
| 36   | 91033096    | 1   | INCHING VALVE                                                   |     |
| 38   | 84717521    | 1   | HOSE ASSY                                                       |     |
| 39   | 88662225    | 1   | SWIVEL NUT BRANCH TEE, 1/2 TUBE                                 |     |
| 40   | 84717413    | 1   | HOSE ASSY                                                       |     |
| 41   | 77241003    | 1   | ADAPTER                                                         |     |
| 42   | 88711381    | 1   | REDUCING BUSHING, 3/8X1/4                                       |     |
| 43   | 88713042    | 1   | MALE ELBOW - 90, 1/4X5/16 TUBE                                  |     |

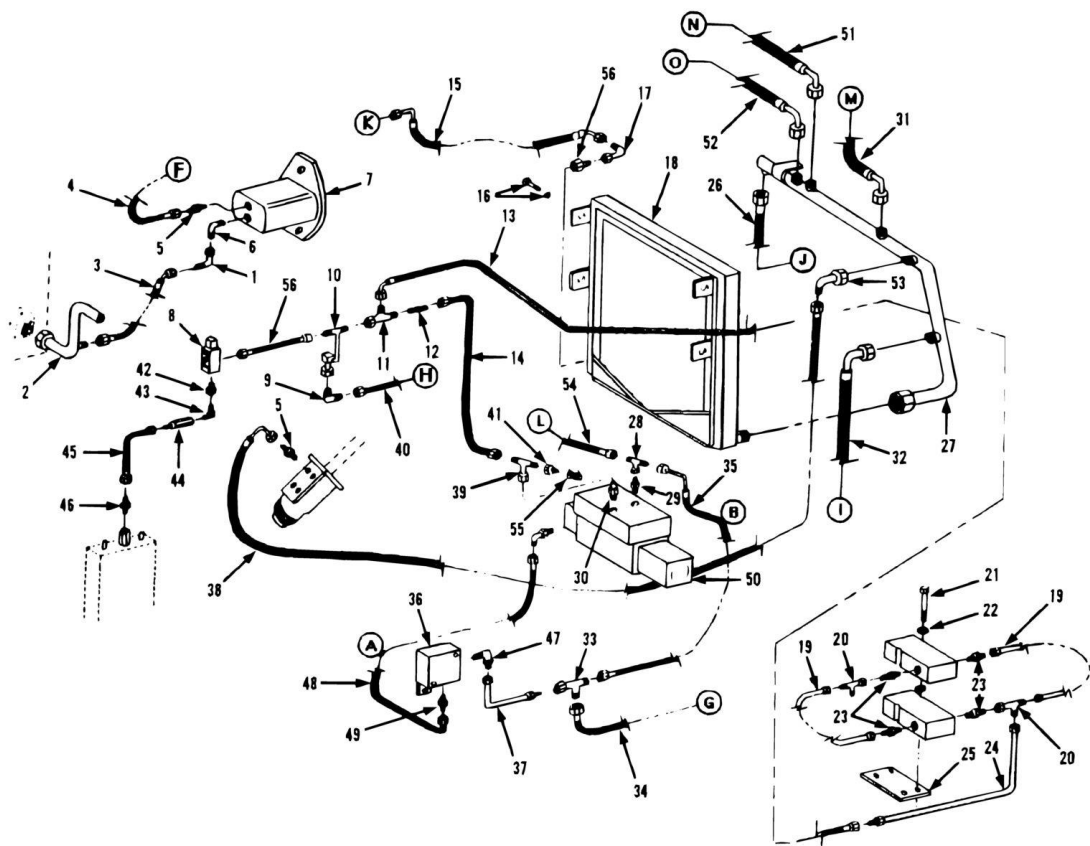
## SECTION 8 - HYDRAULIC CIRCUIT

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                                | REV |
|------|-------------|-----|----------------------------------------------------------------------------|-----|
| 44   | 83431005    | 1   | ORIFICE CHECK VALVE                                                        |     |
| 45   | 84716238    | 1   | HOSE ASSY                                                                  |     |
| 46   | 88473036    | 1   | MALE ELBOW - 45, 1/8X5/16 TUBE                                             |     |
| 47   | 88662064    | 1   | ELBOW - 90, (includes O-ring)                                              |     |
| 47   | 88591204    | 1   | O-RING                                                                     |     |
| 48   | 77133342    | 1   | HOSE ASSY                                                                  |     |
| 49   | 88662005    | 1   | CONNECTOR (includes o-ring)                                                |     |
| 49   | 88591204    | 1   | O-RING                                                                     |     |
| 50   | 91033097    | 1   | DIRECTIONAL CONTROL VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown) |     |
| 51   | 77133167    | 1   | HOSE ASSY                                                                  |     |
| 52   | 84717577    | 1   | HOSE ASSY                                                                  |     |
| 53   | 88662106    | 1   | ELBOW - 90, (swivel nut)                                                   |     |
| 54   | 84717520    | 1   | HOSE ASSY                                                                  |     |
| 55   | 91033032    | 1   | MINI CHECK (stauff)                                                        |     |
| 56   | 84717468    | 1   | HOSE ASSY                                                                  |     |



SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-38. HYDRAULICS-OIL COOLER AND PILOT PUMP (SN 8744115G to Present, Including 8744079G)





## SECTION 8 - HYDRAULIC CIRCUIT

**FIGURE 8-38. HYDRAULICS-OIL COOLER AND PILOT PUMP (SN 8744115G to Present, Including 8744079G)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                     | REV |
|------|-------------|-----|-----------------------------------------------------------------|-----|
| 1    | 88662108    | 1   | ELBOW - 90, (swivel nut)                                        |     |
| 2    | 91033257    | 1   | ELBOW                                                           |     |
| 3    | 77133875    | 1   | HOSE ASSY                                                       |     |
| 4    | 84716251    | 1   | HOSE ASSY                                                       |     |
| 5    | 88662024    | 2   | CONNECTOR (includes o-ring)                                     |     |
| 5    | 88591206    | 2   | O-RING                                                          |     |
| 6    | 88662067    | 1   | ELBOW - 90, (includes O-ring)                                   |     |
| 6    | 88591207    | 1   | O-RING                                                          |     |
| 7    | 91033122    | 1   | PILOT PUMP (See HYDRAULIC COMPONENTS SECTION for Breakdown)     |     |
| 8    | 90206739    | 1   | SOLENOID VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown) |     |
| 9    | 88661206    | 1   | UNION ELBOW, 90                                                 |     |
| 10   | 91033073    | 1   | TUBE ASSY                                                       |     |
| 11   | 88662240    | 1   | SWIVEL NUT RUN TEE, 1/2 TUBE                                    |     |
| 12   | 91033100    | 1   | INLINE STRAINER                                                 |     |
| 13   | 94717463    | 1   | HOSE ASSY                                                       |     |
| 14   | 77133147    | 1   | HOSE ASSY                                                       |     |
| 15   | 90207398    | 1   | HOSE ASSY                                                       |     |
| 16   | 88201031    | 4   | HEX HD CAPSCREW, 3/8-16X1/2, GR5                                |     |
| 16   | 88551011    | 4   | LOCKWASHER, 3/8                                                 |     |
| 16   | 88561109    | 4   | FLAT WASHER, 3/8                                                |     |
| 17   | 88662107    | 1   | ELBOW - 90, (swivel nut)                                        |     |
| 18   | 91033050    | 1   | OIL COOLER                                                      |     |
| 19   | 90207666    | 2   | TUBE LINE                                                       |     |
| 20   | 88662239    | 2   | SWIVEL NUT RUN TEE, 3/8 TUBE                                    |     |
| 21   | 88201008    | 2   | HEX HD CAPSCREW, 1/4-20X1-3/4, GR5                              |     |
| 22   | 88561107    | 2   | FLAT WASHER, 1/4                                                |     |
| 23   | 90029915    | 4   | CONNECTOR                                                       |     |
| 24   | 90207713    | 1   | TUBE ASSY                                                       |     |
| 25   | 90207693    | 1   | MOUNTING PLATE                                                  |     |
| 26   | 84717489    | 1   | HOSE ASSY                                                       |     |
| 27   | 91043145    | 1   | DRAIN MANIFOLD                                                  |     |
| 28   | 88662224    | 1   | SWIVEL NUT BRANCH TEE, 3/8 TUBE                                 |     |
| 29   | 88662005    | 1   | CONNECTOR (includes o-ring)                                     |     |
| 29   | 88591204    | 1   | O-RING                                                          |     |
| 30   | 88662026    | 1   | CONNECTOR (includes o-ring)                                     |     |
| 30   | 88591204    | 1   | O-RING                                                          |     |
| 31   | 84717577    | 1   | HOSE ASSY                                                       |     |
| 32   | 84717518    | 1   | HOSE ASSY                                                       |     |
| 33   | 88662239    | 1   | SWIVEL NUT RUN TEE, 3/8 TUBE                                    |     |
| 34   | 90207411    | 1   | HOSE ASSY                                                       |     |
| 35   | 84717466    | 1   | HOSE ASSY                                                       |     |
| 36   | 91033096    | 1   | INCHING VALVE                                                   |     |
| 37   | 91033130    | 1   | TUBE LINE                                                       |     |
| 38   | 84717521    | 1   | HOSE ASSY                                                       |     |
| 39   | 88662225    | 1   | SWIVEL NUT BRANCH TEE, 1/2 TUBE                                 |     |
| 40   | 84717413    | 1   | HOSE ASSY                                                       |     |
| 41   | 77241003    | 1   | ADAPTER                                                         |     |

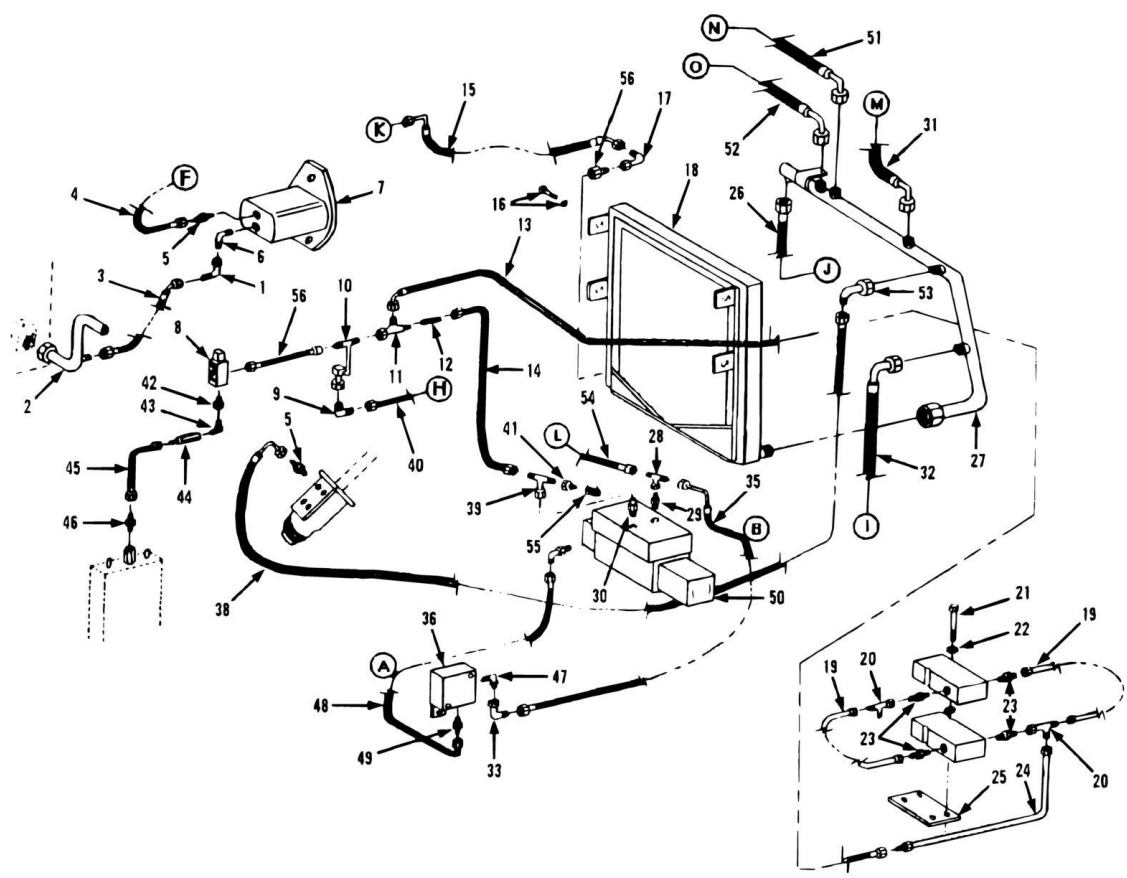
## SECTION 8 - HYDRAULIC CIRCUIT

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                                | REV |
|------|-------------|-----|----------------------------------------------------------------------------|-----|
| 42   | 88711381    | 1   | REDUCING BUSHING, 3/8X1/4                                                  |     |
| 43   | 88743042    | 1   | MALE ELBOW - 90, 1/4X5/16 TUBE                                             |     |
| 44   | 83431005    | 1   | ORIFICE CHECK VALVE                                                        |     |
| 45   | 94716238    | 1   | HOSE ASSY                                                                  |     |
| 46   | 88743036    | 1   | MALE ELBOW - 45, 1/8X5/16 TUBE                                             |     |
| 47   | 88662064    | 1   | ELBOW - 90, (includes O-ring)                                              |     |
| 47   | 88591204    |     | O-RING                                                                     |     |
| 48   | 77133342    | 1   | HOSE ASSY                                                                  |     |
| 49   | 88662005    | 1   | CONNECTOR (includes o-ring)                                                |     |
| 49   | 88591204    | 1   | O-RING                                                                     |     |
| 50   | 91033097    | 1   | DIRECTIONAL CONTROL VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown) |     |
| 51   | 77133167    | 1   | HOSE ASSY                                                                  |     |
| 52   | 84717577    | 1   | HOSE ASSY                                                                  |     |
| 53   | 88662106    | 1   | ELBOW - 90, (swivel nut)                                                   |     |
| 54   | 84717520    | 1   | HOSE ASSY                                                                  |     |
| 55   | 91033032    | 1   | MINI CHECK (stauff)                                                        |     |
| 56   | 84717468    | 1   | HOSE ASSY                                                                  |     |



SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-39. HYDRAULICS-OIL COOLER AND PILOT PUMP (SN 0144452 to Present)



## SECTION 8 - HYDRAULIC CIRCUIT

**FIGURE 8-39. HYDRAULICS-OIL COOLER AND PILOT PUMP (SN 0144452 to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                     | REV |
|------|-------------|-----|-----------------------------------------------------------------|-----|
| 1    | 88662108    | 1   | ELBOW - 90, (swivel nut)                                        |     |
| 2    | 91033257    | 1   | ELBOW                                                           |     |
| 3    | 77133875    | 1   | HOSE ASSY                                                       |     |
| 4    | 84716251    | 1   | HOSE ASSY                                                       |     |
| 5    | 88662024    | 2   | CONNECTOR (includes o-ring)                                     |     |
| 5    | 88591206    | 2   | O-RING                                                          |     |
| 6    | 88662067    | 1   | ELBOW - 90, (includes o-ring)                                   |     |
| 6    | 88591207    | 1   | O RING                                                          |     |
| 7    | 91033122    | 1   | PILOT PUMP (See HYDRAULIC COMPONENTS SECTION for Breakdown)     |     |
| 8    | 90206739    | 1   | SOLENOID VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown) |     |
| 9    | 88661206    | 1   | UNION ELBOW, 90                                                 |     |
| 10   | 91033073    | 1   | TUBE ASSY                                                       |     |
| 11   | 88662240    | 1   | SWIVEL NUT RUN TEE, 1/2 TUBE                                    |     |
| 12   | 91033100    | 1   | INLINE STRAINER                                                 |     |
| 13   | 84717463    | 1   | HOSE ASSY                                                       |     |
| 14   | 77133147    | 1   | HOSE ASSY                                                       |     |
| 15   | 84717797    | 1   | HOSE ASSY                                                       |     |
| 16   | 88201031    | 4   | HEX HD CAPSCREW, 3/8-16X1/2, GR5                                |     |
| 16   | 88551011    | 4   | LOCK WASHER, 3/8                                                |     |
| 16   | 88561109    | 4   | FLAT WASHER, 3/8                                                |     |
| 17   | 88662107    | 1   | ELBOW - 90, (swivel nut)                                        |     |
| 18   | 91033050    | 1   | OIL COOLER                                                      |     |
| 19   | 90207666    | 2   | TUBE LINE                                                       |     |
| 20   | 88662239    | 2   | SWIVEL NUT RUN TEE, 3/8 TUBE                                    |     |
| 21   | 88201008    | 2   | HEX HD CAPSCREW, 1/4-20X1-3/4, GR5                              |     |
| 22   | 88561107    | 2   | FLAT WASHER, 1/4                                                |     |
| 23   | 88661009    | 4   | FITTING                                                         |     |
| 24   | 902077163   | 1   | TUBE ASSY                                                       |     |
| 25   | 90207693    | 1   | MOUNTING PLATE                                                  |     |
| 26   | 84717489    | 1   | HOSE ASSY                                                       |     |
| 27   | 91043145    | 1   | DRAIN MANIFOLD                                                  |     |
| 28   | 88662224    | 1   | SWIVEL NUT BRANCH TEE, 3/8 TUBE                                 |     |
| 29   | 88662005    | 1   | CONNECTOR (includes o-ring)                                     |     |
| 29   | 88591204    | 1   | O-RING                                                          |     |
| 30   | 88662026    | 1   | CONNECTOR (includes o-ring)                                     |     |
| 30   | 88591204    | 1   | O-RING                                                          |     |
| 31   | 84717577    | 1   | HOSE ASSY                                                       |     |
| 32   | 84717518    | 1   | HOSE ASSY                                                       |     |
| 33   | 88662105    | 1   | ELBOW - 90, (swivel nut)                                        |     |
| 34   | 84717468    | 1   | HOSE ASSY                                                       |     |
| 35   | 84717466    | 1   | HOSE ASSY                                                       |     |
| 36   | 91033096    | 1   | INCHING VALVE                                                   |     |
| 38   | 84717521    | 1   | HOSE ASSY                                                       |     |
| 39   | 88662225    | 1   | SWIVEL NUT BRANCH TEE, 1/2 TUBE                                 |     |
| 40   | 87417413    | 1   | HOSE ASSY                                                       |     |
| 41   | 77241003    | 1   | ADAPTER                                                         |     |
| 42   | 88711381    | 1   | REDUCING BUSHING, 3/8X1/4                                       |     |
| 43   | 88713042    | 1   | MALE ELBOW - 90, 1/4X5/16 TUBE                                  |     |

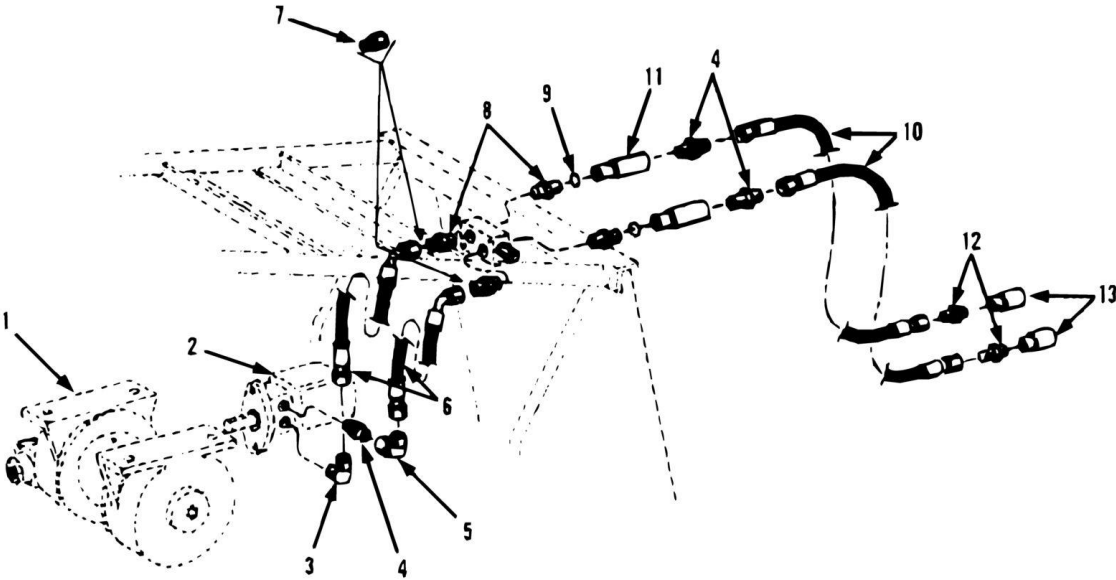
## SECTION 8 - HYDRAULIC CIRCUIT

| ITEM | PART NUMBER | QTY | DESCRIPTION                    | REV |
|------|-------------|-----|--------------------------------|-----|
| 44   | 83431005    | 1   | ORIFICE CHECK VALVE            |     |
| 45   | 84716238    | 1   | HOSE ASSY                      |     |
| 46   | 88743036    | 1   | MALE ELBOW - 45, 1/8X5/16 TUBE |     |
| 47   | 88662064    | 1   | ELBOW - 90, (includes o-ring)  |     |
| 47   | 88591204    |     | O RING                         |     |
| 48   | 77133342    | 1   | HOSE ASSY                      |     |
| 49   | 88662005    | 1   | CONNECTOR (includes o-rng)     |     |
| 49   | 88591204    | 1   | O-RING                         |     |
| 50   | 91033097    | 1   | DIRECTIONAL CONTROL VALVE      |     |
| 51   | 77133167    | 1   | HOSE ASSY                      |     |
| 52   | 84717577    | 1   | HOSE ASSY                      |     |
| 53   | 88662106    | 1   | ELBOW - 90, (swivel nut)       |     |
| 54   | 84717520    | 1   | HOSE ASSY                      |     |
| 55   | 91033032    | 1   | MINI CHECK (stauff)            |     |



SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-40. TRUSS BOOM HYDRAULICS (SN 8344001L to Present)





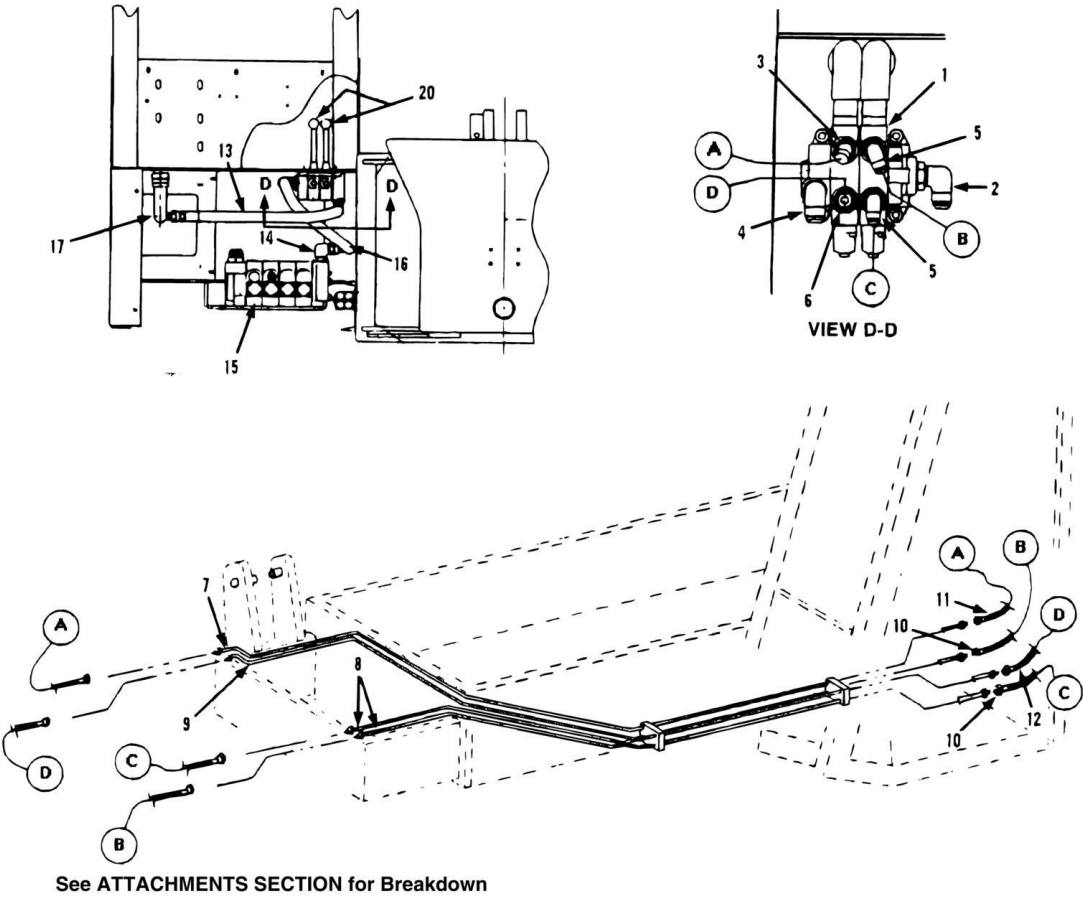
## SECTION 8 - HYDRAULIC CIRCUIT

**FIGURE 8-40. TRUSS BOOM HYDRAULICS (SN 8344001L to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                   | REV |
|------|-------------|-----|-------------------------------|-----|
| 1    | 90207878    | 1   | WINCH                         |     |
| 2    | 90207879    | 1   | WINCH MOTOR                   |     |
| 3    | 88662059    | 1   | ELBOW - 90, (includes o-ring) |     |
| 3    | 88591206    | 1   | O-RING                        |     |
| 4    | 88662019    | 3   | CONNECTOR (includes o-ring)   |     |
| 4    | 88591206    | 3   | O-RING                        |     |
| 5    | 88662106    | 1   | ELBOW - 90, (swivel nut)      |     |
| 6    | 90205121    | 2   | HIGH PRESSURE HOSE            |     |
| 7    | 90029935    | 2   | REDUCER                       |     |
| 8    | 83451104    | 4   | STRAIGHT ADAPTER              |     |
| 9    | 90023116    | 2   | O-RING                        |     |
| 10   | 90022042    | 2   | HIGH PRESSURE HOSE            |     |
| 11   | 90207880    | 2   | FLOW LIMITER                  |     |
| 12   | 88743016    | 2   | MALE ADAPTER, 1/2X1/2 TUBE    |     |
| 13   | 90204245    | 2   | QUICK DISCONNECT (female)     |     |

SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-41. OUTRIGGER HYDRAULICS



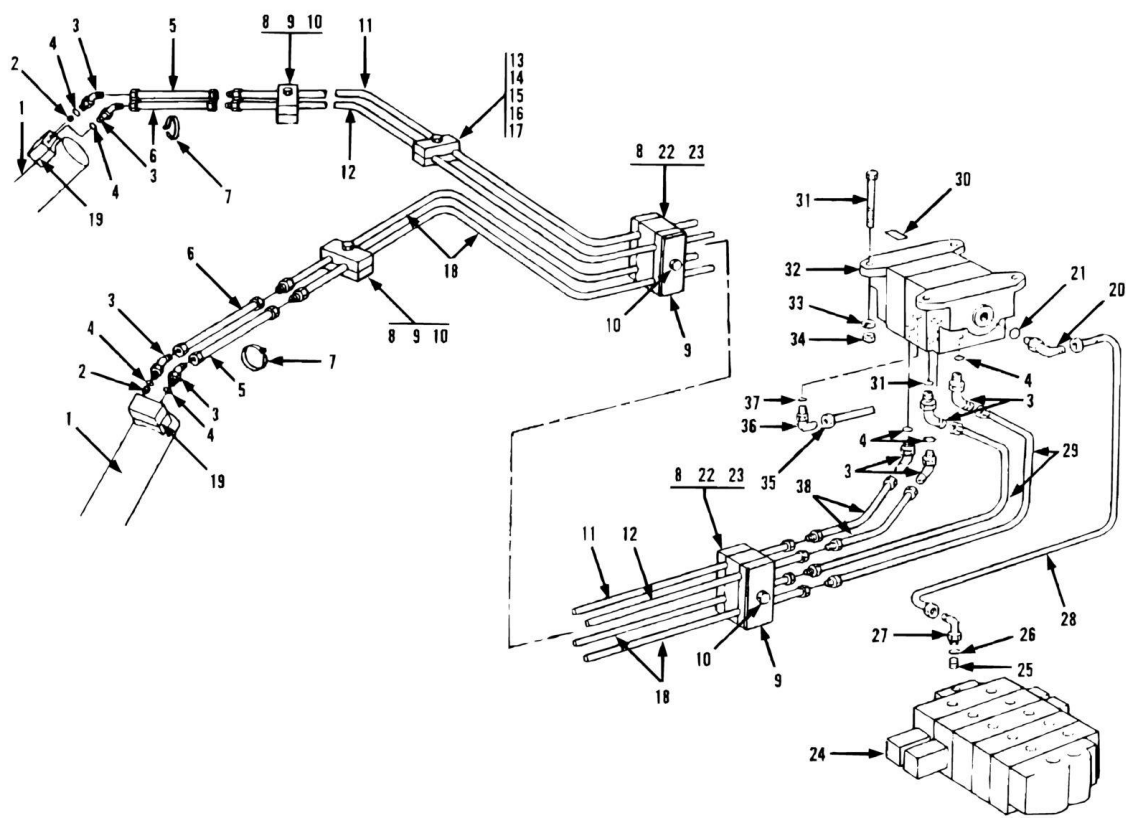
## SECTION 8 - HYDRAULIC CIRCUIT

**FIGURE 8-41. OUTRIGGER HYDRAULICS**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                               | REV |
|------|-------------|-----|---------------------------------------------------------------------------|-----|
|      | 91035090    | 1   | VALVE ASSY (consists of items 1 thru 6)                                   |     |
| 1    | 91033144    | 1   | VALVE                                                                     |     |
| 2    | 88662067    | 1   | ELBOW - 90, (includes o-ring)                                             |     |
| 2    | 88591207    | 1   | O-RING                                                                    |     |
| 3    | 88662085    | 1   | ELBOW - 45, (includes o-ring)                                             |     |
| 3    | 88591205    | 1   | O-RING                                                                    |     |
| 4    | 88662060    | 1   | ELBOW- 90, (includes o-ring)                                              |     |
| 4    | 88591206    | 1   | O-RING                                                                    |     |
| 5    | 88662065    | 2   | ELBOW - 90, (includes o-ring)                                             |     |
| 5    | 88591205    | 2   | O-RING                                                                    |     |
| 6    | 88662036    | 1   | CONNECTOR (includes o-ring)                                               |     |
| 6    | 88591205    | 1   | O-RING                                                                    |     |
| 7    | 91033141    | 1   | TUBE ASSY                                                                 |     |
| 8    | 91033140    | 2   | TUBE ASSY                                                                 |     |
| 9    | 91033198    | 1   | TUBE ASSY                                                                 |     |
| 10   | 84717477    | 2   | HOSE ASSY                                                                 |     |
| 11   | 84717477    | 1   | HOSE ASSY                                                                 |     |
| 12   | 84717477    | 1   | HOSE ASSY                                                                 |     |
| 13   | 84717473    | 1   | HOSE ASSY                                                                 |     |
| 14   | 88662061    | 1   | ELBOW - 90, (includes o-ring)                                             |     |
| 14   | 88591209    | 1   | O-RING                                                                    |     |
| 15   | 91033168    | 1   | MAIN HYDRAULIC VALVE                                                      |     |
| 16   | 84717474    | 1   | HOSE ASSY                                                                 |     |
| 17   | 91033142    | 1   | TUBE ASSY                                                                 |     |
| 18   | 91035091    | AR  | RETROFIT KIT (SN 8544556 through 8544615)                                 |     |
| 19   | 91035092    | AR  | RETROFIT KIT (SN 8544616 through 8544624, Including 8544519 and 8544612 ) |     |
| 20   | 91034097    | 2   | PLASTIC KNOB (brass insert)                                               |     |

SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-42. OUTRIGGER CYLINDER



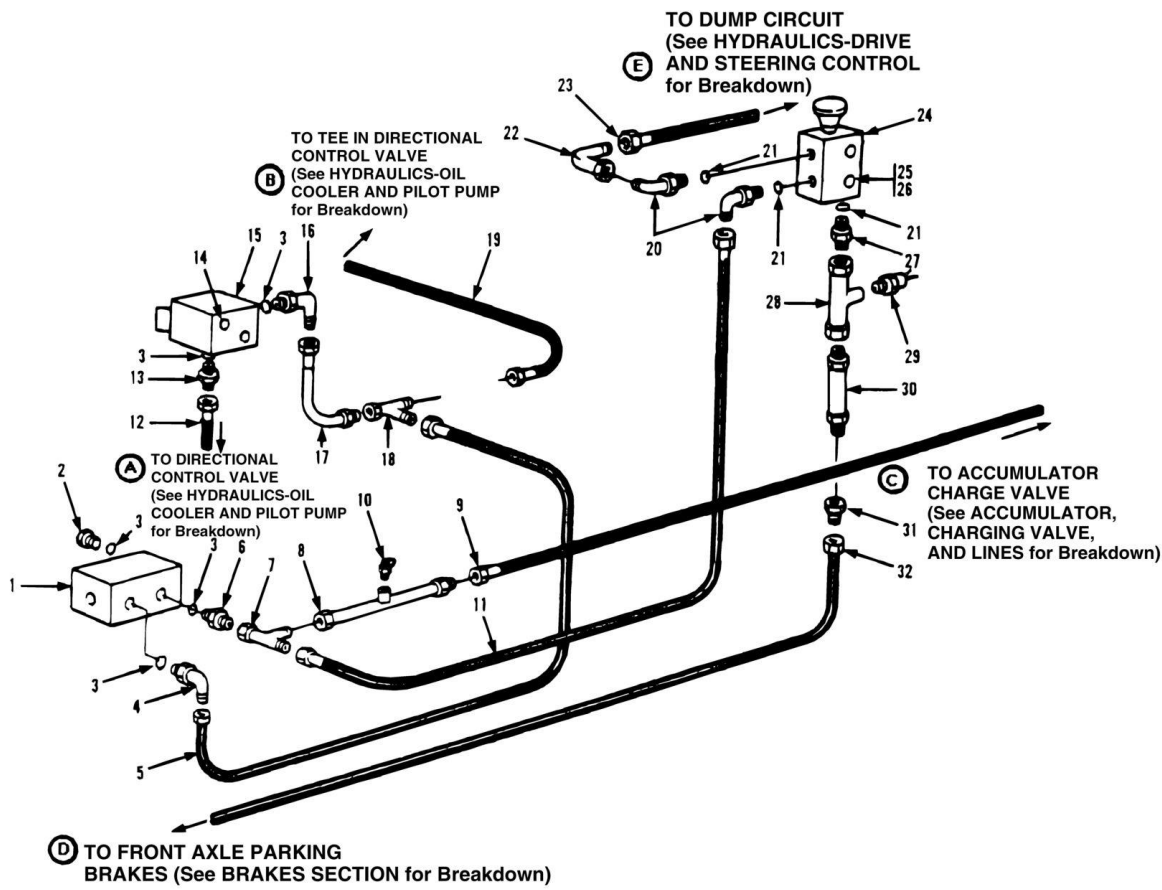
## SECTION 8 - HYDRAULIC CIRCUIT

**FIGURE 8-42. OUTRIGGER CYLINDER**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                              | REV |
|------|-------------|-----|--------------------------------------------------------------------------|-----|
| 1    |             | Ref | OUTRIGGER CYLINDER ASSY, (See OPTIONAL EQUIPMENT SECTION for Breakdown)  |     |
| 2    | 91033201    | 2   | ORIFICE CHECK                                                            |     |
| 3    | 88662085    | 8   | ELBOW, 45, (includes item 4)                                             |     |
| 4    | 88591205    | 8   | O-RING                                                                   |     |
| 5    | 84717527    | 2   | HOSE ASSY                                                                |     |
| 6    | 84717528    | 2   | HOSE ASSY                                                                |     |
| 7    | 90027187    | 4   | NYLON CLAMP                                                              |     |
| 8    | 77163168    | 6   | CLAMP SET                                                                |     |
| 9    | 77133140    | 4   | COVER PLATE                                                              |     |
| 10   | 77133177    | 4   | HEX HD CAPSCREW                                                          |     |
| 11   | 91033141    | 1   | TUBE ASSY                                                                |     |
| 12   | 91033198    | 1   | TUBE ASSY                                                                |     |
| 13   | 77133499    | 2   | HEX HD CAPSCREW                                                          |     |
| 14   | 77133498    | 1   | COVER PLATE                                                              |     |
| 15   | 91033138    | 2   | CLAMP                                                                    |     |
| 16   | 91033199    | 1   | SAFETY PLATE                                                             |     |
| 17   | 91033200    | 2   | STACKING BOLT                                                            |     |
| 18   | 91033140    | 2   | TUBE ASSY                                                                |     |
| 19   |             | Ref | DUAL P.O. CHECK VALVE, (See HYDRAULIC COMPONENT SECTION for Breakdown)   |     |
| 20   | 88662067    | 1   | ELBOW, 90, (includes item 21)                                            |     |
| 21   | 88591207    | 1   | O-RING                                                                   |     |
| 22   | 77133390    | 2   | SAFETY CLIP                                                              |     |
| 23   | 77133389    | 2   | STACK BOLT                                                               |     |
| 24   |             | Ref | MAIN CONTROL VALVE ASSY. (See HYDRAULIC COMPONENT SECTION for Breakdown) |     |
| 25   | 88711284    | 1   | HEX SOCKET PIPE PLUG, 3/4                                                |     |
| 26   | 88591209    | 1   | O-RING                                                                   |     |
| 27   | 88662061    | 1   | ELBOW, 90, (includes item 26)                                            |     |
| 28   | 84717474    | 1   | HOSE ASSY                                                                |     |
| 29   | 84717479    | 2   | HOSE ASSY                                                                |     |
| 30   | 91023006    | 1   | STABILIZER DECAL                                                         |     |
| 31   | 88201037    | 4   | HEX HD CAPSCREW, 3/8-16X1-1/2, GR5                                       |     |
| 32   |             | Ref | OUTRIGGER VALVE ASSY, (See HYDRAULIC COMPONENT SECTION for Breakdown)    |     |
| 33   | 88551011    | 4   | LOCKWASHER. 3/8                                                          |     |
| 34   | 88501006    | 4   | HEX NUT, 3/8-16                                                          |     |
| 35   | 84717473    | 1   | HOSE ASSY                                                                |     |
| 36   | 88662060    | 1   | ELBOW, 90, (includes item 37)                                            |     |
| 37   | 88591206    | 1   | O-RING                                                                   |     |
| 38   | 84717477    | 2   | HOSE ASSY                                                                |     |

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FIGURE 8-43. HYDRAULICS AND PARKING BRAKE LINES (SN 8744115G to Present, Including 8744079G)



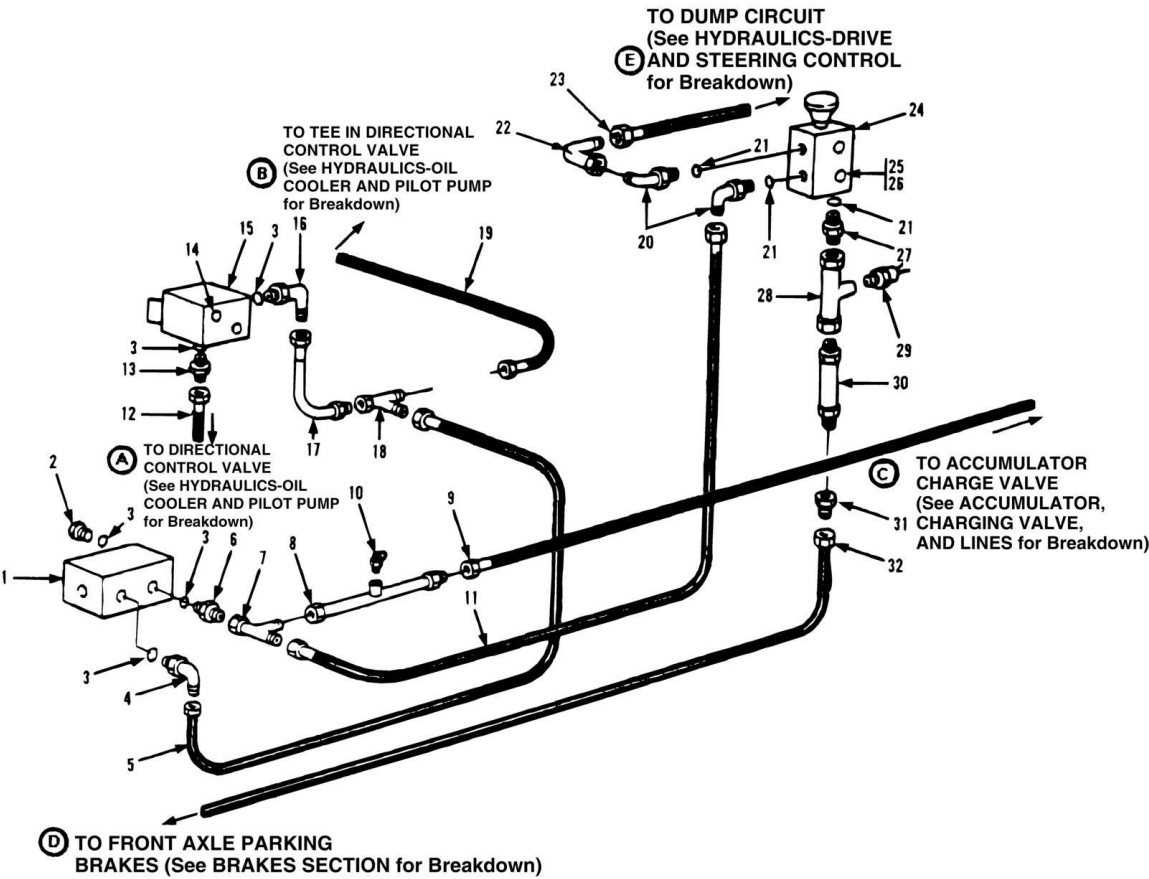
## SECTION 8 - HYDRAULIC CIRCUIT

**FIGURE 8-43. HYDRAULICS AND PARKING BRAKE LINES (SN 8744115G to Present, Including 8744079G)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                          | REV |
|------|-------------|-----|----------------------------------------------------------------------|-----|
| 1    |             | Ref | BRAKE VALVE ASSY (See HYDRAULIC COMPONENT SECTION for Breakdown)     |     |
| 2    | 88662174    | 1   | HEX HD PLUG (includes item 3)                                        |     |
| 3    | 88591204    | 5   | O-RING                                                               |     |
| 4    | 88662064    | 1   | ELBOW - 90, (includes item 3)                                        |     |
| 5    | 77133447    | 1   | HOSE ASSY                                                            |     |
| 6    | 88662005    | 1   | CONNECTOR (includes item 3)                                          |     |
| 7    | 88662239    | 1   | SWIVEL NUT RUN TEE, 3/8 TUBE                                         |     |
| 8    | 91043163    | 1   | TUBE ASSY                                                            |     |
| 9    |             | Ref | HOSE ASSY (See ACCUMULATOR, CHARGING VALVES AND LINES for Breakdown) |     |
| 10   | 77133089    | 1   | MINI-CHECK COUPLING                                                  |     |
| 11   | 84717508    | 1   | HOSE ASSY                                                            |     |
| 12   | 77133342    | 1   | HOSE ASSY                                                            |     |
| 13   | 88662005    | 1   | CONNECTOR (includes item 3)                                          |     |
| 14   | 88212228    | 2   | SOCKET HD CAPSCREW, 5/16-18x1-1/4, GR8                               |     |
| 15   | 91033096    | 1   | INCHING VALVE ASSY                                                   |     |
| 15   | 91034018    | 1   | VALVE SEAL KIT                                                       |     |
| 16   | 88662064    | 1   | ELBOW - 90, (includes item 3)                                        |     |
| 17   | 91033130    | 1   | TUBE ASSY                                                            |     |
| 18   | 88662239    | 1   | SWIVEL NUT RUN TEE, 3/8 TUBE                                         |     |
| 19   | 84717466    | 1   | HOSE ASSY                                                            |     |
| 20   | 88662065    | 2   | ELBOW - 90, (includes item 21)                                       |     |
| 21   | 88591205    | 3   | O-RING                                                               |     |
| 22   | 88662105    | 1   | ELBOW - 90, (swivel nut)                                             |     |
| 23   | 77133167    | 1   | HOSE ASSY                                                            |     |
| 24   |             | Ref | PARK BRAKE VALVE (See HYDRAULIC COMPONENT SECTION for Breakdown)     |     |
| 25   | 88261021    | 2   | SOCKET BUTTON HD CAPSCREW, 5/16-18X5/8                               |     |
| 26   | 88551010    | 2   | LOCKWASHER, 5/16                                                     |     |
| 27   | 88662018    | 1   | CONNECTOR (includes item 21)                                         |     |
| 28   | 91043131    | 1   | TUBE ASSY                                                            |     |
| 29   | 91043077    | 1   | PRESSURE SWITCH                                                      |     |
| 30   | 91043143    | 1   | CHECK VALVE                                                          |     |
| 31   | 88661342    | 1   | TUBE END REDUCER, 1/2X3/8                                            |     |
| 32   |             | Ref | HOSE ASSY (See BRAKES SECTION for Breakdown)                         |     |

SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-44. HYDRAULICS AND PARKING BRAKE LINES (SN 8744115G to Present, Including 8744079G)





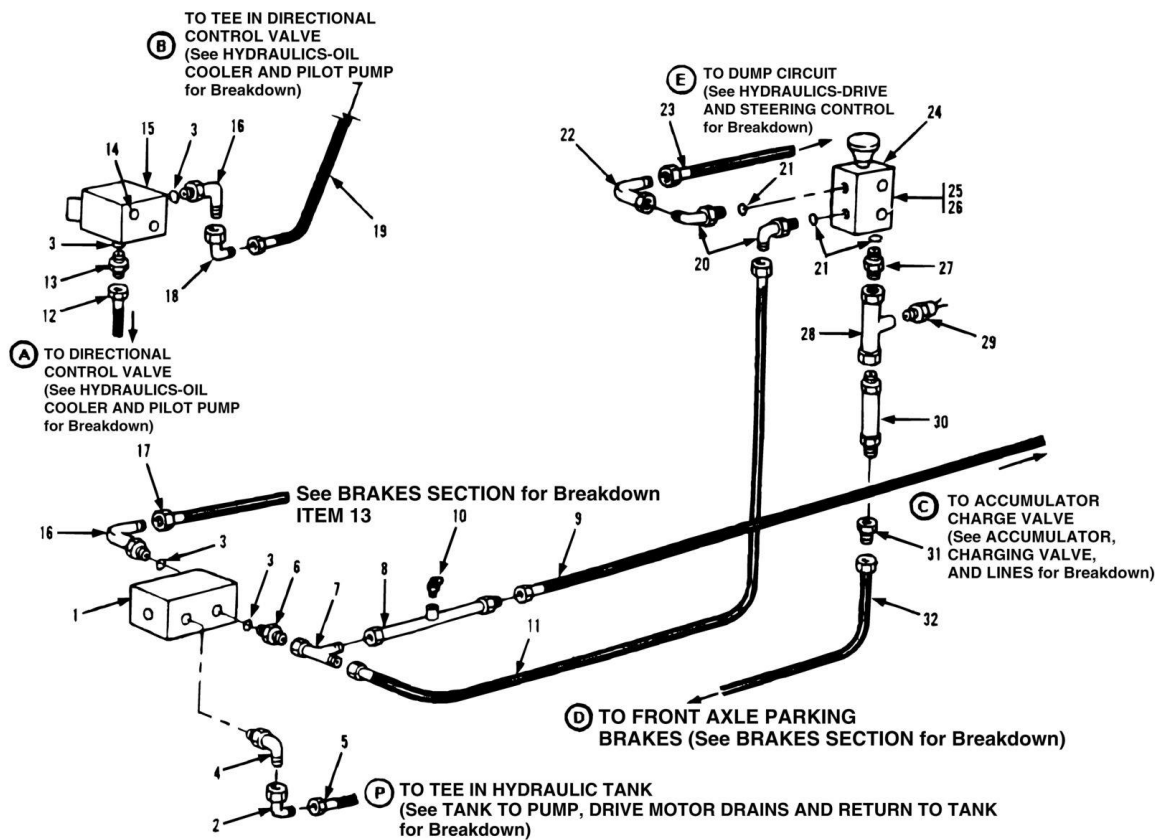
## SECTION 8 - HYDRAULIC CIRCUIT

**FIGURE 8-44. HYDRAULICS AND PARKING BRAKE LINES (SN 8744115G to Present, Including 8744079G)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                          | REV |
|------|-------------|-----|----------------------------------------------------------------------|-----|
| 1    |             | Ref | BRAKE VALVE ASSY (See HYDRAULIC COMPONENT SECTION for Breakdown)     |     |
| 2    | 88662174    | 1   | HEX HD PLUG (includes item 3)                                        |     |
| 3    | 88591204    | 5   | O-RING                                                               |     |
| 4    | 88662064    | 1   | ELBOW - 90, (includes item 3)                                        |     |
| 5    | 90207411    | 1   | HOSE ASSY                                                            |     |
| 6    | 88662005    | 1   | CONNECTOR (includes item 3)                                          |     |
| 7    | 88662239    | 1   | SWIVEL NUT RUN TEE, 3/8 TUBE                                         |     |
| 8    | 91043163    | 1   | TUBE ASSY                                                            |     |
| 9    |             | Ref | HOSE ASSY (See ACCUMULATOR, CHARGING VALVES AND LINES for Breakdown) |     |
| 10   | 77133089    | 1   | MINI-CHECK COUPLING                                                  |     |
| 11   | 84717508    | 1   | HOSE ASSY                                                            |     |
| 12   | 77133342    | 1   | HOSE ASSY                                                            |     |
| 13   | 88662005    | 1   | CONNECTOR (includes item 3)                                          |     |
| 14   | 88212228    | 2   | SOCKET HD CAPSCREW, 5/16-18x1-1/4, GR8                               |     |
| 15   | 91033096    | 1   | INCHING VALVE ASSY                                                   |     |
| 15   | 91034018    | 1   | VALVE SEAL KIT                                                       |     |
| 16   | 88662064    | 1   | ELBOW - 90, (includes item 3)                                        |     |
| 17   | 91033130    | 1   | TUBE ASSY                                                            |     |
| 18   | 88662239    | 1   | SWIVEL NUT RUN TEE, 3/8 TUBE                                         |     |
| 19   | 84717466    | 1   | HOSE ASSY                                                            |     |
| 20   | 88662065    | 2   | ELBOW - 90, (includes item 21)                                       |     |
| 21   | 88591205    | 3   | O-RING                                                               |     |
| 22   | 88662105    | 1   | ELBOW - 90, (swivel nut)                                             |     |
| 23   | 77133167    | 1   | HOSE ASSY                                                            |     |
| 24   |             | Ref | PARK BRAKE VALVE (See HYDRAULIC COMPONENT SECTION for Breakdown)     |     |
| 25   | 88261021    | 2   | SOCKET BUTTON HD CAPSCREW, 5/16-18X5/8                               |     |
| 26   | 88551010    | 2   | LOCKWASHER, 5/16                                                     |     |
| 27   | 88662018    | 1   | CONNECTOR (includes item 21)                                         |     |
| 28   | 91043131    | 1   | TUBE ASSY                                                            |     |
| 29   | 91043077    | 1   | PRESSURE SWITCH                                                      |     |
| 30   | 91043143    | 1   | CHECK VALVE                                                          |     |
| 31   | 88661342    | 1   | TUBE END REDUCER, 1/2X3/8                                            |     |
| 32   |             | Ref | HOSE ASSY (See BRAKES SECTION for Breakdown)                         |     |

SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-45. HYDRAULICS AND PARKING BRAKE LINES (SN 0144452 to Present)



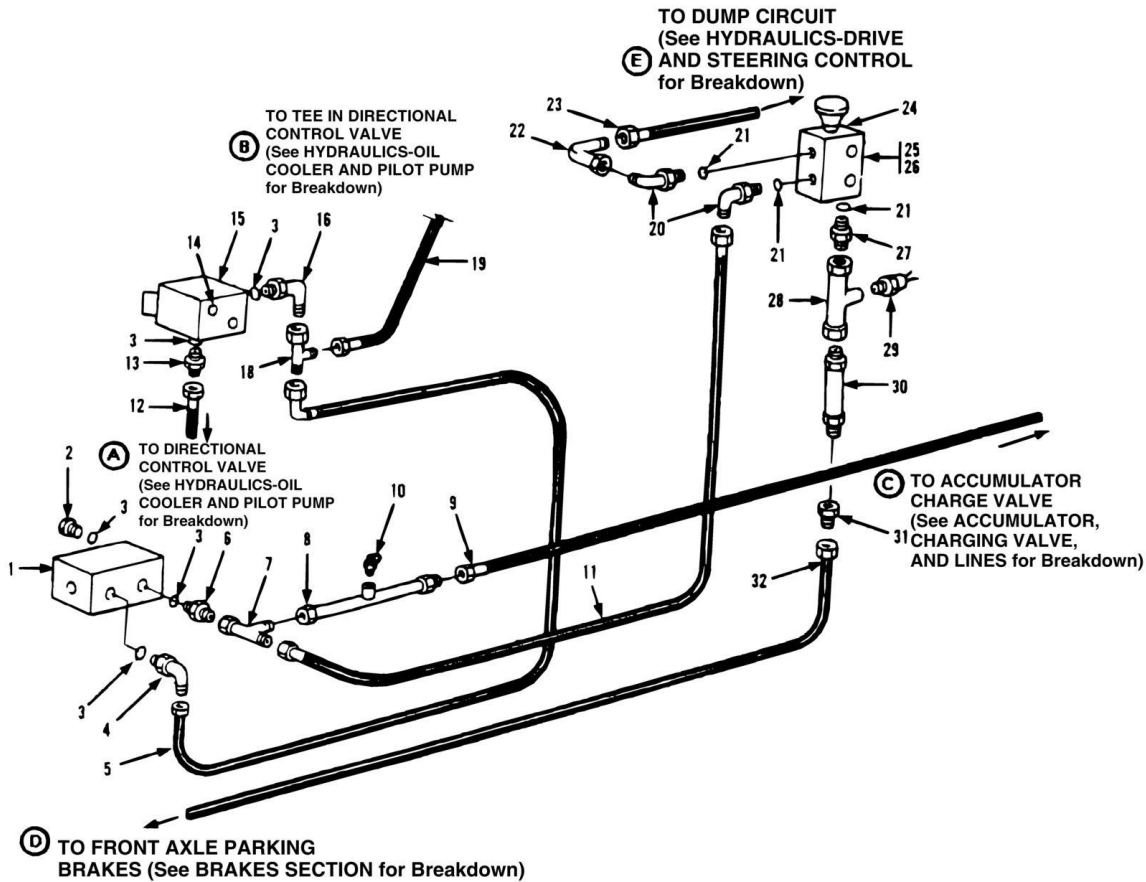
## SECTION 8 - HYDRAULIC CIRCUIT

**FIGURE 8-45. HYDRAULICS AND PARKING BRAKE LINES (SN 0144452 to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                          | REV |
|------|-------------|-----|----------------------------------------------------------------------|-----|
| 1    | 91033307    | Ref | BRAKE VALVE ASSY (See HYDRAULIC COMPONENT SECTION for Breakdown)     |     |
| 2    | 88662106    | 1   | ELBOW - 90, (swivel nut)                                             |     |
| 3    | 88591204    | 5   | O-RING                                                               |     |
| 4    | 77131088    | 1   | ELBOW - 90                                                           |     |
| 5    | 90207842    | 1   | HOSE ASSY                                                            |     |
| 6    | 88662005    | 1   | CONNECTOR (includes item 3)                                          |     |
| 7    | 88662239    | 1   | SWIVEL NUT RUN TEE, 3/8 TUBE                                         |     |
| 8    | 91043163    | 1   | TUBE ASSY                                                            |     |
| 9    | 84717561    | 1   | HOSE ASSY (See ACCUMULATOR, CHARGING VALVES AND LINES for Breakdown) |     |
| 10   | 77103089    | 1   | MINI-CHECK COUPLING                                                  |     |
| 11   | 84717508    | 1   | HOSE ASSY                                                            |     |
| 12   | 77133342    | 1   | HOSE ASSY                                                            |     |
| 13   | 88662005    | 1   | CONNECTOR (includes item 3)                                          |     |
| 14   | 88212228    | 2   | SOCKET HD CAPSCREW, 5-16-18X1-1/4, GR8                               |     |
| 15   | 91033096    | 1   | INCHING VALVE ASSY                                                   |     |
| 15   | 91034018    | AR  | VALVE SEAL KIT                                                       |     |
| 16   | 88662064    | 1   | ELBOW - 90, (includes item 3)                                        |     |
| 17   | 84717523    | 1   | HOSE ASSY                                                            |     |
| 18   | 88662105    | 1   | ELBOW - 90, (swivel nut)                                             |     |
| 19   | 84717466    | 1   | HOSE ASSY                                                            |     |
| 20   | 88662065    | 2   | ELBOW - 90, (includes item 21)                                       |     |
| 21   | 88591205    | 3   | O-RING                                                               |     |
| 22   | 88662105    | 1   | ELBOW - 90, (swivel nut)                                             |     |
| 23   | 77133167    | 1   | HOSE ASSY                                                            |     |
| 24   | 91043090    | Ref | PARK BRAKE VALVE (See HYDRAULIC COMPONENT SECTION for Breakdown)     |     |
| 25   | 88261021    | 2   | SOCKET BUTTON HD CAPSCREW, 5/16-18X5/8                               |     |
| 26   | 88551010    | 2   | LOCKWASHER, 5/16                                                     |     |
| 27   | 88662018    | 1   | CONNECTOR (includes item 21)                                         |     |
| 28   | 91043131    | 1   | TUBE ASSY                                                            |     |
| 29   | 91043077    | 1   | PRESSURE SWITCH                                                      |     |
| 30   | 91043143    | 1   | CHECK VALVE                                                          |     |
| 31   | 88661342    | 1   | TUBE END REDUCER, 1/2X3/8                                            |     |
| 32   | 84717522    | Ref | HOSE ASSY (See BRAKES SECTION for Breakdown)                         |     |

SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-46. HYDRAULICS AND PARKING BRAKE LINES (SN 0144259J to Present)



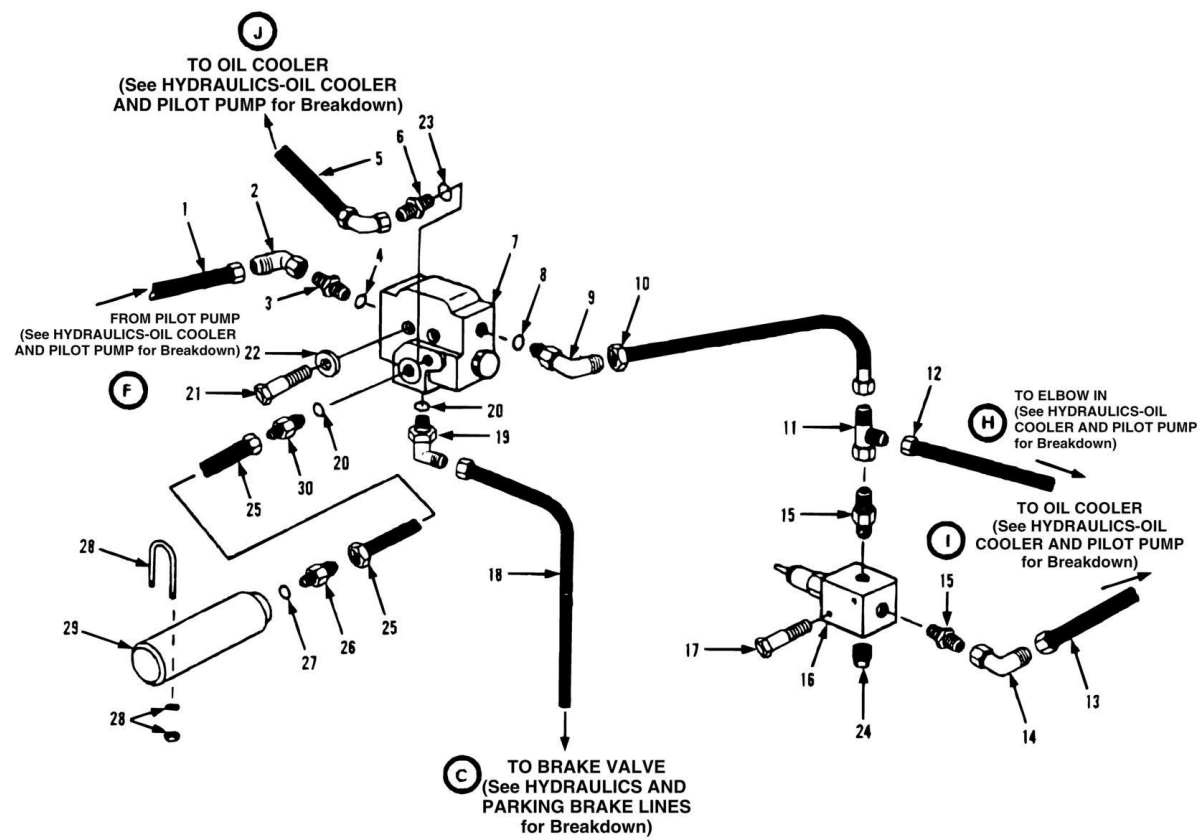
## SECTION 8 - HYDRAULIC CIRCUIT

**FIGURE 8-46. HYDRAULICS AND PARKING BRAKE LINES (SN 0144259J to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                          | REV |
|------|-------------|-----|----------------------------------------------------------------------|-----|
| 1    | 91033307    | Ref | BRAKE VALVE ASSY (See HYDRAULIC COMPONENT SECTION for Breakdown)     |     |
| 2    | 88662174    | 1   | HEX HD PLUG (includes item 3)                                        |     |
| 3    | 88591204    | 5   | O-RING                                                               |     |
| 4    | 88662064    | 1   | ELBOW - 90, (includes item 3)                                        |     |
| 5    | 90207411    | 1   | HOSE ASSY                                                            |     |
| 6    | 88662005    | 1   | CONNECTOR (includes item 3)                                          |     |
| 7    | 88662239    | 1   | SWIVEL NUT RUN TEE, 3/8 TUBE                                         |     |
| 8    | 91043163    | 1   | TUBE ASSY                                                            |     |
| 9    |             | Ref | HOSE ASSY (See ACCUMULATOR, CHARGING VALVES AND LINES for Breakdown) |     |
| 10   | 77133089    | 1   | MINI-CHECK COUPLING                                                  |     |
| 11   | 84717508    | 1   | HOSE ASSY                                                            |     |
| 12   | 77133342    | 1   | HOSE ASSY                                                            |     |
| 13   | 88662005    | 1   | CONNECTOR (includes item 3)                                          |     |
| 14   | 88212228    | 2   | SOCKET HD CAPSCREW, 5/16-18x1-1/4, GR8                               |     |
| 15   | 91033096    | 1   | INCHING VALVE ASSY                                                   |     |
| 15   | 91034018    | 1   | VALVE SEAL KIT                                                       |     |
| 16   | 88662064    | 1   | ELBOW - 90, (includes item 3)                                        |     |
| 17   | 91033130    | 1   | TUBE ASSY                                                            |     |
| 18   | 88662239    | 1   | SWIVEL NUT RUN TEE, 3/8 TUBE                                         |     |
| 19   | 84717466    | 1   | HOSE ASSY                                                            |     |
| 20   | 88662065    | 2   | ELBOW - 90, (includes item 21)                                       |     |
| 21   | 88591205    | 3   | O-RING                                                               |     |
| 22   | 88662105    | 1   | ELBOW - 90, (swivel nut)                                             |     |
| 23   | 77133167    | 1   | HOSE ASSY                                                            |     |
| 24   | 91043090    | Ref | PARK BRAKE VALVE (See HYDRAULIC COMPONENT SECTION for Breakdown)     |     |
| 25   | 88261021    | 2   | SOCKET BUTTON HD CAPSCREW, 5/16-18X5/8                               |     |
| 26   | 88551010    | 2   | LOCKWASHER, 5/16                                                     |     |
| 27   | 88662018    | 1   | CONNECTOR (includes item 21)                                         |     |
| 28   | 91043131    | 1   | TUBE ASSY                                                            |     |
| 29   | 91043077    | 1   | PRESSURE SWITCH                                                      |     |
| 30   | 91043143    | 1   | CHECK VALVE                                                          |     |
| 31   | 88661342    | 1   | TUBE END REDUCER, 1/2X3/8                                            |     |
| 32   |             | Ref | HOSE ASSY (See BRAKES SECTION for Breakdown)                         |     |

SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-47. ACCUMULATOR, CHARGING VALVE AND LINES (SN 0144407 to Present)



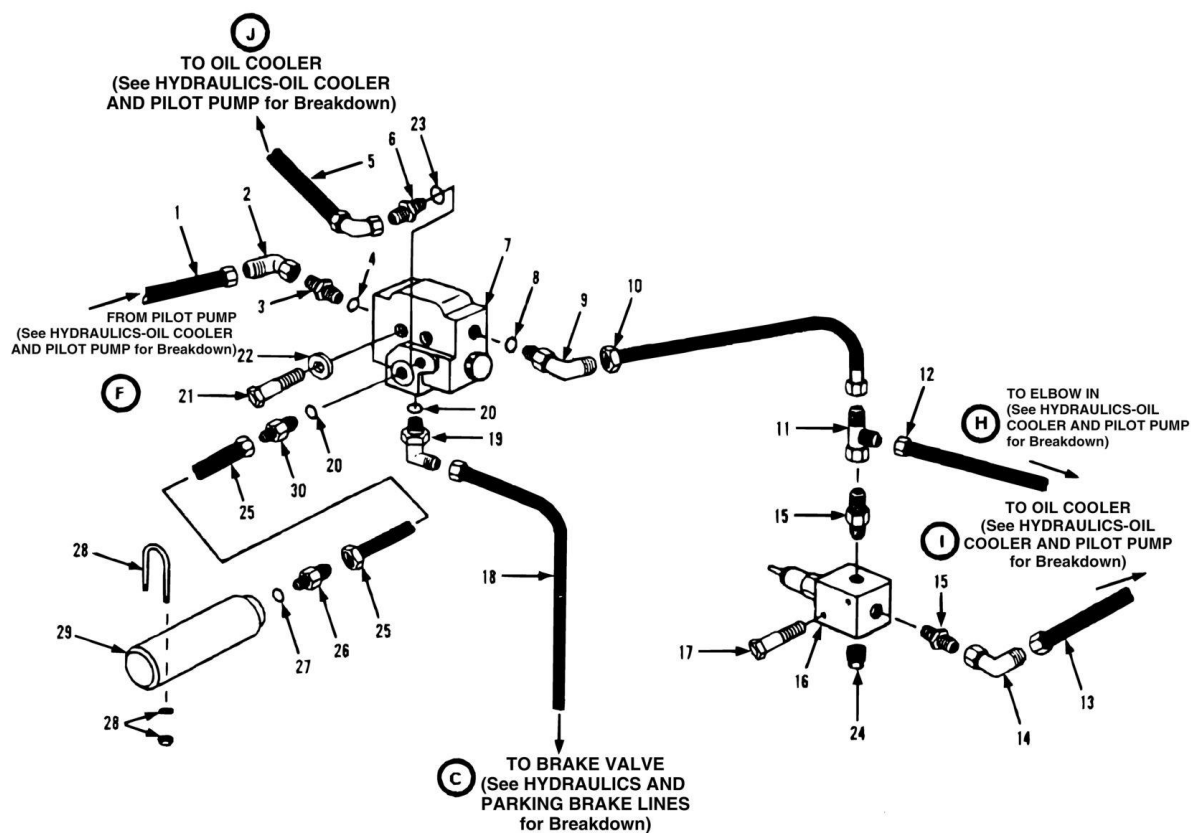
## SECTION 8 - HYDRAULIC CIRCUIT

**FIGURE 8-47. ACCUMULATOR, CHARGING VALVE AND LINES (SN 0144407 to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                               | REV |
|------|-------------|-----|---------------------------------------------------------------------------|-----|
| 1    | 84716251    | 1   | HOSE ASSY                                                                 |     |
| 2    | 88662108    | 1   | ELBOW, 90, (swivel nut)                                                   |     |
| 3    | 88662023    | 1   | CONNECTOR (includes item #4)                                              |     |
| 4    | 88591205    | 2   | O-RING                                                                    |     |
| 5    | 84717638    | 1   | HOSE ASSY                                                                 |     |
| 6    | 88662003    | 1   | CONNECTOR (includes item #23)                                             |     |
| 7    |             | Ref | ACCUMULATOR CHARGE VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown) |     |
| 8    | 88591205    | 1   | O-RING                                                                    |     |
| 9    | 88662085    | 1   | ELBOW, 45, (includes item #8)                                             |     |
| 10   | 90207360    | 1   | HOSE ASSY                                                                 |     |
| 11   | 88662240    | 1   | SWIVEL NUT RUN TEE, 1/2 TUBE                                              |     |
| 12   | 84717517    | 1   | HOSE ASSY                                                                 |     |
| 13   | 84717518    | 1   | HOSE ASSY                                                                 |     |
| 14   | 88662120    | 1   | ELBOW, 45, (swivel nut)                                                   |     |
| 15   | 88743003    | 2   | MALE ADAPTER, 3/8 X 1/2 TUBE                                              |     |
| 16   | 91033128    | 1   | RELIEF VALVE ASSY                                                         |     |
| 17   | 88201009    | 2   | HEX HD CAPSCREW, 1/4-20 X 2, GR5                                          |     |
| 18   | 84717561    | 1   | HOSE ASSY                                                                 |     |
| 19   | 88662065    | 1   | ELBOW, 90, (includes item #20)                                            |     |
| 20   | 88591205    | 1   | O-RING                                                                    |     |
| 21   | 88211046    | 2   | SOCKET HD CAPSCREW, 1/4-20x2, GR8                                         |     |
| 22   | 88551105    | 2   | LOCK WASHER, 1/4 (hi-collar)                                              |     |
| 23   | 88591202    | 1   | O-RING                                                                    |     |
| 24   | 88711282    | 1   | SOCKET HD PIPE PLUG, 3/8                                                  |     |
| 25   | 84717610    | 1   | HOSE ASSY                                                                 |     |
| 26   | 88662020    | 1   | CONNECTOR (includes item #27)                                             |     |
| 27   | 88591207    | 1   | O-RING                                                                    |     |
| 28   | 83683175    | 2   | CLAMP                                                                     |     |
| 29   | 91053380    | 1   | ACCUMULATOR                                                               |     |
| 29   | 91054003    | 1   | ACCUMULATOR (uncharged)                                                   |     |
| 30   | 88662006    | 1   | CONNECTOR (includes item #4)                                              |     |

## SECTION 8 - HYDRAULIC CIRCUIT

**FIGURE 8-48. ACCUMULATOR, CHARGING VALVE AND LINES (SN 87444115G to Present, Including 8744079G)**





## SECTION 8 - HYDRAULIC CIRCUIT

**FIGURE 8-48. ACCUMULATOR, CHARGING VALVE AND LINES (SN 87444115G to Present, Including 8744079G)**

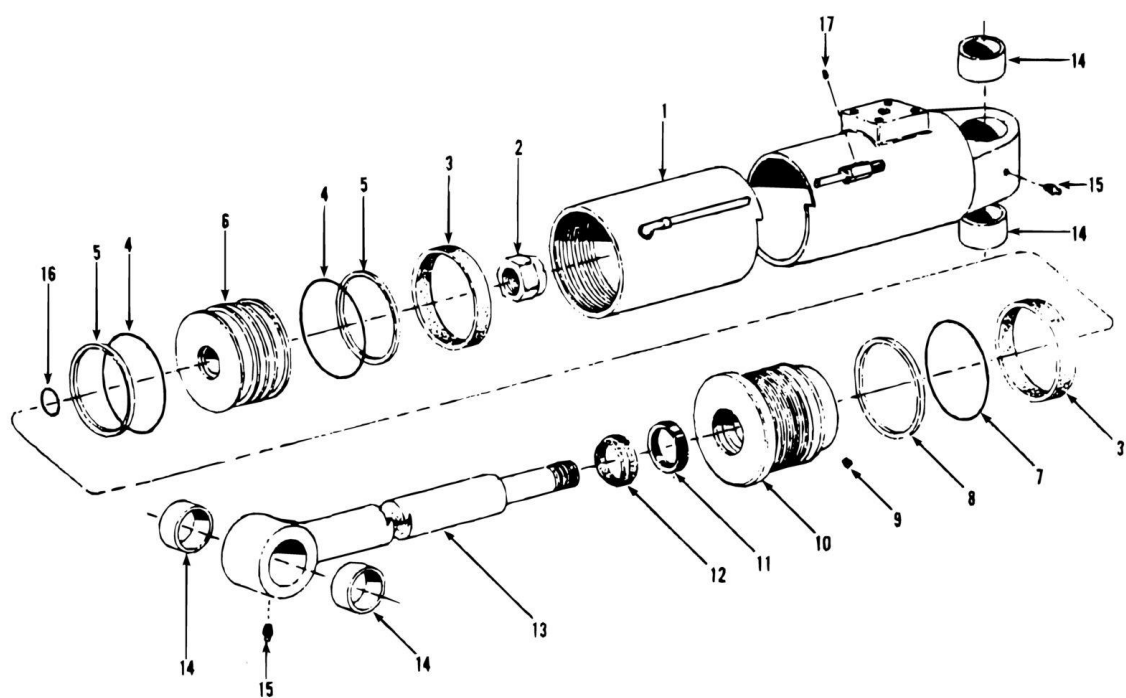
| ITEM | PART NUMBER | QTY | DESCRIPTION                                                               | REV |
|------|-------------|-----|---------------------------------------------------------------------------|-----|
| 1    | 84716251    | 1   | HOSE ASSY                                                                 |     |
| 2    | 88662108    | 1   | ELBOW, 90, (swivel nut)                                                   |     |
| 3    | 88662023    | 1   | CONNECTOR (includes item #4)                                              |     |
| 4    | 88591205    | 2   | O-RING                                                                    |     |
| 5    | 84717638    | 1   | HOSE ASSY                                                                 |     |
| 6    | 88662003    | 1   | CONNECTOR (includes item #23)                                             |     |
| 7    |             | Ref | ACCUMULATOR CHARGE VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown) |     |
| 8    | 88591205    | 1   | O-RING                                                                    |     |
| 9    | 88662085    | 1   | ELBOW, 45, (includes item #8)                                             |     |
| 10   | 90207360    | 1   | HOSE ASSY                                                                 |     |
| 11   | 88662240    | 1   | SWIVEL NUT RUN TEE, 1/2 TUBE                                              |     |
| 12   | 84717517    | 1   | HOSE ASSY                                                                 |     |
| 13   | 84717518    | 1   | HOSE ASSY                                                                 |     |
| 14   | 88662120    | 1   | ELBOW, 45, (swivel nut)                                                   |     |
| 15   | 88743003    | 2   | MALE ADAPTER, 3/8 X 1/2 TUBE                                              |     |
| 16   | 91033128    | 1   | RELIEF VALVE ASSY                                                         |     |
| 17   | 88201009    | 2   | HEX HD CAPSCREW, 1/4-20 X 2, GR5                                          |     |
| 18   | 84717561    | 1   | HOSE ASSY                                                                 |     |
| 19   | 88662065    | 1   | ELBOW, 90, (includes item #20)                                            |     |
| 20   | 88591205    | 1   | O-RING                                                                    |     |
| 21   | 88211046    | 2   | SOCKET HD CAPSCREW, 1/4-20x2, GR8                                         |     |
| 22   | 88551105    | 2   | LOCKWASHER, 1/4 (hi-collar)                                               |     |
| 23   | 88591202    | 1   | O-RING                                                                    |     |
| 24   | 88711282    | 1   | SOCKET HD PIPE PLUG, 3/8                                                  |     |
| 25   | 84717610    | 1   | HOSE ASSY                                                                 |     |
| 26   | 88662020    | 1   | CONNECTOR (includes item #27)                                             |     |
| 27   | 88591207    | 1   | O-RING                                                                    |     |
| 28   | 83683175    | 2   | CLAMP                                                                     |     |
| 29   | 91053380    | 1   | ACCUMULATOR                                                               |     |
| 29   | 91054003    | 1   | ACCUMULATOR (uncharged)                                                   |     |
| 30   | 88662006    | 1   | CONNECTOR (includes item #4)                                              |     |



**SECTION 9 - HYDRAULIC COMPONENTS**

SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-1. (90801333) LIFT CYLINDER 6000# (534B-6) (SN 8344001L to Present)



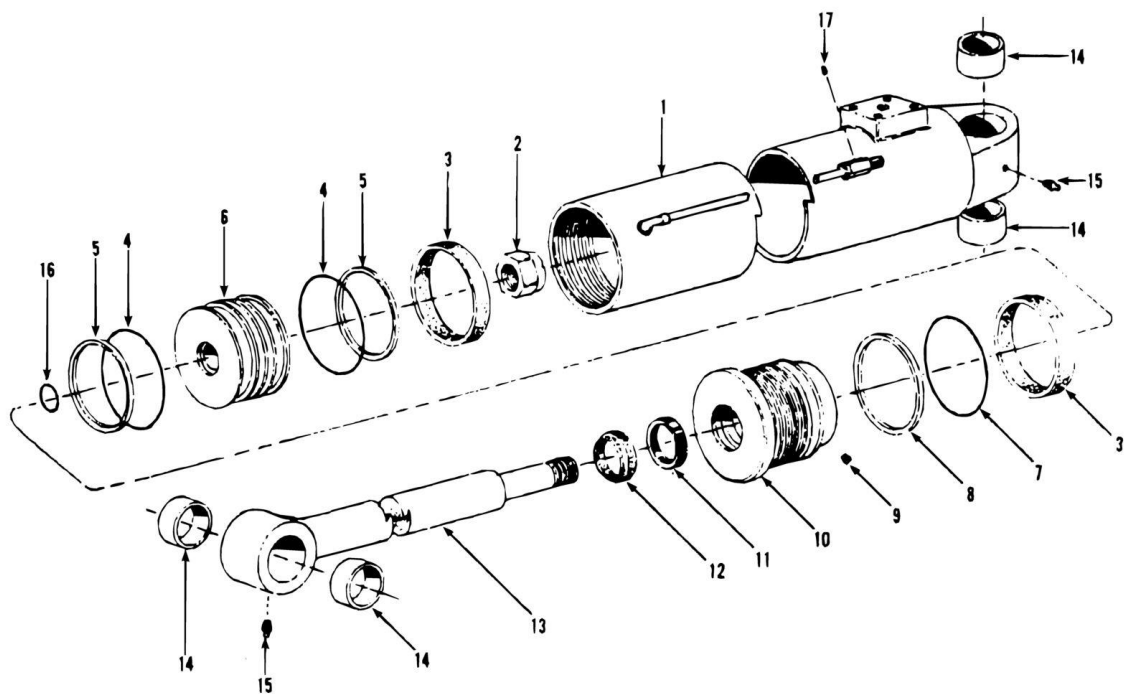
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-1. (90801333) LIFT CYLINDER 6000# (534B-6) (SN 8344001L to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                     | REV |
|------|-------------|-----|---------------------------------|-----|
|      | 90801333    | 2   | CYLINDER, LIFT, (6000 LB units) |     |
| 1    | 90207962    | 1   | BARREL                          |     |
| 2    | 90027961    | 1   | NUT                             |     |
| 3    | 90207960    | 2   | RING, WEAR                      |     |
| 4    | 90207958    | 2   | O-RING, PISTON                  |     |
| 5    | 90207957    | 2   | SEAL, PISTON                    |     |
| 6    | 90207959    | 1   | PISTON                          |     |
| 7    | 90207963    | 1   | O-RING                          |     |
| 8    | 90207964    | 1   | RING, BACKUP                    |     |
| 9    | 91044084    | 1   | SCREW, SET                      |     |
| 10   | 90207965    | 1   | BEARING, ROD                    |     |
| 11   | 90207966    | 1   | SEAL, ROD                       |     |
| 12   | 90207967    | 1   | WIPER                           |     |
| 13   | 90207968    | 1   | ROD, PISTON                     |     |
| 14   | 90205414    | 2   | BUSHING                         |     |
| 15   | 90022217    | 2   | FITTING, GREASE                 |     |
| 16   | 90023222    | 1   | O-RING, PISTON ROD              |     |
| 17   | 90207970    | 1   | PLUG, PIPE                      |     |
| 17   | 90207956    | AR  | KIT, SEAL                       |     |

SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-2. (9080180) LIFT CYLINDER 8000# (534B-8) (SN 8344001L to Present)



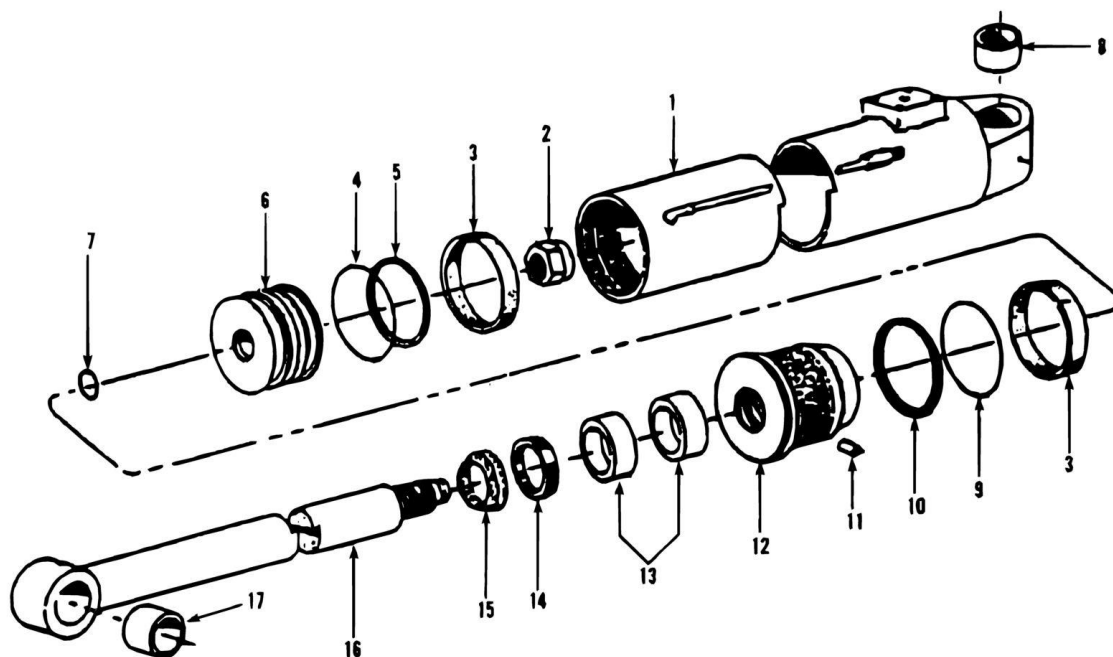
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-2. (9080180) LIFT CYLINDER 8000# (534B-8) (SN 8344001L to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                     | REV |
|------|-------------|-----|---------------------------------|-----|
|      | 90801180    | 2   | CYLINDER, LIFT, (8000 LB units) |     |
| 1    | 90206978    | 1   | BARREL                          |     |
| 2    | 90022232    | 1   | NUT, 1-1/2IN NC, (self locking) |     |
| 3    | 90022260    | 2   | RING, WEAR                      |     |
| 4    | 90023157    | 2   | O-RING SEAL                     |     |
| 5    | 90022240    | 2   | SEAL, PISTON                    |     |
| 6    | 90400393    | 1   | PISTON                          |     |
| 7    | 90023349    | 1   | O-RING                          |     |
| 8    | 90025349    | 1   | RING, BACKUP                    |     |
| 9    | 90206042    | 1   | PLUG, NYLON                     |     |
| 10   | 90400074    | 1   | BEARING, ROD                    |     |
| 11   | 90022250    | 1   | SEAL, ROD                       |     |
| 12   | 90022280    | 1   | WIPER                           |     |
| 13   | 90206979    | 1   | ROD, PISTON                     |     |
| 14   | 90205414    | 4   | BUSHING                         |     |
| 15   | 90022217    | 2   | FITTING, GREASE                 |     |
| 16   | 90023128    | 1   | O-RING, PISTON                  |     |
| 16   | 90207953    | AR  | KIT, SEAL                       |     |

## SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-3. (91033286) (IOWA) LIFT CYLINDER (SN 0144293H to Present)



BEFORE SERVICING CYLINDERS, PLEASE  
NOTE MACHINE S/N SUFFIX.  
"H" DESIGNATES IOWA CYLINDERS  
"J" DESIGNATES JARP CYLINDERS  
"S" DESIGNATES SEITZ CYLINDERS



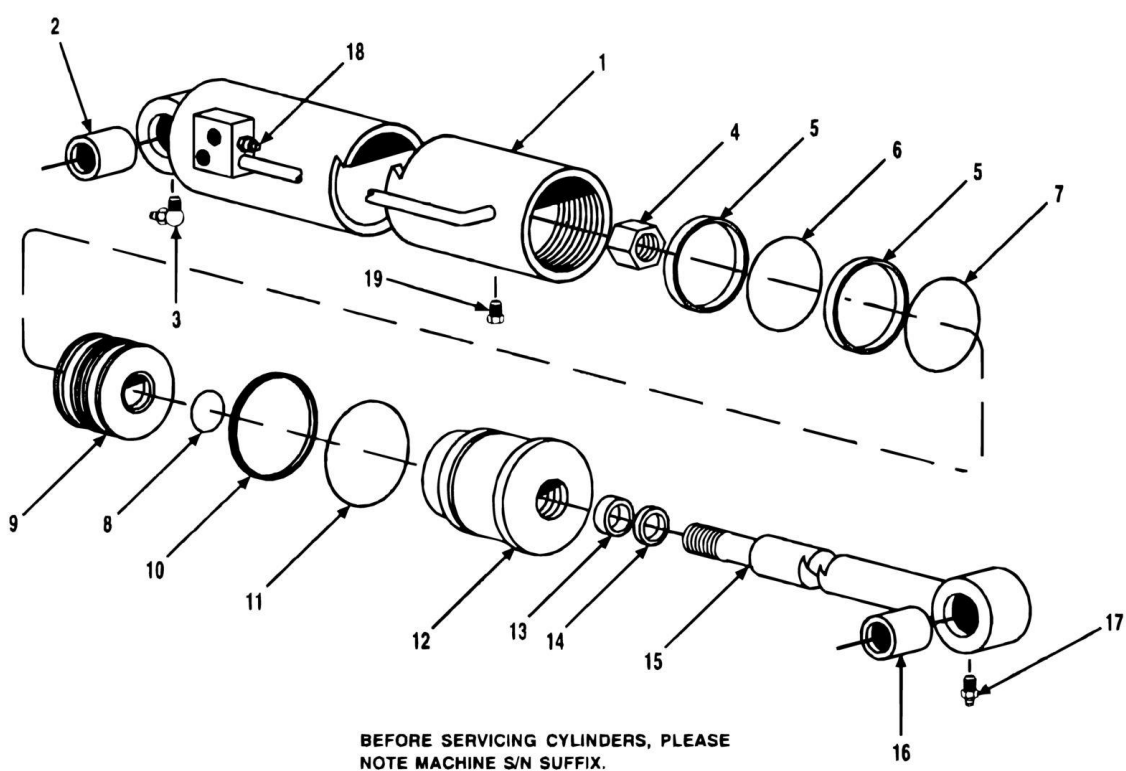
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-3. (91033286) (IOWA) LIFT CYLINDER (SN 0144293H to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                   | REV |
|------|-------------|-----|---------------------------------------------------------------|-----|
|      | 91033286    | 2   | LIFT CYLINDER ASSY, (includes all items)                      |     |
|      | 91034140    | 1   | SEAL KIT, (includes items 3, 4, 5, 7, 9, 10, 11, 13, 14 & 15) |     |
| 1    | 91034138    | 1   | CASE ASSY, (includes item 8)                                  |     |
| 2    | 90134153    | 1   | HEX LOCKNUT, (lubricate and torque to 1200 ft lbs)            |     |
| 3    | Kit         | 2   | WEAR RING                                                     |     |
| 4    | Kit         | 1   | O-RING                                                        |     |
| 5    | Kit         | 1   | PISTON SEAL                                                   |     |
| 6    | 91034139    | 1   | PISTON                                                        |     |
| 7    | Kit         |     | O-RING                                                        |     |
| 8    | 91034154    | 1   | BUSHING                                                       |     |
| 9    | Kit         | 1   | O-RING                                                        |     |
| 10   | Kit         | 1   | BACK UP RING                                                  |     |
| 11   | Kit         | 1   | NYLON PLUG                                                    |     |
| 12   | 91034136    | 1   | HEAD                                                          |     |
| 13   | Kit         | 2   | WEAR RING                                                     |     |
| 14   | Kit         | 1   | U-CUP                                                         |     |
| 15   | Kit         | 1   | WIPER                                                         |     |
| 16   | 91034137    | 1   | SHAFT ASSY, (includes item 17)                                |     |
| 17   | 91404352    | 1   | BUSHING                                                       |     |
|      |             | Ref | NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE. |     |

SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-4. (91033370) LIFT CYLINDERS (SN 0144784S to Present)



BEFORE SERVICING CYLINDERS, PLEASE  
NOTE MACHINE S/N SUFFIX.  
"H" DESIGNATES IOWA CYLINDERS  
"J" DESIGNATES JARP CYLINDERS  
"S" DESIGNATES SEITZ CYLINDERS

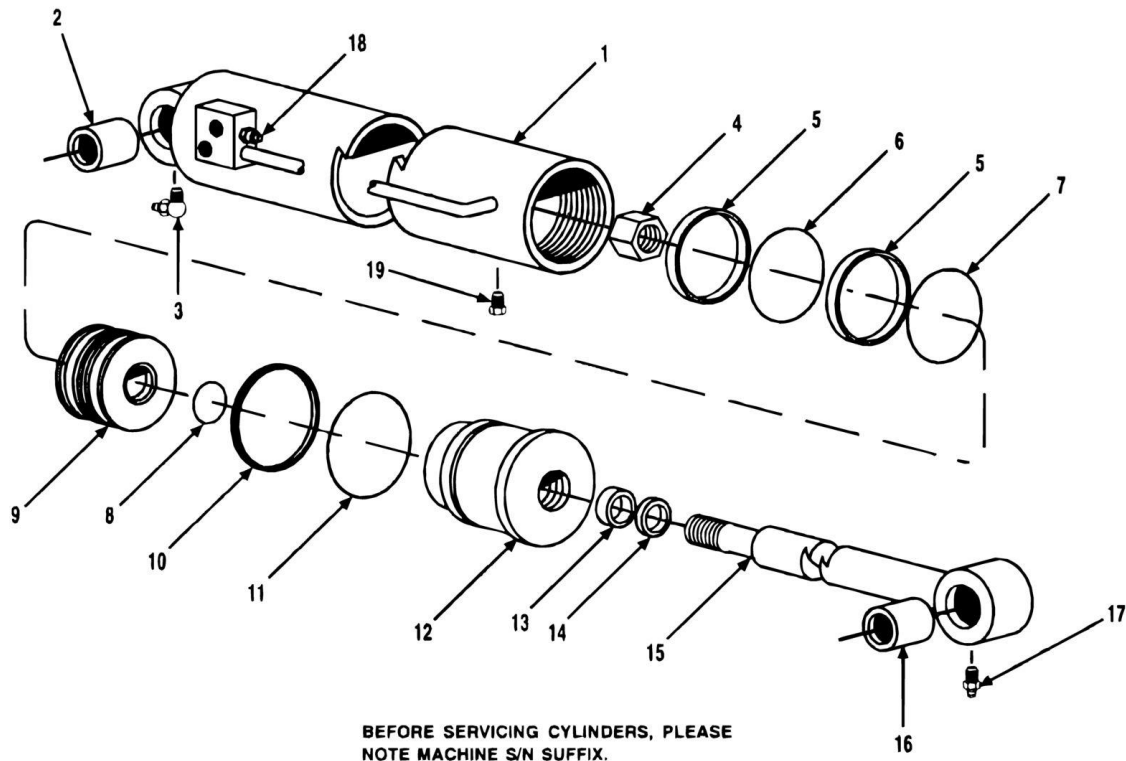
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-4. (91033370) LIFT CYLINDERS (SN 0144784S to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                   | REV |
|------|-------------|-----|---------------------------------------------------------------|-----|
|      | 91033370    | 2   | LIFT CYLINDER ASSY, 6000 lbs, (includes all items)            |     |
|      | 91034284    | AR  | SEAL KIT, (includes items 5, 6, 7, 8, 10, 11, 13 & 14)        |     |
| 1    | 91034285    | 1   | TUBE ASSY, (includes item 2)                                  |     |
| 2    | 91084176    | 1   | BUSHING                                                       |     |
| 3    | 91034438    | 1   | LUBE FITTING, 90, 1/4-28                                      |     |
| 4    | 91034286    | 1   | LOCKNUT, (torque to 1100 ft lbs)                              |     |
| 5    | Kit         | 2   | WEAR RING                                                     |     |
| 6    | Kit         | 1   | SEAL                                                          |     |
| 7    | Kit         | 1   | O-RING                                                        |     |
| 8    | Kit         | 1   | O-RING                                                        |     |
| 9    | 91034287    | 1   | PISTON                                                        |     |
| 10   | Kit         | 1   | BACKUP RING                                                   |     |
| 11   | Kit         | 1   | O-RING                                                        |     |
| 12   | 91034439    | 1   | GLAND                                                         |     |
| 13   | Kit         | 1   | SEAL                                                          |     |
| 14   | Kit         | 1   | WIPER                                                         |     |
| 15   | 91034440    | 1   | ROD ASSY, (includes item 6)                                   |     |
| 16   | 91044370    | 1   | BUSHING                                                       |     |
| 17   | 91084343    | 1   | LUBE FITTING, STRAIGHT, 1/4-28                                |     |
| 18   | 91034308    | 1   | COUNTERBALANCE VALVE                                          |     |
|      |             | Ref | NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE. |     |

SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-5. (91033371) LIFT CYLINDERS (SN 0144784S to Present)



BEFORE SERVICING CYLINDERS, PLEASE  
NOTE MACHINE S/N SUFFIX.  
"H" DESIGNATES IOWA CYLINDERS  
"J" DESIGNATES JARP CYLINDERS  
"S" DESIGNATES SEITZ CYLINDERS

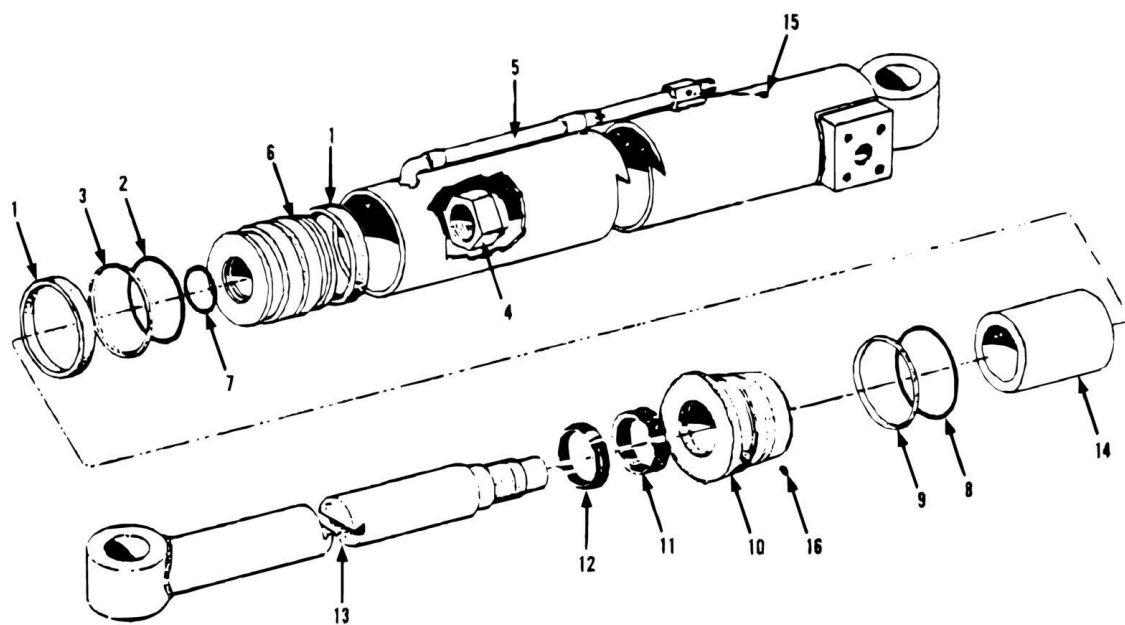
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-5. (91033371) LIFT CYLINDERS (SN 0144784S to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                   | REV |
|------|-------------|-----|---------------------------------------------------------------|-----|
|      | 91033371    | 2   | LIFT CYLINDER ASSY, 8000 lbs, (includes all items)            |     |
|      | 91034278    | AR  | SEAL KIT, (includes items 5, 6, 7, 8, 10, 11, 13 & 14)        |     |
| 1    | 91034279    | 1   | TUBE ASSY, (includes item 2)                                  |     |
| 2    | 91084176    | 1   | BUSHING                                                       |     |
| 3    | 88671027    | 1   | LUBE FITTING, 90, 1/4-28                                      |     |
| 4    | 91034280    | 1   | LOCKNUT, (torque to 1100 ft lbs)                              |     |
| 5    | Kit         | 2   | WEAR RING                                                     |     |
| 6    | Kit         | 1   | SEAL                                                          |     |
| 7    | Kit         | 1   | O-RING                                                        |     |
| 8    | Kit         | 1   | O-RING                                                        |     |
| 9    | 91034281    | 1   | PISTON                                                        |     |
| 10   | Kit         | 1   | BACKUP RING                                                   |     |
| 11   | Kit         | 1   | O-RING                                                        |     |
| 12   | 91034282    | 1   | GLAND                                                         |     |
| 13   | Kit         | 1   | SEAL                                                          |     |
| 14   | Kit         | 1   | WIPER                                                         |     |
| 15   | 91034283    | 1   | ROD ASSY, (includes item 16)                                  |     |
| 16   | 91044370    | 1   | BUSHING                                                       |     |
| 17   | 88671033    | 1   | LUBE FITTING, STRAIGHT, 1/4-28                                |     |
| 18   | 91033430    | 1   | COUNTERBALANCE VALVE                                          |     |
| 19   | 91034332    | 1   | SET SCREW                                                     |     |
|      |             | Ref | NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE. |     |

SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-6. (90801293) CROWD CYLINDER (SN 8344001L to Present)



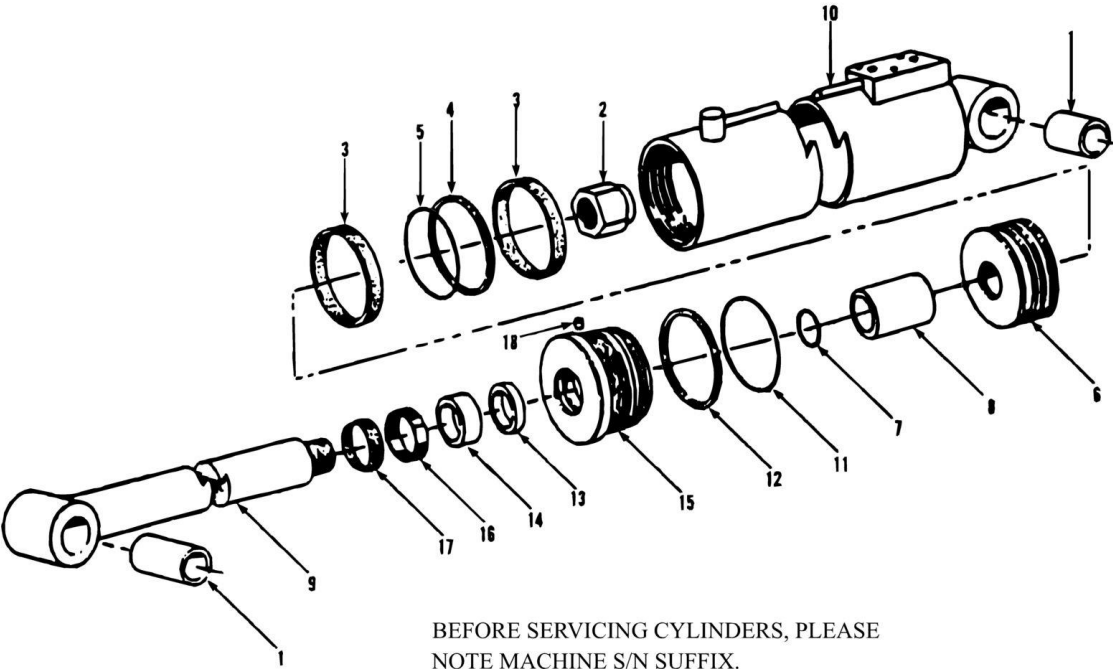
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-6. (90801293) CROWD CYLINDER (SN 8344001L to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                   | REV |
|------|-------------|-----|-----------------------------------------------|-----|
|      | 90208023    | 1   | SEAL KIT (includes 1, 2, 3, 7, 8, 9, 11 & 12) |     |
|      | 90801293    | 1   | CROWD CYLINDER                                |     |
| 1    | 90022295    | 2   | WEAR RING                                     |     |
| 2    | 90023153    | 1   | O-RING                                        |     |
| 3    | 90206799    | 1   | PISTON SEAL                                   |     |
| 4    | 90022232    | 1   | NUT                                           |     |
| 5    | 90602804    | 1   | BARREL                                        |     |
| 6    | 90206795    | 1   | PISTON                                        |     |
| 7    | 90023128    | 1   | O-RING, PISTON ROD                            |     |
| 8    | 90023342    | 1   | O-RING, ROD BEARING                           |     |
| 9    | 90024342    | 1   | BACK-UP RING                                  |     |
| 10   | 90206794    | 1   | ROD BEARING                                   |     |
| 11   | 90207986    | 1   | ROD SEAL                                      |     |
| 12   | 90206798    | 1   | WIPER RING                                    |     |
| 13   | 90602805    | 1   | PISTON ROD                                    |     |
| 14   | 90206796    | 1   | SPACER                                        |     |
| 15   | 90022217    | 1   | PIPE PLUG                                     |     |
| 16   | 90206042    | 1   | NYLON PLUG                                    |     |

SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-7. (91033290) (IOWA) CROWD CYLINDER (SN 0144293H to Present)



BEFORE SERVICING CYLINDERS, PLEASE  
NOTE MACHINE S/N SUFFIX.  
"H" DESIGNATES IOWA CYLINDERS  
"J" DESIGNATES JARP CYLINDERS  
"S" DESIGNATES SEITZ CYLINDERS



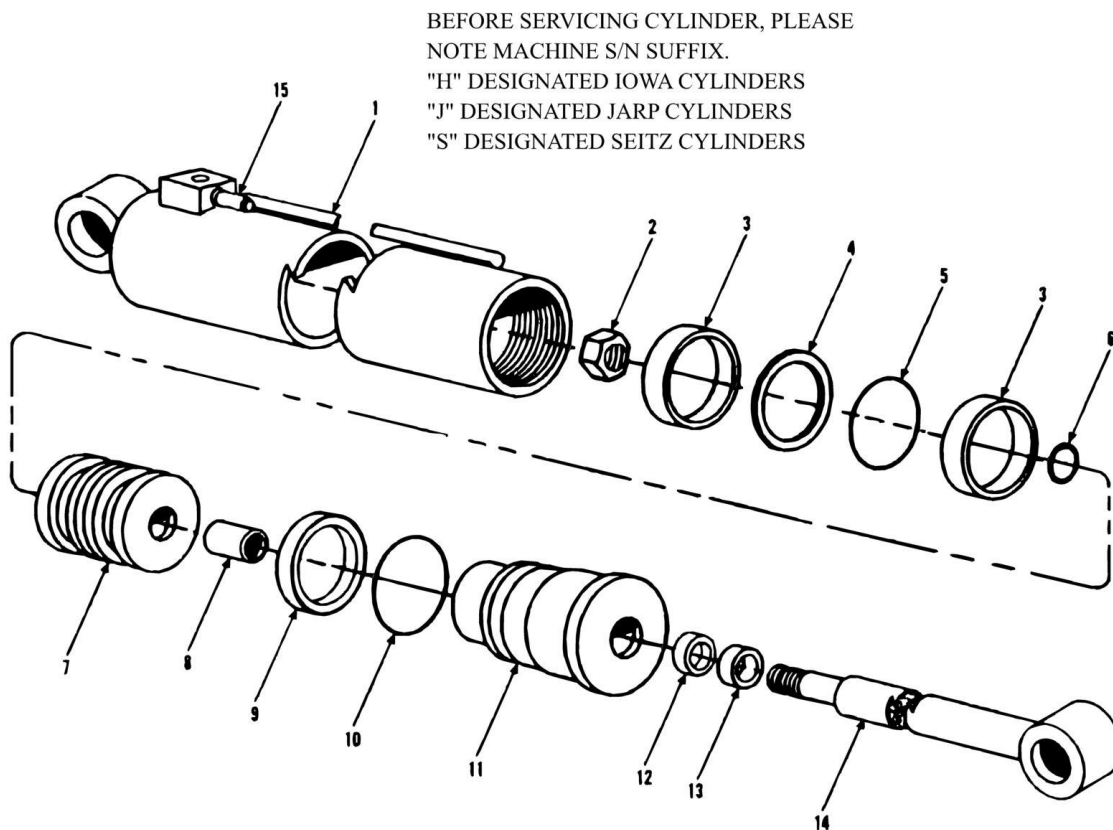
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-7. (91033290) (IOWA) CROWD CYLINDER (SN 0144293H to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                           | REV |
|------|-------------|-----|-----------------------------------------------------------------------|-----|
|      | 91033290    | 1   | CROWD CYLINDER ASSY, (includes all items)                             |     |
|      | 91034223    | 1   | SEAL KIT, (includes items 3, 4, 5, 7, 11, 12, 13, 14, 16, 17 & 18)    |     |
| 1    | 91034218    | 2   | BUSHING                                                               |     |
| 2    | 91064017    | 1   | LOCKNUT                                                               |     |
| 3    | Kit         | 2   | WEAR RING                                                             |     |
| 4    | Kit         | 1   | PISTON SEAL                                                           |     |
| 5    | Kit         | 1   | O-RING                                                                |     |
| 6    | 91044274    | 1   | PISTON                                                                |     |
| 7    | Kit         | 1   | O-RING                                                                |     |
| 8    | 91034219    | 1   | STROKE LIMITER                                                        |     |
| 9    | 91034220    | 1   | SHAFT ASSY, (includes item 1)                                         |     |
| 10   | 91034221    | 1   | CASE ASSY, (includes item 1)                                          |     |
| 11   | Kit         | 1   | O-RING                                                                |     |
| 12   | Kit         | 1   | BACKUP RING                                                           |     |
| 13   | Kit         | 1   | WEAR RING                                                             |     |
| 14   | Kit         | 1   | WEAR RING                                                             |     |
| 15   | 91034222    | 1   | CYLINDER HEAD                                                         |     |
| 16   | Kit         | 1   | U-CUP                                                                 |     |
| 17   | Kit         | 1   | WIPER RING                                                            |     |
| 18   | Kit         | 1   | NYLON PLUG                                                            |     |
|      |             | Ref | NOTE: ONLY PART NUMBERED ITEMS ARE AVAILABLE FOR SERVICE REPLACEMENT. |     |

## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-8. (91033368) CROWD CYLINDER (SN 0144784S to Present)**



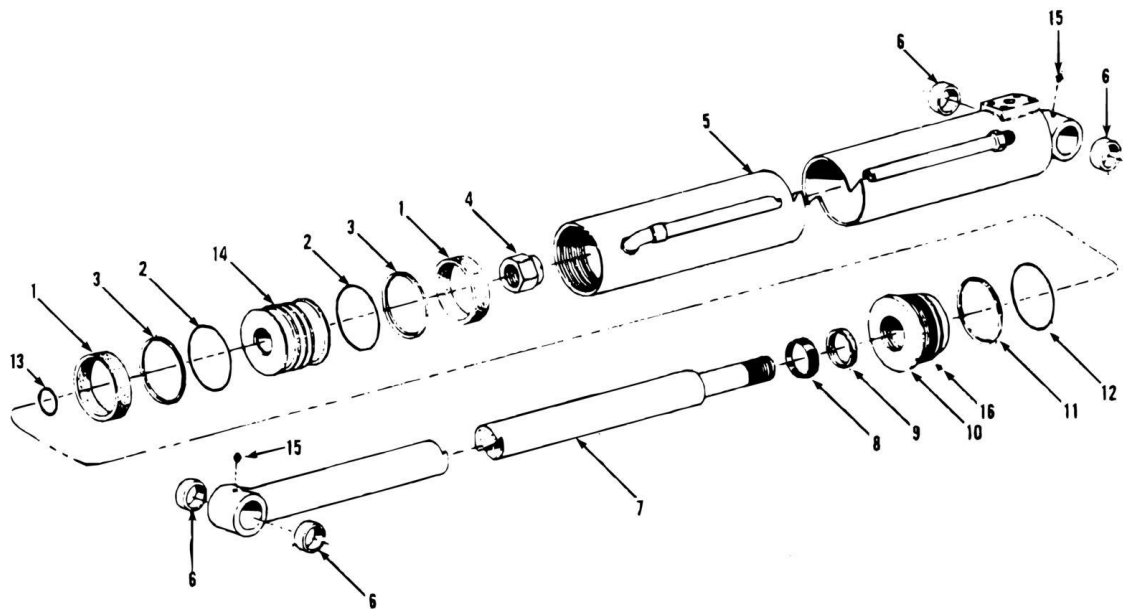
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-8. (91033368) CROWD CYLINDER (SN 0144784S to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                   | REV |
|------|-------------|-----|---------------------------------------------------------------|-----|
|      | 91033368    | 1   | CROWD CYLINDER ASSY, (includes all items)                     |     |
|      | 91034290    | AR  | SEAL KIT, (includes items 3, 4, 5, 6, 9, 10, 12 & 13)         |     |
| 1    |             | Ref | TUBE ASSY                                                     |     |
| 2    | 91034286    | 1   | LOCKNUT, (torque to 590 ft lbs)                               |     |
| 3    | Kit         | 2   | WEAR RING                                                     |     |
| 4    | Kit         | 1   | SEAL                                                          |     |
| 5    | Kit         | 1   | O-RING                                                        |     |
| 6    | Kit         | 1   | O-RING                                                        |     |
| 7    | 91034291    | 1   | PISTON                                                        |     |
| 8    | 91034292    | 1   | STOP TUBE                                                     |     |
| 9    | Kit         | 1   | BACKUP RING                                                   |     |
| 10   | Kit         | 1   | O-RING                                                        |     |
| 11   | 91034293    | 1   | GLAND                                                         |     |
| 12   | Kit         | 1   | SEAL                                                          |     |
| 13   | Kit         | 1   | WIPER                                                         |     |
| 14   | 91034294    | 1   | ROD ASSY                                                      |     |
| 15   | 91034308    | 1   | COUNTER BALANCE VALVE                                         |     |
| 15   | 91044524    | 1   | COUNTER BALANCE VALVE SEAL KIT                                |     |
|      |             | Ref | NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE. |     |

SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-9. TILT AND TILT COMP CYL 6000# (534B-6) (SN 8344001L through 8344011L)



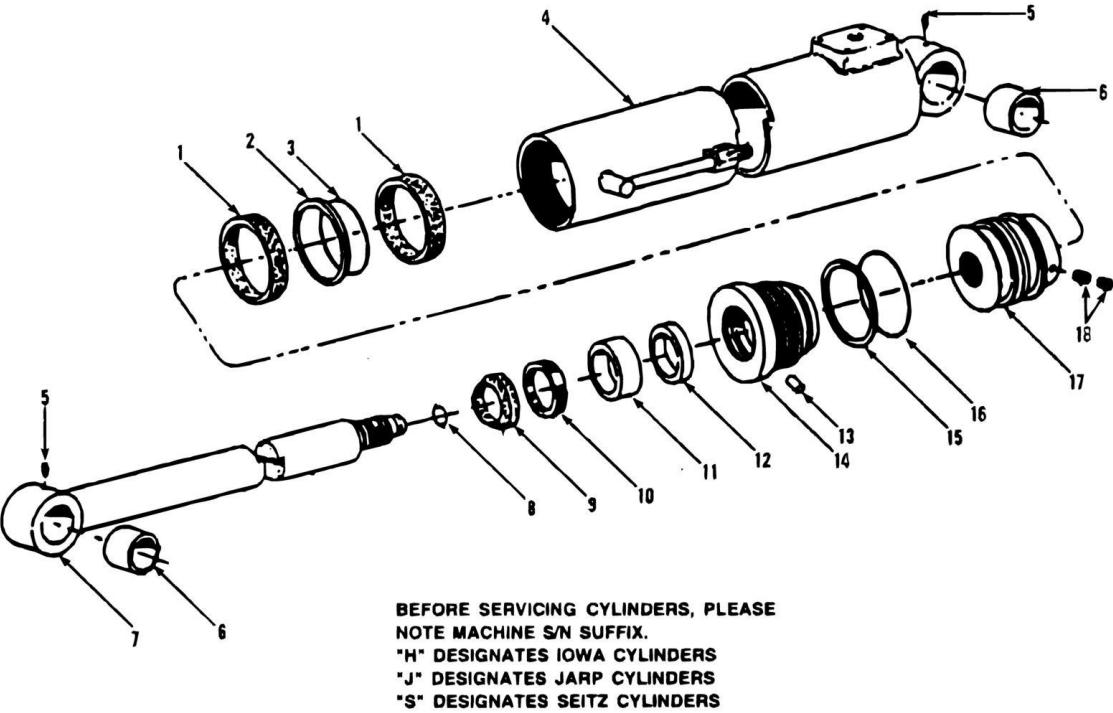
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-9. TILT AND TILT COMP CYL 6000# (534B-6) (SN 8344001L through 8344011L)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                           | REV |
|------|-------------|-----|-------------------------------------------------------|-----|
|      | 90801291    |     | TILT COMPENSATING CYLINDER                            |     |
|      | 90801292    |     | TILT CYLINDER                                         |     |
|      | 90201553    | AR  | SEAL KIT (includes items 1, 2, 3, 8, 9, 11, 12, & 13) |     |
| 1    | 91034040    | 2   | WEAR RING                                             |     |
| 2    | 91034041    | 2   | PISTON O-RING                                         |     |
| 3    | 90022239    | 2   | PISTON SEAL                                           |     |
| 4    | 90022232    | 1   | SELF LOCKING NUT                                      |     |
| 5    | 91034053    | 1   | CYLINDER BARREL (tilt comp.)                          |     |
| 5    | 91034042    | 1   | CYLINDER BARREL (tilt)                                |     |
| 6    | 90206793    | 4   | BUSHING                                               |     |
| 7    | 91034054    | 1   | PISTON ROD (tilt comp.)                               |     |
| 7    | 91034050    | 1   | PISTON ROD (tilt)                                     |     |
| 8    | 91034051    | 1   | WIPER RING                                            |     |
| 9    | 91034052    | 1   | ROD SEAL                                              |     |
| 10   | 90400062    | 1   | ROD BEARING                                           |     |
| 11   | 91034045    | 1   | BACK-UP RING                                          |     |
| 12   | 91034046    | 1   | ROD BEARING O-RING                                    |     |
| 13   | 91034047    | 1   | PISTON ROD O-RING                                     |     |
| 14   | 90402123    | 1   | PISTON                                                |     |
| 15   | 88671001    | 2   | LUBE FITTING - STRAIGHT - 1/8                         |     |
| 16   | 90206042    | 1   | NYLON PLUG                                            |     |

SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-10. (91033287) (IOWA) TILT CYLINDER (SN 0144293H to Present)



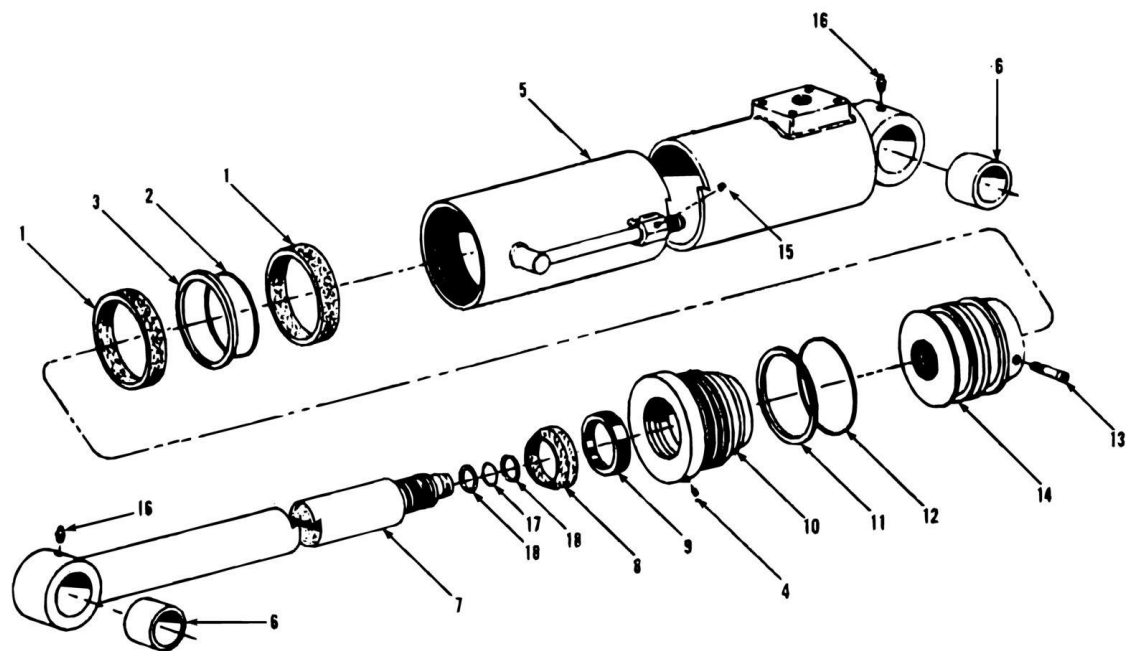
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-10. (91033287) (IOWA) TILT CYLINDER (SN 0144293H to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                           | REV |
|------|-------------|-----|-----------------------------------------------------------------------|-----|
|      | 91033287    | 1   | TILT CYLINDER ASSY, (includes all items)                              |     |
|      | 91034150    | 1   | SEAL KIT, (includes items 1, 2, 3, 8 thru 13, 15 & 16)                |     |
| 1    | Kit         | 2   | WEAR RING                                                             |     |
| 2    | Kit         | 1   | PISTON SEAL                                                           |     |
| 3    | Kit         | 1   | O-RING                                                                |     |
| 4    | 91034148    | 1   | CASE ASSY, (includes item 6)                                          |     |
| 5    | 88671008    | 2   | LUBE FITTING, STRAIGHT, 1/4-28                                        |     |
| 6    | 91404352    | 2   | BUSHING                                                               |     |
| 7    | 91034147    | 1   | SHAFT ASSY, (includes item 6)                                         |     |
| 8    | Kit         | 1   | O-RING                                                                |     |
| 9    | Kit         | 1   | WIPER                                                                 |     |
| 10   | Kit         | 1   | U-CUP                                                                 |     |
| 11   | Kit         | 1   | WEAR RING, (wide)                                                     |     |
| 12   | Kit         | 1   | WEAR RING, (narrow)                                                   |     |
| 13   | Kit         | 1   | NYLON PLUG                                                            |     |
| 14   | 91034146    | 1   | HEAD                                                                  |     |
| 15   | Kit         | 1   | BACK-UP RING                                                          |     |
| 16   | Kit         | 1   | O-RING                                                                |     |
| 17   | 91034149    | 1   | PISTON, (lubricate and torque to 550 ft lbs)                          |     |
| 18   | 91034155    | 2   | SET SCREW                                                             |     |
|      |             | Ref | NOTE: ONLY PART NUMBERED ITEMS ARE AVAILABLE FOR SERVICE REPLACEMENT. |     |

SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-11. (90801328) (JARP) TILT COMP CYL 6000# (SN 8744142G to Present)



BEFORE SERVICING CYLINDERS, PLEASE  
NOTE MACHINE S/N SUFFIX.  
"H" DESIGNATES IOWA CYLINDERS  
"J" DESIGNATES JARP CYLINDERS  
"S" DESIGNATES SEITZ CYLINDERS



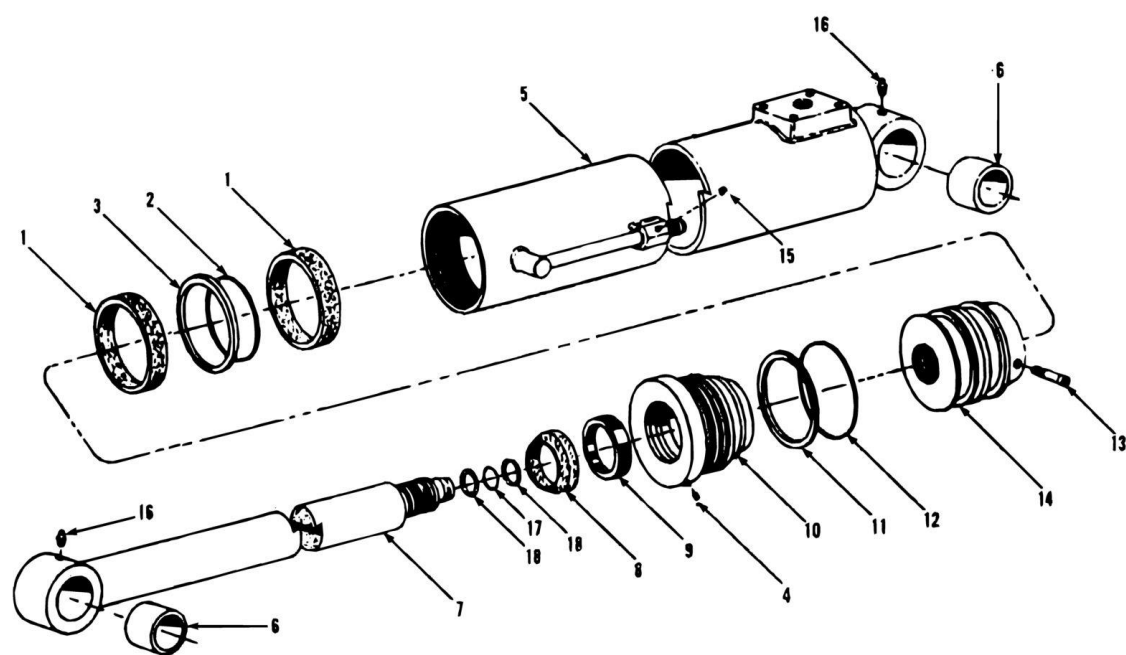
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-11. (90801328) (JARP) TILT COMP CYL 6000# (SN 8744142G to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                               | REV |
|------|-------------|-----|-----------------------------------------------------------|-----|
|      | 90801328    |     | TILT COMPENSATING CYLINDER, (includes all items)          |     |
|      | 90207954    | AR  | SEAL KIT, (includes items 1, 2, 3, 8, 9, 11, 12, 17 & 18) |     |
| 1    | Kit         | 2   | WEAR RING                                                 |     |
| 2    | 90023157    | 1   | PISTON O-RING                                             |     |
| 3    | 90022240    | 1   | PISTON SEAL                                               |     |
| 4    | 90207535    | 1   | SET SCREW                                                 |     |
| 5    | 90207539    | 1   | CYLINDER BARREL                                           |     |
| 6    | 90205414    | 2   | BUSHING                                                   |     |
| 7    | 90207541    | 1   | PISTON ROD                                                |     |
| 8    | 90022280    | 1   | WIPER RING                                                |     |
| 9    | 90022250    | 1   | ROD SEAL                                                  |     |
| 10   | 90207543    | 1   | ROD BEARING                                               |     |
| 11   | 90025349    | 1   | BACK-UP RING                                              |     |
| 12   | 90023349    | 1   | ROD BEARING O-RING                                        |     |
| 13   | 90207544    | 1   | SET SCREW, (rod bearing)                                  |     |
| 14   | 90207542    | 1   | PISTON                                                    |     |
| 15   | 90207536    | 1   | PIPE PLUG                                                 |     |
| 16   | 88671001    | 2   | LUBE FITTING, STRAIGHT, 1/8                               |     |
| 17   | 90207533    | 1   | O-RING, (stem)                                            |     |
| 18   | 90207534    | 2   | BACK-UP RING                                              |     |

SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-12. (90801327) (JARP) TILT CYL (534B-6) (SN 8744142G to Present)



BEFORE SERVICING CYLINDERS, PLEASE  
NOTE MACHINE S/N SUFFIX.  
"H" DESIGNATES IOWA CYLINDERS  
"J" DESIGNATES JARP CYLINDERS  
"S" DESIGNATES SEITZ CYLINDERS

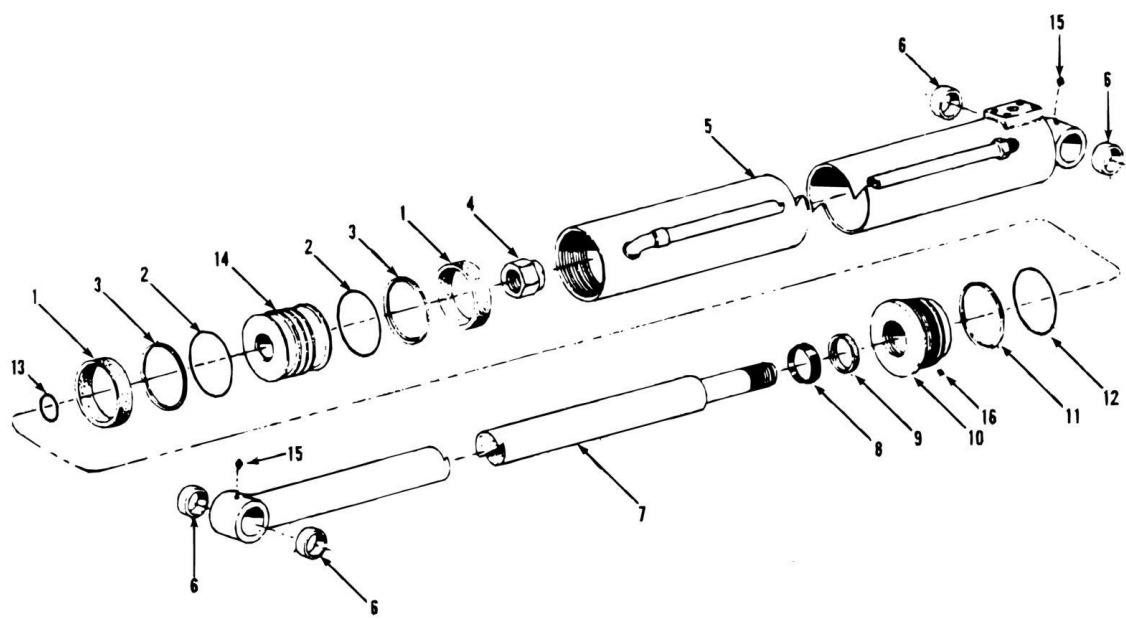
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-12. (90801327) (JARP) TILT CYL (534B-6) (SN 8744142G to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                               | REV |
|------|-------------|-----|-----------------------------------------------------------|-----|
|      | 90801327    | 2   | TILT CYLINDER, (includes all items)                       |     |
|      | 90207957    | AR  | SEAL KIT, (includes items 1, 2, 3, 8, 9, 11, 12, 17 & 18) |     |
| 1    | Kit         | 2   | WEAR RING                                                 |     |
| 2    | 90023157    | 1   | PISTON O-RING                                             |     |
| 3    | 90022240    | 1   | PISTON SEAL                                               |     |
| 4    | 90207535    | 1   | SET SCREW                                                 |     |
| 5    | 90207538    | 1   | CYLINDER BARREL                                           |     |
| 6    | 90205414    | 2   | BUSHING                                                   |     |
| 7    | 90207540    | 1   | PISTON ROD                                                |     |
| 8    | 90022280    | 1   | WIPER RING                                                |     |
| 9    | 90022250    | 1   | ROD SEAL                                                  |     |
| 10   | 90207543    | 1   | ROD BEARING                                               |     |
| 11   | 90025349    | 1   | BACK-UP RING                                              |     |
| 12   | 90023349    | 1   | ROD BEARING O-RING                                        |     |
| 13   | 90207544    | 1   | SET SCREW, (rod bearing)                                  |     |
| 14   | 90207542    | 1   | PISTON                                                    |     |
| 15   | 90207536    | 1   | PIPE PLUG                                                 |     |
| 16   | 88671001    | 2   | LUBE FITTING, STRAIGHT, 1/8                               |     |
| 17   | 90207533    | 1   | O-RING, (stem)                                            |     |
| 18   | 90207534    | 2   | BACK-UP RING                                              |     |

SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-13. TILT AND TILT COMP CYL 6000# (534B-6) (SN 8344012L through 8744136G)



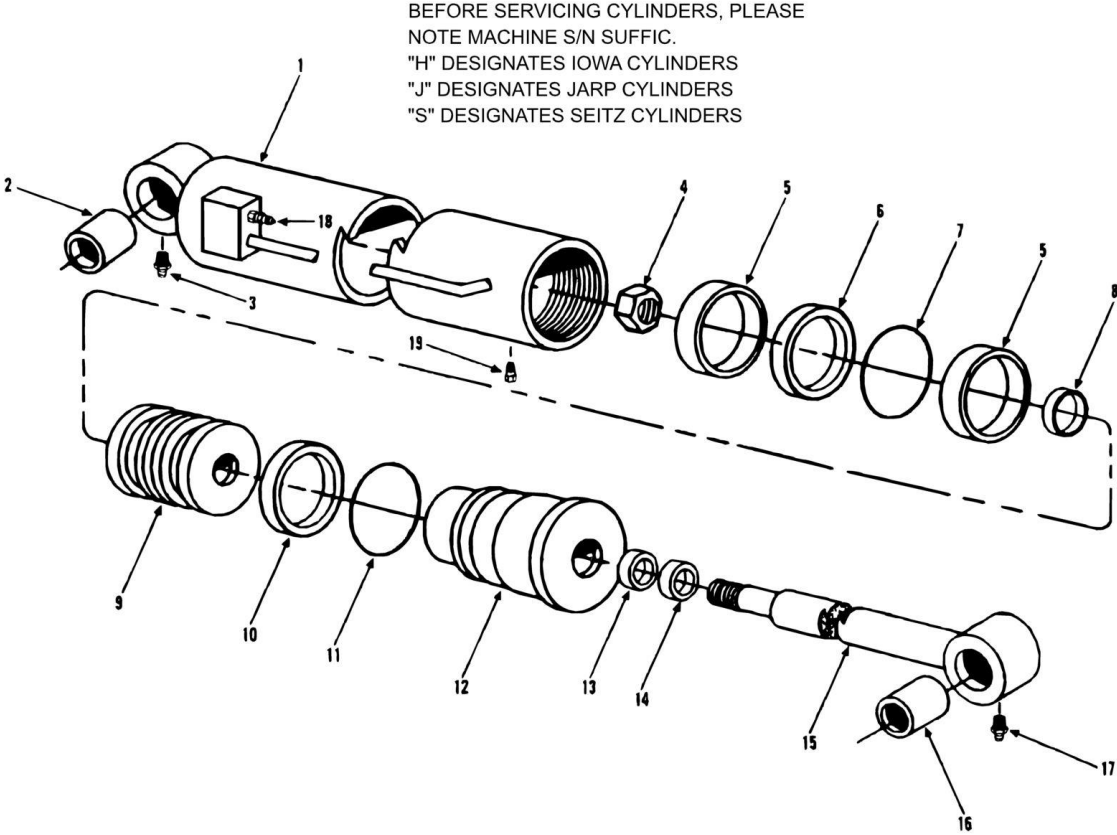
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-13. TILT AND TILT COMP CYL 6000# (534B-6) (SN 8344012L through 8744136G)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                          | REV |
|------|-------------|-----|------------------------------------------------------|-----|
|      | 90801356    |     | TILT COMPENSATING CYLINDER                           |     |
|      | 90801357    |     | TILT CYLINDER                                        |     |
|      | 91034049    | AR  | SEAL KIT (includes items 1, 2, 3, 8, 9, 11, 12 & 13) |     |
| 1    | 91034040    | 2   | WEARING                                              |     |
| 2    | 91304041    | 2   | PISTON O-RING                                        |     |
| 3    | 90022239    | 2   | PISTON SEAL                                          |     |
| 4    | 90022232    | 1   | SELF LOCKING NUT                                     |     |
| 5    | 91034053    | 1   | CYLINDER BARREL (tilt comp)                          |     |
| 5    | 91034052    | 1   | CYLINDER BARREL (tilt)                               |     |
| 6    | 90206793    | 4   | BUSHING                                              |     |
| 7    | 91034055    | 1   | PISTON ROD (tilt comp)                               |     |
| 7    | 91034043    | 1   | PISTON ROD (tilt)                                    |     |
| 8    | 90022280    | 1   | WIPER RING                                           |     |
| 9    | 91034044    | 1   | ROD SEAL                                             |     |
| 10   | 90402122    | 1   | ROD BEARING                                          |     |
| 11   | 91034045    | 1   | BACK-UP RING                                         |     |
| 12   | 91034046    | 1   | ROD BEARING O-RING                                   |     |
| 13   | 91034047    | 1   | PISTON ROD O-RING                                    |     |
| 14   | 90402123    | 1   | PISTON                                               |     |
| 15   | 88671001    | 2   | LUBE FITTING- STRAIGHT 1/8                           |     |
| 16   | 91034048    | 1   | NYLON PLUG                                           |     |

SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-14. (91033369) (SEITZ) TILT CYLINDER (SN 0144784S to Present)



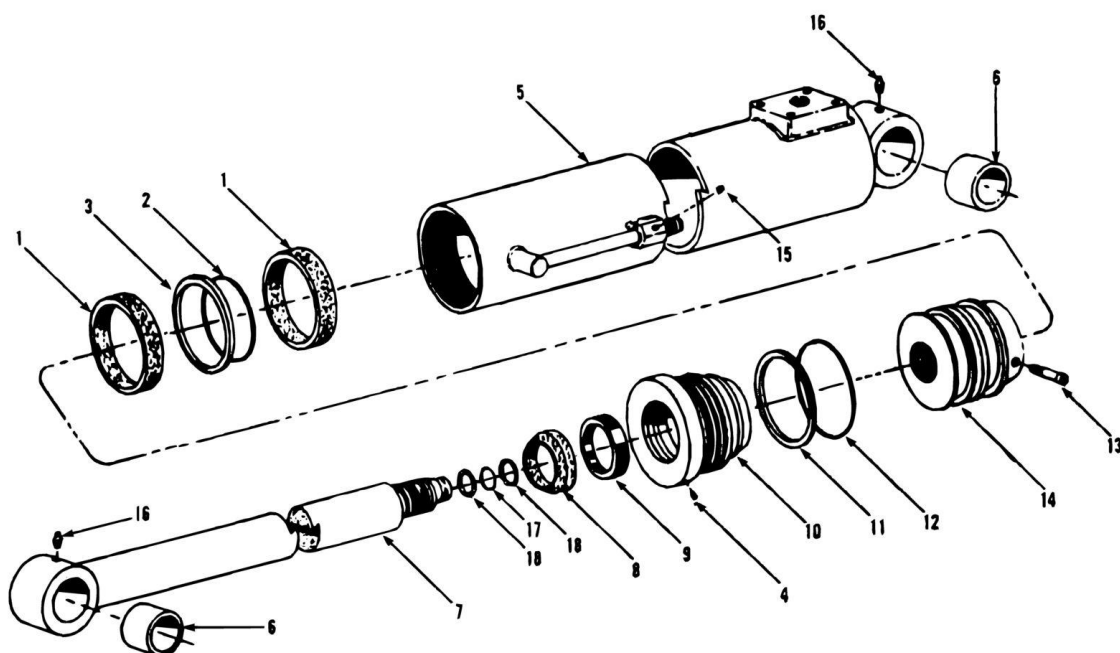
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-14. (91033369) (SEITZ) TILT CYLINDER (SN 0144784S to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                  | REV |
|------|-------------|-----|--------------------------------------------------------------|-----|
|      | 91033369    | 1   | TILT CYLINDER ASSY, (includes all items)                     |     |
|      | 91034278    | AR  | SEAL KIT, (includes items 5, 6, 7, 8, 10, 11, 13 & 14)       |     |
| 1    | 91034295    | 1   | TUBE ASSY, (includes item 2)                                 |     |
| 2    | 91084176    | 1   | BUSHING                                                      |     |
| 3    | 88671027    | 1   | LUBE FITTING, 90, 1/4-28                                     |     |
| 4    | 91034280    | 1   | LOCKNUT, (torque to 1100 ft lbs)                             |     |
| 5    | Kit         | 2   | WEAR RING                                                    |     |
| 6    | Kit         | 1   | SEAL                                                         |     |
| 7    | Kit         | 1   | O-RING                                                       |     |
| 8    | Kit         | 1   | O-RING                                                       |     |
| 9    | 91034281    | 1   | PISTON                                                       |     |
| 10   | Kit         | 1   | BACK-UP RING                                                 |     |
| 11   | Kit         | 1   | O-RING                                                       |     |
| 12   | 91034282    | 1   | GLAND                                                        |     |
| 13   | Kit         | 1   | SEAL                                                         |     |
| 14   | Kit         | 1   | WIPER                                                        |     |
| 15   | 91034296    | 1   | ROD ASSY, (includes item 16)                                 |     |
| 16   | 91084176    | 1   | BUSHING                                                      |     |
| 17   | 88671033    | 1   | LUBE FITTING, STRAIGHT, 1/4-28                               |     |
| 18   | 91033430    | 1   | COUNTER BALANCE VALVE                                        |     |
| 19   | 91034332    | 1   | SET SCREW                                                    |     |
|      |             | Ref | NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE |     |

## SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-15. (90801328) (JARP) TILT CYL 8000# (SN 8344001L to Present)



BEFORE SERVICING CYLINDERS, PLEASE  
NOTE MACHINE S/N SUFFIX.  
"H" DESIGNATES IOWA CYLINDERS  
"J" DESIGNATES JARP CYLINDERS  
"S" DESIGNATES SEITZ CYLINDERS



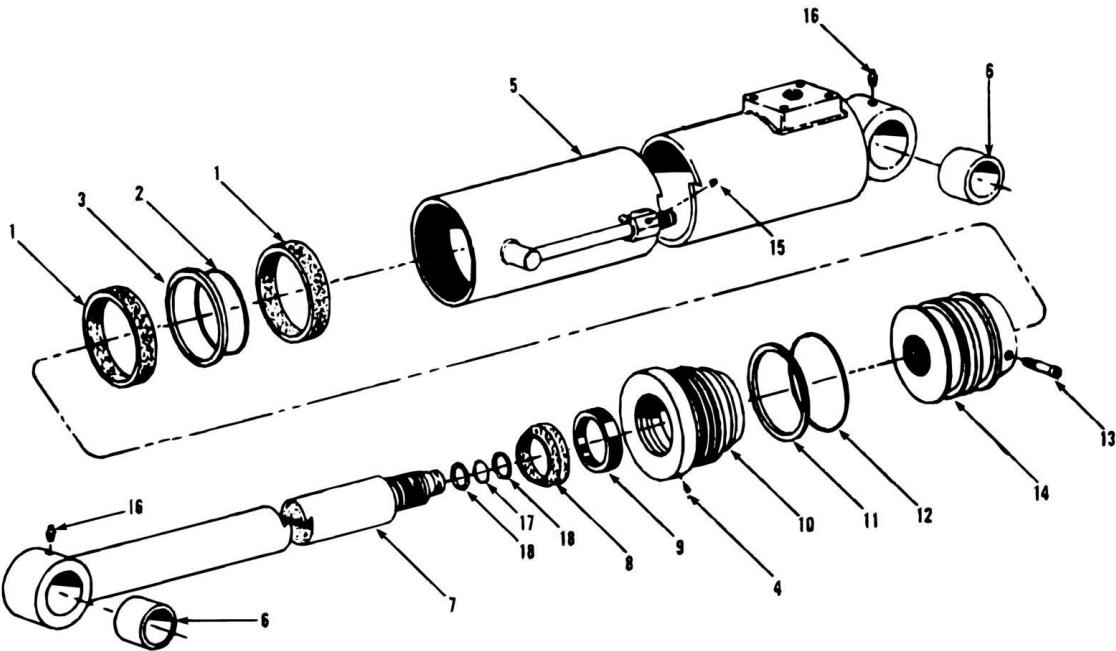
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-15. (90801328) (JARP) TILT CYL 8000# (SN 8344001L to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                         | REV |
|------|-------------|-----|-----------------------------------------------------|-----|
|      | 90801328    | 1   | TILT COMP. CYL ASSY, (includes all items)           |     |
|      | 90207954    | 1   | SEAL KIT, (includes 1, 2, 3, 8, 9, 11, 12, 17 & 18) |     |
| 1    | Kit         | 2   | WEAR RING                                           |     |
| 2    | 90023157    | 1   | O-RING, (piston)                                    |     |
| 3    | 90022240    | 1   | PISTON SEAL                                         |     |
| 4    | 90207535    | 1   | SET SCREW, (piston)                                 |     |
| 5    | 90207539    | 1   | CYLINDER BARREL                                     |     |
| 6    | 90205414    | 2   | BUSHING                                             |     |
| 7    | 90207541    | 1   | PITON ROD                                           |     |
| 8    | 90022280    | 1   | WIPER RING                                          |     |
| 9    | 90022250    | 1   | ROD SEAL                                            |     |
| 10   | 90207543    | 1   | ROD BEARING                                         |     |
| 11   | 90025349    | 1   | BACK-UP RING                                        |     |
| 12   | 90023349    | 1   | O-RING, (rod bearing)                               |     |
| 13   | 90207544    | 1   | SET SCREW, (rod bearing)                            |     |
| 14   | 90207542    | 1   | PISTON                                              |     |
| 15   | 90207536    | 1   | PIPE PLUG                                           |     |
| 16   | 88671001    | 2   | LUBE FITTING, STRAIGHT, 1/8                         |     |
| 17   | 90207533    | 1   | O-RING, (stem)                                      |     |
| 18   | 90207534    | 2   | BACK-UP RING                                        |     |

SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-16. (90801327) (JARP) TILT COMP CYL (534B-8) (SN 8344001L to Present)



BEFORE SERVICING CYLINDERS, PLEASE  
NOTE MACHINE S/N SUFFIX.  
"H" DESIGNATES IOWA CYLINDERS  
"J" DESIGNATES JARP CYLINDERS  
"S" DESIGNATES SEITZ CYLINDERS

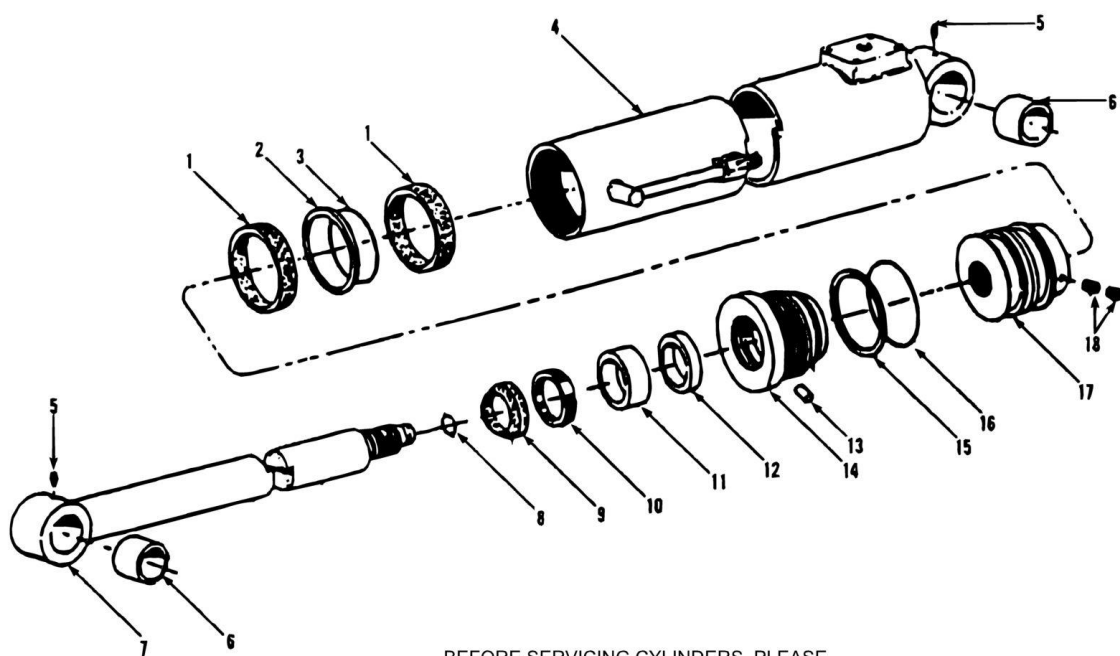
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-16. (90801327) (JARP) TILT COMP CYL (534B-8) (SN 8344001L to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                               | REV |
|------|-------------|-----|-----------------------------------------------------------|-----|
|      | 90801327    | 2   | TILT CYLINDER, (includes all items)                       |     |
|      | 90207954    | AR  | SEAL KIT, (includes items 1, 2, 3, 8, 9, 11, 12, 17 & 18) |     |
| 1    | Kit         | 2   | WEAR RING                                                 |     |
| 2    | 90023157    | 1   | O-RING, (piston)                                          |     |
| 3    | 90022240    | 1   | PISTON SEAL                                               |     |
| 4    | 90207535    | 1   | SET SCREW, (piston)                                       |     |
| 5    | 90207538    | 1   | CYLINDER BARREL                                           |     |
| 6    | 90205414    | 2   | BUSHING                                                   |     |
| 7    | 90207540    | 1   | PISTON ROD                                                |     |
| 8    | 90022280    | 1   | WIPER RING                                                |     |
| 9    | 90022250    | 1   | ROD SEAL                                                  |     |
| 10   | 90207543    | 1   | ROD BEARING                                               |     |
| 11   | 90025349    | 1   | BACK-UP RING                                              |     |
| 12   | 90023349    | 1   | O-RING, (rod bearing)                                     |     |
| 13   | 90207544    | 1   | SET SCREW, (rod bearing)                                  |     |
| 14   | 90207542    | 1   | PISTON                                                    |     |
| 15   | 90207536    | 1   | PIPE PLUG                                                 |     |
| 16   | 88671001    | 2   | LUBE FITTING, STRAIGHT, 1/8                               |     |
| 17   | 90207533    | 1   | O-RING, (stem)                                            |     |
| 18   | 90207534    | 2   | BACK-UP RING                                              |     |

## SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-17. (91033288) (IOWA) COMPENSATING CYLINDER (SN 0144293H to Present)



BEFORE SERVICING CYLINDERS, PLEASE  
NOTE MACHINE S/N SUFFIX.

"H" DESIGNATES IOWA CYLINDERS

"J" DESIGNATES JARP CYLINDERS

"S" DESIGNATES SEITZ CYLINDERS

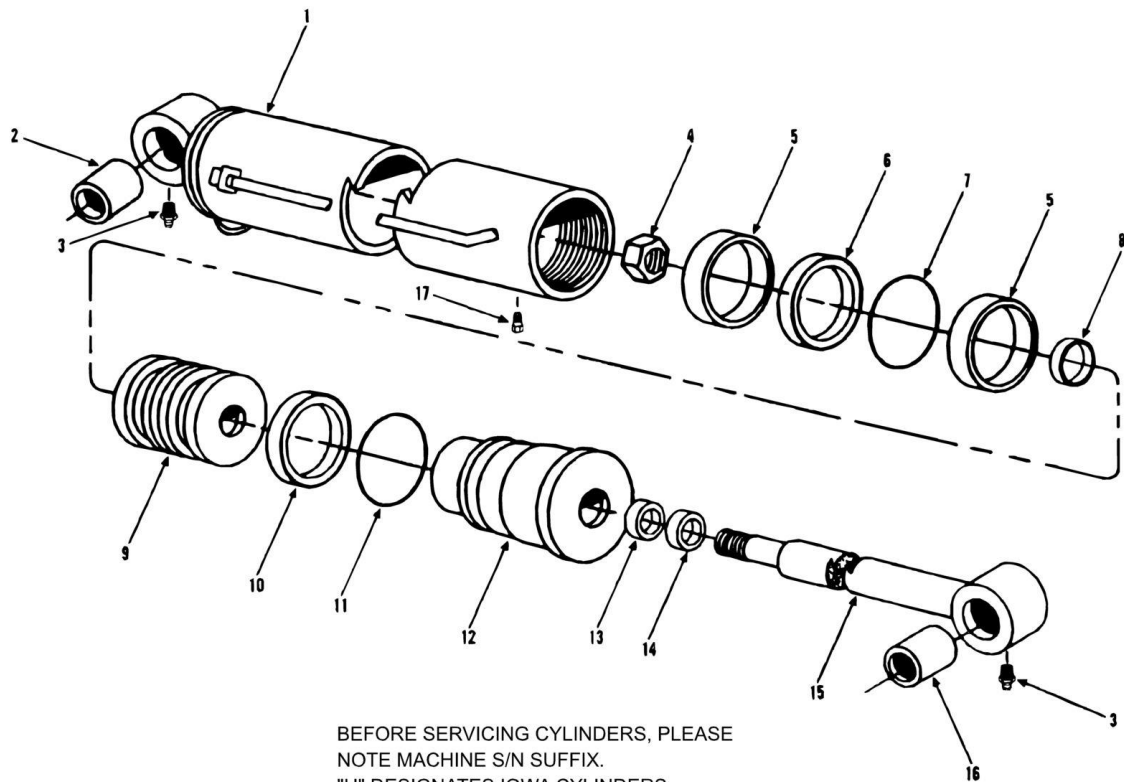
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-17. (91033288) (IOWA) COMPENSATING CYLINDER (SN 0144293H to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                           | REV |
|------|-------------|-----|-----------------------------------------------------------------------|-----|
|      | 91033288    | 1   | COMPENSATING CYLINDER ASSY, (includes all items)                      |     |
|      | 91034150    | 1   | SEAL KIT, (includes items 1, 2, 3, 8 thru 13, 15 & 16)                |     |
| 1    | Kit         | 2   | WEAR RING                                                             |     |
| 2    | Kit         | 1   | PISTON SEAL                                                           |     |
| 3    | Kit         | 1   | O-RING                                                                |     |
| 4    | 91034152    | 1   | CASE ASSY, (includes item 6)                                          |     |
| 5    | 88671008    | 2   | LUBE FITTING, STRAIGHT, 1/4-28                                        |     |
| 6    | 91404352    | 2   | BUSHING                                                               |     |
| 7    | 91034151    | 1   | SHAFT ASSY, (includes item 6)                                         |     |
| 8    | Kit         | 1   | O-RING                                                                |     |
| 9    | Kit         | 1   | WIPER                                                                 |     |
| 10   | Kit         | 1   | U-CUP                                                                 |     |
| 11   | Kit         | 1   | WEAR RING, (wide)                                                     |     |
| 12   | Kit         | 1   | WEAR RING, (narrow)                                                   |     |
| 13   | Kit         | 1   | NYLON PLUG                                                            |     |
| 14   | 91034146    | 1   | HEAD                                                                  |     |
| 15   | Kit         | 1   | BACK-UP RING                                                          |     |
| 16   | Kit         | 1   | O-RING                                                                |     |
| 17   | 91034149    | 1   | PISTON, (lubricate and torque to 550 ft lbs)                          |     |
| 18   | 91034155    | 2   | SET SCREW                                                             |     |
|      |             | Ref | NOTE: ONLY PART NUMBERED ITEMS ARE AVAILABLE FOR SERVICE REPLACEMENT. |     |

SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-18. (91043304) (SEITZ) COMPENSATING CYLINDER (SN 0144784S to Present)



BEFORE SERVICING CYLINDERS, PLEASE  
NOTE MACHINE S/N SUFFIX.  
"H" DESIGNATES IOWA CYLINDERS  
"J" DESIGNATES JARP CYLINDERS  
"S" DESIGNATES SEITZ CYLINDERS

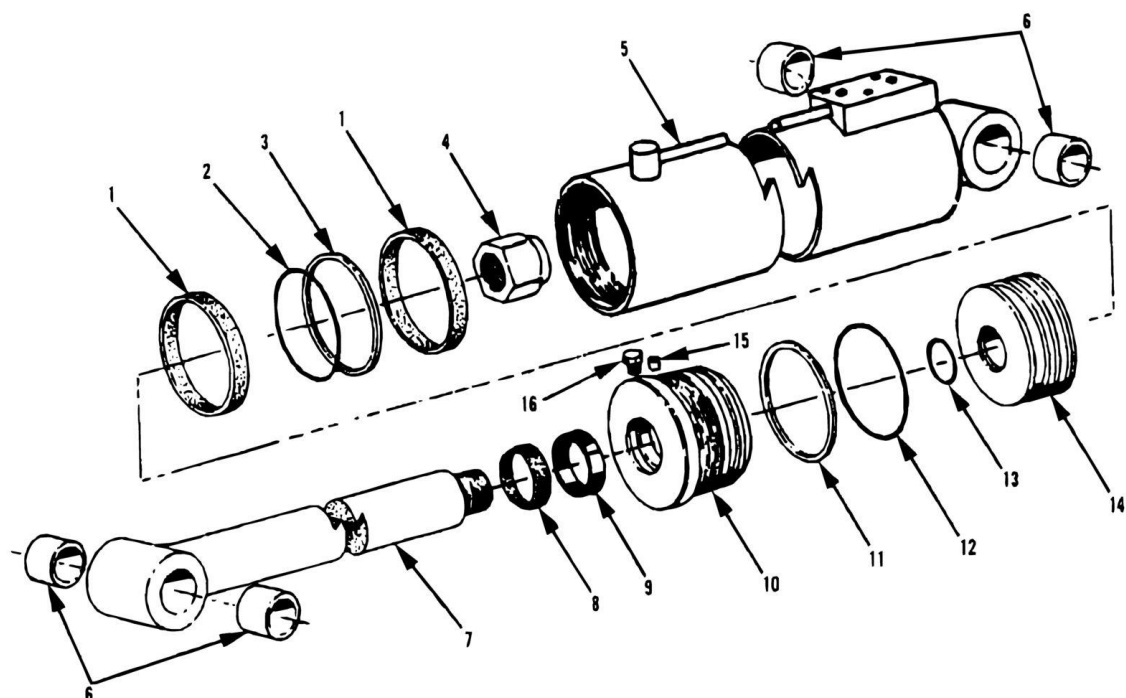
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-18. (91043304) (SEITZ) COMPENSATING CYLINDER (SN 0144784S to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                   | REV |
|------|-------------|-----|---------------------------------------------------------------|-----|
|      | 91043304    | 1   | COMPENSATING CYLINDER ASSY, (includes all items)              |     |
|      | 91034278    | AR  | SEAL KIT, (includes items 5, 6, 7, 8, 10, 11, 13 & 14)        |     |
| 1    | 91044313    | 1   | TUBE ASSY, (include item 2)                                   |     |
| 2    | 90184176    | 1   | BUSHING                                                       |     |
| 3    | 88671033    | 2   | LUBE FITTING, STRAIGHT, 1/4-28                                |     |
| 4    | 91034280    | 1   | LOCKNUT, (torque to 1100 ft lbs)                              |     |
| 5    | Kit         | 2   | WEAR RING                                                     |     |
| 6    | Kit         | 1   | SEAL                                                          |     |
| 7    | Kit         | 1   | O-RING                                                        |     |
| 8    | Kit         | 1   | O-RING                                                        |     |
| 9    | 91034281    | 1   | PISTON                                                        |     |
| 10   | Kit         | 1   | BACKUP RING                                                   |     |
| 11   | Kit         | 1   | O-RING                                                        |     |
| 12   | 91034314    | 1   | GLAND                                                         |     |
| 13   | Kit         | 1   | SEAL                                                          |     |
| 14   | Kit         | 1   | WIPER                                                         |     |
| 15   | 91044315    | 1   | ROD ASSY, (includes item 16)                                  |     |
| 16   | 91084176    | 1   | BUSHING                                                       |     |
| 17   | 91034332    | 1   | SET SCREW                                                     |     |
|      |             | Ref | NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE. |     |

SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-19. (91043139) SWAY CYLINDER (SN 8644031G to Present)





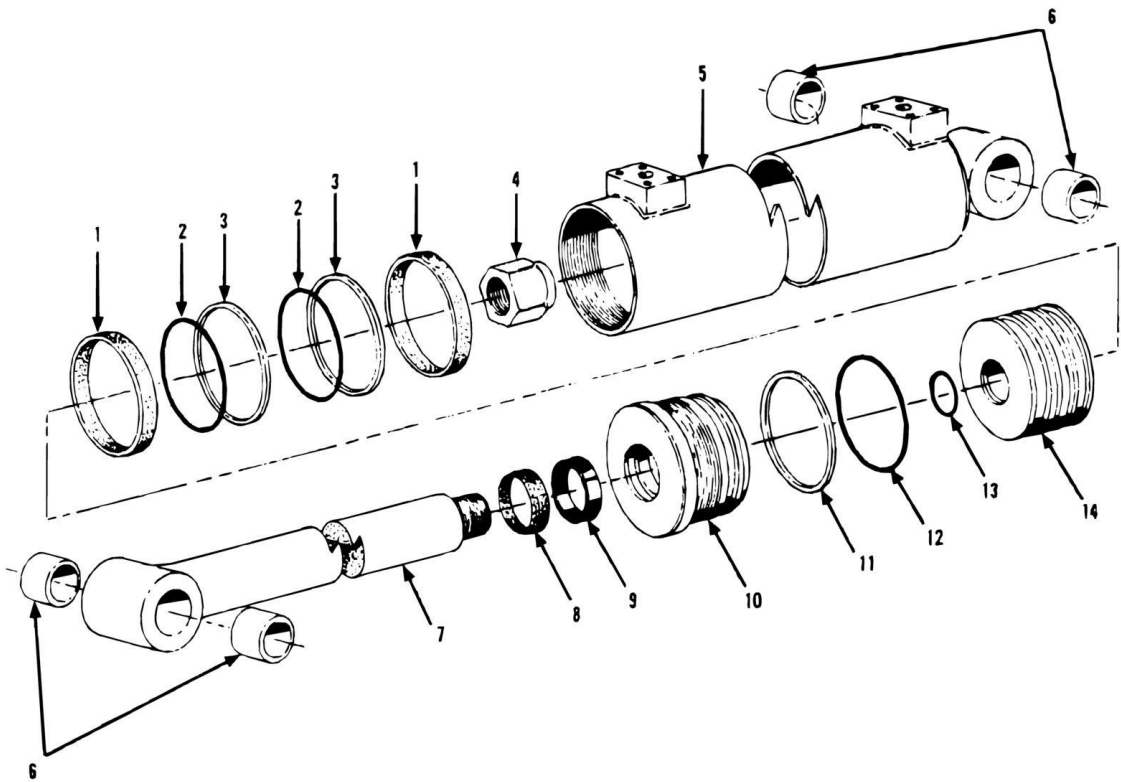
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-19. (91043139) SWAY CYLINDER (SN 8644031G to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                   | REV |
|------|-------------|-----|---------------------------------------------------------------|-----|
|      | 91043139    | 1   | SWAY CYLINDER ASSY, (includes all items)                      |     |
|      | 91044205    | 1   | SEAL KIT (includes items 1, 2, 3, 8, 9, 11, 12, 13 & 15)      |     |
| 1    | 91034040    | 2   | WEAR RING                                                     |     |
| 2    | 91034041    | 1   | O-RING                                                        |     |
| 3    | Kit         | 1   | PISTON SEAL                                                   |     |
| 4    | 91044206    | 1   | SELF-LOCKING NUT (lubricate and torque to 550-600 ft lbs)     |     |
| 5    | 91044207    | 1   | CYLINDER BARREL ASSY (includes item 6)                        |     |
| 6    | 91044075    | 4   | BUSHING                                                       |     |
| 7    | 91044208    | 1   | PISTON ROD ASSY (includes item 6)                             |     |
| 8    | 91034051    | 1   | WIPER RING                                                    |     |
| 9    | 91034052    | 1   | ROD SEAL                                                      |     |
| 10   | 90400062    | 1   | ROD BEARING (lubricate and torque to 250-300 ft lbs)          |     |
| 11   | 91034045    | 1   | BACK-UP RING                                                  |     |
| 12   | 91034046    | 1   | O-RING                                                        |     |
| 13   | 91044209    | 1   | O-RING                                                        |     |
| 14   | 91044210    | 1   | PISTON ASSY (includes item 1, 2, 3 & 13)                      |     |
| 15   | 90206042    | 1   | NYLON PLUG                                                    |     |
| 16   | 91044073    | 1   | HEX HD CAPSCREW                                               |     |
|      |             | Ref | NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE. |     |

SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-20. SWAY CYLINDER (SN 8344001L through 8644030G)



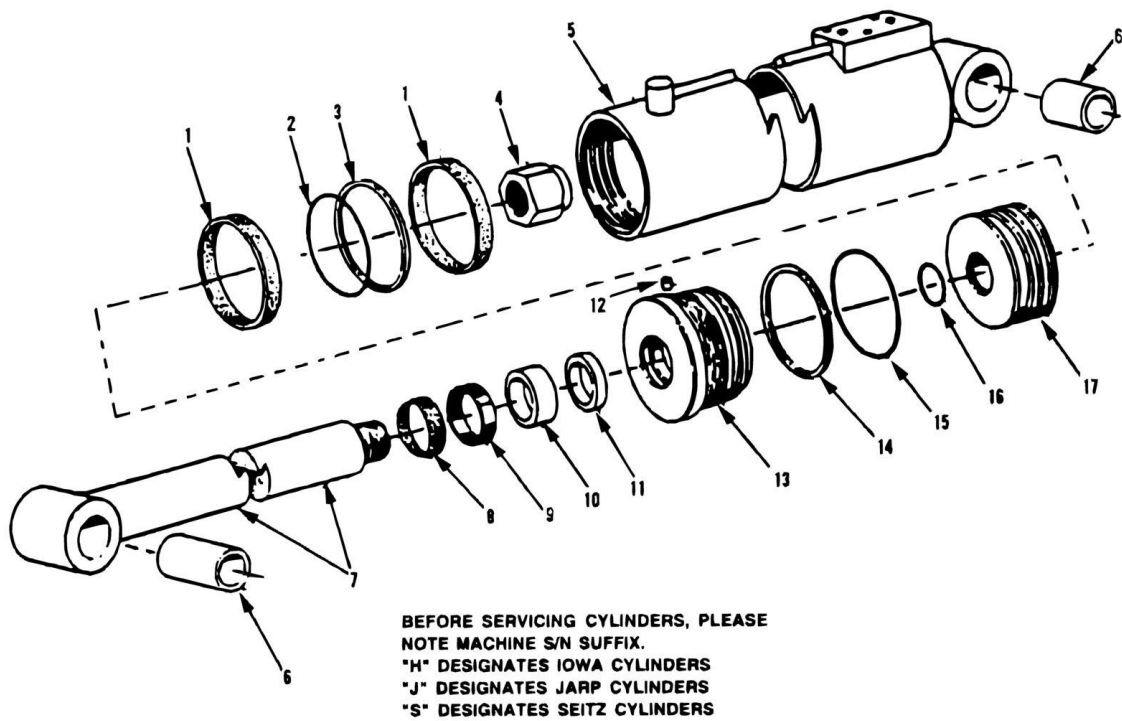
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-20. SWAY CYLINDER (SN 8344001L through 8644030G)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                         | REV |
|------|-------------|-----|-----------------------------------------------------|-----|
|      | 90801270    | 1   | SWAY CYLINDER                                       |     |
|      | 90201553    | AR  | SEAL KIT (includes items 1, 2, 3, 8, 9, 11, 1 & 13) |     |
| 1    | 90022259    | 2   | WEAR RING                                           |     |
| 2    | 90023153    | 2   | PISTON O-RING                                       |     |
| 3    | 90022239    | 2   | PISTON SEAL                                         |     |
| 4    | 90022232    | 1   | SELF-LOCKING NUT                                    |     |
| 5    | 90207898    | 1   | CYLINDER BARREL                                     |     |
| 6    | 90205414    | 4   | BUSHING                                             |     |
| 7    | 90207900    | 1   | PISTON ROD                                          |     |
| 8    | 90022279    | 1   | WIPER RING                                          |     |
| 9    | 90022249    | 1   | SEAL ROD                                            |     |
| 10   | 90400062    | 1   | ROD BEARING                                         |     |
| 11   | 90025342    | 1   | BACK-UP RING                                        |     |
| 12   | 90023342    | 1   | ROD BEARING O-RING                                  |     |
| 13   | 90023128    | 1   | PISTON ROD O-RING                                   |     |
| 14   | 90400061    | 1   | PISTON                                              |     |

SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-21. (91043205) (IOWA) SWAY CYLINDER (SN 0144293H to Present)



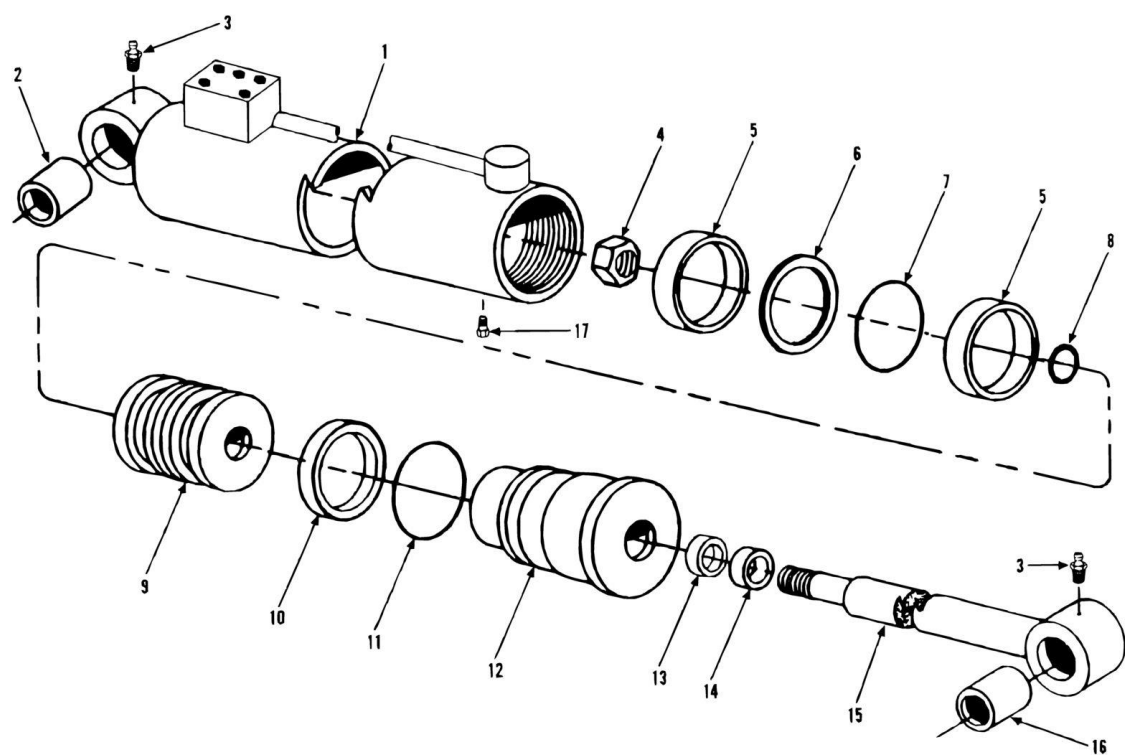
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-21. (91043205) (IOWA) SWAY CYLINDER (SN 0144293H to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                           | REV |
|------|-------------|-----|-----------------------------------------------------------------------|-----|
|      | 91043205    | 1   | SWAY CYLINDER ASSY, (includes all items)                              |     |
|      | 91044275    | 1   | SEAL KIT, (includes items 1, 2, 3, 8 thru 11, 14, 15 & 16)            |     |
| 1    | Kit         | 2   | WEAR RING                                                             |     |
| 2    | Kit         | 1   | O-RING                                                                |     |
| 3    | Kit         | 1   | PISTON SEAL                                                           |     |
| 4    | 91064017    | 1   | HEX LOCKNUT, (lubricate and torque to 625 ft lbs)                     |     |
| 5    | 91044273    | 1   | CASE ASSY, (includes item 6)                                          |     |
| 6    | 91404352    | 2   | BUSHING                                                               |     |
| 7    | 91044272    | 1   | SHAFT ASSY, (includes item 6)                                         |     |
| 8    | Kit         | 1   | WIPER                                                                 |     |
| 9    | Kit         | 1   | U-CAP                                                                 |     |
| 10   | Kit         | 1   | WEAR RING, (wide)                                                     |     |
| 11   | Kit         | 1   | WEAR RING, (narrow)                                                   |     |
| 12   |             | Ref | NYLON PLUG                                                            |     |
| 13   | 91044271    | 1   | HEAD                                                                  |     |
| 14   | Kit         | 1   | BACK-UP RING                                                          |     |
| 15   | Kit         | 1   | O-RING                                                                |     |
| 16   | Kit         | 1   | O-RING                                                                |     |
| 17   | 91044274    | 1   | PISTON                                                                |     |
|      |             | Ref | NOTE: ONLY PART NUMBERED ITEMS ARE AVAILABLE FOR SERVICE REPLACEMENT. |     |

SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-22. (91033367) SWAY CYLINDER (SN 0144762 to Present)



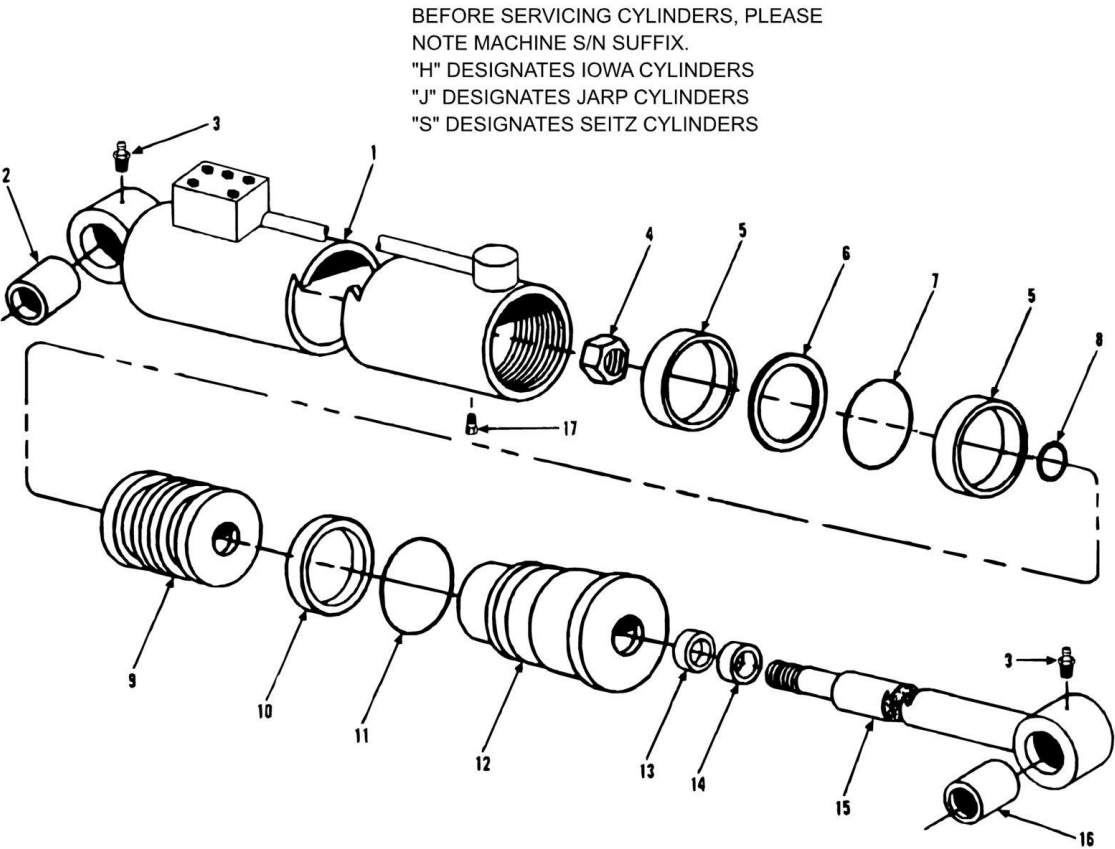
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-22. (91033367) SWAY CYLINDER (SN 0144762 to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                   | REV |
|------|-------------|-----|---------------------------------------------------------------|-----|
|      | 91033367    | 1   | SWAY CYLINDER ASSY, (includes all items)                      |     |
|      | 91034297    | AR  | SEAL KIT, (includes items 5, 6, 7, 8, 10, 11, 13 & 14)        |     |
| 1    | 91034298    | 1   | TUBE ASSY, (includes item #2)                                 |     |
| 2    | 91084176    | 1   | BUSHING                                                       |     |
| 3    | 88671033    | 2   | LUBE FITTING-STRAIGHT, 1/4-28                                 |     |
| 4    | 91034286    | 1   | LOCKNUT, (torque to 590 ft lb)                                |     |
| 5    | Kit         | 2   | WEAR RING                                                     |     |
| 6    | Kit         | 1   | SEAL                                                          |     |
| 7    | Kit         | 1   | O-RING                                                        |     |
| 8    | Kit         | 1   | O-RING                                                        |     |
| 9    | 91034291    | 1   | PISTON                                                        |     |
| 10   | Kit         | 1   | BACKUP RING                                                   |     |
| 11   | Kit         | 1   | O-RING                                                        |     |
| 12   | 91034299    | 1   | GLAND                                                         |     |
| 13   | Kit         | 1   | SEAL                                                          |     |
| 14   | Kit         | 1   | WIPER                                                         |     |
| 15   | 91044300    | 1   | ROD ASSY, (includes item 16)                                  |     |
| 16   | 91084176    | 1   | BUSHING                                                       |     |
| 17   | 91034332    | 1   | SET SCREW                                                     |     |
|      |             | Ref | NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE. |     |

SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-23. (91033367) SWAY CYLINDER (SN 0144784S to Present)





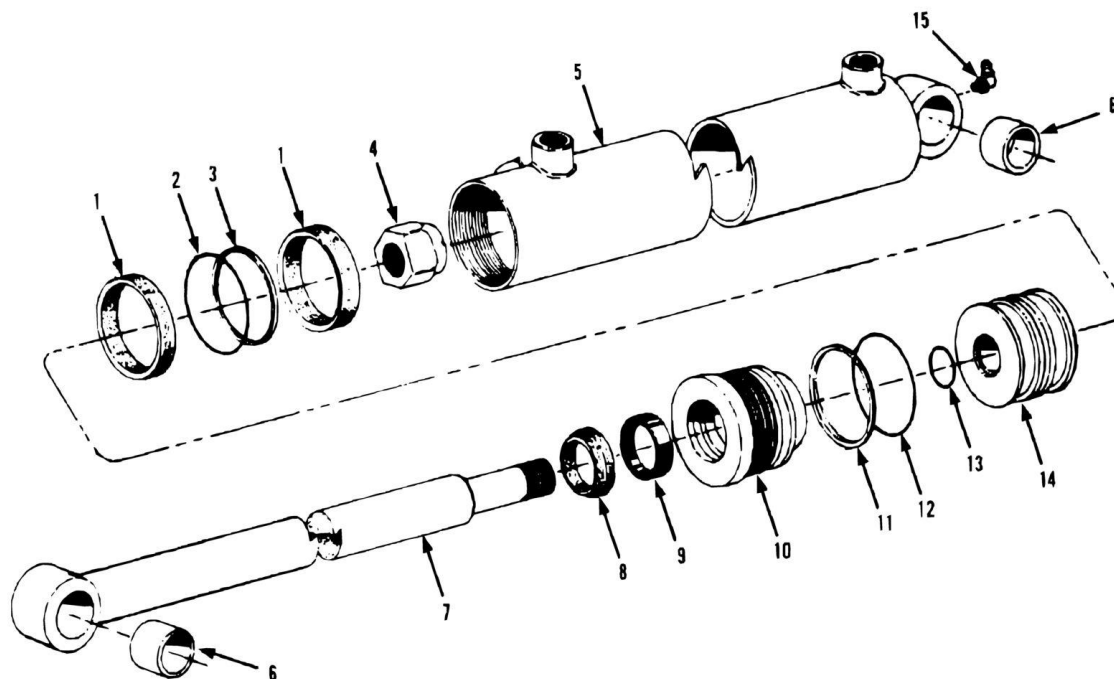
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-23. (91033367) SWAY CYLINDER (SN 0144784S to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                   | REV |
|------|-------------|-----|---------------------------------------------------------------|-----|
|      | 91033367    | 1   | SWAY CYLINDER ASSY, (includes all items)                      |     |
|      | 91034297    | AR  | SEAL KIT, (includes items 5, 6, 7, 8, 10, 11, 13 & 14)        |     |
| 1    | 91034298    | 1   | TUBE ASSY, (includes item #2)                                 |     |
| 2    | 91084176    | 1   | BUSHING                                                       |     |
| 3    | 88671033    | 1   | LUBE FITTING, STRAIGHT, 1/4-28                                |     |
| 4    | 91034286    | 2   | LOCKNUT, (torque to 590 ft lb)                                |     |
| 5    | Kit         | 1   | WEAR RING                                                     |     |
| 6    | Kit         | 1   | SEAL                                                          |     |
| 7    | Kit         | 1   | O-RING                                                        |     |
| 8    | Kit         | 1   | O-RING                                                        |     |
| 9    | 91034291    | 1   | PISTON                                                        |     |
| 10   | Kit         | 1   | BACKUP RING                                                   |     |
| 11   | Kit         | 1   | O-RING                                                        |     |
| 12   | 91034299    | 1   | GLAND                                                         |     |
| 13   | Kit         | 1   | SEAL                                                          |     |
| 14   | Kit         | 1   | WIPER                                                         |     |
| 15   | 91044300    | 1   | ROD ASSY, (includes item 16)                                  |     |
| 16   | 91084176    | 1   | BUSHING                                                       |     |
| 17   | 91034332    | 1   | SET SCREW                                                     |     |
|      |             | Ref | NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE. |     |

## SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-24. (90801313) (JARP) STEERING CYLINDER (SN 8344001J to Present)



BEFORE SERVICING CYLINDERS, PLEASE  
NOTE MACHINE S/N SUFFIX.

"H" DESIGNATES IOWA CYLINDERS

"J" DESIGNATES JARP CYLINDERS

"S" DESIGNATES SEITZ CYLINDERS

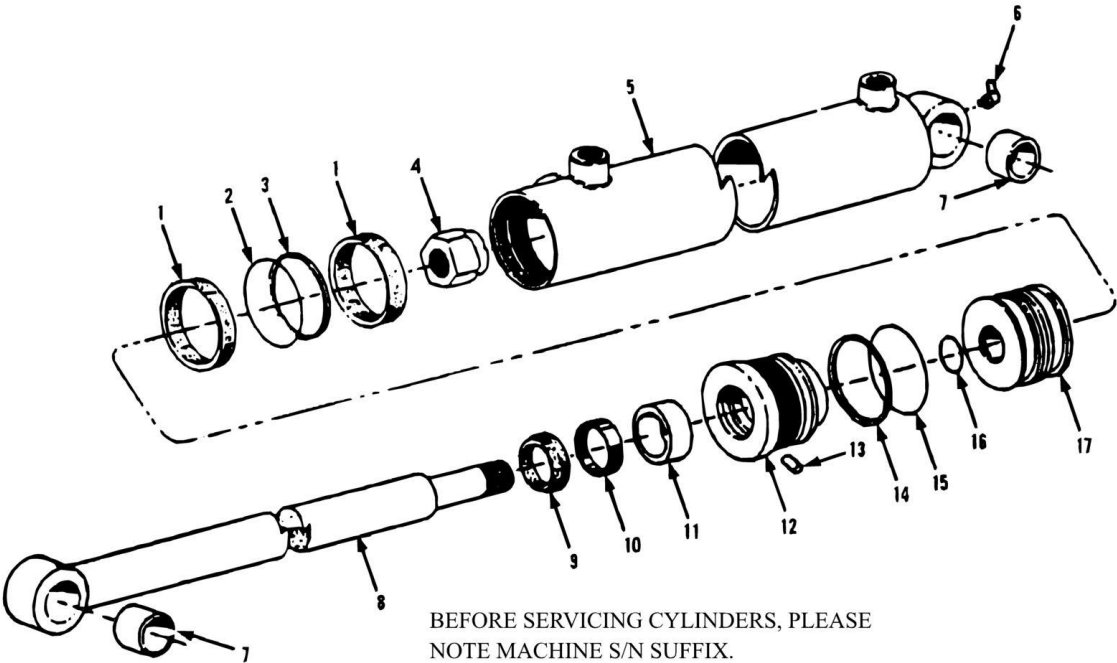
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-24. (90801313) (JARP) STEERING CYLINDER (SN 8344001J to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                           | REV |
|------|-------------|-----|-------------------------------------------------------|-----|
|      | 90801313    | 2   | STEERING CYLINDER ASSY, (includes all items)          |     |
|      | 90202551    | AR  | SEAL KIT, (includes items 1, 2, 3, 8, 9, 11, 12 & 13) |     |
| 1    | 90022257    | 2   | WEAR RING                                             |     |
| 2    | 90023145    | 1   | O-RING                                                |     |
| 3    | 90022237    | 1   | PISTON SEAL                                           |     |
| 4    | 90022230    | 1   | SELF LOCKING NUT                                      |     |
| 5    | 90207821    | 1   | BARREL                                                |     |
| 6    | 90205450    | 2   | BUSHING                                               |     |
| 7    | 90207822    | 1   | PISTON ROD                                            |     |
| 8    | 90022277    | 1   | WIPER RING                                            |     |
| 9    | 90022247    | 1   | ROD SEAL                                              |     |
| 10   | 90402099    | 1   | ROD BEARING                                           |     |
| 11   | 90024232    | 1   | BACK-UP RING                                          |     |
| 12   | 90023232    | 1   | O-RING                                                |     |
| 13   | 90023117    | 1   | O-RING                                                |     |
| 14   | 90402098    | 1   | PISTON                                                |     |
| 15   | 88671027    | 1   | LUBE FITTING, 90, 1/4-28                              |     |

SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-25. (91033291) (IOWA) STEERING CYLINDER (SN 0144293H to Present)



BEFORE SERVICING CYLINDERS, PLEASE  
NOTE MACHINE S/N SUFFIX.  
"H" DESIGNATES IOWA CYLINDERS  
"J" DESIGNATES JARP CYLINDERS  
"S" DESIGNATES SEITZ CYLINDERS

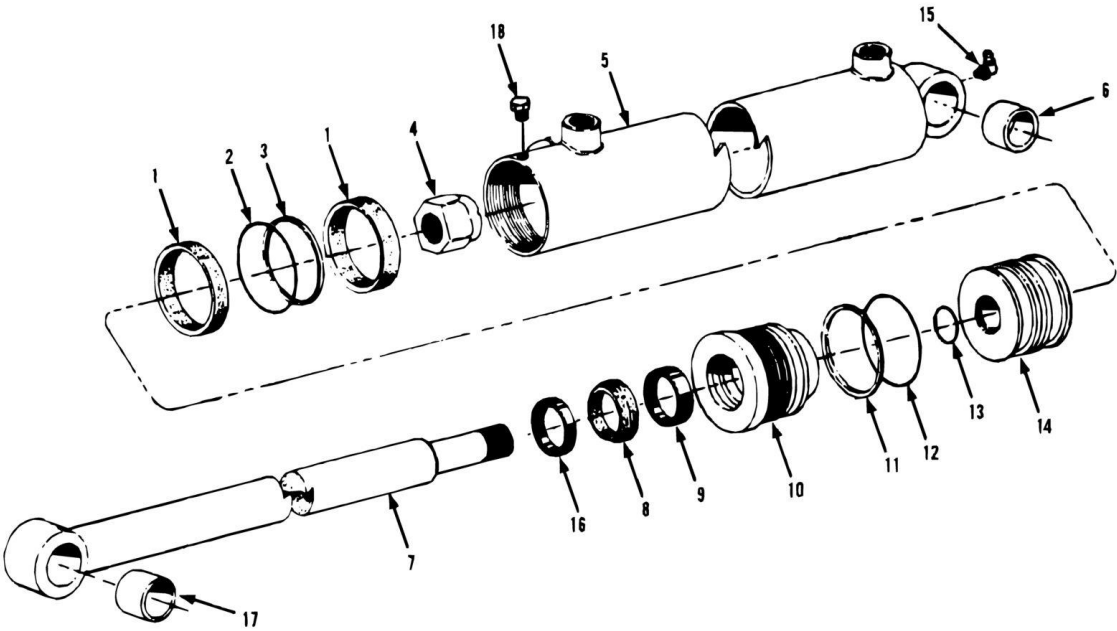
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-25. (91033291) (IOWA) STEERING CYLINDER (SN 0144293H to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                           | REV |
|------|-------------|-----|-----------------------------------------------------------------------|-----|
|      | 91033291    | 2   | STEERING CYLINDER ASSY, (includes all items)                          |     |
|      | 91034145    | 1   | SEAL KIT, (includes items 1, 2, 3, 9, 10, 11, 13, 14, 15 & 16)        |     |
| 1    | Kit         | 1   | WEAR RING                                                             |     |
| 2    | Kit         | 1   | O-RING                                                                |     |
| 3    | Kit         | 1   | PISTON SEAL                                                           |     |
| 4    | 91034156    | 1   | HEX LOCKNUT, (lubricate and torque to 250 ft lb)                      |     |
| 5    | 91034143    | 1   | CASE ASSY, (includes item 7)                                          |     |
| 6    | 88671027    | 1   | LUBE FITTING, 90, 1/4-28                                              |     |
| 7    | 91034157    | 2   | BUSHING                                                               |     |
| 8    | 91034142    | 1   | SHAFT ASSY, (includes item 7)                                         |     |
| 9    | Kit         | 1   | WIPER                                                                 |     |
| 10   | Kit         | 1   | U-CUP                                                                 |     |
| 11   | Kit         | 1   | WEAR RING                                                             |     |
| 12   | 91034141    | 1   | HEAD                                                                  |     |
| 13   | Kit         | 1   | NYLON PLUG                                                            |     |
| 14   | Kit         | 1   | BACK-UP RING                                                          |     |
| 15   | Kit         | 1   | O-RING                                                                |     |
| 16   | Kit         | 1   | O-RING                                                                |     |
| 17   | 91034144    | 1   | PISTON                                                                |     |
|      |             | Ref | NOTE: ONLY PART NUMBERED ITEMS ARE AVAILABLE FOR SERVICE REPLACEMENT. |     |

SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-26. (90453034) STEERING CYLINDER; FOR SERVICE ONLY



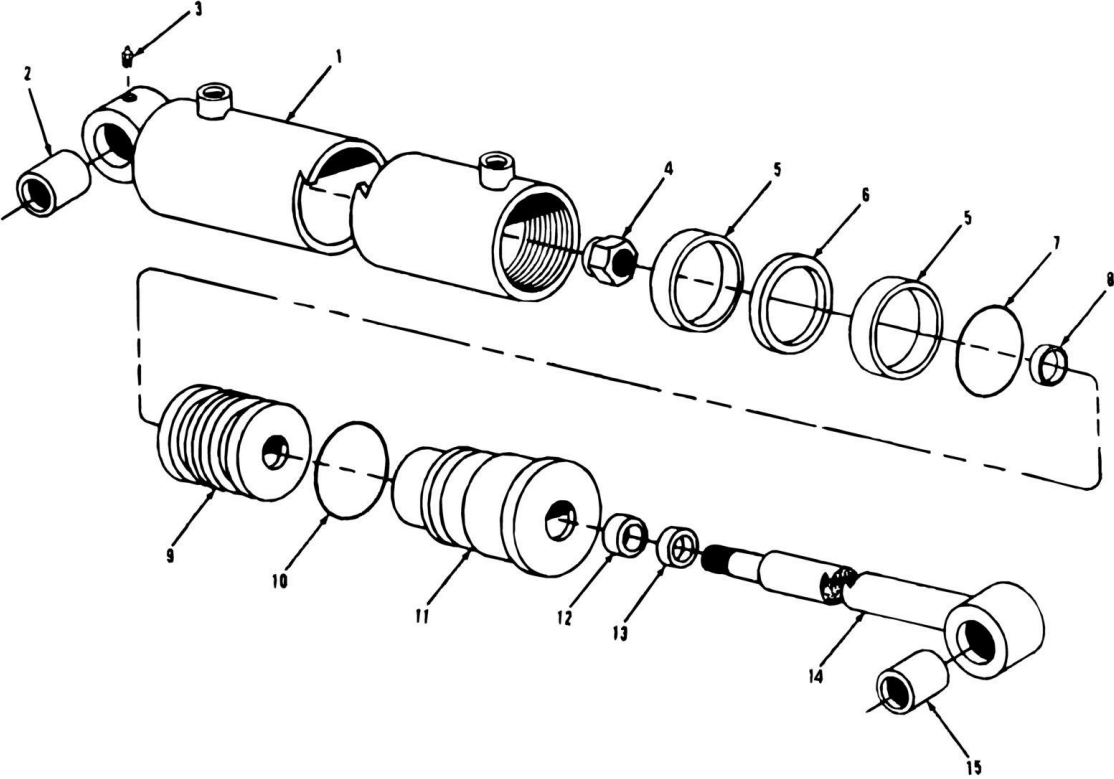
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-26. (90453034) STEERING CYLINDER; FOR SERVICE ONLY**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                              | REV |
|------|-------------|-----|----------------------------------------------------------|-----|
|      | 90453034    | 2   | STEERING CYLINDER ASSY, (includes all items)             |     |
|      | 91144006    | AR  | SEAL KIT (includes items 1, 2, 3, 8, 9, 11, 12, 13 & 16) |     |
| 1    | 91164019    | 2   | WEAR RING                                                |     |
| 2    | 91164020    | 1   | O-RING                                                   |     |
| 3    | 91164021    | 1   | PISTON SEAL                                              |     |
| 4    | 91144038    | 1   | SELF LOCKING NUT                                         |     |
| 5    | 91034435    | 1   | BARREL                                                   |     |
| 6    | 91034157    | 1   | BUSHING                                                  |     |
| 7    | 91034436    | 1   | PISTON ROD                                               |     |
| 8    | 91204469    | 1   | WIPER RING                                               |     |
| 9    | 91204468    | 1   | U-CUP                                                    |     |
| 10   | 91144040    | 1   | HEAD (lubricate and torque 100-400 ft lb)                |     |
| 11   | 91164024    | 1   | BACK-UP RING                                             |     |
| 12   | 91034437    | 1   | O-RING                                                   |     |
| 13   | 91164022    | 1   | O-RING                                                   |     |
| 14   | 91144039    | 1   | PISTON                                                   |     |
| 15   | 91144125    | 1   | LUBE FITTING-90, - 1/4-28                                |     |
| 16   | 91164025    | 1   | STEP SEAL                                                |     |
| 17   | 91124087    | 1   | BUSHING                                                  |     |
| 18   | 91124096    | 1   | SET SCREW                                                |     |

SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-27. OPTIONAL EQUIPMENT (91033366) SWING CYLINDER ASSEMBLY (SN 0144752 to Present)





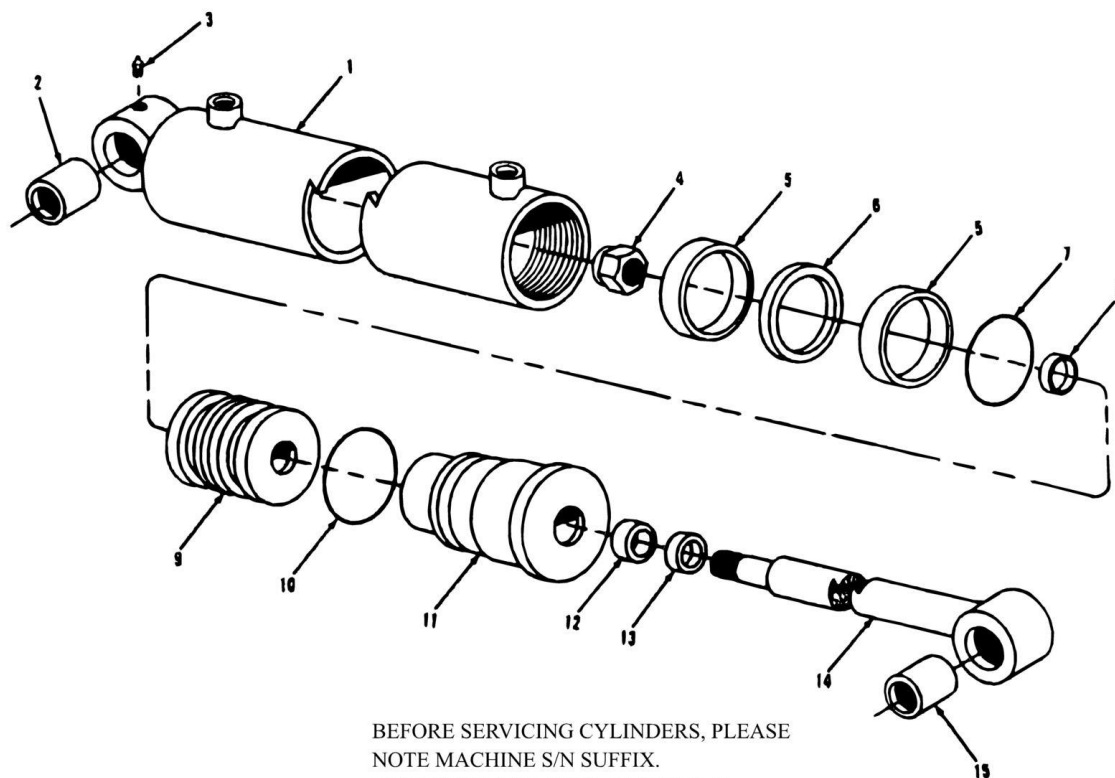
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-27. OPTIONAL EQUIPMENT (91033366) SWING CYLINDER ASSEMBLY (SN 0144752 to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                        | REV |
|------|-------------|-----|----------------------------------------------------|-----|
|      | 91033366    | 2   | SWING CYLINDER ASSY, (includes all items)          |     |
|      | 91034301    | Ref | SEAL KIT, (includes items 5, 6, 7, 8, 10, 12 & 13) |     |
| 1    | 91034302    | 1   | TUBE ASSY                                          |     |
| 2    | 91084194    | 1   | BUSHING                                            |     |
| 3    | 88671033    | 1   | LUBE FITTING-STRAIGHT, 1/4-28                      |     |
| 4    | 91034303    | 1   | LOCKNUT, (torque to 235 ft lb)                     |     |
| 5    | 91044463    | 2   | WEAR RING                                          |     |
| 6    | 91044464    | 1   | SEAL                                               |     |
| 7    | 91044465    | 1   | O-RING                                             |     |
| 8    | 91044466    | 1   | O-RING                                             |     |
| 9    | 91034304    | 1   | PISTON                                             |     |
| 10   | 91044467    | 1   | O-RING                                             |     |
| 11   | 91034305    | 1   | GLAND                                              |     |
| 12   | 91044468    | 1   | SEAL                                               |     |
| 13   | 91044469    | 1   | WIPER                                              |     |
| 14   | 91034306    | 1   | ROD ASSY                                           |     |
| 15   | 91044470    | 1   | BUSHING                                            |     |

## SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-28. (91033366) STEERING CYLINDER ASSEMBLY (SN 0144784S to Present)



BEFORE SERVICING CYLINDERS, PLEASE  
NOTE MACHINE S/N SUFFIX.  
"H" DESIGNATES IOWA CYLINDERS  
"J" DESIGNATES JARP CYLINDERS  
"S" DESIGNATES SEITZ CYLINDERS

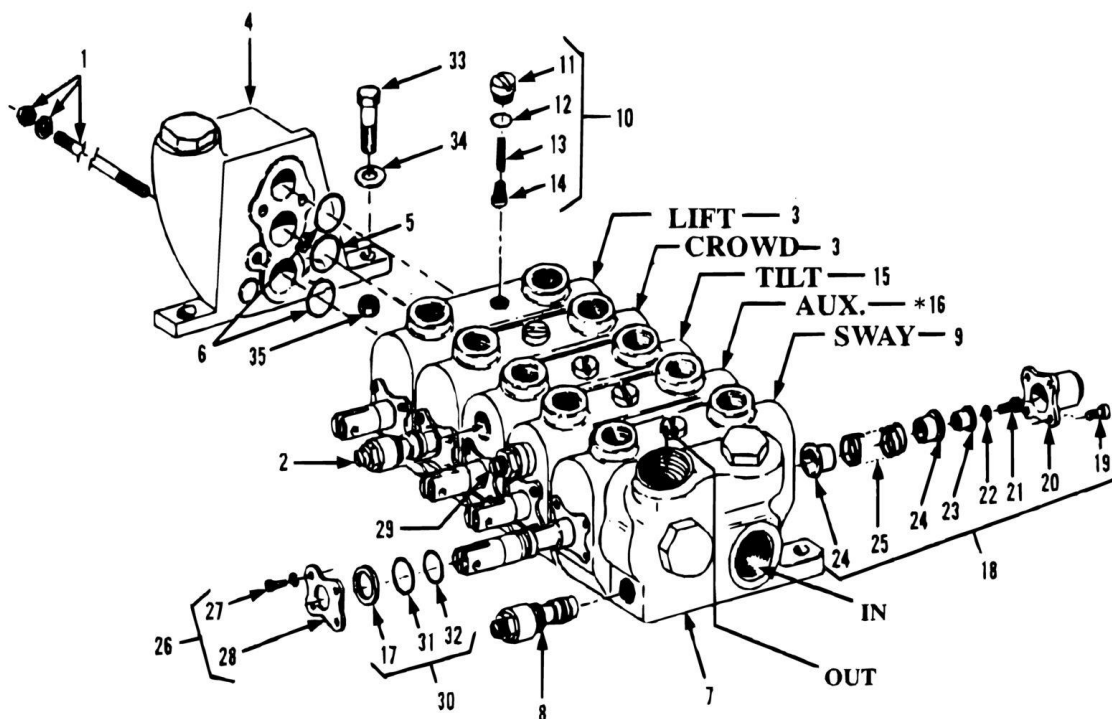
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-28. (91033366) STEERING CYLINDER ASSEMBLY (SN 0144784S to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                        | REV |
|------|-------------|-----|----------------------------------------------------|-----|
|      | 91033366    | 2   | STEERING CYLINDER ASSY, (includes all items)       |     |
|      | 91034301    | Ref | SEAL KIT, (includes items 5, 6, 7, 8, 10, 12 & 13) |     |
| 1    | 91034302    | 1   | TUBE ASSY                                          |     |
| 2    | 91084194    | 1   | BUSHING                                            |     |
| 3    | 88671033    | 1   | LUBE FITTING, STRAIGHT, 1/4-28                     |     |
| 4    | 91034303    | 1   | LOCKNUT, (torque to 235 ft lb)                     |     |
| 5    | 91044463    | 2   | WEAR RING                                          |     |
| 6    | 91044464    | 1   | SEAL                                               |     |
| 7    | 91044465    | 1   | O-RING                                             |     |
| 8    | 91044466    | 1   | O-RING                                             |     |
| 9    | 91034304    | 1   | PISTON                                             |     |
| 10   | 91044467    | 1   | O-RING                                             |     |
| 11   | 91034305    | 1   | GLAND                                              |     |
| 12   | 91044468    | 1   | SEAL                                               |     |
| 13   | 91044469    | 1   | WIPER                                              |     |
| 14   | 91034306    | 1   | ROD ASSY                                           |     |
| 15   | 91044470    | 1   | BUSHING                                            |     |

## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-29. MAIN HYDRAULIC CONTROL VALVE (SN 8344001L to Present)**



\* 91033168 VALVE DOES NOT INCLUDE  
AUXILIARY VAVLE SECTION. ORDER  
KIT #91033239 FOR THE SECTION,  
O-RINGS, AND STUDS

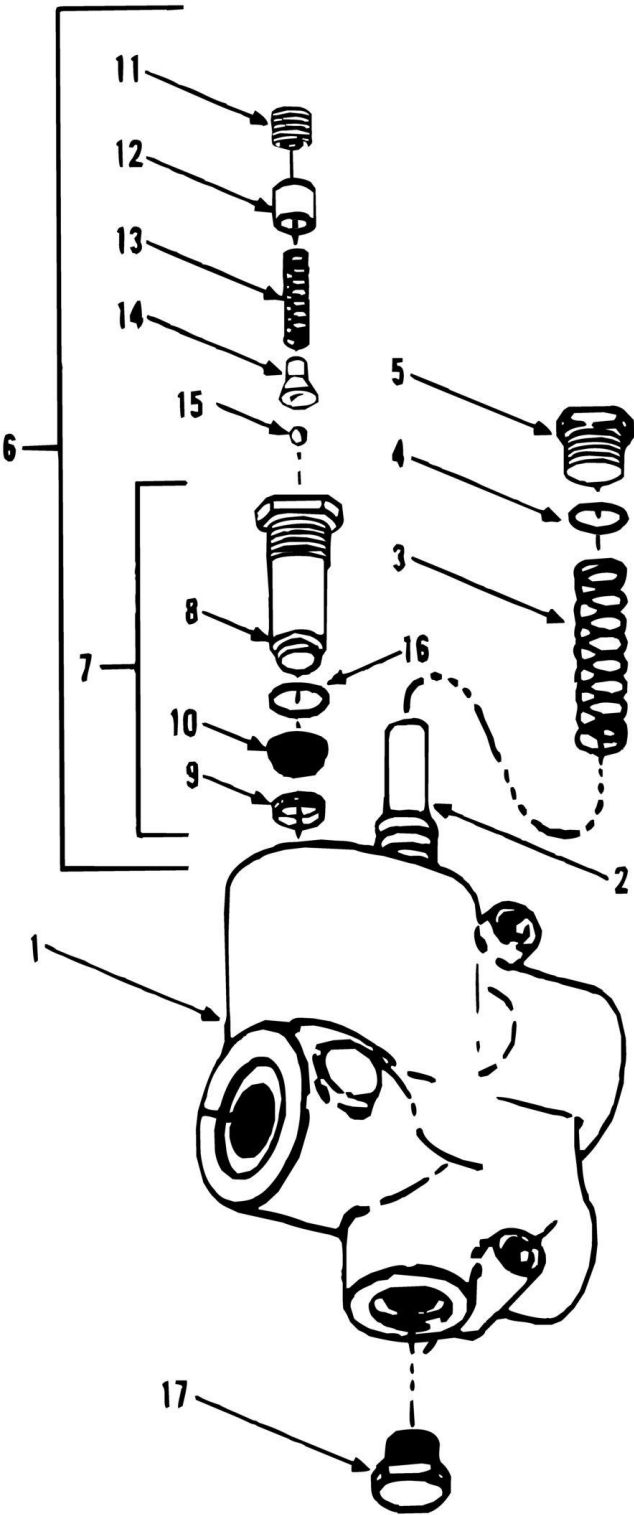
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-29. MAIN HYDRAULIC CONTROL VALVE (SN 8344001L to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                           | REV |
|------|-------------|-----|-----------------------------------------------------------------------|-----|
|      | 91033168    |     | CONTROL VALVE (4 section)                                             |     |
|      | 91033296    |     | CONTROL VALVE (5 section)                                             |     |
| 1    | 91034105    |     | STUD ASSY KIT (4 section)                                             |     |
| 1    | 91034070    |     | STUD ASSY KIT (5 section)                                             |     |
| 2    | 90206415    | 1   | POST RELIEF                                                           |     |
| 2    | 91034237    | AR  | SEAL KIT                                                              |     |
| 3    | 91034102    | 2   | VALVE SECTION (includes 10 thru 14)                                   |     |
| 4    | 91034104    | 1   | COVER PLATE ASSY (right end)                                          |     |
| 5    | 90206422    | 1   | O-RING                                                                |     |
| 6    | 90206423    | 2   | O-RING                                                                |     |
| 7    | 91044114    | 1   | COVER PLATE ASSY (left end) (includes item 8)                         |     |
| 8    | 90208136    | 1   | MAIN RELIEF VALVE ASSY (3000 PSI)                                     |     |
| 8    | 91034236    | AR  | SEAL KIT                                                              |     |
| 9    | 90206421    | 1   | VALVE SECTION (includes 10 thru 14)                                   |     |
| 10   | 90206413    | AR  | LOAD CHECK POPPET ASSY (includes items 11 thru 14)                    |     |
| 11   |             | Ref | LOAD CHECK PLUG                                                       |     |
| 12   |             | Ref | O-RING                                                                |     |
| 13   |             | Ref | SPRING                                                                |     |
| 14   |             | Ref | POPPET                                                                |     |
| 15   | 90206420    | 1   | VALVE SECTION (with port relief) (includes item 21)                   |     |
| 16   | 91034072    | 1   | VALVE SECTION (includes item 29)                                      |     |
| 17   | 90206418    | AR  | SEAL PLATE                                                            |     |
| 18   | 90206427    | AR  | NEUTRAL POSITIONER (consists of items 19 thru 25)                     |     |
| 19   | 88301548    | 4   | FILLISTER HD MACHINE SCREW 14-20x1                                    |     |
| 20   | 90206431    | 1   | BONNET                                                                |     |
| 21   | 88211069    | 1   | SOCKET HD CAPSCREW, 3/8-16X3/4, GR8                                   |     |
| 22   | 88551011    | 1   | LOCKWASHER, 3/8                                                       |     |
| 23   | 90206430    | 1   | SPOOL COLLAR                                                          |     |
| 24   | 90206428    | 2   | STOP COLLAR                                                           |     |
| 25   | 90206429    | 1   | SPRING                                                                |     |
| 26   | 90206419    | AR  | RETAINER PLATE KIT (consists of items 27 & 28)                        |     |
| 27   | Kit         | 1   | SCREW                                                                 |     |
| 28   | Kit         | 1   | RETAINER PLATE                                                        |     |
| 29   | 91034074    | 1   | PORT RELIEF                                                           |     |
| 30   | 91034159    | AR  | SPOOL SEAL KIT (consists of items 17, 31 & 32)                        |     |
| 31   | Kit         | 1   | O-RING                                                                |     |
| 32   | Kit         | 1   | O-RING                                                                |     |
| 33   | 88201072    | 3   | HEX HD CAPSCREW, 1/4-20x1-3/4, GR5                                    |     |
| 34   | 88561107    | 3   | FLAT WASHER, 1/4                                                      |     |
| 35   | 88501008    | 3   | HEX NUT, 1/4                                                          |     |
| 36   | 90206417    | AR  | SECTION SEAL KIT (consists of items 5, 6, 12, 17, 31 & 32)            |     |
|      |             | Ref | NOTE: ONLY PART NUMBERED ITEMS ARE AVAILABLE FOR SERVICE REPLACEMENT. |     |

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FIGURE 9-30. PRIORITY FLOW CONTROL (SN 8344001L to Present)



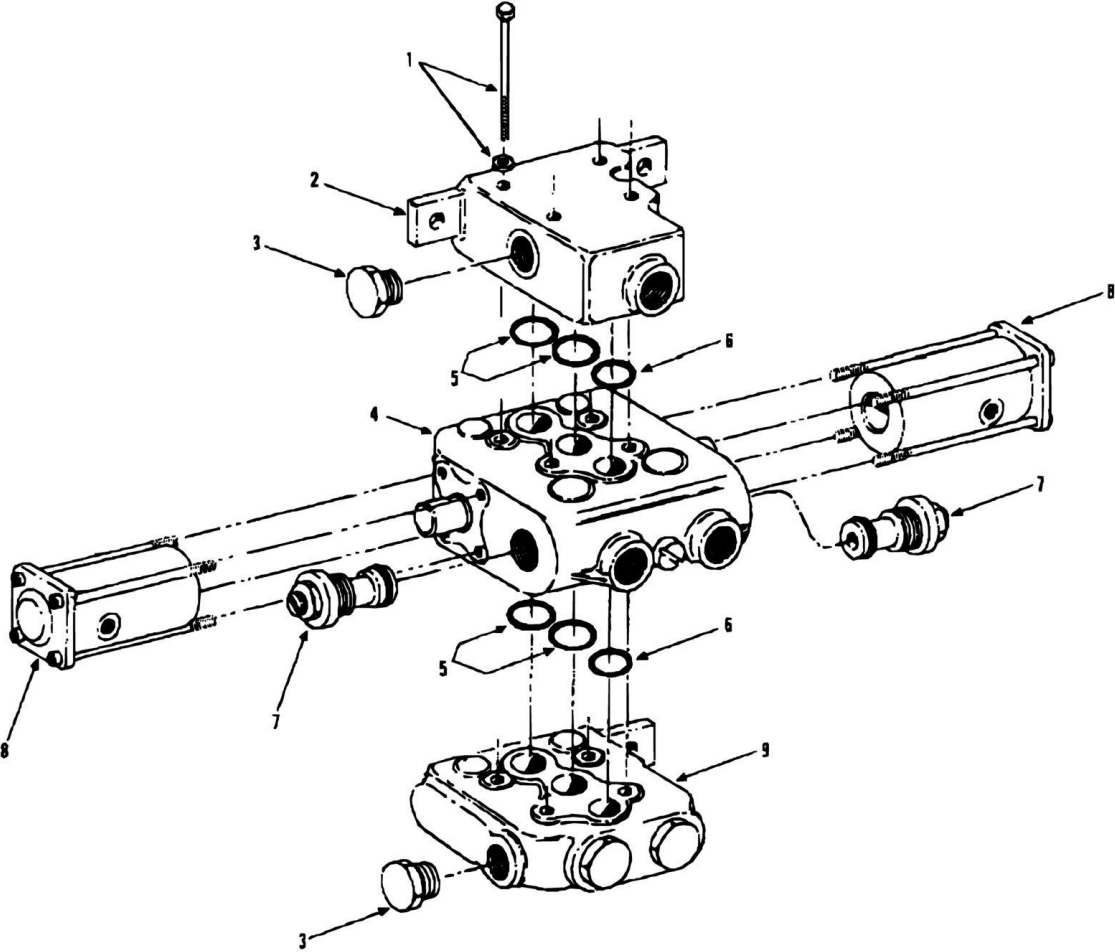
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-30. PRIORITY FLOW CONTROL (SN 8344001L to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                 | REV |
|------|-------------|-----|-------------------------------------------------------------|-----|
|      | 91033240    | 1   | PRIORITY VALVE (includes all items) 2500 PSI RELIEF SETTING |     |
| 1    | 90206548    | 1   | HOUSING (includes item 2)                                   |     |
| 2    | 90206549    | 1   | SPOOL                                                       |     |
| 3    | 90206550    | 1   | SPRING                                                      |     |
| 4    | 88591206    | 1   | O-RING                                                      |     |
| 5    | 90206552    | 1   | PLUG                                                        |     |
| 6    | 90206553    | 1   | RELIEF CARTRIDGE (includes items 7 thru 16)                 |     |
| 7    | 90206554    | 1   | RELIEF VALVE SUB BODY (includes item 8 thru 10)             |     |
| 8    | 90206555    | 1   | BODY                                                        |     |
| 9    | 90206556    | 1   | RING                                                        |     |
| 10   | 90206557    | 1   | SCREEN                                                      |     |
| 11   | 90206558    | 1   | RELIEF VALVE ADJUSTING SCREW                                |     |
| 12   | 90206559    | 1   | SPRING GUIDE                                                |     |
| 13   | 90206560    | 1   | SPRING                                                      |     |
| 14   | 90206561    | 1   | BALL HOLDER                                                 |     |
| 15   | 90206562    | 1   | BALL                                                        |     |
| 16   | 88591205    | 1   | O-RING                                                      |     |
| 17   | 90206564    | 1   | PLUG                                                        |     |

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FIGURE 9-31. FORWARD-REVERSE CONTROL (SN 8344001L to Present)





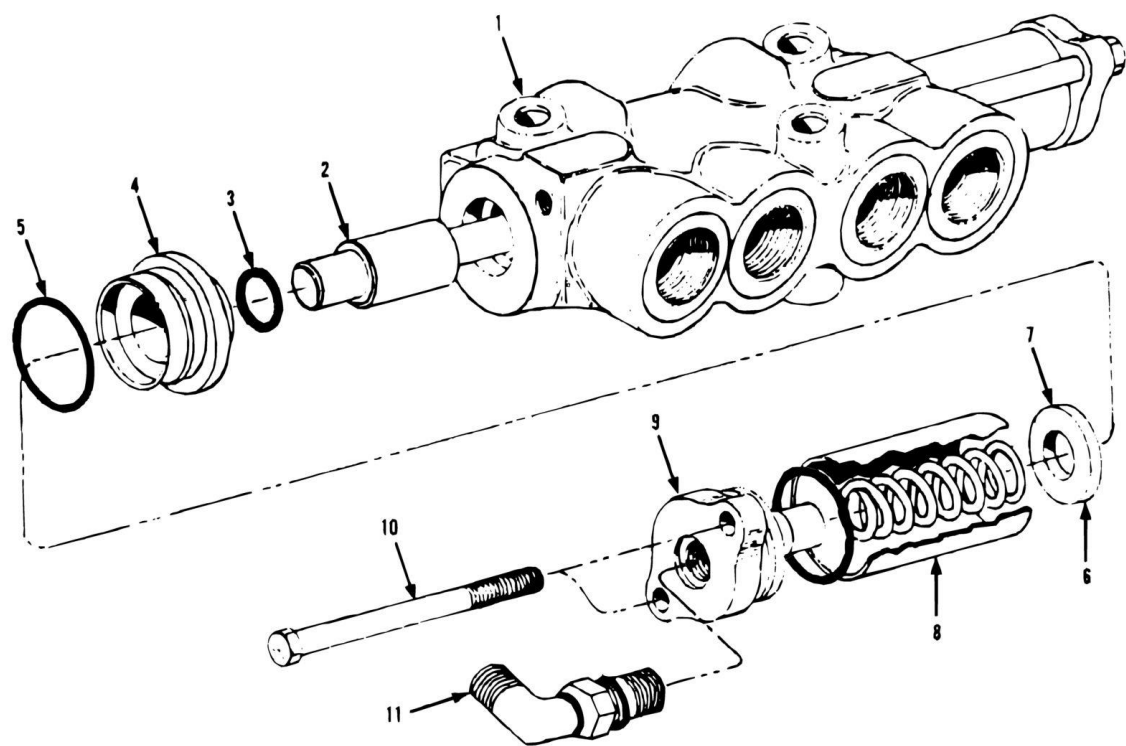
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-31. FORWARD-REVERSE CONTROL (SN 8344001L to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                         | REV |
|------|-------------|-----|-----------------------------------------------------|-----|
|      | 90206737    | 1   | FORWARD REVERSE CONTROL VALVE, (includes all items) |     |
| 1    | 90026155    | 4   | HEX HD CAPSCREW, 3/8-16 x 5                         |     |
| 1    | 88551011    | 4   | LOCKWASHER, 3/8                                     |     |
| 2    | 90208137    | 1   | OUTLET SECTION                                      |     |
| 3    | 88662180    | 2   | HEX HD PLUG, (includes o-ring)                      |     |
| 3    | 88591210    | 2   | O-RING                                              |     |
| 4    | 90208191    | 1   | WORK SECTION                                        |     |
| 5    | 90206423    | 4   | O-RING                                              |     |
| 6    | 90206422    | 2   | O-RING                                              |     |
| 7    | 90208139    | 2   | PORT RELIEF CARTRIDGE, (two backup and one o-ring)  |     |
| 8    | 90208140    | 2   | REMOTE HYDRAULIC ACTUATOR                           |     |
| 9    | 90208141    | 1   | INLET SECTION                                       |     |
| 10   | 91033040    |     | PLUG, (not shown), (replaces anticavitation check)  |     |

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FIGURE 9-32. SERIES PARALLEL CONTROL VALVE (SN 8344001L to Present)



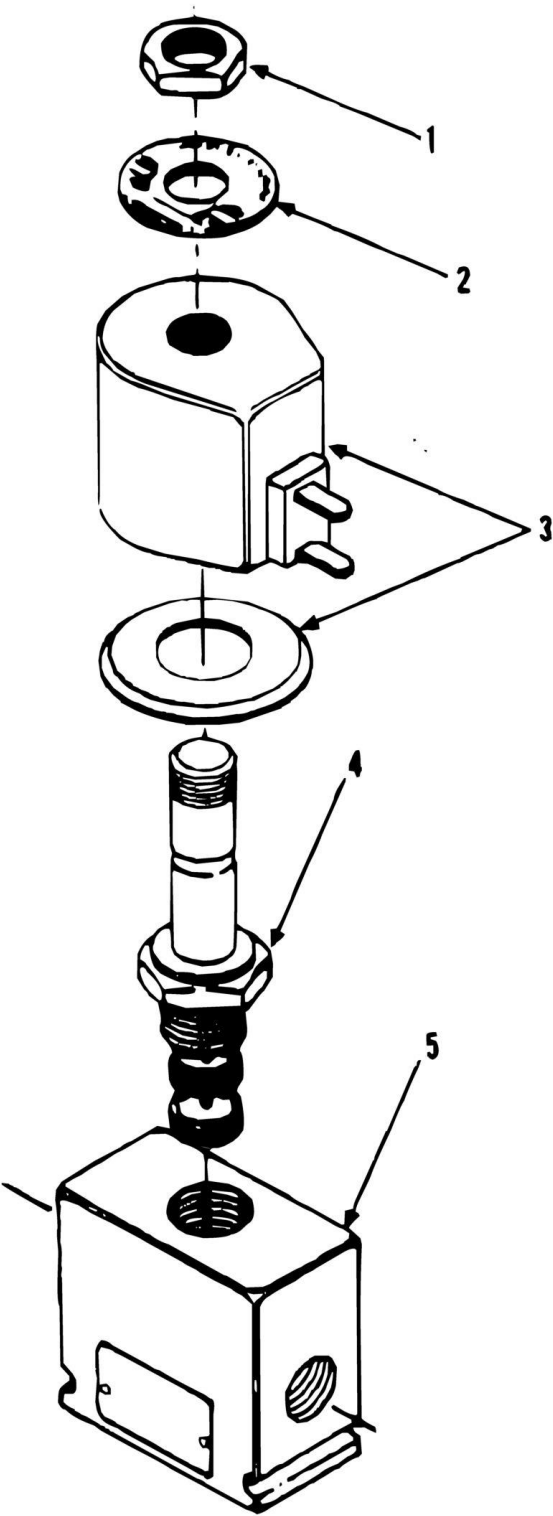
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-32. SERIES PARALLEL CONTROL VALVE (SN 8344001L to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                   | REV |
|------|-------------|-----|-------------------------------|-----|
|      | 90206738    | 1   | SERIES PARALLEL VALVE         |     |
|      | N.S.S.      | 1   | HOUSING                       |     |
|      | N.S.S.      | 1   | SPOOL                         |     |
| 3    | 90208060    | 2   | O-RING                        |     |
| 4    | 90208058    | 2   | PLUG                          |     |
| 5    | 90208065    | 4   | O-RING                        |     |
| 6    | 90208062    | 2   | SPACER                        |     |
| 7    | 90208064    | 2   | SPRING                        |     |
| 8    | 90208061    | 2   | TUBE                          |     |
| 9    | 90208059    | 2   | CAP                           |     |
| 10   | 90208063    | 4   | SCREW                         |     |
| 11   | 88662064    | 2   | ELBOW - 90, (includes o-ring) |     |
| 11   | 88591204    | 2   | O-RING                        |     |

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FIGURE 9-33. SOLENOID VALVE (SN 8344001L to Present)



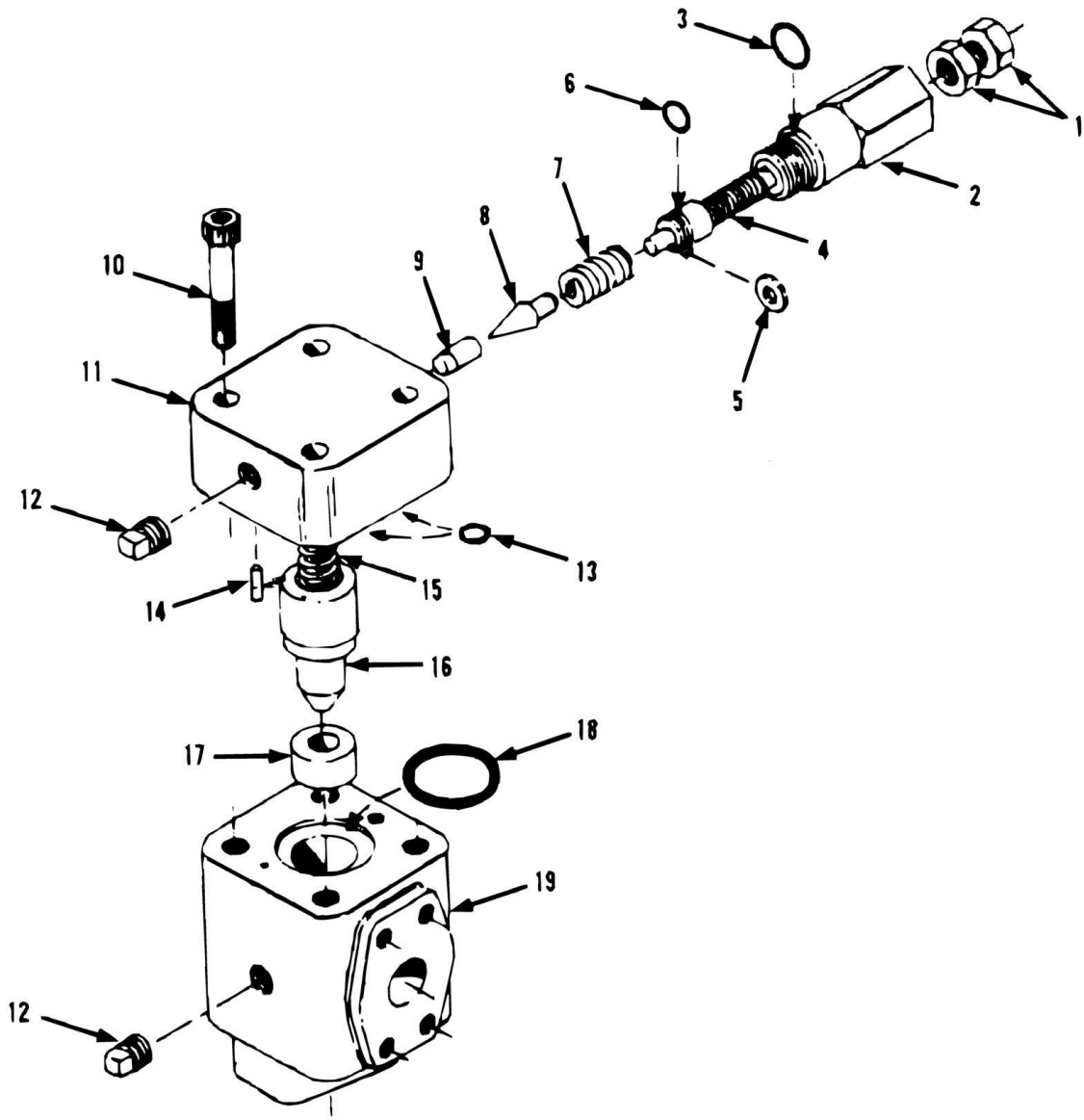
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-33. SOLENOID VALVE (SN 8344001L to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                           | REV |
|------|-------------|-----|-----------------------------------------------------------------------|-----|
|      | 90206739    | 1   | SOLENOID VALVE ASSY, THREE WAY - TWO POSITION<br>(includes all items) |     |
|      | 91044001    | 1   | SEAL KIT                                                              |     |
| 1    | 90208066    | 1   | NUT                                                                   |     |
| 2    | 90208067    | 1   | NAME PLATE                                                            |     |
| 3    | 77384267    | 1   | SOLENOID COIL ASSY                                                    |     |
| 4    | 90208071    | 1   | VALVE ASSY                                                            |     |
| 5    | 90208072    | 1   | VALVE BODY                                                            |     |

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FIGURE 9-34. REAR DRIVE MAIN RELIEF (SN 8344001L through 8744114G, Excluding 8744079G)



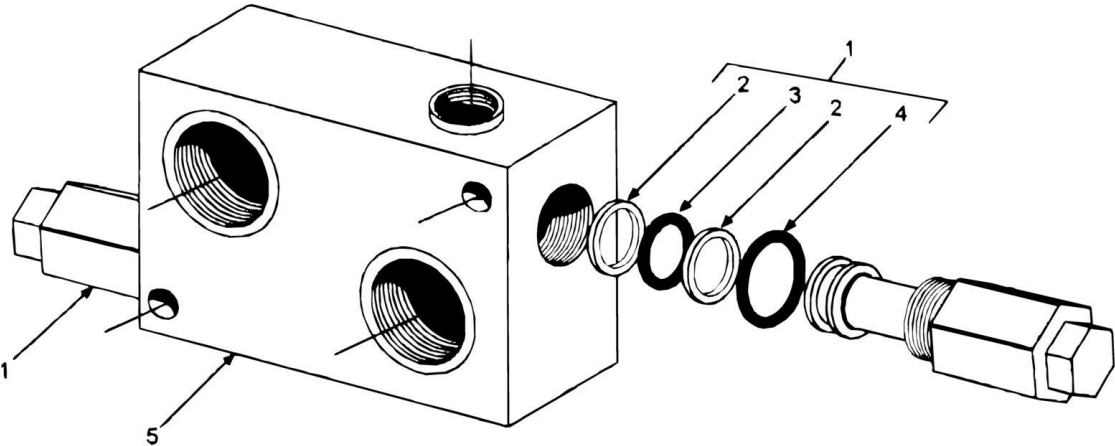
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-34. REAR DRIVE MAIN RELIEF (SN 8344001L through 8744114G, Excluding 8744079G)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                             | REV |
|------|-------------|-----|---------------------------------------------------------|-----|
|      | 90207314    |     | REAR DRIVE MAIN RELIEF VALVE (includes items 1 thru 19) |     |
| 1    | 88501406    | 2   | HEX JAM NUT, 3/8-24                                     |     |
| 2    | 90208040    | 1   | HEAD                                                    |     |
| 3    | 90208041    | 1   | O-RING                                                  |     |
| 4    | 90208042    | 1   | ADJUSTING SCREW                                         |     |
| 5    | 90208043    | 1   | SHIM                                                    |     |
| 6    | 90208044    | 1   | O-RING                                                  |     |
| 7    | 90208045    | 1   | SPRING                                                  |     |
| 8    | 90208046    | 1   | CONE                                                    |     |
| 9    | 90208047    | 1   | SEAT                                                    |     |
| 10   | 90208048    | 1   | SCREW                                                   |     |
| 11   | 90208049    | 1   | CAP                                                     |     |
| 12   | 90027462    | 2   | PIPE PLUG                                               |     |
| 13   | 90208050    | 1   | O-RING                                                  |     |
| 14   | 90208051    | 1   | PIN                                                     |     |
| 15   | 90208052    | 1   | SPRING                                                  |     |
| 16   | 90208053    | 1   | PISTON                                                  |     |
| 17   | 90208054    | 1   | SEAT                                                    |     |
| 18   | 90208055    | 1   | O-RING                                                  |     |
| 19   | 90208056    | 1   | VALVE BODY                                              |     |
| 20   | 90208057    | AR  | SEAL KIT (consists of items 3, 6, 13 & 18)              |     |

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FIGURE 9-35. CROSSOVER RELIEF VALVE (SN 8344001L to Present)





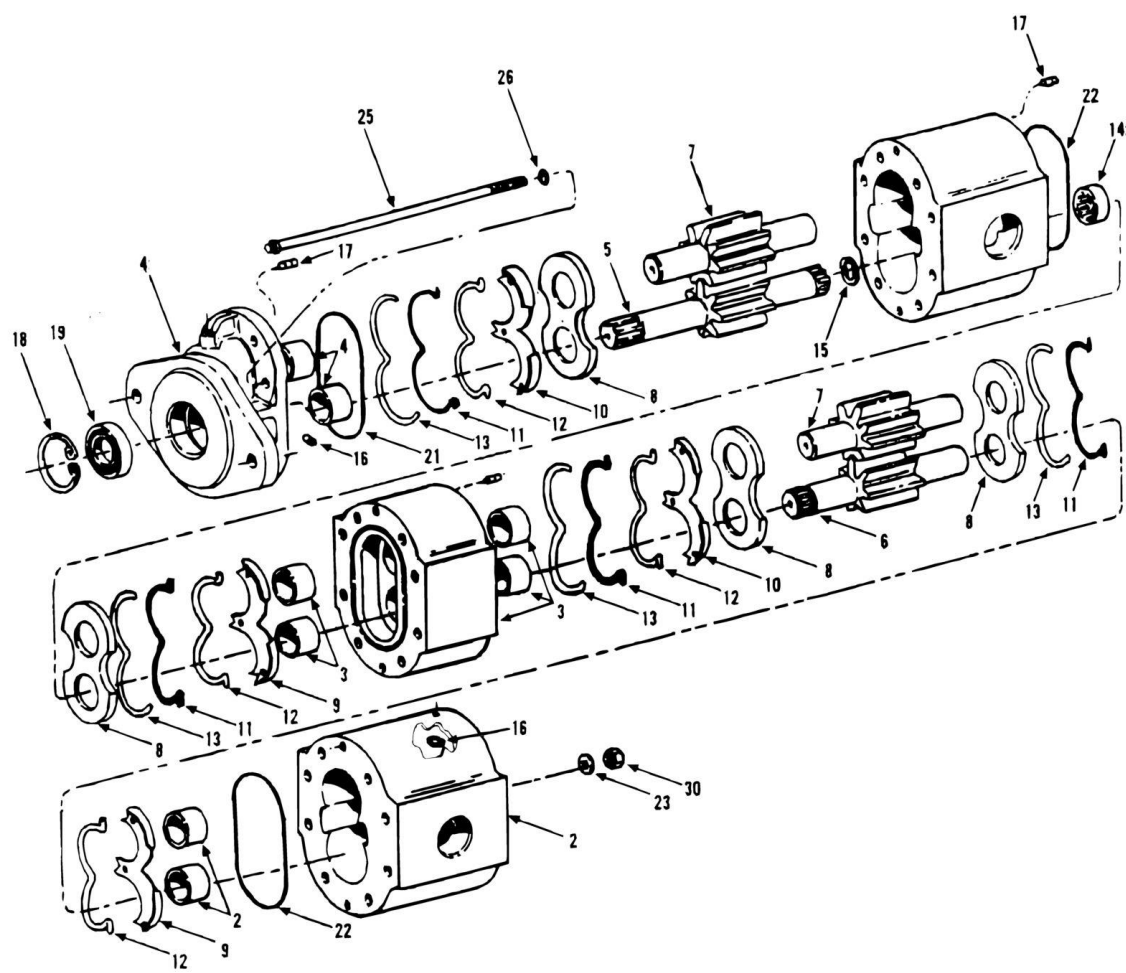
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-35. CROSSOVER RELIEF VALVE (SN 8344001L to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                 | REV |
|------|-------------|-----|---------------------------------------------|-----|
|      | 90602706    | 1   | CROSSOVER RELIEF VALVE (includes all items) |     |
| 1    | 90203440    | 2   | RELIEF CARTRIDGE (with seals)               |     |
| 2    | 90203437    | 4   | BACK-UP RING (2 per cartridge)              |     |
| 3    | 90203438    | 2   | O-RING (1 per cartridge)                    |     |
| 4    | 90203439    | 2   | O-RING (1 per cartridge)                    |     |
|      | N.S.S.      | 1   | BODY                                        |     |

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FIGURE 9-36. PUMP-MAIN HYDRAULIC (SN 8344001L to Present)



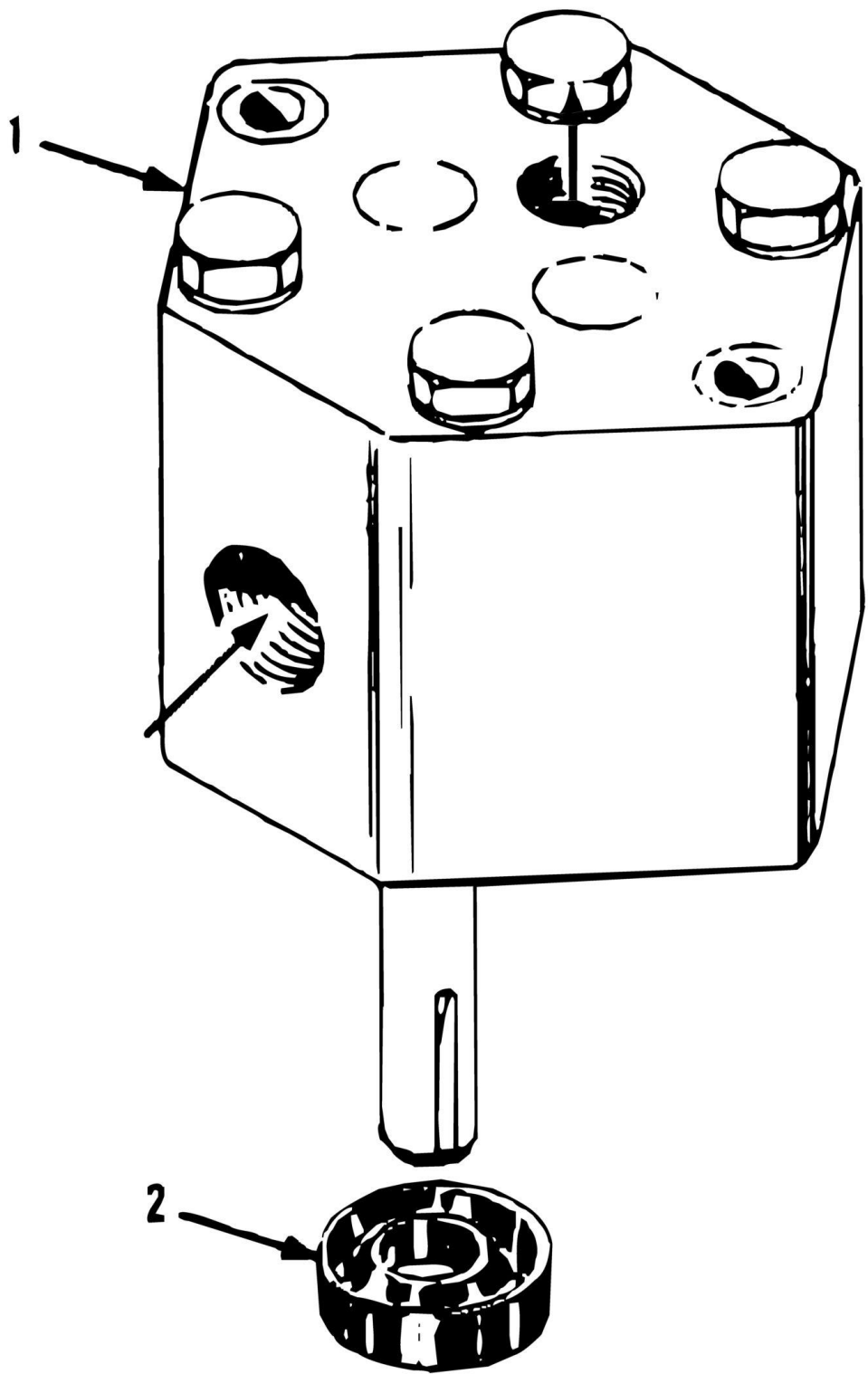
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-36. PUMP-MAIN HYDRAULIC (SN 8344001L to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                              | REV |
|------|-------------|-----|------------------------------------------|-----|
|      | 90207615    |     | MAIN HYDRAULIC PUMP (includes all items) |     |
| 1    | 90208026    | 1   | FRONT GEAR BODY (includes bushings)      |     |
| 2    | 90202417    | 1   | REAR GEAR BODY (includes bushings)       |     |
| 3    | 90202419    | 1   | BRG PLATE (includes bushings)            |     |
| 4    | 91044211    | 1   | FLANGE                                   |     |
| 5    | 90208030    | 1   | DRIVE GEAR (front)                       |     |
| 6    | 90202416    | 1   | DRIVE GEAR (rear)                        |     |
| 7    | 90202415    | 2   | IDLER GEAR                               |     |
| 8    | 91044220    | 4   | PRESSURE PLATE                           |     |
| 9    | 90202406    | 2   | ISOLATION PLATE (top)                    |     |
| 10   | 90202407    | 2   | ISOLATION PLATE (bottom)                 |     |
| 11   | 90202403    | 4   | O-RING SEAL                              |     |
| 12   | 90202405    | 4   | RETAINER RING                            |     |
| 13   | 90202404    | 4   | BACK-UP RING                             |     |
| 14   | 91044218    | 1   | SPLINE COUPLING                          |     |
| 15   | 90202402    | 1   | SNAP RING                                |     |
| 16   | 90202435    | 2   | BALL, 1/4IN                              |     |
| 17   | 90202376    | 6   | DOWEL                                    |     |
| 18   | 90202371    | 1   | SEAL                                     |     |
| 19   | 90202372    | 1   | SNAP RING                                |     |
| 20   | 90202398    | 8   | HEX NUT, 1/2-20                          |     |
| 21   | 90202379    | 1   | O-RING                                   |     |
| 22   | 90202396    | 2   | O-RING                                   |     |
| 23   | 91044222    | 1   | FLATWASHER                               |     |
| 24   | 91044213    | 1   | PLUG (not shown)                         |     |
| 25   | 90208038    | 8   | STUD                                     |     |
| 26   | 90202383    | 8   | O-RING                                   |     |

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FIGURE 9-37. PUMP- PILOT WAUHESHA ENGINE ONLY (SN 8344001L through 8444490)



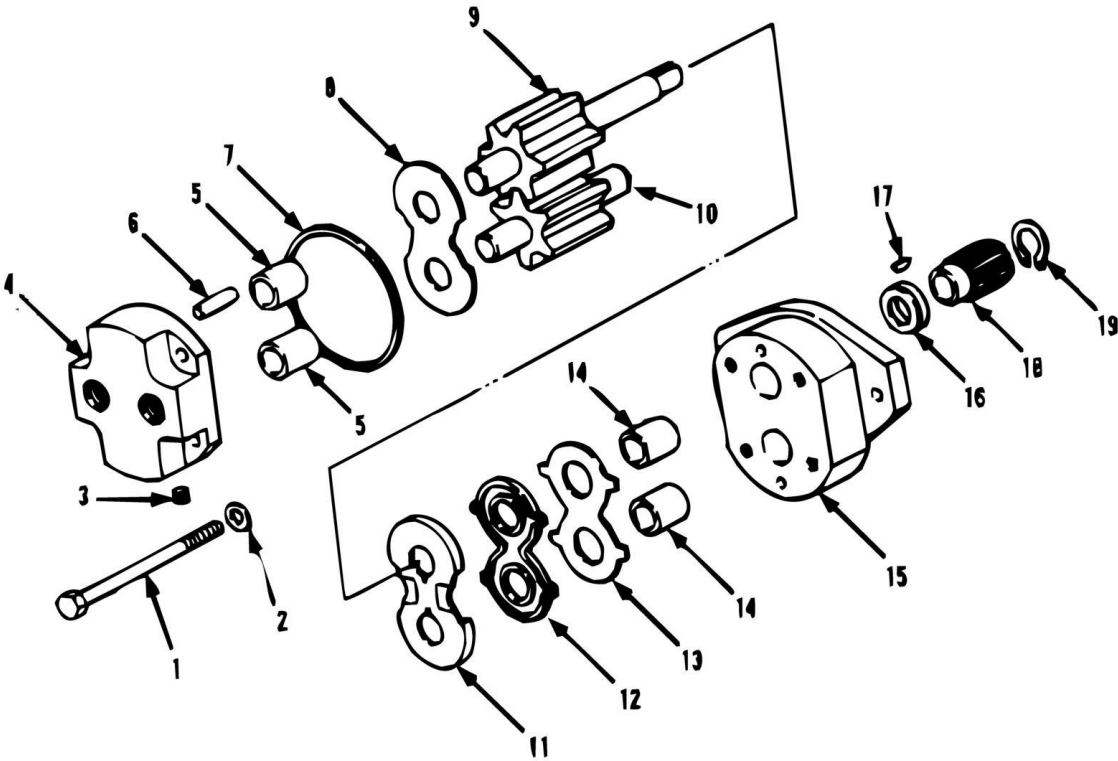
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-37. PUMP- PILOT WAUHESHA ENGINE ONLY (SN 8344001L through 8444490)**

| ITEM | PART NUMBER | QTY | DESCRIPTION              | REV |
|------|-------------|-----|--------------------------|-----|
| 1    | 90403305    | 1   | AUXILIARY HYDRAULIC PUMP |     |
| 2    | 90208039    | 1   | SEAL                     |     |

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FIGURE 9-38. PILOT PUMP (SN 8444491G to Present)



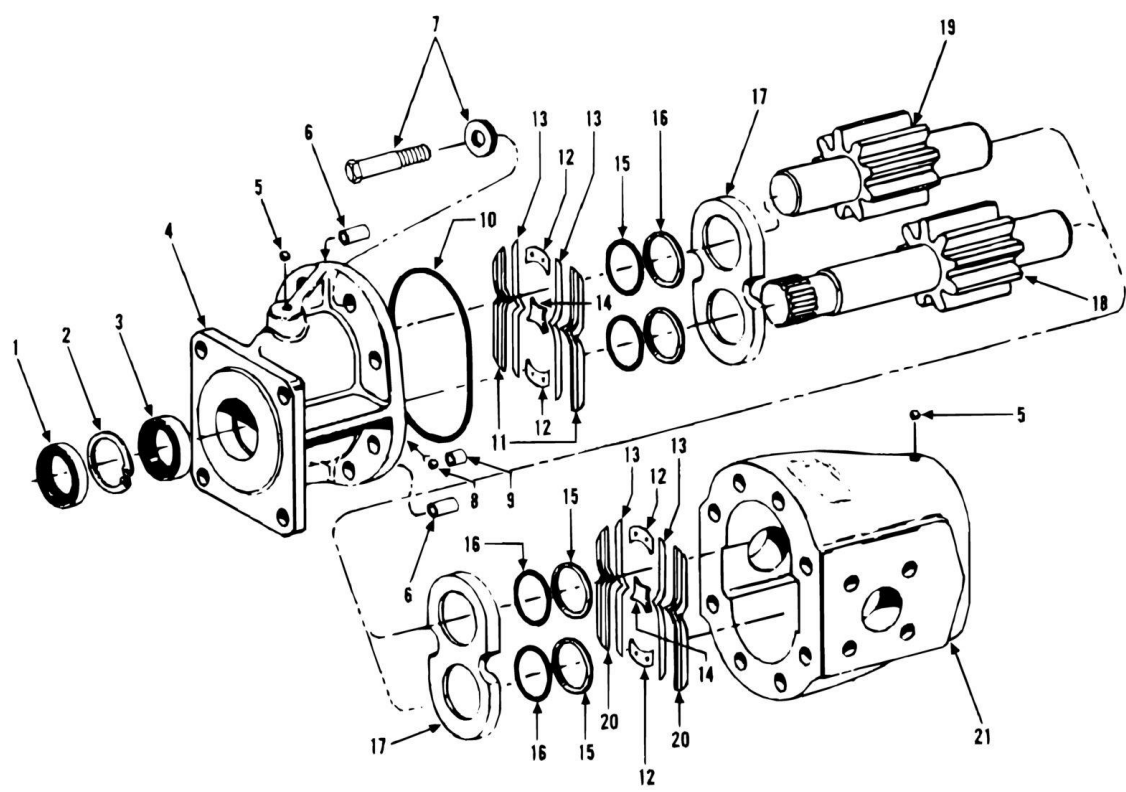
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-38. PILOT PUMP (SN 8444491G to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                               | REV |
|------|-------------|-----|---------------------------------------------------------------------------|-----|
| 1    | 91033122    | 1   | PILOT PUMP ASSY (includes all items)                                      |     |
|      | 91034019    | 1   | SEAL KIT (includes items 7, 12, 13, 16 & 17)                              |     |
|      | 88201038    | 4   | HEX HED CAPSCREW, 3/8-16X1-3/4, GR5 (lubricate and torque to 34-38 ft lb) |     |
| 2    | 91034058    | 4   | WASHER                                                                    |     |
| 3    | 91034059    | 1   | PIPE PLUG                                                                 |     |
| 4    | 91034060    | 1   | REAR COVER ASSY (includes item 5)                                         |     |
| 5    | 91034061    | 2   | SLEEVE BEARING                                                            |     |
| 6    | 91034062    | 2   | DOWEL PIN                                                                 |     |
| 7    | Kit         | 1   | SQUARE CUT RING                                                           |     |
| 8    | 91034063    | 1   | THRUST PLATE (install with bronze side facing gear)                       |     |
| 9    | 91034064    | 1   | DRIVE GEAR                                                                |     |
| 10   | 91034065    | 1   | DRIVEN GEAR                                                               |     |
| 11   | 91034066    | 1   | WEAR PLATE                                                                |     |
| 12   | Kit         | 1   | LOADING SEAL SPACER                                                       |     |
| 13   | Kit         | 1   | LOADING SEAL                                                              |     |
| 14   | 91034061    | 2   | SLEEVE BEARING                                                            |     |
| 15   | 91034067    | 1   | BODY ASSY (includes item 14)                                              |     |
| 16   | Kit         | 1   | SHAFT SEAL                                                                |     |
| 17   | Kit         | 1   | WOODRUFF KEY                                                              |     |
| 18   | 91034068    | 1   | DRIVE COUPLING                                                            |     |
| 19   | 91034069    | 1   | EXTERNAL RETAINING RING                                                   |     |
|      |             | Ref | NOTE: ONLY PART NUMBERED ITEMS ARE AVAILABLE FOR SERVICE.                 |     |

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FIGURE 9-39. MOTOR-REAR DRIVE (SN 8344001L to Present)





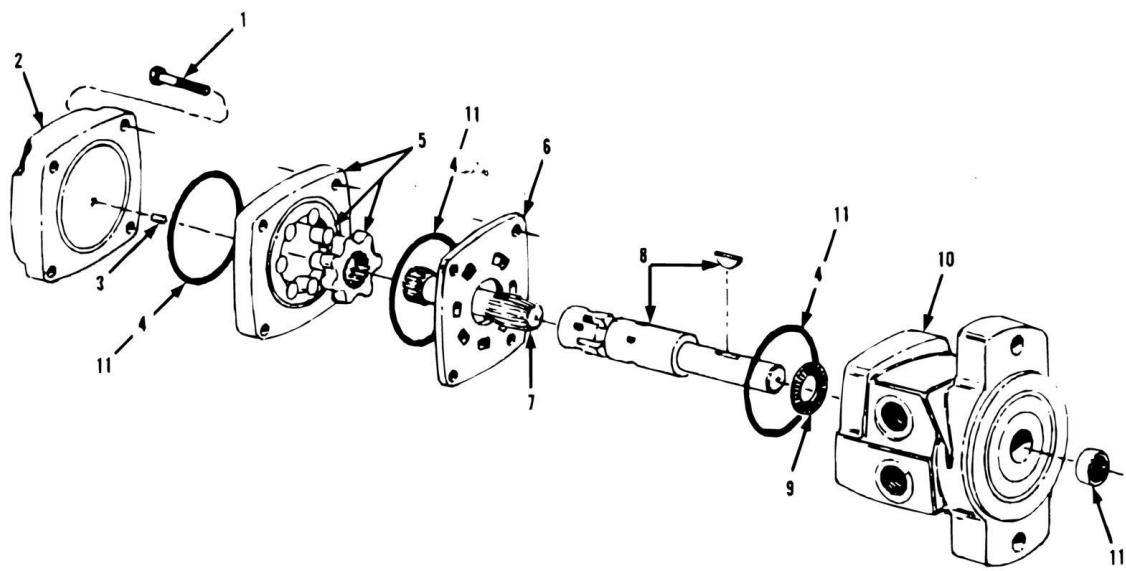
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-39. MOTOR-REAR DRIVE (SN 8344001L to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                           | REV |
|------|-------------|-----|---------------------------------------|-----|
|      | 90206748    |     | REAR DRIVE MOTOR (includes all items) |     |
| 1    | 90202371    | 1   | SHAFT SEAL (outer)                    |     |
| 2    | 90202372    | 1   | SNAP RING                             |     |
| 3    | 90205716    | 1   | SHAFT SEAL (inner)                    |     |
| 4    | 90208193    | 1   | FLANGE (with bushings)                |     |
| 5    | 90202435    | 2   | BALL, 1/4IN                           |     |
| 6    | 90202376    | 2   | DOWEL                                 |     |
| 7    | 90027736    | 8   | HEX HD CAPSCREW, 1/2-13x1-1/4 GR8     |     |
| 7    | 91044222    | 8   | WASHER                                |     |
| 8    | 90202377    | 2   | CHECK BALL, 1/2IN                     |     |
| 9    | 90202378    | 2   | CHECK BALL RETAINER                   |     |
| 10   | 90202379    | 1   | O-RING                                |     |
| 11   | 90202390    | 2   | TOP ISOLATION PLATE                   |     |
| 12   | 90202391    | 4   | END SEPARATOR                         |     |
| 13   | 90202393    | 4   | SEALING STRIP                         |     |
| 14   | 90202392    | 2   | CENTER SEPERATOR                      |     |
| 15   | 90208194    | 4   | O-RING                                |     |
| 16   | 90202381    | 4   | BACK-UP RING                          |     |
| 17   | 90202382    | 2   | PRESSURE PLATE                        |     |
| 18   | 90208196    | 1   | DRIVE GEAR                            |     |
| 19   | 90208197    | 1   | IDLER GEAR                            |     |
| 20   | 90202389    | 2   | BOTTOM ISOLATION PLATE                |     |
| 21   | 90208198    | 1   | PLATE (with bushings)                 |     |

SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-40. WINCH MOTOR (SN 8344001L to Present)



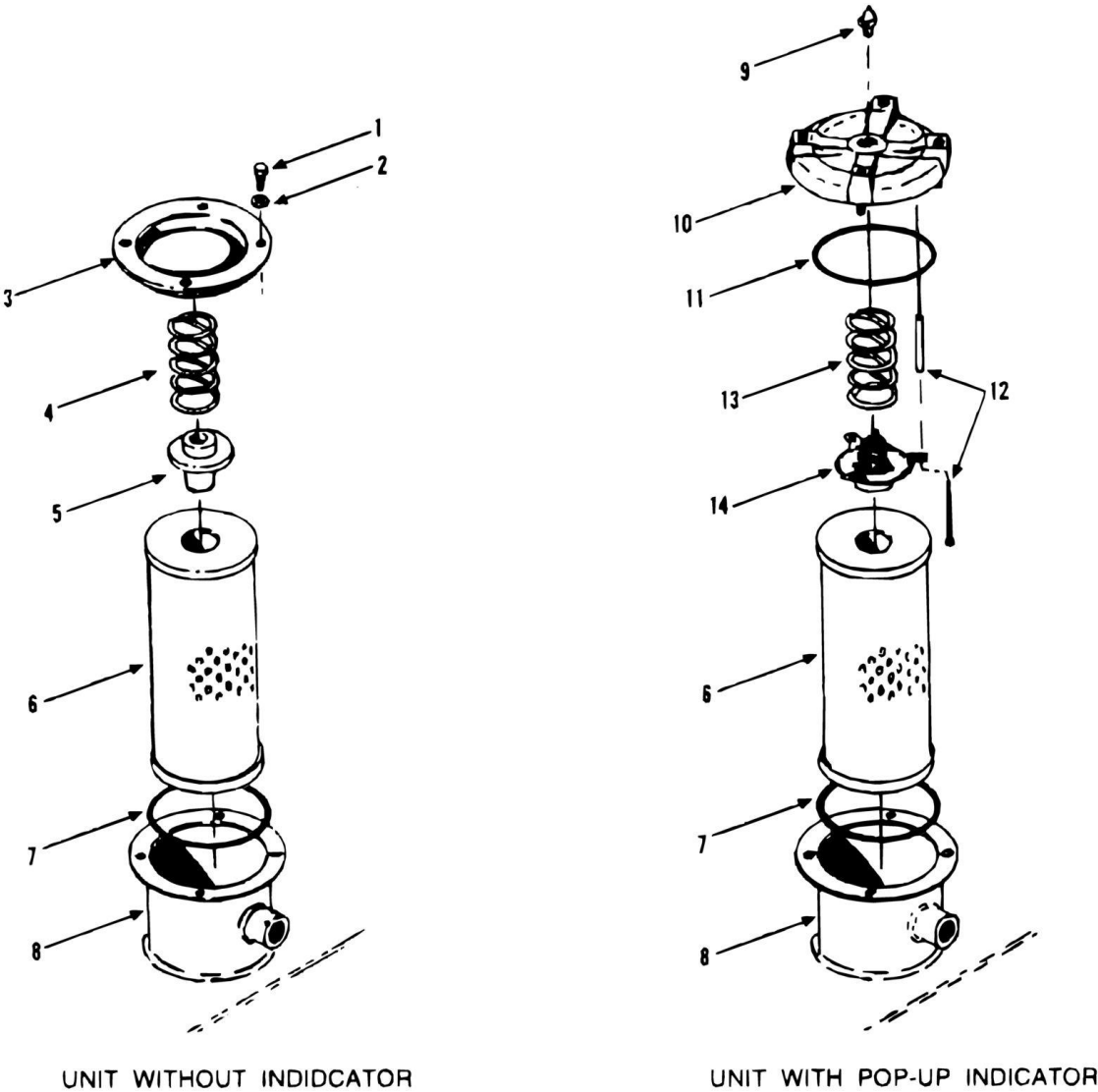
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-40. WINCH MOTOR (SN 8344001L to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                      | REV |
|------|-------------|-----|----------------------------------|-----|
|      | 90207879    | 1   | WINCH MOTOR (includes all items) |     |
| 1    | 83201057    | 4   | HEX HD CAPSCREW, 3/8-16X2, GR8   |     |
| 2    | 90208203    | 1   | END COVER                        |     |
| 3    | 90208204    | 1   | PIN                              |     |
| 4    | 90208205    | 3   | SEAL                             |     |
| 5    | 90208206    | 1   | ROLLER - STATOR ASSY             |     |
| 6    | 90208207    | 1   | WEAR PLATE                       |     |
| 7    | 90208208    | 1   | DRIVE LINK                       |     |
| 8    | 90208209    | 1   | SHAFT                            |     |
| 9    | 90208210    | 1   | THRUST BEARING                   |     |
| 10   | 90208211    | 1   | FRONT HOUSING                    |     |
| 11   | 90208212    | 1   | SHAFT SEAL KIT (includes item 4) |     |

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FIGURE 9-41. FILTER-OIL RESERVOIR WAUKESHA AND PERKINS ENGINE (SN 8344001L to Present)



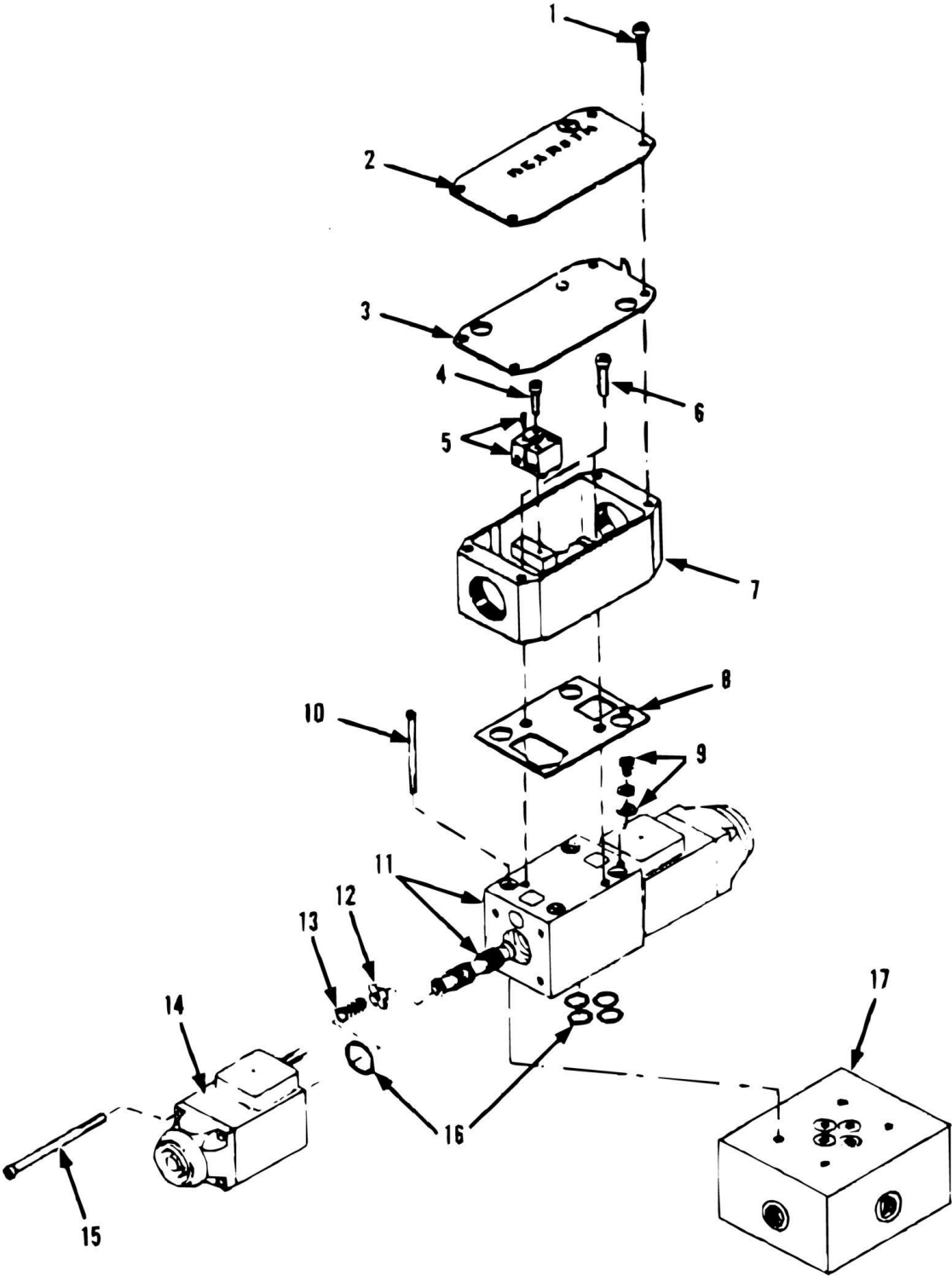
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-41. FILTER-OIL RESERVOIR WAUKESHA AND PERKINS ENGINE (SN 8344001L to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                 | REV |
|------|-------------|-----|-------------------------------------------------------------|-----|
| 1    | 88201018    | 4   | HEX HD CAPSCREW, 5/16-18X3/4, GR5                           |     |
| 2    | 88551010    | 4   | LOCKWASHER, 5/6                                             |     |
| 3    | 90208200    | 1   | CAP                                                         |     |
| 4    | 90208201    | 1   | SPRING                                                      |     |
| 5    | 90208202    | 1   | BYPASS VALVE                                                |     |
| 6    | 91033318    | 1   | ELEMENT                                                     |     |
| 7    | 90023246    | 1   | O-RING                                                      |     |
| 8    | 91035023    | 1   | HYDRAULIC OIL TANK ASSY <b>(Prior to SN 8444319)</b>        |     |
| 8    | 91035052    | 1   | HYDRAULIC OIL TANK ASSY <b>(SN 8444319 through 8644765)</b> |     |
| 8    | 91035094    | 1   | HYDRAULIC OIL TANK ASSY <b>(SN 8644766 to Present)</b>      |     |
| 9    | 91034009    | 1   | POP-UP INDICATOR                                            |     |
| 10   | 91034007    | 1   | CAP ASSY (includes items 11 & 12)                           |     |
| 11   | 91034329    | 1   | O-RING                                                      |     |
| 12   | 91034330    | 4   | BOLT                                                        |     |
| 13   | 91034010    | 1   | SPRING                                                      |     |
| 14   | 91034008    | 1   | BYPASS VALVE                                                |     |

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FIGURE 9-42. DIRECTIONAL CONTROL VALVE PERKINS ENGINE (SN 8444491G to Present)



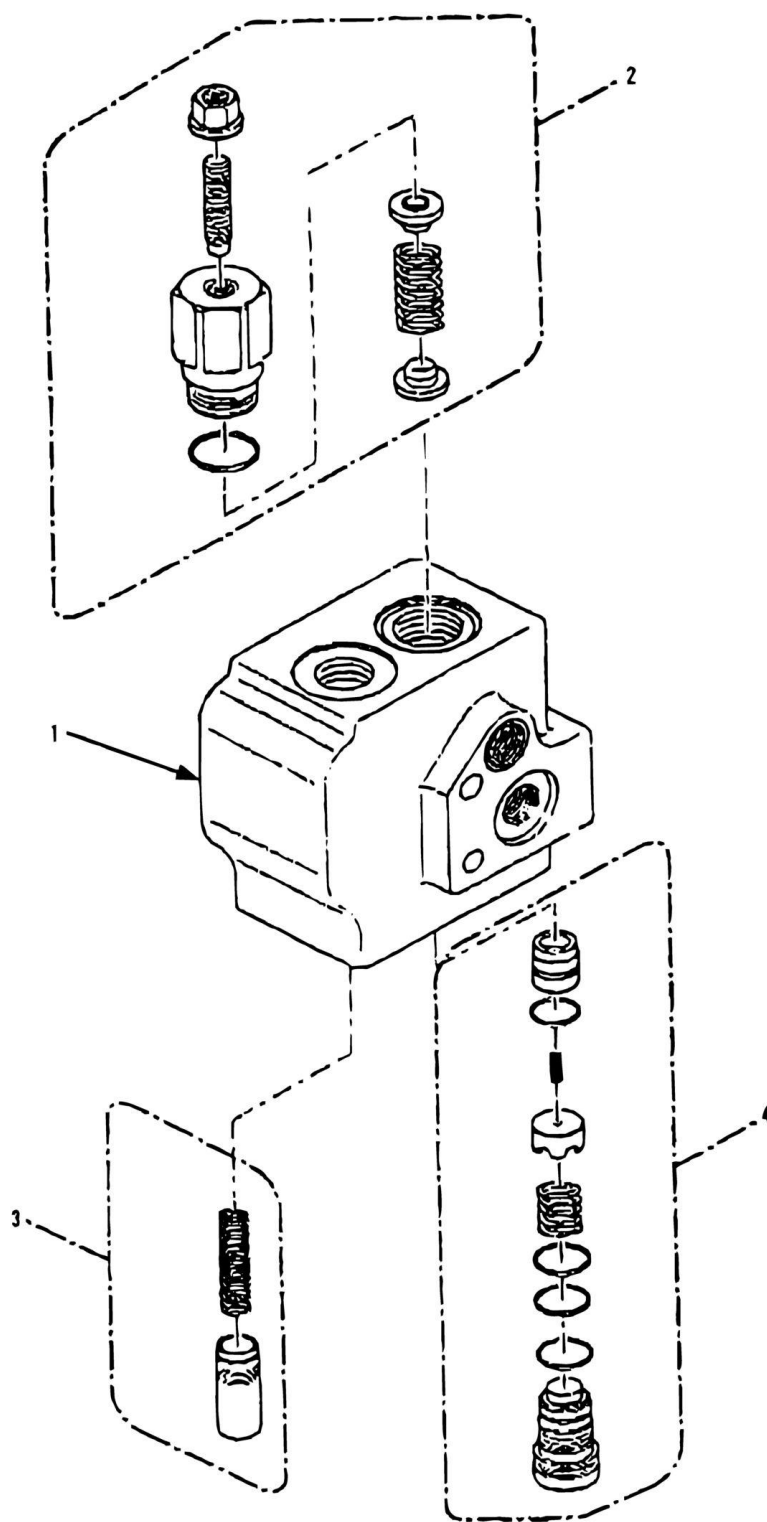
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-42. DIRECTIONAL CONTROL VALVE PERKINS ENGINE (SN 8444491G to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                    | REV |
|------|-------------|-----|------------------------------------------------|-----|
|      | 91033097    | 1   | DIRECTIONAL CONTROL VALVE (includes all items) |     |
| 1    |             | Ref | SCREW M4 x 16 x 16                             |     |
| 2    |             | Ref | NAMEPLATE                                      |     |
| 3    | 91034011    | 1   | GASKET                                         |     |
| 4    |             | Ref | SCREW                                          |     |
| 5    | 91034012    | 2   | TERMINAL BLOCK                                 |     |
| 6    |             | Ref | SCREW, M4 X 15                                 |     |
| 7    |             | Ref | TERMINAL BOX                                   |     |
| 8    | 91034013    | 1   | GASKET                                         |     |
| 9    |             | Ref | GROUNDING SCREW, M4 x 6                        |     |
| 10   |             | Ref | MOUNTING BOLT, 10-24x2                         |     |
| 11   | N.S.S.      | 1   | SPOOL AND HOUSING                              |     |
| 12   | 91034014    | 2   | SPACER                                         |     |
| 13   | 91034015    | 2   | SPRING                                         |     |
| 14   | 91034016    | 2   | SOLENOID                                       |     |
| 15   |             | Ref | SCREW, M4 X 65                                 |     |
| 16   | 91034017    | 1   | O-RING KIT                                     |     |
| 17   |             | Ref | MANIFOLD                                       |     |

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FIGURE 9-43. (91043296) ACCUMULATOR CHARGE VALVE (SN 8744115G to Present, Including 8744079G)





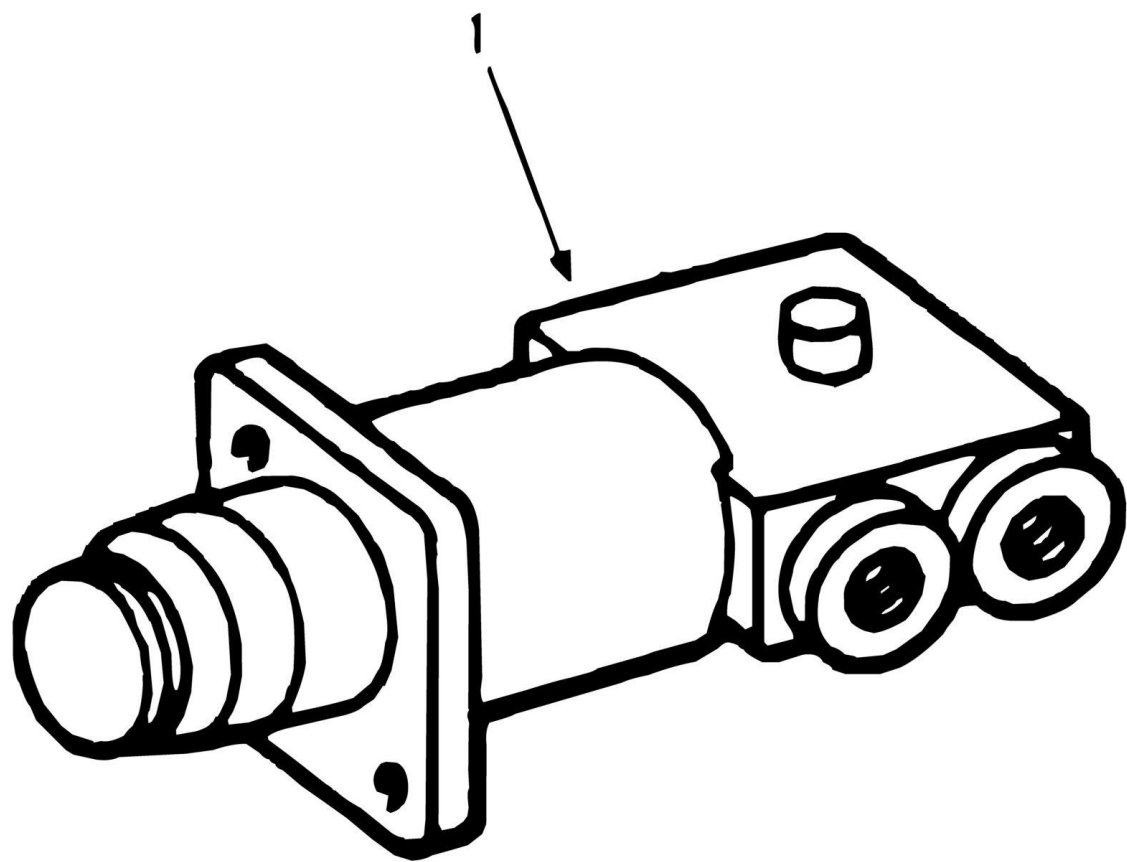
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-43. (91043296) ACCUMULATOR CHARGE VALVE (SN 8744115G to Present, Including 8744079G)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                   | REV |
|------|-------------|-----|---------------------------------------------------------------|-----|
| 1    | 91043296    | 1   | ACCUMULATOR CHARGE VALVE                                      |     |
| 2    | 91044538    | 1   | LG SPRING REPAIR KIT                                          |     |
| 3    | 91044539    | 1   | SPOOL AND SM SPRING REPAIR KIT                                |     |
| 4    | 91044540    | 1   | ELEMENT AND SEAL KIT                                          |     |
|      |             | Ref | NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE. |     |

**SECTION 9 - HYDRAULIC COMPONENTS**

**FIGURE 9-44. BRAKE VALVE (SN 8744115G to Present, Including 8744079G)**



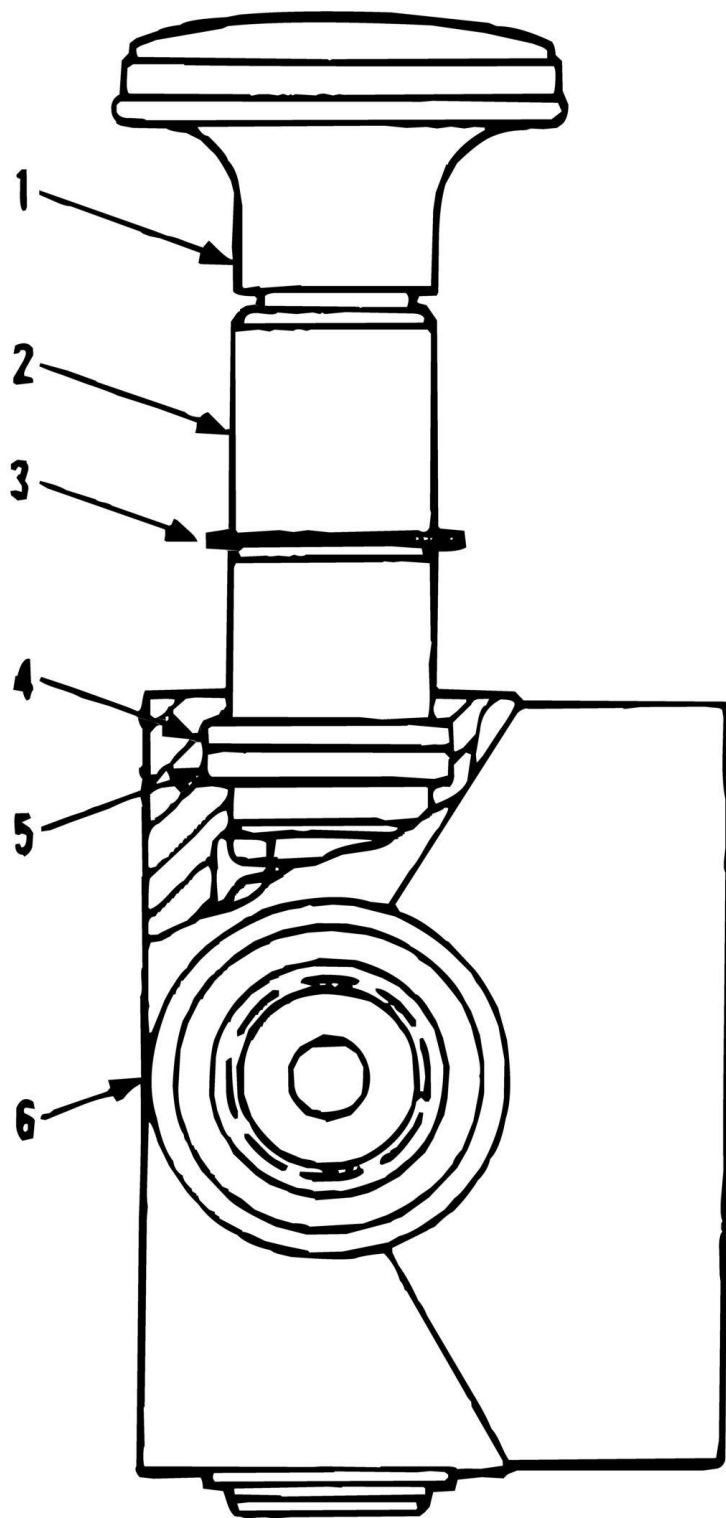
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-44. BRAKE VALVE (SN 8744115G to Present, Including 8744079G)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                   | REV |
|------|-------------|-----|-----------------------------------------------|-----|
| 1    | 91033307    | 1   | BRAKE VALVE ASSY (no service parts available) |     |

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FIGURE 9-45. PARKING BRAKE VALVE (SN 8744115G to Present, Including 8744079G)



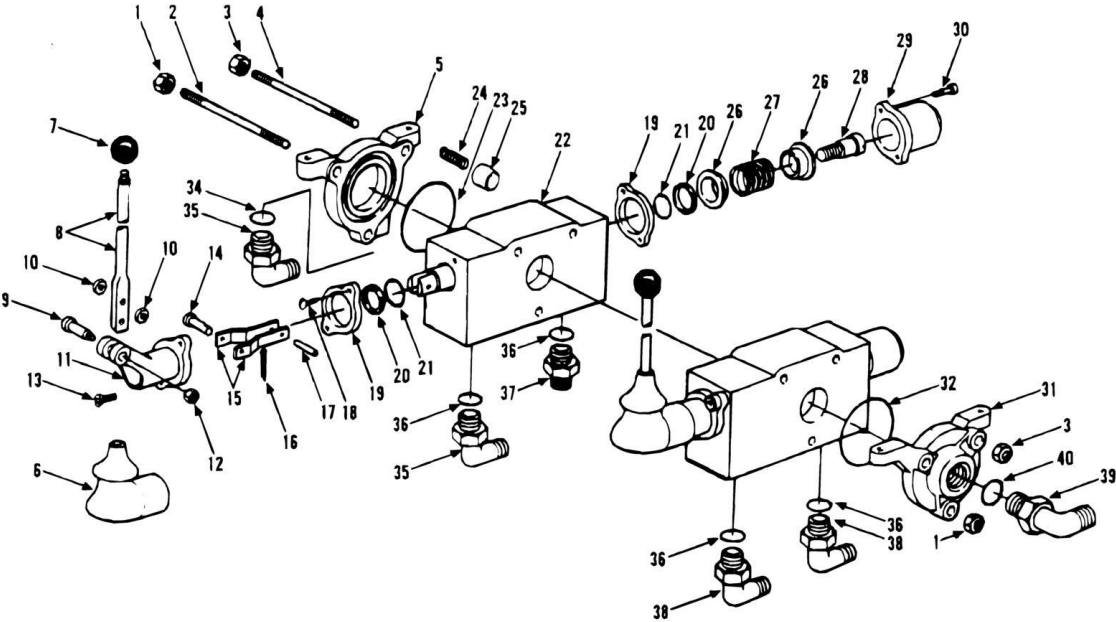
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-45. PARKING BRAKE VALVE (SN 8744115G to Present, Including 8744079G)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                   | REV |
|------|-------------|-----|-----------------------------------------------|-----|
|      | 91043090    | 1   | PARKING BRAKE VALVE (includes items 1 thru 6) |     |
| 1    | 91044297    | 1   | KNOB                                          |     |
| 2    | 91044126    | 1   | SPOOL                                         |     |
| 3    | 91044127    | 1   | RETAINING RING                                |     |
| 4    | 91044128    | 1   | BACK-UP RING                                  |     |
| 5    | 91044129    | 1   | O-RING                                        |     |
| 6    | 91044130    | 1   | HOUSING                                       |     |
| 7    | 91033378    | 1   | RUBBER BOOT (not shown)                       |     |

SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-46. OUTRIGGER VALVE ASSEMBLY



## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-46. OUTRIGGER VALVE ASSEMBLY**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                                | REV |
|------|-------------|-----|----------------------------------------------------------------------------|-----|
|      | 91035090    | 1   | OUTRIGGER CONTROL VALVE ASSY (includes all items)                          |     |
|      | 91033144    | 1   | OUTRIGGER CONTROL VALVE ASSY (includes item 1 thru 32)                     |     |
|      | 91034124    | 1   | TIE ROD KIT (includes items 1 thru 4)                                      |     |
|      | 91034125    | 2   | HANDLE ASSY (includes items 6 thru 17)                                     |     |
|      | 91034126    | 2   | SPOOL SECTION ASSY (includes items 18 thru 30)                             |     |
| 1    | Kit         | 1   | SPECIAL NUT                                                                |     |
| 2    | Kit         | 1   | TIE ROD                                                                    |     |
| 3    | Kit         | 1   | SPECIAL NUT                                                                |     |
| 4    | Kit         | 2   | TIE ROD                                                                    |     |
| 5    |             | Ref | OUTLET SECTION                                                             |     |
| 6    | 91034127    | 1   | BOOT                                                                       |     |
| 7    | 91034128    | 1   | KNOB                                                                       |     |
| 8    | 91034129    | 1   | HANDLE BRACKET                                                             |     |
| 9    |             | Ref | PIVOT BOLT                                                                 |     |
| 10   |             | Ref | FLAT WASHER                                                                |     |
| 11   |             | Ref | HANDLE                                                                     |     |
| 12   |             | Ref | HEX NUT                                                                    |     |
| 13   |             | Ref | SOCKET HD CAPSCREW                                                         |     |
| 14   |             | Ref | PIN                                                                        |     |
| 15   |             | Ref | LINK                                                                       |     |
| 16   |             | Ref | RETAINER                                                                   |     |
| 17   |             | Ref | ROLL PIN                                                                   |     |
| 18   |             | Ref | ROUND HD MACHINE SCREW                                                     |     |
| 19   |             | Ref | SEAL PLATE                                                                 |     |
| 20   | 91034130    | 2   | WIPER                                                                      |     |
| 21   | 91034131    | 2   | O-RING                                                                     |     |
| 22   |             | Ref | HOUSING AND SPOOL ASSY (NOT SOLD SEPARATELY, ORDER P/N 91034126)           |     |
| 23   | 91034132    | 1   | O-RING                                                                     |     |
| 24   | 91034133    | 1   | SPRING                                                                     |     |
| 25   | 91034134    | 1   | O-RING                                                                     |     |
| 26   |             | Ref | SPRING SEAT                                                                |     |
| 27   | 91034135    | 1   | SPRING                                                                     |     |
| 28   |             | Ref | SPOOL END                                                                  |     |
| 29   |             | Ref | SPOOL CAP                                                                  |     |
| 30   |             | Ref | SOCKET HD CAPSCREW                                                         |     |
| 31   |             | Ref | INLET HOUSING ASSY (includes item 32)                                      |     |
| 32   | 91034132    | 1   | O-RING                                                                     |     |
| 33   | 88662060    | 1   | ELBOW, 90, (includes item 34)                                              |     |
| 34   | 88591206    | 1   | O-RING                                                                     |     |
| 35   | 88662085    | 1   | ELBOW, 45, (includes item 36)                                              |     |
| 36   | 88591205    | 4   | O-RING                                                                     |     |
| 37   | 88662036    | 1   | CONNECTOR (includes item 36)                                               |     |
| 38   | 88662065    | 2   | ELBOW, 90, (includes item 36)                                              |     |
| 39   | 88662067    | 1   | ELBOW, 90, (includes item 40)                                              |     |
| 40   | 88591207    | 1   | O-RING                                                                     |     |
|      |             | Ref | NOTE: QUANTITIES ARE SHOWN FOR ONE HANDLE ASSY AND ONE SPOOL SECTION ASSY. |     |

SECTION 9 - HYDRAULIC COMPONENTS

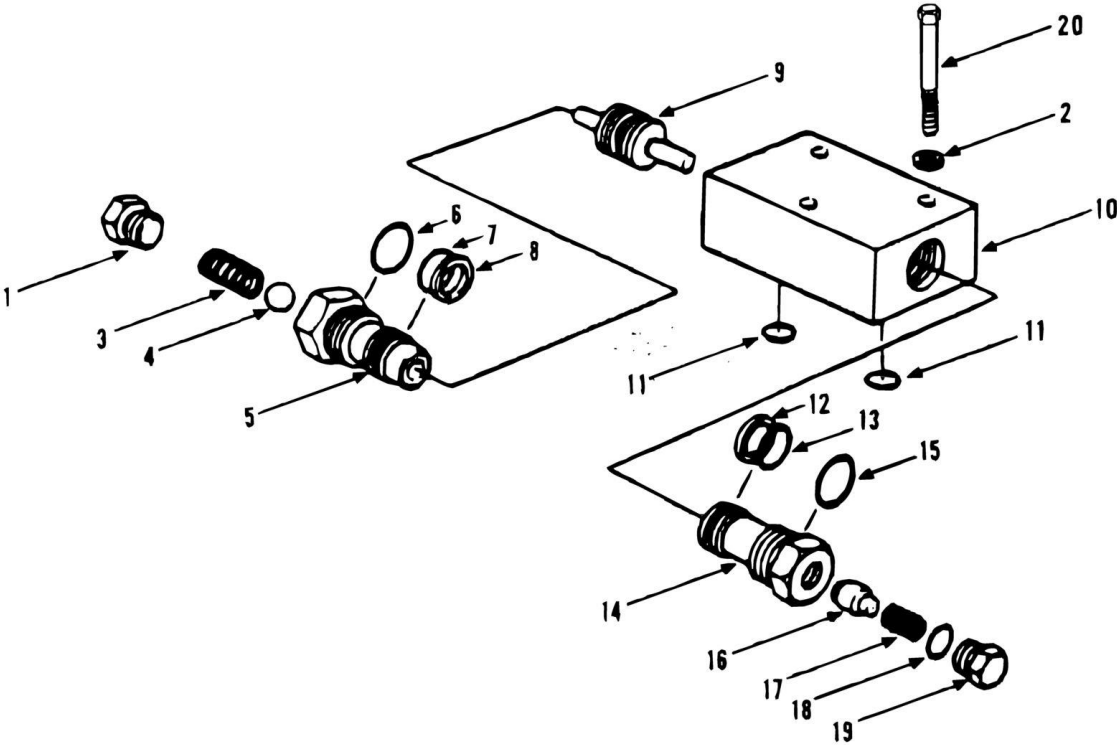
| ITEM | PART NUMBER | QTY | DESCRIPTION                                                                                                       | REV |
|------|-------------|-----|-------------------------------------------------------------------------------------------------------------------|-----|
|      |             | Ref | NOTE: WHEN REPLACING A SPOOL SECTION, REMOVE SCREWS (18) AND REPLACE WITH SCREWS 13 TO SECURE THE HANDLE BRACKET. |     |
|      |             | Ref | NOTE: ONLY PART NUMBERED PARTS ARE AVAILABE FOR SERVICE REPLACEMENT.                                              |     |





SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-47. DUAL P.O. CHECK VALVE



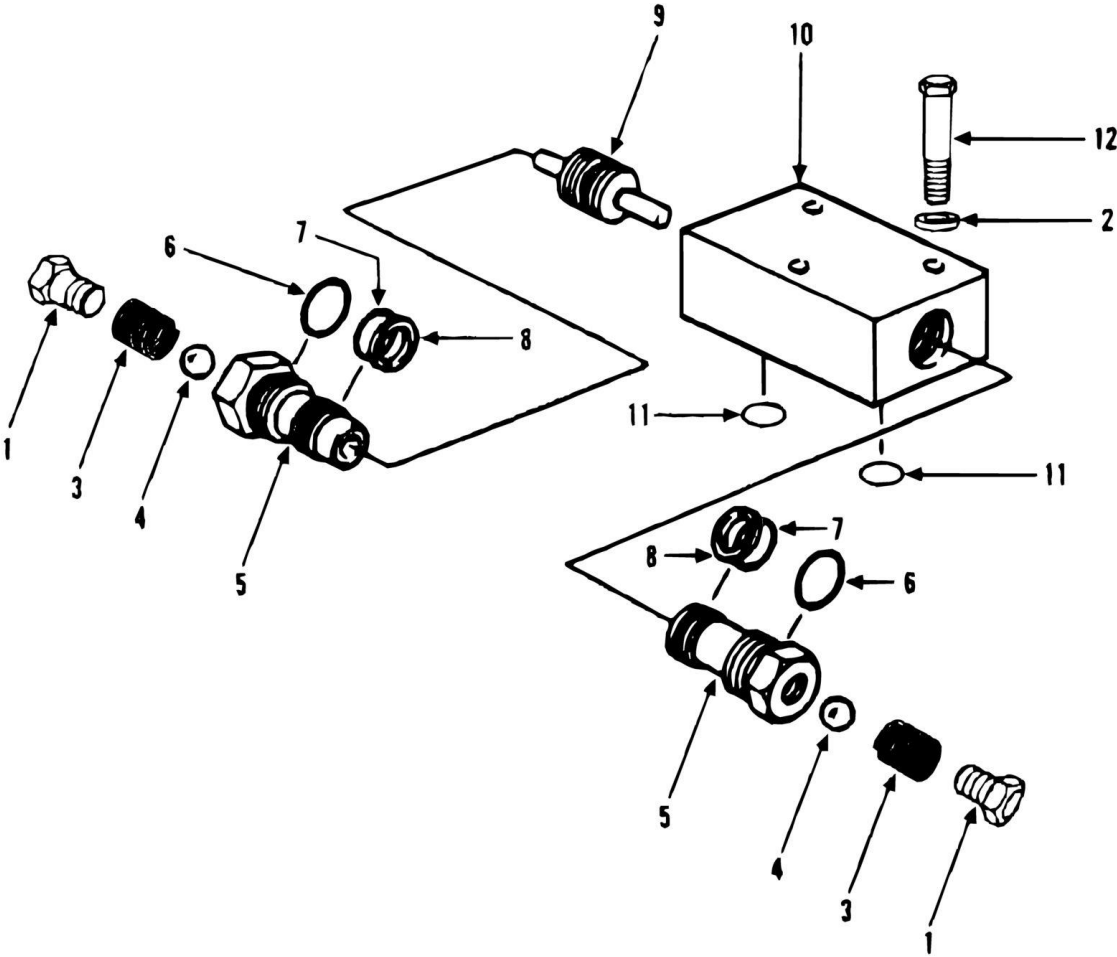
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-47. DUAL P.O. CHECK VALVE**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                           | REV |
|------|-------------|-----|-----------------------------------------------------------------------|-----|
|      | 91043258    |     | DUAL P.O. CHECK VALVE ASSY (includes all items except 2, 20)          |     |
|      | 91044304    |     | CHECK CARTRIDGE ASSY (includes items 1, 3, 4, 5, 6, 7, 8,)            |     |
|      | 91034107    |     | CHECK CARTRIDGE ASSY W/ THERMAL RELIEF (includes items 12 thru 19)    |     |
| 1    | 91044308    | 1   | PLUG                                                                  |     |
| 2    | 88551011    | 3   | LOCKWASHER, 3/8                                                       |     |
| 3    | 91044309    | 1   | SPRING                                                                |     |
| 4    | 91034111    | 1   | BALL                                                                  |     |
| 5    | 91034112    | 1   | CARTRIDGE BODY                                                        |     |
| 6    | 91044305    | 1   | O-RING                                                                |     |
| 7    | 91044306    | 1   | O-RING                                                                |     |
| 8    | 91044307    | 1   | BACK-UP RING                                                          |     |
| 9    | 91034116    | 1   | PISTON                                                                |     |
| 10   | 91034117    | 1   | BODY                                                                  |     |
| 11   | 91034118    | 2   | O-RING                                                                |     |
| 12   | 91034115    | 1   | BACK-UP RING                                                          |     |
| 13   | 91034114    | 1   | O-RING                                                                |     |
| 14   | 91034112    | 1   | CARTRIDGE BODY                                                        |     |
| 15   | 91034113    | 1   | O-RING                                                                |     |
| 16   | 91034119    | 1   | THERMAL RELIEF ASSY                                                   |     |
| 17   | 91034120    | 1   | SPRING                                                                |     |
| 18   | 91034109    | 1   | O-RING                                                                |     |
| 19   | 91034121    | 1   | PLUG                                                                  |     |
| 20   | 88201040    | 3   | HEX HD CAPSCREW, 3/8-16X2-1/4 GR5                                     |     |
| 21   | 88551011    | 3   | LOCKWASHER, 3/8                                                       |     |
|      |             | Ref | NOTE: ONLY PART NUMBERED ITEMS ARE AVAILABLE FOR SERVICE REPLACEMENT. |     |

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FIGURE 9-48. DUAL P.O. CHECK VALVE (SN 8644031G to Present)



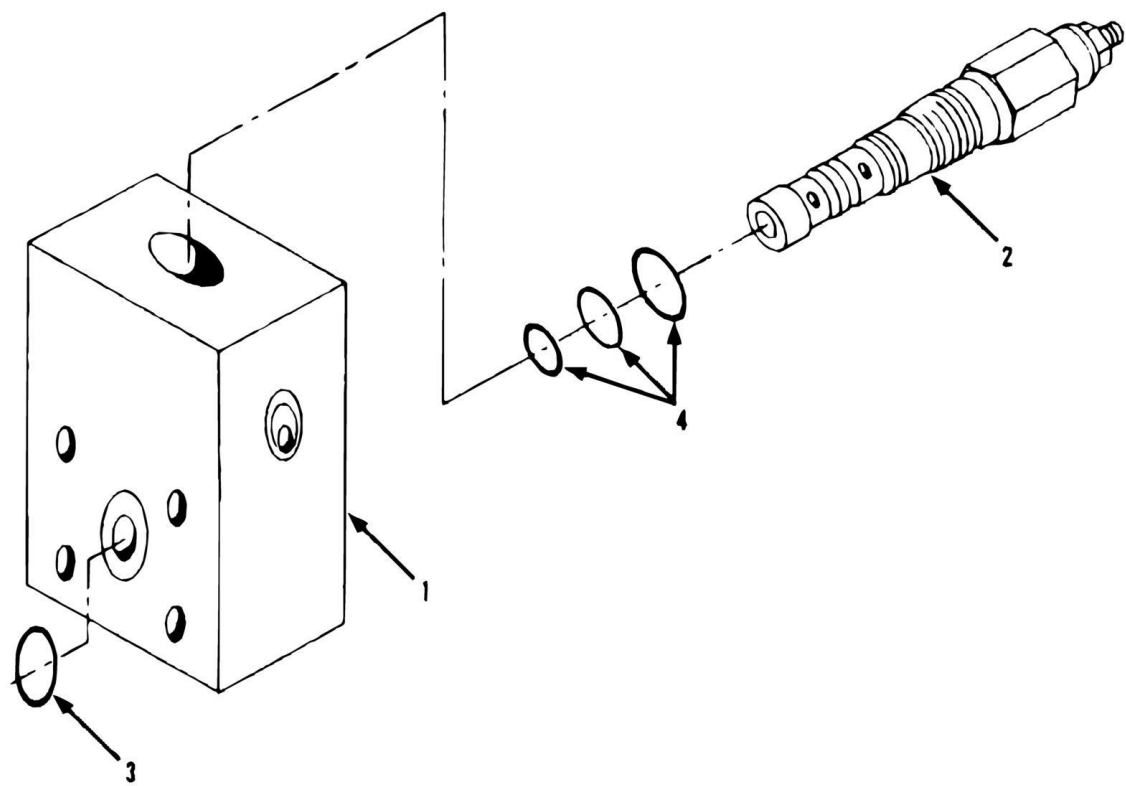
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-48. DUAL P.O. CHECK VALVE (SN 8644031G to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                           | REV |
|------|-------------|-----|-----------------------------------------------------------------------|-----|
|      | 91053354    | 2   | DUAL P.O. CHECK VALVE ASSY (includes all items except items 2, 12)    |     |
| 1    | 91034272    | 1   | PLUG                                                                  |     |
| 2    | 88551011    | 3   | LOCKWASHER, 3/8                                                       |     |
| 3    | 91034110    | 1   | SPRING                                                                |     |
| 4    | 91034111    | 1   | BALL                                                                  |     |
| 5    | 91034112    | 1   | CARTRIDGE BODY                                                        |     |
| 6    | 91034113    | 1   | O-RING                                                                |     |
| 7    | 91034114    | 1   | O-RING                                                                |     |
| 8    | 91034115    | 1   | BACK-UP RING                                                          |     |
| 9    | 91034116    | 1   | PISTON                                                                |     |
| 10   | 91034117    | 1   | BODY                                                                  |     |
| 11   | 91034273    | 2   | O-RING                                                                |     |
| 12   | 88201041    | 3   | HEX HD CAPSCREW, 3/8-16x2-1/2, GR5                                    |     |
|      |             | Ref | NOTE: ONLY PART NUMBERED ITEMS ARE AVAILABLE FOR SERVICE REPLACEMENT. |     |

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FIGURE 9-49. COUNTERBALANCE CONTROL VALVE (SN 0144637J to Present)



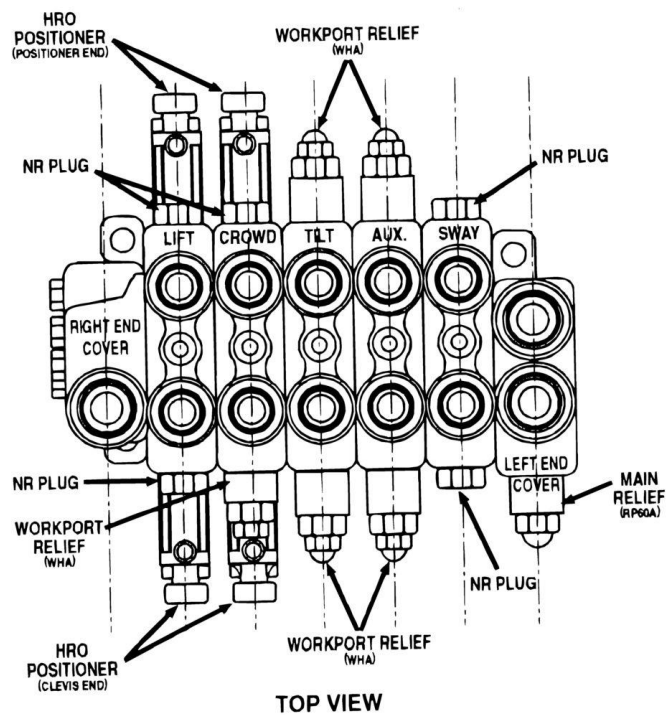
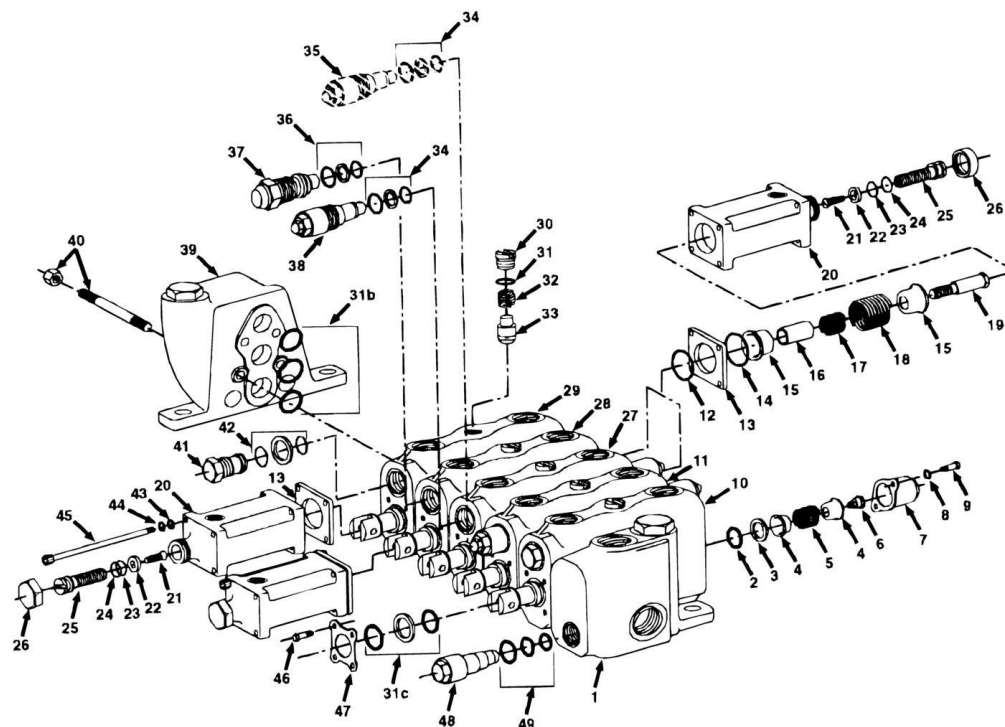
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-49. COUNTERBALANCE CONTROL VALVE (SN 0144637J to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION          | REV |
|------|-------------|-----|----------------------|-----|
| 1    | 91043232    | 1   | COUNTERBALANCE VALVE |     |
| 2    | 91043245    | 1   | LOAD CONTROL VALVE   |     |
| 3    | 88591102    | 1   | O-RING               |     |
| 4    | 91034276    | 1   | SEAL KIT             |     |

## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-50. (91043065) MAIN CONTROL VALVE ASSEMBLY**





## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-50. (91043065) MAIN CONTROL VALVE ASSEMBLY**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                                  | REV |
|------|-------------|-----|------------------------------------------------------------------------------|-----|
|      | 91043065    | 1   | MAIN CONTROL VALVE ASSY, (includes all items)                                |     |
|      | 90206417    | AR  | SEAL KIT, (includes items 31, 31b & 31c)                                     |     |
|      | 91044123    | AR  | SECTION SEAL KIT, (includes items 31b)                                       |     |
|      | 91034159    | AR  | SPOOL SEAL KIT, (includes items 31c)                                         |     |
|      | 90206419    | AR  | RETAINER PLATE ASSY, (includes items 46 & 47)                                |     |
|      | 91044509    | AR  | HRO POSITIONER SEAL KIT, (includes items 12, 14, 23 & 24)                    |     |
|      | 91044526    | AR  | NR PLUG KIT, (includes items 41 & 42)                                        |     |
|      | 91044527    | AR  | NR PLUG SEAL KIT, (items 42)                                                 |     |
|      | 90206427    | 3   | NEUTRAL POSITIONER KIT, (includes items 2 thru 9)                            |     |
|      | 91044510    | 2   | HRO POSITIONER KIT, SPOOL POSITIONER END, (includes items 12 thru 26)        |     |
|      | 91044534    | 2   | HRO POSITIONER KIT, CLEVIS END, (includes items 13, 20 thru 26, 43, 44 & 45) |     |
|      | 91044530    | AR  | WH TYPE PORT RELIEF VALVE SEAL KIT, (includes items 36)                      |     |
|      | 91044533    | AR  | WHA PORT RELIEF VALVE SEAL KIT, (includes items 49)                          |     |
|      | 91034236    | AR  | MAIN RELIEF VALVE SEAL KIT, (includes items 49)                              |     |
| 1    | 91044114    | 1   | COVER PLATE ASSY, (left end), (includes item 48 & 49)                        |     |
| 2    | Kit         | 3   | O-RING                                                                       |     |
| 3    | Kit         | 3   | WASHER                                                                       |     |
| 4    | Kit         | 3   | SPRING COLLAR                                                                |     |
| 5    | Kit         | 3   | SPRING                                                                       |     |
| 6    | Kit         | 3   | SPOOL COLLAR                                                                 |     |
| 7    | Kit         | 3   | BONNET                                                                       |     |
| 8    | Kit         | 6   | LOCKWASHER                                                                   |     |
| 9    | Kit         | 6   | SCREW                                                                        |     |
| 10   | 90206421    | 1   | SWAY SECTION                                                                 |     |
| 11   | 91044117    | 1   | AUXILIARY SECTION                                                            |     |
| 12   | Kit         | 4   | O-RING                                                                       |     |
| 13   | 91044516    | 4   | SEAL PLATE                                                                   |     |
| 14   | Kit         | 1   | O-RING                                                                       |     |
| 15   | 91044521    | 2   | STOP COLLAR                                                                  |     |
| 16   | 91044520    | 2   | STOP SLEEVE                                                                  |     |
| 17   | 91044519    | 2   | SPRING                                                                       |     |
| 18   | 91044518    | 2   | SPRING                                                                       |     |
| 19   | 91044517    | 2   | POSITIONER SPUD                                                              |     |
| 20   | 91044515    | 4   | BONNET                                                                       |     |
| 21   | 91044513    | 4   | SCREW, COUNTER SUNK                                                          |     |
| 22   | 91044514    | 4   | TRAVEL STOP                                                                  |     |
| 23   | Kit         | 4   | O-RING                                                                       |     |
| 24   | Kit         | 4   | BACK-UP RING                                                                 |     |
| 25   | 91044512    | 2   | SCREW                                                                        |     |
| 26   | 91044511    | 4   | BOOT                                                                         |     |
| 27   | 91044519    | 1   | TILT SECTION                                                                 |     |
| 28   | 91044121    | 1   | CROWD SECTION                                                                |     |
| 29   | 91044122    | 1   | LIFT SECTION                                                                 |     |
| 30   | 91044535    | 5   | LOAD CHECK PLUG                                                              |     |
| 31   | Kit         | 5   | O-RING                                                                       |     |
| 32   |             | Ref | SPRING                                                                       |     |
| 33   |             | Ref | 5 POPPET                                                                     |     |
| 34   |             | Ref | WHA RELIEF SEALS                                                             |     |

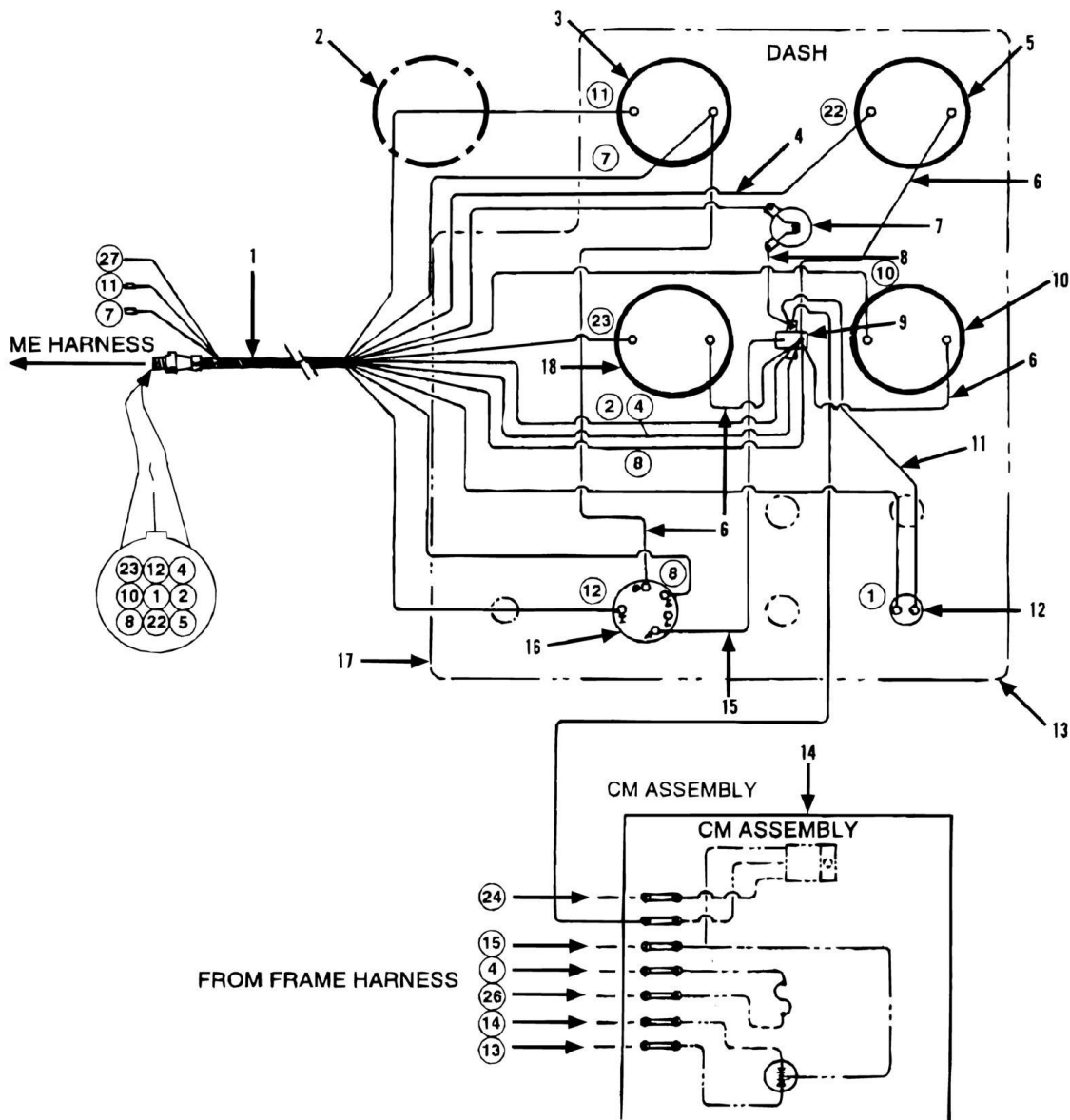
## SECTION 9 - HYDRAULIC COMPONENTS

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                                           | REV |
|------|-------------|-----|---------------------------------------------------------------------------------------|-----|
| 35   | 91044531    | 2   | WHA RELIEF, (1500 psi)                                                                |     |
| 36   |             | Ref | WH RELIEF SEALS                                                                       |     |
| 37   | 91044529    | 1   | WH RELIEF, (2650 psi)                                                                 |     |
| 38   | 91044532    | 2   | WHA RELIEF, (3250 psi)                                                                |     |
| 39   | 91044124    | 1   | COVER PLATE ASSY, (right end)                                                         |     |
| 40   | 91044125    | 1   | STUD ASSY, (includes four studs and four nuts), (lubricate and torque to 23-27 FT LB) |     |
| 41   | 91044526    | 5   | NR PLUG                                                                               |     |
| 42   | Kit         | AR  | NR PLUG SEALS                                                                         |     |
| 43   | 91084232    | 16  | BEARING PLATE                                                                         |     |
| 44   | 91084231    | 16  | LOCKWASHER                                                                            |     |
| 45   | 91044522    | 16  | HEX HD CAPSCREW, 1/4-20X3-1/2                                                         |     |
| 46   | Kit         | 12  | CAPSCREW                                                                              |     |
| 47   | Kit         | 3   | RETAINER PLATE                                                                        |     |
| 48   | 9008136     | 1   | MAIN RELIEF VALVE ASSY                                                                |     |
| 49   | 91034236    | 1   | MAIN RELIEF SEALS                                                                     |     |
|      |             | Ref | NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.                         |     |

**SECTION 10 - ELECTRICAL**

SECTION 10 - ELECTRICAL

FIGURE 10-1. WIRING - DASH WAUKESHA ENGINE (SN 8344001L through 8444489)



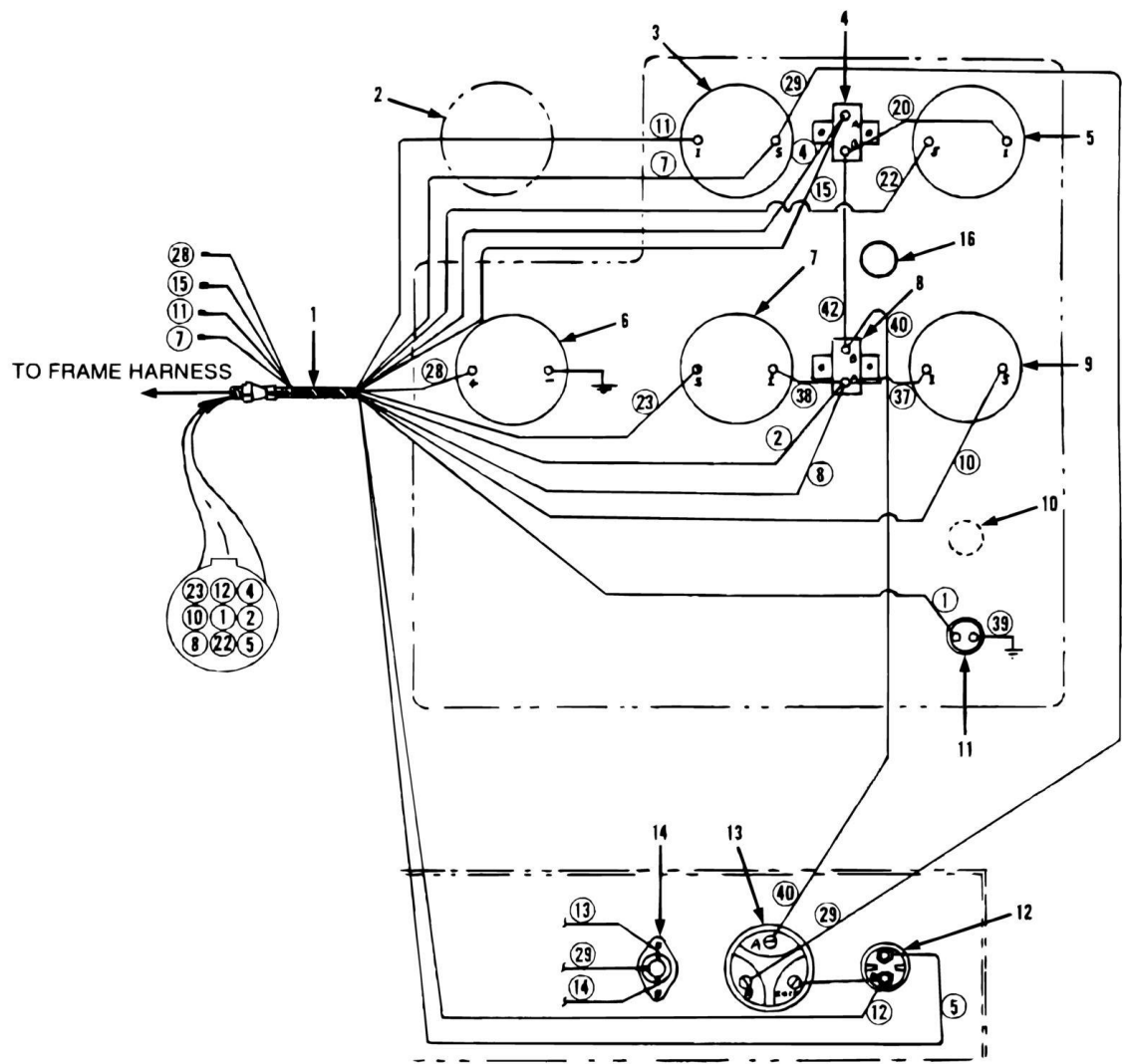
## SECTION 10 - ELECTRICAL

**FIGURE 10-1. WIRING - DASH WAUKESHA ENGINE (SN 8344001L through 8444489)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                    | REV |
|------|-------------|-----|--------------------------------|-----|
| 1    | 90602893    | 1   | DASH HARNESS                   |     |
| 2    | 90203923    | 1   | TRANSMISSION TEMPERATURE GAUGE |     |
| 3    | 90205685    | 1   | AMP GAUGE                      |     |
| 4    | 90207857    | 1   | JUMPER WIRE                    |     |
| 5    | 90205686    | 1   | FUEL GAUGE                     |     |
| 6    | 90200351    | 2   | JUMPER WIRE                    |     |
| 7    | 90200192    | 1   | BRAKE WARNING LIGHT            |     |
| 8    | 90200349    | 1   | JUMPER WIRE                    |     |
| 9    | 90200506    | 1   | CIRCUIT BREAKER                |     |
| 10   | 90205690    | 1   | OIL PRESSURE GAUGE             |     |
| 11   | 90200353    | 1   | JUMPER WIRE                    |     |
| 12   | 90200434    | 1   | HORN BUTTON                    |     |
| 13   | 90207866    | 1   | GROUND WIRE                    |     |
| 14   | 90403420    | 1   | CM ASSEMBLY                    |     |
| 15   | 90205661    | 1   | JUMPER WIRE                    |     |
| 16   | 90200170    | 1   | IGNITION SWITCH                |     |
| 17   | 90403178    | 1   | INSTRUMENT PANEL               |     |
| 17   | 90403130    | 1   | INSTRUMENT PANEL DECAL         |     |
| 18   | 90205687    | 1   | TEMPERATURE GAUGE              |     |

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FIGURE 10-2. WIRING - DASH PERKINS ENGINE (SN 8444490 to Present)



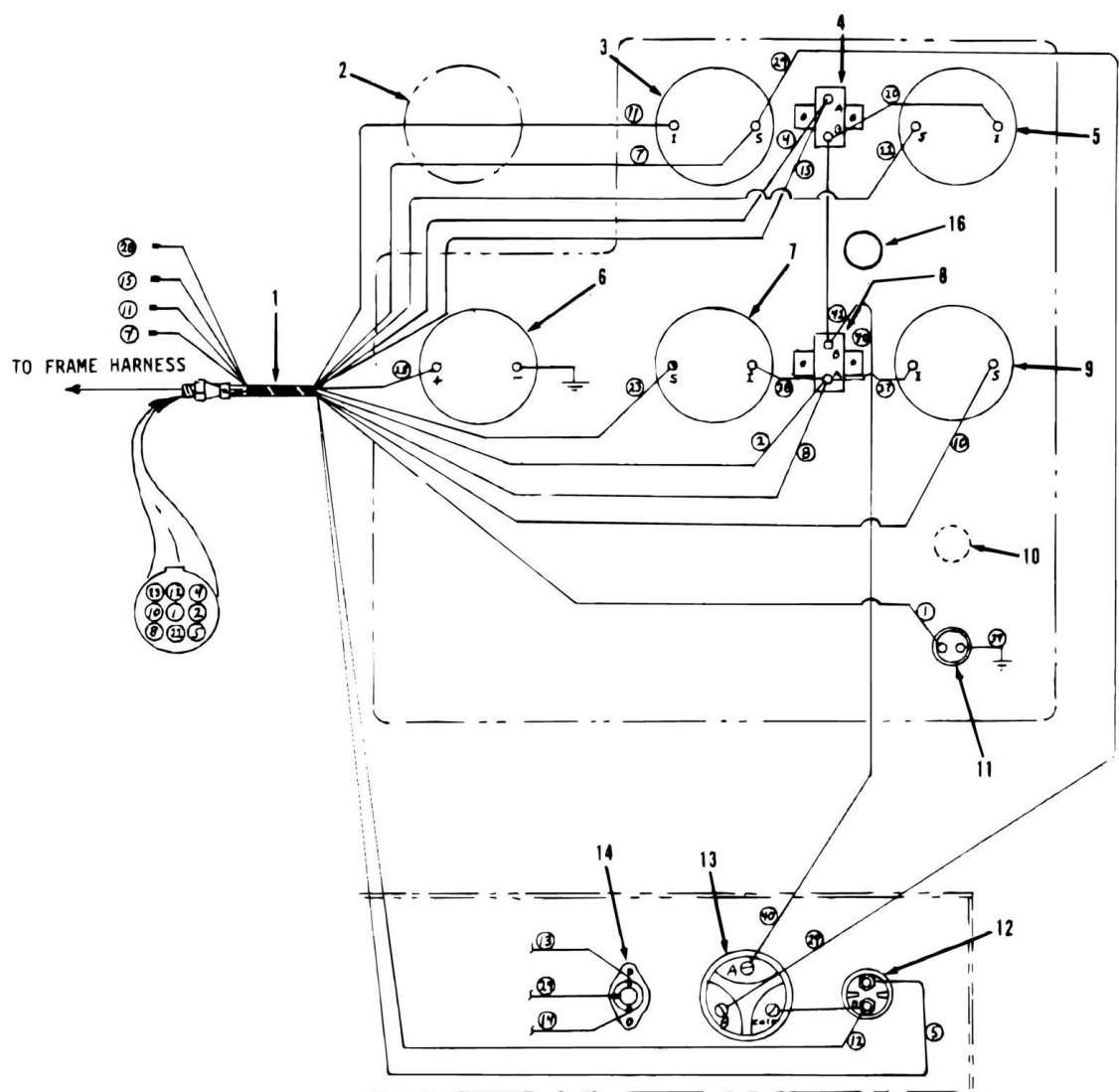
## SECTION 10 - ELECTRICAL

**FIGURE 10-2. WIRING - DASH PERKINS ENGINE (SN 8444490 to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                    | REV |
|------|-------------|-----|--------------------------------|-----|
| 1    | 91033112    | 1   | DASH HARNESS                   |     |
| 2    | 91033282    | 1   | TRANSMISSION TEMPERATURE GAUGE |     |
| 3    | 90205685    | 1   | AMP GAUGE                      |     |
| 4    | 91033111    | 1   | CIRCUIT BREAKER                |     |
| 5    | 90205686    | 1   | FUEL GAUGE                     |     |
| 6    | 90205688    | 1   | HOUR GAUGE                     |     |
| 7    | 90205687    | 1   | WATER TEMPERATURE GAUGE        |     |
| 8    | 90200506    | 1   | CIRCUIT BREAKER                |     |
| 9    | 90205690    | 1   | OIL PRESSURE GAUGE (80 PSI)    |     |
| 9    | 91033247    | 1   | OIL PRESSURE GAUGE (100 PSI)   |     |
| 10   | 86661083    | 1   | PLUG                           |     |
| 11   | 90200434    | 1   | HORN BUTTON                    |     |
| 12   | 90205927    | 1   | STARTER BUTTON                 |     |
| 13   | 91033110    | 1   | IGNITION SWITCH                |     |
| 14   | 90207646    | 1   | BLACK BOX (diode)              |     |
| 15   | 91031102    | 1   | INSTRUMENT PANEL               |     |
| 16   | 91033084    | 1   | BRAKE WARNING LIGHT            |     |

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FIGURE 10-3. DASH WIRING PERKINS ENGINE (SN 8444490 to Present)





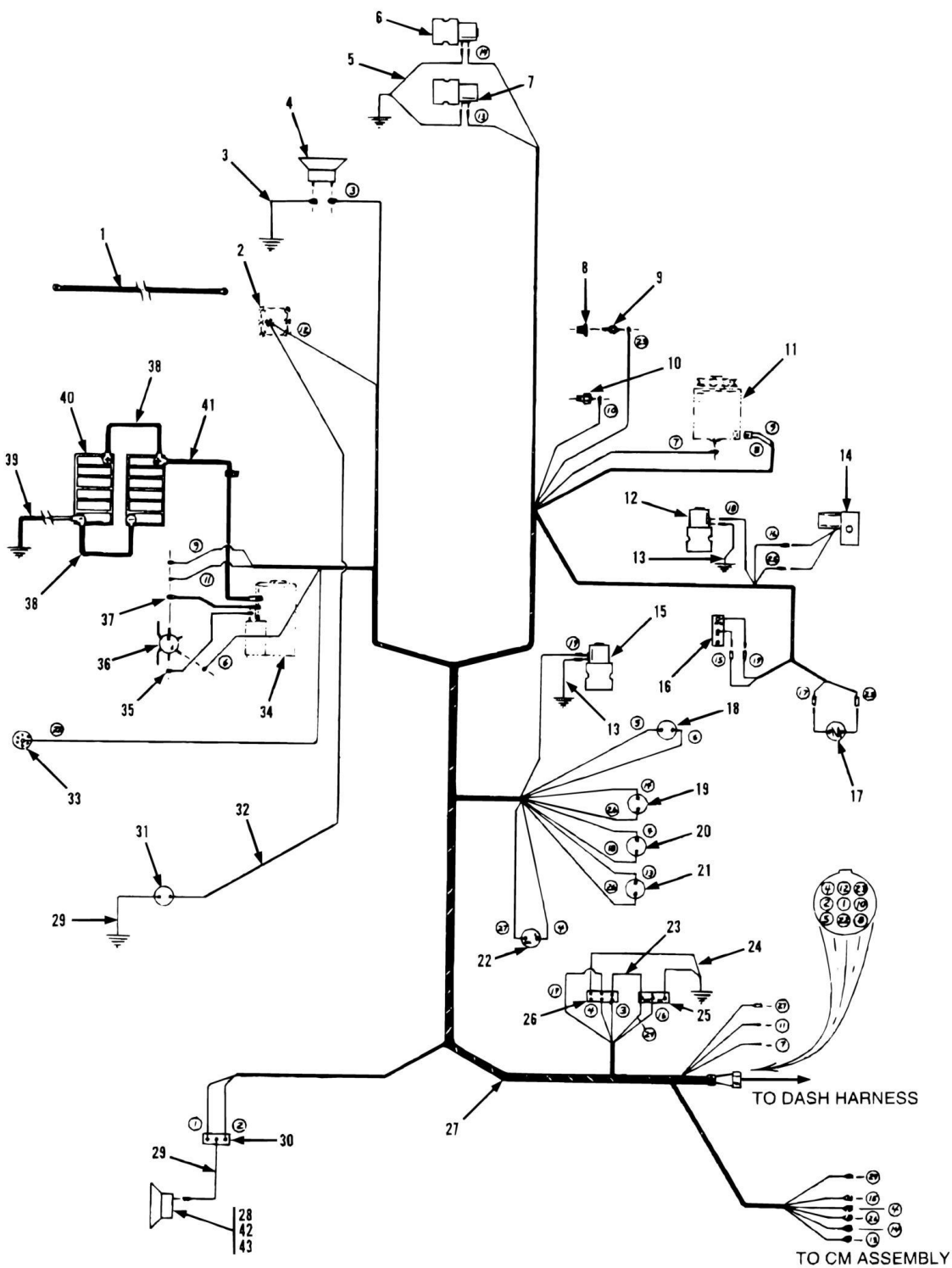
## SECTION 10 - ELECTRICAL

**FIGURE 10-3. DASH WIRING PERKINS ENGINE (SN 8444490 to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                    | REV |
|------|-------------|-----|--------------------------------|-----|
| 1    | 91033112    | 1   | DASH HARNESS                   |     |
| 2    | 91033282    | 1   | TRANSMISSION TEMPERATURE GAUGE |     |
| 3    | 90205685    | 1   | AMP GAUGE                      |     |
| 4    | 91033111    | 1   | CIRCUIT BREAKER                |     |
| 5    | 90205686    | 1   | FUEL GAUGE                     |     |
| 6    | 90205688    | 1   | HOUR GAUGE                     |     |
| 7    | 90205687    | 1   | WATER TEMPERATURE GAUGE        |     |
| 8    | 90200506    | 1   | CIRCUIT BREAKER                |     |
| 9    | 90205690    | 1   | OIL PRESSURE GAUGE (80 PSI)    |     |
| 9    | 91033247    | 1   | OIL PRESSURE GAUGE (100 PSI)   |     |
| 10   | 86661083    | 1   | PLUG                           |     |
| 11   | 90200434    | 1   | HORN BUTTON                    |     |
| 12   | 90205927    | 1   | STARTER BUTTON                 |     |
| 13   | 91033110    | 1   | IGNITION SWITCH                |     |
| 14   | 90207646    | 1   | BLACK BOX (diode)              |     |
| 15   | 91031102    | 1   | INSTRUMENT PANEL               |     |
| 16   | 91033184    | 1   | BRAKE WARNING LIGHT            |     |

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FIGURE 10-4. WIRING - FRAME AND WAUKESHA DIESEL ENGINE (SN 8344001L through 8444490G)



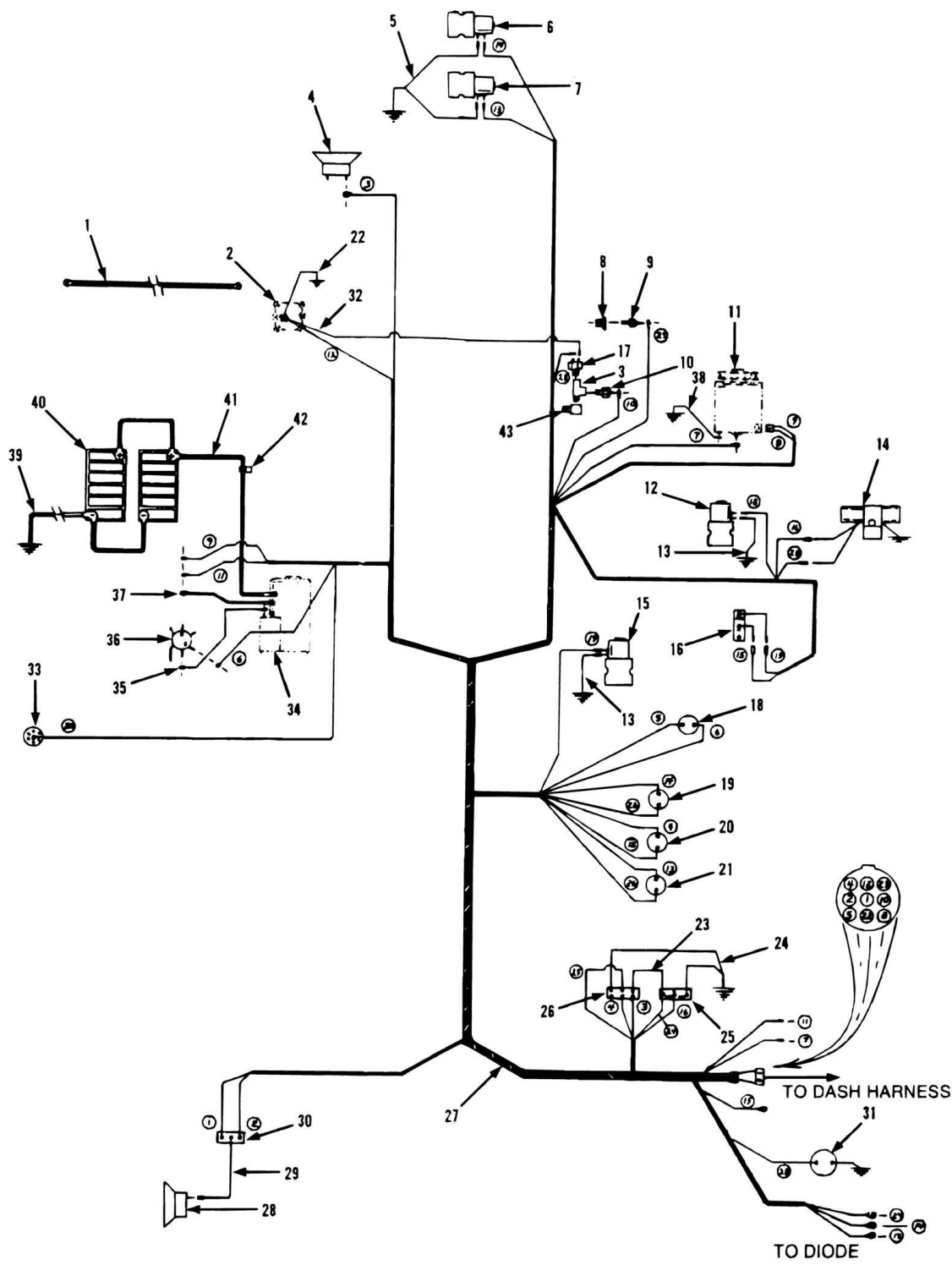
## SECTION 10 - ELECTRICAL

**FIGURE 10-4. WIRING - FRAME AND WAUKESHA DIESEL ENGINE (SN 8344001L through 8444490G)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                                       | REV |
|------|-------------|-----|-----------------------------------------------------------------------------------|-----|
| 1    | 90200811    | 1   | GROUND CABLE                                                                      |     |
| 2    |             | Ref | FUEL SHUT OFF SWITCH, (comes with engine)                                         |     |
| 3    | 90206325    | 1   | JUMPER WIRE                                                                       |     |
| 4    | 77223003    | 1   | BACK-UP ALARM                                                                     |     |
| 5    | 90207717    | 1   | JUMPER WIRE                                                                       |     |
| 6    | 90206739    | 1   | SERIES SOLENOID VALVE                                                             |     |
| 7    | 90206739    | 1   | PARALLEL SOLENOID VALVE                                                           |     |
| 8    | 88711381    | 1   | REDUCING BUSHING, 3/8X1/4                                                         |     |
| 9    | 90206124    | 1   | WATER TEMPERATURE SENDER                                                          |     |
| 10   | 91033139    | 1   | OIL PRESSURE SENDER                                                               |     |
| 11   |             | Ref | ALTERNATOR, (comes with engine)                                                   |     |
| 12   | 90206739    | 1   | CAVITATION SOLENOID VALVE                                                         |     |
| 13   | 90207719    | 1   | JUMPER WIRE                                                                       |     |
| 14   | 90207755    | 1   | PILOT PRESSURE FORWARD REVERSE CONTROL                                            |     |
| 15   | 90206739    | 1   | LOW TORQUE INCHING SOLENOID VALVE                                                 |     |
| 16   | 90200616    | 1   | LOW TORQUE INCHING SWITCH                                                         |     |
| 17   | 90207752    | 1   | FORWARD REVERSE INCHING POT                                                       |     |
| 18   | 90204973    | 1   | NUETRAL START SWITCH, (requires 2-8998-1036 pan head screws for connecting wires) |     |
| 19   | 91033235    | 1   | SECOND GEAR SWITCH                                                                |     |
| 20   | 91033235    | 1   | THIRD GEAR SWITCH                                                                 |     |
| 21   | 91033235    | 1   | FIRST GEAR SWITCH                                                                 |     |
| 22   | 90207823    | 1   | BRAKE PRESSURE SWITCH                                                             |     |
| 23   | 90207524    | 1   | JUMPER WIRE                                                                       |     |
| 24   | 90207773    | 1   | JUMPER WIRE                                                                       |     |
| 25   | 90200616    | 1   | FORWARD SWITCH                                                                    |     |
| 26   | 90207482    | 1   | REVERSE SWITCH                                                                    |     |
| 27   | 90801336    | 1   | ENGINE FRAME HARNESS                                                              |     |
| 28   | 24921393    | 1   | HORN                                                                              |     |
| 29   | 90202886    | 2   | JUMPER WIRE                                                                       |     |
| 30   | 88661084    | 1   | HORN RELAY                                                                        |     |
| 31   | 90205688    | 1   | HOURLY METER                                                                      |     |
| 32   | 90206079    | 1   | JUMPER WIRE                                                                       |     |
| 33   | 90400654    | 1   | FUEL GAUGE SENDER                                                                 |     |
| 34   | 91034057    | 1   | STARTER                                                                           |     |
| 35   | 90205205    | 1   | JUMPER WIRE                                                                       |     |
| 36   | 90402427    | 1   | STARTER SOLENOID                                                                  |     |
| 37   | 90207497    | 1   | JUMPER CABLE                                                                      |     |
| 38   | 85841094    | 2   | CLAMP                                                                             |     |
| 39   | 91033042    | 1   | CABLE                                                                             |     |
| 40   |             | Ref | BATTERY, (purchase locally)                                                       |     |
| 41   | 91033041    | 1   | CABLE                                                                             |     |
| 42   | 24921394    | 1   | BRACKET                                                                           |     |
| 43   | 24921395    | 1   | NUT                                                                               |     |

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FIGURE 10-5. WIRING - FRAME AND PERKINS DIESEL ENGINE (SN 8444491 to Present)



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**FIGURE 10-5. WIRING - FRAME AND PERKINS DIESEL ENGINE (SN 8444491 to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                            | REV |
|------|-------------|-----|--------------------------------------------------------|-----|
| 1    | 90200811    | 1   | GROUND CABLE                                           |     |
| 2    |             | Ref | FUEL SHUT OFF SWITCH (comes with engine)               |     |
| 3    | 88712231    | 1   | STREET TEE - 1/8                                       |     |
| 4    | 77223003    | 1   | BACK-UP ALARM                                          |     |
| 5    | 90207717    | 1   | JUMPER WIRE                                            |     |
| 6    | 90206739    | 1   | SERIES SOLENOID VALVE                                  |     |
| 7    | 90206739    | 1   | PARALLEL SOLENOID VALVE                                |     |
| 8    | 88711383    | 1   | REDUCING BUSHING 1/2x3/8                               |     |
| 9    | 90206124    | 1   | WATER TEMPERATURE SENDER                               |     |
| 10   | 91033139    | 1   | OIL PRESSURE SENDER                                    |     |
| 11   | 91033234    | 1   | ALTERNATOR                                             |     |
| 12   | 90206739    | 1   | CAVITATION SOLENOID VALVE                              |     |
| 13   | 90207719    | 1   | JUMPER WIRE                                            |     |
| 14   | 91033097    | 1   | PILOT PRESSURE FORWARD REVERSE CONTROL VALVE           |     |
| 15   | 90206739    | 1   | LOW TORQUE INCHING SOLENOID VALVE                      |     |
| 16   | 91033098    | 1   | TRANSMISSION DISCONNECT SWITCH (SN 8544670 to Present) |     |
| 16   | 91033202    | 1   | TRANSMISSION DISCONNECT SWITCH (SN 8544671 to Present) |     |
| 17   | 24741047    | 1   | HOUR METER SWITCH                                      |     |
| 18   | 90204973    | 1   | NEUTRAL START SWITCH                                   |     |
| 18   | 89981036    | 2   | PAN HEAD SCREW                                         |     |
| 19   | 91033235    | 1   | SECOND GEAR SWITCH                                     |     |
| 20   | 91033235    | 1   | THIRD GEAR SWITCH                                      |     |
| 21   | 91033235    | 1   | FIRST GEAR SWITCH                                      |     |
| 21   | 90207225    | 3   | SWITCH BOOT (not shown-used on 90206757 switches)      |     |
| 22   | 91031197    | 1   | JUMPER WIRE                                            |     |
| 23   | 90207524    | 1   | JUMPER WIRE                                            |     |
| 24   | 90207773    | 1   | JUMPER WIRE                                            |     |
| 25   | 90200616    | 1   | FORWARD SWITCH (SN 8444491 through 8544670)            |     |
| 25   | 91033202    | 1   | REVERSE SWITCH (SN 8544671 to Present)                 |     |
| 26   | 90207482    | 1   | REVERSE SWITCH (SN 8444491 through 8544670)            |     |
| 26   | 91033202    | 1   | REVERSE SWITCH (SN 8544671 to Present)                 |     |
| 27   | 91033079    | 1   | ENGINE FRAME HARNESS                                   |     |
| 28   | 24921393    | 1   | HORN                                                   |     |
| 28   | 24921394    | 1   | BRACKET                                                |     |
| 28   | 24921395    | 1   | NUT                                                    |     |
| 29   | 90202886    | 1   | JUMPER WIRE                                            |     |
| 30   | 86661084    | 1   | HORN RELAY                                             |     |
| 31   | 90205688    | 1   | HOUR METER                                             |     |
| 32   | 91031198    | 1   | JUMPER WIRE                                            |     |
| 32   | 86661143    | 1   | TERMINAL ADAPTER                                       |     |
| 33   | 90400654    | 1   | FUEL GAUGE SENDER                                      |     |
| 34   | 91033262    | 1   | STARTER                                                |     |
| 35   | 90205205    | 1   | JUMPER WIRE                                            |     |
| 36   | 90402427    | 1   | STARTER SOLENOID                                       |     |
| 37   | 90207497    | 1   | JUMPER CABLE                                           |     |
| 38   | 90207630    | 1   | JUMPER CABLE                                           |     |
| 39   | 91033042    | 1   | GROUND CABLE                                           |     |
| 40   |             | Ref | BATTERY (purchase locally)                             |     |

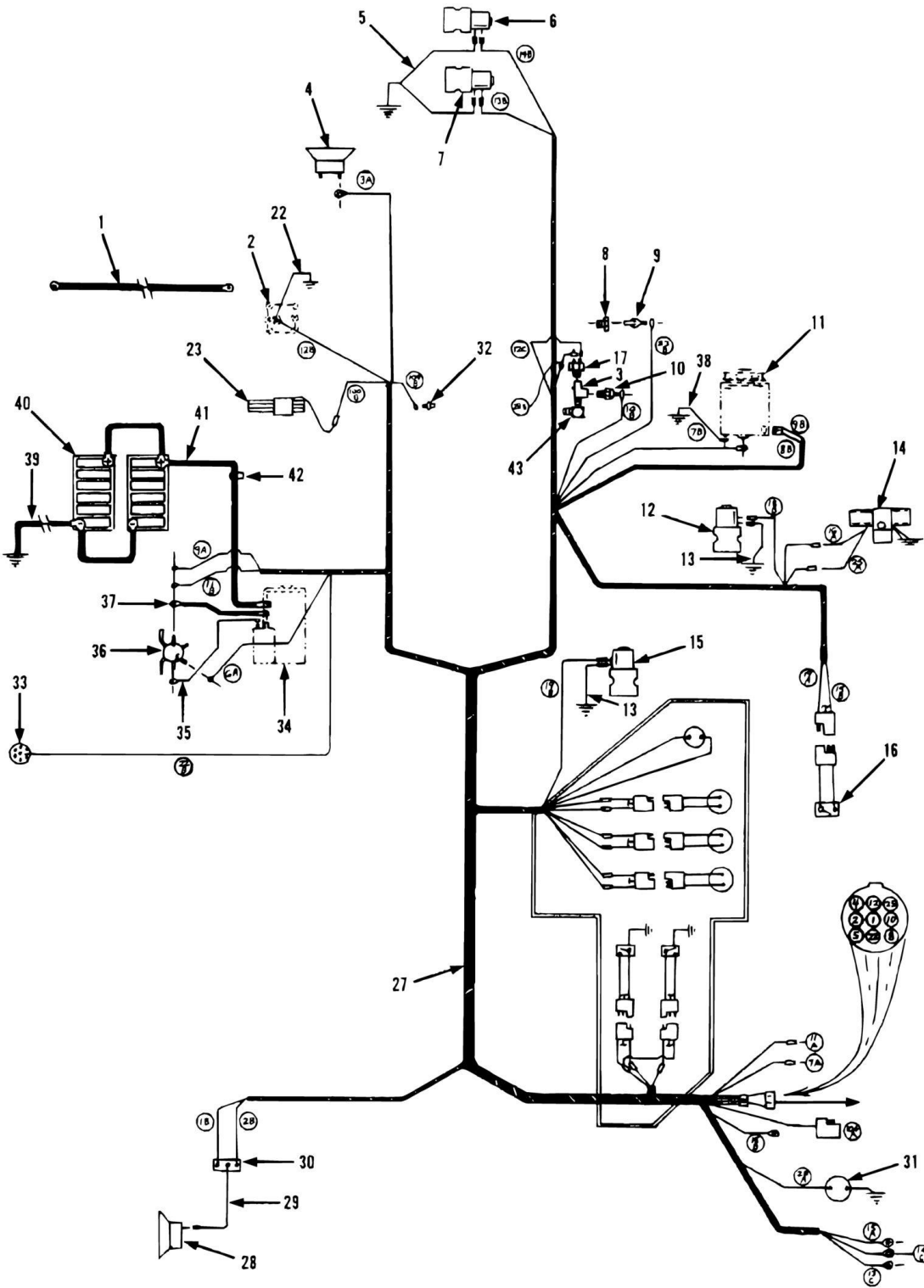
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| ITEM | PART NUMBER | QTY | DESCRIPTION                                                                                                     | REV |
|------|-------------|-----|-----------------------------------------------------------------------------------------------------------------|-----|
| 41   | 91033086    | 1   | POSITIVE CABLE                                                                                                  |     |
| 42   | 85841094    | 1   | CLAMP                                                                                                           |     |
| 42   | 77103006    | 2   | NUT                                                                                                             |     |
| 43   | 88691345    | 1   | ELBOW - 90                                                                                                      |     |
|      |             | Ref | NOTE: TO UPDATE MACHINES WITH OLD STYLE SWITCHES<br>TO NEW STYLE SWITCHES. ORDER 91035110<br>MICROSWITCHES KIT. |     |

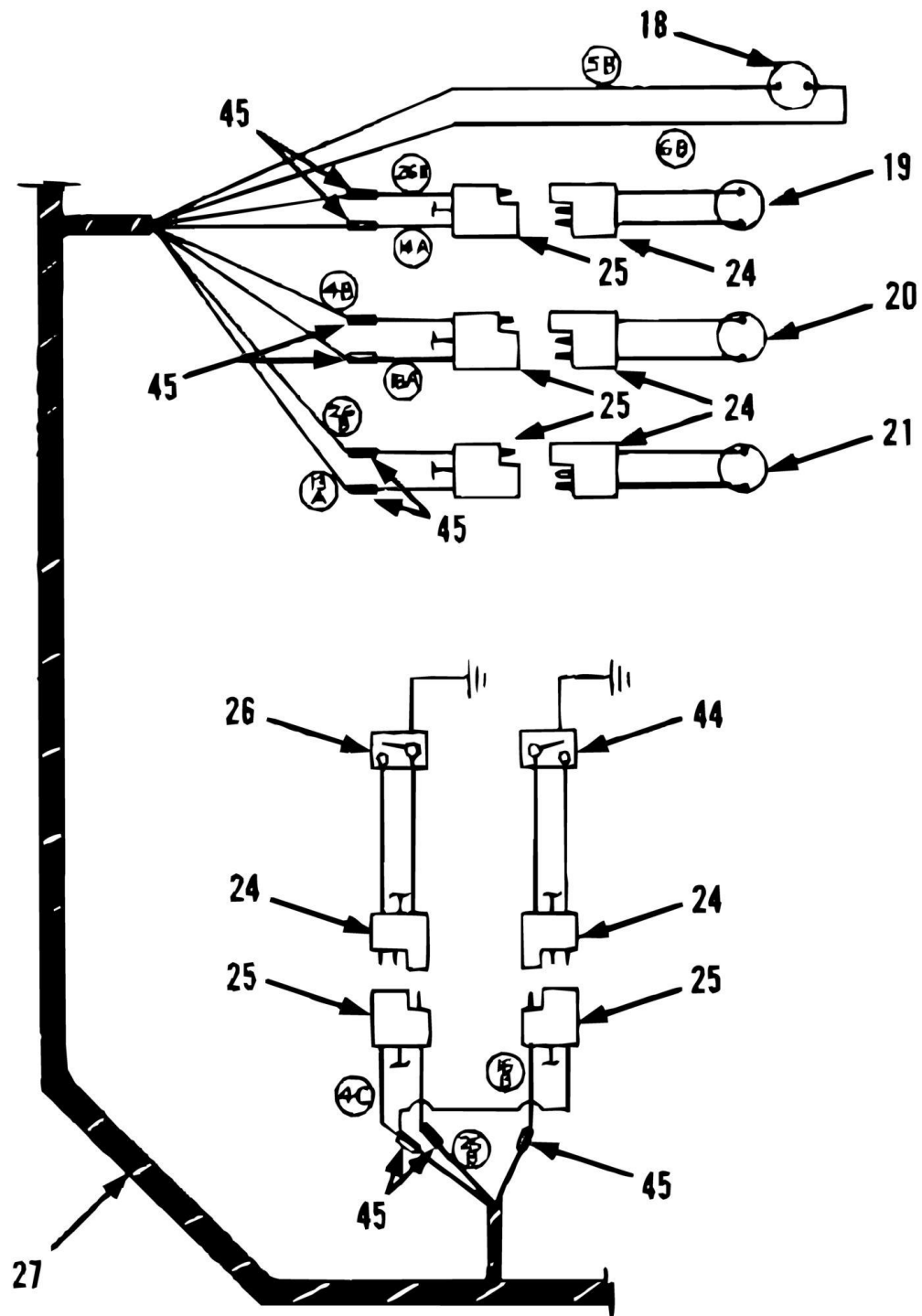


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FIGURE 10-6. WIRING - FRAME AND ENGINE (SN 0144367J to Present)







VIEW A

## SECTION 10 - ELECTRICAL

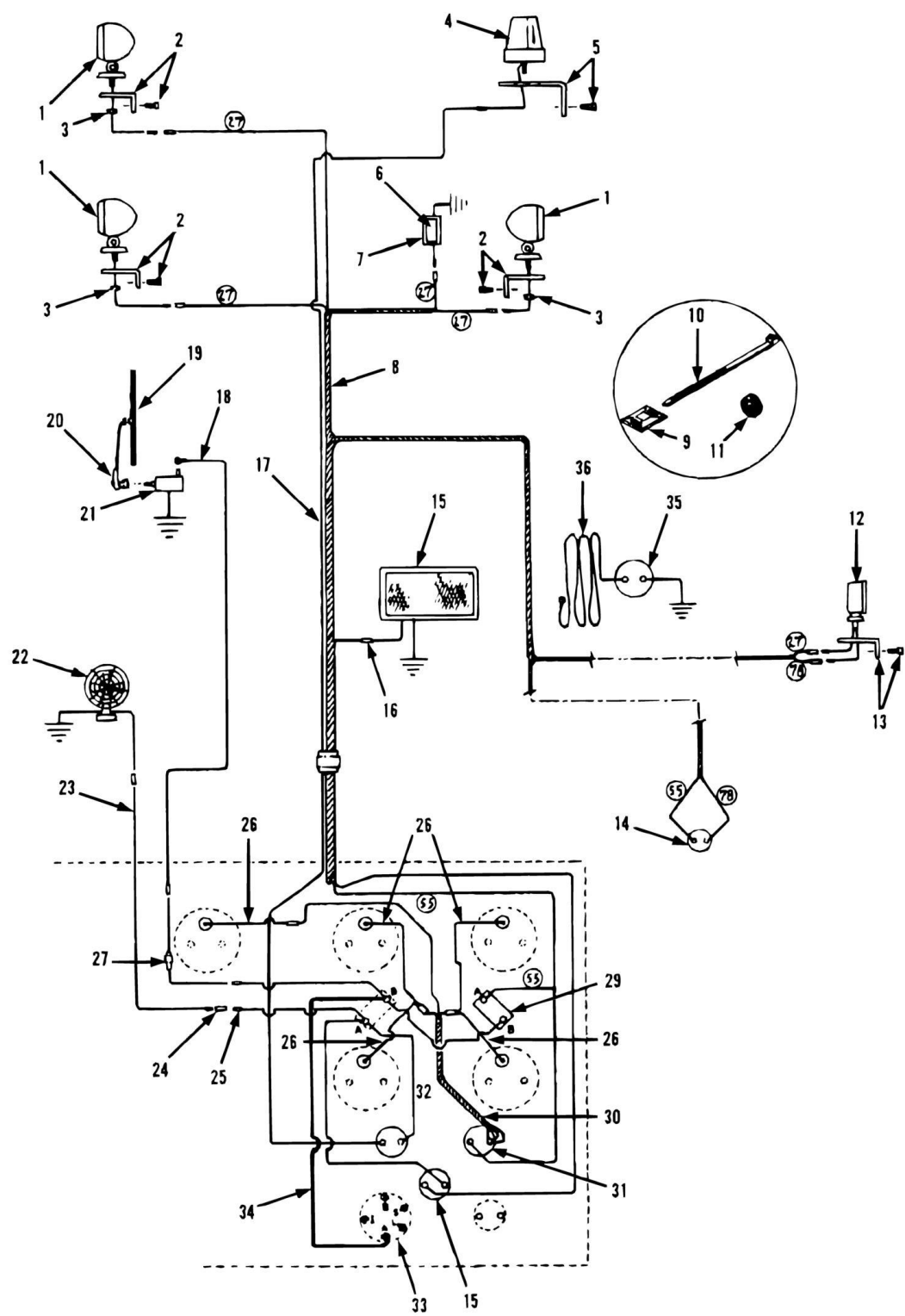
**FIGURE 10-6. WIRING - FRAME AND ENGINE (SN 0144367J to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                          | REV |
|------|-------------|-----|------------------------------------------------------|-----|
| 1    | 90200811    | 1   | GROUND CABLE                                         |     |
| 2    |             | Ref | FUEL SHUT OFF SWITCH, (comes with engine)            |     |
| 3    | 88712231    | 1   | STREET TEE, 1/8                                      |     |
| 4    | 77223003    | 1   | BACK-UP ALARM                                        |     |
| 5    | 90207717    | 1   | JUMPER WIRE                                          |     |
| 6    | 90206739    | 1   | SERIES SOLENOID VALVE                                |     |
| 7    | 90206739    | 1   | PARALLEL SOLENOID VALVE                              |     |
| 8    | 88711383    | 1   | REDUCING BUSHING, 1/2X3/8                            |     |
| 9    | 90206124    | 1   | WATER TEMPERATURE SENDER                             |     |
| 10   | 91033139    | 1   | OIL PRESSURE SENDER                                  |     |
| 11   | 91033234    | 1   | ALTERNATOR                                           |     |
| 12   | 90206739    | 1   | CAVITATION SOLENOID VALVE                            |     |
| 13   | 90207719    | 2   | JUMPER WIRE                                          |     |
| 14   | 91033097    | 1   | PILOT PRESSURE FORWARD REVERSE CONTROL VALVE         |     |
| 15   | 90206739    | 1   | LOW TORQUE INCHING SOLENOID VALVE                    |     |
| 16   | 91033202    | 1   | TRANSMISSION DISCONNECT SWITCH                       |     |
| 17   | 24741047    | 1   | HOURLMETER SWITCH                                    |     |
| 18   | 90204973    | 1   | NEUTRAL START SWITCH                                 |     |
| 18   | 89981036    | 2   | PAN HD SCREW                                         |     |
| 19   | 91035112    | 1   | SECOND GEAR SWITCH                                   |     |
| 20   | 91035112    | 1   | THIRD GEAR SWITCH                                    |     |
| 21   | 91035112    | 1   | FIRST GEAR SWITCH                                    |     |
| 22   | 91031197    | 1   | JUMPER WIRE                                          |     |
| 23   | 91033270    | 1   | PRIMER PUMP                                          |     |
| 24   | 83483114    | 6   | 3 WAY CONNECTOR, (male)                              |     |
| 25   | 83483113    | 6   | 3 WAY CONNECTOR, (female)                            |     |
| 26   | 91033202    | 1   | FORWARD SWITCH                                       |     |
| 27   | 91033079    | 1   | ENGINE FRAME HARNESS                                 |     |
| 28   | 24921393    | 1   | HORN                                                 |     |
| 28   | 24921394    | 1   | BRACKET                                              |     |
| 28   | 24921395    | 1   | NUT                                                  |     |
| 29   | 90202886    | 1   | JUMPER WIRE                                          |     |
| 30   | 86661084    | 1   | HORN RELAY                                           |     |
| 31   | 90205688    | 1   | HOURL METER                                          |     |
| 32   | 91033283    | 1   | OIL TEMPERATURE SENDER                               |     |
| 33   | 90400654    | 1   | FUEL LEVEL SENDER                                    |     |
| 34   | 91033323    | 1   | STARTER                                              |     |
| 35   | 90205205    | 1   | JUMPER WIRE                                          |     |
| 36   | 90402427    | 1   | STARTER SOLENOID                                     |     |
| 37   | 90207497    | 1   | JUMPER CABLE                                         |     |
| 38   | 90207630    | 1   | JUMPER WIRE                                          |     |
| 39   | 91033042    | 1   | GROUND CABLE                                         |     |
| 40   | 90203359    | 2   | BATTERY, (12 volt, 590 amps), TOP STUD, BCI GROUP 27 |     |
| 41   | 91033086    | 1   | POSITIVE CABLE                                       |     |
| 42   | 85841094    | 1   | CLAMP                                                |     |
| 42   | 77103006    | 2   | NUT                                                  |     |
| 43   | 88691345    | 1   | ELBOW, 90                                            |     |
| 44   | 91033202    | 1   | REVERSE SWITCH                                       |     |
| 45   | 86683480    | 9   | CRIMP ON CONNECTOR                                   |     |



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FIGURE 10-7. LIGHT WIRING (SN 8344001L to Present)



## SECTION 10 - ELECTRICAL

**FIGURE 10-7. LIGHT WIRING (SN 8344001L to Present)**

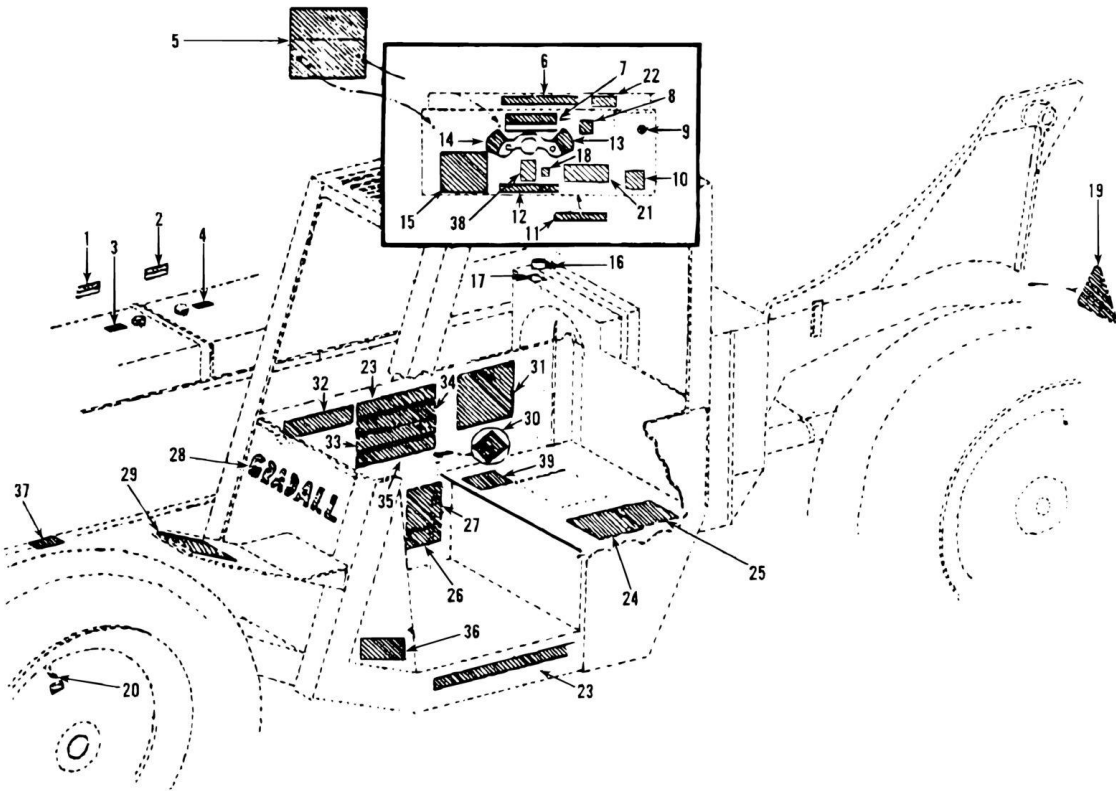
| ITEM | PART NUMBER | QTY | DESCRIPTION                                                                               | REV |
|------|-------------|-----|-------------------------------------------------------------------------------------------|-----|
| 1    | 90200586    | 3   | WORK LIGHT                                                                                |     |
| 1    | 88201032    | AR  | HEX HD CAPSCREW, 3/8-16X5/8, GR5                                                          |     |
| 2    | 90206129    | 3   | LIGHT MOUNTING BRACKET                                                                    |     |
| 2    | 90027316    | 6   | SELF TAPPING SCREW                                                                        |     |
| 3    | 88501006    | AR  | HEX NUT, 3/8-16                                                                           |     |
| 4    | 90200685    | 1   | ROTATING BEACON                                                                           |     |
| 4    | 88201014    | 2   | HEX HD CAPSCREW, 1/4-20X3-1/4, GR5                                                        |     |
| 4    | 88501004    | 2   | HEX NUT, 1/4-20                                                                           |     |
| 5    | 90400706    | 1   | BEACON MOUNTING BRACKET                                                                   |     |
| 5    | 90027316    | 3   | SELF TAPPING SCREW                                                                        |     |
| 6    | 90204009    | 1   | DOME LIGHT                                                                                |     |
| 7    | 90400670    | 1   | DOME LIGHT BRACKET                                                                        |     |
| 7    | 88321022    | 2   | SELF TAPPING SCREW, 8-32X3/8                                                              |     |
| 8    | 90602748    | 1   | CAB WIRING HARNESS                                                                        |     |
| 9    | 90206310    | 7   | STRAP ANCHOR                                                                              |     |
| 10   | 90027187    | 7   | TIE STRAP                                                                                 |     |
| 11   | 90027214    | AR  | RUBBER GROMMET (use at cab roof and cab front)                                            |     |
| 11   | 90202303    | AR  | RUBBER GROMMET (use at cab rear and seat deck)                                            |     |
| 12   | 90205912    | 1   | TAIL AND STOP LIGHT                                                                       |     |
| 13   | 90206130    | 1   | TAIL LIGHT MOUNTING BRACKET                                                               |     |
| 13   | 88201032    | 2   | HEX HD CAPSCREW, 3/8-16X5/8, GR5                                                          |     |
| 14   | 90200615    | 1   | BRAKE LIGHT SWITCH                                                                        |     |
| 15   | 90200679    | 1   | HEATER (includes switch)                                                                  |     |
| 16   | 90206134    | 1   | CONNECTOR                                                                                 |     |
| 17   | 90206133    | 2   | WIRE (heater and beacon)                                                                  |     |
| 18   | 90200914    | 1   | WIRE (windshield wiper)                                                                   |     |
| 19   | 90206024    | 1   | WIPER BLADE                                                                               |     |
| 20   | 90200952    | 1   | WIPER ARM                                                                                 |     |
| 21   | 90206023    | 1   | WIPER MOTOR                                                                               |     |
| 22   | 90200680    | 1   | DEFROSTER FAN                                                                             |     |
| 23   | 90206358    | 1   | FAN WIRE                                                                                  |     |
| 24   | 90026830    | AR  | WIRE CONNECTOR                                                                            |     |
| 25   | 90203628    | 1   | FAN WIRE                                                                                  |     |
| 26   | 90200347    | 5   | GAUGE LIGHT WIRING KIT (consists of snap-in light and wire)                               |     |
| 27   | 90203376    | 1   | WIPER WIRE FUSE                                                                           |     |
| 28   | 90200349    | 1   | WIRE (fuse to circuit breaker)                                                            |     |
| 29   | 90206131    | 1   | CIRCUIT BREAKER                                                                           |     |
| 29   | 88501613    | 4   | HEX NUT, #10-32                                                                           |     |
| 30   | 90403076    | 1   | DASH LIGHT WIRING HARNESS                                                                 |     |
| 31   | 90200171    | 2   | LIGHTS AND BEACON LIGHT SWITCH                                                            |     |
| 32   | 90200352    | 1   | WIRE (circuit breaker to heater switch, breaker to beacon switch, and breaker to breaker) |     |
| 33   | 90200170    | 1   | IGNITION SWITCH                                                                           |     |
| 33   | 91033110    | 1   | IGNITION SWITCH (SN 8444491 to Present)                                                   |     |
| 34   | 90205661    | 1   | WIRE (ignition accessory terminal to circuit breaker)                                     |     |
| 35   | 90205688    | 1   | HOUR METER                                                                                |     |
| 36   | 90206079    | 1   | WIRE (hour meter to fuel switch)                                                          |     |



**SECTION 11 - MISCELLANEOUS**

SECTION 11 - MISCELLANEOUS

FIGURE 11-1. FRAME DECALS (SN 8344001L to Present)





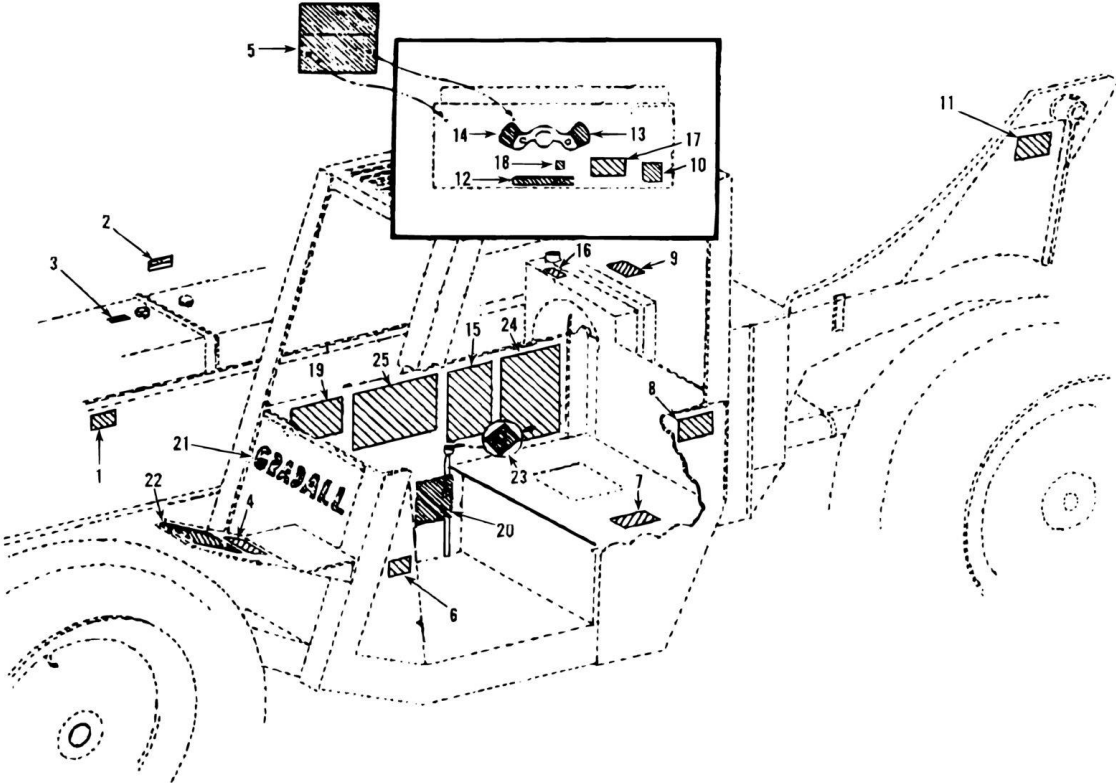
## SECTION 11 - MISCELLANEOUS

**FIGURE 11-1. FRAME DECALS (SN 8344001L to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                      | REV |
|------|-------------|-----|----------------------------------|-----|
| 1    | 91003051    | 1   | WARNING DECAL                    |     |
| 2    | 91003052    | 1   | WARNING DECAL                    |     |
| 3    | 77023006    | 1   | HYDRAULIC OIL DECAL              |     |
| 4    | 77023008    | 1   | DEI SEL FUEL DECAL               |     |
| 5    | 91033020    | 1   | LIFT CAPACITY DECAL (6000# unit) |     |
| 5    | 91033021    | 1   | LIFT CAPACITY DECAL (8000# unit) |     |
| 5    | 90207488    | 1   | MOUNTING PLATE                   |     |
| 5    | 88204912    | 2   | HEX HD CAPSCREW, 1/4-20X1, GR5   |     |
| 5    | 88561107    | 2   | FLAT WASHER, 1/4                 |     |
| 5    | 88521304    | 2   | HEX LOCKNUT                      |     |
| 6    | 91033014    | 1   | WARNING DECAL                    |     |
| 7    | 91033010    | 1   | WARNING DECAL                    |     |
| 8    | 91003041    | 1   | TRANSMISSION TEMP. DECAL         |     |
| 9    | 91033025    | 1   | BRAKE DECAL                      |     |
| 10   | 91033089    | 1   | DASH DECAL                       |     |
| 11   | 91033022    | 1   | REAR DRIVE DECAL                 |     |
| 12   | 91033024    | 1   | HUB LOCKOUT DECAL                |     |
| 13   | 91003039    | 1   | SHIFT DECAL                      |     |
| 14   | 91003040    | 1   | FORWARD-REVERSE DECAL            |     |
| 15   | 91033012    | 1   | TILT AND SWAY DECAL              |     |
| 16   | 91033011    | 1   | WARNING DECAL                    |     |
| 17   | 91003032    | 1   | COOLANT DECAL                    |     |
| 18   | 91033244    | 1   | AUXILIARY CONTROL DECAL          |     |
| 19   | 91033094    | 1   | SLOW MOVING VEHICLE EMBLEM       |     |
| 20   | 91033009    | 4   | TIRE PRESSURE DECAL              |     |
| 21   | 91033157    | 1   | CAUTION DECAL                    |     |
| 22   | 91033135    | 1   | BRAKE WARNING DECAL              |     |
| 23   | 91003036    | 12  | OPERATOR PROTECTION DECAL        |     |
| 24   | 91033026    | 1   | MICO DECAL                       |     |
| 25   | 91033027    | 1   | LOCK PLATE                       |     |
| 26   | 91003002    | 1   | ATTACHMENT CAPACITY PLATE        |     |
| 26   | 88344901    | 4   | DRIVE SCREW, #10X1/2             |     |
| 27   | 91033001    | 1   | SERIAL NUMBER PLATE              |     |
| 27   | 88344901    | 4   | DRIVE SCREW, #10X1/2             |     |
| 28   | 83641675    | 1   | "GRADALL" DECAL, WHITE           |     |
| 29   | 83601011    | 1   | DANGER DECAL                     |     |
| 30   | 91003044    | 1   | BOOM OPERATOR DECAL              |     |
| 31   | 91033019    | 1   | SERVICE DECAL (Waukesha)         |     |
| 31   | 91033249    | 1   | SERVICE DECAL (Perkins)          |     |
| 32   | 91003030    | 1   | PATENT DECAL                     |     |
| 33   | 91003029    | 1   | WARNING DECAL                    |     |
| 34   | 91003050    | 1   | WARNING DECAL                    |     |
| 35   | 90206140    | 1   | RUB PLATE                        |     |
| 36   | 77023003    | 1   | CLIMBING DECAL                   |     |
| 37   | 91033044    | 1   | ACCUMULATOR DECAL (Waukesha)     |     |
| 38   | 91033090    | 1   | TRUSS BOOM WINCH DECAL           |     |
| 39   | 91026006    | 1   | STABILIZER DECAL                 |     |

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FIGURE 11-2. FRAME DECALS (SN 0144637J to Present)



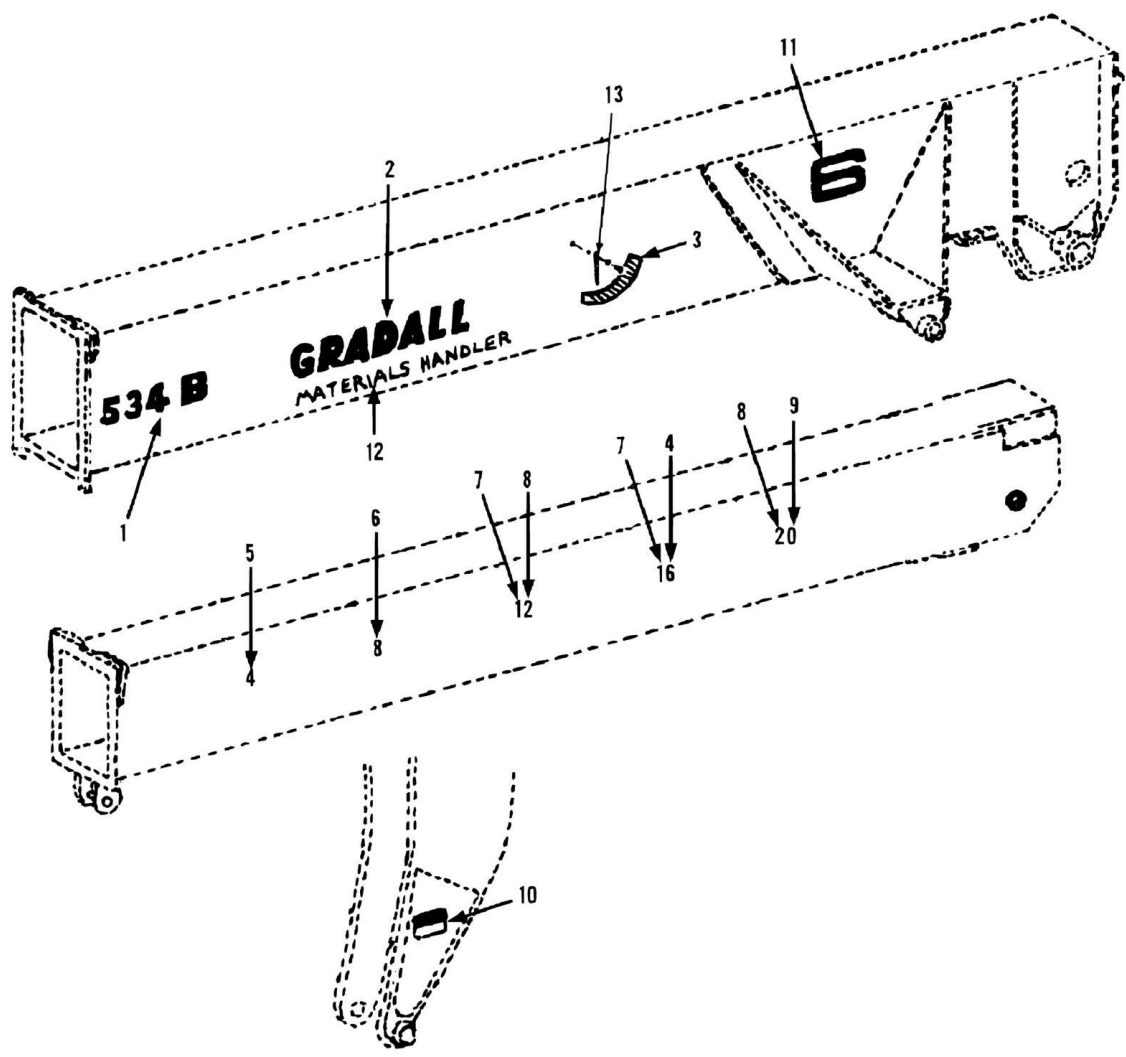
## SECTION 11 - MISCELLANEOUS

**FIGURE 11-2. FRAME DECALS (SN 0144637J to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                        | REV |
|------|-------------|-----|------------------------------------|-----|
| 1    | 77023007    | 1   | BATTERY INSTRUCTION STICKER        |     |
| 2    | 91003052    | 1   | WARNING DECAL                      |     |
| 3    | 77023006    | 1   | HYDRAULIC OIL DECAL                |     |
| 4    | 91043215    | 1   | WARNING DECAL                      |     |
| 5    | 91033311    | 1   | LIFT CAPACITY DECAL (8K units)     |     |
| 5    | 91033020    | 1   | LIFT CAPACITY DECAL (6K units)     |     |
| 6    | 91043211    | 1   | RIDER WARNING DECAL                |     |
| 7    | 91043129    | 1   | PARKING BRAKE DECAL                |     |
| 8    | 77333027    | 1   | MADE IN U.S.A DECAL                |     |
| 9    | 77343018    | 1   | HOT EXHAUST DECAL                  |     |
| 10   | 91033089    | 1   | DASH DECAL                         |     |
| 11   | 91043209    | 2   | PINCH POINT DECAL                  |     |
| 12   | 91033024    | 1   | HUB LOCKOUT DECAL                  |     |
| 13   | 91003039    | 1   | SHIFT DECAL                        |     |
| 14   | 91003040    | 1   | FORWARD-REVERSE DECAL              |     |
| 15   | 91033242    | 1   | 6FT MAST DECAL (8K units)          |     |
| 15   | 91033243    | 1   | 6FT MAST DECAL (6K units)          |     |
| 16   | 91033011    | 1   | WARNING DECAL                      |     |
| 17   | 91033362    | 1   | CAUTION DECAL                      |     |
| 18   | 91033244    | 1   | AUXILIARY CONTROL DECAL            |     |
| 19   | 91003030    | 1   | PATENT DECAL                       |     |
| 20   | 91033278    | 1   | SN AND ATTACHMENT PLATE (6K units) |     |
| 20   | 91033279    | 1   | SN AND ATTACHMENT PLATE (8K units) |     |
| 21   | 83641675    | 1   | "GRADALL" DECAL, WHITE             |     |
| 22   | 83601011    | 1   | DANGER DECAL                       |     |
| 23   | 91003044    | 1   | BOOM OPERATING DECAL               |     |
| 24   | 91033312    | 1   | SERVICE DECAL                      |     |
| 25   | 91063047    | 1   | WARNING DECAL                      |     |

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FIGURE 11-3. BOOM DECALS (SN 8344001L to Present)



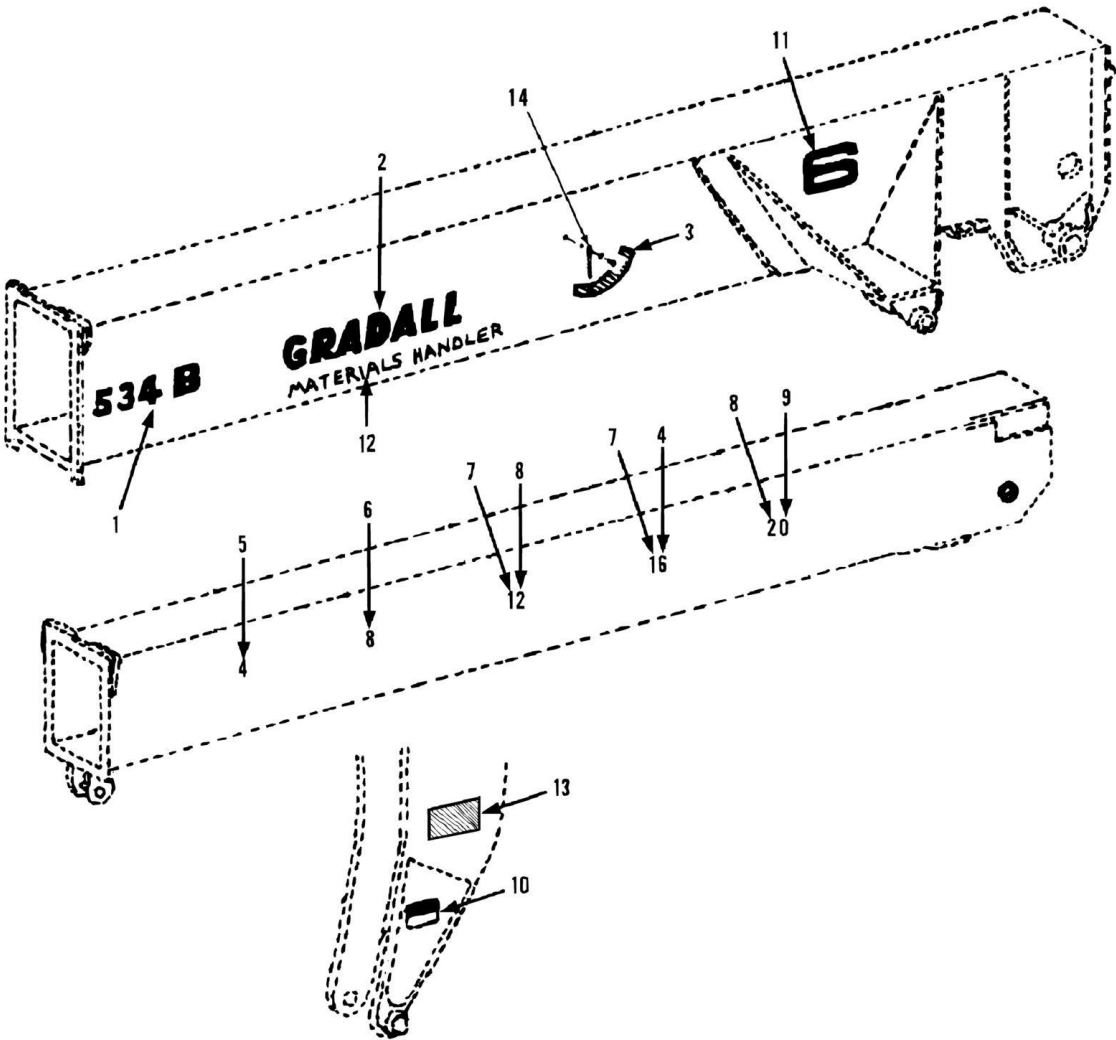
## SECTION 11 - MISCELLANEOUS

**FIGURE 11-3. BOOM DECALS (SN 8344001L to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                 | REV |
|------|-------------|-----|---------------------------------------------|-----|
| 1    | 91033003    | 2   | "534B" DECAL, STANDARD (white)              |     |
| 1    | 91033002    | 2   | "534B" DECAL, OPTIONAL (black)              |     |
| 2    | 91003006    | 2   | "GRADALL" DECAL, STANDARD (white)           |     |
| 2    | 91043132    | 2   | "GRADALL" DECAL, OPTIONAL (black)           |     |
| 3    | 91003031    | 1   | BOOM ANGLE INDICATOR DECAL                  |     |
| 4    | 91003025    | 1   | "6" DECAL, STANDARD (white)                 |     |
| 4    | 91043137    | 1   | "6" DECAL, OPTIONAL (black)                 |     |
| 5    | 91003020    | 1   | "4" DECAL, STANDARD (white)                 |     |
| 5    | 91043136    | 1   | "4" DECAL, OPTIONAL (black)                 |     |
| 6    | 91003027    | 1   | "8" DECAL, STANDARD (white)                 |     |
| 6    | 91043138    | 1   | "8" DECAL, OPTIONAL (black)                 |     |
| 7    | 91003016    | 2   | "1" DECAL, STANDARD (white)                 |     |
| 7    | 91043134    | 2   | "1" DECAL, OPTIONAL (black)                 |     |
| 8    | 91003018    | 2   | "2" DECAL, STANDARD (white)                 |     |
| 8    | 91043135    | 2   | "2" DECAL, OPTIONAL (black)                 |     |
| 9    | 91003014    | 2   | "0" DECAL, STANDARD (white)                 |     |
| 9    | 91043133    | 2   | "0" DECAL, OPTIONAL (black)                 |     |
| 10   | 91033023    | 1   | WARNING DECAL                               |     |
| 11   | 91033018    | 2   | "6" DECAL, STANDARD (white)                 |     |
| 11   | 91033218    | 2   | "6" DECAL, OPTIONAL (black)                 |     |
| 11   | 91033016    | 2   | "8" DECAL, STANDARD (white)                 |     |
| 11   | 91033216    | 2   | "8" DECAL, OPTIONAL (black)                 |     |
| 12   | 91043039    | 2   | "MATERIALS HANDLER" DECAL, STANDARD (white) |     |
| 12   | 91043038    | 2   | "MATERIALS HANDLER" DECAL, OPTIONAL (black) |     |
| 13   | 90200445    | 1   | BOOM ANGLE INDICATOR                        |     |
| 13   | 90200688    | 1   | BEARING                                     |     |
| 13   | 88561111    | 1   | FLAT WASHER, 1/2                            |     |
| 13   | 90026491    | 1   | SHOULDER BOLT                               |     |

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FIGURE 11-4. BOOM DECALS (SN 0144637J to Present)



## SECTION 11 - MISCELLANEOUS

**FIGURE 11-4. BOOM DECALS (SN 0144637J to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                 | REV |
|------|-------------|-----|---------------------------------------------|-----|
| 1    | 91033003    | 2   | "534B" DECAL, STANDARD (white)              |     |
| 1    | 91033002    | 2   | "534B" DECAL, OPTIONAL (black)              |     |
| 2    | 91003006    | 2   | "GRADALL" DECAL, STANDARD (white)           |     |
| 2    | 91043132    | 2   | "GRADALL" DECAL, OPTIONAL (black)           |     |
| 3    | 91003031    | 1   | BOOM ANGLE INDICATOR                        |     |
| 4    | 91003025    | 1   | "6" DECAL, STANDARD (white)                 |     |
| 4    | 91043137    | 1   | "6" DECAL, OPTIONAL (black)                 |     |
| 5    | 91003020    | 1   | "4" DECAL, STANDARD (white)                 |     |
| 5    | 91043136    | 1   | "4" DECAL, OPTIONAL (black)                 |     |
| 6    | 91003027    | 1   | "8" DECAL, STANDARD (white)                 |     |
| 6    | 91043138    | 1   | "8" DECAL, OPTIONAL (black)                 |     |
| 7    | 91003016    | 2   | "1" DECAL, STANDARD (white)                 |     |
| 7    | 91043134    | 2   | "1" DECAL, OPTIONAL (black)                 |     |
| 8    | 91003018    | 2   | "2" DECAL, STANDARD (white)                 |     |
| 8    | 91043135    | 2   | "2" DECAL, OPTIONAL (black)                 |     |
| 9    | 91003014    | 2   | "0" DECAL, STANDARD (white)                 |     |
| 9    | 91043133    | 1   | "0" DECAL OPTIONAL (black)                  |     |
| 10   | 91033023    | 2   | WARNING DECAL                               |     |
| 11   | 91033018    | 2   | "6" DECAL, STANDARD (white)                 |     |
| 11   | 91033218    | 2   | "6" DECAL, OPTIONAL (black)                 |     |
| 11   | 91033016    | 2   | "8" DECAL, STANDARD (white)                 |     |
| 11   | 91033216    | 2   | "8" DECAL, OPTIONAL (black)                 |     |
| 12   | 91043039    | 2   | "MATERIALS HANDLER" DECAL, STANDARD (white) |     |
| 12   | 91043038    | 2   | "MATERIALS HANDLER" DECAL, OPTIONAL (black) |     |
| 13   | 83601011    | 1   | WARNING DECAL                               |     |
| 14   | 90200445    | 1   | BOOM ANGLE INDICATOR                        |     |
| 14   | 90200688    | 1   | BEARING                                     |     |
| 14   | 88561108    | 1   | FLAT WASHER, 1/2                            |     |
| 14   | 90026491    | 1   | SHOULDER BOLT                               |     |

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**FIGURE 11-5. BOOM DECALS (SN 8644859G to Present)**

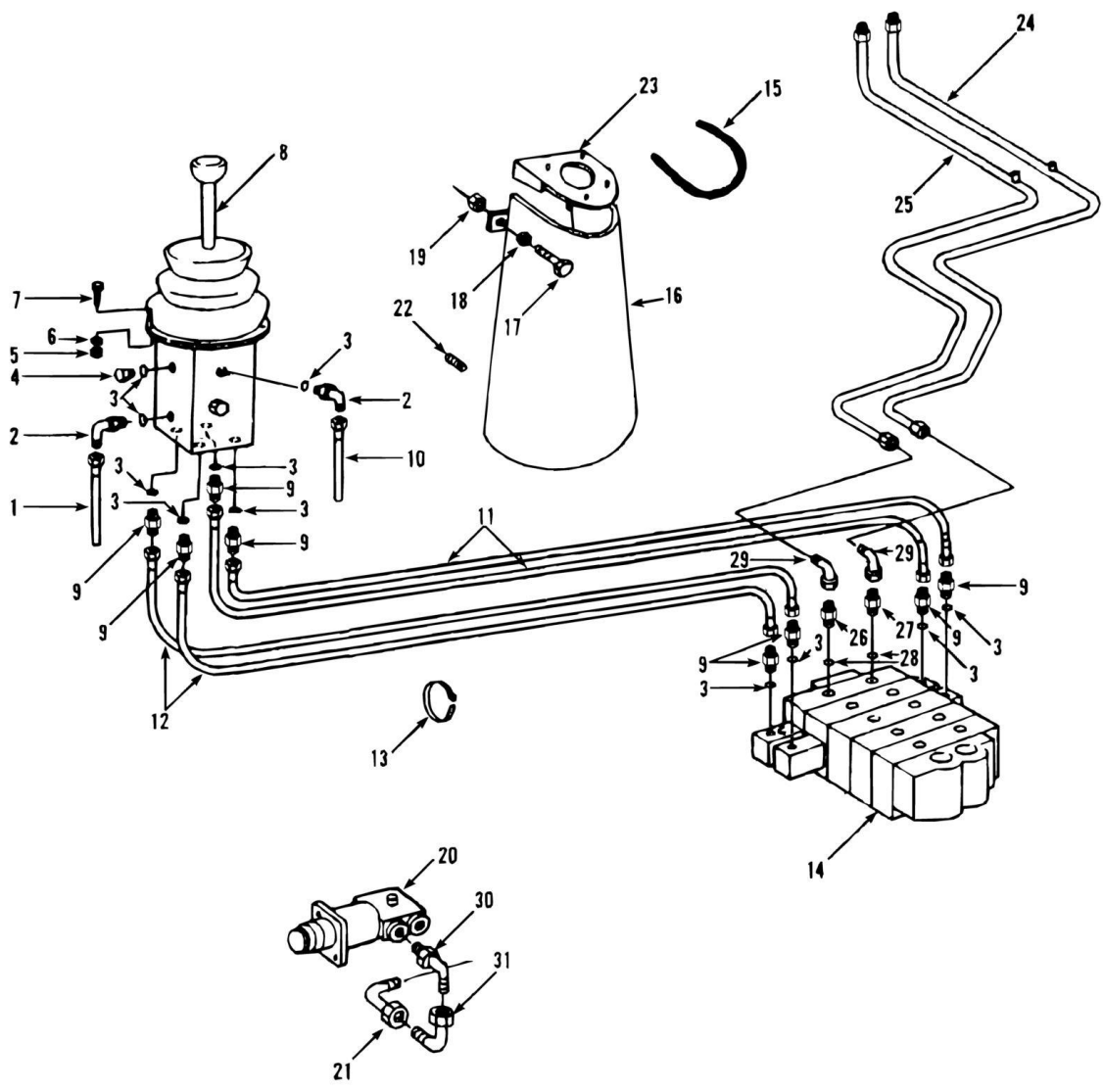
| ITEM | PART NUMBER | QTY | DESCRIPTION             | REV |
|------|-------------|-----|-------------------------|-----|
| 1    | 91123037    | 2   | "GRADALL" DECAL, WHITE  |     |
| 1    | 91123038    | 2   | "GRADALL" DECAL, BLACK  |     |
| 2    | 91033392    | 2   | "534B" DECAL, WHITE     |     |
| 2    | 91033393    | 2   | "534B" DECAL, BLACK     |     |
| 3    | 91033018    | 2   | "6" DECAL, WHITE        |     |
| 3    | 91033218    | 2   | "6" DECAL, BLACK        |     |
| 4    | 91003031    | 1   | BOOM ANGLE DECAL, WHITE |     |
| 5    | 90200445    | 1   | PENDULUM                |     |
| 6    | 90200688    | 1   | BEARING                 |     |
| 7    | 90026491    | 1   | SHOULDER BOLT, 1/4-20   |     |
| 8    | 88561108    | 1   | FLATWASHER, 5/16        |     |
| 9    | 91033023    | 1   | QUICK SWITCH DECAL      |     |
| 10   | 91003016    | 1   | "1" DECAL, WHITE        |     |
| 10   | 91043134    | 1   | "1" DECAL, BLACK        |     |
| 11   | 91003018    | 1   | "2" DECAL, WHITE        |     |
| 11   | 91043135    | 1   | "2" DECAL, BLACK        |     |
| 12   | 91123042    | 1   | "3" DECAL, WHITE        |     |
| 12   | 91123043    | 1   | "3" DECAL, BLACK        |     |
| 13   | 91003020    | 1   | "4" DECAL, WHITE        |     |
| 13   | 91043136    | 1   | "4" DECAL, BLACK        |     |
| 14   | 91123044    | 1   | "5" DECAL, WHITE        |     |
| 14   | 91123045    | 1   | "5" DECAL, BLACK        |     |



**SECTION 12 - OPTIONAL EQUIPMENT**

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FIGURE 12-1. JOYSTICK



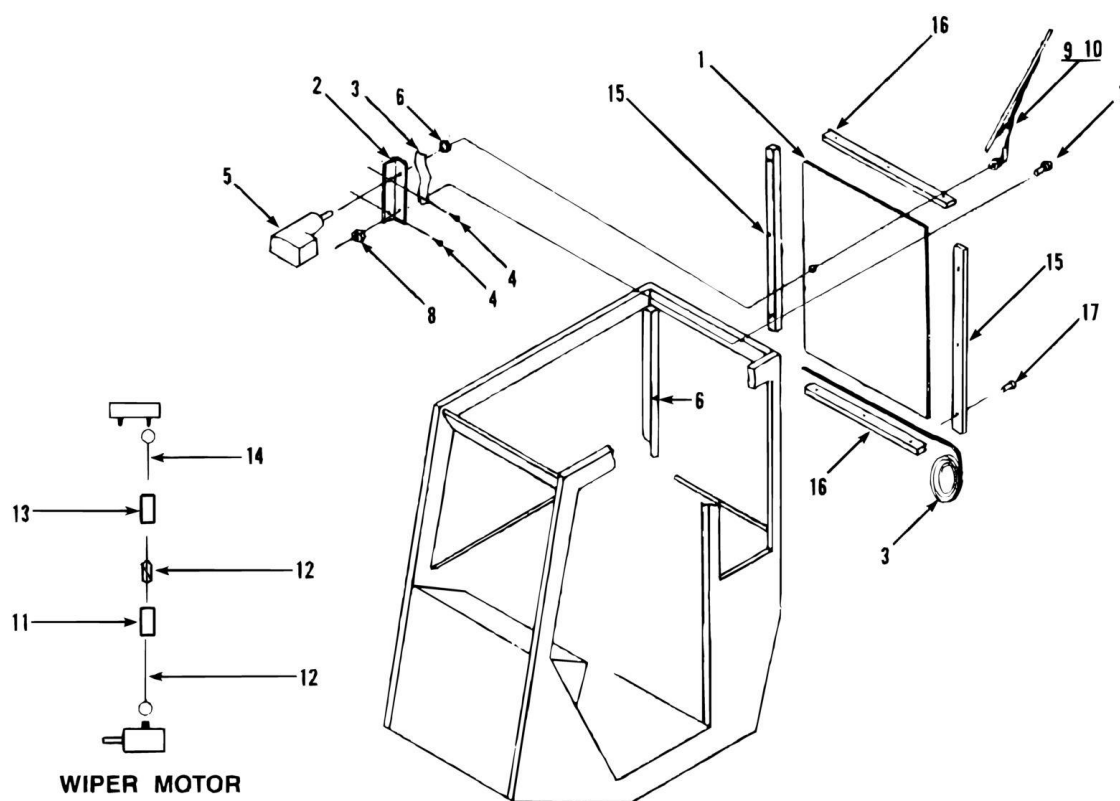
## SECTION 12 - OPTIONAL EQUIPMENT

**FIGURE 12-1. JOYSTICK**

| ITEM | PART NUMBER | QTY   | DESCRIPTION                                | REV |
|------|-------------|-------|--------------------------------------------|-----|
|      | 91045173    |       | JOYSTICK INSTALLATION (includes all items) |     |
| 1    | 84717587    | 1     | HOSE ASSY                                  |     |
| 2    | 88662064    | 2     | ELBOW, 90, (includes item 3)               |     |
| 3    | 88591204    | 12    | O-RING                                     |     |
| 4    | 88662174    | 2     | HEX HD PLUG (includes item 3)              |     |
| 5    | 88501004    | 4     | HEX NUT, 1/4-20                            |     |
| 6    | 88551009    | 4     | LOCKWASHER, 1/4                            |     |
| 7    | 88201004    | 4     | HEX HD CAPSCREW, 1/4-20X7/8 GR5            |     |
| 8    | 91043064    | 1     | HYDRAULIC CONTROLLER ASSY                  |     |
| 9    | 88662005    | 8     | CONNECTOR (includes item 3)                |     |
| 10   | 77133167    | 1     | HOSE ASSY                                  |     |
| 11   | 84717458    | 2     | HOSE ASSY                                  |     |
| 12   | 84717519    | 2     | HOSE ASSY                                  |     |
| 13   | 90027187    | 7     | NYLON TIE WRAP                             |     |
| 14   | 91043065    | 1     | MAIN CONTROL VALVE                         |     |
| 15   | 90206192    | 17 in | TRIM LOK                                   |     |
| 16   | 91046056    | 1     | JOYSTICK COVER                             |     |
| 17   | 88201018    | 2     | HEX HD CAPSCREW, 5/16-18x3/4 GR5           |     |
| 18   | 88551010    | 2     | LOCKWASHER, 5/16                           |     |
| 19   | 88501005    | 2     | HEX NUT, 5/16-18                           |     |
| 20   | 91033307    | 1     | BRAKE VALVE                                |     |
| 21   | 88662105    | 1     | ELBOW-90, (swivel nut)                     |     |
| 22   | 85051384    | 2     | WELD STUD, 5/16-18X1                       |     |
| 23   | 91046047    | 1     | JOYSTICK MOUNT WELDMENT                    |     |
| 24   | 91043095    | 1     | TUBE ASSY                                  |     |
| 25   | 91043096    | 1     | TUBE ASSY                                  |     |
| 26   | 88662038    | 1     | CONNECTOR (includes item 28)               |     |
| 27   | 88662008    | 1     | CONNECTOR (includes item 28)               |     |
| 28   | 88591207    | 2     | O-RING                                     |     |
| 29   | 88662108    | 2     | ELBOW-90, (swivel nut)                     |     |
| 30   | 88662064    | 1     | ELBOW-90, (includes o-ring)                |     |
| 30   | 88591204    | 1     | O-RING                                     |     |
| 31   | 77131088    | 1     | ELBOW -90                                  |     |

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### FIGURE 12-2. REAR WIPER INSTALLATION



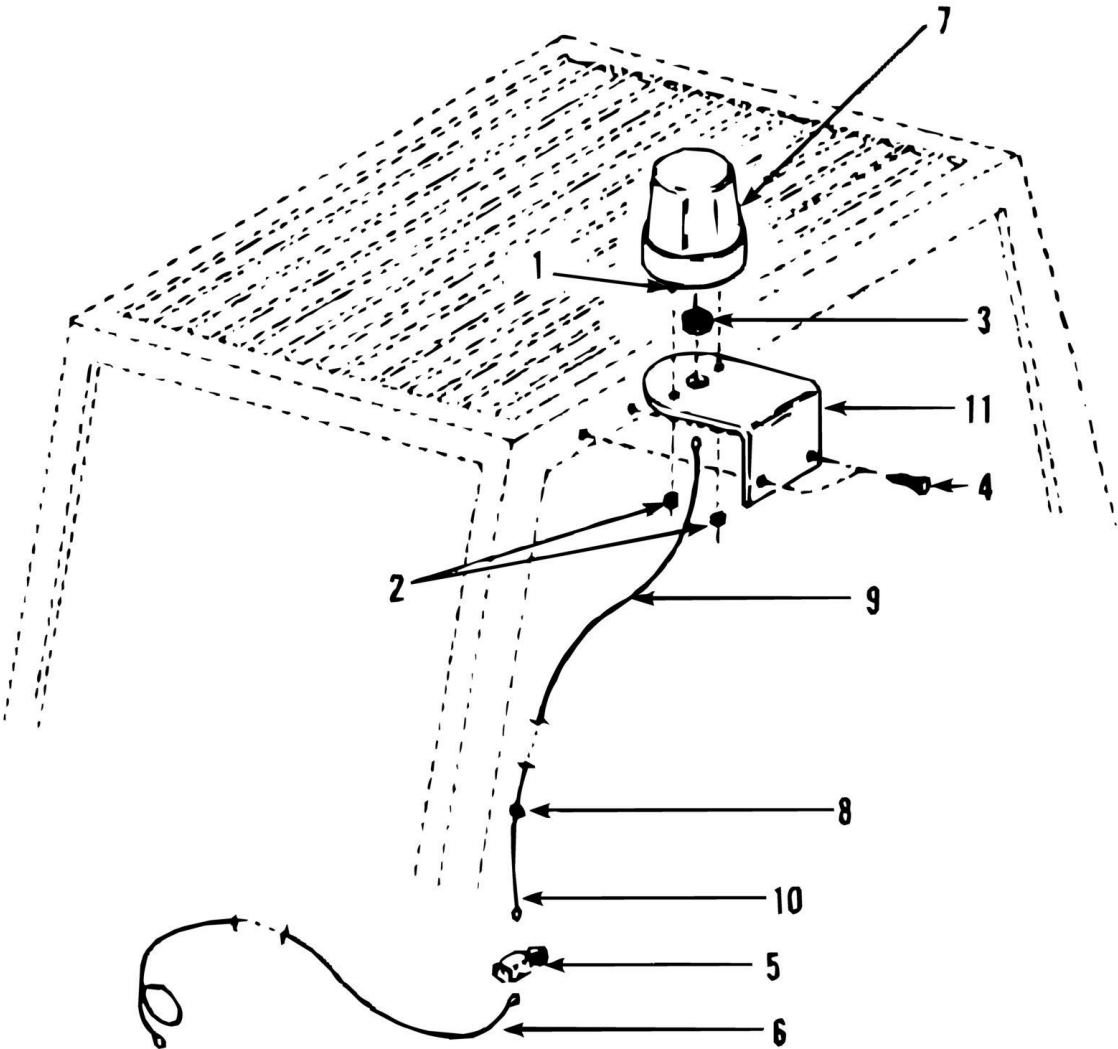
## SECTION 12 - OPTIONAL EQUIPMENT

**FIGURE 12-2. REAR WIPER INSTALLATION**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                        | REV |
|------|-------------|-----|----------------------------------------------------|-----|
|      | 90403109    |     | REAR WIPER INSTALLATION (includes items 2 thru 14) |     |
| 1    | 90403035    | Ref | REAR WINDOW                                        |     |
| 2    | 90206025    | 1   | WIPER MOTOR MOUNT                                  |     |
| 3    | 90200755    | AR  | WEATHER STRIPPING                                  |     |
| 4    | 90027319    | 2   | SELF TAPPING SCREW, 1/4-20X1                       |     |
| 5    | 90206023    | 1   | WIPER MOTOR                                        |     |
| 6    | 90027214    | 2   | GROMMET                                            |     |
| 7    | 88201003    | 1   | HEX HD CAPSCREW, 1/4-20x3/4 GR5                    |     |
| 8    | 88501004    | 1   | HEX NUT, 1/4-20                                    |     |
| 9    | 90206024    | 1   | WIPER BLADE                                        |     |
| 10   | 90206374    | 1   | WIPER ARM                                          |     |
| 11   | 90206312    | 1   | JUMPER WIRE                                        |     |
| 12   | 86683480    | 2   | CRIMP ON CONNECTOR                                 |     |
| 13   | 90203376    | 1   | FUSE                                               |     |
| 14   | 90200349    | 1   | JUMPER WIRE                                        |     |
| 15   | 90206019    | Ref | WINDOW HOLD DOWN BAR                               |     |
| 16   | 90206018    | Ref | WINDOW HOLD DOWN BAR                               |     |
| 17   | 90027315    | Ref | SELF TAPPING SCREW, 1/4-20X1-1/4                   |     |

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FIGURE 12-3. ROTATING BEACON ASSY





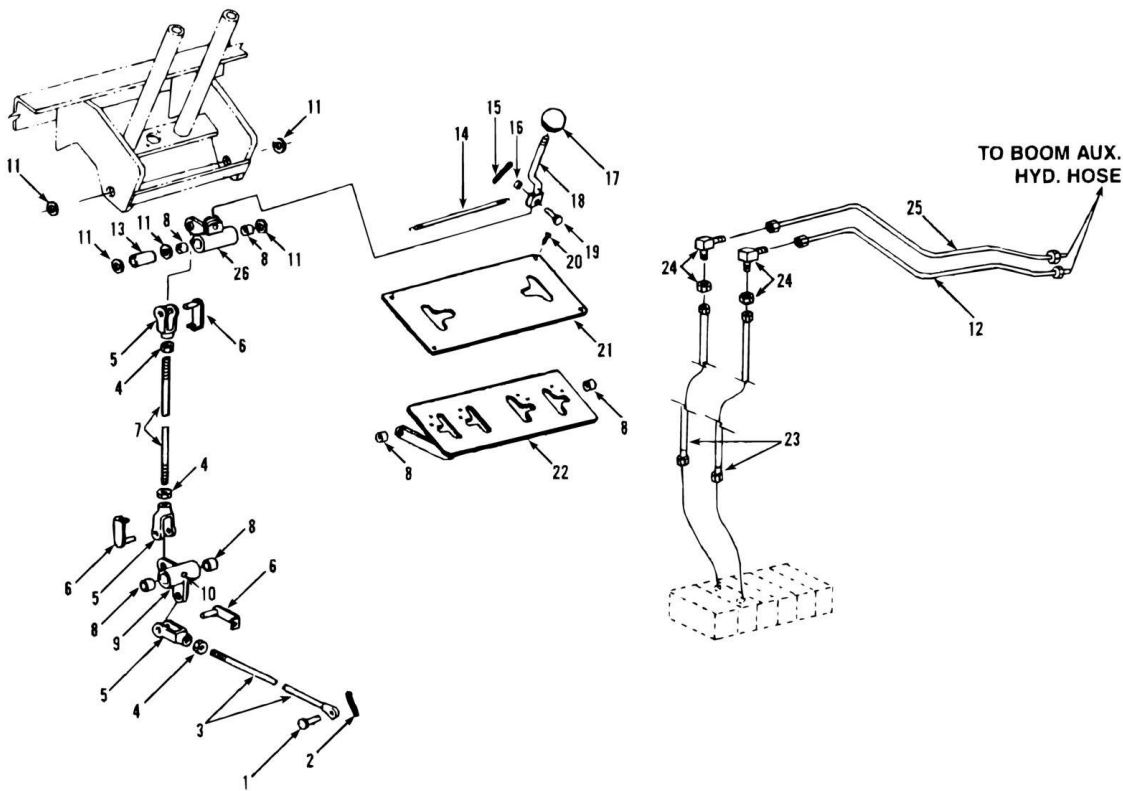
## SECTION 12 - OPTIONAL EQUIPMENT

**FIGURE 12-3. ROTATING BEACON ASSY**

| ITEM | PART NUMBER | QTY | DESCRIPTION                               | REV |
|------|-------------|-----|-------------------------------------------|-----|
|      | 91035007    |     | ROTATING BEACON ASSY (includes all items) |     |
| 1    | 88201014    | 2   | HEX HD CAPSCREW, 1/4-20X3-1/4 GR5         |     |
| 2    | 88501004    | 2   | HEX NUT, 1/4-20                           |     |
| 3    | 90027214    | 2   | BUTTON GROMMET                            |     |
| 4    | 90027316    | 3   | SELF TAPPING SCREW                        |     |
| 5    | 90200171    | 1   | SWITCH                                    |     |
| 6    | 90200352    | 1   | JUMPER WIRE                               |     |
| 7    | 90200685    | 1   | ROTATING BEACON                           |     |
| 8    | 90202303    | 1   | BUTTON GROMMET                            |     |
| 9    | 90206132    | 1   | JUMPER WIRE                               |     |
| 10   | 90206133    | 1   | JUMPER WIRE                               |     |
| 11   | 90400706    | 1   | BEACON BRACKET                            |     |

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FIGURE 12-4. AUXILIARY HYDRAULICS



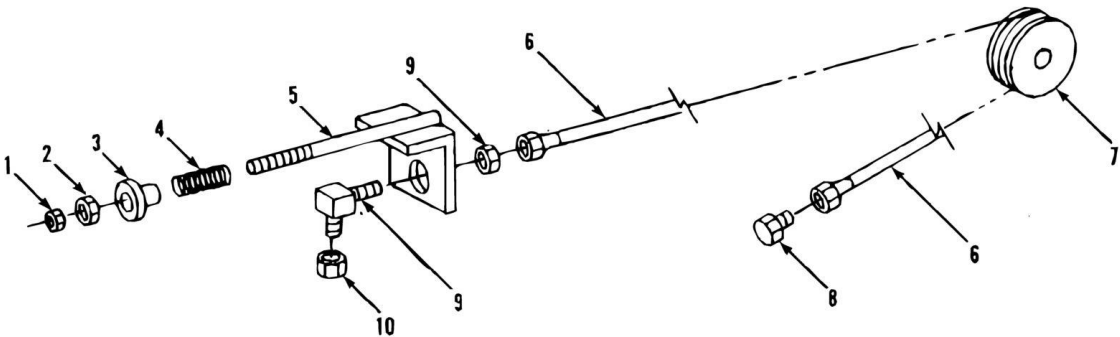
## SECTION 12 - OPTIONAL EQUIPMENT

**FIGURE 12-4. AUXILIARY HYDRAULICS**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                   | REV |
|------|-------------|-----|-----------------------------------------------|-----|
|      | 91045022    | Ref | AUXILIARY HYDRAULIC ASSY (includes all items) |     |
| 1    | 90021552    | 1   | CLEVIS PIN                                    |     |
| 2    | 88631301    | 1   | COTTER PIN, 1/16X1/2                          |     |
| 3    | 91046051    | 1   | CONTROL ROD                                   |     |
| 4    | 88501406    | 3   | HEX JAM NUT, 3/8-24                           |     |
| 5    | 88821004    | 3   | ADJUSTABLE YOKE END, 3/8-24                   |     |
| 6    | 90027987    | 3   | SPRING CLEVIS                                 |     |
| 7    | 90202361    | 1   | ROD                                           |     |
| 8    | 90200290    | 6   | NEEDLE BEARING                                |     |
| 9    | 90205533    | 1   | BELLCRANK                                     |     |
| 10   | 88671008    | 1   | LUBE FITTING, STRAIGHT, 1/4-28                |     |
| 11   | 88561113    | 10  | FLAT WASHER, 5/8                              |     |
| 12   | 90207393    | 1   | TUBE ASSY                                     |     |
| 13   | 91031189    | 1   | SPACER                                        |     |
| 14   | 90200559    | 1   | SPRING                                        |     |
| 15   | 88631309    | 1   | COTTER PIN, 3/32X3/4                          |     |
| 16   | 90200688    | 1   | BEARING                                       |     |
| 17   | 90200299    | 1   | KNOB                                          |     |
| 18   | 90205981    | 1   | HANDLE                                        |     |
| 19   | 90021557    | 1   | CLEVIS PIN                                    |     |
| 20   | 90020489    | 4   | PAN HEAD SCREW, #2                            |     |
| 21   | 90206045    | 1   | CONTROL PANEL                                 |     |
| 22   | 90402904    | 1   | CONTROL PANEL                                 |     |
| 23   | 90022046    | 2   | HOSE ASSY                                     |     |
| 24   | 90029938    | 2   | BULKHEAD FITTING - 90, (includes nut)         |     |
| 25   | 91043196    | 1   | TUBE ASSY                                     |     |
| 26   | 90205983    | 1   | BELLCRANK                                     |     |

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FIGURE 12-5. WINCH DRAIN LINES



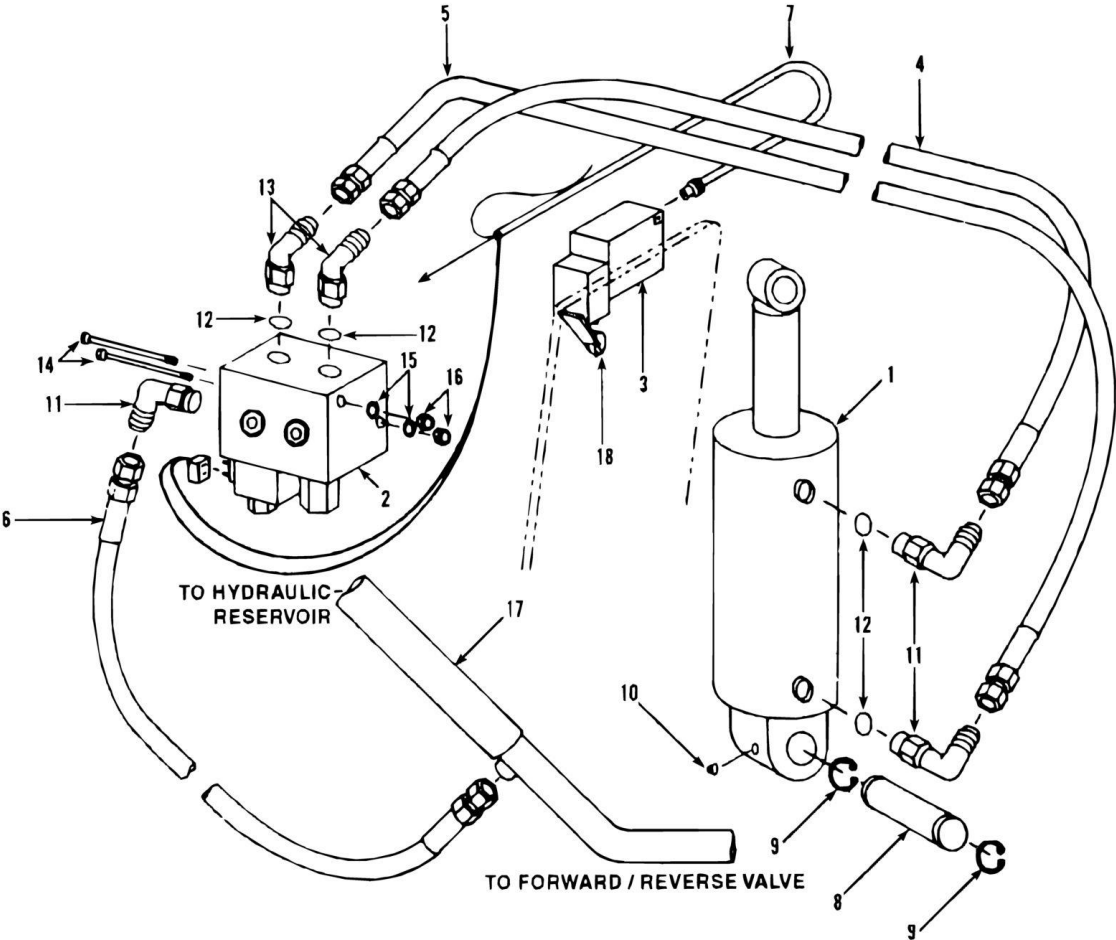
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**FIGURE 12-5. WINCH DRAIN LINES**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                 | REV |
|------|-------------|-----|---------------------------------------------|-----|
|      | 91035133    | Ref | WINCH DRAIN LINE PARTS (includes all items) |     |
| 1    | 88501108    | 1   | HEX JAM NUT, 1/2-13                         |     |
| 2    | 88501008    | 1   | HEX NUT, 1/2-13                             |     |
| 3    | 90207041    | 1   | SPRING RETAINER                             |     |
| 4    | 90200313    | 1   | SPRING                                      |     |
| 5    | 90403249    | 1   | HOSE TAKE-UP WELDMWENT                      |     |
| 6    | 90206888    | 1   | HOSE ASSY                                   |     |
| 7    | 91043101    | 1   | HOSE TAKE-UP SHEAVE                         |     |
| 8    | 88661385    | 1   | HOSE HD PLUG, 1/2                           |     |
| 9    | 90027180    | 1   | 90, BULKHEAD FITTING (includes nut)         |     |
| 10   | 88661365    | 1   | HEX CAP, 1/2                                |     |

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FIGURE 12-6. STABILIZER



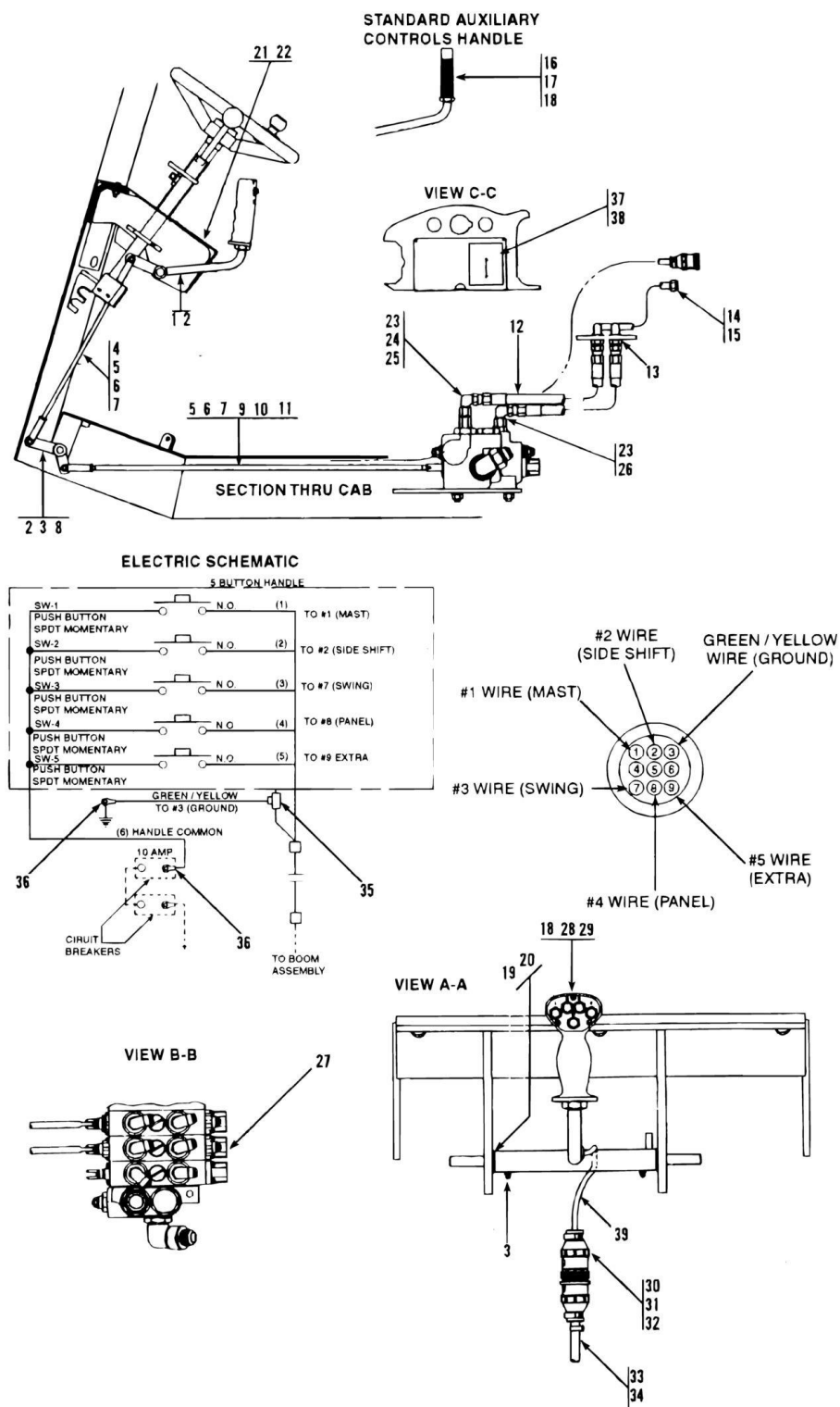
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**FIGURE 12-6. STABILIZER**

| ITEM | PART NUMBER | QTY | DESCRIPTION                   | REV |
|------|-------------|-----|-------------------------------|-----|
| 1    | 91043274    | 1   | STABILIZER CYLINDER           |     |
| 2    | 91113003    | 1   | STABILIZER VALVE              |     |
| 3    | 91043123    | 1   | SWITCH (includes item 18)     |     |
| 4    | 84717847    | 1   | HOSE ASSY                     |     |
| 5    | 84717848    | 1   | HOSE ASSY                     |     |
| 6    | 84716426    | 1   | HOSE ASSY                     |     |
| 7    | 91045034    | 1   | BOOM SWITCH HARNESS           |     |
| 8    | 91041227    | 2   | PIN                           |     |
| 9    | 88581140    | 4   | RETAINING RING                |     |
| 10   | 88671008    | 2   | LUBE FITTING, STRAIGHT 1/4-28 |     |
| 11   | 88662065    | 3   | ELBOW, 90, (includes item 12) |     |
| 12   | 88591205    | 5   | O-RING                        |     |
| 13   | 88662085    | 2   | ELBOW, 45, (includes item 12) |     |
| 14   | 83201073    | 2   | HEX HD SCREW, 3/8-16X4-1/2    |     |
| 15   | 88551011    | 2   | LOCKWASHER, 3/8               |     |
| 16   | 88501006    | 2   | HEX NUT, 3/8-16               |     |
| 17   | 91043144    | 1   | DUMP TUBE                     |     |
| 18   | 91044475    | 1   | LEVER/ROLLER ASSY             |     |

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FIGURE 12-7. AUXILIARY CONTROLS ASSY





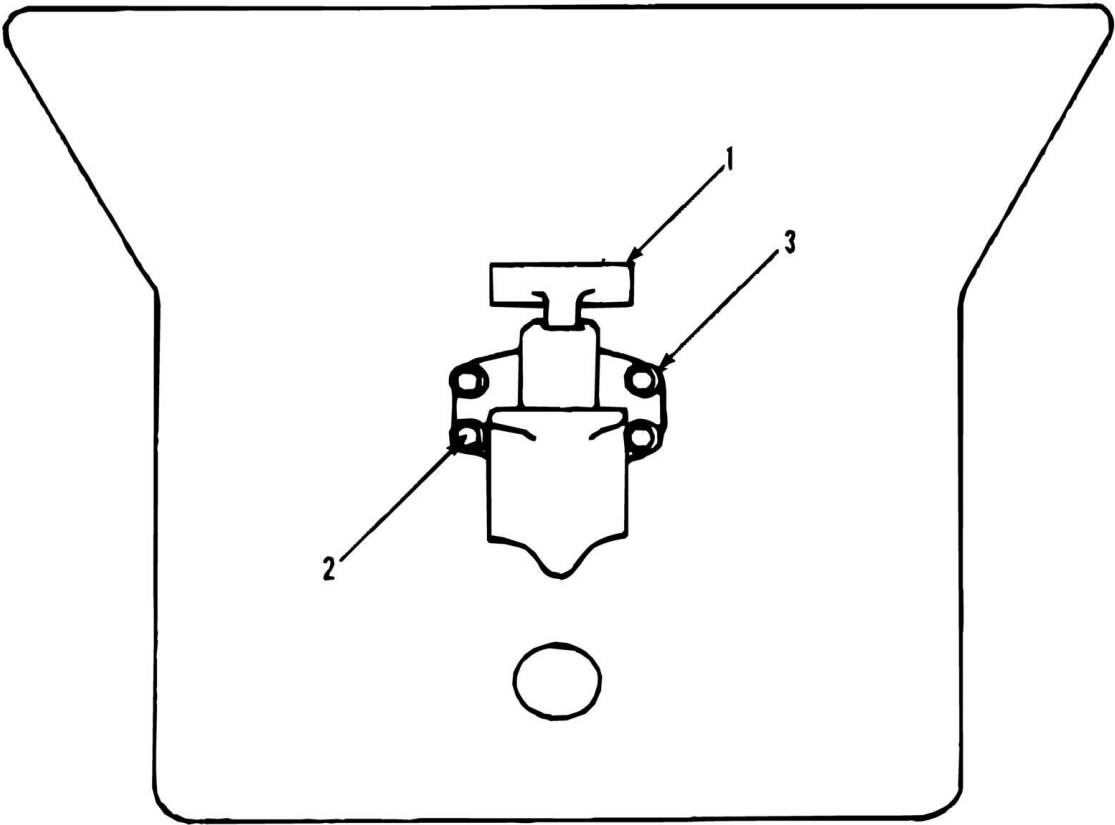
## SECTION 12 - OPTIONAL EQUIPMENT

**FIGURE 12-7. AUXILIARY CONTROLS ASSY**

| ITEM | PART NUMBER | QTY   | DESCRIPTION                                                            | REV |
|------|-------------|-------|------------------------------------------------------------------------|-----|
|      | 91035220    | Ref   | AUXILIARY CONTROLS ASSEMBLY (includes items 1 thru 22, & item 38)      |     |
|      | 91035221    | Ref   | AUXILIARY FIELD INSTALLATION (includes items 1 thru 27, & item 38)     |     |
|      | 91035222    | Ref   | AUXILIARY ELECTRIC INSTALLATION (includes items 28 thru 37, & item 39) |     |
| 1    | 91036107    | 1     | AUXILIARY HANDLE WELDMENT                                              |     |
| 2    | 90200290    | 4     | BEARING                                                                |     |
| 3    | 88671008    | 3     | LUBE FITTING, STRAIGHT 1/4-28                                          |     |
| 4    | 90202361    | 1     | LINKAGE ROD                                                            |     |
| 5    | 88821004    | 3     | ADJUSTABLE YOKE END                                                    |     |
| 6    | 90027987    | 3     | SPRING CLEVIS                                                          |     |
| 7    | 88501406    | 3     | HEX JAM NUT, 3/8-24                                                    |     |
| 8    | 90205533    | 1     | BELLCRANK                                                              |     |
| 9    | 91046051    | 1     | LINKAGE ROD                                                            |     |
| 10   | 90021552    | 1     | CLEVIS PIN                                                             |     |
| 11   | 88631301    | 1     | COTTER PIN, 1/6X1/2                                                    |     |
| 12   | 90022043    | 2     | HOSE ASSY                                                              |     |
| 13   | 90029938    | 2     | 90, BULKHEAD ELBOW                                                     |     |
| 14   | 90207393    | 1     | TUBE ASSY                                                              |     |
| 15   | 91043196    | 1     | TUBE ASSY                                                              |     |
| 16   | 91031465    | 1     | HANDLE INSERT                                                          |     |
| 17   | 90200774    | 1     | HANDLE GRIP                                                            |     |
| 18   | 88501112    | 1     | HEAVY HEX JAM NUT, 3/4-10                                              |     |
| 19   | 88561115    | 4     | FLATWASHER, 3/4                                                        |     |
| 20   | 90028662    | 2     | WAVE BEND WASHER                                                       |     |
| 21   | 91031464    | 1     | COVER PANEL                                                            |     |
| 22   | 88321015    | Ref   | SELF TAPPING SCREW, #6-32X1/2                                          |     |
| 23   | 88662107    | 2     | ELBOW, 90, (swivel nut)                                                |     |
| 24   | 86923006    | 1     | ADAPTER, 3/4X5/8                                                       |     |
| 25   | 88662008    | 1     | CONNECTOR (includes o-ring)                                            |     |
| 25   | 88591207    | 1     | O-RING                                                                 |     |
| 26   | 88662022    | 1     | CONNECTOR (includes O-ring)                                            |     |
| 26   | 88591207    | 1     | O-RING                                                                 |     |
| 27   | 91033239    | 1     | CONVERSION KIT                                                         |     |
| 28   | 91033387    | 1     | 5 BUTTON HANDLE                                                        |     |
| 29   | 91033425    | 1     | GROMMET                                                                |     |
| 30   | 90028956    | 1     | CONNECTOR BODY                                                         |     |
| 31   | 90028958    | 6     | TERMINAL                                                               |     |
| 32   | 90028978    | 1     | CABLE CLAMP                                                            |     |
| 33   | 90403396    | 1     | AUXILIARY WIRING HARNESS                                               |     |
| 34   | 90027187    | 4     | TY-RAP                                                                 |     |
| 35   | 90028968    | 1     | CONNECTOR                                                              |     |
| 36   | 91033391    | 2     | INSULATED RING TERMINAL                                                |     |
| 37   | 91033394    | 1     | AUXILIARY CONTROL DECAL                                                |     |
| 38   | 91033417    | 1     | AUXILIARY CONTROL DECAL                                                |     |
| 39   | Bulk        | 12 in | LOOM, 5/16IN ID                                                        |     |

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FIGURE 12-8. PINTLE HOOK



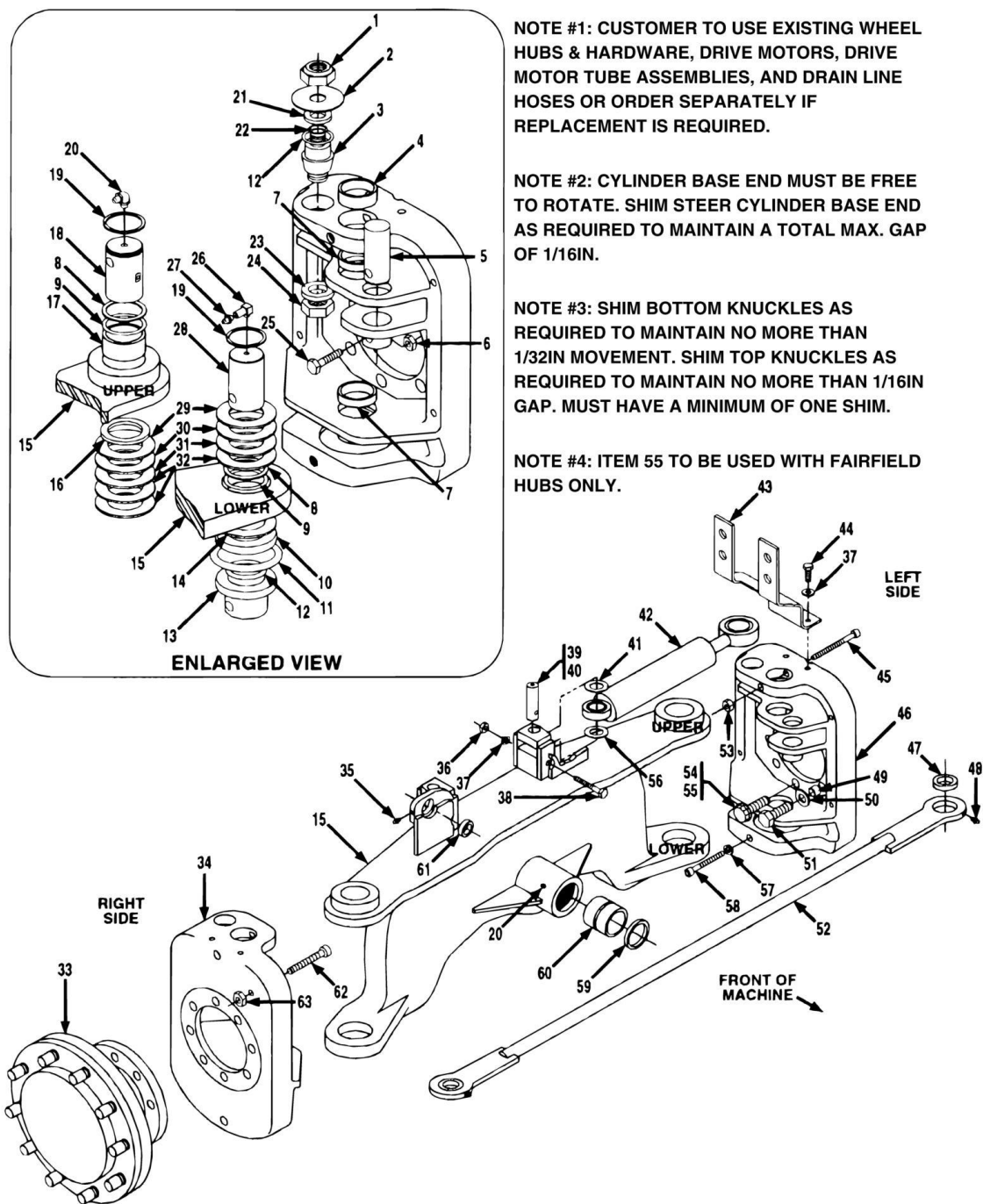
## SECTION 12 - OPTIONAL EQUIPMENT

**FIGURE 12-8. PINTLE HOOK**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                   | REV |
|------|-------------|-----|-----------------------------------------------|-----|
|      | 91035101    | Ref | PINTLE HOOK INSTALLATION (includes all items) |     |
| 1    | 90200602    | 1   | PINTLE                                        |     |
| 2    | 83201120    | 4   | HEX HD CAPSCREW, 1/2-13X1-3/4 GR8             |     |
| 3    | 88551013    | 4   | LOCKWASHER, 1/2                               |     |

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FIGURE 12-9. (91045129) STEER AXLE ADVANTAGE KIT



## SECTION 12 - OPTIONAL EQUIPMENT

**FIGURE 12-9. (91045129) STEER AXLE ADVANTAGE KIT**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                                                                              | REV |
|------|-------------|-----|--------------------------------------------------------------------------------------------------------------------------|-----|
|      | 91045129    | Ref | STEER AXLE ADVANTAGE KIT (includes all items except 33, 50, & 51)                                                        |     |
|      | 91035240    | 1   | STEERING KNUCKLE KIT (includes items 2, 4, 7 thru 14, 16 thru 22, 28 thru 32, 45, 53, 57 & 58 - one kit does both sides) |     |
|      | 91045152    | Ref | STEERING CYLINDER PIN KIT (includes one each of items 1, 2, 3, 12 & 21 thru 24- one kit needed for each side)            |     |
| 1    | 88521312    | 2   | HEX LOCKNUT, 3/4-10 (torque to 160-175 ft lbs)                                                                           |     |
| 2    | 91081415    | 2   | DIRT SHIELD                                                                                                              |     |
| 3    | 91041481    | 2   | STEERING CYLINDER PIN (knuckle end)                                                                                      |     |
| 4    | 91121239    | 2   | BUSHING                                                                                                                  |     |
| 5    | 91041439    | 2   | TIE ROD PIN                                                                                                              |     |
| 6    | 88521306    | 2   | LOCKNUT, 3/8-16                                                                                                          |     |
| 7    | 91121240    | 4   | BUSHING                                                                                                                  |     |
| 8    | 91123030    | 4   | BACK-UP RING                                                                                                             |     |
| 9    | 88591032    | 4   | O-RING                                                                                                                   |     |
| 10   | 91123027    | 2   | BUSHING (lower)                                                                                                          |     |
| 11   | 91123029    | 2   | O-RING                                                                                                                   |     |
| 12   | 88591104    | 4   | O-RING                                                                                                                   |     |
| 13   | 91121091    | 2   | THRUST BUSHING                                                                                                           |     |
| 14   | 91041733    | AR  | SHIM                                                                                                                     |     |
| 15   | 91046126    | 1   | REAR AXLE WELDMENT (includes items 10, 17, 60 & 61)                                                                      |     |
| 16   | 86921268    | 2   | LIP SEAL                                                                                                                 |     |
| 17   | 91123028    | 2   | BUSHING (upper)                                                                                                          |     |
| 18   | 91081693    | 2   | UPPER KING PIN                                                                                                           |     |
| 19   | 88581323    | 4   | RETAINING RING                                                                                                           |     |
| 20   | 88671022    | 4   | LUBE FITTING, 30, 1/8                                                                                                    |     |
| 21   | 91041732    | AR  | SPACER                                                                                                                   |     |
| 21   | 91041438    | AR  | SPACER                                                                                                                   |     |
| 22   | 88591019    | 2   | O-RING                                                                                                                   |     |
| 23   | 91041459    | 2   | WASHER                                                                                                                   |     |
| 24   | 88501416    | 2   | HEX JAM NUT, 1-14 (torque to 225-250 ft lbs)                                                                             |     |
| 25   | 83201140    | 2   | HEX HD CAPSCREW, 3/8-16X2-3/4, GR8                                                                                       |     |
| 26   | 91033444    | 2   | STREET ELBOW                                                                                                             |     |
| 27   | 91033445    | 2   | LUBE FITTING                                                                                                             |     |
| 28   | 91141424    | 2   | LOWER KING PIN                                                                                                           |     |
| 29   | 91041596    | AR  | SHIM (30 gauge thick, see note #3)                                                                                       |     |
| 30   | 91041449    | AR  | SHIM (.060 thick, see note #3)                                                                                           |     |
| 31   | 91041450    | AR  | SHIM (.0478 thick, see note #3)                                                                                          |     |
| 32   | 91041451    | AR  | SHIM (.106 thick, see note #3)                                                                                           |     |
| 33   |             | Ref | DRIVE HUB (use existing hubs)                                                                                            |     |
| 34   | 91120004    | 1   | R.H. STEERING KNUCKLE                                                                                                    |     |
| 35   | 88671008    | 2   | LUBE FITTING, STRAIGHT, 1/4-28                                                                                           |     |
| 36   | 88501006    | 2   | HEX NUT, 3/8-16                                                                                                          |     |
| 37   | 88551011    | 6   | LOCKWASHER, 3/8                                                                                                          |     |
| 38   | 83201144    | 2   | HEX HD CAPSCREW, 3/8-16X5-3/4, GR5                                                                                       |     |
| 39   | 91081695    | 2   | STEERING CYLINDER PIVOT PIN (axle end)                                                                                   |     |
| 40   | 88711280    | 2   | HEX SOCKET PIPE PLUG, 1/8                                                                                                |     |
| 41   | 91041598    | AR  | SHIM (see note #2)                                                                                                       |     |
| 42   |             | Ref | STEERING CYLINDER ASSY (See STEERING CYLINDER for Breakdown)                                                             |     |

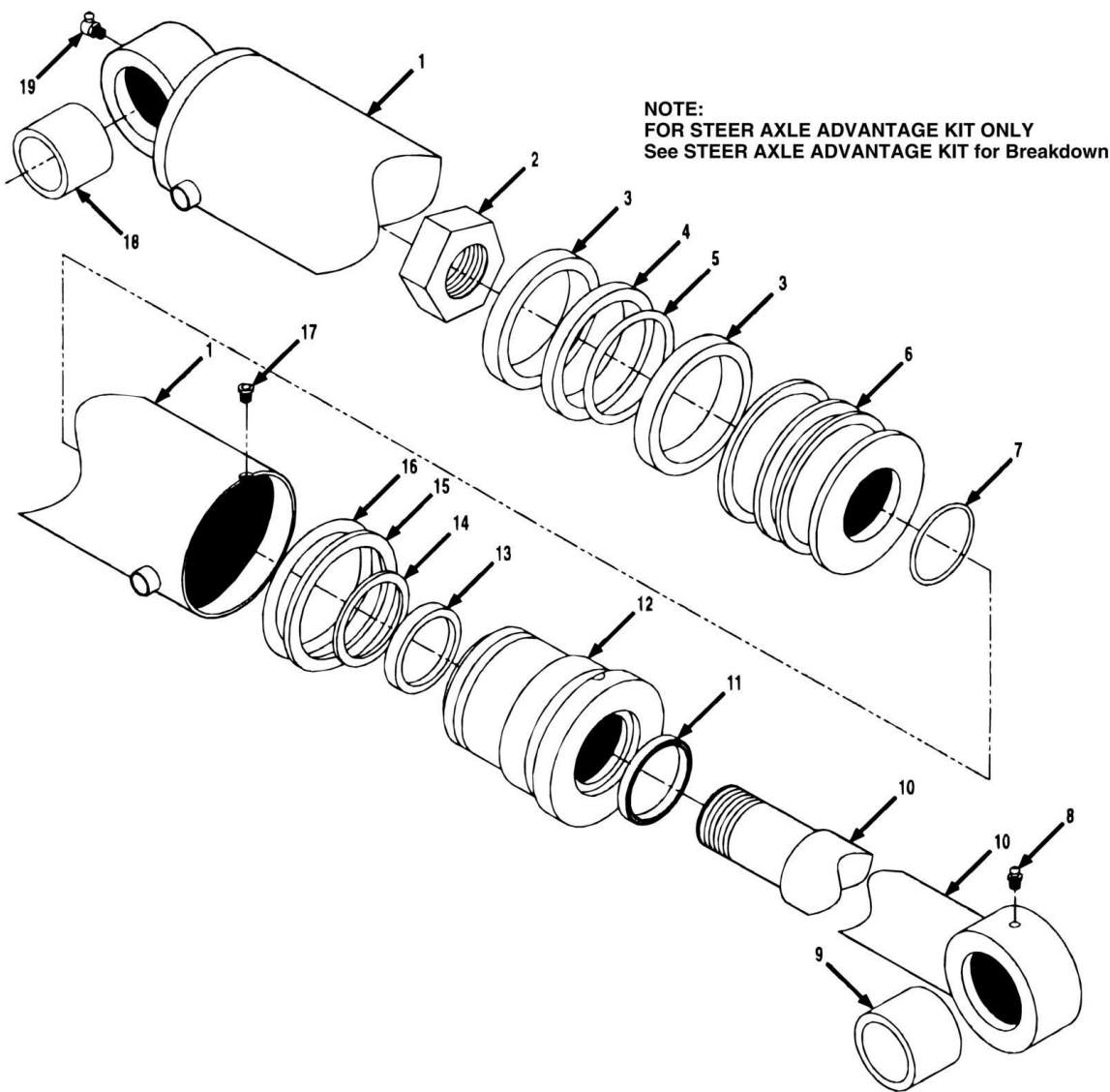
## SECTION 12 - OPTIONAL EQUIPMENT

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                                       | REV |
|------|-------------|-----|-----------------------------------------------------------------------------------|-----|
| 43   | 91081523    | 1   | L.H. TUBE SUPPORT                                                                 |     |
| 43   | 91081522    | 1   | R.H. TUBE SUPPORT                                                                 |     |
| 44   | 88201035    | 4   | HEX HD CAPSCREW, 3/8-16X1, GR5                                                    |     |
| 45   | 88211121    | 2   | SOCKET HD CAPSCREW, 4/2-13X6-1/2, GR8                                             |     |
| 46   | 91120003    | 1   | L.H. STEERING KNUCKLE                                                             |     |
| 47   | 91043247    | 2   | SELF-ALIGNING BUSHING                                                             |     |
| 48   | 88671001    | 2   | LUBE FITTING, STRAIGHT, 1/8                                                       |     |
| 49   | 91041731    | 16  | SPACER                                                                            |     |
| 50   |             | Ref | HARDENED WASHER, 3/4 (use existing hardware)                                      |     |
| 51   |             | Ref | HEX HD CAPSCREW, 3/4-10X2 (use existing hardware)                                 |     |
| 52   | 91166063    | 1   | TIE ROD (includes item 47)                                                        |     |
| 53   | 88521208    | 2   | HEX LOCKNUT, 1/2                                                                  |     |
| 54   | 91043222    | 2   | 12 PT SCREWM 3/4-10X2, GR8 (lubricate and torque to 270-290 ft lbs) (see note #4) |     |
| 55   | 91043494    | 2   | 12PT SCREW, 5/8-1X2-1/4, GR8 (torque to 200 ft lbs) (see note #4)                 |     |
| 56   | 90201918    | AR  | SHIM (10 gauge thick, see note #2)                                                |     |
| 57   | 88551153    | 2   | LOCKWASHER, 5/8                                                                   |     |
| 58   | 88212321    | 2   | SLOT HD CAPSCREW, 5/8-11X3-3/4, GR8                                               |     |
| 59   | 24601570    | 2   | LIP SEAL                                                                          |     |
| 60   | 91123031    | 2   | BUSHING                                                                           |     |
| 61   | 91041489    | 2   | BUSHING                                                                           |     |
| 62   | 88212321    | 2   | SOCKET HD CAPSCREW, 5/8-11X3-3/4, GR8                                             |     |
| 63   | 88501110    | 2   | HEAVY HEX JAM NUT, 5/8-11                                                         |     |



SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-10. (91033499) STEERING CYLINDER STEER AXLE ADVANTAGE KIT (ONLY)





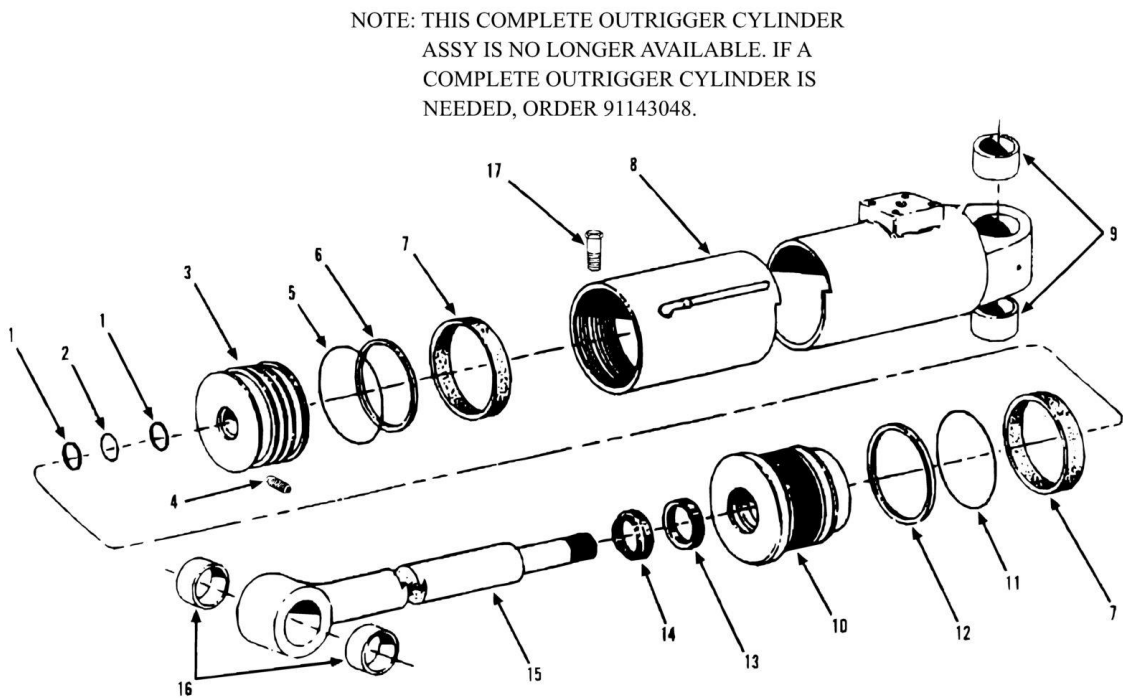
## SECTION 12 - OPTIONAL EQUIPMENT

**FIGURE 12-10. (91033499) STEERING CYLINDER STEER AXLE ADVANTAGE KIT (ONLY)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                   | REV |
|------|-------------|-----|---------------------------------------------------------------|-----|
|      | 91033499    | 1   | STEERING CYLINDER ASSY (includes all items)                   |     |
|      | 91144006    | 1   | SEAL KIT (includes items 3, 4, 5, 7, 11, 13 thru 16)          |     |
| 1    |             | Ref | CASE ASSY                                                     |     |
| 2    | 91144038    | 1   | LOCKNUT (torque to 400-425 ft lbs)                            |     |
| 3    | Kit         | 2   | WEAR RING                                                     |     |
| 4    | Kit         | 1   | PISTON SEAL                                                   |     |
| 5    | Kit         | 1   | O-RING                                                        |     |
| 6    | 91144039    | 1   | PISTON                                                        |     |
| 7    | Kit         | 1   | O-RING                                                        |     |
| 8    | 91144128    | 1   | LUBE FITTING                                                  |     |
| 9    | 91144042    | 1   | BUSHING                                                       |     |
| 10   | 91144041    | 1   | ROD ASSY                                                      |     |
| 11   | Kit         | 1   | WIPER                                                         |     |
| 12   | 91144040    | 1   | CYLINDER HEAD (torque to 100-400 ft lbs)                      |     |
| 13   | Kit         | 1   | U-CUP                                                         |     |
| 14   | Kit         | 1   | STEP SEAL                                                     |     |
| 15   | Kit         | 1   | BACK-UP RING                                                  |     |
| 16   | Kit         | 1   | O-RING                                                        |     |
| 17   | 91124096    | 1   | SELF TAPPING SCREW                                            |     |
| 18   | 91144267    | 1   | BUSHING                                                       |     |
| 19   | 91144125    | 1   | LUBE FITTING                                                  |     |
|      |             | Ref | NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE. |     |

SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-11. (91033127) OUTRIGGER CYLINDER (SN 8344001L through 01552994)



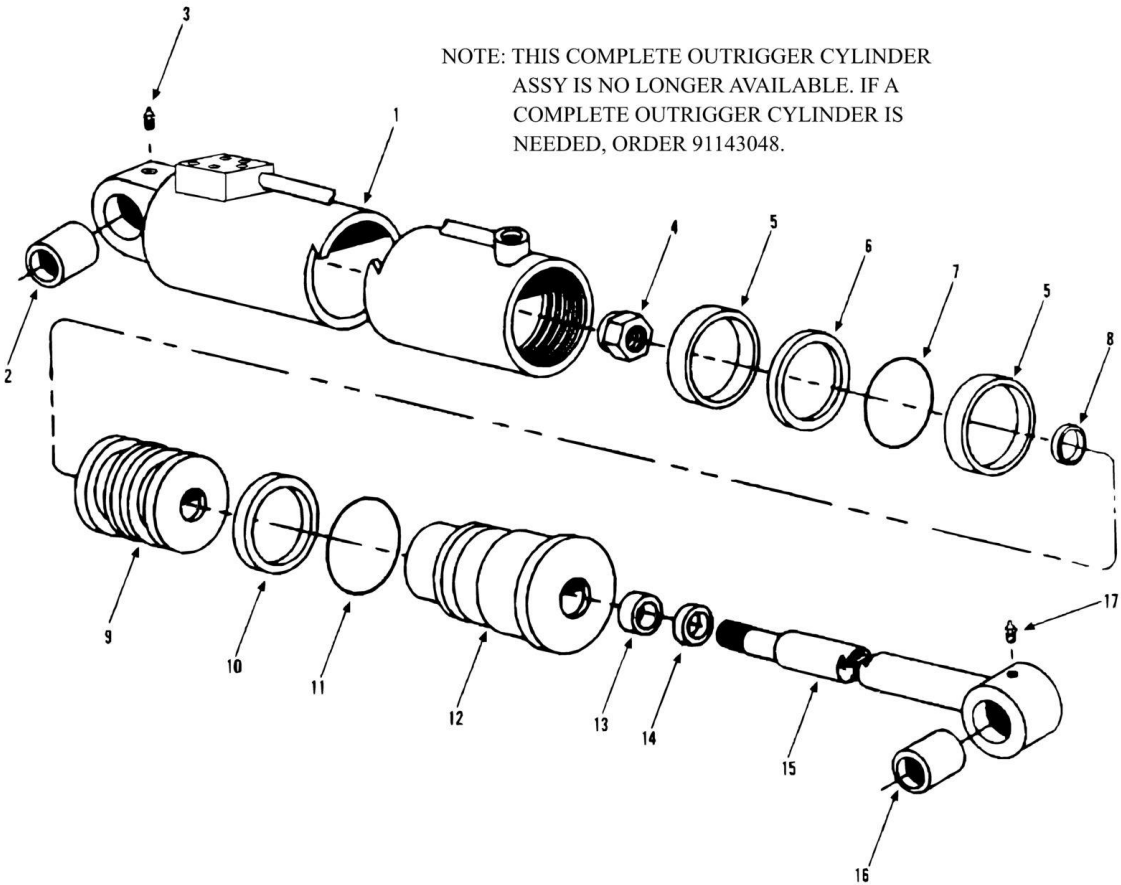
## SECTION 12 - OPTIONAL EQUIPMENT

**FIGURE 12-11. (91033127) OUTRIGGER CYLINDER (SN 8344001L through 01552994)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                                           | REV |
|------|-------------|-----|---------------------------------------------------------------------------------------|-----|
|      | 91033127    | 2   | OUTRIGGER CYLINDER ASSY, (includes all items)                                         |     |
|      | 91044065    | 1   | SEAL KIT, (includes items 1, 2, 5, 6, 7, 11, 12, 13 & 14)                             |     |
| 1    | Kit         | 2   | BACKUP RING                                                                           |     |
| 2    | Kit         | 1   | O-RING                                                                                |     |
| 3    | 91044066    | 1   | PISTON ASSY, (includes items 5, 6, 7; lubricate and torque to 1,450-1,550 ft lbs)     |     |
| 4    | 91044067    | 1   | SET SCREW, (lubricate and torque to 12-14 ft lbs)                                     |     |
| 5    | Kit         | 1   | O-RING                                                                                |     |
| 6    | Kit         | 1   | PISTON SEAL                                                                           |     |
| 7    | Kit         | 2   | WEAR RING                                                                             |     |
| 8    | 91044068    | 1   | BARREL ASSY, (includes item 9)                                                        |     |
| 9    | 91044069    | 2   | BUSHING                                                                               |     |
| 10   | 91044070    | 1   | ROD BEARING ASSY, (includes items 11 thru 14; lubricate and torque to 250-300 ft lbs) |     |
| 11   | Kit         | 1   | O-RING                                                                                |     |
| 12   | Kit         | 1   | BACKUP RING                                                                           |     |
| 13   | Kit         | 1   | ROD SEAL                                                                              |     |
| 14   | 90022280    | 1   | WIPER                                                                                 |     |
| 15   | 91044071    | 1   | PISTON ROD ASSY, (includes item 16)                                                   |     |
| 16   | 91044072    | 2   | BUSHING                                                                               |     |
| 17   | 91044073    | 1   | HEX HD SELF-TAPPING SCREW                                                             |     |
|      |             | Ref | NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.                         |     |

SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-12. (91043305) OUTRIGGER CYLINDER (SN 01552995 to Present)



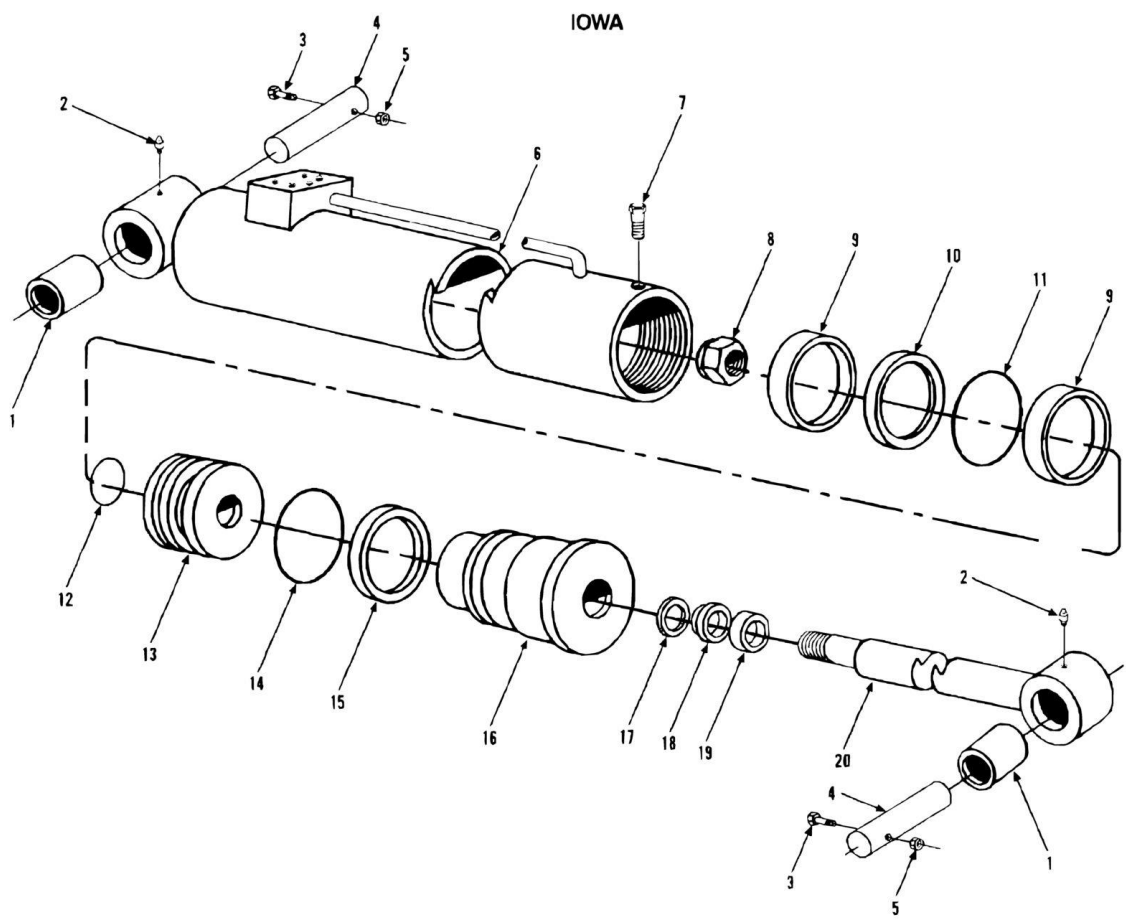
## SECTION 12 - OPTIONAL EQUIPMENT

**FIGURE 12-12. (91043305) OUTRIGGER CYLINDER (SN 01552995 to Present)**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                   | REV |
|------|-------------|-----|---------------------------------------------------------------|-----|
|      | 91043305    | 2   | OUTRIGGER CYLINDER ASSY, (includes all items)                 |     |
|      | 91034278    | 1   | SEAL KIT, (includes items 5, 6, 7, 8, 10, 11, 13, & 14)       |     |
| 1    | 91044316    | 1   | TUBE ASSY                                                     |     |
| 2    | 91044371    | 1   | BUSHING                                                       |     |
| 3    | 88671018    | 1   | LUBE FITTING, 45, 1/8                                         |     |
| 4    | 91034280    | 1   | LOCK NUT, (torque to 1100 ft lbs)                             |     |
| 5    | Kit         | 2   | WEAR RING                                                     |     |
| 6    | Kit         | 1   | SEAL                                                          |     |
| 7    | Kit         | 1   | O-RING                                                        |     |
| 8    | Kit         | 1   | O-RING                                                        |     |
| 9    | 91034281    | 1   | PISTON                                                        |     |
| 10   | Kit         | 1   | BACK-UP RING                                                  |     |
| 11   | Kit         | 1   | O-RING                                                        |     |
| 12   | 91034282    | 1   | GLAND                                                         |     |
| 13   | Kit         | 1   | SEAL                                                          |     |
| 14   | Kit         | 1   | WIPER                                                         |     |
| 15   | 91044317    | 1   | ROD ASSY                                                      |     |
| 16   | 91044371    | 1   | BUSHING                                                       |     |
| 17   | 88671033    | 1   | LUBE FITTING, STRAIGHT 1/4-28                                 |     |
|      |             | Ref | NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE. |     |

SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-13. (91143048) OUTRIGGER CYLINDER



## SECTION 12 - OPTIONAL EQUIPMENT

**FIGURE 12-13. (91143048) OUTRIGGER CYLINDER**

| ITEM | PART NUMBER | QTY | DESCRIPTION                                                   | REV |
|------|-------------|-----|---------------------------------------------------------------|-----|
|      | 91143048    | 2   | OUTRIGGER CYLINDER, (includes items 1, 2 & 6 thru 20)         |     |
|      | 91144004    | 1   | SEAL KIT, (includes items 9, 10, 11, 12, 14, 15, 17, 18 & 19) |     |
| 1    | 91154002    | 2   | BUSHING                                                       |     |
| 2    | 88671001    | 2   | GREASE FITTING                                                |     |
| 3    | 83201073    | 2   | HEX HD CAPSCREW, 3/8-16X4-1/2, GR5                            |     |
| 4    | 91031141    | 2   | SHOE PIN                                                      |     |
| 5    | 88521206    | 2   | HEX LOCKNUT, 3/8-16, (nylok)                                  |     |
| 6    | 91154003    | 1   | CASE ASSY                                                     |     |
| 7    | 91144017    | 1   | CAPSCREW, #8-32X.375                                          |     |
| 8    | 91034153    | 1   | LOCKNUT                                                       |     |
| 9    | Kit         | 2   | WEAR RING                                                     |     |
| 10   | Kit         | 1   | PISTON SEAL                                                   |     |
| 11   | Kit         | 1   | O-RING                                                        |     |
| 12   | Kit         | 1   | O-RING                                                        |     |
| 13   | 91034139    | 1   | PISTON                                                        |     |
| 14   | Kit         | 1   | O-RING                                                        |     |
| 15   | Kit         | 1   | BACK-UP RING                                                  |     |
| 16   | 91144024    | 1   | CYLINDER HEAD                                                 |     |
| 17   | Kit         | 1   | STEP SEAL                                                     |     |
| 18   | Kit         | 1   | U-CUP                                                         |     |
| 19   | Kit         | 1   | WIPER                                                         |     |
| 20   | 91154004    | 1   | ROD ASSY                                                      |     |
|      |             | Ref | NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE. |     |





**SECTION 13 - REAR COVER**

## SECTION 13 - REAR COVER

FIGURE 13-1. REAR COVER



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