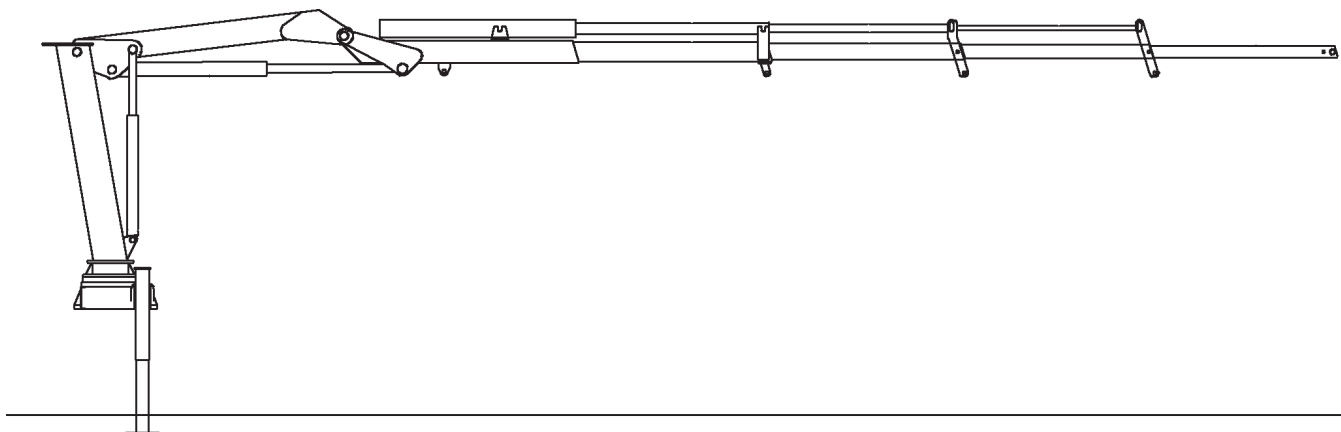




# **9000 Series Crane & Model 1295 (Metric Version)**

## **Volume 2 - PARTS AND SPECIFICATIONS**

|             |                            |
|-------------|----------------------------|
| Section 1   | SPECIFICATIONS-9000 SERIES |
| Section 1A. | SPECIFICATIONS-1295 CRANE  |
| Section 2   | CRANE REFERENCE            |
| Section 3   | REPLACEMENT PARTS          |
| Section 4   | GENERAL REFERENCE          |



**IOWA MOLD TOOLING CO., INC.**

BOX 189, GARNER, IA 50438-0189

TEL: 641-923-3711

MANUAL PART NUMBER 99900918

Iowa Mold Tooling Co., Inc. is an Oshkosh Corporation Company.

## REVISIONS LIST

| DATE     | LOCATION                        | DESCRIPTION OF CHANGE                                                               |
|----------|---------------------------------|-------------------------------------------------------------------------------------|
| 20000905 | 3-58                            | ECN 9000-3K120200-ITEM 26 7R336030 U-CUP SEAL WAS 7R546300                          |
| 20001003 | 3-41                            | ECN9000-51713047-ITEM 40 89044231 WIRE WAS 89044395                                 |
| 20001101 | 2-05                            | REV SPL                                                                             |
|          | 3-14                            | ECN8615-41712042-CHG INNER CYL PN                                                   |
|          | 3-15                            | 3B272000-REPLACE INNER CYL (CBAL VALVE)                                             |
|          | 3-16                            | REMOVE OLD INNER CYL                                                                |
|          | 3-29                            | 91706401-CHG BOM & DWG (NEW CBAL VALVE)                                             |
|          | 3-35                            | 91712984-CHG BOM & DWG (NEW CBAL VALVE)                                             |
| 20010413 | 3-29, 3-35                      | ITEM 32 - 51393922 WAS 51395858 (NEW HOSE)                                          |
| 20011023 | 3-1,3-76-80                     | ECN 8783 NEW RADIO REMOTE RETROFIT KIT.                                             |
| 20011127 | 3-5,7                           | ADDED NOTE ABOUT MOBILTAC LUBRICANT                                                 |
|          | 3-57,59                         | ECN 8794 - NEW VALVE BLOCK                                                          |
|          | 3-60                            | ECN 8834 - NEW FLOOD LIGHT KIT                                                      |
| 20020206 | 3-59                            | ITEM #11 - 72532141 WAS 72532679                                                    |
| 20020318 | 3-57                            | ECN 8886 - ADDED 31717516 CAP ALERT KIT                                             |
|          | 3-80,81                         | ECN 8871 - RMV BATTERY HOUSING FROM 73733600                                        |
| 20020801 | 3-57                            | ECN 8961 - CHANGES TO CAP ALERT/SHUTDOWN KITS                                       |
|          | 3-60                            | ECN 8972 - ADDED GROMMET & CLAMP TO FLOOD LIGHT KIT                                 |
| 20021104 | 3-80,81                         | ECN 9036 - CHANGED BATTERY CHARGER IN 73733600                                      |
| 20030715 | 3-57                            | ECN 9201 - CHANGE TO CAP SHUTDOWN 31717516                                          |
| 20031103 | 3-76,77                         | ADDED KIT 91717058 TO DRAWING 99903330                                              |
| 20051107 | 3-4-14                          | ECN 9832 - CYL 71411814 REPL 3B221850                                               |
| 20060717 | 3-4,5,9                         | ECN 9832-2-REVERSE ECN 9832 - 3B221850 REPLACED 71411814                            |
|          | 3-4,6,8,11                      | ECN 10185 - EXTENDED BOLT LENGTHS                                                   |
| 20061020 | 1-1                             | UPDATED OWNERSHIP STATEMENT.                                                        |
|          | 3-22,24,25,26                   | ECN 10300-1 - REPLACED HOOK WITH 70734177 IN 41709700, 41709701, 41709703, 41709704 |
| 20081104 | 3-4,6,79                        | ECN 10767 - TURNTABLE BEARING TEETH CHANGE; ECN 10903 - UPDATE 51717059             |
| 20100330 | 3-79                            | ECN11213 - RADIO REMOTE JIC BOX ASM CHANGED (DRAWING 51717059)                      |
| 20111221 | SECTIONS 1,2,3                  | ECN 11628 - UPDATED STABILIZER WORDING, ADDED STAB DEPLOY DECAL, CRANE LEVELS       |
|          | 3-29,59                         | ECN 11621 - HYDRAULIC OVERLOAD KIT                                                  |
|          | 3-70,71                         | ECN 11606 - TWO-BLOCK DAMAGE PREVENTION SYSTEMS                                     |
| 20120423 | 3-12,21,23,50                   | ECN 11615 - UPDATED CYLINDERS. ADDED HANDLE CALIBRATION PROCEDURE.                  |
| 20140228 | 3-20, 3-22, 3-24,<br>3-25, 3-26 | ECN 12142-1                                                                         |

## INTRODUCTION

This volume deals with information applicable to your particular crane. For operating, maintenance and repair instructions, refer to Volume 1, OPERATION, MAINTENANCE AND REPAIR.

We recommend that this volume be kept in a safe place in the office.

This manual is provided to assist you with ordering parts for your IMT crane. It also contains additional instructions regarding your particular installation.

It is the user's responsibility to maintain and operate this unit in a manner that will result in the safest working conditions possible.

Warranty of this unit will be void on any part of the unit subjected to misuse due to overloading, abuse, lack of maintenance and unauthorized modifications. No warranty - verbal, written or implied - other than the official, published IMT new machinery and equipment warranty will be valid with this unit.

In addition, it is also the user's responsibility to be aware of existing Federal, State and Local codes and regulations governing the safe use and maintenance of this unit. Listed below is a publication that the user should thoroughly read and understand.

ANSI/ASME B30.22  
ARTICULATING BOOM CRANES  
The American Society of Mechanical Engineers  
United Engineering Center  
345 East 47th Street  
New York, NY 10017

Three means are used throughout this manual to gain the attention of personnel. They are NOTE's, CAUTION's and WARNING's and are defined as follows:

### NOTE

A NOTE is used to either convey additional information or to provide further emphasis for a previous point.

### CAUTION

A CAUTION is used when there is the very strong possibility of damage to the equipment or premature equipment failure.

### WARNING

A WARNING is used when there is the potential for personal injury or death.

Treat this equipment with respect and service it regularly. These two things can add up to a safer working environment.

**Read and familiarize yourself with the  
IMT OPERATOR'S CRANE SAFETY MANUAL  
before operating or performing any maintenance  
on your crane.**

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## NOTES

[illegible]

SECTION 1. 9000 SERIES CRANE SPECIFICATIONS

GENERAL ..... 3

PERFORMANCE CHARACTERISTICS ..... 4

POWER SOURCE..... 4

CYLINDER HOLDING VALVES ..... 4

ROTATION SYSTEM ..... 4

HYDRAULIC SYSTEM ..... 4

MINIMUM CHASSIS SPECIFICATIONS- ..... 5

HOOK APPROACH ..... 5

STOWED POSITION & STABILIZER DIMENSIONS ..... 5

GEOMETRIC CONFIGURATION - 9000 SERIES CRANE ..... 6

CAPACITY CHART-1H & 2H ..... 7

CAPACITY CHART-2H1M & 3H - 3H1M ..... 8

9000/1295:99900918:19961030

1-2  
**NOTES**



## 9000 SERIES CRANE SPECIFICATIONS

### GENERAL

|                                                                       | 1H              | 2H              | 2H1M<br>3H                       | 3H1M            |
|-----------------------------------------------------------------------|-----------------|-----------------|----------------------------------|-----------------|
| <b>*CRANE RATING (ANSI B30.22)</b>                                    | 90400 ft-lbs    | 90400 ft-lbs    | 89000 ft-lbs                     | 87800 ft-lbs    |
| <b>*MAXIMUM CRANE RATING</b>                                          | 90400 ft-lbs    | 90400 ft-lbs    | 90400 ft-lbs                     | 90400 ft-lbs    |
| <b>HORIZONTAL REACH</b><br>from centerline of rotation                | 19'-8"          | 25'-7"          | 31'-3"                           | 36'-7"          |
| <b>HYDRAULIC EXTENSION</b>                                            |                 |                 |                                  |                 |
| <b>1-STAGE HYDRAULIC (1H)</b>                                         | 64"             | None            | None                             | None            |
| <b>2-STAGE HYDRAULIC (2H)</b>                                         | None            | 64" x 2         | 64" x 2                          | 64" x 2         |
| <b>3-STAGE HYDRAULIC (3H)</b>                                         | None            | None            | 64" x 3                          | 64" x 3         |
| <b>MANUAL EXTENSION</b>                                               |                 |                 |                                  |                 |
| <b>2-STAGE HYDRAULIC (2H)</b>                                         | None            | None            | 64"                              | 64" x 2         |
| <b>3-STAGE HYDRAULIC (3H)</b>                                         | None            | None            | None                             | 64"             |
| <b>VERTICAL REACH</b><br>from mounting surface                        | 26'-7"          | 32'-1"          | 37'-4"                           | 42'-6"          |
| <b>VERTICAL REACH</b><br>from ground / 38" frame ht.                  | 29'-9"          | 35'-3"          | 40'-6"                           | 45'-8"          |
| <b>CRANE WEIGHT</b>                                                   | 3960 lbs        | 4245 lbs        | 4375 lbs (2H1M)<br>4515 lbs (3H) | 4580 lbs (3H1M) |
| <b>STABILIZER SPAN</b>                                                | 12'-3"          | 12'-3"          | 12'-3"                           | 12'-3"          |
| <b>STABILIZER PADS</b>                                                | 12" x 12"       | 12" x 12"       | 12" x 12"                        | 12" x 12"       |
| <b>CRANE STORAGE HEIGHT</b><br>from mounting surface                  | 8'-0"           | 8'-0"           | 8'-0"                            | 8'-0"           |
| <b>CRANE STORAGE HEIGHT</b><br>from ground / 38" frame ht.            | 11'-2"          | 11'-2"          | 11'-2"                           | 11'-2"          |
| <b>**MOUNTING SPACE REQUIRED</b>                                      | 30"             | 30"             | 30"                              | 30"             |
| <b>ROTATIONAL TORQUE</b>                                              | 12660 ft-lbs    | 12660 ft-lbs    | 12660 ft-lbs                     | 12660 ft-lbs    |
| <b>OPTIMUM PUMP CAPACITY</b>                                          | 11 U.S. GPM     | 11 U.S. GPM     | 11 U.S. GPM                      | 11 U.S. GPM     |
| <b>SYSTEM OPERATING PRESSURE</b>                                      | 2800 PSI        | 2800 PSI        | 2800 PSI                         | 2800 PSI        |
| <b>OIL RESERVOIR CAPACITY</b>                                         | 20 U.S. Gallons | 20 U.S. Gallons | 20 U.S. Gallons                  | 20 U.S. Gallons |
| <b>***VERTICAL CENTER OF GRAVITY</b><br>from mounting surface         | 27'-1/4"        | 27'-1/2"        | 27'-3/4"                         | 28"             |
| <b>***HORIZONTAL CENTER OF GRAVITY</b><br>from centerline of rotation | 3/4"            | 1/2"            | 3/8"                             | 1/4"            |
| <b>HOOK APPROACH - HORIZONTAL</b><br>from centerline of rotation      | 31"             | 31"             | 36"                              | 36"             |
| <b>HOOK APPROACH - VERTICAL</b><br>from mounting surface              | 88"             | 88"             | 84"                              | 84"             |

\* Maximum Crane Rating (ft-lbs) is defined as that rated load (lbs) which when multiplied by its respective distance (ft) from centerline of rotation gives the greatest ft-lb value.

ANSI B30.22 Crane Rating (ft-lbs) = With all extensions retracted and inner plus outer boom in a horizontal position, rated load (lbs) X respective distance (ft) from centerline of rotation = nominal ft-lb value.

\*\* Allow an additional 5" between the cab and crane base for swing clearance.

\*\*\* Crane in stowed position.

## PERFORMANCE CHARACTERISTICS

|                               |              |            |
|-------------------------------|--------------|------------|
| ROTATION:                     | 450°         | 30 seconds |
| INNER BOOM ELEVATION:         | -52° to +75° | 24 seconds |
| OUTER BOOM ARTICULATION:      | 139°         | 23 seconds |
| TELESCOPIC EXTENSIONS (3H):   |              |            |
| 1st Stage                     | 64"          | 30 seconds |
| 2nd Stage                     | 64"          | 15 seconds |
| 3rd Stage                     | 64"          | 8 seconds  |
| TELESCOPIC EXTENSIONS (2H):   |              |            |
| 1st Stage                     | 64"          | 21 seconds |
| 2nd Stage                     | 64"          | 9 seconds  |
| SINGLE STAGE EXTENSION (1H):  | 64"          | 12 seconds |
| VERTICAL STABILIZER STROKE:   | 24"          | 7 seconds  |
| POWER OUT STABILIZER (OPTION) | 26"          | 3 seconds  |

## POWER SOURCE

Integral-mounted hydraulic pump and PTO application. Other standard power sources may be utilized - minimum power required is 21 horsepower.

## CYLINDER HOLDING VALVES

The holding sides of all standard cylinders are equipped with integral-mounted holding or counter-balance valves to prevent sudden cylinder collapse in case of hose or other hydraulic failure. The stabilizer cylinders have positive, pilot-operated holding valves that open only on command.

The inner, outer and extension cylinders have single pilot-operated counter balance valves. The counter-balance valve serves several functions. First, it is a holding valve. Secondly, it is so constructed that it will control the lowering function and allow that motion to be feathered while under load. Finally, if a hose breaks, the only oil loss will be that in the hose.

## ROTATION SYSTEM

Rotation of the crane is accomplished through a turntable bearing, powered by a high torque hydraulic motor through a ring and pinion type spur gear train. Total gear reduction is 50.7 to 1.

## HYDRAULIC SYSTEM

The hydraulic system is an open centered, full pressure system, requiring 11 GPM optimum oil flow, at 2800 PSI. Eight-spool, stack-type control valve, six of which are used for the standard crane and the remaining two are plugged, but easily adapted for additional optional features. Dual operational handles for six functions are located at both sides of crane for convenient operation. System includes hydraulic oil reservoir, suction-line strainer, pump, 8-section control valve, return-line filter and all hoses and fittings.

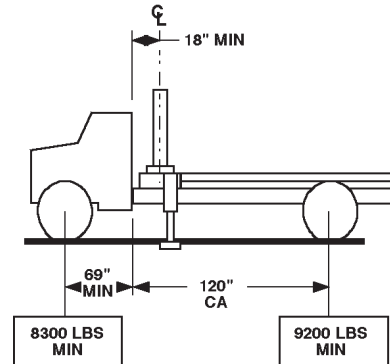
***IMT reserves the right to change specifications and design without notice.***



## MINIMUM CHASSIS SPECIFICATIONS- FOR STANDARD 9000 SERIES CRANE

|                                                                       |                  |
|-----------------------------------------------------------------------|------------------|
| <b>CRANE MOUNT</b>                                                    | Behind Cab       |
| <b>CRANE WORKING AREA</b>                                             | 360°             |
| <b>CHASSIS STYLE</b>                                                  | Conventional Cab |
| <b>WHEELBASE</b>                                                      | 189"             |
| <b>CAB-TO-AXLE</b>                                                    | 120"             |
| <b>FRONT AXLE RATING (GAWR)</b>                                       | 10,000 lbs       |
| <b>REAR AXLE RATING (GAWR)</b>                                        | 18,500 lbs       |
| <b>RBM</b>                                                            | 1,200,000        |
| <b>FRAME SECTION MODULUS</b>                                          | 24 cubic inches  |
| <b>FRAME YIELD STRENGTH</b>                                           | 50,000           |
| <b>MINIMUM FINISHED UNIT WEIGHT<br/>TO MAINTAIN VEHICLE STABILITY</b> |                  |
| <b>FRONT AXLE</b>                                                     | 8300             |
| <b>REAR AXLE</b>                                                      | 9200             |
| <b>TOTAL FINISHED UNIT WT.</b>                                        | 17500            |

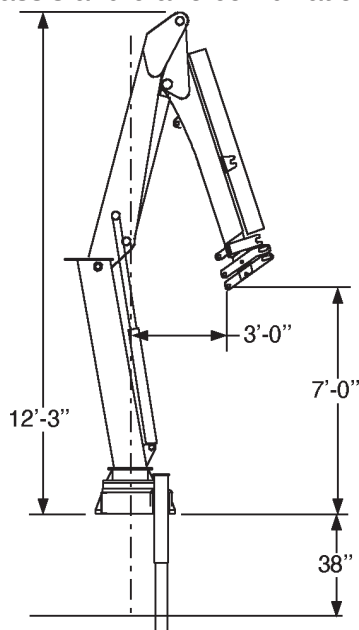
### 360° WORKING AREA



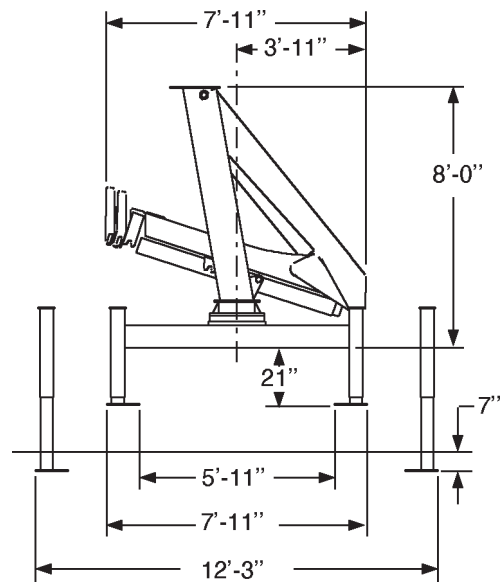
Allows lifting full capacity load in a 360° arc when crane is installed immediately behind the cab. Great care should be taken when swinging the load from rear of vehicle to front of vehicle since the front axle springs will compress, thus affecting the levelness of the vehicle.

#### NOTES:

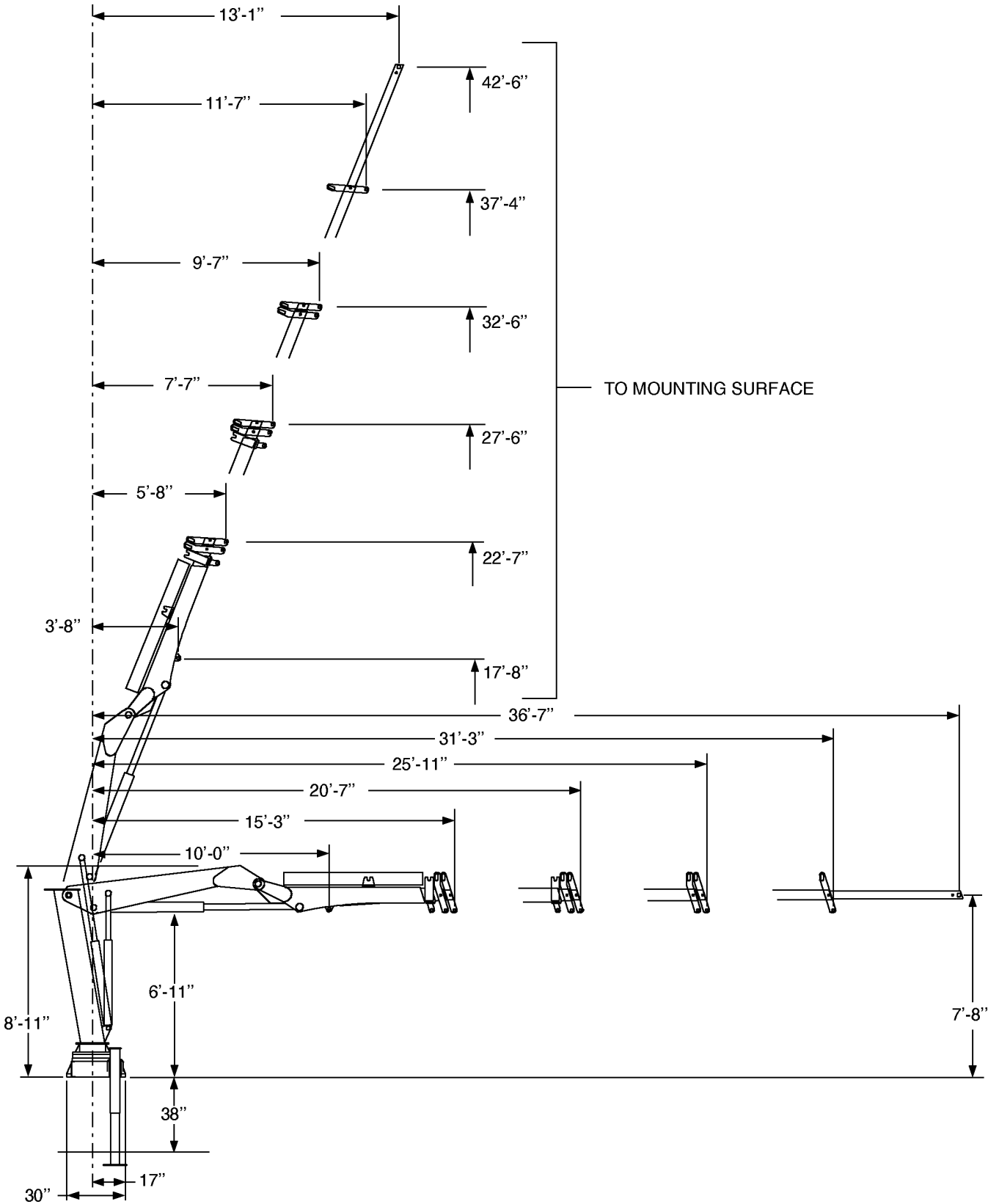
1. GAWR means Gross Axle Weight Rating and is dependent on all components of the vehicle such as axles, tires, wheels, springs, brakes, steering and frame strength meeting the manufacturer's recommendations. Always specify GAWR when purchasing a truck.
2. Minimum axle requirements may increase with use of diesel engines, longer wheelbase or service bodies. Contact the factory for further information.
3. Weight distribution calculations are required to determine final axle loading.
4. All chassis and crane combinations must be stability tested to ensure stability per ANSI B30.22



**HOOK APPROACH**



**STOWED POSITION & STABILIZER DIMENSIONS**



GEOMETRIC CONFIGURATION - 9000 SERIES CRANE

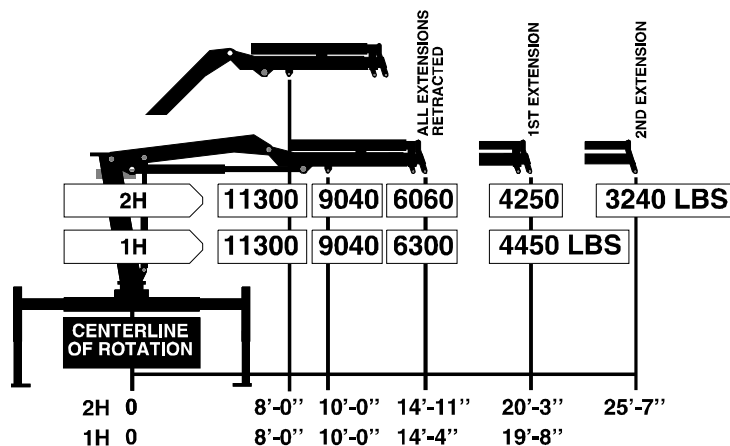
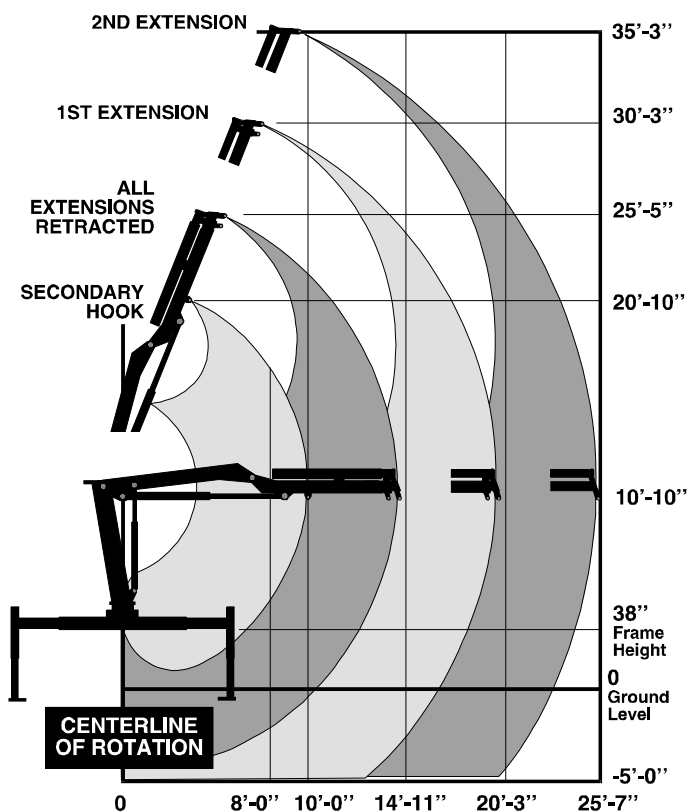
IOWA MOLD TOOLING CO., INC. • BOX 189 • GARNER • IA • 50438 • 641-923-3711  
 Capacities through geometric range are limited to those shown in horizontal position.



# 9000

## Series Crane 1H & 2H

- Loads shown are based on crane structural or hydraulic capability. Before lift is made, stability must be checked per SAE J765A.
- Working loads will be limited to those shown. Deduct the weight of load handling devices.
- Winch lifting capacity is limited to those shown. Maximum 5000 lbs for 1-part line.



71393780

**CAPACITY CHART-1H & 2H**

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Capacities through geometric range are limited to those shown in horizontal position.



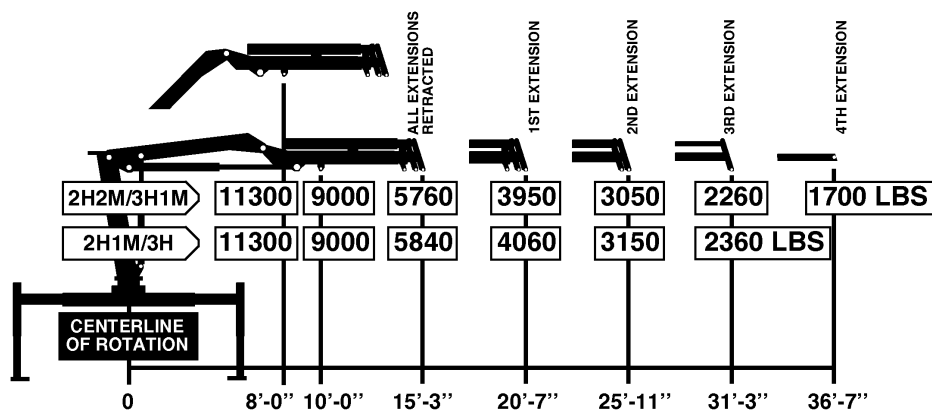
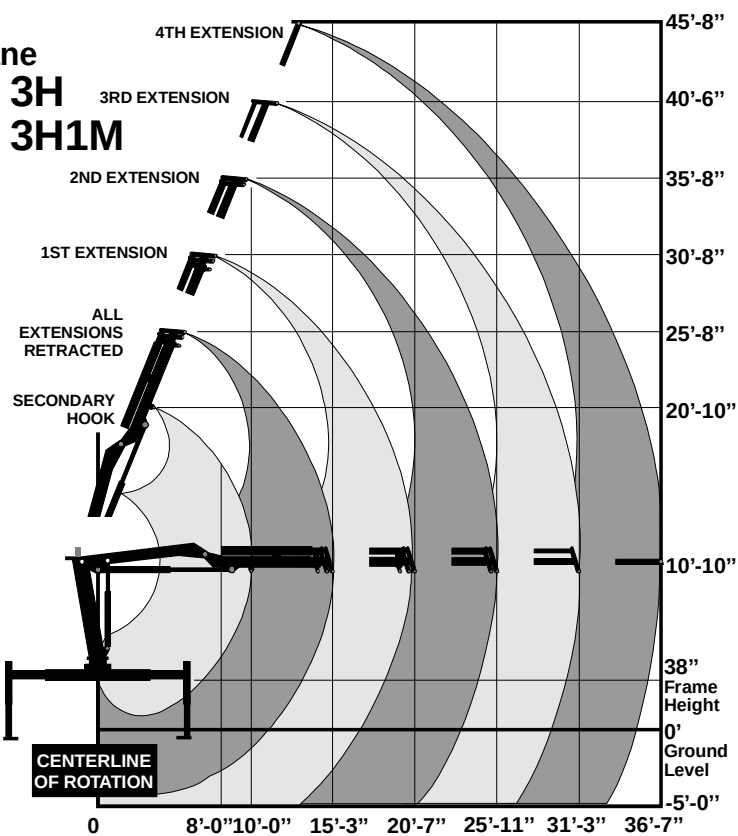
- Loads shown are based on crane structural or hydraulic capability. Before lift is made, stability must be checked per SAE J765A.
- Working loads will be limited to those shown. Deduct the weight of load handling devices.
- Winch lifting capacity is limited to those shown - Maximum 5000 lbs for 1-part line.

# 9000

## Series Crane

### 2H1M & 3H

### 2H2M & 3H1M



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**CAPACITY CHART-2H1M & 3H - 3H1M**

SECTION 1A. MODEL 1295 CRANE SPECIFICATIONS

GENERAL ..... 3

PERFORMANCE CHARACTERISTICS ..... 4

POWER SOURCE..... 4

CYLINDER HOLDING VALVES ..... 4

ROTATION SYSTEM ..... 4

HYDRAULIC SYSTEM ..... 4

SELECTED WEIGHT OF ANCILLARY EQUIPMENT ..... 4

CAPACITY CHART - MODEL 1295 1H & 2H ..... 5

CAPACITY CHART - MODEL 1295 2H1M & 3H - 3H1M ..... 6

GEOMETRIC CONFIGURATION - MODEL 1295 CRANE ..... 7

HOOK APPROACH ..... 8

STOWED POSITION & STABILIZER DIMENSIONS ..... 8

9000/1295:99900918:19961030

1A-2  
**NOTES**



## MODEL 1295 CRANE SPECIFICATIONS

### GENERAL

|                                                                       | 1295 - 1H       | 1295 - 2H       | 1295 - 2H1M<br>1295 - 3H       | 1295 - 3H1M     |
|-----------------------------------------------------------------------|-----------------|-----------------|--------------------------------|-----------------|
| <b>CRANE RATING</b>                                                   | 12.6 ton-meters | 12.5 ton-meters | 12.3 ton-meters                | 12.1 ton-meters |
| <b>HORIZONTAL REACH</b><br>from centerline of rotation                | 5.99m           | 7.80m           | 9.53m                          | 11.15m          |
| <b>HYDRAULIC EXTENSION</b>                                            |                 |                 |                                |                 |
| <b>1-STAGE HYDRAULIC (1H)</b>                                         | 163cm           | None            | None                           | None            |
| <b>2-STAGE HYDRAULIC (2H)</b>                                         | None            | 163cm x 2       | 163cm x 2                      | 163cm x 2       |
| <b>3-STAGE HYDRAULIC (3H)</b>                                         | None            | None            | 163xm x 3                      | 163cm x 3       |
| <b>MANUAL EXTENSION</b>                                               |                 |                 |                                |                 |
| <b>2-STAGE HYDRAULIC (2H)</b>                                         | None            | None            | 163cm                          | 163cm x 2       |
| <b>3-STAGE HYDRAULIC (3H)</b>                                         | None            | None            | None                           | 163cm           |
| <b>VERTICAL REACH</b><br>from mounting surface                        | 8.11m           | 9.79m           | 11.40m                         | 12.97m          |
| <b>VERTICAL REACH</b><br>from ground / 97cm frame ht.                 | 9.08m           | 10.76m          | 12.37m                         | 13.94m          |
| <b>**BASE CRANE WEIGHT</b>                                            | 1565 kg         | 1695 kg         | 1755 kg (2H1M)<br>1815 kg (3H) | 1845 kg (3H1M)  |
| <b>STABILIZER SPAN</b>                                                | 3.73m           | 3.73m           | 3.73m                          | 3.73m           |
| <b>STABILIZER PADS</b>                                                | 30 x 30cm       | 30 x 30cm       | 30 x 30cm                      | 30 x 30cm       |
| <b>CRANE STORAGE HEIGHT</b><br>from mounting surface                  | 2.44m           | 2.44m           | 2.44m                          | 2.44m           |
| <b>CRANE STORAGE HEIGHT</b><br>from ground / 97cm frame ht.           | 3.41m           | 3.41m           | 3.41m                          | 3.41m           |
| <b>*MOUNTING SPACE REQUIRED</b>                                       | 76cm            | 76cm            | 76cm                           | 76cm            |
| <b>ROTATIONAL TORQUE</b>                                              | 1750 kg-m       | 1750 kg-m       | 1750 kg-m                      | 1750 kg-m       |
| <b>OPTIMUM PUMP CAPACITY</b>                                          | 42 liters/min   | 42 liters/min   | 42 liters/min                  | 42 liters/min   |
| <b>SYSTEM OPERATING PRESSURE</b>                                      | 194 bar         | 194 bar         | 194 bar                        | 194 bar         |
| <b>OIL RESERVOIR CAPACITY</b>                                         | 76 liters       | 76 liters       | 76 liters                      | 76 liters       |
| <b>***VERTICAL CENTER OF GRAVITY</b><br>from mounting surface         | 69cm            | 70cm            | 70cm                           | 71cm            |
| <b>***HORIZONTAL CENTER OF GRAVITY</b><br>from centerline of rotation | 1.9cm           | 1.3cm           | 0.9cm                          | 0.6cm           |
| <b>HOOK APPROACH - HORIZONTAL</b><br>from centerline of rotation      | 79cm            | 79cm            | 91cm                           | 91cm            |
| <b>HOOK APPROACH - VERTICAL</b><br>from mounting surface              | 2.24m           | 2.24m           | 2.13m                          | 2.13m           |
| <b>DESIGN FACTOR</b> - pins & hydraulics                              | 4/1             | 4/1             | 4/1                            | 4/1             |

\* Allow an additional 13cm between the cab and crane base for swing clearance.

\*\* Without stabilizers, hydraulic oil reservoir and mounting accessories.

\*\*\* Crane in stowed position.

## PERFORMANCE CHARACTERISTICS

|                                      |                   |            |
|--------------------------------------|-------------------|------------|
| <b>ROTATION:</b>                     | 450°/7.85 rad     | 30 seconds |
| <b>INNER BOOM ELEVATION:</b>         | -.91 to +1.31 rad | 24 seconds |
| <b>OUTER BOOM ARTICULATION:</b>      | 2.43 rad          | 23 seconds |
| <b>TELESCOPIC EXTENSIONS (3H):</b>   |                   |            |
| 1st Stage                            | 163cm             | 30 seconds |
| 2nd Stage                            | 163cm             | 15 seconds |
| 3rd Stage                            | 163cm             | 8 seconds  |
| <b>TELESCOPIC EXTENSIONS (2H):</b>   |                   |            |
| 1st Stage                            | 163cm             | 21 seconds |
| 2nd Stage                            | 163cm             | 9 seconds  |
| <b>SINGLE STAGE EXTENSION (1H):</b>  | 163cm             | 12 seconds |
| <b>VERTICAL STABILIZER STROKE:</b>   | 61cm              | 8 seconds  |
| <b>POWER OUT STABILIZER (OPTION)</b> | 66cm              | 3 seconds  |

## POWER SOURCE

Integral-mounted hydraulic pump and PTO application. Other standard power sources may be utilized - minimum power required is 19 horsepower.

## CYLINDER HOLDING VALVES

The holding sides of all standard cylinders are equipped with integral-mounted holding or counter-balance valves to prevent sudden cylinder collapse in case of hose or other hydraulic failure. The stabilizer cylinders have positive, pilot-operated holding valves that open only on command.

The inner, outer and extension cylinders have single pilot-operated counter balance valves. The counter-balance valve serves several functions. First, it is a holding valve. Secondly, it is so constructed that it will control the lowering function and allow that motion to be feathered while under load. Finally, if a hose breaks, the only oil loss will be that in the hose.

## ROTATION SYSTEM

Rotation of the crane is accomplished through a turntable bearing, powered by a high torque hydraulic motor through a ring and pinion type spur gear train. Total gear reduction is 50.7 to 1.

## HYDRAULIC SYSTEM

The hydraulic system is an open centered, full pressure system, requiring 42 liters/min optimum oil flow, at 194 bar. Eight-spool, stack-type control valve, six of which are used for the standard crane and the remaining two are plugged, but easily adapted for additional optional features. Dual operational handles for six functions are located at both sides of crane for convenient operation. System includes hydraulic oil reservoir, suction-line strainer, pump, 8-section control valve, return-line filter and all hoses and fittings.

## SELECTED WEIGHT OF ANCILLARY EQUIPMENT

|                         |        |
|-------------------------|--------|
| STABILIZERS             | 206 kg |
| HYDRAULIC OIL RESERVOIR | 27 kg  |

***IMT reserves the right to change specifications and design without notice.***

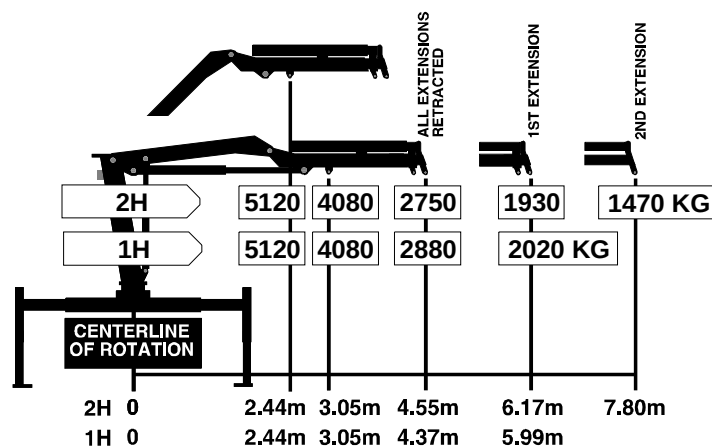
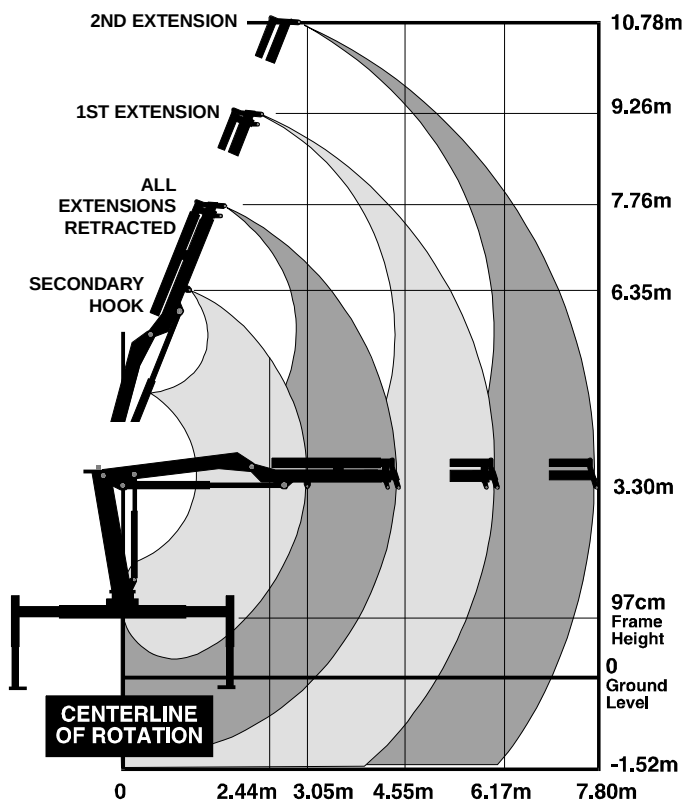


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 Capacities through geometric range are limited to those shown in horizontal position.



# MODEL 1295 1H & 2H

- Loads shown are based on crane structural or hydraulic capability. Before lift is made, stability must be checked per SAE J765A.
- Working loads will be limited to those shown. Deduct the weight of load handling devices.
- Winch lifting capacity is limited to those shown. Maximum 2268 kgs for 1-part line.



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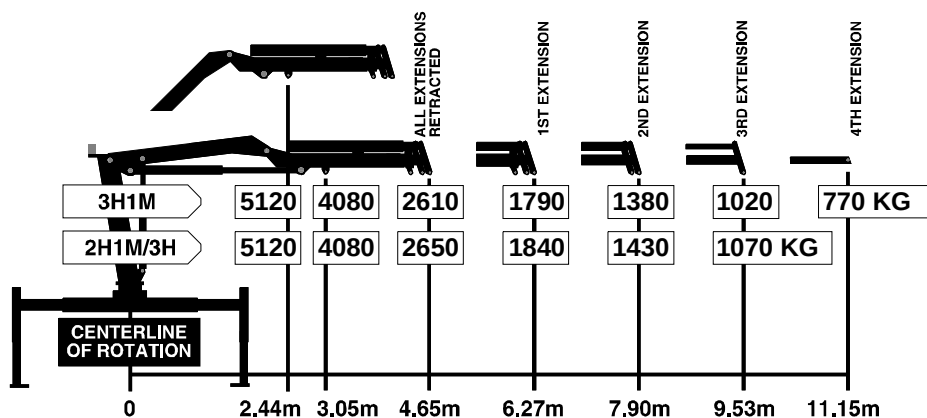
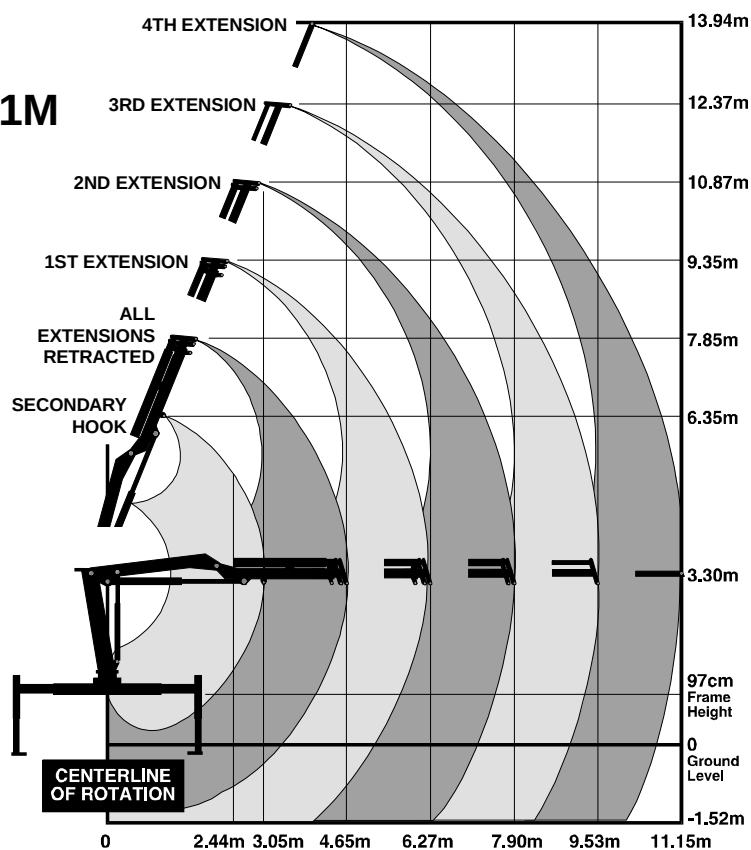
**CAPACITY CHART - MODEL 1295 1H & 2H**

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Capacities through geometric range are limited to those shown in horizontal position.



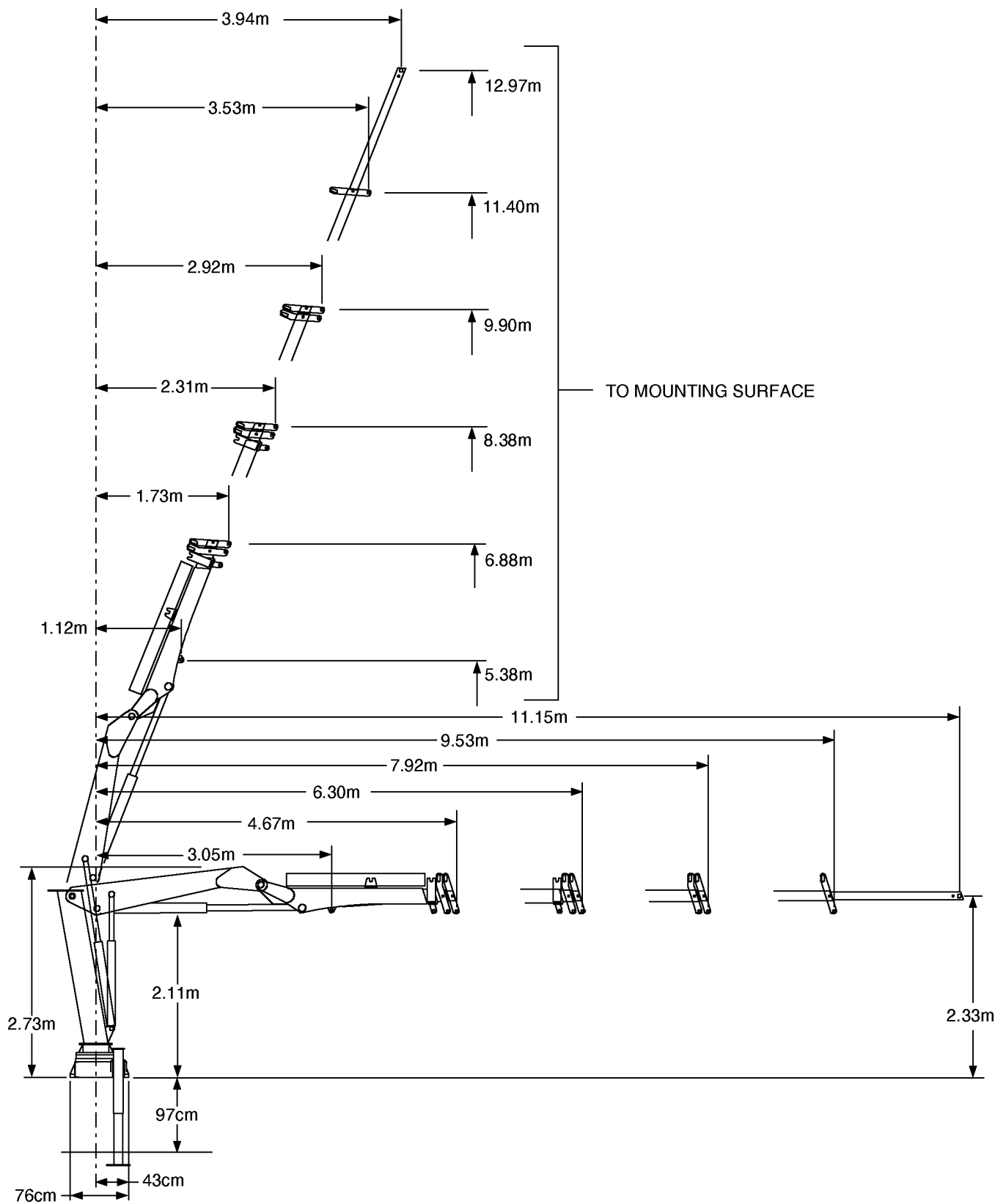
- Loads shown are based on crane structural or hydraulic capability. Before lift is made, stability must be checked per SAE J765A.
- Working loads will be limited to those shown. Deduct the weight of load handling devices.
- Winch lifting capacity is limited to those shown. Maximum 2268 kgs for 1-part line.

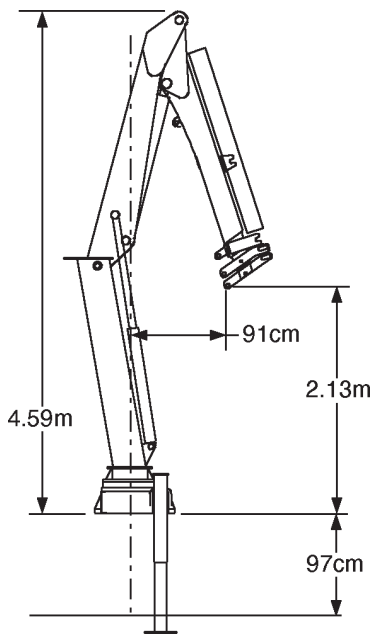
# MODEL 1295 2H1M 3H & 3H1M



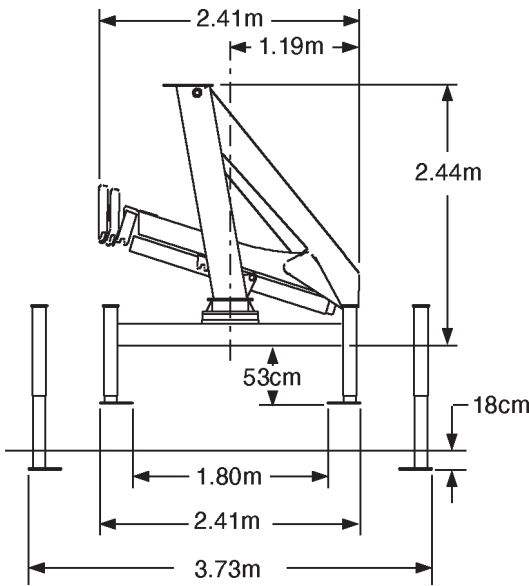
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**CAPACITY CHART - MODEL 1295 2H1M & 3H - 3H1M**

**GEOMETRIC CONFIGURATION - MODEL 1295 CRANE**



**HOOK APPROACH**



**STOWED POSITION &  
STABILIZER DIMENSIONS**

SECTION 2. 9000/1295 CRANE REFERENCE

MAJOR CRANE ASSEMBLIES ..... 3

WELDMENT PART NUMBER LOCATIONS ..... 3

GREASE ZERK LOCATIONS ..... 4

RECOMMENDED SPARE PARTS LIST ..... 5

CRANE MOUNTING ..... 7

HYDRAULIC INSTALLATION ..... 8

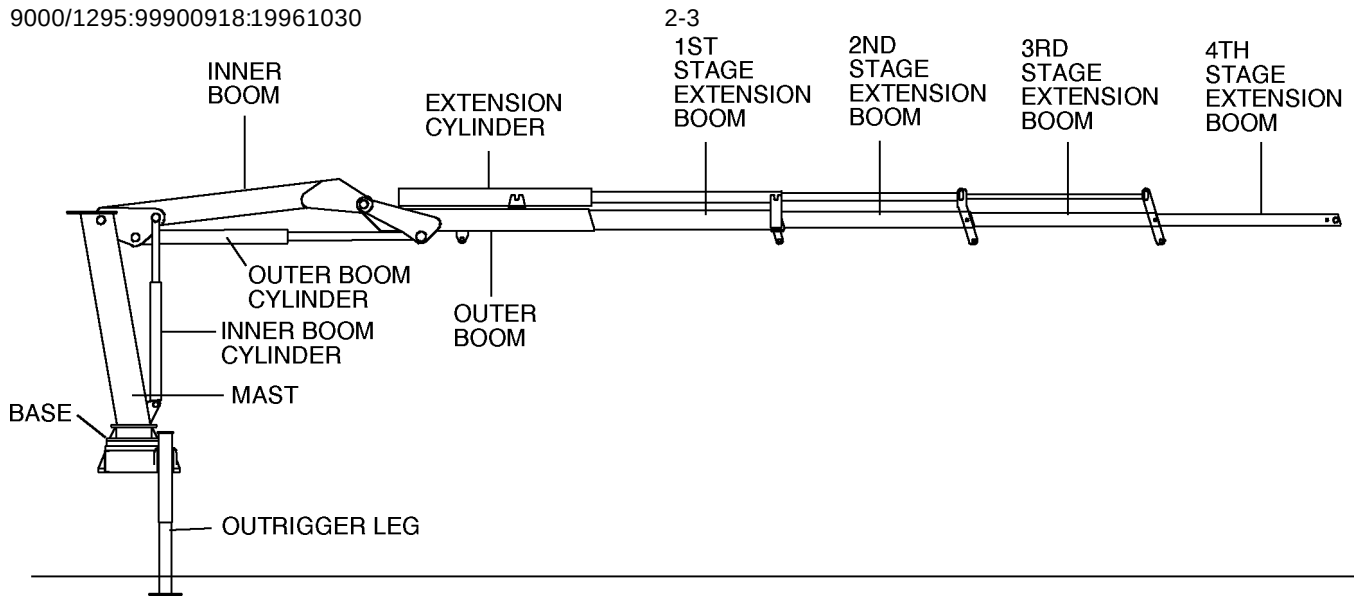
WINCH TROUBLESHOOTING ..... 9

9000/1295:99900918:19961030

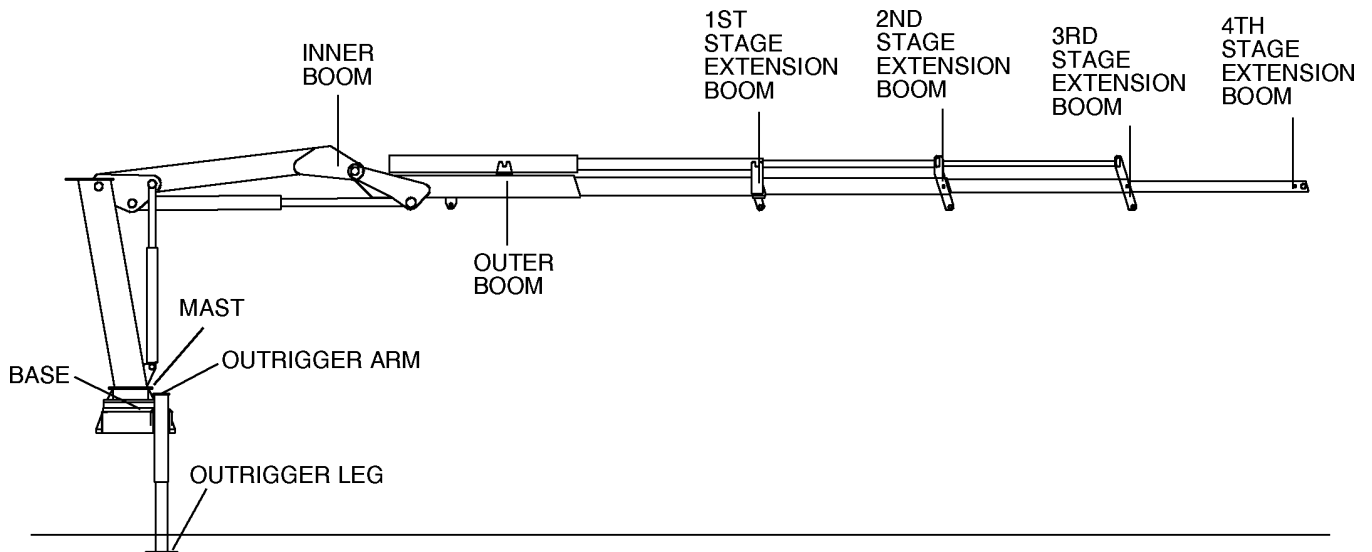
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**NOTES**

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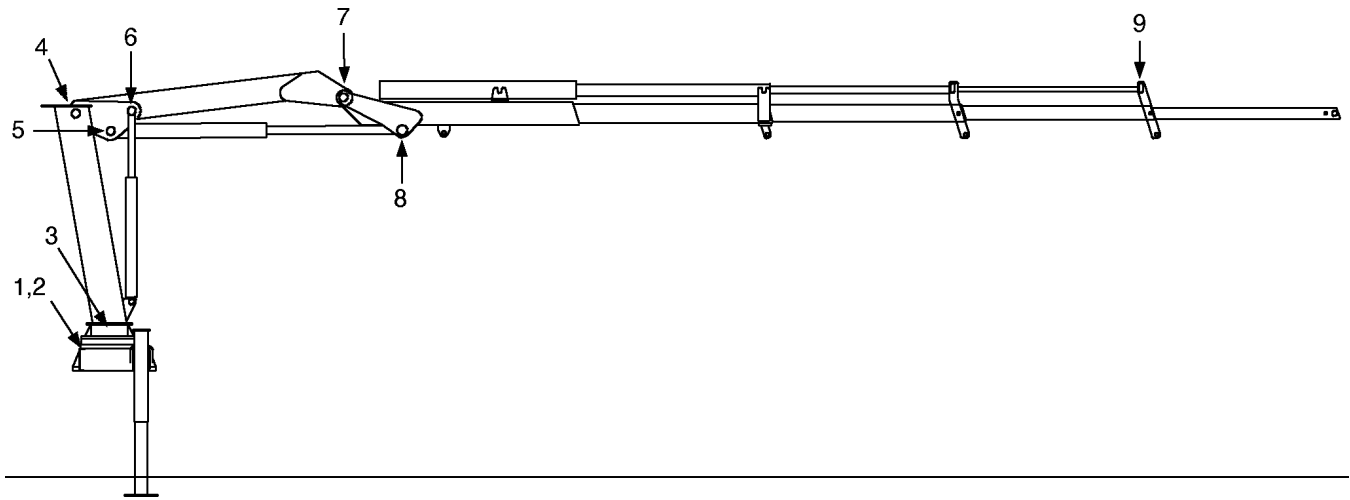


## MAJOR CRANE ASSEMBLIES



## WELDMENT PART NUMBER LOCATIONS

## GREASE ZERK LOCATIONS AND LUBRICANT REQUIREMENTS



| ITEM | LOCATION DESCRIPTION                                               | LUBRICANT                                            | FREQUENCY |
|------|--------------------------------------------------------------------|------------------------------------------------------|-----------|
| 1.   | DRIVE GEAR GREASE EXTENSION                                        | SHELL ALVANIA 2EP<br><br>OR<br><br>SHELL RETINAX "A" | WEEKLY    |
| 2.   | TURNTABLE/BEARING GREASE EXTENSION<br>*ROTATE CRANE WHILE GREASING |                                                      |           |
| 3.   | PINION GEAR                                                        |                                                      |           |
| 4.   | MAST/INNER BOOM HINGE PIN                                          |                                                      |           |
| 5.   | OUTER CYLINDER BASE                                                |                                                      |           |
| 6.   | INNER CYLINDER ROD                                                 |                                                      |           |
| 7.   | INNER BOOM/OUTER BOOM HINGE PIN                                    |                                                      |           |
| 8.   | OUTER CYLINDER ROD                                                 |                                                      |           |
| 9.   | 2-STAGE EXTENSION CYLINDER ROD                                     |                                                      |           |

NOTE: All application points must be greased weekly under normal work loads and moderate weather conditions. Under severe operating conditions, lubrication should be performed more frequently. See Volume 1; Operation, Maintenance and Repair for additional lubrication requirements.



# RECOMMENDED SPARE PARTS LIST

## 1 YEAR SUPPLY

## 9000/1295 CRANE

## FOR MANUAL: 99900918

This spare parts list does not necessarily indicate that the items can be expected to fail in the course of a year. It is intended to provide the user with a stock of parts sufficient to keep the unit operating with the minimal down-time waiting for parts. There may be parts failures not covered by this list. Parts not listed are considered as not being Critical or Normal Wear items during the first year of operations and you need to contact the distributor or manufacturer for availability.

| ASSEMBLY<br>DESIGNATION | ITEM NO.                                          | PART NO. | DESCRIPTION          | QTY | CODE | SHELF<br>LIFE<br>(MO) | ORDER<br>QTY |
|-------------------------|---------------------------------------------------|----------|----------------------|-----|------|-----------------------|--------------|
| 41712071.01.19961030    | <b>BASE &amp; MANUAL STABILIZER ASM</b>           |          |                      |     |      |                       |              |
|                         | 9                                                 | 60020115 | BUSHING              | 1   | W    |                       |              |
|                         | 10                                                | 60020116 | BUSHING              | 1   | W    |                       |              |
|                         | 11                                                | 60020187 | BUSHING              | 1   | W    |                       |              |
|                         | 12                                                | 60020188 | BUSHING              | 1   | W    |                       |              |
|                         | 22                                                | 60030053 | ROLLER               | 2   | W    |                       |              |
|                         | 30                                                | 71056265 | PINION GEAR          | 1   | W    |                       |              |
|                         | 32                                                | 7Q072112 | O-RING               | 2   | W    |                       |              |
|                         | 54                                                | 73054538 | VALVE                | 2   | C    |                       |              |
| 41712070.01.19961030    | <b>BASE &amp; POWER STABILIZER ASM</b>            |          |                      |     |      |                       |              |
|                         | SAME AS BASE AND MANUAL STABILIZER ASSEMBLY ABOVE |          |                      |     |      |                       |              |
| 3B220850.01.19961030    | <b>POWER OUT CYLINDER</b>                         |          |                      |     |      |                       |              |
|                         | 6                                                 | 9B050608 | SEAL KIT             | 1   | W    |                       |              |
| 3B221850.01.19961030    | <b>POWER DOWN STAB CYLINDER</b>                   |          |                      |     |      |                       |              |
|                         | 5                                                 | 73054004 | VALVE                | 2   | C    |                       |              |
|                         | 9                                                 | 9B101214 | SEAL KIT             | 2   | W    |                       |              |
| 41712072.01.19961030    | <b>MAST ASM</b>                                   |          |                      |     |      |                       |              |
|                         | 2                                                 | 7BF81225 | BUSHING              | 2   | W    |                       |              |
| 41712042.01.19970320    | <b>INNER BOOM ASM</b>                             |          |                      |     |      |                       |              |
|                         | 4                                                 | 7BF81220 | BUSHING              | 6   | W    |                       |              |
|                         | 5                                                 | 7BF81225 | BUSHING              | 9   | W    |                       |              |
| 3B272000.01.20001101    | <b>INNER CYLINDER</b>                             |          |                      |     |      |                       |              |
|                         | 3                                                 | 6H040025 | HEAD                 | 1   | W    |                       |              |
|                         | 4                                                 | 6I402144 | PISTON               | 1   | W    |                       |              |
|                         | 7                                                 | 73054887 | C'BAL VALVE          | 2   | C    |                       |              |
|                         | 8                                                 | 9C160920 | SEAL KIT             | 2   | W    |                       |              |
|                         | 19                                                | 7BF81025 | BUSHING              | 8   | W    |                       |              |
| 41712065.01.19970320    | <b>OUTER BOOM ASM</b>                             |          |                      |     |      |                       |              |
|                         | 5                                                 | 7BF81520 | BUSHING              | 4   | W    |                       |              |
| 3C078970.01.19970320    | <b>OUTER CYLINDER FROM 3-1-97</b>                 |          |                      |     |      |                       |              |
|                         | 3                                                 | 73054242 | VALVE 25GPM          | 1   | C    |                       |              |
|                         | 6                                                 | 6H050030 | HEAD                 | 1   | W    |                       |              |
|                         | 7                                                 | 6I050181 | PISTON               | 1   | W    |                       |              |
|                         | 8                                                 | 9C010960 | SEAL KIT             | 1   | W    |                       |              |
|                         | 19                                                | 7BF81520 | BUSHING              | 1   | W    |                       |              |
|                         | 20                                                | 7BF82020 | BUSHING              | 3   | W    |                       |              |
| 41709699.01.19961030    | <b>EXTENSION BOOM ASM-1H</b>                      |          |                      |     |      |                       |              |
|                         | 10                                                | 60030118 | WEAR PAD             | 1   | W    |                       |              |
|                         | 12                                                | 60030119 | WEAR PAD             | 1   | W    |                       |              |
| 3B099910.01.19961030    | <b>EXTENSION CYLINDER-FIRST STAGE</b>             |          |                      |     |      |                       |              |
|                         | 16                                                | 73054304 | COUNTERBALANCE VALVE | 2   | W    |                       |              |
|                         | 18                                                | 9C121617 | SEAL KIT             | 1   | W    |                       |              |
| 41709700.01.19961030    | <b>EXTENSION BOOM ASM-2H</b>                      |          |                      |     |      |                       |              |
|                         | 11                                                | 60030118 | WEAR PAD             | 1   | W    |                       |              |
|                         | 13                                                | 60030123 | WEAR PAD             | 1   | W    |                       |              |
|                         | 14                                                | 60030122 | WEAR PAD             | 1   | W    |                       |              |
|                         | 16                                                | 60030119 | WEAR PAD             | 2   | W    |                       |              |
| 3K120850.01.19970721    | <b>EXTENSION CYLINDER-SECOND STAGE</b>            |          |                      |     |      |                       |              |
|                         | 4                                                 | 6H271511 | HEAD                 | 1   | W    |                       |              |
|                         | 5                                                 | 6H112820 | HEAD                 | 1   | W    |                       |              |
|                         | 6                                                 | 6I025087 | PISTON               | 1   | W    |                       |              |
|                         | 7                                                 | 6I095850 | PISTON               | 1   | W    |                       |              |
|                         | 11                                                | 73054242 | COUNTERBALANCE VALVE | 2   | C    |                       |              |
|                         | 13                                                | 9X095850 | SEAL KIT             | 1   | W    |                       |              |
| 41709701.01.19961030    | <b>EXTENSION BOOM ASM-2H1M</b>                    |          |                      |     |      |                       |              |
|                         | 11                                                | 60030118 | WEAR PAD             | 1   | W    |                       |              |
|                         | 13                                                | 60030123 | WEAR PAD             | 1   | W    |                       |              |
|                         | 14                                                | 60030122 | WEAR PAD             | 1   | W    |                       |              |
|                         | 16                                                | 60030202 | WEAR PAD             | 1   | W    |                       |              |
|                         | 17                                                | 60030203 | WEAR PAD             | 1   | W    |                       |              |
|                         | 27                                                | 60030119 | WEAR PAD             | 1   | W    |                       |              |

(CONTINUED)

## RECOMMENDED SPARE PARTS LIST

### (CON'T)

| ASSEMBLY<br>DESIGNATION     | ITEM NO.                                    | PART NO. | DESCRIPTION           | QTY | CODE | SHELF<br>LIFE<br>(MO) | ORDER<br>QTY |
|-----------------------------|---------------------------------------------|----------|-----------------------|-----|------|-----------------------|--------------|
| <b>41709703.01.19961030</b> | <b>EXTENSION BOOM ASM-3H</b>                |          |                       |     |      |                       |              |
|                             | 11                                          | 60030118 | WEAR PAD              | 1   | W    |                       |              |
|                             | 13                                          | 60030123 | WEAR PAD              | 1   | W    |                       |              |
|                             | 14                                          | 60030122 | WEAR PAD              | 1   | W    |                       |              |
|                             | 16                                          | 60030202 | WEAR PAD              | 1   | W    |                       |              |
|                             | 17                                          | 60030203 | WEAR PAD              | 1   | W    |                       |              |
|                             | 27                                          | 60030119 | WEAR PAD              | 1   | W    |                       |              |
| <b>41709704.01.19961030</b> | <b>EXTENSION BOOM ASM-3H1M</b>              |          |                       |     |      |                       |              |
|                             | 11                                          | 60030118 | WEAR PAD              | 1   | W    |                       |              |
|                             | 13                                          | 60030123 | WEAR PAD              | 1   | W    |                       |              |
|                             | 14                                          | 60030122 | WEAR PAD              | 1   | W    |                       |              |
|                             | 16                                          | 60030202 | WEAR PAD              | 1   | W    |                       |              |
|                             | 17                                          | 60030203 | WEAR PAD              | 1   | W    |                       |              |
|                             | 27                                          | 60030119 | WEAR PAD              | 1   | W    |                       |              |
| <b>3K150920.01.19971009</b> | <b>EXTENSION CYLINDER-THIRD STAGE</b>       |          |                       |     |      |                       |              |
|                             | 8                                           | 6I503369 | PISTON                | 1   | W    |                       |              |
|                             | 9                                           | 6I352268 | PISTON                | 1   | W    |                       |              |
|                             | 10                                          | 6I252144 | PISTON                | 1   | W    |                       |              |
|                             | 11                                          | 6H503450 | HEAD                  | 1   | W    |                       |              |
|                             | 12                                          | 6H352300 | HEAD                  | 1   | W    |                       |              |
|                             | 13                                          | 6H271511 | HEAD                  | 1   | C    |                       |              |
|                             | 15                                          | 73054817 | COUNTERBALANCE VALVE  | 1   | C    |                       |              |
|                             | 16                                          | 73054902 | COUNTERBALANCE VALVE  | 1   | W    |                       |              |
|                             | 17                                          | 9X355900 | SEAL KIT              | 1   | W    |                       |              |
| <b>90713554.01.19961030</b> | <b>PROPORTIONAL REMOTE CONTROL KIT</b>      |          |                       |     |      |                       |              |
|                             | 1                                           | 77041390 | AMP DRIVER            | 1   | C    |                       |              |
|                             | 5                                           | 73054876 | FLOW VALVE            | 1   | W    |                       |              |
|                             | 10                                          | 77041251 | RELAY                 | 2   | W    |                       |              |
|                             | 11                                          | 77041237 | SOLENOID 12V          | 1   | W    |                       |              |
| <b>51713429.01.19961030</b> | <b>PROPORTIONAL REMOTE HANDLE ASM</b>       |          |                       |     |      |                       |              |
|                             | 16                                          | 77040371 | TOGGLE SWITCH SPST    | 1   | W    |                       |              |
|                             | 17                                          | 77040372 | TOGGLE SWITCH SPDT    | 6   | W    |                       |              |
|                             | 18                                          | 77040373 | TOGGLE SWITCH SPST    | 2   | W    |                       |              |
| <b>51713568.01.19961030</b> | <b>CABLE ASM-JIC BOX 94"</b>                |          |                       |     |      |                       |              |
|                             | 3                                           | 77041345 | TOGGLE SWITCH ST      | 2   | W    |                       |              |
|                             | 4                                           | 77041354 | TOGGLE SWITCH DT      | 1   | W    |                       |              |
| <b>93709977.01.19970829</b> | <b>INSTALLATION KIT</b>                     |          |                       |     |      |                       |              |
|                             | 4                                           | 73052006 | RETURN FILTER ELEMENT | 6   | P    |                       |              |
| <b>31712572.01.19961030</b> | <b>CABLE &amp; HOOK KIT-5000LB DP WINCH</b> |          |                       |     |      |                       |              |
|                             | 3                                           | 60030255 | SHEAVE                | 1   | W    |                       |              |
|                             | 13                                          | 70580089 | WIRE ROPE ASM         | 1   | W    |                       |              |
| <b>51711963.01.19961030</b> | <b>SNATCH BLOCK KIT</b>                     |          |                       |     |      |                       |              |
|                             | 3                                           | 60030134 | SHEAVE                | 1   | W    |                       |              |

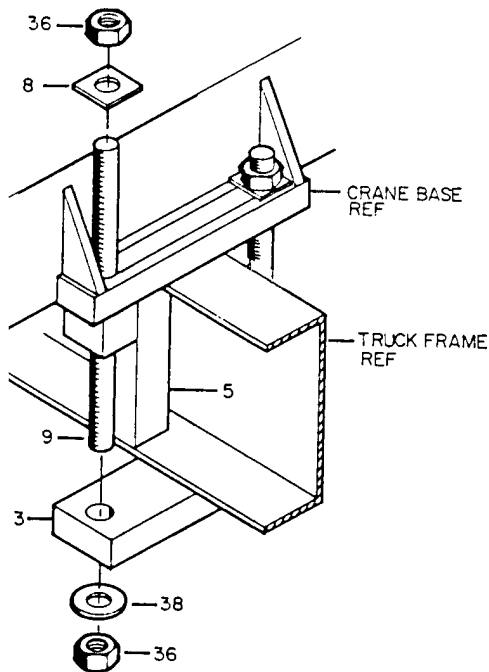
# INSTALLATION

## GENERAL

This section contains specific instructions for the installation of your crane. Prior to installing the crane and hydraulic components, make sure the chassis is ready to receive the crane (refer to VOLUME 1, Installation).

## CRANE MOUNTING

1. See SPECIFICATIONS in Section 1 for crane weight. Using an overhead hoist and fabric slings of adequate capacity, lift the crane about a foot to see if the crane is adequately balanced. If not, lower hoist and adjust slings. Re-check balance and re-position crane until mounting surface is level.
2. Install the truck frame support so that the tie-down studs pass through the supports (See figure below). Cut the support to the inside dimensions of the truck frame. Allow about 1/16" (1.5mm) extra. Grind the end of the support to fit inside the frame channel. Use a hammer to drive it into position if necessary.



| ITEM | DESCRIPTION   | QTY |
|------|---------------|-----|
| 3.   | CLAMP PLATE   | 4   |
| 5.   | FRAME SUPPORT | 4   |
| 8.   | SQUARE WASHER | 8   |
| 9.   | TIE DOWN STUD | 8   |
| 36.  | LOCK NUT      | 16  |
| 38.  | WASHER        | 8   |

## CRANE INSTALLATION

3. Position one bar on top of each frame rail where crane will be located, allowing sufficient clearance between the cab and crane base, at least 5" (127mm). Position the crane on the chassis per the applicable installation drawing, centering the mounting slots over the truck frame rails. While holding crane with hoist, start mounting hardware per figure below. Note position of support weldments on truck frame. Hand tighten nuts. Observe underside of crane base. No clearance between base and frame bars is allowed. Grind bar on frame rails to eliminate clearance.

4. Torque the 1"-8 UNC Grade 5 mounting hardware to 448 ft-lbs (62 kg-m). When torquing the mounting hardware the following precautions must be followed:

- A. Never use lock washers.
- B. Hardened washers must be used, and under the turning element, whether the turning element is the nut or the head of the bolt.
- C. Torque values specified are with residual oils or without special lubricants applied to the threads. If special lubricants are used, such as Never-Seize compound graphite and oil, molybdenum disulphite collodial copper or white lead, reduce torque values 10%. Torque values for threaded fasteners are not affected with the use of Loctite.
- D. Do not use rusty fasteners, the rust will alter torque values significantly.
- E. Touch-up paint around mounting anchor plates.

### CAUTION

Do not attempt to apply the same torque to the tie rod and self-locking nuts as shown in the Torque Data Chart. Do not exceed 448 ft-lbs (62 kg-m). Exceeding this torque value could damage either the chassis or crane base.

Power wrenching is not recommended until the lead thread of the nut insert is engaged by hand turning.

**HYDRAULIC INSTALLATION**

To install the hydraulic hoses, fittings, etc.:

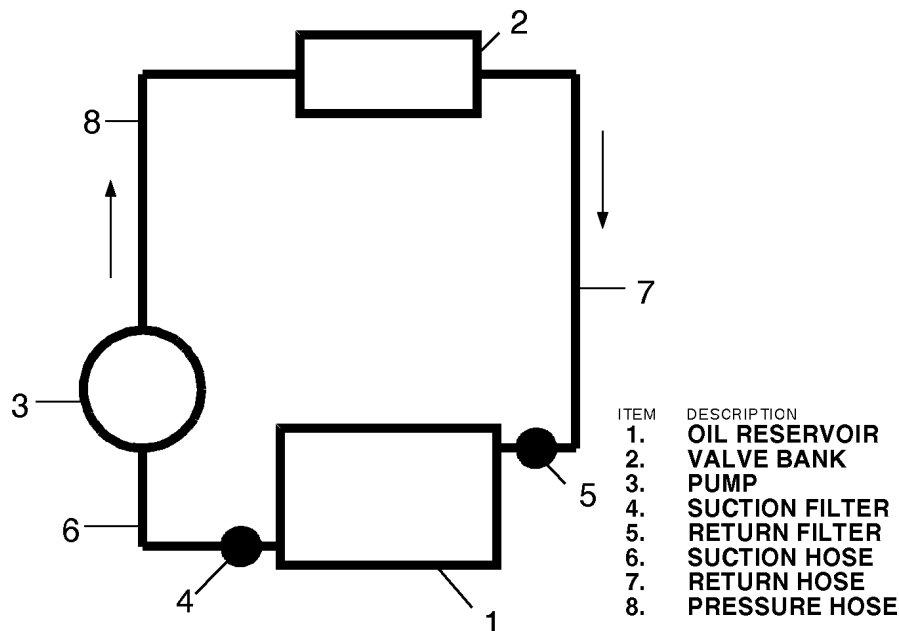
1. Install the hydraulic reservoir on the crane base.
2. Plumb the suction-line filter as shown in the figure below.
3. Install the suction hose between the suction-line filter and the pump inlet. Tighten the hose clamps.
4. Install the pressure hoses between the pump outlet and the inlet port on the valvebank.
5. Install the return filter and gate valve on the reservoir. Install the hose between the valve bank and return filter.
6. Fill the hydraulic reservoir to the "FULL" mark.

7. Open the gate valve at the suction-line filter.

**CAUTION**

FAILURE TO OPEN THE GATE VALVE WILL RESULT IN A DRY RUNNING PUMP WHICH MAY DAMAGE THE PUMP.

8. Open the return gate valve.
9. Start the vehicle's engine and engage the PTO. Allow the system to run for about five minutes and then check the vacuum gauge on the suction-line filter (it should read 8" of mercury or less). If the vacuum reading is too high, check to make certain that the gate valve is opened completely. If the valve is fully opened, check for a collapsed or restricted suction line.
10. Cycle all hydraulic functions. Check for leaks, and refill the reservoir if necessary.

**HYDRAULIC INSTALLATION**

## WINCH TROUBLESHOOTING

| POSSIBLE CAUSE                                                                         | PROBABLE CURE                                                                                             |
|----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| <b>WINCH WON'T LIFT HEAVY LOADS</b>                                                    |                                                                                                           |
| TOO MUCH LOAD                                                                          | RIG TO REDUCE LOADING ON WINCH                                                                            |
| LOW OR NO GEARBOX OIL                                                                  | CHECK OIL LEVEL AND ADD PROPER OIL IF NECESSARY                                                           |
| MOTOR INLET PRESSURE LESS THAN SPECIFICATIONS WITH LOAD STALLED                        | TEST HYDRAULIC PUMP                                                                                       |
| MOTOR OUTLET PRESSURE TOO HIGH WITH LOAD STALLED                                       | FIND AND REMOVE SOURCE OF RESTRICTION                                                                     |
| BRAKE SHOULD ENGAGE IN PAYOUT DIRECTION ONLY                                           | RUN WINCH WITH NO LOAD IN BOTH DIRECTIONS. SYSTEM PRESSURE SHOULD BE SLIGHTLY HIGHER IN PAYOUT DIRECTION. |
| CHECK FLOW TO WINCH MOTOR WITH WINCH UNDER LOAD                                        | TEST PUMP IF NOT TO SPECIFICATIONS                                                                        |
| CHECK END PLAY IN WORM                                                                 | IF GREATER THAN 0.030", INSPECT WORM BEARINGS FOR WEAR. REPLACE IF NECESSARY.                             |
| <b>WINCH WON'T HOLD LOAD</b>                                                           |                                                                                                           |
| BRAKE MAY NEED ADJUSTMENT                                                              | TURN ADJUSTING SCREW CLOCKWISE 1/4 TURN AT A TIME AND TEST WINCH AGAIN                                    |
| BRAKE DISKS MAY BE WORN                                                                | INSPECT AND REPLACE IF NECESSARY. ADJUST AND RETEST                                                       |
| CAM CLUTCH IN BRAKE MAY BE INSTALLED INCORRECTLY                                       | REVERSE CLUTCH AND RETEST                                                                                 |
| JOURNAL ON WORM WHERE CAM CLUTCH RUNS MAY BE GALLED OR WORN                            | INSPECT AND REPLACE WORM IF NECESSARY                                                                     |
| <b>WINCH RUNS TOO SLOW</b>                                                             |                                                                                                           |
| SYSTEM MAY HAVE LOW FLOW                                                               | INSTALL FLOW METER IN SYSTEM AND TEST UNDER LOAD. IF FLOW IS BELOW SPECIFICATIONS, INSPECT PUMP.          |
| MOTOR WORN OUT                                                                         | REPLACE MOTOR                                                                                             |
| <b>WINCH WILL NOT RUN UNDER NO LOAD<br/>(RELIEF VALVE OPENS WITHOUT WINCH TURNING)</b> |                                                                                                           |
| MOTOR SEIZED UP                                                                        | REMOVE MOTOR FROM WINCH AND TEST IF OPERABLE. IF NOT, REPLACE MOTOR.                                      |
| WORM AND GEAR SET DAMAGED                                                              | REPAIR GEARBOX                                                                                            |

See Section 3 for parts drawing.

9000/1295:99900918:19961030

2-10  
(BLANK)

## SECTION 3. REPLACEMENT PARTS 9000/1295 CRANE

|                                                      |    |
|------------------------------------------------------|----|
| PARTS INFORMATION .....                              | 3  |
| CRANE IDENTIFICATION .....                           | 3  |
| SERIAL NUMBER PLACARD .....                          | 3  |
| CYLINDER IDENTIFICATION .....                        | 3  |
| WELDMENT IDENTIFICATION .....                        | 3  |
| ORDERING REPAIR PARTS .....                          | 3  |
| CYLINDER PART NUMBER LOCATION .....                  | 3  |
| BASE & MNL STABILIZER ASM (41712071-1) .....         | 4  |
| BASE & MNL STABILIZER ASM (41712071-2) .....         | 5  |
| BASE & PWR STABILIZER ASM (41712070-1) .....         | 6  |
| BASE & PWR STABILIZER ASM (41712070-2) .....         | 7  |
| OPTION-KIT-PWR OUT STABILIZER (31705851) .....       | 8  |
| OPTION-PWR OUT STABILIZER CYL (3B220850) .....       | 9  |
| BASE & PWR STABILIZER ASM-VOAC (41712976) .....      | 10 |
| PWR OUT STABILIZER KIT-VOAC (31712993) .....         | 11 |
| PWR DN STABILIZER CYLINDER (3B221850) .....          | 12 |
| MAST ASM (41712072) .....                            | 13 |
| INNER BOOM ASM (41712042) .....                      | 14 |
| INNER CYLINDER (3B272000) .....                      | 15 |
| OUTER BOOM ASM (41712065) .....                      | 17 |
| OUTER CYLINDER-FROM 3-1-97 (3C078970) .....          | 18 |
| OUTER CYLINDER-TO 3-1-97 (3C224850) .....            | 19 |
| EXT BOOM ASM-1H (41709699) .....                     | 20 |
| 1-STG EXT CYLINDER (3B099910) .....                  | 21 |
| EXT BOOM ASM-2H (41709700) .....                     | 22 |
| 2-STG EXT CYLINDER (3K120850) .....                  | 23 |
| EXT BOOM ASM-2H1M (41709701) .....                   | 24 |
| EXT BOOM ASM-3H (41709703) .....                     | 25 |
| EXT BOOM ASM-3H1M (41709704) .....                   | 26 |
| 3-STG EXT CYLINDER PRE:5-22-00 (3K150920) .....      | 27 |
| LOCKING/HOLDING VALVE (73054004) .....               | 28 |
| HYD KIT-6 SECT (91706401) .....                      | 29 |
| VB ASM-8 SECT MNL (51705853) .....                   | 30 |
| VALVEBANK (73731768) .....                           | 30 |
| VB ASM-5R/3M (51705935) .....                        | 31 |
| VALVEBANK (51705934) .....                           | 31 |
| VB-4R/4M (51706377) .....                            | 32 |
| VALVEBANK (51706376) .....                           | 32 |
| VB ASM-6R/2M (51706389) .....                        | 33 |
| VALVEBANK (51706378) .....                           | 33 |
| CTRL KIT-6M (90705854) .....                         | 34 |
| HYD KIT-8 SECT VOAC (91712984) .....                 | 35 |
| VB ASM-8 SECT VOAC HARDWIRE RMT CFC (51712977) ..... | 36 |
| VB-8 SECT HARDWIRE 5r/3m cfc (73732995-1) .....      | 37 |
| VB-8 SECT HARDWIRE 5r/3m cfc (73732995-2) .....      | 38 |
| CTRL KIT-HARDWIRE RMT (90713139-1) .....             | 39 |

## REPLACEMENT PARTS 9000/1295 CRANE (CON'T)

|                                                                                |    |
|--------------------------------------------------------------------------------|----|
| CTRL KIT-HARDWIRE RMT (90713139-2) .....                                       | 40 |
| CABLE ASM-JIC BOX HARDWIRE RMT (51713047) .....                                | 41 |
| vb 8-sect HARDWIRE 5r/3m ls1 (73733083-1) .....                                | 42 |
| vb 8-sect hardwire 5r/3m ls1 (73733083-2) .....                                | 43 |
| VB 8-SECT VOAC HARDWIRE RMT LS1 (51713211-1) .....                             | 44 |
| VB 8-SECT VOAC DECAL KIT (51713211-2) .....                                    | 45 |
| CABLE ASM-EMERGENCY STOP SWITCH (51713200) .....                               | 46 |
| PROP'L RMT CTRL KIT (90713554) .....                                           | 47 |
| PROP'L RMT HANDLE ASM (51713429) .....                                         | 48 |
| CABLE ASM-JIC BOX 94" (51713568) .....                                         | 49 |
| CABLE ASM-JIC BOX (1-403C) (51713048) .....                                    | 50 |
| CABLE ASM-POWER (51712882) .....                                               | 51 |
| INSTALLATION KIT-MNL CTRLS (93709977) .....                                    | 52 |
| DECAL KIT-9000 SERIES 1H & 2H (95712081-1) .....                               | 53 |
| DECAL KIT-9000 SERIES 1H & 2H (95712081-2) .....                               | 54 |
| DECAL KIT-9000 SERIES 2H1M-3H1M (95712082-1) .....                             | 55 |
| DECAL KIT-9000 SERIES 2H1M-3H1M (95712082-2) .....                             | 56 |
| CAPACITY ALERT KIT (31713333) .....                                            | 57 |
| 3-STG EXT CYLINDER EFF:5-22-00 (3K120200) .....                                | 58 |
| HYD OVERLOAD KIT-4F (51717128) .....                                           | 59 |
| OPTION - LIGHT KIT (31717218) .....                                            | 60 |
| OPTION-SGL HOSE REEL KIT-V20 (31712010) .....                                  | 61 |
| OPTION-DBL HOSE REEL KIT-V20 (31712011) .....                                  | 62 |
| OPTION-RESERVOIR ASM 25-GAL (70732578) .....                                   | 63 |
| OPTION-AUGER MTG KIT (51707059) .....                                          | 64 |
| OPTION-IGLOO HANDLING KIT (51709224) .....                                     | 65 |
| OPTION-RECYCLING CONTAINER KIT-3 HOLE (31709622) .....                         | 66 |
| OPTION-RECYCLING CONTAINER KIT-3 HOLE (31709622) .....                         | 67 |
| OPTION-CABLE & HOOK KIT-5000 LB DP WINCH (31712572) .....                      | 68 |
| OPTION-WINCH KIT-DP 5000# BOLT-ON (31905000) .....                             | 69 |
| TWO-BLOCK DAMAGE PREVENTION KIT (51724350 / DWG 99905344) .....                | 70 |
| TWO-BLOCK DAMAGE PREVENTION KIT (51724356 / DWG 99905343) .....                | 71 |
| OPTION-SNATCH BLOCK KIT (51711963) .....                                       | 72 |
| OPTION-AUX RESERVOIR-30 GAL (31701760) .....                                   | 73 |
| DECAL KIT-MODEL 1295 1H & 2H (95712013-1) .....                                | 74 |
| DECAL KIT-MODEL 1295 1H & 2H (95712013-2) .....                                | 75 |
| DECAL KIT-MODEL 1295 2H1M-3H1M (95711908-1) .....                              | 76 |
| DECAL KIT-MODEL 1295 2H1M-3H1M (95711908-2) .....                              | 77 |
| RADIO REMOTE RETROFIT KIT (DWG. 99903330-1) (KIT 91717058) .....               | 78 |
| ELEC. SCHEMATIC - RADIO REMOTE RETROFIT (KIT 99903330-2) (DWG. 91717058) ..... | 79 |
| CABLE ASM-18GA/24 WIREX115 (51714624) .....                                    | 80 |
| JIC BOX ASM-RADIO REMOTE (51717059) .....                                      | 81 |
| RADIO REMOTE KIT (73733600-1) .....                                            | 82 |
| RADIO REMOTE KIT (73733600-2) .....                                            | 83 |
| INSTALLATION DWG-RESERVOIR PLUMBING (99901277-1) .....                         | 84 |
| INSTALLATION DWG-PLUMBING (99901277-2) .....                                   | 85 |
| INSTALLATION DWG-PILOT & COOLER ASM (99901277-3) .....                         | 86 |
| INSTALLATION DWG-ELEC (99901277-4) .....                                       | 87 |



## PARTS INFORMATION

### GENERAL

This section contains the exploded parts drawings and accompanying parts lists for the assemblies used on this crane. These drawings are intended to be used in conjunction with the instructions found in the REPAIR section in Volume 1. For optional equipment such as winches and remote controls, refer to the appropriate service manual.

#### WARNING

DO NOT ATTEMPT TO REPAIR ANY COMPONENT WITHOUT READING THE INFORMATION CONTAINED IN THE REPAIR SECTION IN VOLUME 1. PAY PARTICULAR ATTENTION TO STATEMENTS MARKED WARNING, CAUTION, OR NOTE IN THAT SECTION. FAILURE TO COMPLY WITH THESE INSTRUCTIONS MAY RESULT IN DAMAGE TO THE EQUIPMENT, PERSONAL INJURY, OR DEATH.

### CRANE IDENTIFICATION

Every IMT crane has an identification placard (see figure) attached to the inner boom, mast, or crane base. When ordering parts, communicating warranty information, or referring to the unit in correspondence, always include the serial number and model numbers. All inquiries should be addressed to:

Iowa Mold Tooling Co., Inc.  
Box 189, Garner, IA 50438-0189  
Telephone: 641-923-3711  
Product Support Fax: 641-923-2424

|                                       |  |
|---------------------------------------|--|
| <b>IOWA MOLD TOOLING CO., INC.</b>    |  |
| <b>BOX 189, GARNER, IA 50438-0189</b> |  |
| <b>MODEL NUMBER</b>                   |  |
| <b>SERIAL NUMBER</b>                  |  |
| <b>MFG DATE</b>                       |  |
| <b>70029119</b>                       |  |

**SERIAL NUMBER PLACARD**

### CYLINDER IDENTIFICATION

To insure proper replacement parts are received, it is necessary to specify the complete number/letter sequence for any part requested. Part numbers may be cross checked by comparing the stamped identification on the cylinder case (See figure below) against the information contained in the service manual. You must include the part number stamped on the cylinder case when ordering parts.

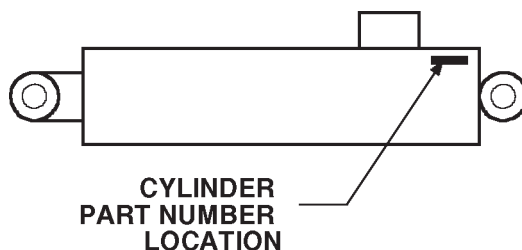
### WELDMENT IDENTIFICATION

Each of the major weldments - base, mast, inner boom, outer boom, extension boom and stabilizer weldments bear a stamped part number. Any time a major weldment is replaced, you must specify the complete part number as stamped on the weldment. The locations of the part numbers are shown in Section 2.

### ORDERING REPAIR PARTS

When ordering replacement parts:

1. Give the model number of the unit.
2. Give the serial number of the unit.
3. Specify the complete part number. When ordering cylinder parts, or one of the main weldments, always give the stamped part number.
4. Give a complete description of the part.
5. Specify the quantity required.



**CYLINDER PART NUMBER LOCATION**

**BASE & MNL STABILIZER ASM  
(41712071-1)**

| ITEM | PART NO. | DESCRIPTION                 | QTY  |
|------|----------|-----------------------------|------|
| 1.   | 3B221850 | STABILIZER CYLINDER         | 2    |
| 3.   | 70732578 | RESERVOIR ASM               | 1    |
| 5.   | 71145016 | STOP BLOCK-SLIDING          | 1    |
| 7.   | 52070138 | "T"-PIN                     | 2    |
| 8.   | 52712069 | BASE (INCL:9-13)            | 1    |
| 9.   | 60020115 | BUSHING (PART OF 8)         | 1REF |
| 10.  | 60020116 | BUSHING (PART OF 8)         | 1REF |
| 11.  | 60020187 | BUSHING (PART OF 8)         | 1REF |
| 12.  | 60020188 | BUSHING (PART OF 8)         | 1REF |
| 13.  | 71056011 | DRIVE GEAR (PART OF 8)      | 1REF |
| 14.  | 52706167 | STABILIZER ARM              | 2    |
| 15.  | 52705871 | STABILIZER LEG              | 2    |
| 16.  | 53000703 | GREASE EXTENSION 20"        | 1    |
| 17.  | 53000713 | GREASE EXTENSION 38"        | 1    |
| 18.  | 60107648 | HOSE CLAMP                  | 2    |
| 19.  | 60010235 | PINION COVER                | 1    |
| 20.  | 60010351 | SPRING                      | 2    |
| 21.  | 60010844 | GREASE PLATE                | 1    |
| 22.  | 60030053 | ROLLER                      | 4    |
| 23.  | 60102767 | ACCESS COVER                | 1    |
| 24.  | 60106032 | STUD 1/2-13 X 2             | 2    |
| 25.  | 60106314 | PIN                         | 4    |
| 26.  | 60106886 | PINION SPACER               | 1    |
| 27.  | 60106968 | PIN                         | 2    |
| 28.  | 60108888 | INTERMEDIATE GEAR GUARD     | 1    |
| 29.  | 71056072 | INTERMEDIATE GEAR           | 1    |
| 30.  | 71056265 | PINION GEAR                 | 1    |
| 31.  | 71056627 | TURNABLE BEARING            | 1    |
| 33.  | 72053301 | COUPLING 1/8NPT             | 2    |
| 34.  | 72053508 | ZERK 1/8NPT                 | 3    |
| 35.  | 72060002 | CAP SCR 1/4-20X3/4 HH GR5   | 2    |
| 36.  | 72060053 | CAP SCR 3/8-16X2-3/4 HH GR5 | 2    |
| 37.  | 72060092 | CAP SCR 1/2-13X1-1/4 HH GR5 | 2    |
| 38.  | 72060102 | CAP SCR 1/2-13X5-1/2 HH GR5 | 4    |
| 39.  | 72060833 | SCR 5/16-18X3/4 HH SLFTPG   | 2    |
| 40.  | 72062080 | NUT 1/2-13 LOCK             | 2    |
| 41.  | 72062103 | NUT 3/8-16 LOCK             | 8    |
| 42.  | 72062107 | NUT 1/2-13 CTR LOCK         | 4    |
| 43.  | 72063002 | WASHER 5/16 WRT             | 2    |
| 44.  | 72063003 | WASHER 3/8 WRT              | 2    |
| 45.  | 72063027 | MACH BUSHING 5/8X14GA       | 2    |
| 46.  | 72063039 | MACH BUSHING 2 X 10GA NR    | 1    |
| 47.  | 72063049 | WASHER 1/4 LOCK             | 2    |
| 48.  | 72063053 | WASHER 1/2 LOCK             | 2    |
| 49.  | 72063116 | WASHER 3/4 HARDENED         | 20   |

3-4

**SEE FOLLOWING PAGE FOR DRAWING**

|     |          |                                              |    |
|-----|----------|----------------------------------------------|----|
| 50. | 72066095 | RETAINING RING 2" EXT STD                    | 1  |
| 51. | 72066178 | COTTER PIN 1/8 X 1                           | 8  |
| 52. | 72601295 | CAP SCR 3/4-10X3-1/2 HH GR8                  | 20 |
| 53. | 73540004 | HYD MOTOR (FROM 5-15-98)                     | 1  |
|     | 73051004 | HYD MOTOR (TO 5-15-98)                       | 1  |
|     | 73054538 | VALVE CARTRIDGE (TO 5-15-98)                 | 2  |
|     | 72060738 | CAP SCR (TO 5-15-98)                         | 4  |
|     | 5V151830 | MOTOR BLOCK (TO 5-15-98)                     | 1  |
|     | 7Q072112 | O-RING (TO 5-15-98)                          | 2  |
| 55. | 72066125 | RETAINING RING 1" EXT HD                     | 4  |
| 56. | 72066185 | COTTER PIN .16 X 1                           | 2  |
| 58. | 72060046 | CAP SCR 3/8-16X1 HH GR5                      | 4  |
| 59. | 72063003 | WASHER 3/8 WRT                               | 8  |
| 60. | 60108883 | CHAIN                                        | 2  |
| 61. | 70058060 | COLD-SHUT LINK                               | 2  |
| 62. | 89393036 | SLEEVE                                       | 5' |
| 63. | 72053281 | STREET ELBOW 1/8NPT                          | 1  |
| 64. | 72531826 | REDUCER BUSHING 1/4-1/8NPT                   | 1  |
| 65. | 72060023 | CAP SCR 5/16-18X3/4 HH GR5                   | 2  |
| 66. | 72063050 | WASHER 5/16 LOCK                             | 2  |
| 67. | 60119748 | CTRL HANDLE GUARD                            | 1  |
| 68. | 72060006 | CAP SCR 1/4-20X1-1/2 HHGR5<br>(WAS 72060005) | 8  |
| 69. | 72063001 | WASHER 1/4 WRT                               | 16 |
| 70. | 72062104 | NUT 1/4-20 LOCK                              | 8  |
| 71. | 60119747 | CTRL HANDLE GUARD                            | 1  |

**WARNING**

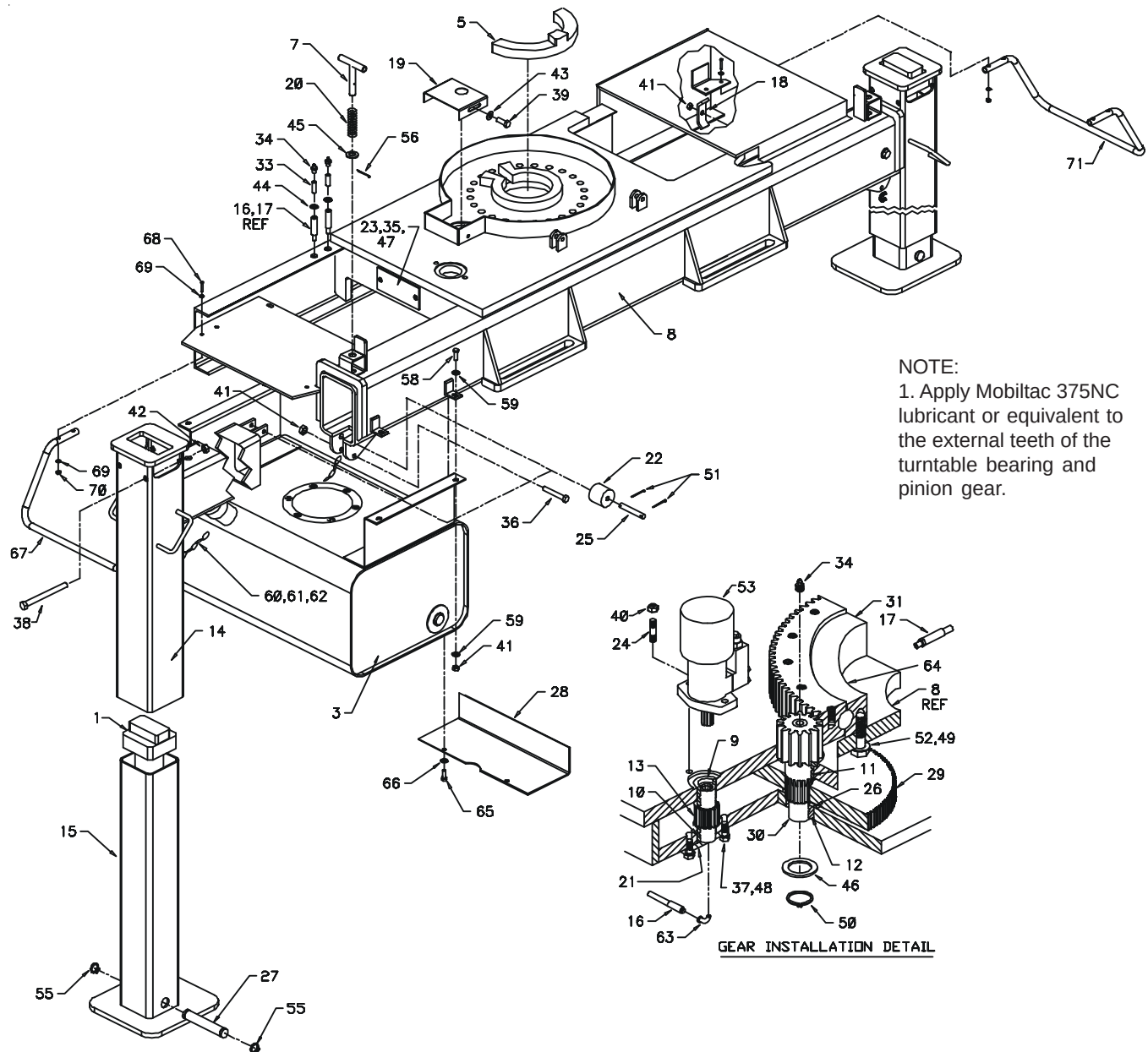
ANYTIME A GEAR-BEARING BOLT IS REMOVED, IT MUST BE REPLACED WITH A NEW BOLT OF THE IDENTICAL GRADE AND SIZE. FAILURE TO REPLACE GEAR-BEARING BOLTS MAY RESULT IN BOLT FAILURE DUE TO FATIGUE, CAUSING SERIOUS INJURY OR DEATH.

**CAUTION**

BEFORE TIGHTENING TURNABLE BEARING BOLTS, REFER TO THE TURNABLE BEARING FASTENER TIGHTENING SEQUENCE AND TORQUE DATA CHART IN THE REFERENCE SECTION.

NOTE:TURNABLE BEARING BACKLASH =.006"-.010"  
(.152-.254mm)

# **BASE & MNL STABILIZER ASM (41712071-2)**



## **NOTE**

INSTALL 70399271 - DECAL-FULLY DEPLOYED - ON TOP OF STABILIZER BEAMS WHEN BEAMS ARE FULLY EXTENDED. DECAL MUST BE VISIBLE.

## BASE & PWR STABILIZER ASM (41712070-1)

| ITEM | PART NO. | DESCRIPTION                 | QTY  |
|------|----------|-----------------------------|------|
| 1.   | 3B221850 | STABILIZER CYLINDER         | 2    |
| 3.   | 70732578 | RESERVOIR ASM               | 1    |
| 5.   | 71145016 | STOP BLOCK-SLIDING          | 1    |
| 8.   | 52712068 | BASE (INCL:9-13)            | 1    |
| 9.   | 60020115 | BUSHING (PART OF 8)         | 1REF |
| 10.  | 60020116 | BUSHING (PART OF 8)         | 1REF |
| 11.  | 60020187 | BUSHING (PART OF 8)         | 1REF |
| 12.  | 60020188 | BUSHING (PART OF 8)         | 1REF |
| 13.  | 71056011 | DRIVE GEAR (PART OF 8)      | 1REF |
| 14.  | 52706167 | STABILIZER ARM              | 2    |
| 15.  | 52705871 | STABILIZER LEG              | 2    |
| 16.  | 53000703 | GREASE EXTENSION 20"        | 1    |
| 17.  | 53000713 | GREASE EXTENSION 38"        | 1    |
| 18.  | 60107648 | HOSE CLAMP                  | 2    |
| 19.  | 60010235 | PINION COVER                | 1    |
| 21.  | 60010844 | GREASE PLATE                | 1    |
| 22.  | 60030053 | ROLLER                      | 4    |
| 23.  | 60102767 | ACCESS COVER                | 1    |
| 24.  | 60106032 | STUD 1/2-13 X 2             | 2    |
| 25.  | 60106314 | PIN                         | 4    |
| 26.  | 60106886 | PINION SPACER               | 1    |
| 27.  | 60106968 | PIN                         | 2    |
| 28.  | 60108888 | INTERMEDIATE GEAR GUARD     | 1    |
| 29.  | 71056072 | INTERMEDIATE GEAR           | 1    |
| 30.  | 71056265 | PINION GEAR                 | 1    |
| 31.  | 71056627 | TURNTABLE BEARING           | 1    |
| 33.  | 72053301 | COUPLING 1/8NPT             | 2    |
| 34.  | 72053508 | ZERK 1/8NPT                 | 3    |
| 35.  | 72060002 | CAP SCR 1/4-20X3/4 HH GR5   | 2    |
| 36.  | 72060053 | CAP SCR 3/8-16X2-3/4 HH GR5 | 2    |
| 37.  | 72060092 | CAP SCR 1/2-13X1-1/4 HH GR5 | 2    |
| 38.  | 72060102 | CAP SCR 1/2-13X5-1/2 HH GR5 | 4    |
| 39.  | 72060833 | SCR 5/16-18X3/4 HH SLFTPG   | 2    |
| 40.  | 72062080 | NUT 1/2-13 LOCK             | 2    |
| 41.  | 72062103 | NUT 3/8-16 LOCK             | 8    |
| 42.  | 72062107 | NUT 1/2-13 CTR LOCK         | 4    |
| 43.  | 72063002 | WASHER 5/16 WRT             | 2    |
| 44.  | 72063003 | WASHER 3/8 WRT              | 2    |
| 45.  | 72053281 | STREET ELBOW 1/8NPT         | 1    |
| 46.  | 72063039 | MACH BUSHING 2 X 10GA NR    | 1    |
| 47.  | 72063049 | WASHER 1/4 LOCK             | 2    |

|     |          |                                              |    |
|-----|----------|----------------------------------------------|----|
| 48. | 72063053 | WASHER 1/2 LOCK                              | 2  |
| 49. | 72063116 | WASHER 3/4 HARDENED                          | 20 |
| 50. | 72066095 | RETAINING RING 2" EXT STD                    | 1  |
| 51. | 72066178 | COTTER PIN 1/8 X 1                           | 8  |
| 52. | 72601295 | CAP SCR 3/4-10X3-1/2 HH GR8                  | 20 |
| 53. | 73540004 | HYD MOTOR (FROM 5-15-98)                     | 1  |
|     | 73051004 | HYD MOTOR (TO 5-15-98)                       | 1  |
|     | 73054538 | VALVE CARTRIDGE (TO 5-15-98)                 | 2  |
|     | 72060738 | CAP SCR (TO 5-15-98)                         | 4  |
|     | 7Q072112 | O-RING (TO 5-15-98)                          | 2  |
|     | 5V151830 | MOTOR BLOCK (TO 5-15-98)                     | 1  |
| 55. | 72066125 | RETAINING RING 1" EXT HD                     | 4  |
| 56. | 72531826 | REDUCER BUSHING 1/4-1/8NPT                   | 1  |
| 58. | 72060046 | CAP SCR 3/8-16X1 HH GR5                      | 4  |
| 59. | 72063003 | WASHER 3/8 WRT                               | 8  |
| 60. | 72060023 | CAP SCR 5/16-18X3/4 HH GR5                   | 2  |
| 61. | 72063050 | WASHER 5/16 WRT                              | 2  |
| 62. | 60119748 | CTRL HANDLE GUARD                            | 1  |
| 63. | 72060006 | CAP SCR 1/4-20X1-1/2 HHGR5<br>(WAS 72060005) | 8  |
| 64. | 72063001 | WASHER 1/4 WRT                               | 16 |
| 65. | 72062104 | NUT 1/4-20 LOCK                              | 8  |
| 66. | 60119747 | CTRL HANDLE GUARD                            | 1  |

### WARNING

ANYTIME A GEAR-BEARING BOLT IS REMOVED, IT MUST BE REPLACED WITH A NEW BOLT OF THE IDENTICAL GRADE AND SIZE. FAILURE TO REPLACE GEAR-BEARING BOLTS MAY RESULT IN BOLT FAILURE DUE TO FATIGUE, CAUSING SERIOUS INJURY OR DEATH.

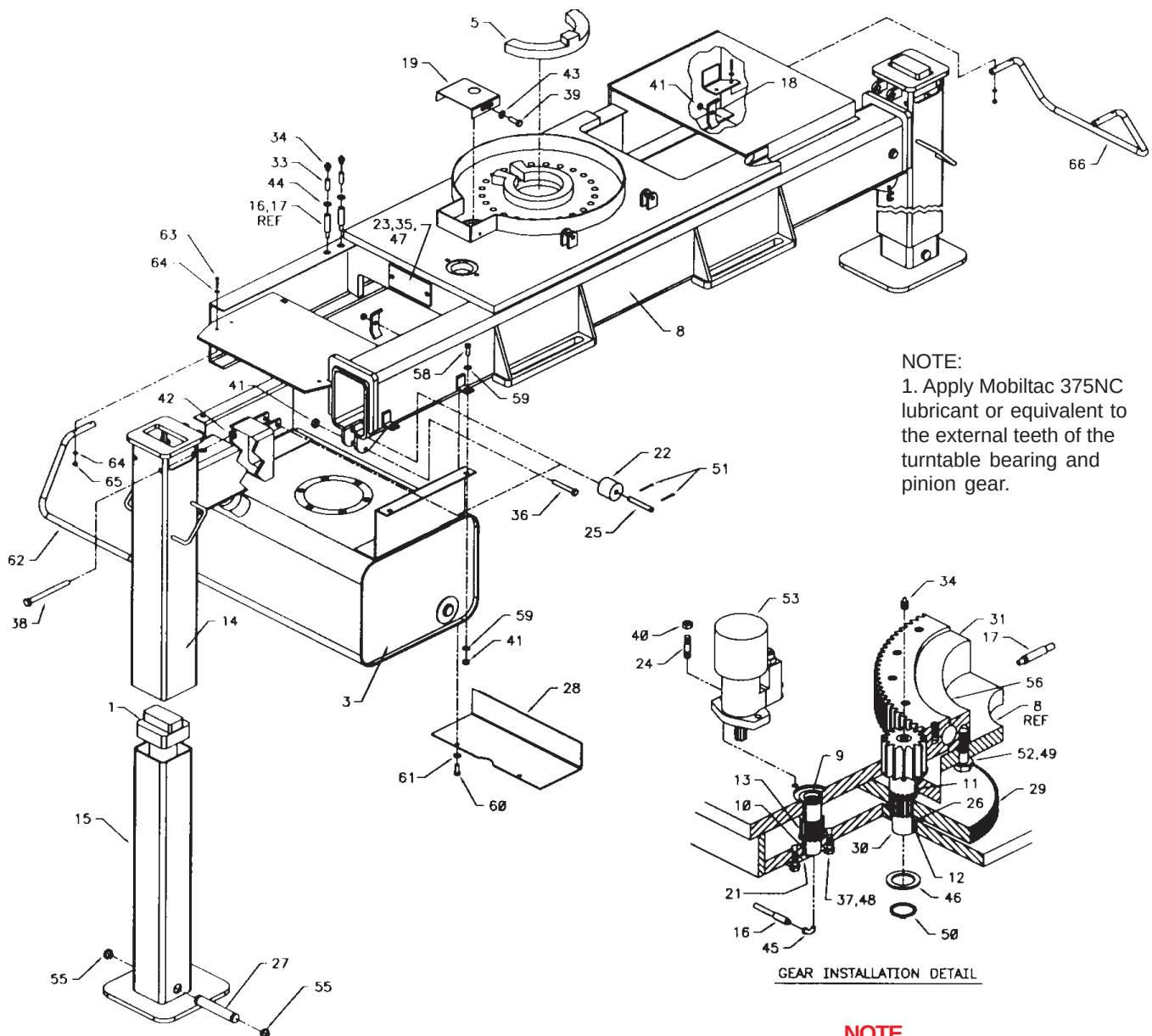
### CAUTION

BEFORE TIGHTENING TURNTABLE BEARING BOLTS, REFER TO THE TURNTABLE BEARING FASTENER TIGHTENING SEQUENCE AND TORQUE DATA CHART IN THE REFERENCE SECTION.

NOTE: TURNTABLE BEARING BACKLASH = .006"-.010"  
(.152-.254mm)

SEE FOLLOWING PAGE FOR DRAWING

# **BASE & PWR STABILIZER ASM (41712070-2)**



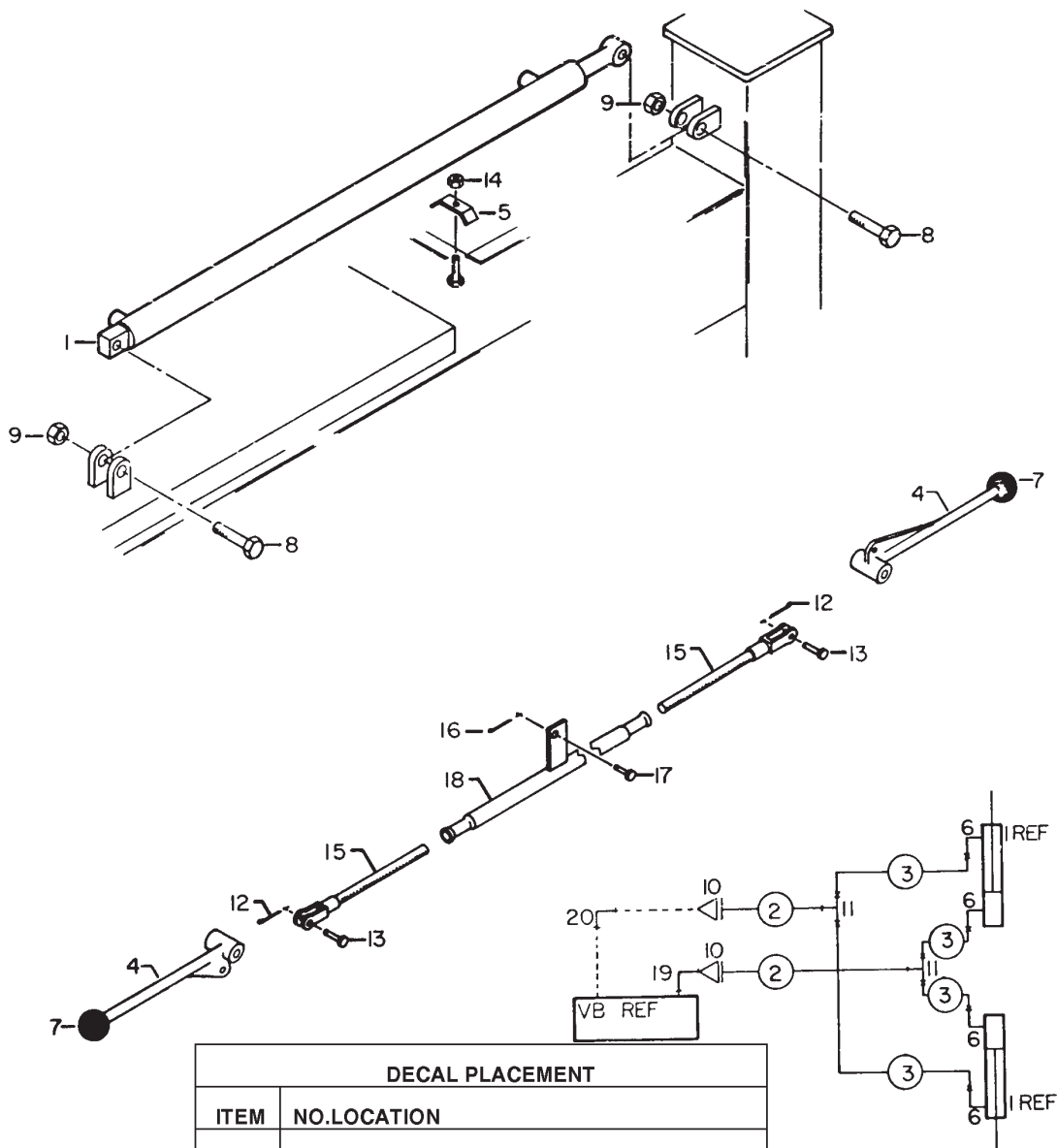
## **NOTE**

INSTALL 70399271 - DECAL-FULLY DEPLOYED - ON TOP OF STABILIZER BEAMS WHEN BEAMS ARE FULLY EXTENDED. DECAL MUST BE VISIBLE.

# **OPTION-KIT-PWR OUT STABILIZER (31705851)**

| ITEM | PART NO. | DESCRIPTION                | QTY |
|------|----------|----------------------------|-----|
| 1.   | 3B220850 | CYLINDER                   | 2   |
| 2.   | 51703771 | HOSE ASM FF 1/4X29         | 2   |
| 3.   | 51704280 | HOSE ASM FF 1/4X40         | 4   |
| 4.   | 60025254 | CONTROL HANDLE-VB SHORT    | 2   |
| 5.   | 60103278 | HOSE CLAMP-TWIN            | 2   |
| 6.   | 72053758 | ELBOW #4MSTR #4MJIC 90°    | 4   |
| 7.   | 71039096 | KNOB                       | 2   |
| 8.   | 72060930 | CAP SCR 1/2-13X2-1/2 HHGR5 | 4   |
| 9.   | 72062080 | NUT 1/2-13 LOCK            | 4   |
| 10.  | 72532665 | ADAPTER #4MJIC #8FJIC      | 2   |
| 11.  | 72532768 | TEE #4MJIC 1/2TUBE         | 2   |

|     |          |                                   |     |
|-----|----------|-----------------------------------|-----|
| 12. | 72066168 | COTTER PIN 3/32X3/4               | 2   |
| 13. | 72066338 | CLEVIS PIN 5/16X1                 | 2   |
| 14. | 72062104 | NUT 1/4-20 LOCK                   | 2   |
| 15. | 52704745 | CONTROL ROD-MALE                  | 2   |
| 16. | 72066336 | COTTER PIN-SPCL SHORT             | 1   |
| 17. | 72066337 | PIN-SPECIAL VB                    | 1   |
| 18. | 52705877 | CONTROL ROD-FEMALE                | 1   |
| 19. | 72053763 | ELBOW #8MSTR #8MJIC               | REF |
| 20. | 72532666 | ELBOW #8MSTR #8MJIC XLG           | REF |
| 21. | 71392277 | DECAL-POWER OUT                   | 2   |
| 22. | 70392864 | DECAL-WARNING STAB<br>STAND CLEAR | 2   |
| 23. | 70399271 | DECAL-FULLY DEPLOYED              | 2   |



| DECAL PLACEMENT |                                     |
|-----------------|-------------------------------------|
| ITEM            | NO. LOCATION                        |
| 22              | ONE ON EACH STABILIZER              |
| 23              | AT OR NEAR NORMAL OPERATING STATION |
| 21              | AT POWER OUT CONTROLS               |

## **NOTE**

INSTALL 70399271 - DECAL-FULLY DEPLOYED - ON TOP OF STABILIZER BEAMS WHEN BEAMS ARE FULLY EXTENDED. DECAL MUST BE VISIBLE.

# **OPTION-PWR OUT STABILIZER CYL (3B220850)**

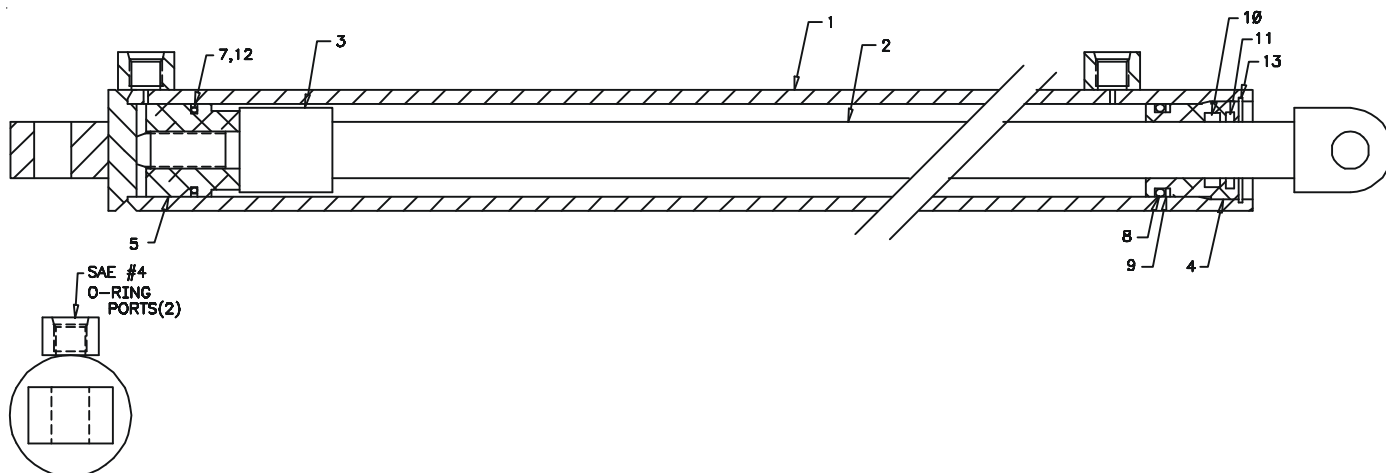
|     |          |                          |      |
|-----|----------|--------------------------|------|
| 1.  | 4B220850 | CASE ASM                 | 1    |
| 2.  | 4G220850 | ROD ASM                  | 1    |
| 3.  | 6C125007 | STOP TUBE 1-1/4          | 1    |
| 4.  | 6H012007 | HEAD                     | 1    |
| 5.  | 6I012050 | PISTON                   | 1    |
| 6.  | 9B050608 | SEAL KIT (INCL:7-12)     | 1    |
| 7.  | 7Q072021 | O-RING (PART OF 6)       | 1REF |
| 8.  | 7Q072214 | O-RING (PART OF 6)       | 1REF |
| 9.  | 7Q10P214 | BACK-UP RING (PART OF 6) | 1REF |
| 10. | 7R100750 | U-CUP SEAL (PART OF 6)   | 1REF |
| 11. | 7R13P007 | ROD WIPER (PART OF 6)    | 1REF |
| 12. | 7T66P012 | PISTON SEAL (PART OF 6)  | 1REF |
| 13. | 72066029 | RETAINING RING           | 1    |

## **NOTE**

IT IS RECOMMENDED THAT ALL COMPONENTS OF THE SEAL KIT BE REPLACED WHENEVER THE CYLINDER IS DISASSEMBLED. THIS WILL REDUCE FUTURE DOWNTIME.

APPLY "LUBRIPLATE #630-2" MEDIUM HEAVY, MULTI-PURPOSE LUBRICANT OR EQUIVALENT TO ALL PISTON, HEAD GLAND, AND HOLDING VALVE SEALS, NYLON LOCK RING, CAST IRON PISTON RINGS, AND ROD STINGER THREADS.

APPLY "NEVER-SEEZ" REGULAR GRADE ANTI-SEIZE AND LUBRICATING COMPOUND TO CYLINDER HEAD AND CASE THREADS.





# **BASE & PWR STABILIZER ASM-VOAC (41712976)**

| ITEM | PART NO. | DESCRIPTION                 | QTY |
|------|----------|-----------------------------|-----|
| 1.   | 3B221850 | STABILIZER CYLINDER         | 2   |
| 3.   | 52705871 | STABILIZER LEG              | 2   |
| 4.   | 52706167 | STABILIZER ARM              | 2   |
| 5.   | 52712975 | BASE (INCL:41-45)           | 1   |
| 6.   | 53000703 | GREASE EXTENSION 20"        | 1   |
| 7.   | 53000713 | GREASE EXTENSION 38"        | 1   |
| 8.   | 60010235 | PINION COVER                | 1   |
| 9.   | 60010844 | GREASE PLATE                | 1   |
| 10.  | 60030053 | ROLLER                      | 4   |
| 11.  | 60102767 | ACCESS COVER                | 1   |
| 12.  | 60106032 | STUD 1/2-13 X 2             | 2   |
| 13.  | 60106314 | PIN                         | 4   |
| 14.  | 60106886 | PINION SPACER               | 1   |
| 15.  | 60106968 | PIN                         | 2   |
| 16.  | 60107648 | HOSE CLAMP                  | 2   |
| 17.  | 60108888 | INTERMEDIATE GEAR GUARD     | 1   |
| 18.  | 70732578 | RESERVOIR ASM 20GAL         | 1   |
| 19.  | 71056072 | INTERMEDIATE GEAR           | 1   |
| 20.  | 71056265 | PINION GEAR                 | 1   |
| 21.  | 71056627 | TURNTABLE GEAR BEARING      | 1   |
| 22.  | 71145016 | SLIDE 450°                  | 1   |
| 23.  | 72053281 | STREET ELBOW 1/8NPT         | 1   |
| 24.  | 72053301 | COUPLING 1/8NPT             | 2   |
| 25.  | 72053508 | ZERK 1/8NPT                 | 3   |
| 26.  | 72060002 | CAP SCR 1/4-20X3/4 HH GR5   | 2   |
| 27.  | 72060023 | CAP SCR 5/16-18X3/4 HH GR5  | 2   |
| 28.  | 72060046 | CAP SCR 3/8-16X1 HH GR5     | 4   |
| 30.  | 72060092 | CAP SCR 1/2-13X1-1/4 HHGR5  | 2   |
| 31.  | 72060102 | CAP SCR 1/2-13X5-1/2 HH GR5 | 4   |
| 33.  | 72060833 | SCR 5/16-18X3/4 HH SLFTP    | 2   |
| 34.  | 72062080 | NUT 1/2-13 LOCK             | 2   |
| 35.  | 72062103 | NUT 3/8-16 LOCK             | 6   |
| 36.  | 72062107 | NUT 1/2-13 CTR LOCK         | 4   |
| 37.  | 72063002 | WASHER 5/16 WRT             | 4   |
| 38.  | 72063003 | WASHER 3/8 WRT              | 10  |
| 39.  | 72063039 | MACH BUSHING 2 X 10GA NR    | 1   |
| 40.  | 72063049 | WASHER 1/4 LOCK             | 2   |

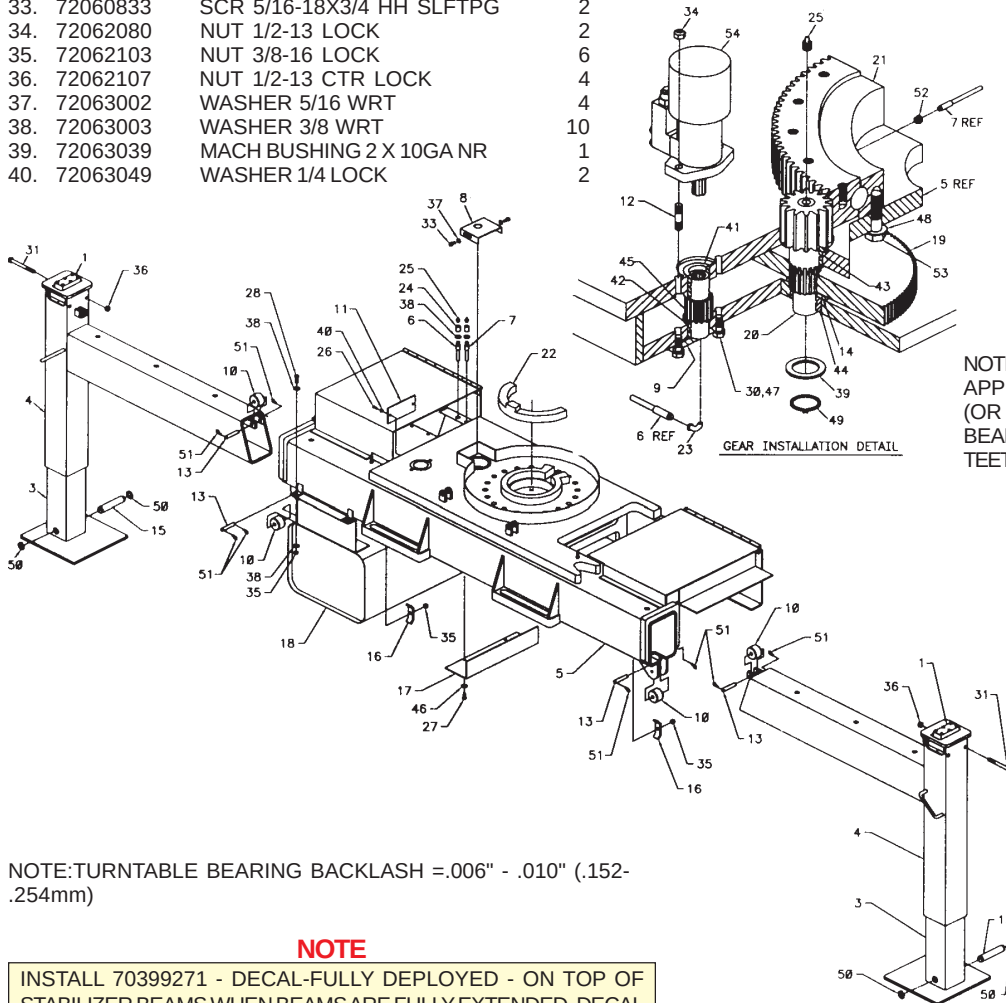
|     |          |                              |      |
|-----|----------|------------------------------|------|
| 41. | 60020115 | BUSHING (PART OF 5)          | 1REF |
| 42. | 60020116 | BUSHING (PART OF 5)          | 1REF |
| 43. | 60020187 | BUSHING (PART OF 5)          | 1REF |
| 44. | 60020188 | BUSHING (PART OF 5)          | 1REF |
| 45. | 71056011 | DRIVE GEAR (PART OF 5)       | 1REF |
| 46. | 72063050 | WASHER 5/16 WRT              | 2    |
| 47. | 72063053 | WASHER 1/2 LOCK              | 2    |
| 48. | 72063116 | WASHER 3/4 HARDENED          | 20   |
| 49. | 72066095 | RETAINING RING 2" EXT STD    | 1    |
| 50. | 72066125 | RETAINING RING 1" EXT HD     | 4    |
| 51. | 72066178 | COTTER PIN 1/8 X 1           | 8    |
| 52. | 72531826 | REDUCER BUSHING 1/4-1/8NPT   | 1    |
| 53. | 72601295 | CAP SCR 3/4-10X3-1/2 HH GR8  | 20   |
| 54. | 73540004 | HYD MOTOR (FROM 5-15-98)     | 1    |
|     | 73051004 | HYD MOTOR (TO 5-15-98)       | 1    |
|     | 73054538 | VALVE CARTRIDGE (TO 5-15-98) | 2    |
|     | 5V151830 | MOTOR BLOCK (TO 5-15-98)     | 1    |
|     | 7Q072112 | O-RING (TO 5-15-98)          | 2    |
|     | 72060738 | CAP SCR (TO 5-15-98)         | 4    |

## **WARNING**

ANYTIME A GEAR-BEARING BOLT IS REMOVED, IT MUST BE REPLACED WITH A NEW BOLT OF THE IDENTICAL GRADE AND SIZE. FAILURE TO REPLACE GEAR-BEARING BOLTS MAY RESULT IN BOLT FAILURE DUE TO FATIGUE, CAUSING SERIOUS INJURY OR DEATH.

## **CAUTION**

BEFORE TIGHTENING TURNTABLE BEARING BOLTS, REFER TO THE TURNTABLE BEARING FASTENER TIGHTENING SEQUENCE AND TORQUE DATA CHART IN THE REFERENCE SECTION.



NOTE:  
APPLY MOBILTAC 375NC LUBRICANT  
(OR EQUIVALENT) TO TURNTABLE  
BEARING AND PINION GEAR EXTERNAL  
TEETH.

NOTE:TURNTABLE BEARING BACKLASH =.006" - .010" (.152-.254mm)

## **NOTE**

INSTALL 70399271 - DECAL-FULLY DEPLOYED - ON TOP OF STABILIZER BEAMS WHEN BEAMS ARE FULLY EXTENDED. DECAL MUST BE VISIBLE.



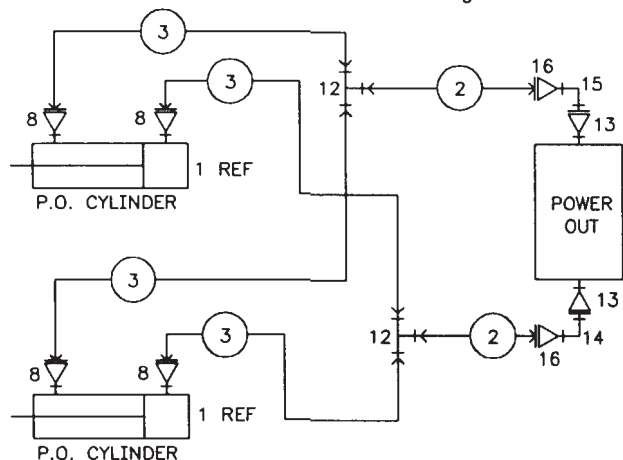
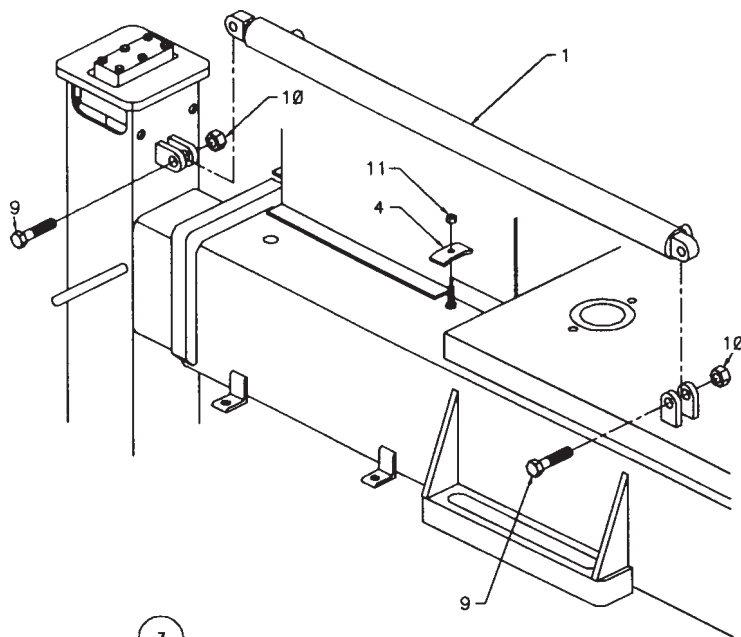
## PWR OUT STABILIZER KIT-VOAC (31712993)

| ITEM | PART NO. | DESCRIPTION                                 | QTY  |
|------|----------|---------------------------------------------|------|
| 1.   | 3B220850 | POWER OUT CYLINDER                          | 2    |
| 2.   | 51710569 | HOSE ASM 1/4X36 FF                          | 2    |
| 3.   | 51704280 | HOSE ASM 1/4X40 FF                          | 4    |
| 4.   | 60103278 | HOSE CLAMP-TWIN                             | 2    |
| 5.   | 70392864 | DECAL-WARN STAND CLEAR 2                    |      |
| 7.   | 71392277 | DECAL-PWR OUT CTRL                          | 1    |
| 8.   | 72053758 | ELBOW #4MSTR #4MJIC 90°                     | 4    |
| 9.   | 72060930 | CAP SCR 1/2-13X2.5 HHGR5Z<br>(WAS 72060928) | 4    |
| 10.  | 72062080 | NUT 1/2-13 LOCK                             | 4    |
| 11.  | 72062104 | NUT 1/4-20 LOCK                             | 2    |
| 12.  | 72532768 | TEE #4MJIC                                  | 2    |
| 13.  | 72531206 | ADAPTER #10MSTR #8FSTR                      | 2REF |
| 14.  | 72053763 | ELBOW #8MSTR#8MJIC 90°                      | 1REF |
| 15.  | 72532666 | ELBOW #8MSTR#8MJIC 90°XLG                   | 1REF |
| 16.  | 72532665 | ADAPTER #4MJIC #8FJIC                       | 2REF |
| 17.  | 70399271 | DECAL-FULLY DEPLOYED                        | 2    |

|      | DECAL PLACEMENT                            |
|------|--------------------------------------------|
| ITEM | LOCATION                                   |
| 5    | ONE ON EACH STABILIZER                     |
| 6    | AT OR NEAR THE NORMAL<br>OPERATING STATION |
| 7    | AT PWR OUT CONTROLS                        |

### NOTE

INSTALL 70399271 - DECAL-FULLY DEPLOYED - ON TOP OF STABILIZER BEAMS WHEN BEAMS ARE FULLY EXTENDED. DECAL MUST BE VISIBLE.



# **PWR DN STABILIZER CYL-STD (3B221850)**

| ITEM | PART NO  | DESCRIPTION                             | QTY  |
|------|----------|-----------------------------------------|------|
| 1.   | 4B221850 | CASE (INCL:6)                           | 1    |
| 2.   | 2G221850 | ROD                                     | 1    |
| 3.   | 6I025087 | PISTON                                  | 1    |
| 4.   | 6H025015 | HEAD                                    | 1    |
| 5.   | 73054004 | LOCKING/ HOLDING VALVE                  | 1    |
| 6.   | 7PNPXT02 | PLUG 1/8NPT (PART OF 1)                 | 3REF |
| 7.   | 6C150015 | STOP TUBE                               | 1    |
| 8.   | 72060708 | CAP SCR 1/4-20 X 1 1/4 SH               | 6    |
| 9.   | 9B101214 | SEAL KIT (INCL:10-18)                   | 1    |
| 10.  | 7Q072137 | O-RING (PART OF 9)                      | 1REF |
| 11.  | 7T66P025 | SEAL, PISTON (PART OF 9)                | 1REF |
| 12.  | 7T61N087 | LOCK RING SEAL (PART OF 9)              | 1REF |
| 13.  | 7T2N8015 | WEAR RING (PART OF 9)                   | 1REF |
| 14.  | 60138272 | STOP TUBE (PART OF 9)<br>(WAS 6A025015) | 1REF |
| 15.  | 7Q072228 | O-RING (PART OF 9)                      | 1REF |
| 16.  | 7Q10P228 | BACK-UP RING (PART OF 9)                | 1REF |
| 17.  | 7R546015 | ROD SEAL (PART OF 9)                    | 1REF |
| 18.  | 7R14P015 | ROD WIPER (PART OF 9)                   | 1REF |
| 19.  | 60125699 | PIN-LOCK TUBE (PART OF 9)               | 1REF |

## **NOTE**

IT IS RECOMMENDED THAT ALL COMPONENTS OF THE SEAL KIT BE REPLACED WHENEVER THE CYLINDER IS DISASSEMBLED. THIS WILL REDUCE FUTURE DOWNTIME.

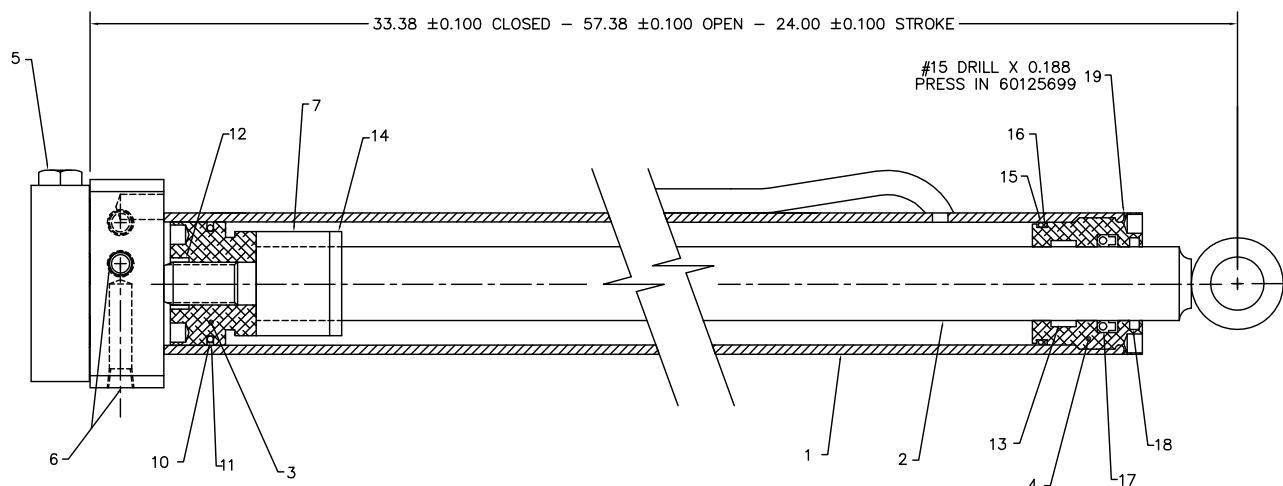
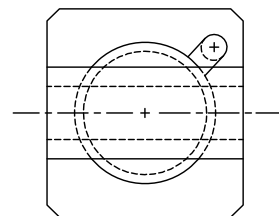
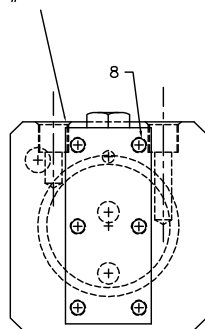
APPLY "LUBRIPLATE #630-2" MEDIUM HEAVY, MULTI-PURPOSE LUBRICANT OR EQUIVALENT TO ALL PISTON, HEAD GLAND, AND HOLDING VALVE SEALS, NYLON LOCK RING, CAST IRON PISTON RINGS, AND ROD STINGER THREADS.

APPLY "NEVER-SEEZ" REGULAR GRADE ANTI-SEIZE AND LUBRICATING COMPOUND TO CYLINDER HEAD AND CASE THREADS.

ITEM #14, STOP TUBE, REPLACES 6A025015 WAFER LOCK. USE STOP TUBE INSTEAD OF WAFER LOCK WHEN RESEALING CYLINDER.

PRESS LOCKING PIN (ITEM #19) INTO #15 HOLE DRILLED 0.188" DEEP.

SAE #6 O-RING PORTS



**MAST ASM (41712072)**

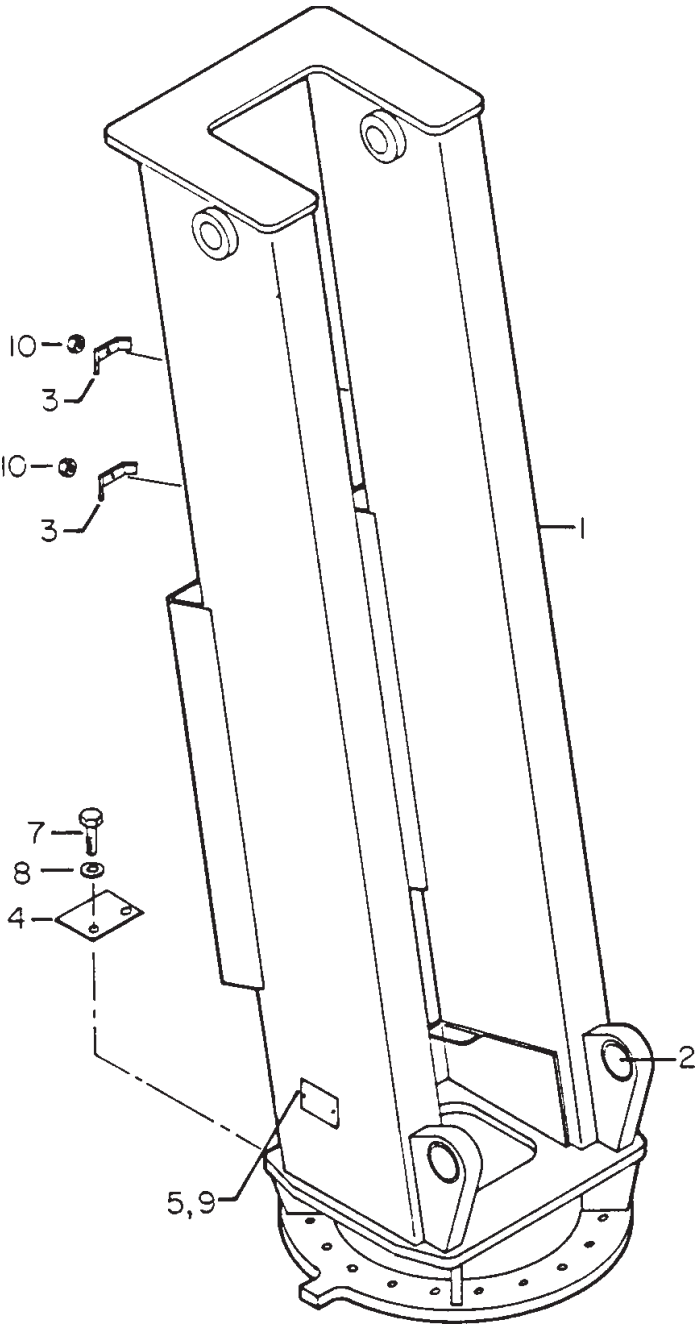
| ITEM | PART NO. | DESCRIPTION              | QTY  |
|------|----------|--------------------------|------|
| 1.   | 52712066 | MAST (INCL: 2)           | 1    |
| 2.   | 7BF81225 | BUSHING (PART OF 1)      | 2REF |
| 3.   | 60010118 | HOSE CLAMP               | 2    |
| 4.   | 60104539 | PINION COVER             | 1    |
| 5.   | 70029119 | SER. NO. PLACARD         | 1    |
| 7.   | 72060177 | CAP SCR 5/8-11X3 HHGR9   | 20   |
| 8.   | 72063119 | WASHER 5/8 FLAT HARDENED | 20   |
| 9.   | 72066340 | POP RIVET 1/8            | 2    |
| 10.  | 72062103 | NUT 3/8-16 LOCK          | 2    |

**WARNING**

ANYTIME A GEAR-BEARING BOLT IS REMOVED, IT MUST BE REPLACED WITH A NEW BOLT OF THE IDENTICAL GRADE AND SIZE. FAILURE TO REPLACE GEAR-BEARING BOLTS MAY RESULT IN BOLT FAILURE DUE TO FATIGUE, CAUSING SERIOUS INJURY OR DEATH.

**CAUTION**

BEFORE TIGHTENING TURNABLE BEARING BOLTS, REFER TO THE TURNABLE BEARING FASTENER TIGHTENING SEQUENCE AND TORQUE DATA CHART IN THE REFERENCE SECTION.



**INNER BOOM ASM (41712042)**

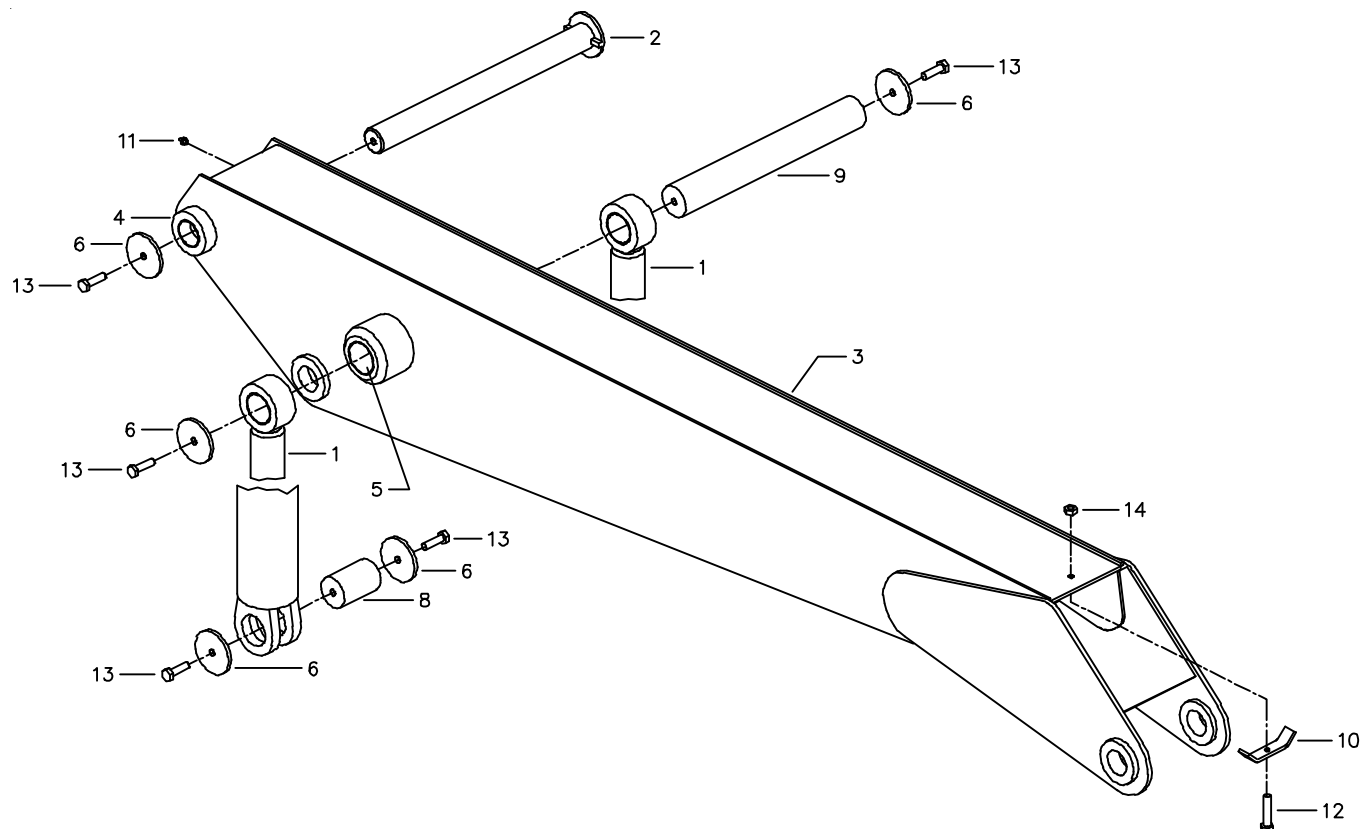
|     |          |                            |      |
|-----|----------|----------------------------|------|
| 1.  | 3B272000 | INNER CYL                  | 2    |
| 2.  | 52703709 | PIN                        | 1    |
| 3.  | 52712034 | INNER BOOM (INCL: 4,5)     | 1    |
| 4.  | 7BF81220 | BUSHING (PART OF 3)        | 6REF |
| 5.  | 7BF81225 | BUSHING (PART OF 3)        | 9REF |
| 6.  | 60106331 | PIN RETAINER PLATE 3-1/2"  | 7    |
| 8.  | 60106341 | PIN                        | 2    |
| 9.  | 60106353 | PIN                        | 1    |
| 10. | 60010118 | HOSE CLAMP                 | 1    |
| 11. | 72053508 | GREASE ZERK 1/8NPT         | 1    |
| 12. | 72060049 | CAP SCR 3/8-16X1-3/4 HHGR5 | 1    |
| 13. | 72060147 | CAP SCR 5/8-11X1 HHGR5     | 7    |
| 14. | 72062103 | NUT 3/8-16 LOCK            | 1    |

**NOTE**

ANYTIME THE PIN RETAINER PLATE BOLTS HAVE BEEN REMOVED, APPLY LOCTITE 262 TO THE THREADS BEFORE REASSEMBLY.

**CAUTION**

CYLINDERS ARE NOT INTERCHANGEABLE UNLESS DONE AS A SET, DUE TO TWIN CYLINDER DESIGN. BOTH CYLINDERS MUST INCORPORATE THE SAME TYPE COUNTERBALANCE VALVE.



**INNER CYLINDER (3B272000)**

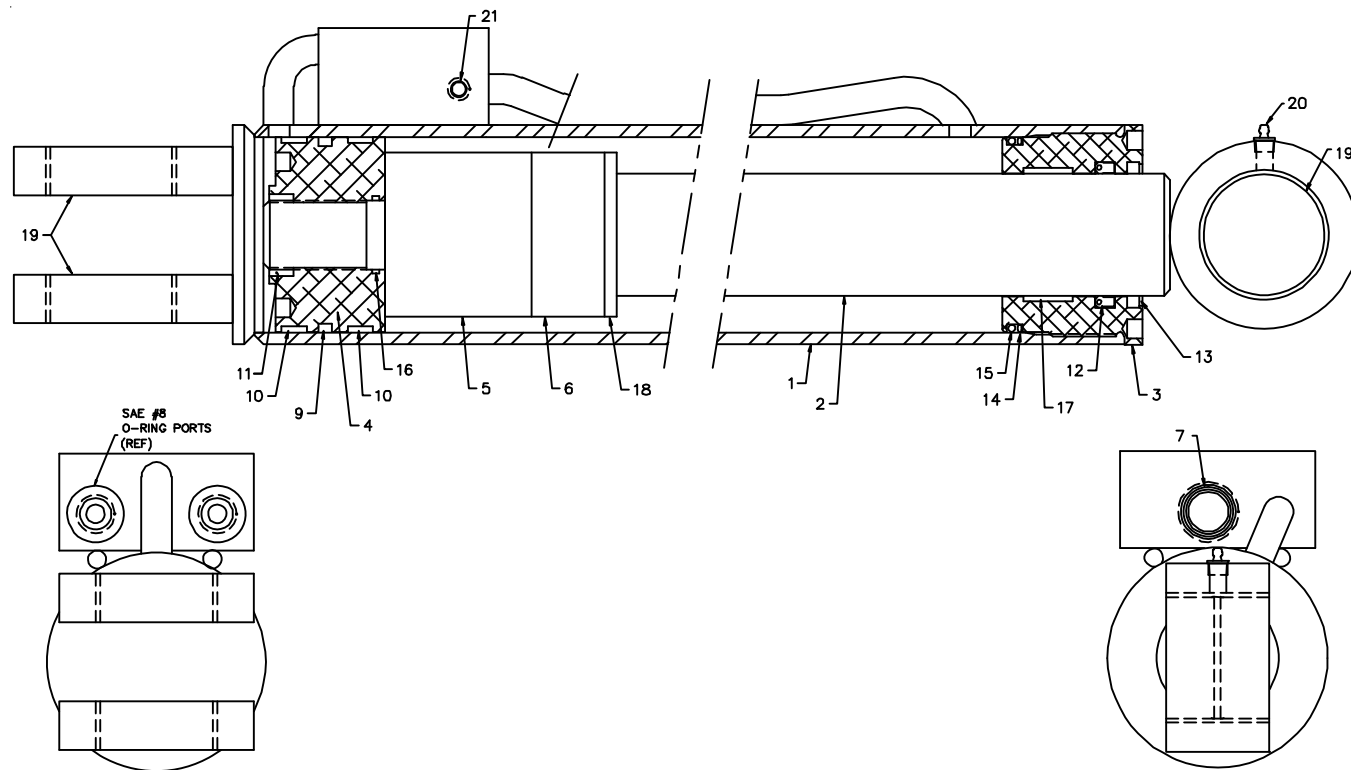
|     |          |                              |      |
|-----|----------|------------------------------|------|
| 1.  | 4B223850 | CASE (INCL:19,21)            | 1    |
| 2.  | 4G223850 | ROD (INCL:19,20)             | 1    |
| 3.  | 6H040025 | HEAD                         | 1    |
| 4.  | 6I402144 | PISTON                       | 1    |
| 5.  | 6C300025 | STOP TUBE                    | 1    |
| 6.  | 6C150025 | STOP TUBE                    | 1    |
| 7.  | 73054887 | C'BAL VALVE                  | 1    |
| 8.  | 9C160920 | SEAL KIT (INCL:9-18)         | 1    |
| 9.  | 7T66P400 | PISTON SEAL (PART OF 8)      | 1REF |
| 10. | 7T2N4040 | WEAR RING (PART OF 8)        | 2REF |
| 11. | 7T61N143 | LOCK RING SEAL (PART OF 8)   | 1REF |
| 12. | 7R546025 | ROD SEAL (PART OF 8)         | 1REF |
| 13. | 7R14P025 | ROD WIPER (PART OF 8)        | 1REF |
| 14. | 7Q10P342 | BACK-UP RING (PART OF 8)     | 1REF |
| 15. | 7Q072342 | O-RING (PART OF 8)           | 1REF |
| 16. | 7Q072127 | O-RING (PART OF 8)           | 1REF |
| 17. | 7T2N8027 | WEAR RING (PART OF 8)        | 1REF |
| 18. | 6A025025 | WAFFER LOCK (PART OF 8)      | 1REF |
| 19. | 7BF81025 | BUSHING (PART OF 1&2)        | 4REF |
| 20. | 72053507 | ZERK (PART OF 2)             | 1REF |
| 21. | 7PNPXT02 | PIPE PLUG 1/8NPT (PART OF 1) | 3REF |

**NOTE**

IT IS RECOMMENDED THAT ALL COMPONENTS OF THE SEAL KIT BE REPLACED WHENEVER THE CYLINDER IS DISASSEMBLED. THIS WILL REDUCE FUTURE DOWNTIME.

APPLY "LUBRIPLATE #630-2" MEDIUM HEAVY, MULTI-PURPOSE LUBRICANT OR EQUIVALENT TO ALL PISTON AND HEAD GLANDS, LOCK RING AND ROD THREADS BEFORE ASSEMBLY.

USE "NEVER-SEEZ" OR EQUIVALENT BETWEEN THE HEAD AND THE CASE WHEN ASSEMBLING THE CYLINDER.



9000/1295:20001101

3-16

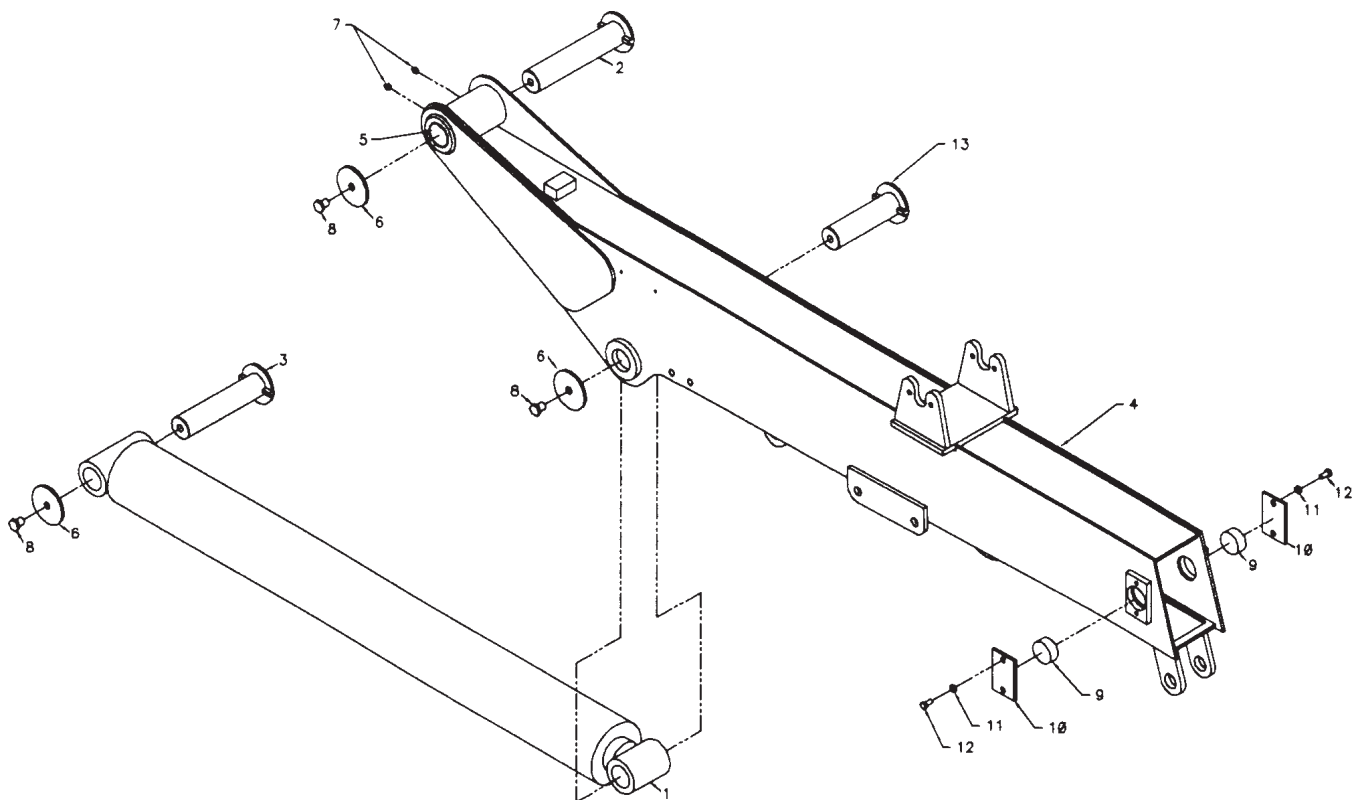
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**OUTER BOOM ASM (41712065)**

| ITEM | PART NO. | DESCRIPTION               | QTY  |
|------|----------|---------------------------|------|
| 1.   | 3C078970 | OUTER CYL (FROM 3-1-97)   | 1    |
|      | 3C224850 | OUTER CYL (TO 3-1-97)     | 1    |
| 2.   | 52703714 | PIN                       | 2    |
| 3.   | 52703767 | PIN                       | 1    |
| 4.   | 52712064 | OUTER BOOM (INCL. 5)      | 1    |
| 5.   | 7BF81520 | BUSHING (PART OF 4)       | 4REF |
| 6.   | 60106331 | PIN RETAINER PLATE 3-1/2" | 3    |
| 7.   | 72053508 | GREASE ZERK 1/8NPT        | 2    |
| 8.   | 72060147 | CAP SCR 5/8-11X1 HHGR5    | 3    |
| 9.   | 60030060 | WEAR PAD 2X7/8            | 2    |
| 10.  | 60107550 | LOCK PLATE                | 2    |
| 11.  | 72063051 | WASHER 3/8 LOCK           | 4    |
| 12.  | 72060044 | CAP SCR 3/8-16X3/4 HHGR5  | 4    |
| 13.  | 52704431 | PIN                       | 1    |

**NOTE**

ANYTIME THE PIN RETAINER PLATE BOLTS HAVE BEEN REMOVED, APPLY LOCTITE 262 TO THE THREADS BEFORE RE-ASSEMBLY.



# **OUTER CYLINDER-FROM 3-1-97 (3C078970)**

| ITEM | PART NO. | DESCRIPTION                | QTY  |
|------|----------|----------------------------|------|
| 1.   | 4C224850 | CASE (INCL:20-22)          | 1    |
| 2.   | 4G224850 | ROD (INCL:20,22)           | 1    |
| 3.   | 73054242 | VALVE 25GPM                | 1    |
| 4.   | 6C150030 | STOP TUBE                  | 1    |
| 5.   | 6C300030 | STOP TUBE                  | 1    |
| 6.   | 6H050030 | HEAD                       | 1    |
| 7.   | 6I050181 | PISTON                     | 1    |
| 8.   | 9C010960 | SEAL KIT (INCL:9-18)       | 1    |
| 9.   | 7T61N181 | LOCK RING SEAL (PART OF 8) | 1REF |
| 10.  | 7T66P500 | PISTON SEAL (PART OF 8)    | 1REF |
| 12.  | 7T2N4050 | WEAR RING (PART OF 8)      | 2REF |
| 13.  | 6A025030 | WAFFER LOCK (PART OF 8)    | 1REF |
| 14.  | 7Q072350 | O-RING (PART OF 8)         | 1REF |
| 15.  | 7Q10P350 | BACK-UP RING (PART OF 8)   | 1REF |
| 16.  | 7R546030 | ROD SEAL (PART OF 8)       | 1REF |
| 17.  | 7R14P030 | ROD WIPER (PART OF 8)      | 1REF |
| 18.  | 7T2N8032 | WEAR RING (PART OF 8)      | 1REF |
| 19.  | 7BF81520 | BUSHING (PART OF 2)        | 1REF |

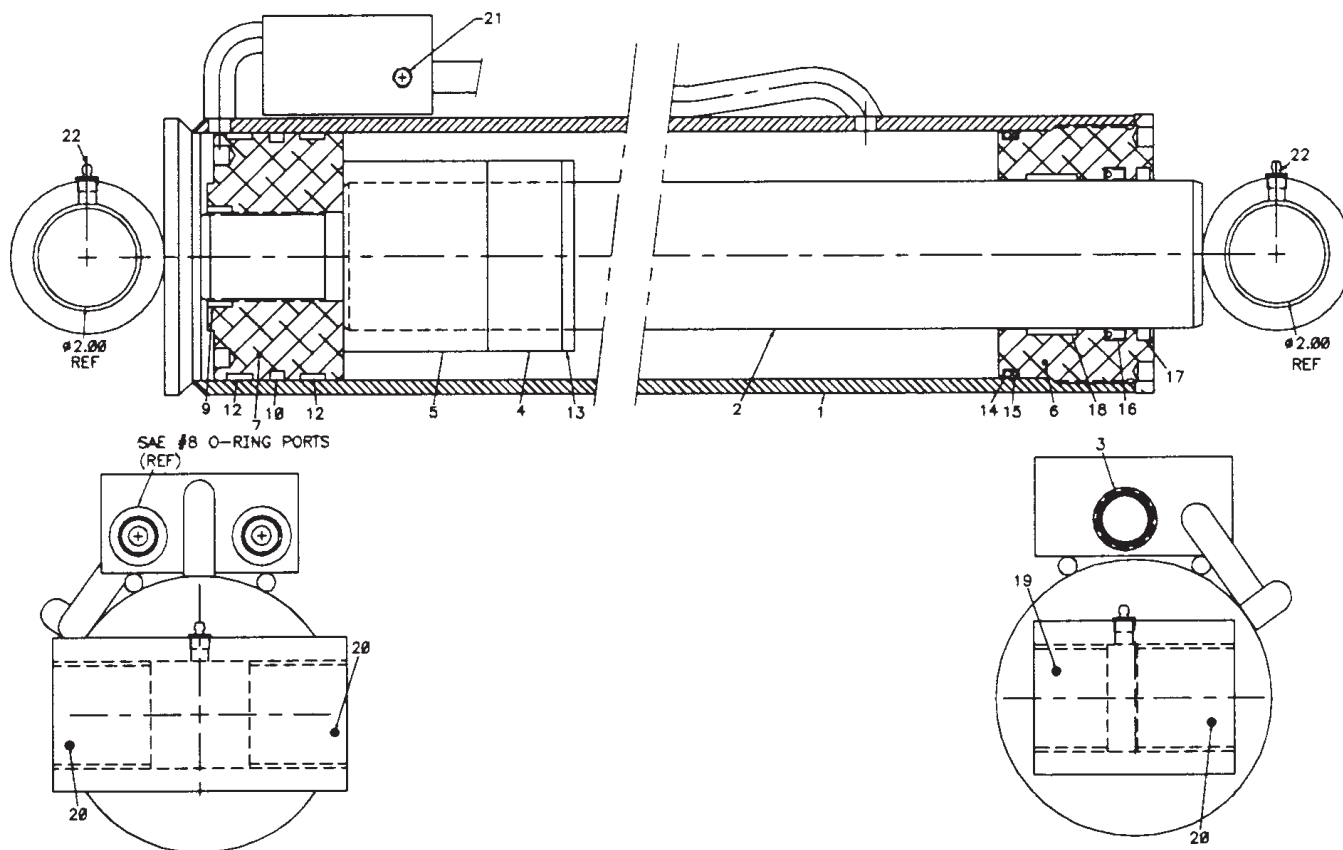
|     |          |                           |      |
|-----|----------|---------------------------|------|
| 20. | 7BF82020 | BUSHING (PART OF 1&2)     | 3REF |
| 21. | 7PNPXT02 | PIPE PLUG 1/8 (PART OF 1) | 3REF |
| 22. | 72053507 | ZERK 1/4-28 (PART OF 1&2) | 2REF |

## **NOTE**

IT IS RECOMMENDED THAT ALL COMPONENTS OF THE SEAL KIT BE REPLACED WHENEVER THE CYLINDER IS DISASSEMBLED. THIS WILL REDUCE FUTURE DOWNTIME.

APPLY "LUBRIPLATE #630-2" MEDIUM HEAVY, MULTI-PURPOSE LUBRICANT OR EQUIVALENT TO ALL PISTON AND HEAD GLANDS, LOCK RING AND ROD THREADS BEFORE ASSEMBLY.

USE "NEVER-SEEZ" OR EQUIVALENT BETWEEN THE HEAD AND THE CASE WHEN ASSEMBLING THE CYLINDER.





**OUTER CYLINDER-TO 3-1-97 (3C224850)**

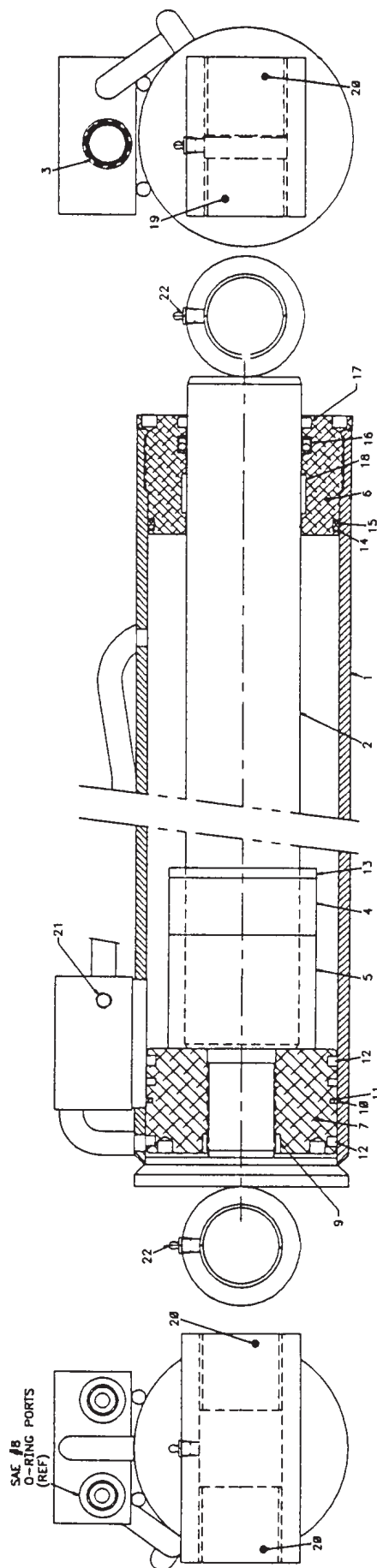
| ITEM | PART NO. | DESCRIPTION                | QTY  |
|------|----------|----------------------------|------|
| 1.   | 4C224850 | CASE (INCL:20-22)          | 1    |
| 2.   | 4G224850 | ROD (INCL:20,22)           | 1    |
| 3.   | 73054242 | VALVE 25GPM                | 1    |
| 4.   | 6C150030 | STOP TUBE                  | 1    |
| 5.   | 6C300030 | STOP TUBE                  | 1    |
| 6.   | 6H050030 | HEAD                       | 1    |
| 7.   | 6I050181 | PISTON                     | 1    |
| 8.   | 9C202429 | SEAL KIT (INCL:9-18)       | 1    |
| 9.   | 7T61N181 | LOCK RING SEAL (PART OF 8) | 1REF |
| 10.  | 7T66P500 | PISTON SEAL (PART OF 8)    | 1REF |
| 11.  | 7Q072157 | O-RING (PART OF 8)         | 1REF |
| 12.  | 7T65I050 | PISTON RING (PART OF 8)    | 2REF |
| 13.  | 6A025030 | WAFFER LOCK (PART OF 8)    | 1REF |
| 14.  | 7Q072350 | O-RING (PART OF 8)         | 1REF |
| 15.  | 7Q10P350 | BACK-UP RING (PART OF 8)   | 1REF |
| 16.  | 7R546030 | ROD SEAL (PART OF 8)       | 1REF |
| 17.  | 7R14P030 | ROD WIPER (PART OF 8)      | 1REF |
| 18.  | 7T2N8032 | WEAR RING (PART OF 8)      | 1REF |
| 19.  | 7BF81520 | BUSHING (PART OF 2)        | 1REF |
| 20.  | 7BF82020 | BUSHING (PART OF 1&2)      | 3REF |
| 21.  | 7PNPXT02 | PIPE PLUG 1/8 (PART OF 1)  | 3REF |
| 22.  | 72053507 | ZERK 1/4-28 (PART OF 1&2)  | 2REF |

**NOTE**

IT IS RECOMMENDED THAT ALL COMPONENTS OF THE SEAL KIT BE REPLACED WHENEVER THE CYLINDER IS DISASSEMBLED. THIS WILL REDUCE FUTURE DOWNTIME.

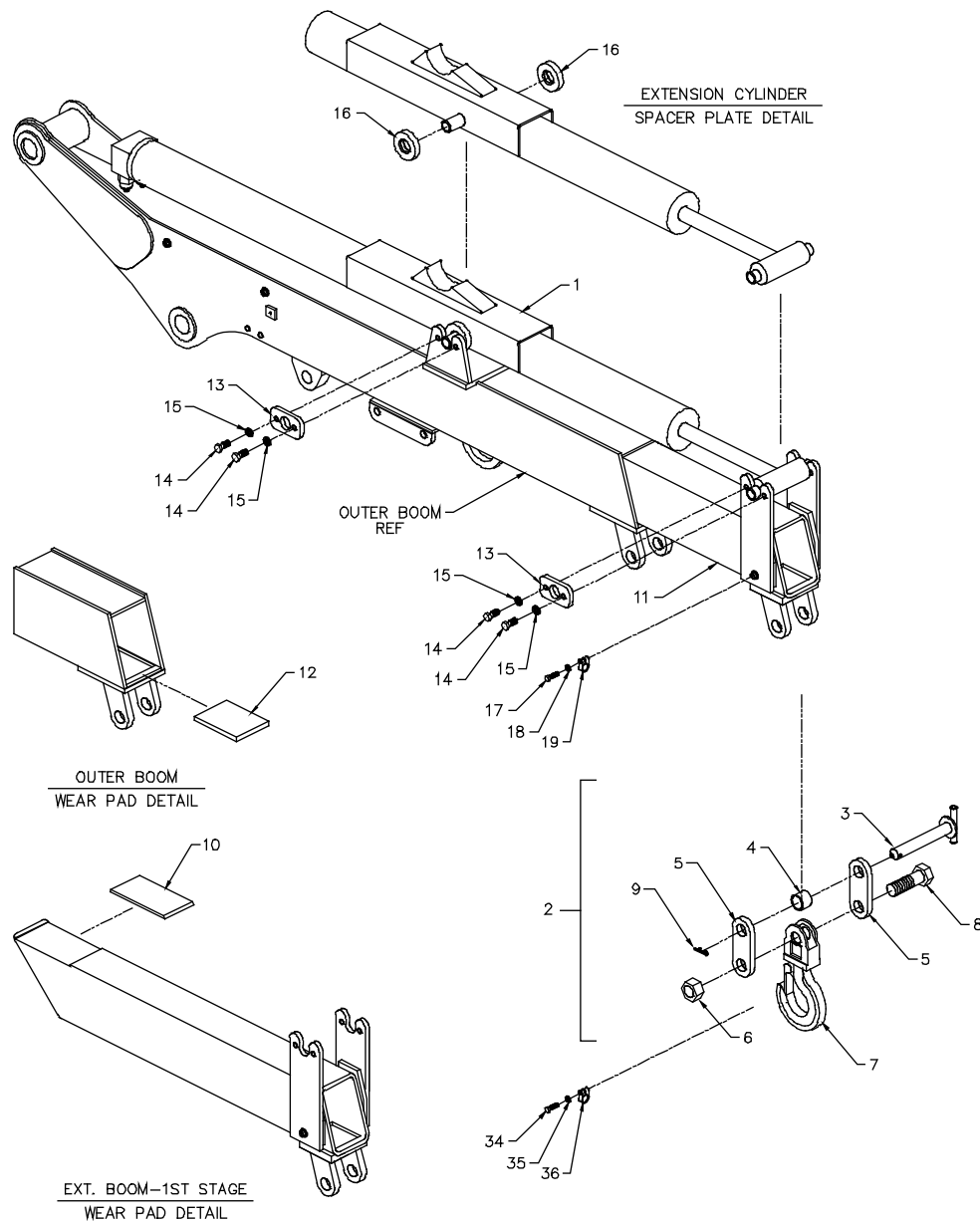
APPLY "LUBRIPLATE #630-2" MEDIUM HEAVY, MULTI-PURPOSE LUBRICANT OR EQUIVALENT TO ALL PISTON AND HEAD GLANDS, LOCK RING AND ROD THREADS BEFORE ASSEMBLY.

USE "NEVER-SEEZ" OR EQUIVALENT BETWEEN THE HEAD AND THE CASE WHEN ASSEMBLING THE CYLINDER.



**EXT BOOM ASM-1H (41709699)**

| ITEM | PART     | DESCRIPTION                            | QTY  |
|------|----------|----------------------------------------|------|
| 1.   | 3B099910 | EXTENSION CYLINDER                     | 1    |
| 2.   | 51706200 | HOOK ASM 8-TON SW (INCL:3-9)           | 1    |
| 3.   | 52070151 | PIN (PART OF 2)                        | 1REF |
| 4.   | 60108902 | PIPE (PART OF 2)                       | 1REF |
| 5.   | 60107324 | HOOK LINK (PART OF 2)                  | 2REF |
| 6.   | 72062073 | NUT 1-1/4-7 LOCK (PART OF 2)           | 1REF |
| 7.   | 60103575 | HOOK 8-TON (PART OF 2)                 | 1REF |
| 8.   | 72601666 | CAP SCR 1-1/4-7X4 HHGR5<br>(PART OF 2) | 1REF |
| 9.   | 72066145 | HAIR PIN (PART OF 2)                   | 1REF |
| 10.  | 60030118 | WEAR PAD                               | 1    |
| 11.  | 52709681 | EXTENSION BOOM - 1ST STG               | 1    |
| 12.  | 60030119 | WEAR PAD                               | 1    |
| 13.  | 60107152 | CYL RETAINING PLATE                    | 4    |
| 14.  | 72060092 | CAP SCR 1/2-13X1-1/4 HHGR5             | 8    |
| 15.  | 72063053 | WASHER 1/2 LOCK                        | 8    |
| 16.  | 60113933 | SPACER                                 | 2    |
| 17.  | 72060006 | CAP SCR .25-20X 1.50 HH GR5            | 1    |
| 18.  | 72063001 | WASHER-FLAT .25 W ANSI                 | 1    |
| 19.  | 70034381 | SUPPORT-GP STAUFF                      | 1    |



**1-STG EXT CYLINDER (3B099910)**

|     |          |                                                |   |
|-----|----------|------------------------------------------------|---|
| 1.  | 4B099910 | CASEASM                                        | 1 |
| 2.  | 4G099910 | RODASM                                         | 1 |
| 3.  | 6H030020 | HEAD                                           | 1 |
| 4.  | 6i030106 | PISTON                                         | 1 |
| 5.  | 6C300020 | STOP TUBE-2.00 ROD X 3.00 LG                   | 2 |
| 6.  | 60138274 | STOP TUBE-2.00 ROD X 0.25 LG<br>(WAS 6A025020) | 1 |
| 7.  | 5M126820 | SADDLE                                         | 1 |
| 8.  | 9C121617 | SEAL KIT (INCL 6, 10-18)                       | 1 |
| 9.  | 73054304 | VALVE-CBAL 10GPM                               | 2 |
| 10. | 7Q072145 | O RING 2.56X 2.75X .09 70                      | 1 |
| 11. | 7Q072334 | O RING 2.62X 3.00X .19 70                      | 1 |
| 12. | 7Q10P334 | BACKUP RING                                    | 1 |
| 13. | 7R14P020 | ROD WIPER                                      | 1 |
| 14. | 7R546020 | U-CUP LOADED                                   | 1 |
| 15. | 7T65I030 | PISTON RING                                    | 2 |
| 16. | 7T61N106 | LOCK RING NYLON 1.06"                          | 1 |
| 17. | 7PNPXT02 | PLUG-PIPE SOC HD TAPED .12                     | 5 |
| 18. | 60125699 | PIN - LOCK TUBE                                | 1 |

**NOTE**

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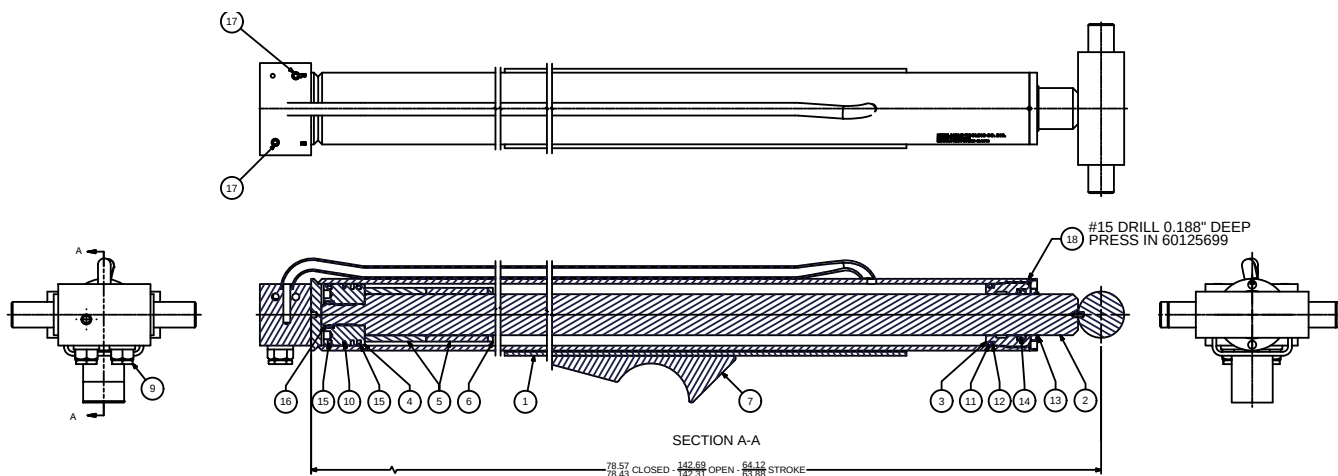
APPLY "LUBRIPLATE #630-2" MEDIUM HEAVY, MULTI-PURPOSE LUBRICANT OR EQUIVALENT TO ALL PISTON AND HEAD GLANDS, LOCK RING AND ROD THREADS BEFORE ASSEMBLY.

USE "NEVER-SEEZ" OR EQUIVALENT BETWEEN THE HEAD AND THE CASE WHEN ASSEMBLING THE CYLINDER.

ITEM #6, STOP TUBE, REPLACES 6A025020 WAFER LOCK. USE STOP TUBE INSTEAD OF WAFER LOCK WHEN RESEALING CYLINDER.

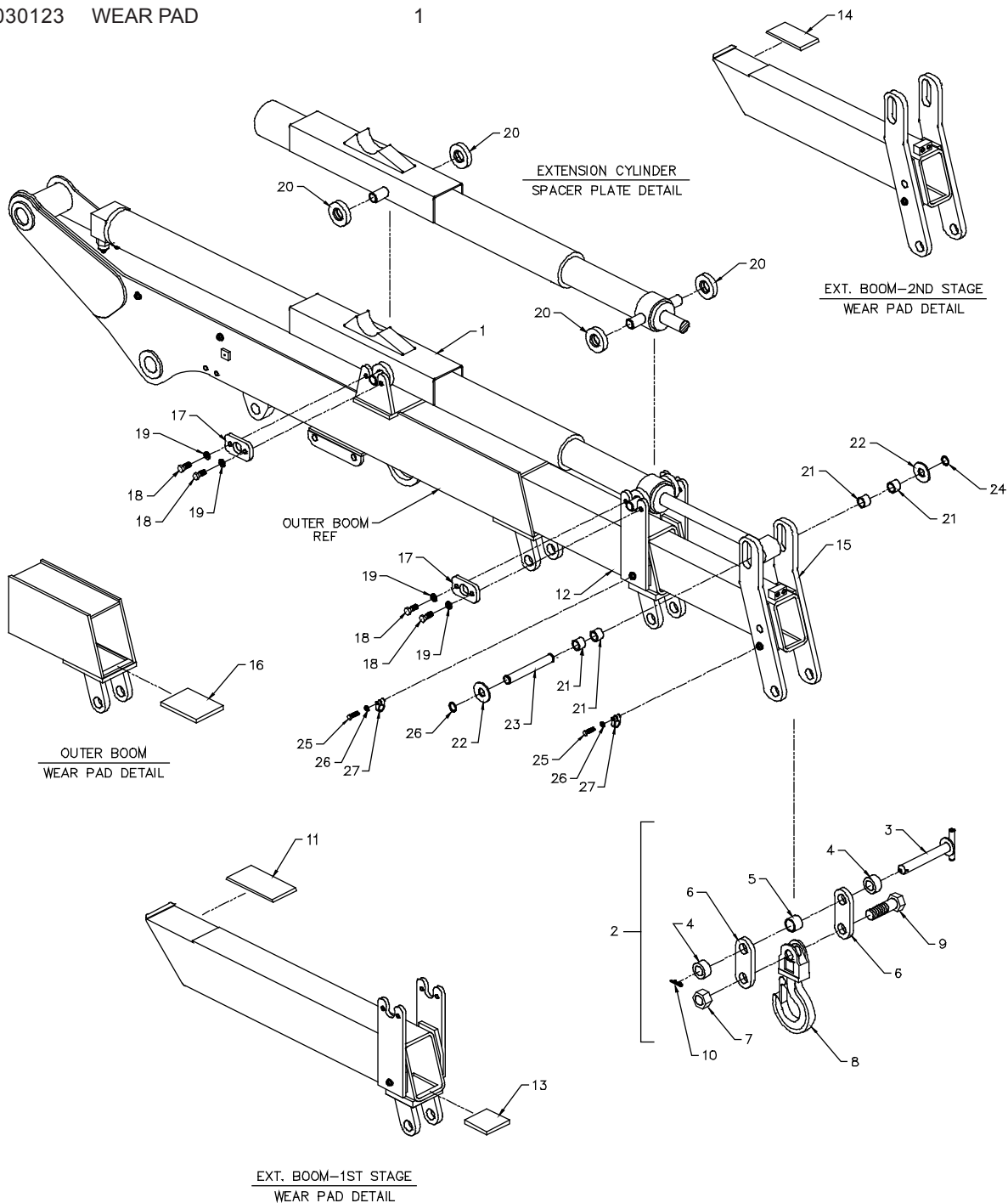
PRESS LOCKING PIN (ITEM #18) INTO #15 HOLE DRILLED 0.188" DEEP.

TORQUE PISTON TO 300-330 FT-LB, HEAD TO 350 FT-LB, CARTRIDGE TO 65 FT-LB, LOCKNUT TO 12 FT-LB, AND CAP SCREW TO 16 FT-LB.



**EXT BOOM ASM-2H (41709700)**

| ITEM | PART NO. | DESCRIPTION                              | QTY  |     |          |                             |   |
|------|----------|------------------------------------------|------|-----|----------|-----------------------------|---|
| 1.   | 3K120850 | EXTENSION CYLINDER                       | 1    | 14. | 60030122 | WEAR PAD                    | 1 |
| 2.   | 51706266 | HOOK ASM 8-TON (INCL:3-10)               | 1    | 15. | 52709682 | 2ND STG EXT BOOM            | 1 |
| 3.   | 52705801 | PIN (PART OF 2)                          | 1REF | 16. | 60030119 | WEAR PAD                    | 1 |
| 4.   | 60102466 | SLEEVE (PART OF 2)                       | 2REF | 17. | 60107152 | PLATE                       | 4 |
| 5.   | 60108857 | SLEEVE (PART OF 2)                       | 1REF | 18. | 72060092 | CAP SCR 1/2-13X1-1/4 HH GR5 | 8 |
| 6.   | 60107324 | HOOK LINK (PART OF 2)                    | 2REF | 19. | 72063053 | WASHER 1/2 LOCK             | 8 |
| 7.   | 72062073 | NUT 1-1/4-7 LOCK (PART OF 2)             | 1REF | 20. | 60113933 | SPACER                      | 4 |
| 8.   | 70734177 | HOOK 7-TON (PART OF 2)<br>(WAS 60103575) | 1REF | 21. | 60020197 | ROLLER                      | 4 |
| 9.   | 72601666 | CAP SCR 1-1/4-7X4 HHGR5<br>(PART OF 2)   | 1REF | 22. | 72063010 | WASHER 1 WRT                | 2 |
| 10.  | 72066145 | HAIR PIN (PART OF 2)                     | 1REF | 23. | 60106833 | PIN                         | 1 |
| 11.  | 60030118 | WEAR PAD                                 | 1    | 24. | 72066125 | RETAINING RING 1" EXT HD    | 2 |
| 12.  | 52709681 | 1ST STG EXT BOOM                         | 1    | 25. | 72060006 | CAP SCR .25-20X 1.5 HH GR5  | 2 |
| 13.  | 60030123 | WEAR PAD                                 | 1    | 26. | 72063001 | WASHER-FLAT .25             | 2 |
|      |          |                                          |      | 27. | 70034381 | SUPPORT-GP STAUFF           | 2 |



**2-STG EXT CYLINDER (3K120850)**

| ITEM | PART NO. | DESCRIPTION                              | QTY  |
|------|----------|------------------------------------------|------|
| 1.   | 4K120850 | CASE                                     | 1    |
| 2.   | 4H120850 | INNER CASE                               | 1    |
| 3.   | 4G120850 | ROD (INCL:33)                            | 1    |
| 4.   | 6H271511 | HEAD                                     | 1    |
| 5.   | 6H112820 | HEAD                                     | 1    |
| 6.   | 6I025087 | PISTON                                   | 1    |
| 7.   | 6I095850 | PISTON                                   | 1    |
| 8.   | 4FG12085 | MOUNTING RING                            | 1    |
| 9.   | 6C300015 | STOP TUBE                                | 2    |
| 10.  | 6C075015 | STOP TUBE                                | 1    |
| 11.  | 73054242 | COUNTER BALANCE VALVE                    | 2    |
| 12.  | 7PNPXT02 | PLUG 1/8NPT (PART OF 1)                  | 8REF |
| 13.  | 9X095850 | SEAL KIT (INCL:14-31)                    | 1    |
| 14.  | 7Q072228 | O-RING (PART OF 13)                      | 1REF |
| 15.  | 7Q10P228 | BACK-UP RING (PART OF 13)                | 1REF |
| 16.  | 7Q072342 | O-RING (PART OF 13)                      | 1REF |
| 17.  | 7Q10P342 | BACK-UP RING (PART OF 13)                | 1REF |
| 18.  | 7T2N4037 | WEAR RING (PART OF 13)                   | 1REF |
| 19.  | 7R546015 | ROD SEAL (PART OF 13)                    | 1REF |
| 20.  | 7R546035 | ROD SEAL (PART OF 13)                    | 1REF |
| 21.  | 7R14P015 | ROD WIPER (PART OF 13)                   | 1REF |
| 22.  | 7R14P035 | ROD WIPER (PART OF 13)                   | 1REF |
| 23.  | 7T65I040 | PISTON RING (PART OF 13)                 | 2REF |
| 24.  | 7Q072137 | O-RING (PART OF 13)                      | 1REF |
| 25.  | 7T66P025 | PISTON SEAL (PART OF 13)                 | 1REF |
| 26.  | 7Q072153 | O-RING (PART OF 13)                      | 1REF |
| 27.  | 7T66P040 | PISTON SEAL (PART OF 13)                 | 1REF |
| 28.  | 7Q072147 | O-RING (PART OF 13)                      | 1REF |
| 29.  | 7T61N087 | LOCK RING SEAL (PART OF 13)              | 1REF |
| 30.  | 7T2N8015 | WEAR RING (PART OF 13)                   | 1REF |
| 31.  | 60138272 | STOP TUBE (PART OF 13)<br>(WAS 6A025015) | 1REF |
| 32.  | 60125699 | PIN-LOCK TUBE (PART OF 13)               | 1REF |
| 33.  | 72053507 | ZERK 1/8NPT (PART OF 3)                  | 1REF |

**NOTE**

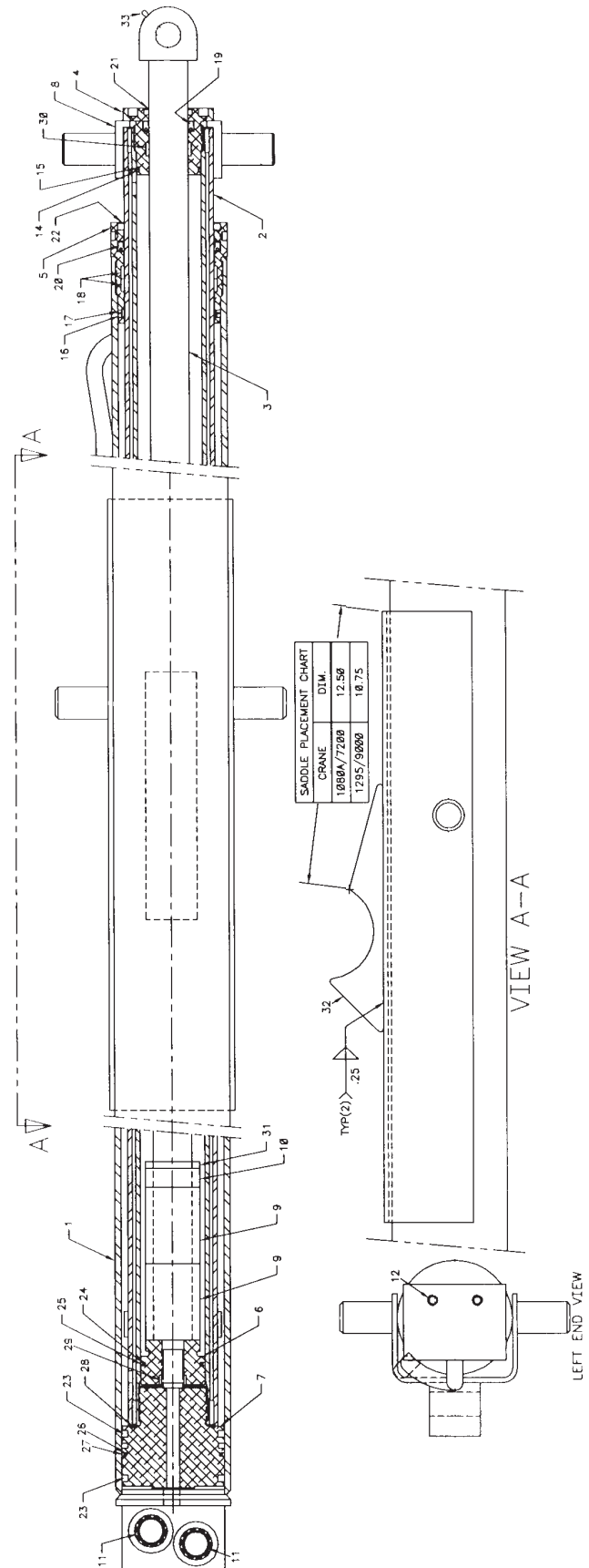
IT IS RECOMMENDED THAT ALL COMPONENTS OF THE SEAL KIT BE REPLACED WHENEVER THE CYLINDER IS DISASSEMBLED. THIS WILL REDUCE FUTURE DOWNTIME.

APPLY "LUBRIPLATE #630-2" MEDIUM HEAVY, MULTI-PURPOSE LUBRICANT OR EQUIVALENT TO ALL PISTON AND HEAD GLANDS, LOCK RING AND ROD THREADS BEFORE ASSEMBLY.

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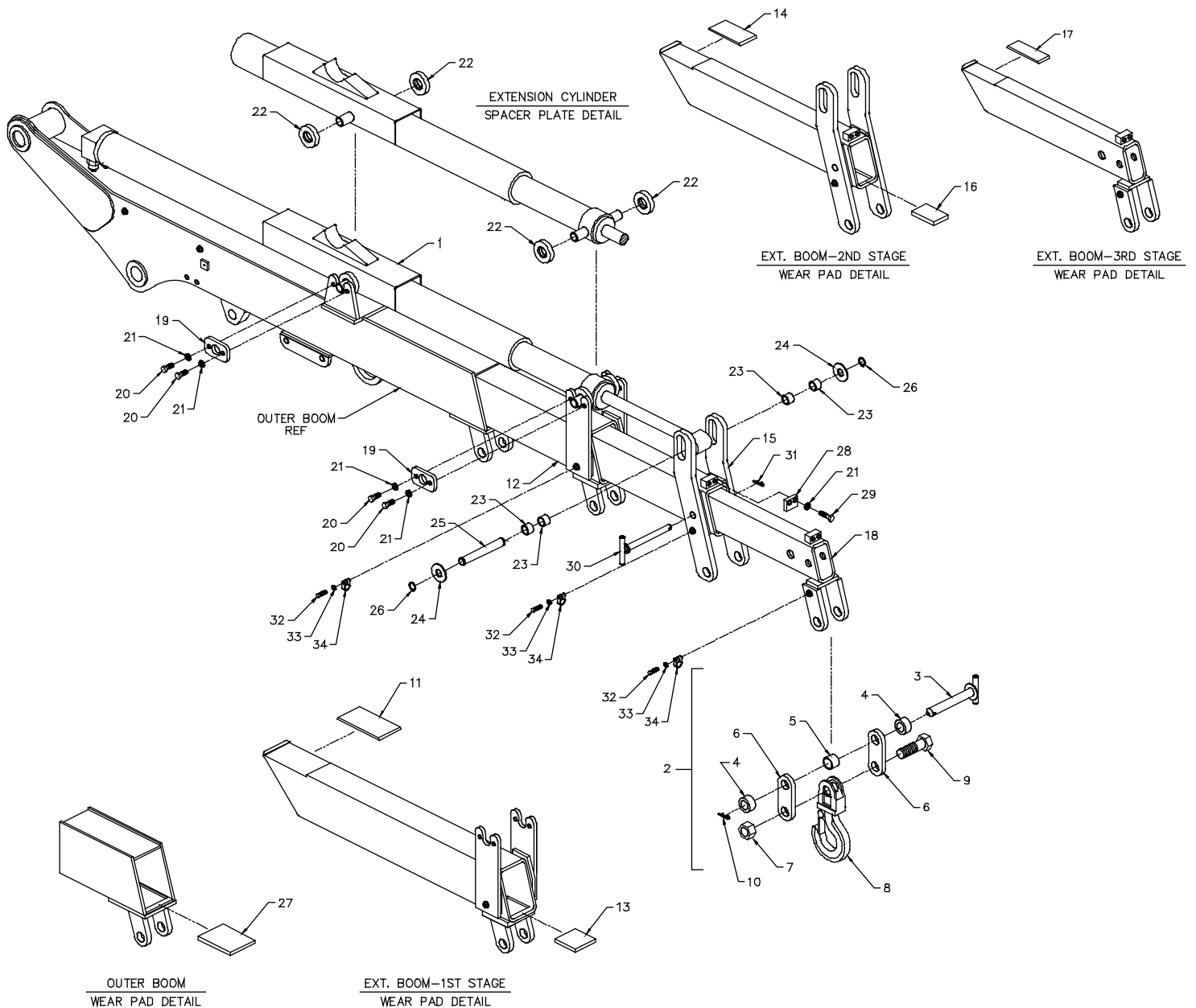
ITEM #31, STOP TUBE, REPLACES 6A025015 WAFER LOCK. USE STOP TUBE INSTEAD OF WAFER LOCK WHEN RESEALING CYLINDER.

PRESS LOCKING PIN (ITEM #32) INTO #15 HOLE DRILLED 0.188" DEEP.



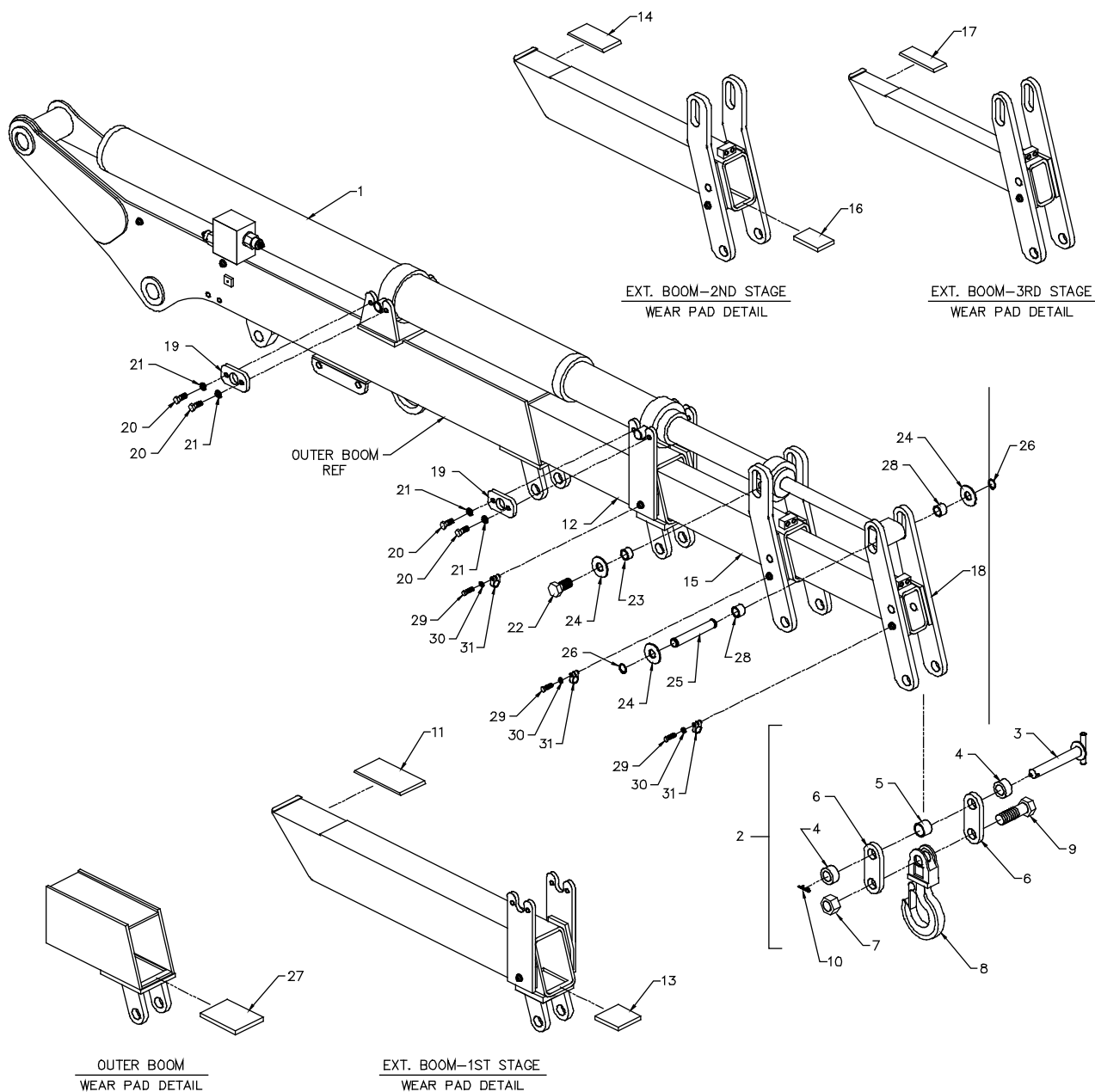
**EXT BOOM ASM-2H1M (41709701)**

| ITEM | PART NO. | DESCRIPTION                              | QTY  |     |          |                            |    |
|------|----------|------------------------------------------|------|-----|----------|----------------------------|----|
| 1.   | 3K120850 | EXTENSION CYLINDER                       | 1    | 17. | 60030203 | WEAR PAD                   | 1  |
| 2.   | 51706266 | HOOK ASM 7-TON (INCL:3-10)               | 1    | 18. | 52709683 | 3RD STG EXT BOOM - MANUAL  | 1  |
| 3.   | 52705801 | PIN (PART OF 2)                          | 1REF | 19. | 60107152 | PLATE                      | 4  |
| 4.   | 60102466 | SLEEVE (PART OF 2)                       | 2REF | 20. | 72060092 | CAP SCR 1/2-13X1-1/4 HHGR5 | 8  |
| 5.   | 60108857 | SLEEVE (PART OF 2)                       | 1REF | 21. | 72063053 | WASHER 1/2 LOCK            | 10 |
| 6.   | 60107324 | LINK (PART OF 2)                         | 2REF | 22. | 60113933 | SPACER                     | 4  |
| 7.   | 72062073 | NUT 1 1/4-7 LOCK (PART OF 2)             | 1REF | 23. | 60020197 | ROLLER                     | 4  |
| 8.   | 70734177 | HOOK 7-TON (PART OF 2)<br>(WAS 60103575) | 1REF | 24. | 72063010 | WASHER 1 WRT               | 2  |
| 9.   | 72601666 | CAP SCR 1 1/4-7X4 HHGR5<br>(PART OF 2)   | 1REF | 25. | 60106833 | PIN                        | 1  |
| 10.  | 72066145 | HAIR PIN (PART OF 2)                     | 1REF | 26. | 72066125 | RETAINING RING 1" EXT HD   | 2  |
| 11.  | 60030118 | WEAR PAD                                 | 1    | 27. | 60030119 | WEAR PAD                   | 1  |
| 12.  | 52709681 | 1ST STG EXT BOOM                         | 1    | 28. | 60107294 | STROKE STOP                | 1  |
| 13.  | 60030123 | WEAR PAD                                 | 1    | 29. | 72060094 | CAP SCR 1/2-13X1-3/4 HHGR5 | 2  |
| 14.  | 60030122 | WEAR PAD                                 | 1    | 30. | 52705802 | PIN                        | 1  |
| 15.  | 52709682 | 2ND STG EXT BOOM                         | 1    | 31. | 72066145 | HAIR PIN 3/16              | 1  |
| 16.  | 60030202 | WEAR PAD                                 | 1    | 32. | 72060006 | CAP SCR .25-20X 1.5 HH GR5 | 3  |
|      |          |                                          |      | 33. | 72063001 | WASHER-FLAT .25            | 3  |
|      |          |                                          |      | 34. | 70034381 | SUPPORT-GP STAUFF          | 3  |



**EXT BOOM ASM-3H (41709703)**

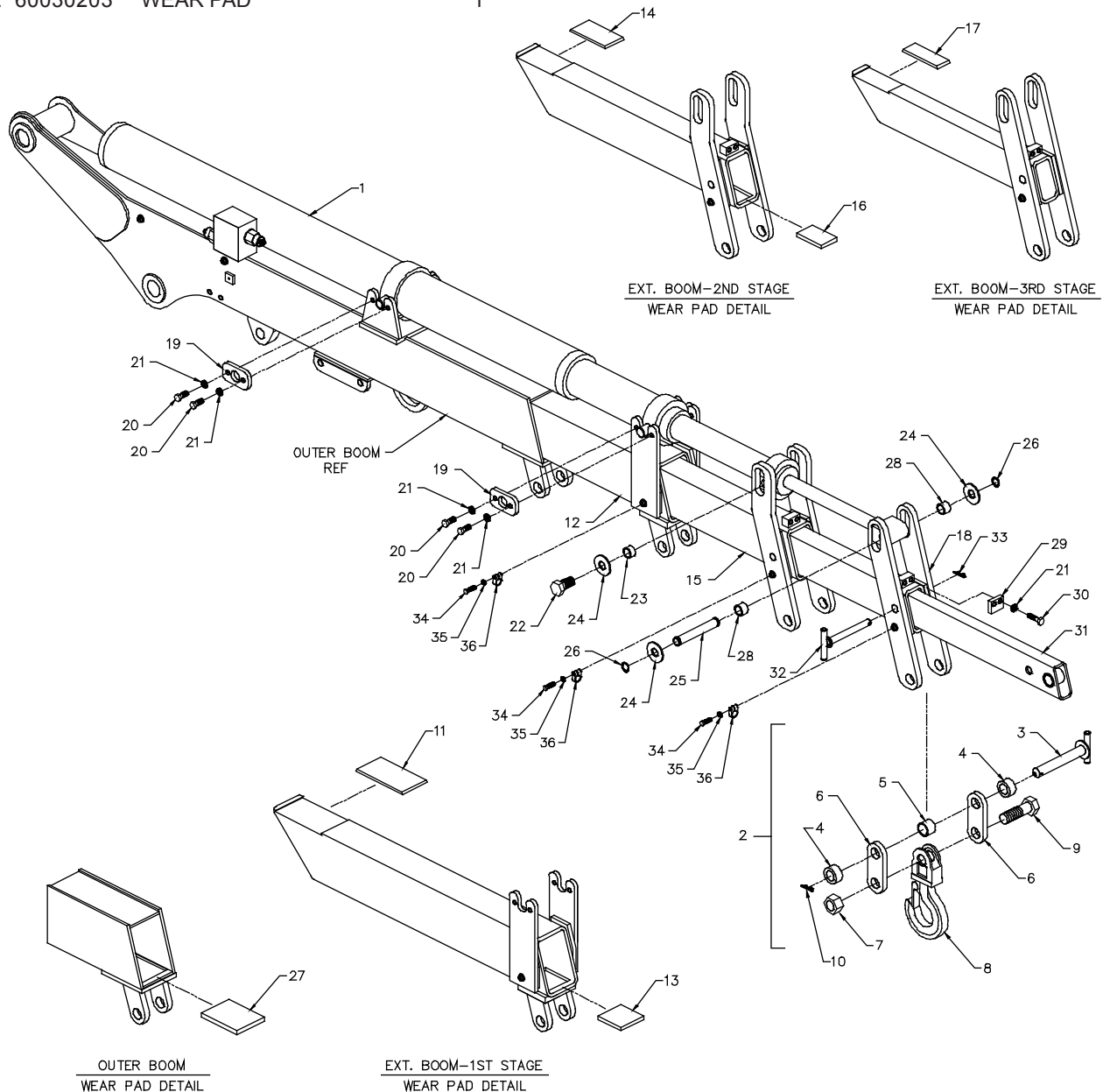
|              |                          |      |              |                             |   |
|--------------|--------------------------|------|--------------|-----------------------------|---|
| 1. 3K120200  | EXT CYL (EFF:5-22-00)    | 1    | 15. 52709682 | 2ND STG EXT BOOM            | 1 |
| 3K150920     | EXT CYL (PRE:5-22-00)    | 1    | 16. 60030202 | WEAR PAD                    | 1 |
| 2. 51706266  | HOOK ASM 8-TON(INCL:3-10 | 1    | 17. 60030203 | WEAR PAD                    | 1 |
| 3. 52705801  | PIN (PART OF 2)          | 1REF | 18. 52709684 | 3RD STG EXT BOOM            | 1 |
| 4. 60102466  | SLEEVE (PART OF 2)       | 2REF | 19. 60107152 | CYL RETAINING PLATE         | 4 |
| 5. 60108857  | SLEEVE (PART OF 2)       | 1REF | 20. 72060092 | CAP SCR 1/2-13X1-1/4 HH GR5 | 8 |
| 6. 60107324  | HOOK LINK (PART OF 2)    | 2REF | 21. 72063053 | WASHER 1/2 LOCK             | 8 |
| 7. 72062073  | NUT 1-1/2-7 LOCK         | 1REF | 22. 72601591 | CAP SCR 1-14X2 HH GR5       | 2 |
| 8. 70734177  | HOOK 7-TON (PART OF 2)   | 1REF | 23. 60020198 | ROLLER                      | 2 |
|              | (WAS 60103575)           |      | 24. 72063010 | WASHER 1 WRT                | 4 |
| 9. 72601666  | CAP SCR 1-1/4-7X4 HH GR5 | 1REF | 25. 60106065 | PIN                         | 1 |
|              | (PART OF 2)              |      | 26. 72066125 | RETAINING RING 1"           | 2 |
| 10. 72066145 | HAIR PIN (PART OF 2)     | 1REF | 27. 60030119 | WEAR PAD                    | 1 |
| 11. 60030118 | WEAR PAD                 | 1    | 28. 60020197 | ROLLER                      | 2 |
| 12. 52709681 | 1ST STG EXT BOOM         | 1    | 29. 72060006 | CAP SCR .25-20X 1.5 HH GR5  | 3 |
| 13. 60030123 | WEAR PAD                 | 1    | 30. 72063001 | WASHER-FLAT .25             | 3 |
| 14. 60030122 | WEAR PAD                 | 1    | 31. 70034381 | SUPPORT-GP STAUFF           | 3 |





**EXT BOOM ASM-3H1M (41709704)**

|              |                              |      |              |                             |    |
|--------------|------------------------------|------|--------------|-----------------------------|----|
| 1. 3K120200  | EXT CYL (EFF:5-22-00)        | 1    | 18. 52709684 | 3RD STG EXT BOOM            | 1  |
| 3K150920     | EXT CYL (PRE:5-22-00)        | 1    | 19. 60107152 | PLATE                       | 4  |
| 2. 51706266  | HOOK ASM 8-TON (INCL:3-10)   | 1    | 20. 72060092 | CAP SCR 1/2-13X1-1/4 HH GR5 | 8  |
| 3. 52705801  | PIN (PART OF 2)              | 1REF | 21. 72063053 | WASHER 1/2 LOCK             | 10 |
| 4. 60102466  | SLEEVE (PART OF 2)           | 2REF | 22. 72061591 | CAP SCR 1-14 X 2 HH GR5     | 2  |
| 5. 60108857  | SLEEVE (PART OF 2)           | 1REF | 23. 60020198 | ROLLER                      | 2  |
| 6. 60107324  | LINK (PART OF 2)             | 1REF | 24. 72063010 | WASHER 1" WRT               | 4  |
| 7. 72062073  | NUT 1 1/4-7 LOCK (PART OF 2) | 1REF | 25. 60106065 | PIN                         | 1  |
| 8. 70734177  | HOOK 7-TON (PART OF 2)       | 1REF | 26. 72066125 | RETAINING RING 1" EXT HD    | 2  |
|              | (WAS 60103575)               |      | 27. 60030119 | WEAR PAD                    | 1  |
| 9. 72601666  | CAP SCR 1 1/4-7X4 HH GR5     | 1REF | 28. 60020197 | ROLLER                      | 2  |
|              | (PART OF 2)                  |      | 29. 60107294 | STOP                        | 1  |
| 10. 72066145 | HAIR PIN (PART OF 2)         | 1REF | 30. 72060094 | CAP SCR 1/2-13X1-3/4 HH GR5 | 2  |
| 11. 60030118 | WEAR PAD                     | 1    | 31. 52709502 | 4TH STG EXT BOOM            | 1  |
| 12. 52709681 | 1ST STG EXT BOOM             | 1    | 32. 52705883 | PIN                         | 1  |
| 13. 60030123 | WEAR PAD                     | 1    | 33. 72066145 | HAIR PIN                    | 1  |
| 14. 60030122 | WEAR PAD                     | 1    | 34. 72060006 | CAP SCR .25-20X 1.5 HH GR5  | 3  |
| 15. 52709682 | 2ND STG EXT BOOM             | 1    | 35. 72063001 | WASHER=FLAT .25             | 3  |
| 16. 60030202 | WEAR PAD                     | 1    | 36. 70034381 | SUPPORT-GP STAUFF           | 3  |
| 17. 60030203 | WEAR PAD                     | 1    |              |                             |    |





### 3-STG EXT CYLINDER PRE:5-22-00 (3K150920)

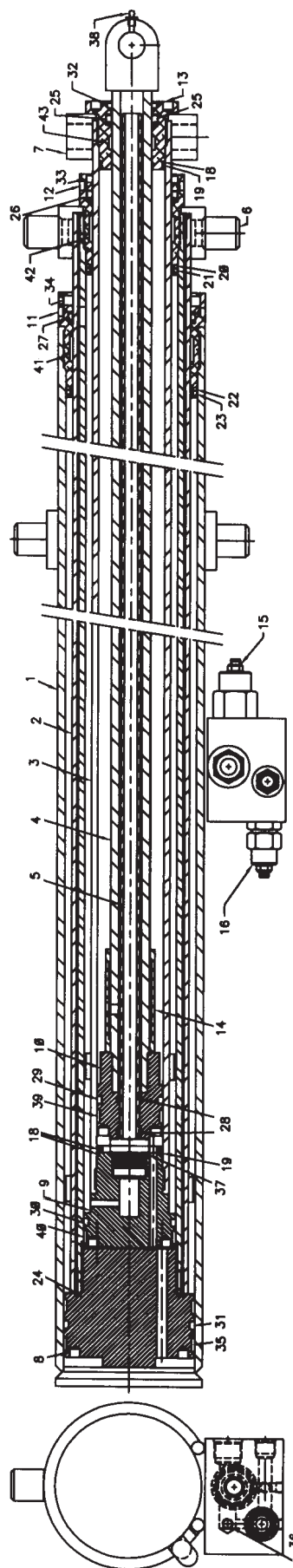
| ITEM | PART NO. | DESCRIPTION                 | QTY  |
|------|----------|-----------------------------|------|
| 1.   | 4C150920 | CASE ASM                    | 1    |
| 2.   | 4J148920 | ROD / CASE ASM 4-1/2 OD     | 1    |
| 3.   | 4K148920 | ROD / CASE ASM 3 OD         | 1    |
| 4.   | 4H066900 | ROD ASM                     | 1    |
| 5.   | 4P066900 | INTERNAL PORT ASM           | 1    |
| 6.   | 4FG06690 | MTG RING 4-1/2 ID           | 1    |
| 7.   | 5FG66900 | MTG RING 3 ID               | 1    |
| 8.   | 6I503369 | PISTON 5"                   | 1    |
| 9.   | 6I352268 | PISTON 3-1/2"               | 1    |
| 10.  | 6I252144 | PISTON 2-1/2"               | 1    |
| 11.  | 6H503450 | HEAD 5"                     | 1    |
| 12.  | 6H352300 | HEAD 3-1/2"                 | 1    |
| 13.  | 6H271511 | HEAD 2-1/2"                 | 1    |
| 14.  | 6C400150 | STOP TUBE 1-1/2 X 4L        | 1    |
| 15.  | 73054817 | COUNTERBALANCE VALVE        | 1    |
| 16.  | 73054902 | COUNTERBALANCE VALVE        | 1    |
| 17.  | 9X355900 | SEAL KIT (INCL:18-35,39-43) | 1    |
| 18.  | 7Q10P228 | BACK-UP RING (PART OF 17)   | 3REF |
| 19.  | 7Q072228 | O-RING (PART OF 17)         | 2REF |
| 20.  | 7Q10P338 | BACK-UP RING (PART OF 17)   | 1REF |
| 21.  | 7Q072338 | O-RING (PART OF 17)         | 1REF |
| 22.  | 7Q10P350 | BACK-UP RING (PART OF 17)   | 1REF |
| 23.  | 7Q072350 | O-RING (PART OF 17)         | 1REF |
| 24.  | 7Q072240 | O-RING (PART OF 17)         | 1REF |
| 25.  | 7R546015 | U-CUP SEAL (PART OF 17)     | 1REF |
| 26.  | 7R546030 | U-CUP SEAL (PART OF 17)     | 1REF |
| 27.  | 7R488450 | U-CUP SEAL (PART OF 17)     | 1REF |
| 28.  | 7R100750 | U-CUP SEAL (PART OF 17)     | 3REF |
| 29.  | 7T66P250 | PISTON SEAL (PART OF 17)    | 1REF |
| 30.  | 7T66P350 | PISTON SEAL (PART OF 17)    | 1REF |
| 31.  | 7T66P500 | PISTON SEAL (PART OF 17)    | 1REF |
| 32.  | 7R14P015 | ROD WIPER (PART OF 17)      | 1REF |
| 33.  | 7R14P030 | ROD WIPER (PART OF 17)      | 1REF |
| 34.  | 7R14P045 | ROD WIPER (PART OF 17)      | 1REF |
| 35.  | 7T2N4050 | WEAR RING (PART OF 17)      | 2REF |
| 36.  | 7PNPXT02 | PLUG 1/8NPT (PART OF 1)     | 4REF |
| 37.  | 7Q092916 | O-RING (PART OF 5)          | 1REF |
| 38.  | 72053507 | ZERK 1/4-28                 | 1    |
| 39.  | 7T2N4025 | WEAR RING (PART OF 17)      | 1REF |
| 40.  | 7T2N4035 | WEAR RING (PART OF 17)      | 1REF |
| 41.  | 7T2N8047 | ROD WEAR RING (PART OF 17)  | 1REF |
| 42.  | 7T2N8032 | ROD WEAR RING (PART OF 17)  | 1REF |
| 43.  | 7T2N8015 | ROD WEAR RING (PART OF 17)  | 1REF |

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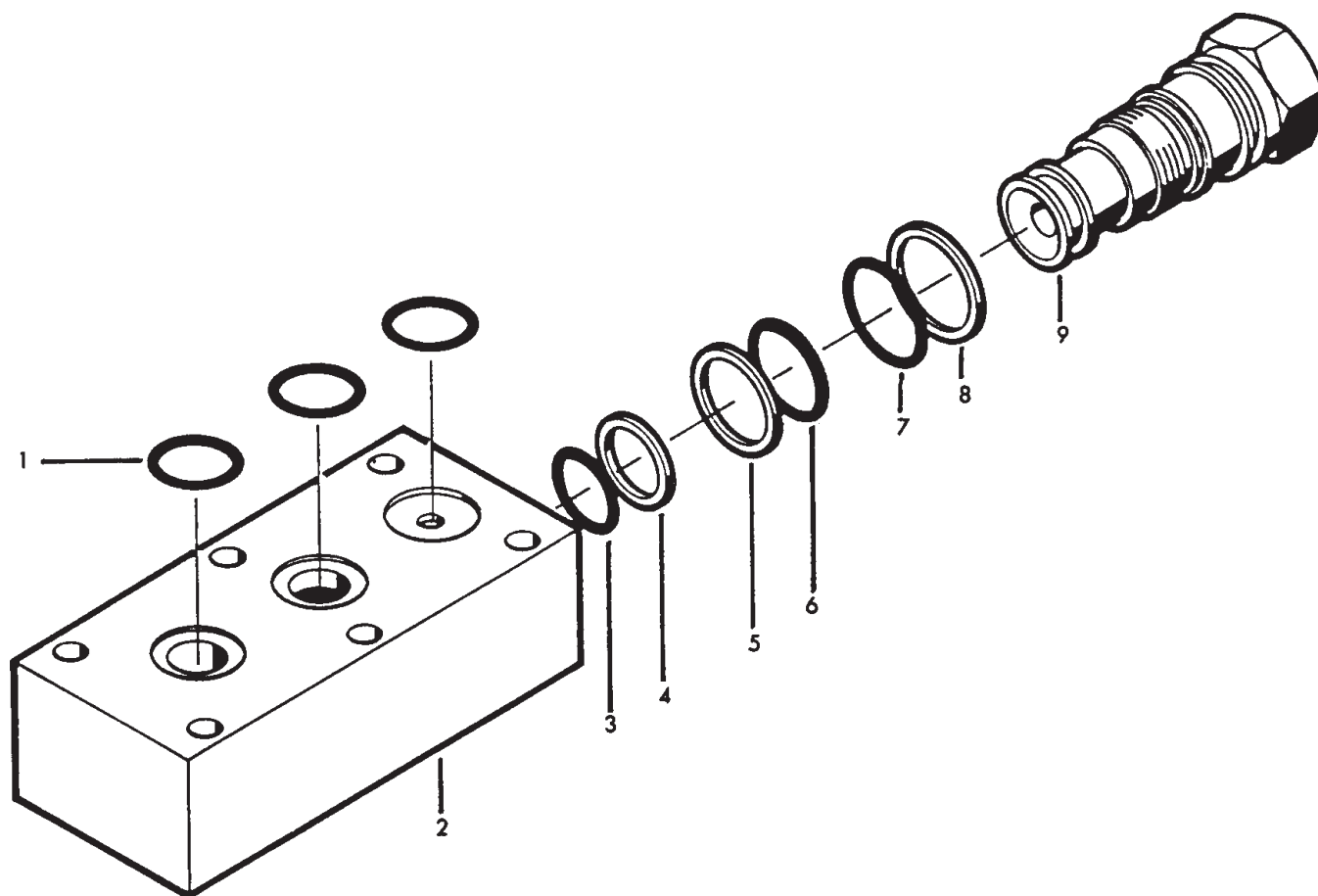
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USE "NEVER-SEEZ" OR EQUIVALENT BETWEEN THE HEAD AND THE CASE WHEN ASSEMBLING THE CYLINDER.



**LOCKING/HOLDING VALVE (73054004)**

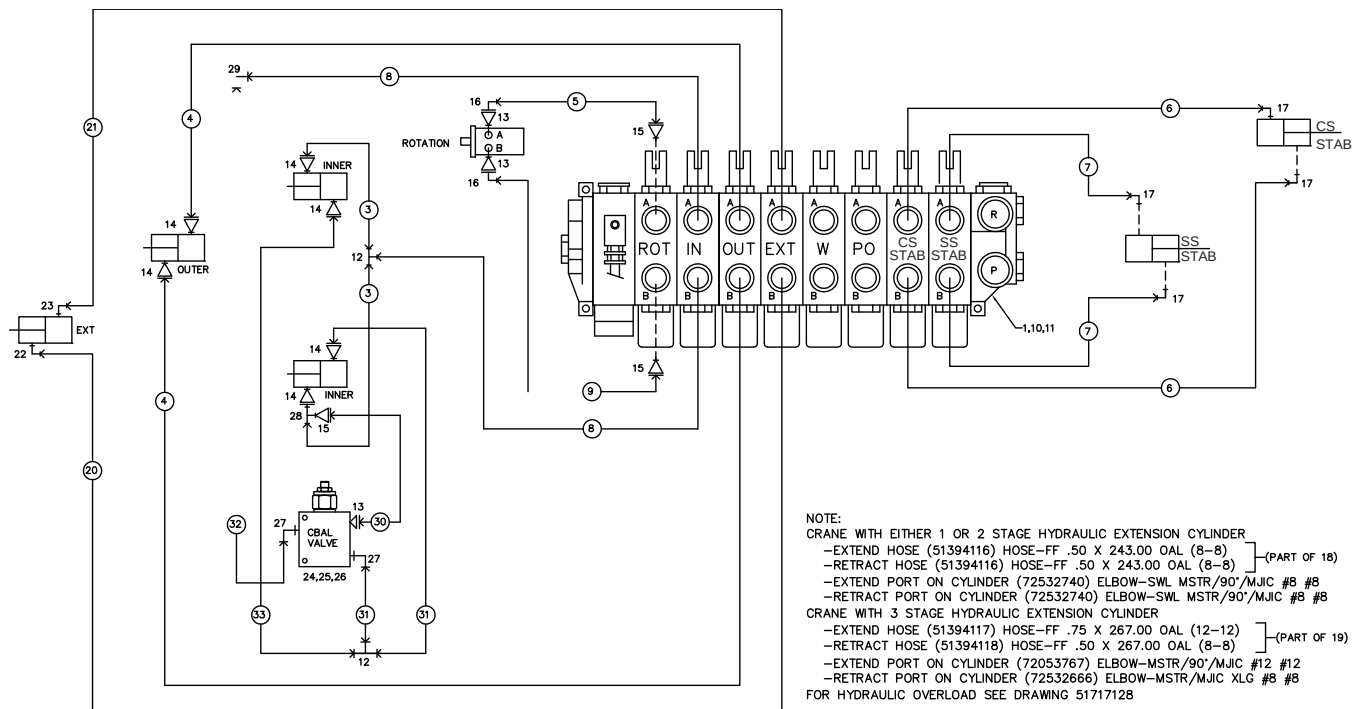
| ITEM | PART NO. | DESCRIPTION                      | QTY |
|------|----------|----------------------------------|-----|
| 1.   | 7Q072014 | O-RING                           | 3   |
| 2.   |          | VALVE BLOCK                      |     |
|      |          | (ORDER COMPLETE VALVE - ITEM 10) | 1   |
| 3.   | 7Q072015 | O-RING                           | 1   |
| 4.   | 7Q10P015 | BACK-UP RING                     | 1   |
| 5.   | 7Q10P017 | BACK-UP RING                     | 1   |
| 6.   | 7Q072017 | O-RING                           | 1   |
| 7.   | 7Q072018 | O-RING                           | 1   |
| 8.   | 7Q10P018 | BACK-UP RING                     | 1   |
| 9.   |          | VALVE BODY                       |     |
|      |          | (ORDER COMPLETE VALVE - ITEM 10) | 1   |
| 10.  | 73054004 | VALVE (INCL. ITEMS 1- 9)         | 1   |



**HYD KIT-6 SECT (91706401)**

|     |                                      |      |
|-----|--------------------------------------|------|
| 1.  | VALVEBANK ASM                        | 1REF |
| 2.  | 51716375 HOSE KIT (INCL:3-9,30-33)   | 1    |
| 3.  | 51394110 HOSE ASM 3/8X34 #8F #8F     | 2REF |
| 4.  | 51394111 HOSE ASM 3/8X147 #8F #8F    | 2REF |
| 5.  | 51393971 HOSE ASM 1/4X57 #4F #4F     | 1REF |
| 6.  | 51394112 HOSE ASM 3/8X83 #8F #8F     | 2REF |
| 7.  | 51394113 HOSE ASM 3/8X113 #8F #8F    | 2REF |
| 8.  | 51394114 HOSE ASM 3/8X45 #8F #8F     | 2REF |
| 9.  | 51394115 HOSE ASM 1/4X59 #4F #4F     | 1REF |
| 10. | 72060032 CAP SCR 5/16-18X2-3/4 HHGR5 | 3    |
| 11. | 72062109 NUT 5/16-18 LOCK            | 3    |
| 12. | 72531205 TEE 3/4MJIC 1/2TUBE         | 2    |
| 13. | 72532351 ADAPTER #4MSTR #4MJIC       | 3    |
| 14. | 72532358 ADAPTER #8MSTR #8MJIC       | 6    |
| 15. | 72532665 ADAPTER #4MJIC #8FJIC       | 3    |
| 16. | 72532690 ELBOW #4MJIC #4FJIC SW      | 2    |

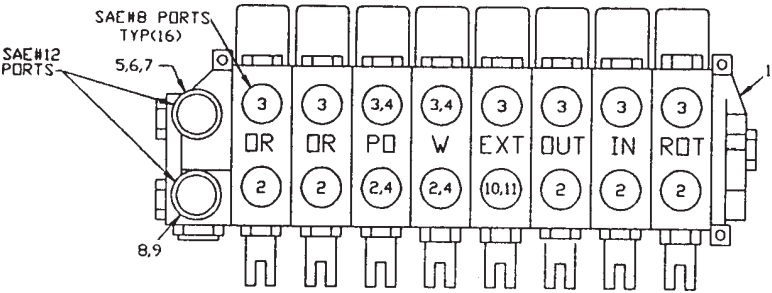
|     |                                          |      |
|-----|------------------------------------------|------|
| 17. | 72532779 ELBOW #6MSTR #8MJIC XLG         | 4    |
| 18. | 51713020 HOSE KIT:1-2STG EXT(INCL:20-21) | 1    |
| 19. | 51713021 HOSE KIT:3 STG EXT(INCL:20-21)  | 1    |
| 20. | HOSE-SEE NOTE                            | 1REF |
| 21. | HOSE-SEE NOTE                            | 1REF |
| 22. | HYD FTG-SEE NOTE                         | 1REF |
| 23. | HYD FTG-SEE NOTE                         | 1REF |
| 24. | 73540061 C'BAL VALVE                     | 1    |
| 25. | 72060008 CAP SCR 1/4-20X2 HHGR5          | 2    |
| 26. | 72063049 WASHER 1/4 LOCK                 | 2    |
| 27. | 72053763 ELBOW #8MSTR #8MJIC 90°         | 2    |
| 28. | 72532657 TEE #8JIC SWVLNUTRUN            | 1    |
| 29. | 72533663 ELBOW #8MJIC #8MJIC 90°         | 1    |
| 30. | 51395859 HOSE-FJ .25X13 #4#4 (PO 2)      | 1REF |
| 31. | 51394424 HOSE-FF .38X12 #8#8 (PO 2)      | 2REF |
| 32. | 51393922 HOSE-FF .38X26 #8#8 (PO 2)      | 1REF |
| 33. | 51394399 HOSE-FF .38X49 #8#8 (PO 2)      | 1REF |



**VB ASM-8 SECT MNL (51705853)**

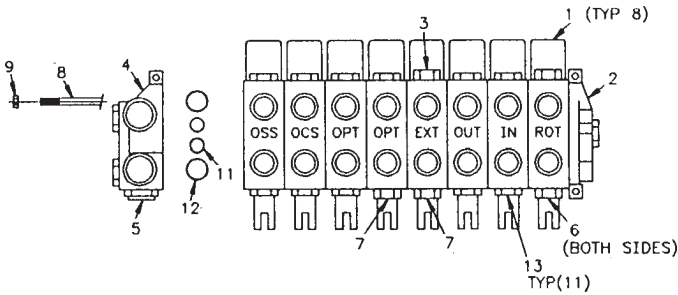
| ITEM | PART NO. | DESCRIPTION                | QTY |
|------|----------|----------------------------|-----|
| 1.   | 73731768 | VALVEBANK 8-SECT           | 1   |
| 2.   | 72053763 | ELBOW #8MSTR#8MJIC 90°     | 7   |
| 3.   | 72532666 | ELBOW #8MSTR#8MJIC 90°XLG  | 8   |
| 4.   | 72532675 | CAP 3/4JIC STL             | 4   |
| 5.   | 60106322 | ELBOW-PR GAUGE MOD         | 1   |
| 6.   | 72532669 | ADAPTER #8MJIC #10FJIC     | 1   |
| 7.   | 72053241 | PIPE PLUG 1/4NPT HOL HEX   | 1   |
| 8.   | 72053747 | ADAPTER #12MSTR 3/4FPT     | 1   |
| 9.   | 72053556 | STREET ELBOW 3/4NPT 90°    | 1   |
| 10.  | 72532364 | ADAPTER #8MSTR #12MJIC     | 1   |
| 11.  | 72532696 | ELBOW #12MJIC #12FJIC SWVL | 1   |

NOTE:  
SET SYSTEM PRESSURE AT 2500PSI.



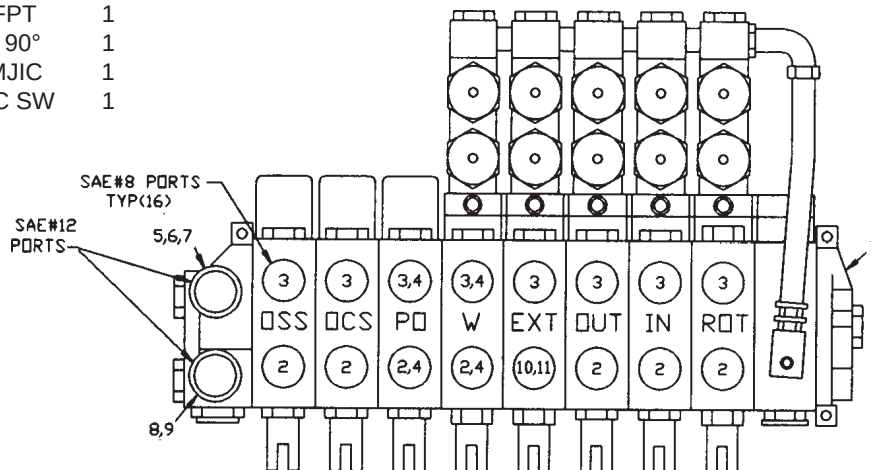
**VALVEBANK (73731768)**

| ITEM | PART NO. | DESCRIPTION              | QTY  |
|------|----------|--------------------------|------|
| 1.   | 73054432 | VALVE SECT V20 4WAY SAE8 | 8    |
| 2.   | 73731241 | END COVER RH W/CONV PLUG | 1    |
| 3.   | 73054400 | RELIEF 2300PSI NON-ADJ   | 1    |
| 4.   | 73731424 | END COVER LH (INCL:5)    | 1    |
| 5.   | 73054673 | RELIEF VALVE (PART OF 4) | 1REF |
| 6.   | 73054516 | RELIEF 1300PSI NON-ADJ   | 2    |
| 7.   | 73054007 | RELIEF 1800PSI NON-ADJ   | 2    |
| 8.   | 73014668 | STUD 3/8X17              | 3    |
| 9.   | 72062037 | NUT 3/8-24 HEX           | 6    |
| 10.  | 51393494 | O-RING KIT               | REF  |
| 11.  | 7Q072117 | O-RING                   | 18   |
| 12.  | 7Q072119 | O-RING                   | 18   |
| 13.  | 73054010 | LOAD CHECK PLUG ASM      | 11   |

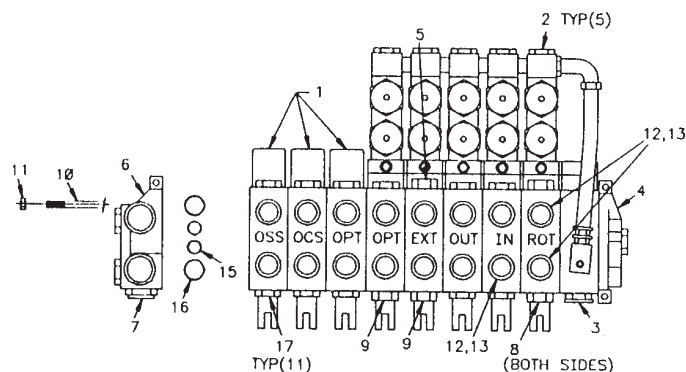


**VB ASM-5R/3M (51705935)**

| ITEM | PART NO. | DESCRIPTION               | QTY |
|------|----------|---------------------------|-----|
| 1.   | 51705934 | VALVEBANK 5R/3M           | 1   |
| 2.   | 72053763 | ELBOW #8MSTR#8MJIC 90°    | 7   |
| 3.   | 72532666 | ELBOW #8MSTR#8MJIC 90°XLG | 8   |
| 4.   | 72532675 | CAP 3/4JIC STL            | 4   |
| 5.   | 60106322 | ELBOW-PR GAUGE MOD        | 1   |
| 6.   | 72532669 | ADAPTER #8MJIC #10FJIC    | 1   |
| 7.   | 72053241 | PIPE PLUG 1/4 HOLHEX      | 1   |
| 8.   | 72053747 | ADAPTER #12MSTR 3/4FPT    | 1   |
| 9.   | 72053556 | STREET ELBOW 3/4NPT 90°   | 1   |
| 10.  | 72532364 | ADAPTER #8MSTR #12MJIC    | 1   |
| 11.  | 72532696 | ELBOW #12MJIC #12FJIC SW  | 1   |

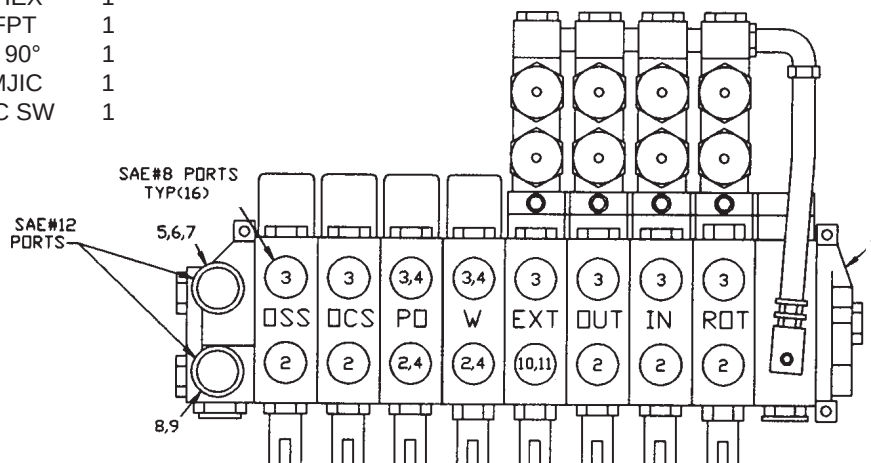
**VALVEBANK (51705934)**

| ITEM | PART NO. | DESCRIPTION               | QTY  |
|------|----------|---------------------------|------|
| 1.   | 73054432 | VALVE SECT V20 4WAY SAE8  | 3    |
| 2.   | 73054468 | VALVE SECT V20R 4WAY SAE8 | 5    |
| 3.   | 73054502 | VALVE SECT V20R UTILITY   | 1    |
| 4.   | 73731241 | END COVER RH W/CONV PLUG  | 1    |
| 5.   | 73054400 | RELIEF 2300PSI NON-ADJ    | 1    |
| 6.   | 73731424 | END COVER LH (INCL:7)     | 1    |
| 7.   | 73054673 | RELIEF VALVE (PART OF 6)  | 1REF |
| 8.   | 73054516 | RELIEF 1300PSI NON-ADJ    | 2    |
| 9.   | 73054007 | RELIEF 1800PSI NON-ADJ    | 2    |
| 10.  | 73014672 | STUD 3/8X18-3/4           | 3    |
| 11.  | 72062037 | NUT 3/8-24 HEX            | 6    |
| 12.  | 70142402 | ORIFICE PLATE             | 3    |
| 13.  | 70142403 | SPRING                    | 3    |
| 14.  | 51393494 | O-RING KIT                | REF  |
| 15.  | 7Q072117 | O-RING                    | 20   |
| 16.  | 7Q072119 | O-RING                    | 20   |
| 17.  | 73054010 | LOAD CHECK PLUG ASM       | 11   |

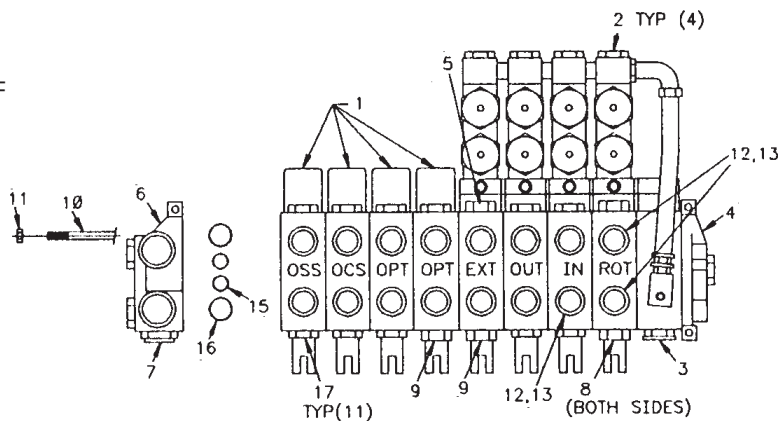


**VB-4R/4M (51706377)**

| ITEM | PART NO. | DESCRIPTION               | QTY |
|------|----------|---------------------------|-----|
| 1.   | 51706376 | VALVEBANK 8-SECT 4R/4M    | 1   |
| 2.   | 72053763 | ELBOW #8MSTR#8MJIC 90°    | 7   |
| 3.   | 72532666 | ELBOW #8MSTR#8MJIC 90°XLG | 8   |
| 4.   | 72532675 | CAP 3/4JIC STL            | 4   |
| 5.   | 60106322 | ELBOW-PR GAUGE MOD        | 1   |
| 6.   | 72532669 | ADAPTER #8MJIC #10FJIC    | 1   |
| 7.   | 72053241 | PIPE PLUG 1/4NPT HOLHEX   | 1   |
| 8.   | 72053747 | ADAPTER #12MSTR 3/4FPT    | 1   |
| 9.   | 72053556 | STREET ELBOW 3/4NPT 90°   | 1   |
| 10.  | 72532364 | ADAPTER #8MSTR #12MJIC    | 1   |
| 11.  | 72532696 | ELBOW #12MJIC #12FJIC SW  | 1   |

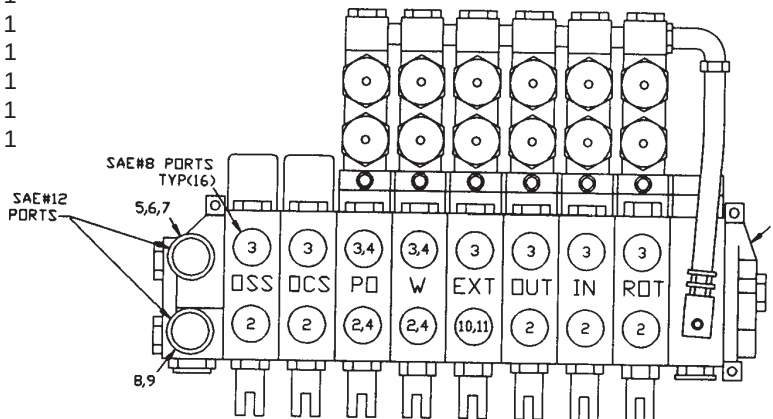
**VALVEBANK (51706376)**

| ITEM | PART NO. | DESCRIPTION               | QTY  |
|------|----------|---------------------------|------|
| 1.   | 73054432 | VALVE SECT V20 4WAY SAE8  | 4    |
| 2.   | 73054468 | VALVE SECT V20R 4WAY SAE8 | 4    |
| 3.   | 73054502 | VALVE SECT V20R UTILITY   | 1    |
| 4.   | 73731241 | END COVER RH W/CONV PLUG  | 1    |
| 5.   | 73054400 | RELIEF 2300PSI NON-ADJ    | 1    |
| 6.   | 73731424 | END COVER LH (INCL:7)     | 1    |
| 7.   | 73054673 | RELIEF VALVE (PART OF 6)  | 1REF |
| 8.   | 73054516 | RELIEF 1300PSI NON-ADJ    | 2    |
| 9.   | 73054007 | RELIEF 1800PSI NON-ADJ    | 2    |
| 10.  | 73014672 | STUD 3/8X18-3/4           | 3    |
| 11.  | 72062037 | NUT 3/8-24 HEX            | 6    |
| 12.  | 70142402 | ORIFICE PLATE             | 3    |
| 13.  | 70142403 | SPRING                    | 3    |
| 14.  | 51393494 | O-RING KIT                | REF  |
| 15.  | 7Q072117 | O-RING                    | 20   |
| 16.  | 7Q072119 | O-RING                    | 20   |
| 17.  | 73054010 | LOAD CHECK PLUG ASM       | 11   |

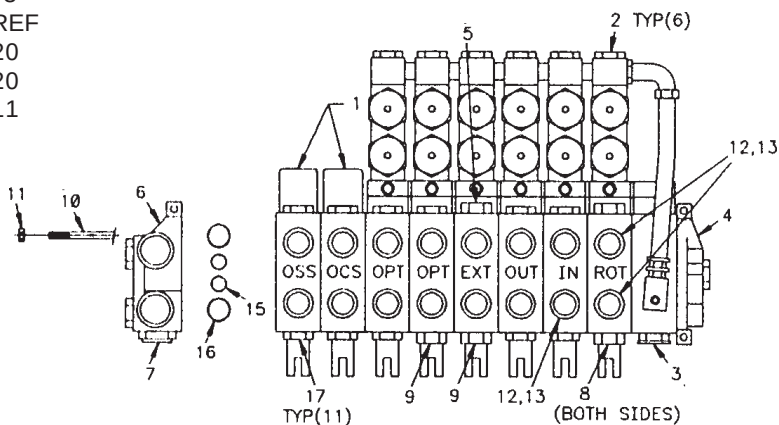


**VB ASM-6R/2M (51706389)**

| ITEM | PART NO. | DESCRIPTION               | QTY |
|------|----------|---------------------------|-----|
| 1.   | 51706378 | VALVEBANK 6R/2M           | 1   |
| 2.   | 72053763 | ELBOW #8MSTR#8MJIC 90°    | 7   |
| 3.   | 72532666 | ELBOW #8MSTR#8MJIC XLG90° | 8   |
| 4.   | 72532675 | CAP 3/4JIC STL            | 4   |
| 5.   | 60106322 | ELBOW-PR GAUGE MOD        | 1   |
| 6.   | 72532669 | ADAPTER #8MJIC #10FJIC    | 1   |
| 7.   | 72053241 | PIPE PLUG 1/4NPT HOLHEX   | 1   |
| 8.   | 72053747 | ADAPTER #12MSTR 3/4FPT    | 1   |
| 9.   | 72053556 | STREET ELBOW 3/4NPT 90°   | 1   |
| 10.  | 72532364 | ADAPTER #8MSTR #12MJIC    | 1   |
| 11.  | 72532696 | ELBOW #12MJIC #12FJIC SW  | 1   |

**VALVEBANK (51706378)**

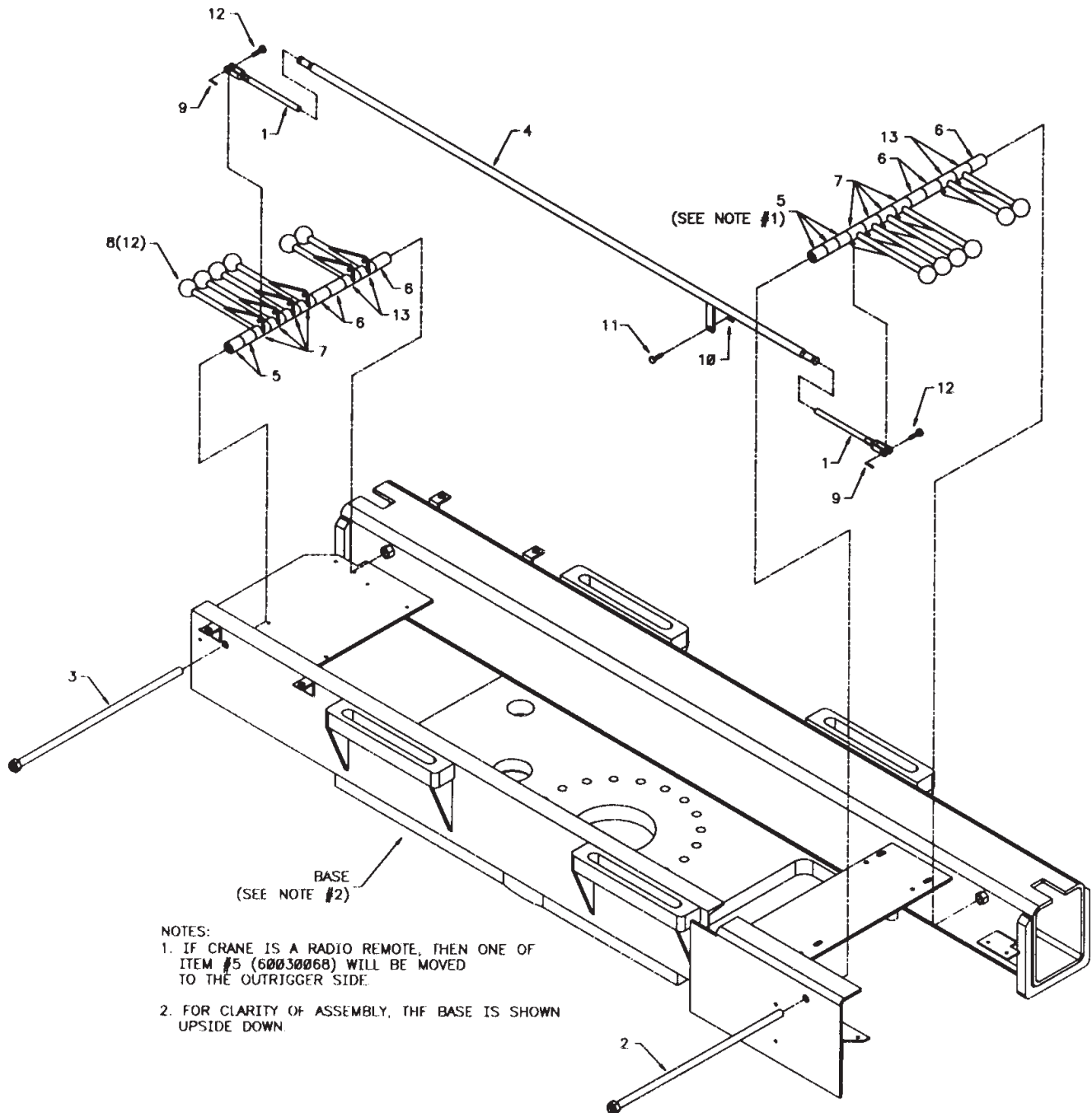
| ITEM | PART NO. | DESCRIPTION               | QTY  |
|------|----------|---------------------------|------|
| 1.   | 73054432 | VALVE SECT V20 4WAY SAE8  | 2    |
| 2.   | 73054468 | VALVE SECT V20R 4WAY SAE8 | 6    |
| 3.   | 73054502 | VALVE SECT V20R UTILITY   | 1    |
| 4.   | 73731241 | END COVER RH W/CONV PLUG  | 1    |
| 5.   | 73054400 | RELIEF 2300PSI NON-ADJ    | 1    |
| 6.   | 73731424 | END COVER LH (INCL:7)     | 1    |
| 7.   | 73054673 | RELIEF VALVE (PART OF 6)  | 1REF |
| 8.   | 73054516 | RELIEF 1300PSI NON-ADJ    | 2    |
| 9.   | 73054007 | RELIEF 1800PSI NON-ADJ    | 2    |
| 10.  | 73014672 | STUD 3/8X18-3/4           | 3    |
| 11.  | 72062037 | NUT 3/8-24 HEX            | 6    |
| 12.  | 70142402 | ORIFICE PLAE              | 3    |
| 13.  | 70142403 | SPRING                    | 3    |
| 14.  | 51393494 | O-RING KIT                | REF  |
| 15.  | 7Q072117 | O-RING                    | 20   |
| 16.  | 7Q072119 | O-RING                    | 20   |
| 17.  | 73054010 | LOAD CHECK PLUG ASM       | 11   |





**CTRL KIT-6M (90705854)**

| ITEM | PART NO. | DESCRIPTION            | QTY |
|------|----------|------------------------|-----|
| 1.   | 52704745 | CONTROL ROD - MALE     | 12  |
| 2.   | 52705400 | ROD - CONTROL HANDLE   | 1   |
| 3.   | 52705407 | ROD - CONTROL HANDLE   | 1   |
| 4.   | 52705877 | CONTROL ROD - FEMALE   | 6   |
| 5.   | 60030068 | SPACER 1-3/8           | 5   |
| 6.   | 60030069 | SPACER 1-3/4           | 6   |
| 7.   | 70029451 | CONTROL HANDLE         | 8   |
| 8.   | 71039096 | CONTROL KNOB           | 12  |
| 9.   | 72066168 | COTTER PIN 3/32 X 3/4  | 12  |
| 10.  | 72066336 | COTTER PIN             | 6   |
| 11.  | 72066337 | CLEVIS PIN             | 6   |
| 12.  | 72066338 | CLEVIS PIN 5/16 X 1    | 12  |
| 13.  | 60025254 | CONTROL HANDLE - SHORT | 4   |

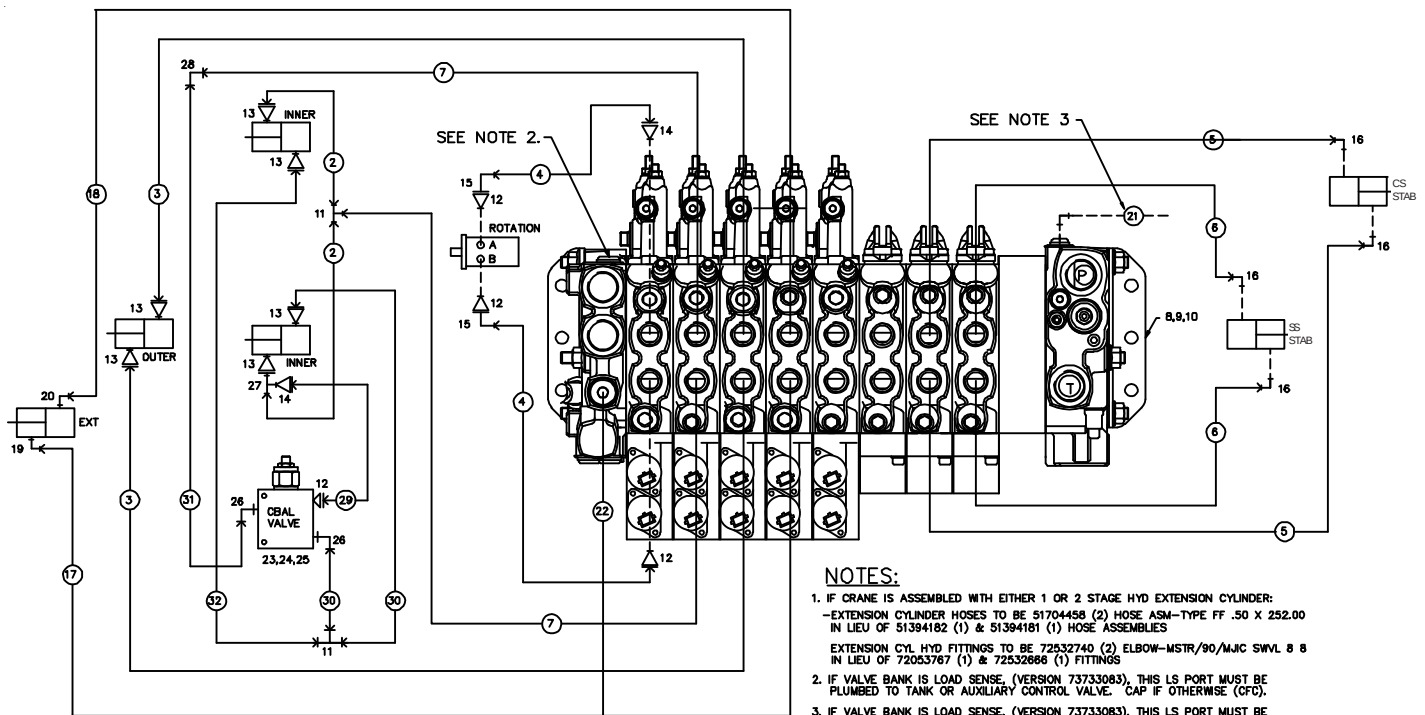




**HYD KIT-8 SECT VOAC (91712984)**

|     |          |                                    |      |
|-----|----------|------------------------------------|------|
| 1.  | 51716376 | HOSE KIT (INCL:2-7,18,21,22,29-32) | 1    |
| 2.  | 51394110 | HOSE ASM 3/8X34 #8F #8F            | 2REF |
| 3.  | 51394933 | HOSE ASM 3/8X188 #8F #8F           | 2REF |
| 4.  | 51394180 | HOSE ASM 1/4X15 #4F #4F            | 2REF |
| 5.  | 51394175 | HOSE ASM 3/8X130 #8F #8F           | 2REF |
| 6.  | 51394176 | HOSE ASM 3/8X94 #8F #8F            | 2REF |
| 7.  | 51394179 | HOSE ASM 3/8X58 #8F #8F            | 2REF |
| 8.  |          | VB ASM                             | 1REF |
| 9.  | 72060032 | CAP SCR 5/16-18X2-3/4 HHGR5        | 3    |
| 10. | 72062109 | NUT 5/16-18 LOCK                   | 3    |
| 11. | 72531205 | TEE #8MJIC 1/2TUBE                 | 2    |
| 12. | 72532351 | ADAPTER #4MSTR #4MJIC              | 3    |
| 13. | 72532358 | ADAPTER #8MSTR #8MJIC              | 6    |
| 14. | 72532665 | ADAPTER #4MJIC #8FJIC              | 3    |
| 15. | 72532690 | ELBOW #4MJIC #4FJIC SWVL           | 2    |
| 16. | 72532779 | ELBOW #6MSTR #8MJIC XLG            | 4    |

|     |          |                             |      |
|-----|----------|-----------------------------|------|
| 17. | 51394182 | HOSE ASM 1/2X282 #12F#12F   | 1REF |
| 18. | 51394181 | HOSE ASM 3/4X282 #8F#8F     | 1REF |
| 19. | 72532666 | ELBOW #8MSTR #8MJIC XLG     | 1    |
| 20. | 72053767 | ELBOW #12MSTR #12MJIC 90°   | 1    |
| 21. | 51394177 | HOSE ASM 3/8X148#6(LS ONLY) | 1REF |
| 22. | 51394178 | HOSE ASM 1/2X76 #8          | 1REF |
| 23. | 73540061 | C'BAL VALVE                 | 1    |
| 24. | 72060008 | CAP SCR 1/4-20X2 HHGR5      | 2    |
| 25. | 72063049 | WASHER 1/4 LOCK             | 2    |
| 26. | 72053763 | ELBOW #8MSTR #8MJIC 90°     | 2    |
| 27. | 72532657 | TEE #8JIC SWVLNUTRUN        | 1    |
| 28. | 72533663 | ELBOW #8MJIC #8MJIC 90°     | 1    |
| 29. | 51395859 | HOSE-FJ .25X13 #4#4 (PO 1)  | 1REF |
| 30. | 51394424 | HOSE-FF .38X12 #8#8 (PO 1)  | 1REF |
| 31. | 51393922 | HOSE-FF .38X26 #8#8 (PO 1)  | 1REF |
| 32. | 51394399 | HOSE-FF .38X49 #8#8 (PO 1)  | 1REF |



PORT "TP" (VB DRAIN) MUST BE PORTED TO TANK "BEFORE" OPERATION OF VALVE BANK. MAY RESULT IN DAMAGED LEVER HOUSING, VENDOR P/N 393000K319.

**NOTES:**

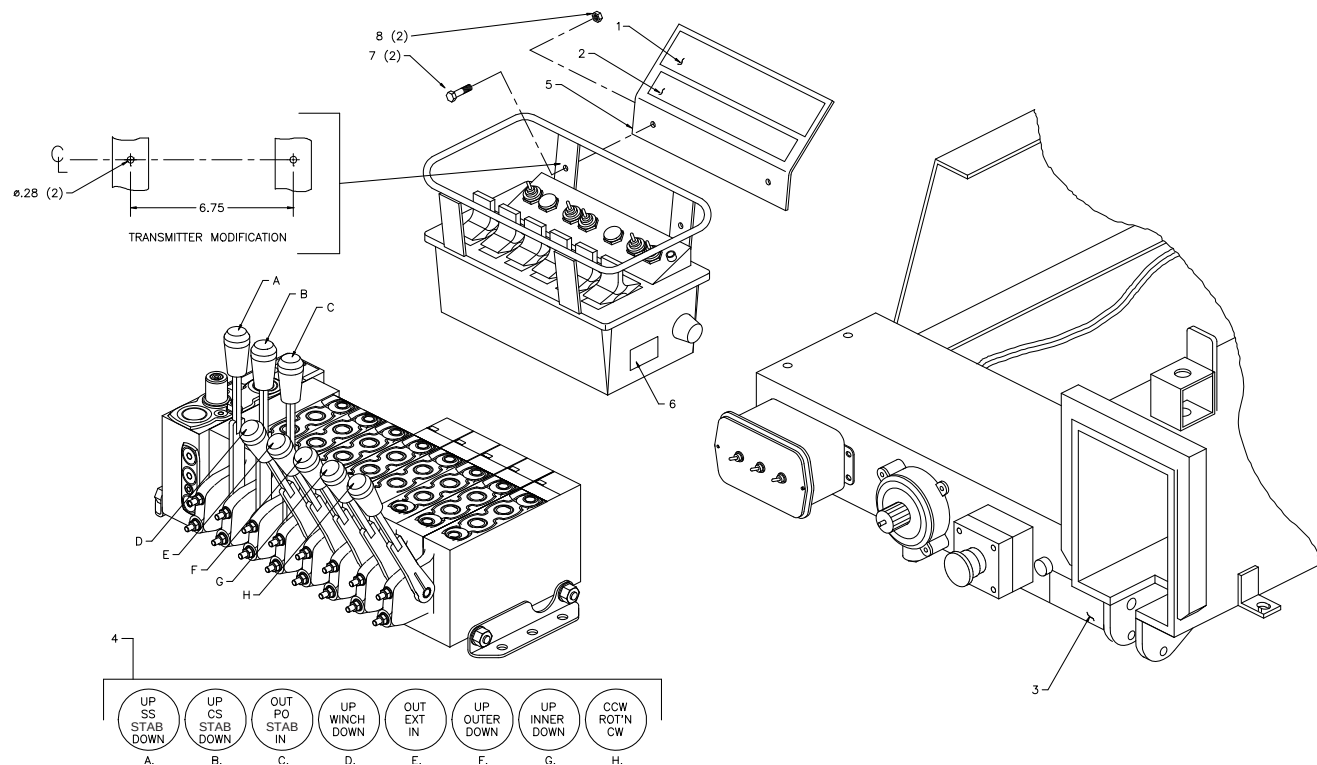
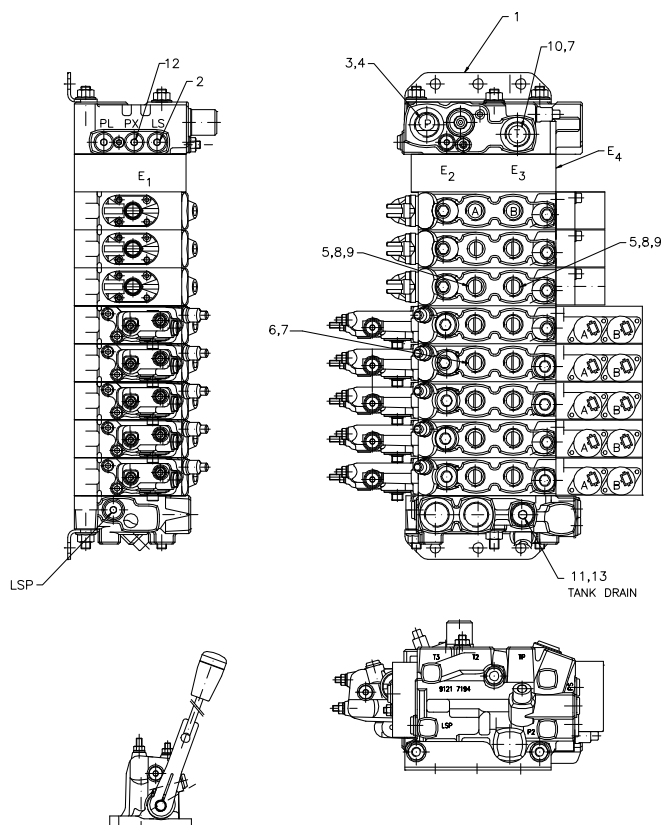
1. IF CRANE IS ASSEMBLED WITH EITHER 1 OR 2 STAGE HYD EXTENSION CYLINDER:  
-EXTENSION CYLINDER HOSES TO BE 51704458 (2) HOSE ASM-TYPE FF .50 X 252.00 IN LIEU OF 51394182 (1) & 51394181 (1) HOSE ASSEMBLIES  
EXTENSION CYL HYD FITTINGS TO BE 72532740 (2) ELBOW-MSTR/90/MJIC SWVL 8 8 IN LIEU OF 72053767 (1) & 72532666 (1) FITTINGS
2. IF VALVE BANK IS LOAD SENSE. (VERSION 73733083), THIS LS PORT MUST BE PLUMBED TO TANK OR AUXILIARY CONTROL VALVE. CAP IF OTHERWISE (CFC).
3. IF VALVE BANK IS LOAD SENSE. (VERSION 73733083), THIS LS PORT MUST BE PLUMBED TO PUMP USING ITEM #21 51394177. CAP IF OTHERWISE (CFC).

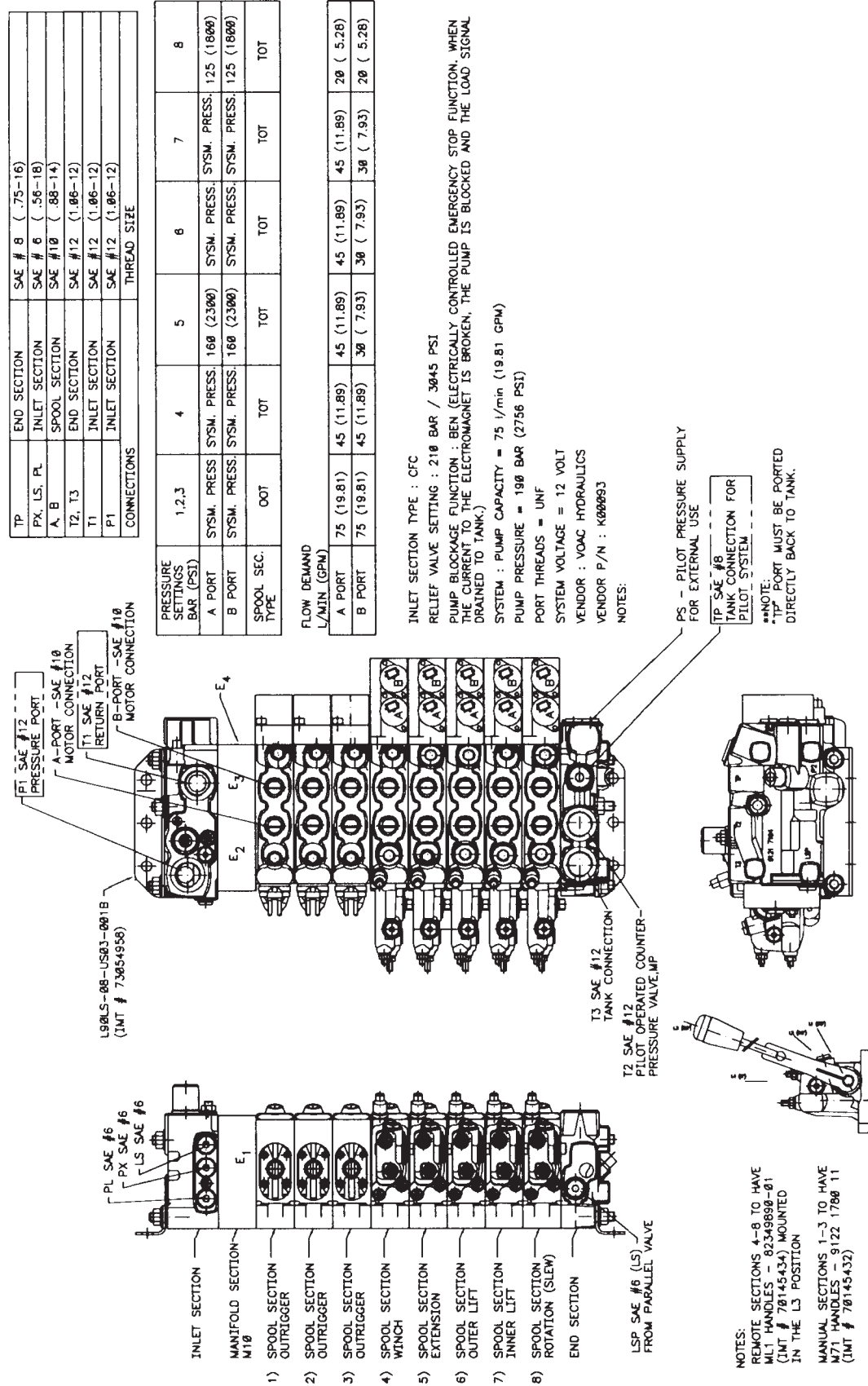
**VB ASM-8 SECT VOAC HARDWIRE RMT  
CFC (51712977)**

| ITEM | PART NO. | DESCRIPTION                  | QTY |
|------|----------|------------------------------|-----|
| 1.   | 73732995 | VALVEBANK 8-SECT CFC         | 1   |
| 3.   | 72532951 | ADAPTER #12MSTR #8FSTR       | 1   |
| 4.   | 72532666 | ELBOW #8MSTR#8MJIC 90° XLG 1 | 1   |
| 5.   | 72531206 | ADAPTER #10MSTR #8FSTR       | 15  |
| 6.   | 72532365 | ADAPTER #10MSTR #12MJIC      | 1   |
| 7.   | 72533032 | ELBOW #12MJIC #12FJIC 45°    | 2   |
| 8.   | 72532665 | ADAPTER #4MJIC #8FJIC        | 2   |
| 9.   | 72053777 | ELBOW #8MSTR #8MJIC 45°      | 15  |
| 10.  | 72053767 | ELBOW #12MSTR #12MJIC 90°    | 1   |
| 11.  | 72053763 | ELBOW #8MSTR #8MJIC 90°      | 1   |
| 12.  | 72533451 | NIPPLE-DIAG W/CAP 9/16-18    | 1   |
| 13.  | 70393231 | PLASTIC CAP 3/4-16 1/2 TUBE  | 1   |

## DECALS

|    |          |                          |   |
|----|----------|--------------------------|---|
| 1. | 70394143 | DECAL-HARDWIRE BUTTONS   | 1 |
| 2. | 70394144 | DECAL-HARDWIRE PADDLES   | 1 |
| 3. | 70394146 | DECAL-EMERG OVERRIDE     | 1 |
| 4. | 70394145 | DECAL-CTRL CIRCLES       | 1 |
| 5. | 60119079 | MTG PLATE-DECALS         | 1 |
| 6. | 70394096 | DECAL-EMERGENCY STOP     | 1 |
| 7. | 72060002 | CAP SCR 1/4-20X3/4 HHGR5 | 2 |
| 8. | 72062104 | NUT 1/4-20 LOCK          | 2 |

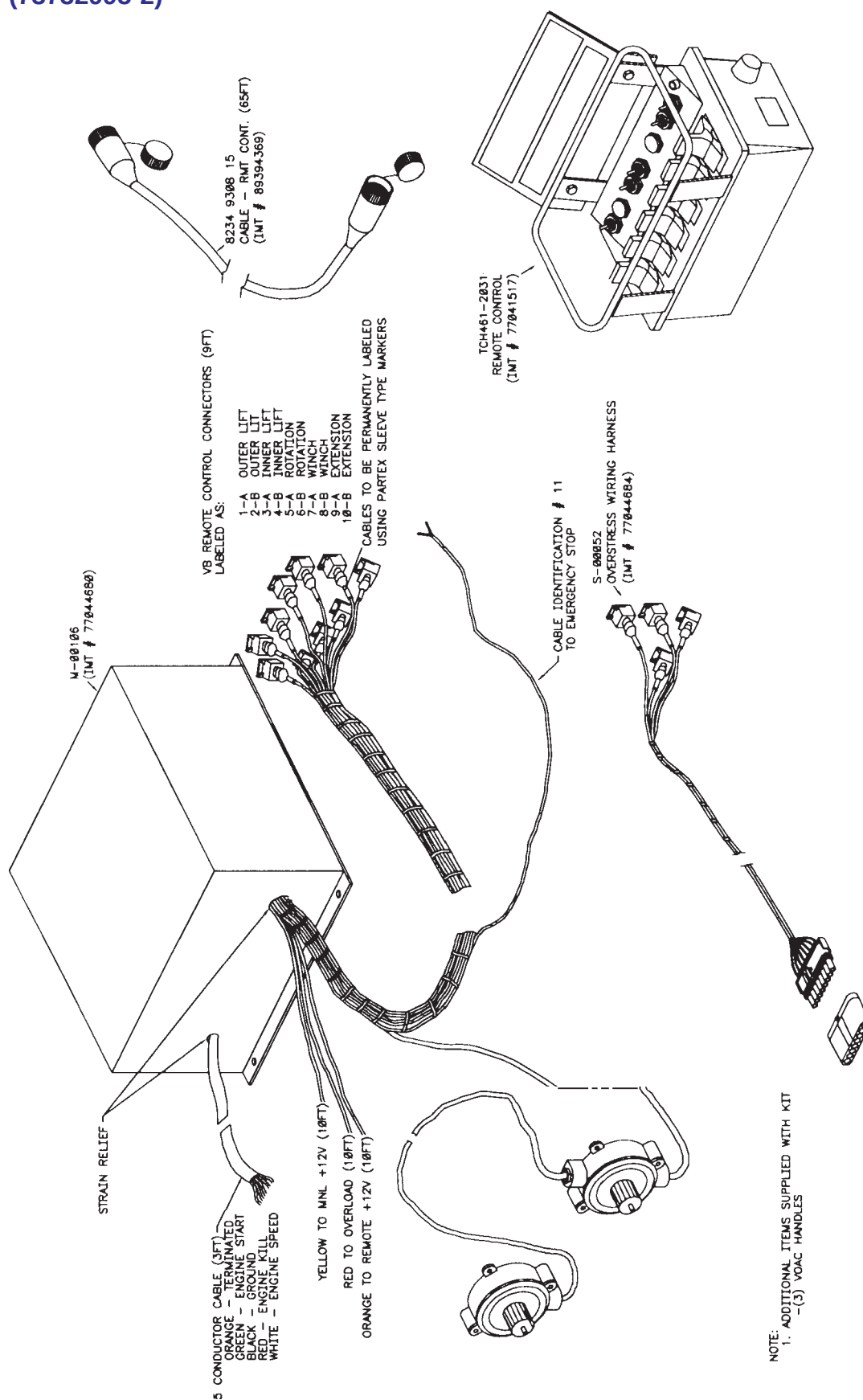


**VB-8 SECT HARDWIRE 5R/3M CFC  
(73732995-1)**

NOTES:

|                                                                                                            |                                                                               |
|------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|
| REMOTE SECTIONS 4-8 TO HAVE<br>M11 HANDLES - 82349890-01<br>(INT # 70145434) MOUNTED<br>IN THE L3 POSITION | MANUAL SECTIONS 1-3 TO HAVE<br>M71 HANDLES - 9122 1780 11<br>(INT # 70145432) |
|------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|

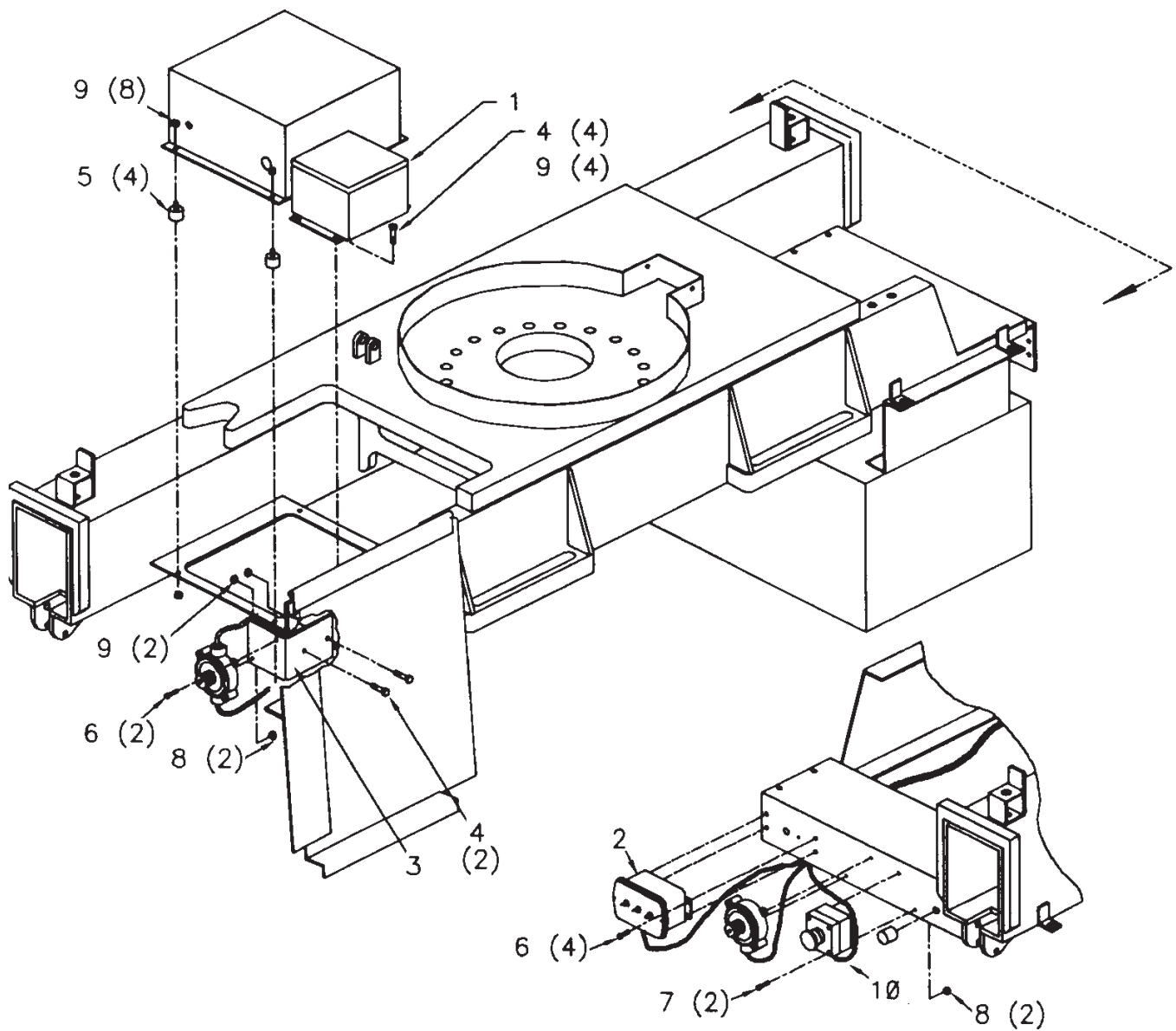
**VB-8 SECT HARDWIRE 5R/3M CFC  
(73732995-2)**



NOTE:  
1. ADDITIONAL ITEMS SUPPLIED WITH KIT  
-(3) VOAC HANDLES

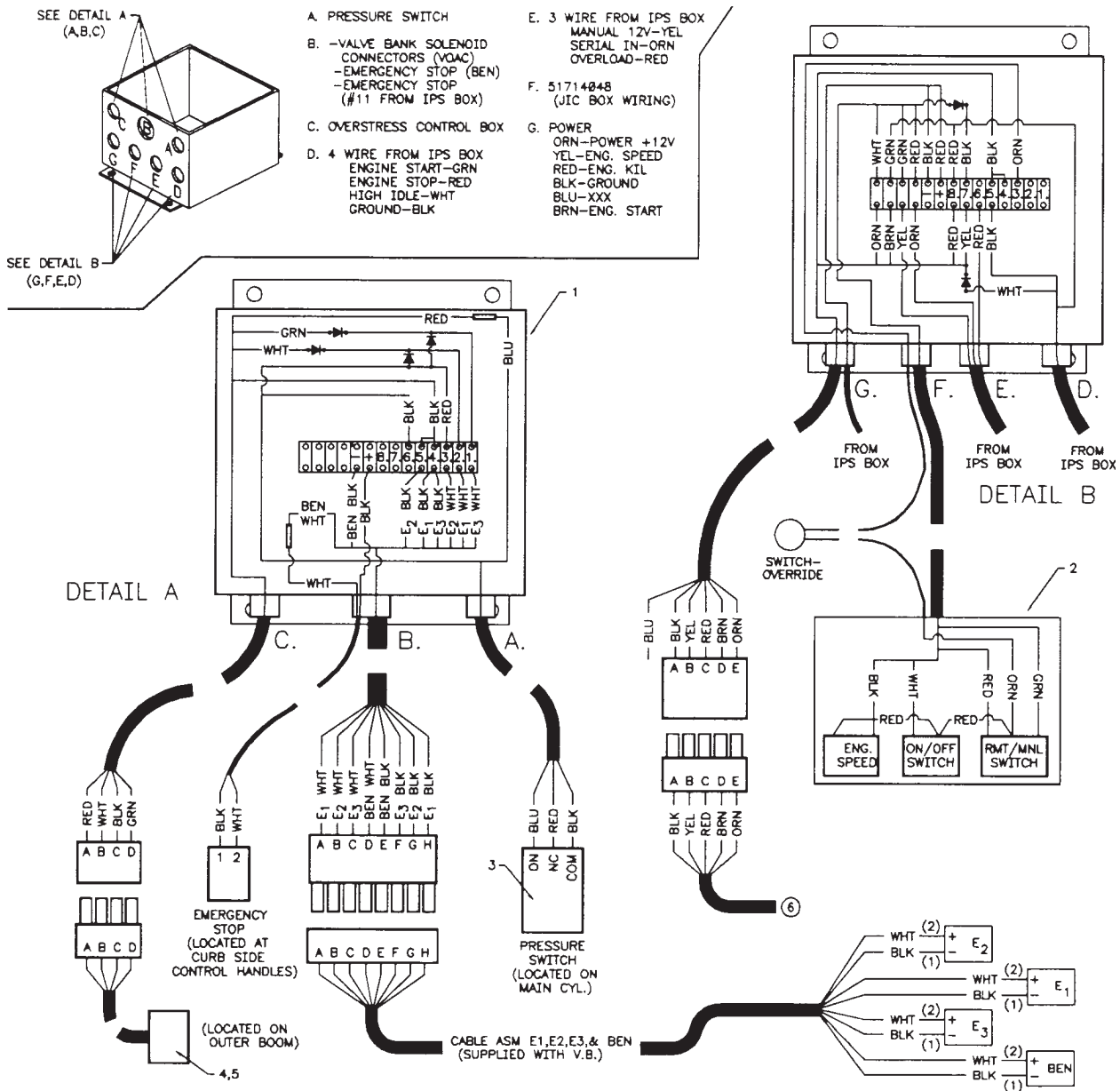
**CTRL KIT-HARDWIRE RMT (90713139-1)**

| ITEM | PART NO. | DESCRIPTION              | QTY |
|------|----------|--------------------------|-----|
| 1.   | 51713047 | CABLE ASM-JIC BOX        | 1   |
| 2.   | 51713048 | CABLE ASM-JIC BOX        | 1   |
| 3.   | 60119096 | MOUNTING BRACKET         | 1   |
| 4.   | 72060004 | CAP SCR 1/4-20X1 HHGR5   | 6   |
| 5.   | 70393259 | SHOCK MOUNT              | 4   |
| 6.   | 72060636 | SCREW #10-24X3/4         | 8   |
| 7.   | 72060683 | SCREW #10-24X7/8         | 2   |
| 8.   | 72062106 | NUT #10-24 LOCK          | 6   |
| 9.   | 72062104 | NUT 1/4-20 LOCK          | 14  |
| 10.  | 51713200 | CABLE ASM-EMER STOP SWCH | 1   |



**CTRL KIT-HARDWIRE RMT (90713139-2)**

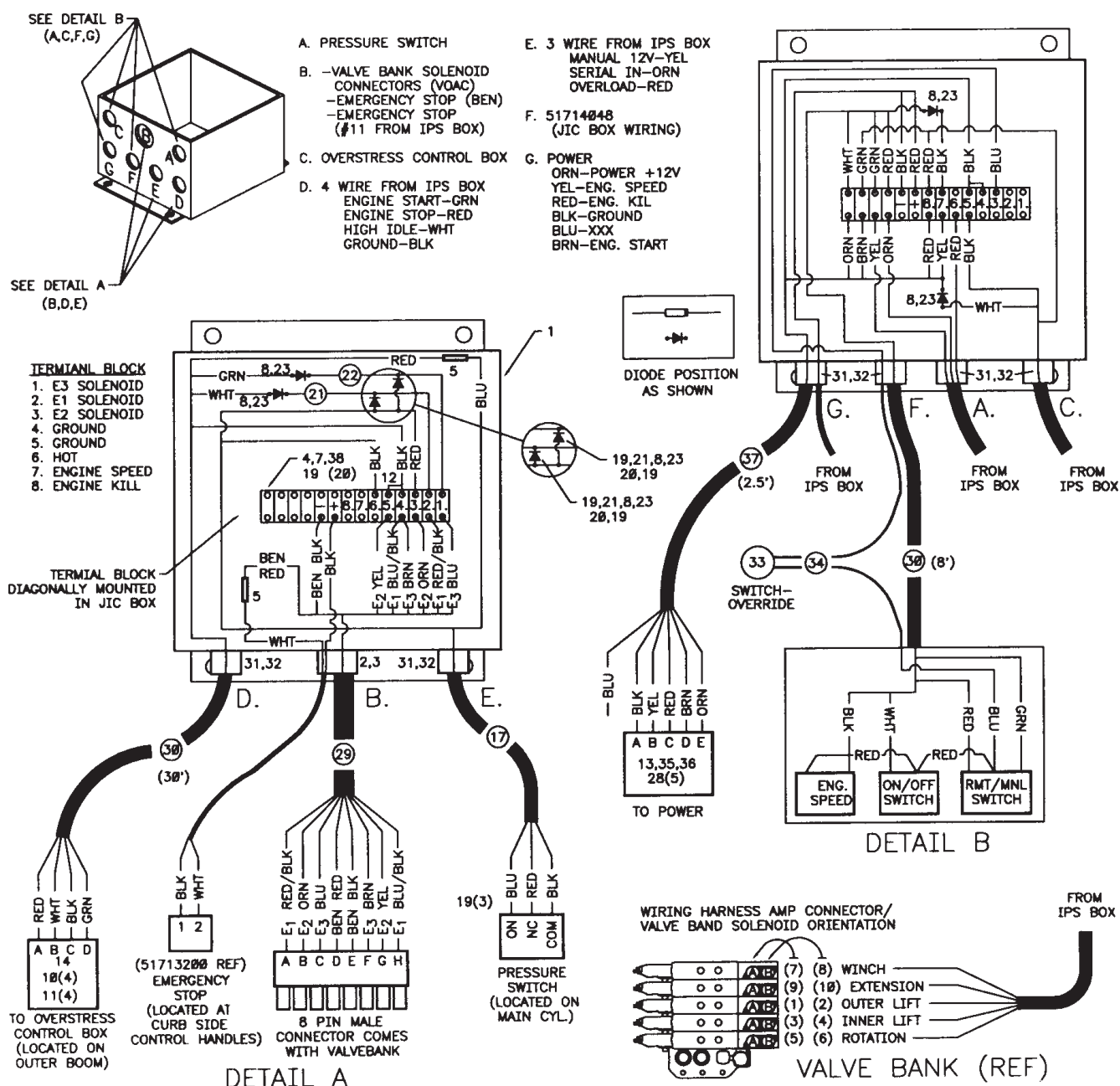
| ITEM | PART NO. | DESCRIPTION              | QTY  |
|------|----------|--------------------------|------|
| 1.   | 51713048 | CABLE ASM-JIC BOX        | REF  |
| 2.   | 51713047 | CABLE ASM-JIC BOX        | REF  |
| 3.   | 77041476 | PRESSURE SWITCH          | 1    |
| 4.   | 77041457 | CONTROL BOX-OVERLOAD SYS | 1    |
| 5.   | 72060000 | CAP SCR 1/4-20X1/2 HHGR5 | 2    |
| 6.   | 51712882 | CABLE ASM-POWER          | 1    |
| 7.   | 89034048 | SPIRAL WRAP              | 40FT |



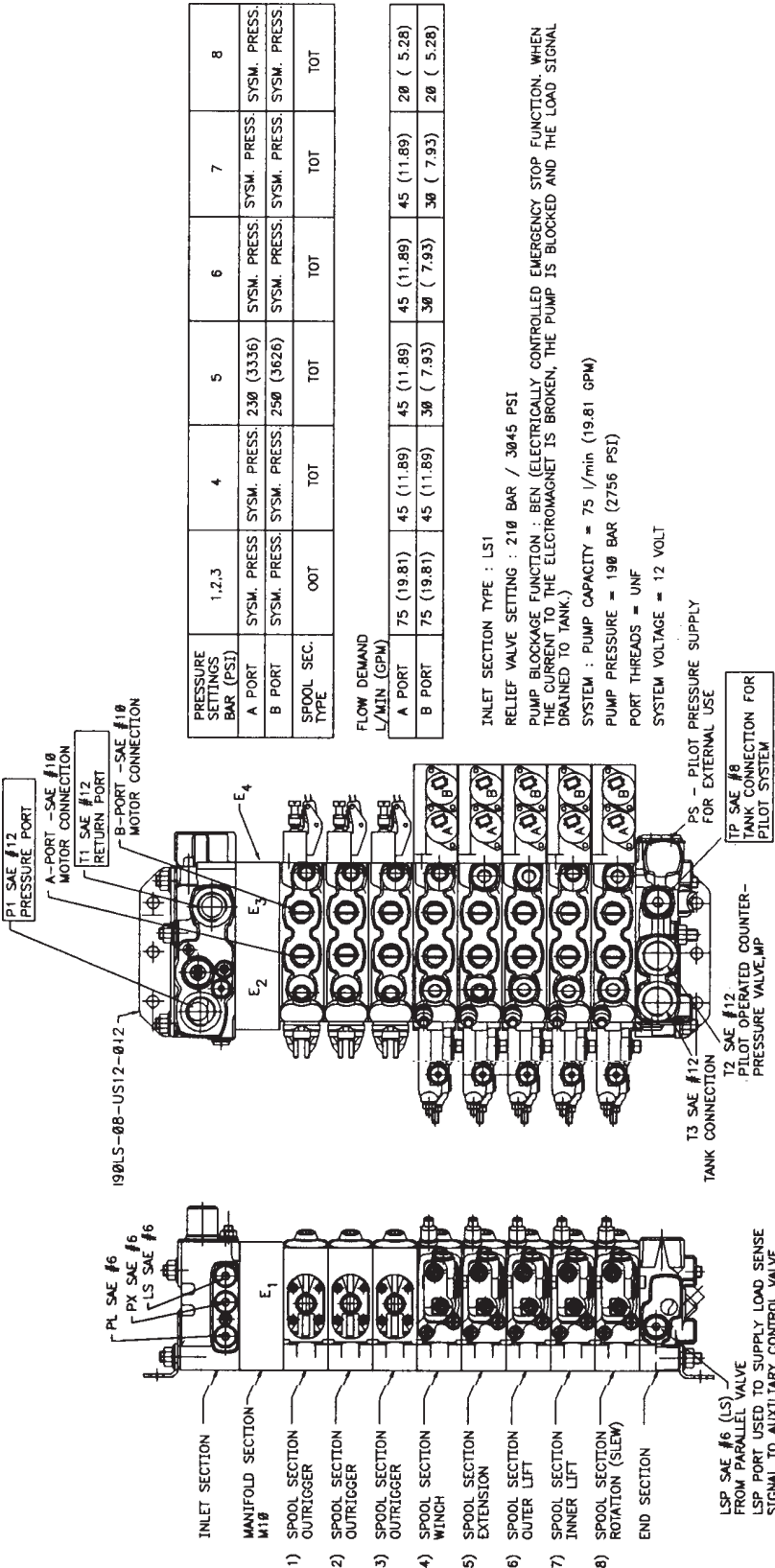


|     |          |                           |     |
|-----|----------|---------------------------|-----|
| 1.  | 60119076 | JIC BOX                   | 1   |
| 2.  | 77044196 | STRAIN RELIEF 3/4         | 1   |
| 3.  | 77044202 | NUT 3/4 LOCK ELEC         | 1   |
| 4.  | 77044309 | TERMINAL BLOCK 14-CONTACT | 1   |
| 5.  | 77040048 | BUTT CONNECTOR 16-14GA    | 2   |
| 7.  | 72060668 | CAP SCR #10-32X1/2 SH     | 4   |
| 8.  | 77044556 | DIODE 2-2AMP 274V         | 6   |
| 10. | 70394069 | SEAL-CONNECTOR            | 4   |
| 11. | 77044550 | TERMINAL PIN-FEM          | 4   |
| 12. | 77040130 | JUMPER BAR                | 1   |
| 13. | 77044596 | CONNECTOR 5WAY F          | 1   |
| 14. | 77044549 | CONNECTOR 4-WAY           | 1   |
| 17. | 89044371 | CABLE 14GA 3W RED/BLU/BLK | 8FT |

|     |          |                           |       |
|-----|----------|---------------------------|-------|
| 19. | 77040051 | SPRINGSPADE #8 16-14GA    | 28    |
| 20. | 89044231 | WIRE 14GA GRN 1"          | 2     |
| 21. | 89044400 | WIRE 16GA RED 1"          | 2     |
| 22. | 89044397 | WIRE 16GA WHT 1"          | 2     |
| 23. | 83034392 | HEAT SHRINK-PVC 1/8EXP 3" | 6     |
| 28. | 70394119 | SEAL-CABLE CONNECTOR      | 5     |
| 29. | 89044108 | CABLE 18GA 8WIRE          | 8     |
| 30. | 89044034 | CABLE 16GA 4WIRE          | 38FT  |
| 31. | 77044018 | STRAIN RELIEF 1/2         | 6     |
| 32. | 77044201 | NUT 1/2 ELEC LOCK         | 6     |
| 33. | 77041013 | MAIN SWITCH               | 1     |
| 34. | 89044394 | WIRE 16GA BLUE            | 12FT  |
| 35. | 77044597 | PIN                       | 5     |
| 36. | 77041505 | CONN-SECONDARY LOCK       | 1     |
| 37. | 89044354 | CABLE 14GA 6WIRE          | 2.5FT |
| 38. | 70086054 | TAPE 1" ACRYLIC           | 25FT  |



VB 8-SECT HARDWIRE 5R/3M LS1  
(73733083-1)



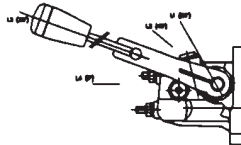
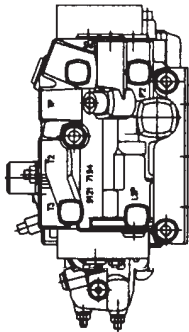
| PRESSURE SETTINGS BAR (PSI) | 1,2,3                   | 4                       | 5                       | 6                       | 7                       | 8                       |
|-----------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| A PORT                      | SYSM. PRESS. 230 (3336) | SYSM. PRESS. 250 (3626) | SYSM. PRESS. 250 (3626) | SYSM. PRESS. 250 (3626) | SYSM. PRESS. 250 (3626) | SYSM. PRESS. 250 (3626) |
| B PORT                      | SYSM. PRESS. 250 (3626) | SYSM. PRESS. 250 (3626) | SYSM. PRESS. 250 (3626) | SYSM. PRESS. 250 (3626) | SYSM. PRESS. 250 (3626) | SYSM. PRESS. 250 (3626) |
| SPOOL SEC. TYPE             | OOT                     | TOT                     | TOT                     | TOT                     | TOT                     | TOT                     |

| FLOW DEMAND L/MIN (GPM) | A PORT     | B PORT     |
|-------------------------|------------|------------|
| 75 (19.81)              | 45 (11.89) | 45 (11.89) |
| 75 (19.81)              | 45 (11.89) | 30 (7.93)  |

INLET SECTION TYPE : LS1  
RELIEF VALVE SETTING : 210 BAR / 3045 PSI  
PUMP BLOCKAGE FUNCTION : BEN (ELECTRICALLY CONTROLLED EMERGENCY STOP FUNCTION, WHEN THE CURRENT TO THE ELECTROMAGNET IS BROKEN, THE PUMP IS BLOCKED AND THE LOAD SIGNAL DRAINED TO TANK.)  
SYSTEM : PUMP CAPACITY = 75 l/min (19.81 GPM)  
PUMP PRESSURE = 190 BAR (2756 PSI)  
PORT THREADS = UNF  
SYSTEM VOLTAGE = 12 VOLT

|             |               |                   |
|-------------|---------------|-------------------|
| TP          | END SECTION   | SAE # 8 ( .75-16) |
| PX, LS, PL  | INLET SECTION | SAE # 6 ( .56-18) |
| A, B        | SPOOL SECTION | SAE #10 ( .88-14) |
| T2, T3      | END SECTION   | SAE #12 (1.06-12) |
| T1          | INLET SECTION | SAE #12 (1.06-12) |
| P1          | INLET SECTION | SAE #12 (1.06-12) |
| CONNECTIONS |               | THREAD SIZE       |

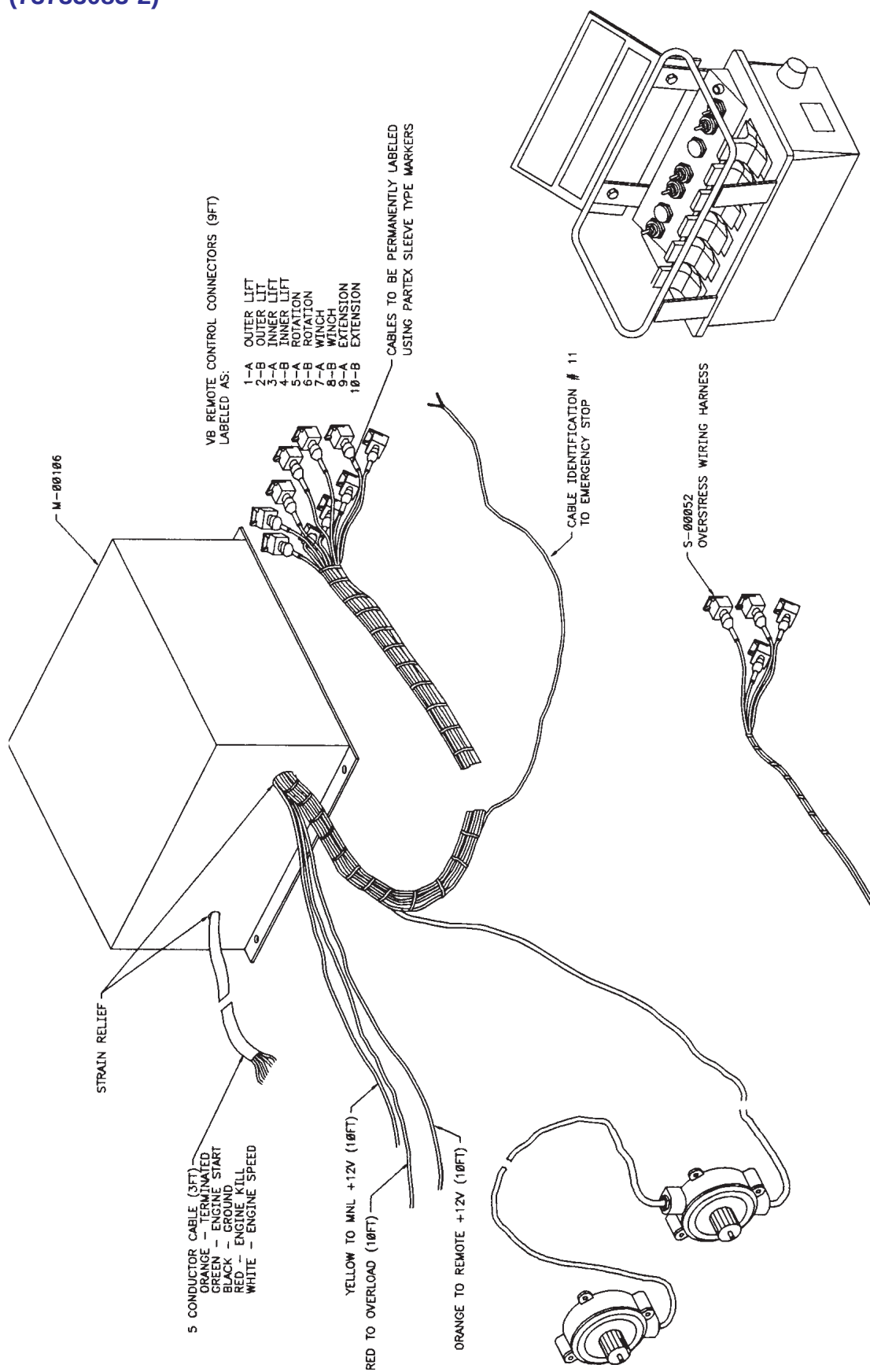
\*\*NOTE:  
TP PORT MUST BE PORTED DIRECTLY BACK TO TANK.



NOTES:  
REMOTE SECTIONS 4-8 TO HAVE M1.1 HANDLES MOUNTED IN THE L3 POSITION  
MANUAL SECTIONS 1-3 TO HAVE M7.1 HANDLES

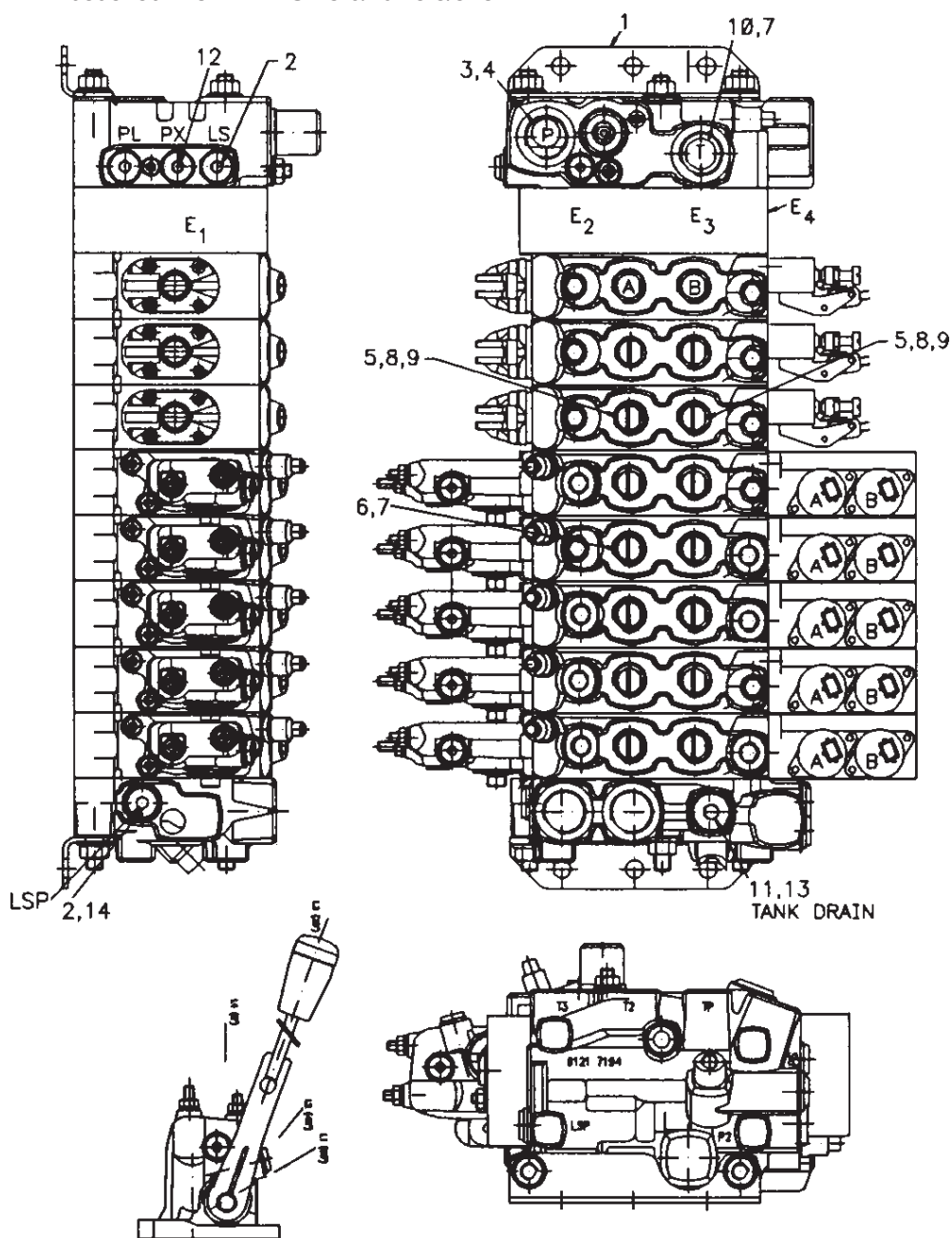


# VB 8-SECT HARDWIRE 5R/3M LS1 (73733083-2)



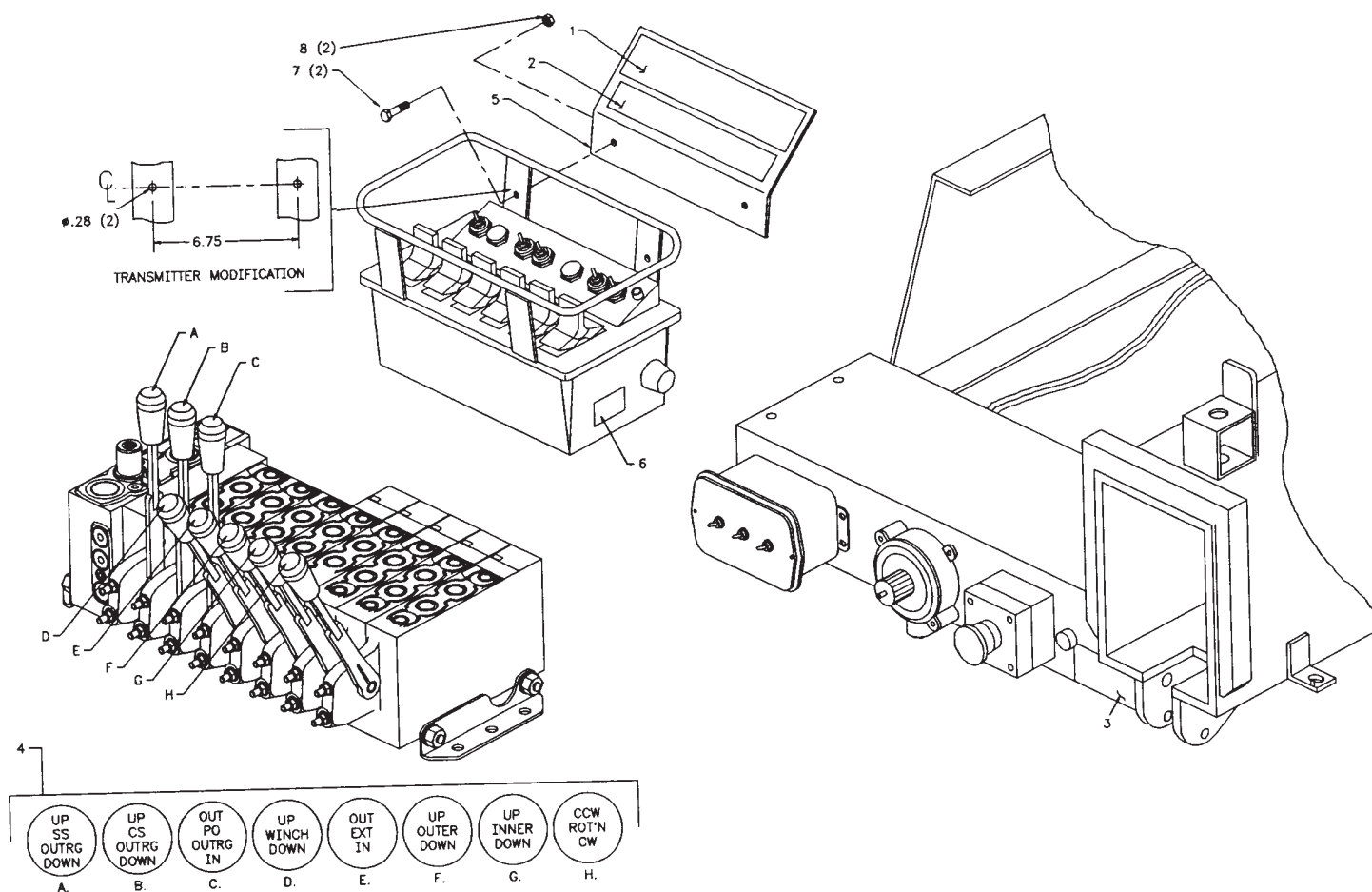
**VB 8-SECT VOAC HARDWIRE RMT LS1  
(51713211-1)**

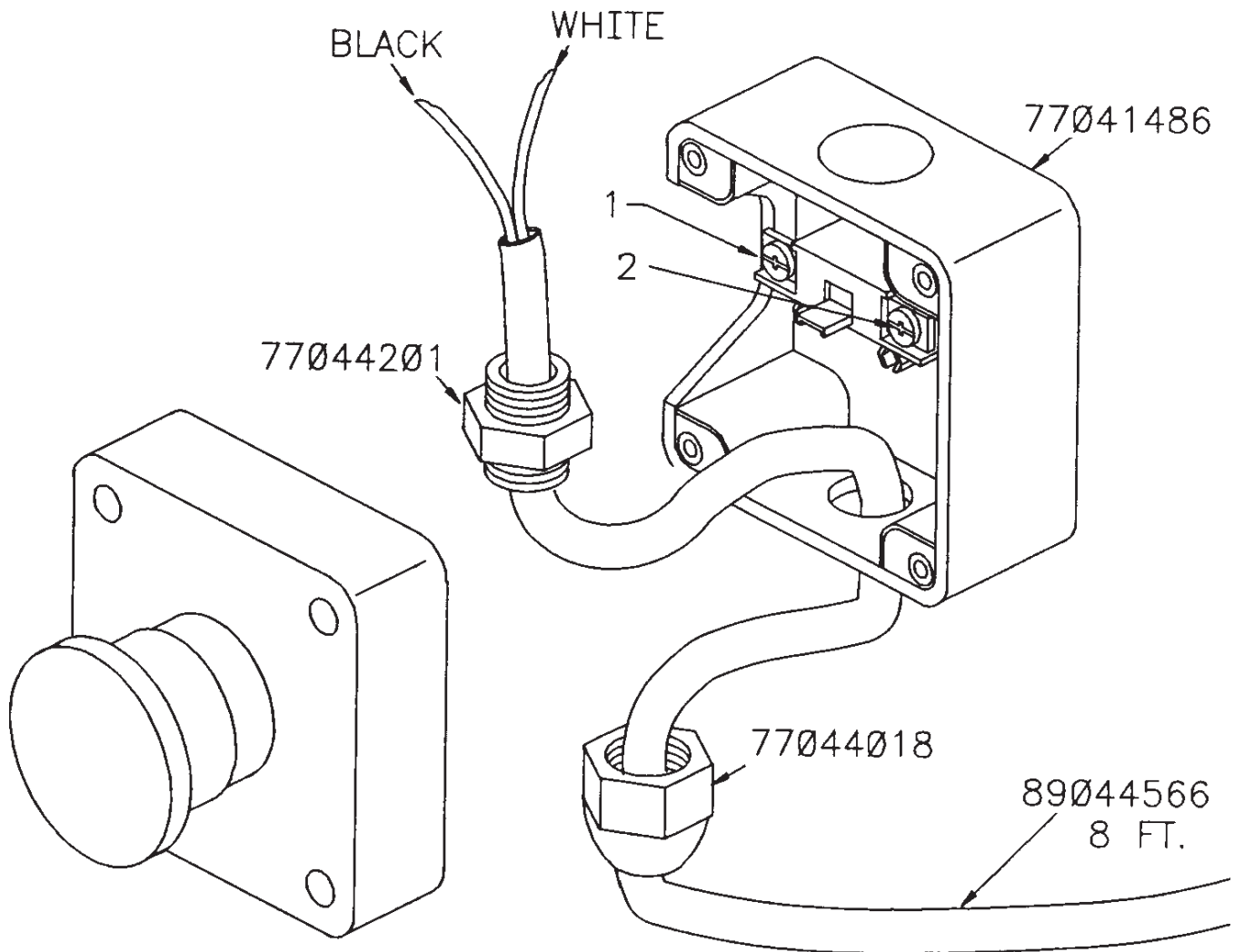
| ITEM | PART NO. | DESCRIPTION                  | QTY |
|------|----------|------------------------------|-----|
| 1.   | 73733083 | VB-VOAC 80SECT HARDWIRE      | 1   |
| 2.   | 72053760 | ELBOW #6MSTR #6MJIC 90°      | 2   |
| 3.   | 72532951 | ADAPTER #12MSTR #8FSTR       | 1   |
| 4.   | 72532666 | ELBOW #8MSTR#8MJIC 90° XLG 1 | 1   |
| 5.   | 72531206 | ADAPTER #10MSTR #8FSTR       | 15  |
| 6.   | 72532365 | ADAPTER #10MSTR #12MJIC      | 1   |
| 7.   | 72533032 | ELBOW #12MJIC #12FJIC 45°    | 2   |
| 8.   | 72532665 | ADAPTER #4MJIC #8FJIC        | 2   |
| 9.   | 72053777 | ELBOW #8MSTR #8MJIC 45°      | 15  |
| 10.  | 72053767 | ELBOW #12MSTR #12MJIC 90°    | 1   |
| 11.  | 72053763 | ELBOW #8MSTR #8MJIC 90°      | 1   |
| 12.  | 72533451 | NIPPLE-DIAG W/CAP 9/16-18    | 1   |
| 13.  | 70393231 | CAP-PLASTIC 3/4-16 1/2TUBE   | 1   |
| 14.  | 70393230 | CAP-PLASTIC 9/16-18 3/8TUBE  | 1   |



# VB 8-SECT VOAC DECAL KIT (51713211-2)

| ITEM | PART NO. | DESCRIPTION              | QTY |
|------|----------|--------------------------|-----|
| 1.   | 70394143 | DECAL-VOAC RC BUTTONS    | 1   |
| 2.   | 70394144 | DECAL-VOAC RC PADDLES    | 1   |
| 3.   | 70394146 | DECAL-EMER OVERRIDE      | 1   |
| 4.   | 70394145 | DECAL-CTRL CIRCLES       | 1   |
| 5.   | 60119079 | MTG PLATE-DECAL          | 1   |
| 6.   | 70394096 | DECAL-EMERGENCY STOP     | 1   |
| 7.   | 72060002 | CAP SCR 1/4-20X3/4 HHGR5 | 2   |
| 8.   | 72062104 | NUT 1/4-20 LOCK          | 2   |

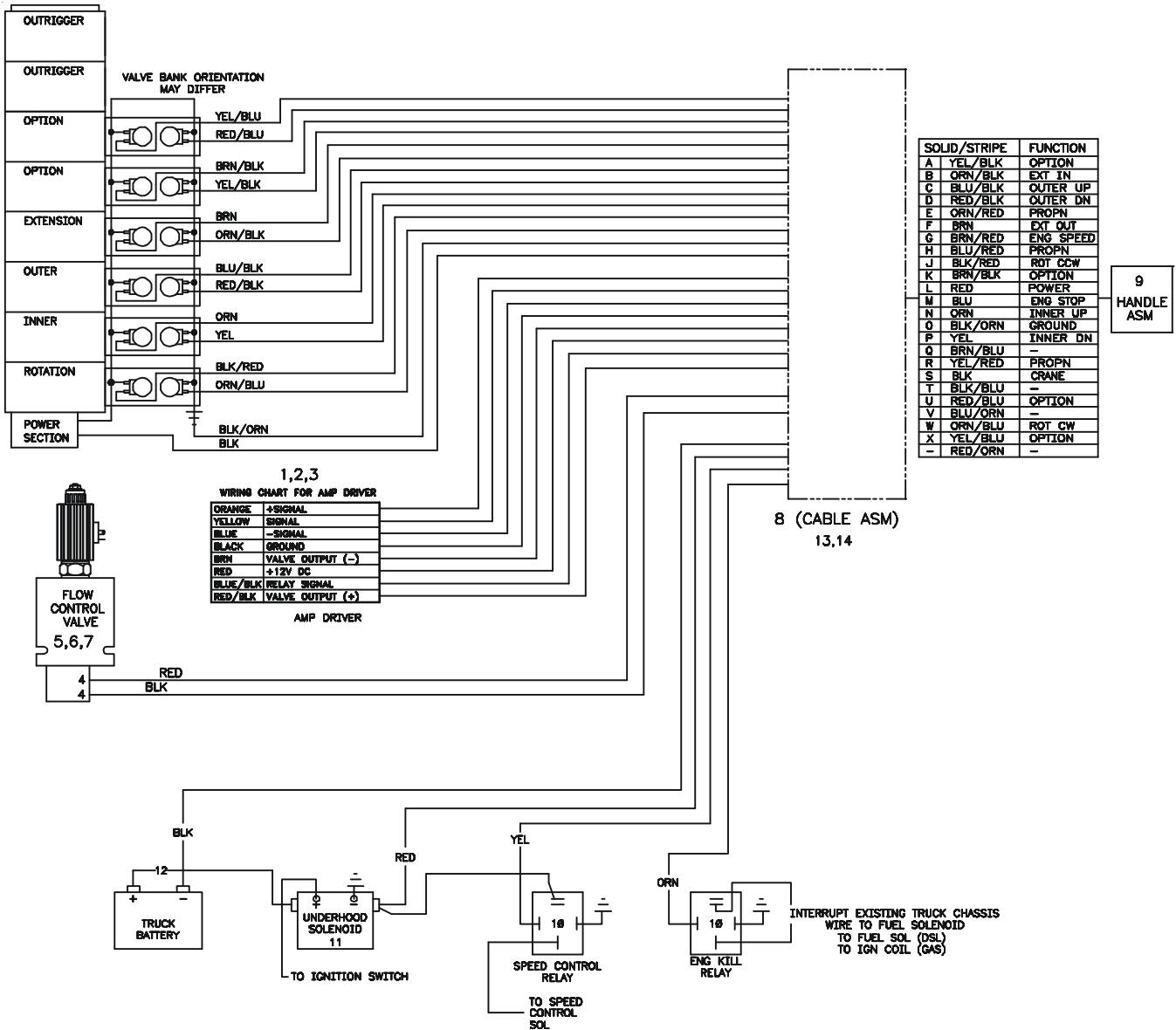


**CABLE ASM-EMERGENCY STOP  
SWITCH (51713200)**

ASSEMBLE AS SHOWN;  
CONNECT WHITE WIRE TO "2"  
CONNECT BLACK WIRE TO "1"

PROP'L RMT CTRL KIT (90713554)

- |     |          |                            |   |
|-----|----------|----------------------------|---|
| 1.  | 77044837 | VALVE DRIVER               | 1 |
| 2.  | 72060703 | CAP SCR 1/4-20X1/2 SH      | 2 |
| 3.  | 72063049 | WASHER 1/4 LOCK            | 2 |
| 4.  | 77040186 | TERM 1/4 FSLPON 16-14GA    | 2 |
| 5.  | 73054876 | FLOW VALVE                 | 1 |
| 6.  | 72060051 | CAP SCR 3/8-16X2-1/4 HHGR5 | 2 |
| 7.  | 72062103 | NUT 3/8-16 LOCK            | 2 |
| 8.  | 51713568 | CABLE ASM                  | 1 |
| 9.  | 51713429 | HANDLE ASM                 | 1 |
| 10. | 77041251 | RELAY                      | 2 |
| 11. | 77041237 | SOLENOID 12V               | 1 |
| 12. | 51704784 | CABLE ASM #1WIRE X 6       | 1 |
| 13. | 72060004 | CAP SCR 1/4-20X1 HHGR5     | 4 |
| 14. | 72062104 | NUT 1/4-20 LOCK            | 4 |

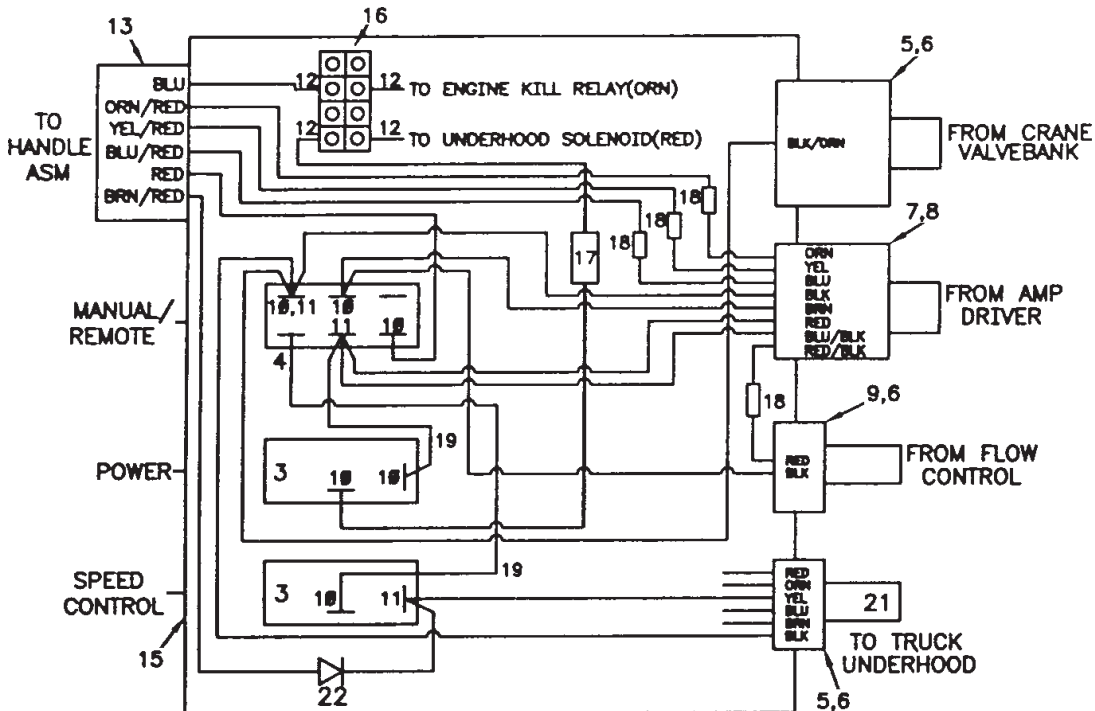




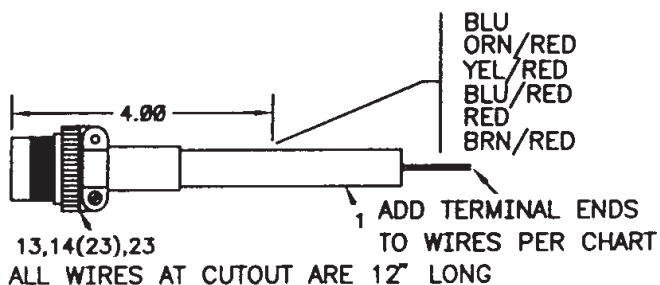
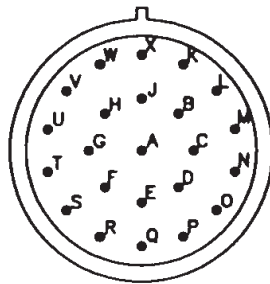
**CABLE ASM-JIC BOX 94" (51713568)**

| ITEM | PART NO. | DESCRIPTION             | QTY |
|------|----------|-------------------------|-----|
| 1.   | 89044100 | CABLE 18GA/24WIRE X 94  | 1   |
| 2.   | 90713575 | JIC BOX                 | 1   |
| 3.   | 77041345 | TOGGLE SWITCH ST        | 2   |
| 4.   | 77041354 | TOGGLE SWITCH DT        | 1   |
| 5.   | 77044018 | STRAIN RELIEF 1/2       | 2   |
| 6.   | 77044201 | NUT 1/2 ELEC LOCK       | 3   |
| 7.   | 77044196 | STRAIN RELIEF 3/4       | 1   |
| 8.   | 77044202 | NUT 3/4 ELEC LOCK       | 1   |
| 9.   | 77044468 | STRAIN RELIEF 1/2       | 1   |
| 10.  | 77040186 | TERM 1/4 FSLPON 16-14GA | 25  |
| 11.  | 77040282 | TERM 1/4 PIGBAC 16-14GA | 3   |

|     |          |                        |     |
|-----|----------|------------------------|-----|
| 12. | 77040051 | TERM #8 SPRSPD 16-14GA | 4   |
| 13. | 77044620 | CONNECTOR              | 1   |
| 14. | 77044580 | SOCKET                 | 23  |
| 15. | 70393257 | DECAL-JIC BOX          | 1   |
| 16. | 77044341 | TERMINAL BLOCK-4       | 1   |
| 17. | 77041056 | FUSE 20A IN-LINE       | 1   |
| 18. | 77040048 | BUTT CONNECTOR 16-14GA | 4   |
| 19. | 89044232 | WIRE 14GA RED X 3      | 2   |
| 20. | 77044668 | PLUG-SEAL              | 1   |
| 21. | 89044354 | CABLE 14GA/6WIR        | 84" |
| 22. | 77041423 | DIODE                  | 1   |
| 23. | 77044667 | PLUG-CAP               | 1   |



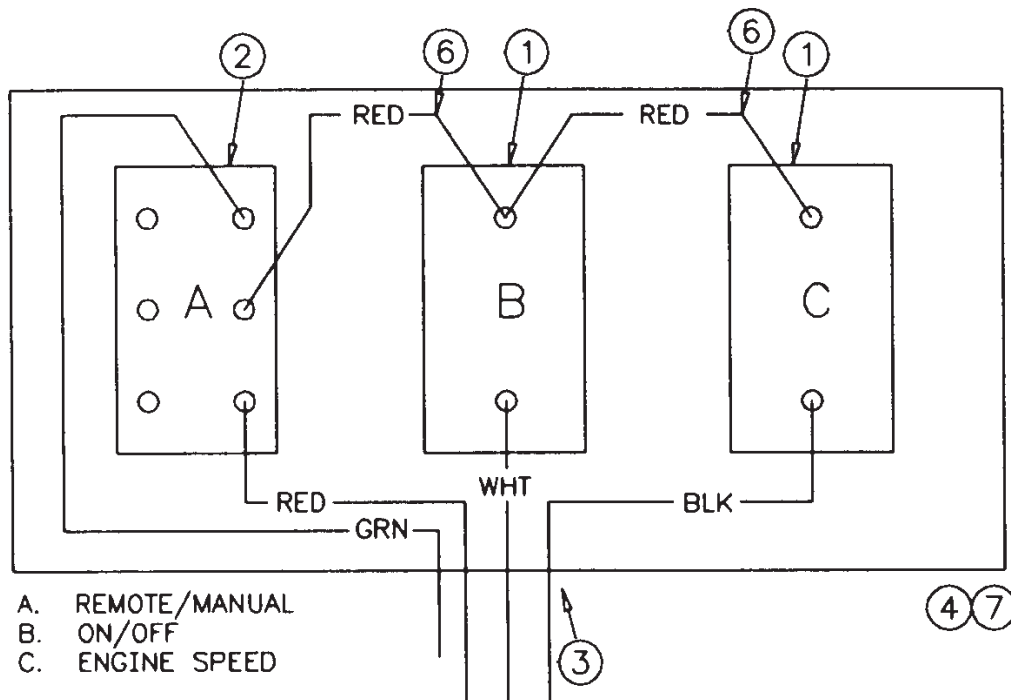
| SOLID/STRIPE | TERM    | ITEM NO |
|--------------|---------|---------|
| A            | YEL/BLK | 10      |
| B            | ORN/BLK | 10      |
| C            | BLU/BLK | 10      |
| D            | RED/BLK | 10      |
| E            | ORN/RED | 10      |
| F            | BRN     | 10      |
| G            | BRN/RED | 10      |
| H            | BLU/RED | 10      |
| J            | BLK/RED | 10      |
| K            | BRN/BLK | 10      |
| L            | RED     | 10      |
| M            | BLU     | 12      |
| N            | ORN     | 10      |
| O            | 20      | -       |
| P            | YEL     | 10      |
| Q            | BRN/BLU | -       |
| R            | YEL/RED | 10      |
| S            | BLK     | 10      |
| T            | BLK/BLU | -       |
| U            | RED/BLU | 10      |
| V            | BLU/ORN | -       |
| W            | ORN/BLU | 10      |
| X            | YEL/BLU | 10      |
| -            | RED/ORN | -       |





## CABLE ASM-JIC BOX (1-403C) (51713048)

| ITEM | PART NO. | DESCRIPTION             | QTY |
|------|----------|-------------------------|-----|
| 1.   | 77041345 | TOGGLE SWITCH ST        | 2   |
| 2.   | 77041354 | TOGGLE SWITCH DT        | 1   |
| 3.   | 77044018 | STRAIN RELIEF           | 1   |
| 4.   | 60119077 | JIC BOX (A-403C)        | 1   |
| 5.   | 77040186 | TERM 1/4 FSLPON 16-14GA | 7   |
| 6.   | 89044400 | WIRE 16GA RED X 5       | 2   |
| 7.   | 70393257 | DECAL-JIC BOX           | 1   |

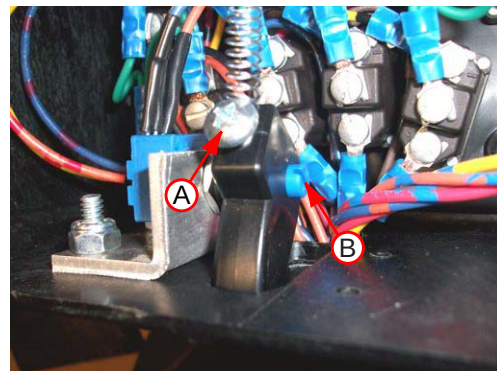


## TETHERED PROPORTIONAL REMOTE POTENTIOMETER ADJUSTMENT

**NOTES:** ONLY use this procedure to set the low-end output on the remote handle assembly if crane functions operate without pulling the proportional trigger.

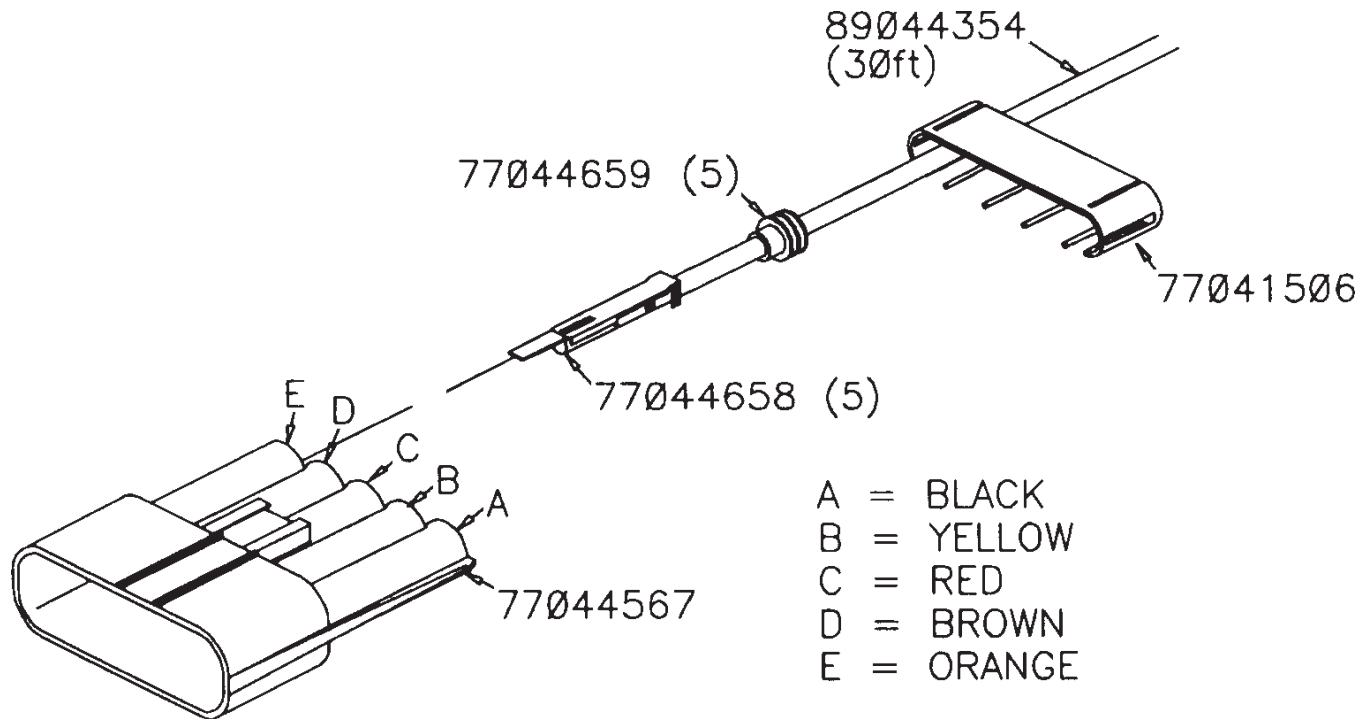
You may need a second operator to help with steps 4 and 5.

- Following proper crane and stabilizer set-up, with the PTO engaged and the truck running, move the crane from the stowed position to a position off to the side of the truck. Unstow the winch cable hook and lower the winch approx (6) six feet.
- Remove the back cover of the remote control handle.
- Loosen screw "A" slightly. (Note: Screw style may vary).
- While holding "WINCH DOWN" function, very slowly, rotate screw "B" clockwise until all movement has stopped.
- Release "WINCH DOWN" function.
- Tighten screw "A"
- Test by operating "WINCH DOWN", "WINCH UP", "ROTATE CCW", and "ROTATE CW" without pulling the trigger. If any of these functions move, repeat steps 2 through 6.
- Replace control back cover and properly stow the crane and stabilizers.





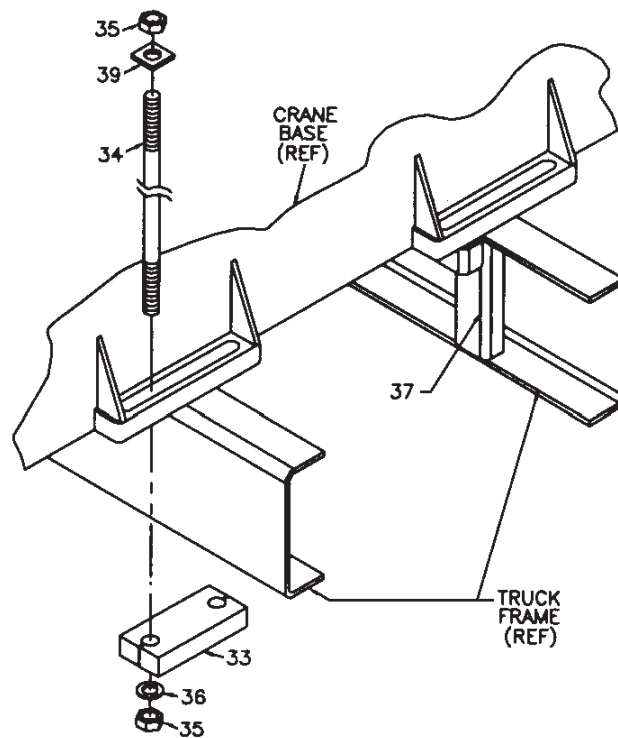
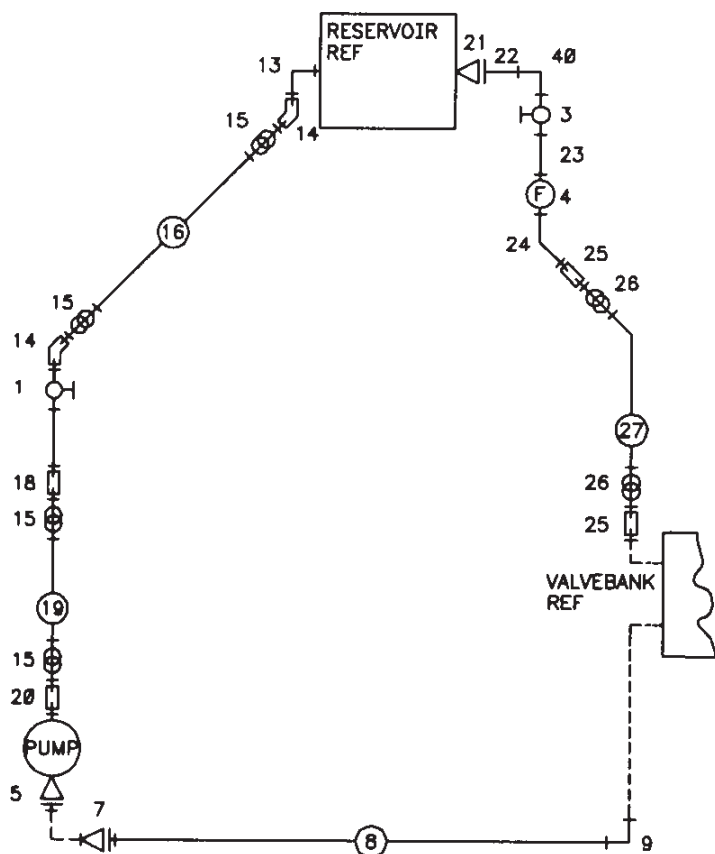
**CABLE ASM-POWER (51712882)**



# **INSTALLATION KIT-MNL CTRLS (93709977)**

| ITEM | PART NO  | DESCRIPTION                 | QTY |
|------|----------|-----------------------------|-----|
| 1.   | 73054130 | GATE VALVE 1-1/4            | 1   |
| 3.   | 73054129 | GATE VALVE 3/4              | 1   |
| 4.   | 72052000 | RETURN FILTER               | 1   |
|      | 72052006 | RETURN FILTER ELEMENT       | REF |
| 5.   | 72532948 | ADPTR 1-5/16MSTR 1-1/16FSTR | 1   |
| 7.   | 72532360 | ADPTR 1-1/16MSTR X 3/4MJIC  | 1   |
| 8.   | 51705643 | HOSE ASM, 1/2ID X 62        | 1   |
| 9.   | 72532658 | ELBOW 3/4MJIC3/4FJIC 90°SWL | 1   |
| 13.  | 72531135 | ELBOW 1-1/4NPT 90°          | 1   |
| 14.  | 72531196 | BARB NIPPLE 1-1/4 45°       | 2   |
| 15.  | 72066516 | HOSE CLAMP 1-1/4            | 4   |
| 16.  | 60035837 | HOSE 1-1/4ID X 23           | 1   |
| 18.  | 72532346 | BARB NIPPLE 1-1/4 90°       | 1   |

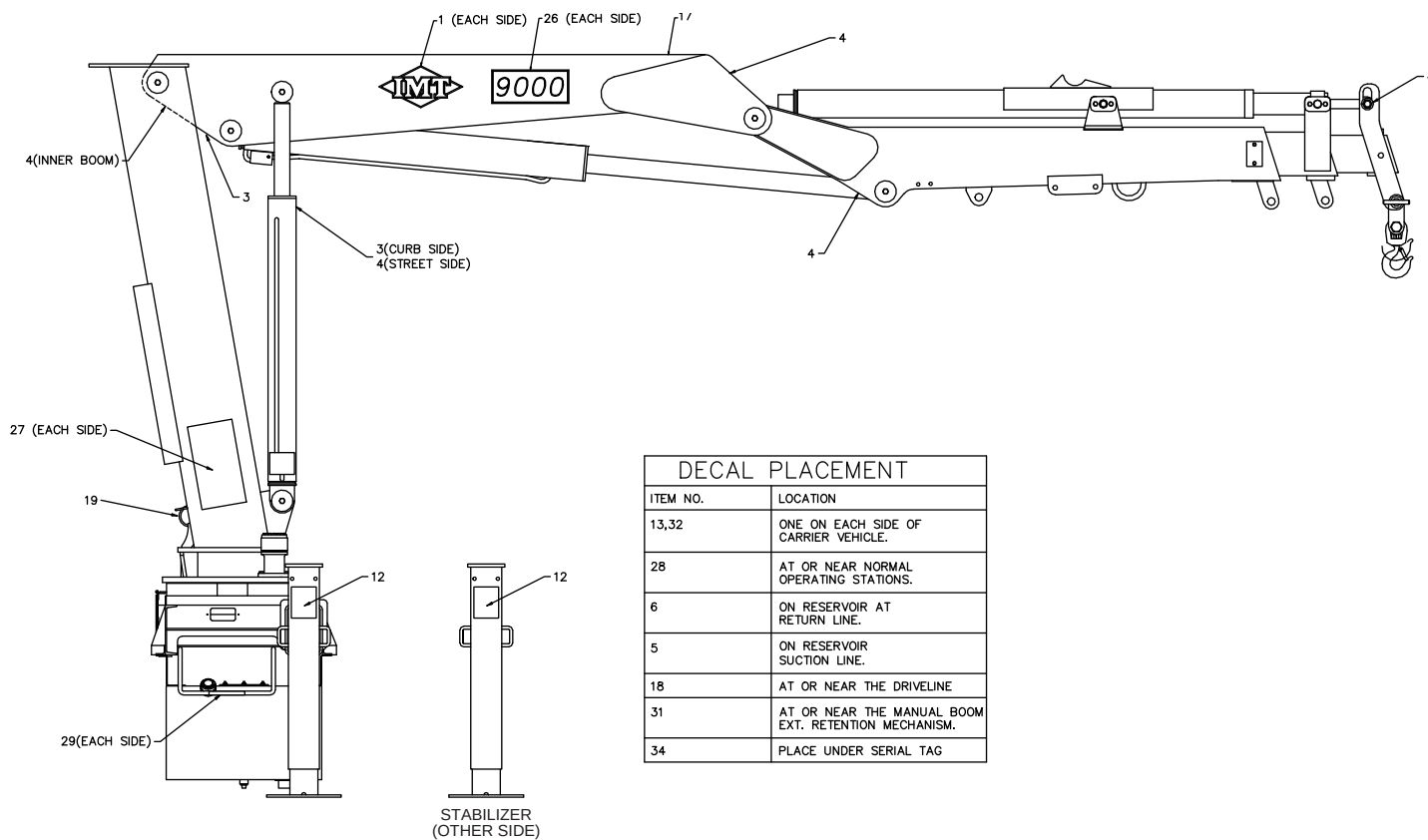
|     |          |                                |    |
|-----|----------|--------------------------------|----|
| 19. | 60035829 | HOSE 1-1/4 X 48                | 1  |
| 20. | 72532708 | BARB NIPPLE 1-5/16 X 1-1/4 90° | 1  |
| 21. | 72531836 | RED. BUSHING 1-1/4 X 3/4NPT    | 1  |
| 22. | 72053558 | NIPPLE 3/4NPT                  | 1  |
| 23. | 72053141 | NIPPLE 3/4NPT X CLOSE          | 1  |
| 24. | 72053535 | ELBOW 3/4NPT 45°               | 1  |
| 25. | 72531548 | BARB NIPPLE 3/4                | 2  |
| 26. | 72066000 | HOSE CLAMP 3/4                 | 2  |
| 27. | 60035818 | HOSE 3/4 100R4 X 72"           | 1  |
| 33. | 60010354 | TIE-DOWN BLOCK                 | 4  |
| 34. | 60107829 | TIE-DOWN STUD 1 X 18           | 8  |
| 35. | 72062141 | NUT 1-7 LOCK                   | 16 |
| 36. | 72063066 | WASHER 1" HI-STRGTH            | 8  |
| 37. | 52706660 | SUPPORT                        | 4  |
| 39. | 60107478 | WASHER 2" SQUARE               | 8  |
| 40. | 72053556 | STREET ELBOW 3/4NPT 90°        | 1  |



# **DECAL KIT-9000 SERIES 1H & 2H (95712081-1)**

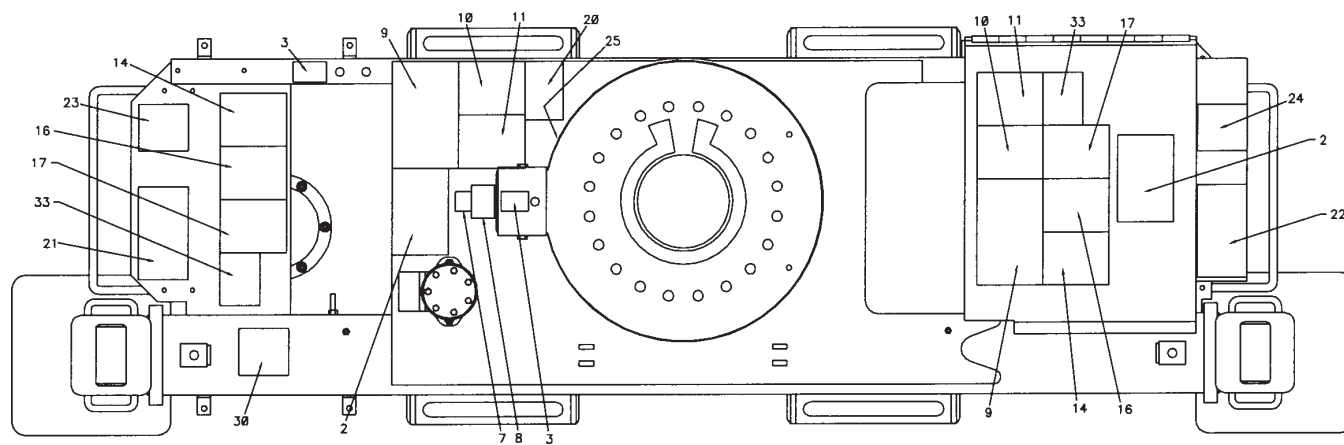
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|              |                           |   |              |                          |       |
|--------------|---------------------------|---|--------------|--------------------------|-------|
| 1. 70029251  | PLACARD - IMT DIAMOND     | 2 | 18. 70392891 | DECAL-DANGER DRIVELINE   | 2     |
| 2. 70391583  | DECAL-SETUP/STOW INST.    | 2 | 19. 70392982 | DECAL-CONTACT IMT        | 1     |
| 3. 70391612  | DECAL-GREASE WEEKLY LEFT  | 4 | 20. 71039134 | DECAL-CAUTION OIL LEVEL  | 1     |
| 4. 70391613  | DECAL-GREASE WEEKLY RIGHT | 5 | 21. 71392255 | DECAL-CONTROL STRT SIDE  | 1     |
| 5. 70392108  | DECAL-SUCTION LINE        | 1 | 22. 71392256 | DECAL-CONTROL CURB SIDE  | 1     |
| 6. 70392109  | DECAL-RETURN LINE         | 1 | 23. 71392257 | DECAL-STAB PD STRT SIDE  | 1     |
| 7. 70392213  | DECAL-CAUTION WASH/WAX    | 1 | 24. 71392258 | DECAL-STAB PRD CURB SIDE | 1     |
| 8. 70392524  | DECAL-ROT CRANE/GREASE    | 1 | 25. 71392365 | DECAL-ALIGNMENT CRNE ROT | 1     |
| 9. 70392813  | DECAL-DANGER ELECTROC'N   | 2 | 26. 71393818 | DECAL-9000 SERIES IDENT  | 2     |
| 10. 70392814 | DECAL-WARN OPERATOR       | 2 | 27. 71393780 | CAPACITY PLACARD-1H & 2H | 2     |
| 11. 70392815 | DECAL-WARN OPERATION      | 2 | 28. 70392889 | DECAL-RC ELECTROCUTION   | 2     |
| 12. 70392864 | DECAL-WARN STAB STD CLR   | 2 | 29. 70394190 | DECAL-CAUTION NOT A STEP | 2     |
| 13. 70392865 | DECAL-DANGER ELECTROC'N   | 4 | 30. 70394189 | PLACARD-OIL REC          | 1     |
| 14. 70392866 | DECAL-WARN OPER COND      | 2 | 31. 70394446 | DECAL-WARN FALL BOOM     | 1 REF |
| 16. 70392888 | DECAL-WARN OPER RESTRICT  | 2 | 32. 70392868 | DECAL-WARN CR LOADLINE   | 4     |
| 17. 70392890 | DECAL-DGR STOW/UNFOLD     | 2 | 33. 70392863 | DECAL-WARN HOIST PERS    | 2     |
|              |                           |   | 34. 70395323 | ASME/ANSI B30.22         | 1     |
|              |                           |   | 35. 72042097 | LEVEL                    | 2     |



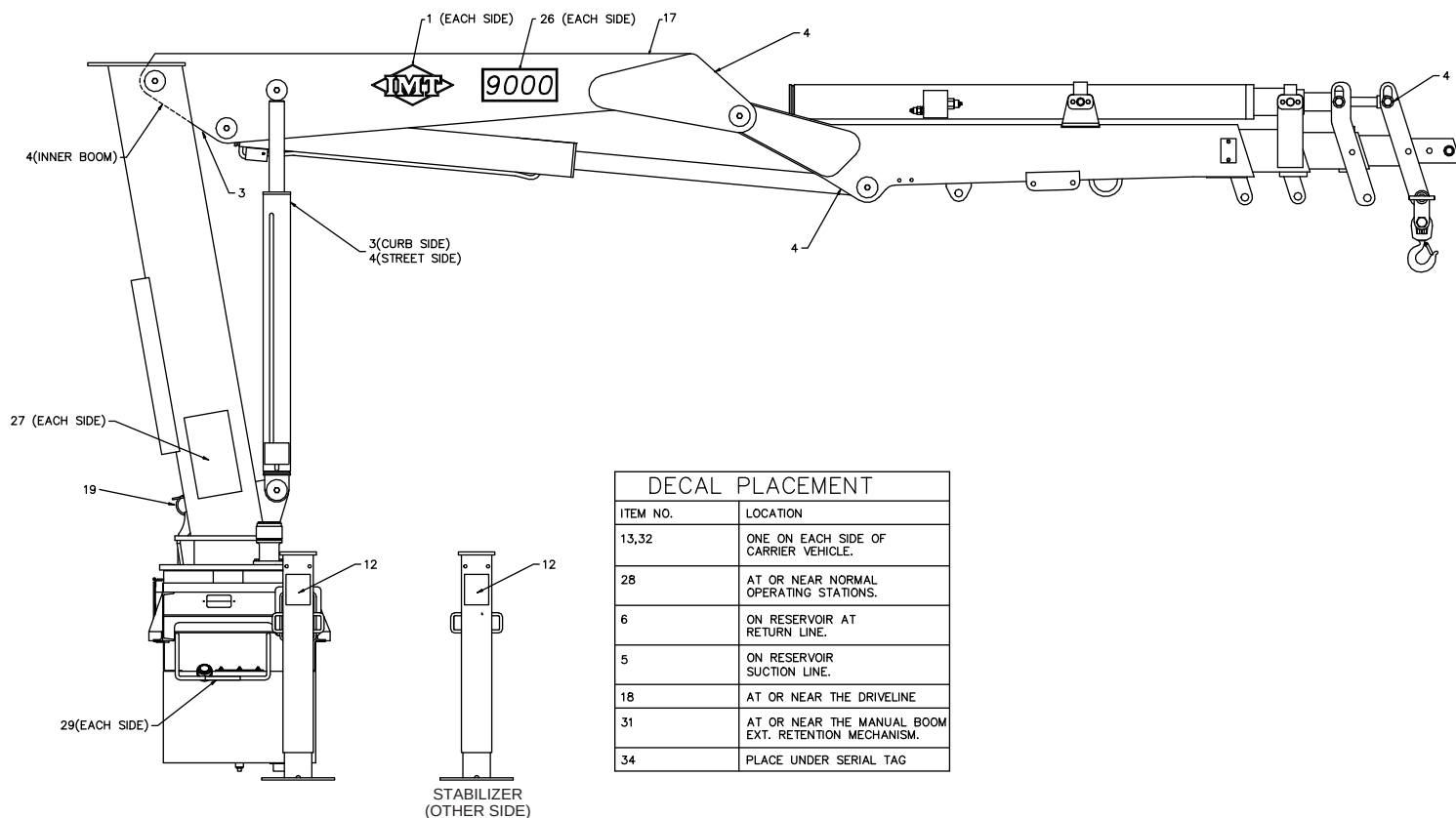
| DECAL PLACEMENT |                                                      |
|-----------------|------------------------------------------------------|
| ITEM NO.        | LOCATION                                             |
| 13,32           | ONE ON EACH SIDE OF CARRIER VEHICLE.                 |
| 28              | AT OR NEAR NORMAL OPERATING STATIONS.                |
| 6               | ON RESERVOIR AT RETURN LINE.                         |
| 5               | ON RESERVOIR SUCTION LINE.                           |
| 18              | AT OR NEAR THE DRIVELINE                             |
| 31              | AT OR NEAR THE MANUAL BOOM EXT. RETENTION MECHANISM. |
| 34              | PLACE UNDER SERIAL TAG                               |

NOTE: PLACE ITEM #35, LEVEL, ON FRONT AND SIDE OF CRANE BASE.

**DECAL KIT-9000 SERIES 1H & 2H  
(95712081-2)**

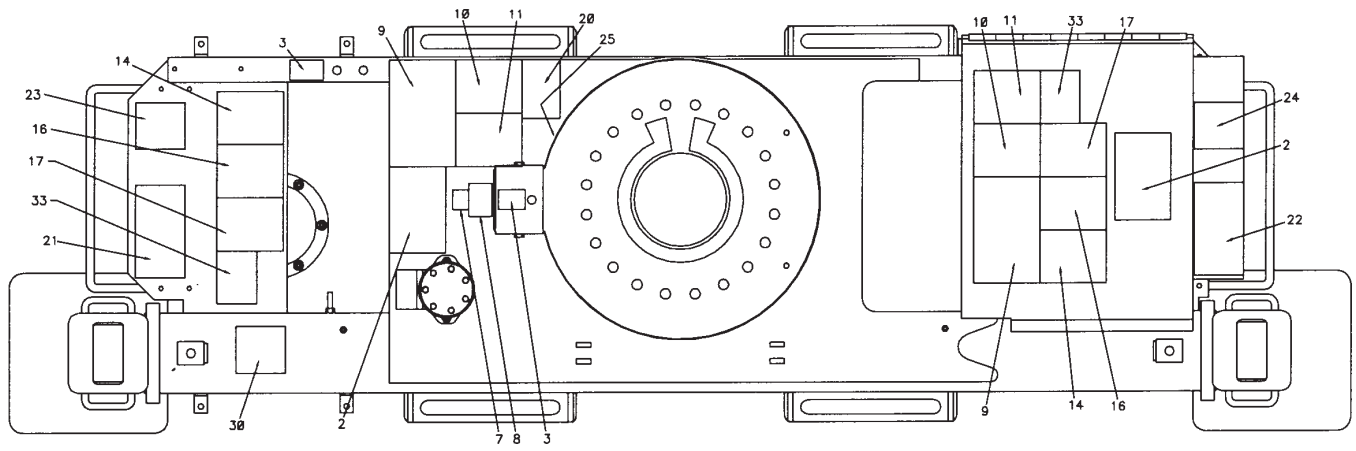
- |     |          |                           |   |
|-----|----------|---------------------------|---|
| 1.  | 70029251 | PLACARD - IMT DIAMOND     | 2 |
| 2.  | 70391583 | DECAL-SETUP/STOW INST.    | 2 |
| 3.  | 70391612 | DECAL-GREASE WEEKLY LEFT  | 4 |
| 4.  | 70391613 | DECAL-GREASE WEEKLY RIGHT | 5 |
| 5.  | 70392108 | DECAL-SUCTION LINE        | 1 |
| 6.  | 70392109 | DECAL-RETURN LINE         | 1 |
| 7.  | 70392213 | DECAL-CAUTION WASH/WAX    | 1 |
| 8.  | 70392524 | DECAL-ROT CRANE/GREASE    | 1 |
| 9.  | 70392813 | DECAL-DANGER ELECTROC'N   | 2 |
| 10. | 70392814 | DECAL-WARN OPERATOR       | 2 |
| 11. | 70392815 | DECAL-WARN OPERATION      | 2 |
| 12. | 70392864 | DECAL-WARN STAB STD CLR   | 2 |
| 13. | 70392865 | DECAL-DANGER ELECTROC'N   | 4 |
| 14. | 70392866 | DECAL-WARN OPER COND      | 2 |
| 16. | 70392888 | DECAL-WARN OPER RESTRICT  | 2 |
| 17. | 70392890 | DECAL-DGR STOW/UNFOLD     | 2 |

- |     |          |                          |      |
|-----|----------|--------------------------|------|
| 18. | 70392891 | DECAL-DANGER DRIVELINE   | 2    |
| 19. | 70392982 | DECAL-CONTACT IMT        | 1    |
| 20. | 71039134 | DECAL-CAUTION OIL LEVEL  | 1    |
| 21. | 71392255 | DECAL-CONTROL STRT SIDE  | 1    |
| 22. | 71392256 | DECAL-CONTROL CURB SIDE  | 1    |
| 23. | 71392257 | DECAL-STAB PD STRT SIDE  | 1    |
| 24. | 71392258 | DECAL-STAB PD CURB SIDE  | 1    |
| 25. | 71392365 | DECAL-ALIGNMENT CRNE ROT | 1    |
| 26. | 71393818 | DECAL-9000 SERIES IDENT  | 2    |
| 27. | 71393781 | CAP PLACARD-2H1M-3H1M    | 2    |
| 28. | 70392889 | DECAL-RC ELECTROCUTION   | 2    |
| 29. | 70394190 | DECAL-CAUTION NOT A STEP | 2    |
| 30. | 70394189 | PLACARD-OIL REC          | 1    |
| 31. | 70394443 | DECAL-WARN FALL BOOM     | 1REF |
| 32. | 70392868 | DECAL-WARN CR LOADLINE   | 4    |
| 33. | 70392863 | DECAL-WARN HOIST PERS    | 2    |
| 34. | 70395323 | DECAL-ASME/ANSI B30.22   | 1    |
| 35. | 72042097 | LEVEL                    | 2    |



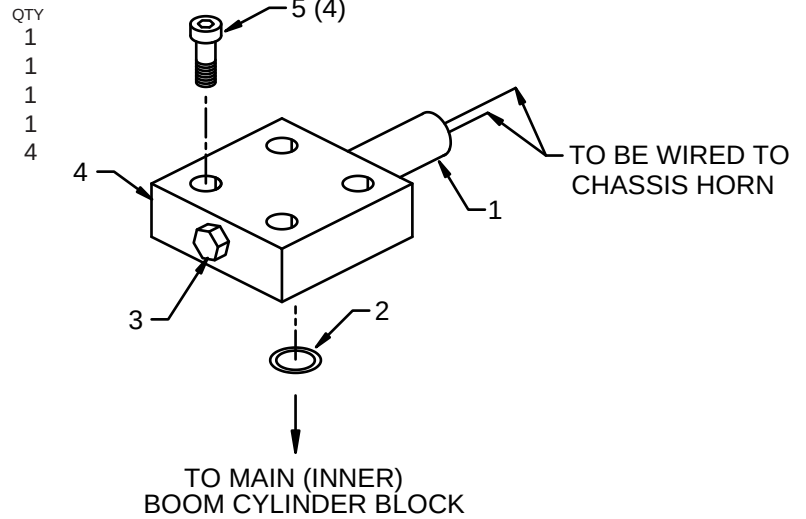
NOTE: PLACE ITEM #35, LEVEL, ON FRONT AND SIDE OF CRANE BASE.

**DECAL KIT-9000 SERIES 2H1M-3H1M  
(95712082-2)**



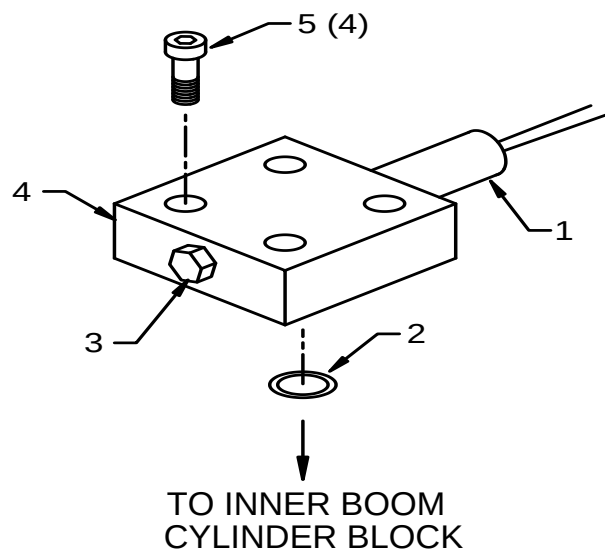
### CAPACITY ALERT KIT (31713333)

| ITEM | PART NO. | DESCRIPTION             |
|------|----------|-------------------------|
| 1.   | 77041476 | PRESSURE SWITCH         |
| 2.   | 7Q072015 | O-RING                  |
| 3.   | 72532140 | PLUG 9/16-18 HH STR     |
| 4.   | 60025221 | MANIFOLD                |
| 5.   | 72060731 | CAP SCREW 5/16-18 X 3/4 |



### CAPACITY SHUTDOWN KIT - 3100 PSI (31717516)

|    |          |                           |   |
|----|----------|---------------------------|---|
| 1. | 77041476 | PRESSURE SWITCH           | 1 |
| 2. | 7Q072015 | O-RING                    | 1 |
| 3. | 72532140 | PLUG 9/16 STR HH STL      | 1 |
| 4. | 60025221 | MANIFOLD                  | 1 |
| 5. | 72060731 | CAP SCR 5/16-18 X 3/4 SHZ | 4 |



### 3-STG EXT CYLINDER EFF:5-22-00 (3K120200)

|     |          |                             |      |
|-----|----------|-----------------------------|------|
| 1.  | 4C150920 | CASE ASM (INCL:36)          | 1    |
| 2.  | 4J118200 | ROD / CASE ASM 4-1/2 OD     | 1    |
| 3.  | 4K118200 | ROD / CASE ASM 3 OD         | 1    |
| 4.  | 4H066900 | ROD ASM                     | 1    |
| 5.  | 4P052960 | INTERNAL PORT (INCL:37)     | 1    |
| 6.  | 4FG06690 | MTG RING 4-1/2 ID           | 1    |
| 7.  | 5FG66900 | MTG RING 3 ID               | 1    |
| 8.  | 6I050369 | PISTON 5"                   | 1    |
| 9.  | 6I035269 | PISTON 3-1/2"               | 1    |
| 10. | 6I025144 | PISTON 2-1/2"               | 1    |
| 11. | 6HL50345 | HEAD 5"                     | 1    |
| 12. | 6HL35230 | HEAD 3-1/2"                 | 1    |
| 13. | 6HL25015 | HEAD 2-1/2"                 | 1    |
| 14. | 6C250150 | STOP TUBE 1-1/2 X 2-1/2L    | 1    |
| 15. | 73054817 | COUNTERBALANCE VALVE        | 1    |
| 16. | 73054902 | COUNTERBALANCE VALVE        | 1    |
| 17. | 9X118200 | SEAL KIT (INCL:18-35,39-43) | 1    |
| 18. | 7Q10P228 | BACK-UP RING (PART OF 17)   | 3REF |
| 19. | 7Q072228 | O-RING (PART OF 17)         | 2REF |
| 20. | 7Q10P338 | BACK-UP RING (PART OF 17)   | 1REF |
| 21. | 7Q072338 | O-RING (PART OF 17)         | 1REF |
| 22. | 7Q10P350 | BACK-UP RING (PART OF 17)   | 1REF |
| 23. | 7Q072350 | O-RING (PART OF 17)         | 1REF |
| 24. | 7Q072240 | O-RING (PART OF 17)         | 1REF |
| 25. | 7R546015 | U-CUP SEAL (PART OF 17)     | 1REF |
| 26. | 7R336030 | U-CUP SEAL (PART OF 17)     | 1REF |
| 27. | 7R488450 | U-CUP SEAL (PART OF 17)     | 1REF |
| 28. | 7R100750 | U-CUP SEAL (PART OF 17)     | 3REF |
| 29. | 7T66P250 | PISTON SEAL (PART OF 17)    | 1REF |

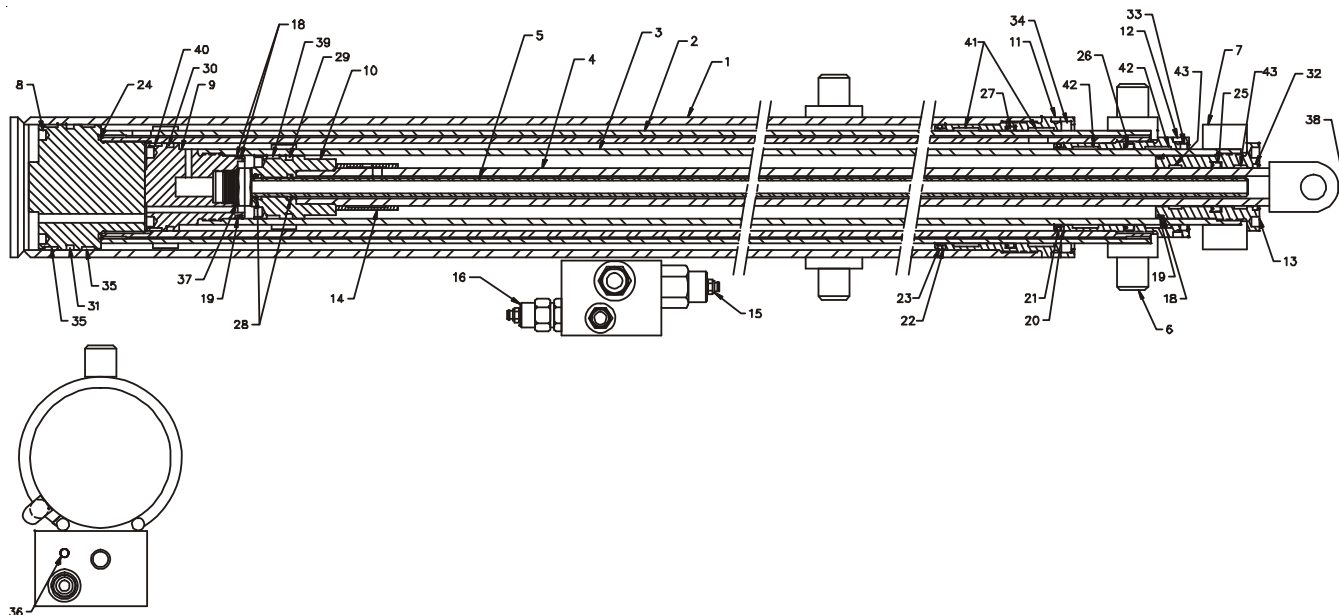
|     |          |                            |      |
|-----|----------|----------------------------|------|
| 30. | 7T66P350 | PISTON SEAL (PART OF 17)   | 1REF |
| 31. | 7T66P500 | PISTON SEAL (PART OF 17)   | 1REF |
| 32. | 7R14P015 | ROD WIPER (PART OF 17)     | 1REF |
| 33. | 7R14P030 | ROD WIPER (PART OF 17)     | 1REF |
| 34. | 7R14P045 | ROD WIPER (PART OF 17)     | 1REF |
| 35. | 7T2N4050 | WEAR RING (PART OF 17)     | 2REF |
| 36. | 7PNPXT02 | PLUG 1/8NPT (PART OF 1)    | 4REF |
| 37. | 7Q092916 | O-RING (PART OF 5)         | 1REF |
| 38. | 72053507 | ZERK 1/4-28                | 1    |
| 39. | 7T2N4025 | WEAR RING (PART OF 17)     | 1REF |
| 40. | 7T2N4035 | WEAR RING (PART OF 17)     | 1REF |
| 41. | 7T2NX847 | ROD WEAR RING (PART OF 17) | 1REF |
| 42. | 7T2NX832 | ROD WEAR RING (PART OF 17) | 1REF |
| 43. | 7T2NX417 | ROD WEAR RING (PART OF 17) | 1REF |

#### NOTE

IT IS RECOMMENDED THAT ALL COMPONENTS OF THE SEAL KIT BE REPLACED WHENEVER THE CYLINDER IS DISASSEMBLED. THIS WILL REDUCE FUTURE DOWNTIME.

APPLY "LUBRIPLATE #630-2" MEDIUM HEAVY, MULTI-PURPOSE LUBRICANT OR EQUIVALENT TO ALL PISTON AND HEAD GLANDS, LOCK RING AND ROD THREADS BEFORE ASSEMBLY.

USE "NEVER-SEEZ" OR EQUIVALENT BETWEEN THE HEAD AND THE CASE WHEN ASSEMBLING THE CYLINDER.



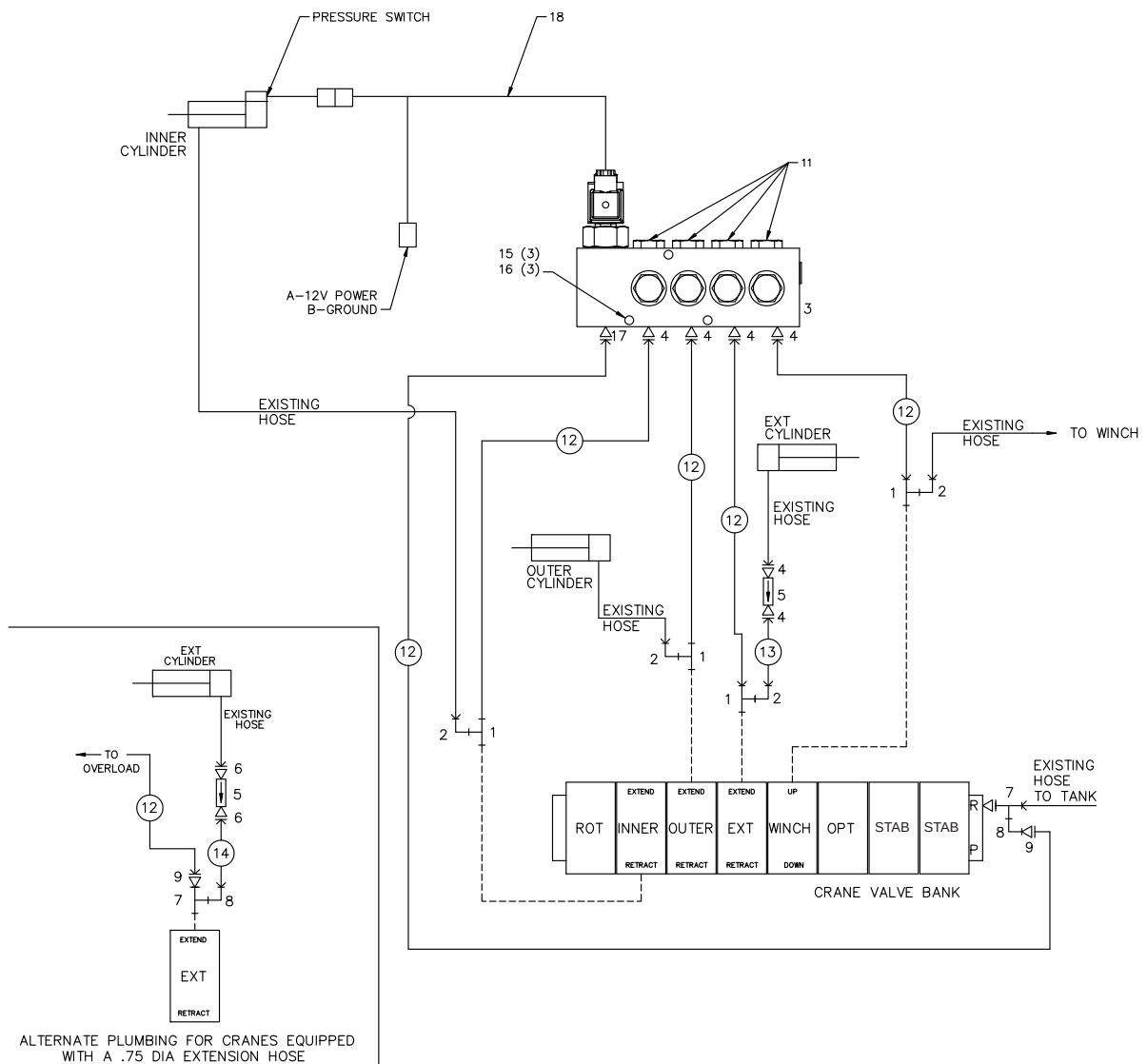


**HYD OVERLOAD KIT-4F (51717128)**

| ITEM | PART NO. | DESCRIPTION                 | QTY |
|------|----------|-----------------------------|-----|
| 1.   | 72532657 | TEE #8JIC SWVL NUT RUN      | 4   |
| 2.   | 72532658 | ELBOW #8MJIC #8FJIC         | 4   |
| 3.   | 73540463 | VALVE BLOCK ASM             | 1   |
| 4.   | 72532358 | ADAPTER #8MSTR #8MJIC       | 6   |
| 5.   | 73054426 | VALVE-ADJ RELIEF            | 1   |
| 6.   | 72532366 | ADAPTER #12MSTR #12MJIC     | 2   |
| 7.   | 72532950 | TEE-SWIVEL NUT RUN JIC#12   | 2   |
| 8.   | 72532696 | ELBOW-#12MJIC #12FJIC SW    | 2   |
| 9.   | 72532972 | ADPTR-#8MJIC#12FJIC         | 2   |
| 11.  | 72532141 | PLUG STR HEX HD STL 3/4 THD | 3   |
| 12.  | 51706443 | HOSE ASM-FF 3/8 X 53.00     | 5   |
| 13.  | 51706239 | HOSE ASM-FF 1/2 X 5.00      | 1   |
| 14.  | 51706238 | HOSE ASM-FF 3/4 X 6.00      | 1   |
| 15.  | 72060034 | CAP SCR 5/16-18 X 3.25 HH   | 3   |
| 16.  | 72062109 | NUT 5/16-18 HEX NYLOC ZINC  | 3   |
| 17.  | 72532360 | ADPTR-#12MSTR #8MJIC        | 1   |
| 18.  | 77441025 | HARNESS-OVERLOAD            | 1   |

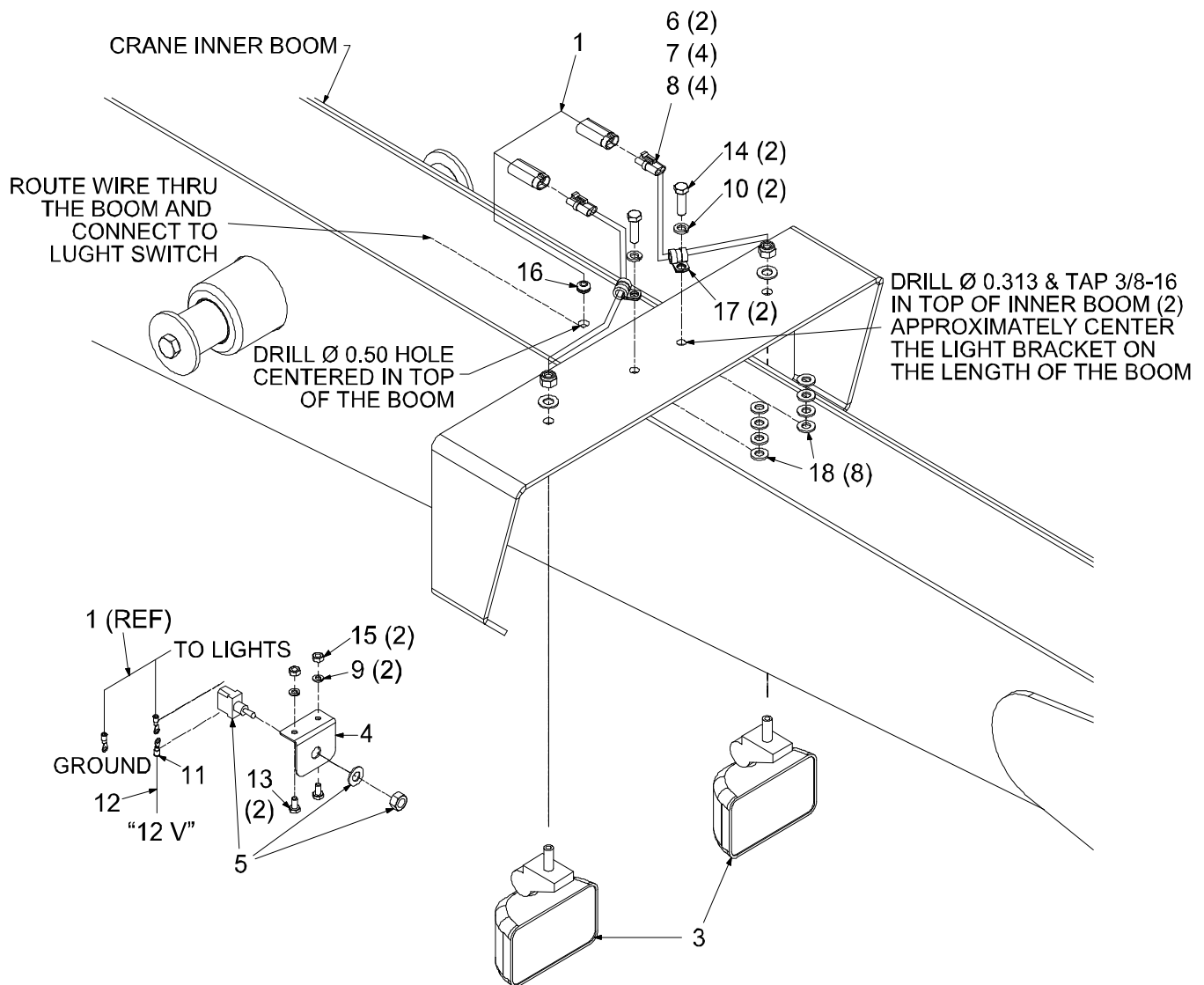
**NOTES:**

- Function of system is such that when the inner cylinders are overloaded, the pressure switch, mounted on the inner cylinder, will activate the solenoid dump valve(s); thus dumping oil to "tank" instead of the outer cylinder "extend", extension cylinder "extend", or winch "up" functions, which will not allow pressure to build for these functions. This system is based on the fact that the oil will take the path of least resistance.
- The following functions will shut down if overloaded:
  - Inner boom "retract"
  - Outer boom "extend"
  - Extension cylinder "extend"
  - Winch "up"
- Install a relief valve (73054426 - 700 psi) in the extend line of the extension cylinder so cylinder will not extend when the dump system is activated.
- This kit used in conjunction with the electric capacity alert kit.



**OPTION - LIGHT KIT (31717218)**

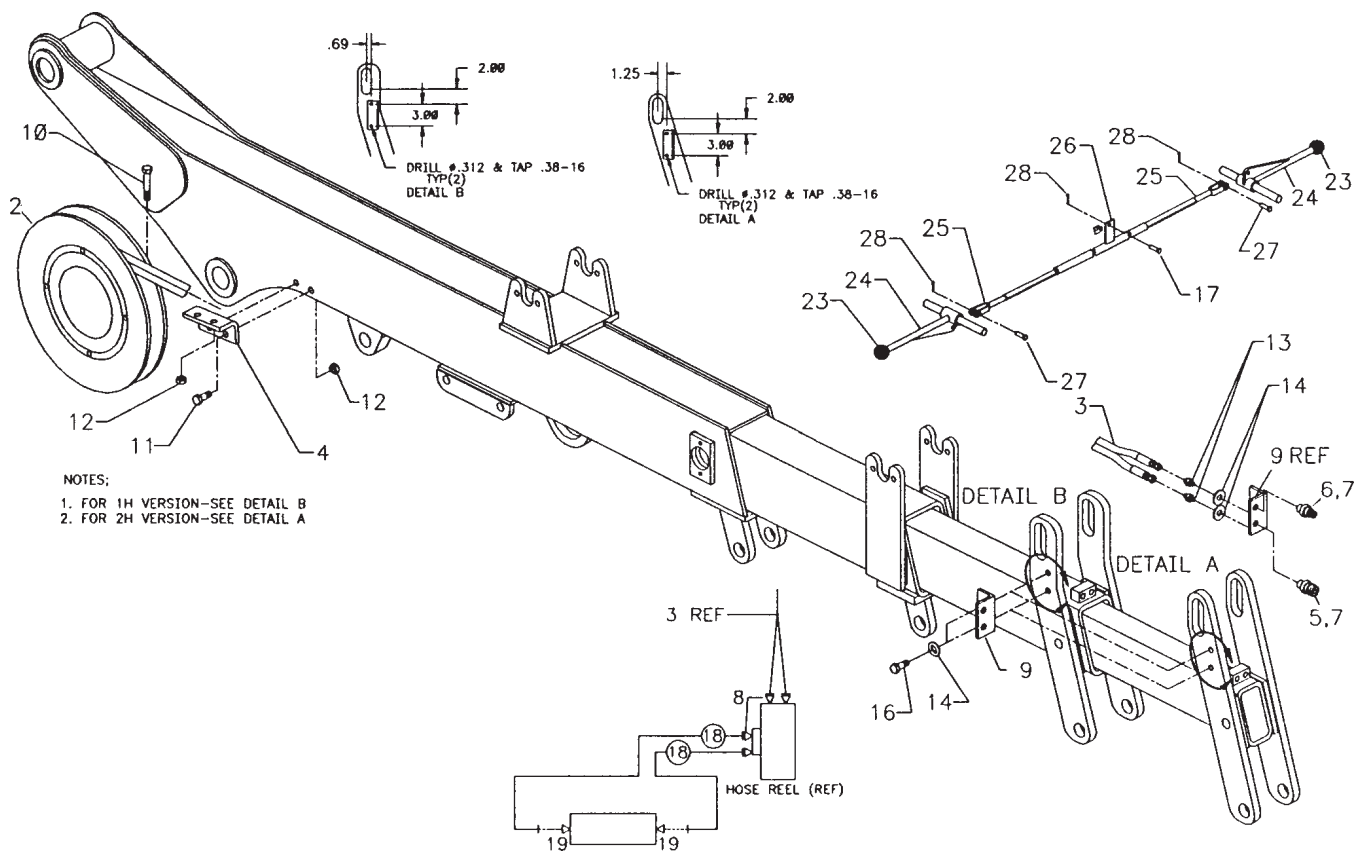
| ITEM | PART NO. | DESCRIPTION                   | QTY |
|------|----------|-------------------------------|-----|
| 1.   | 51717219 | CABLE ASM- FLOOD LIGHTS       | 1   |
| 2.   | 60107762 | GUARD                         | 1   |
| 3.   | 77040424 | FLOOD-LT-COMP WORK LAMP       | 2   |
| 4.   | 60103535 | SWITCH BRACKET - 1 HOLE       | 1   |
| 5.   | 77041345 | TOGGLE SWITCH                 | 1   |
| 6.   | 77044574 | CONNECTOR                     | 2   |
| 7.   | 77044550 | TERMINAL-F 18-20 GA           | 4   |
| 8.   | 70394069 | SEAL CABLE CONNECTOR          | 4   |
| 9.   | 72063049 | WASHER 1/4 LOCK               | 2   |
| 10.  | 72063051 | WASHER 3/8 LOCK               | 2   |
| 11.  | 77040000 | TERMINAL, RING #10 STUD 16-14 | 1   |
| 12.  | 89044274 | WIRE-BLACK STRD TYPE          | 36" |
| 13.  | 72060000 | CAP SCR 1/4-20 X 1/2 HH GR5   | 2   |
| 14.  | 72060044 | CAP SCR 3/8-16 X 3/4 HH GR5   | 2   |
| 15.  | 72062000 | NUT 1/4-20 HEX ZINC           | 2   |
| 16.  | 76391200 | GROMMET-RUBBER .56            | 1   |
| 17.  | 72661312 | CLAMP-.50 LOOP CUSHIONED      | 2   |
| 18.  | 72063003 | WASHER .38 FLAT               | 8   |



# **OPTION-SGL HOSE REEL KIT-V20 (31712010)**

| ITEM | PART NO. | DESCRIPTION                | QTY |
|------|----------|----------------------------|-----|
| 2.   | 70732864 | HOSE REEL-RH               | 1   |
| 3.   | 51393812 | HOSE ASM 1/4X300 TWIN-LINE | 1   |
| 4.   | 60117715 | BRACKET                    | 1   |
| 5.   | 72533380 | DISCONNECT COUPLER 1/4NPT  | 1   |
| 6.   | 72533382 | DISCONNECT NIPPLE 1/4NPT   | 1   |
| 7.   | 72533381 | DUST CAP                   | 2   |
| 8.   | 72532353 | ADAPTER #6MSTR #4MJIC      | 4   |
| 9.   | 60115137 | ANGLE                      | 1   |
| 10.  | 72060097 | CAP SCR 1/2-13X3 HHGR5     | 2   |
| 11.  | 72060093 | CAP SCR 1/2-13X1-1/2 HHGR5 | 2   |

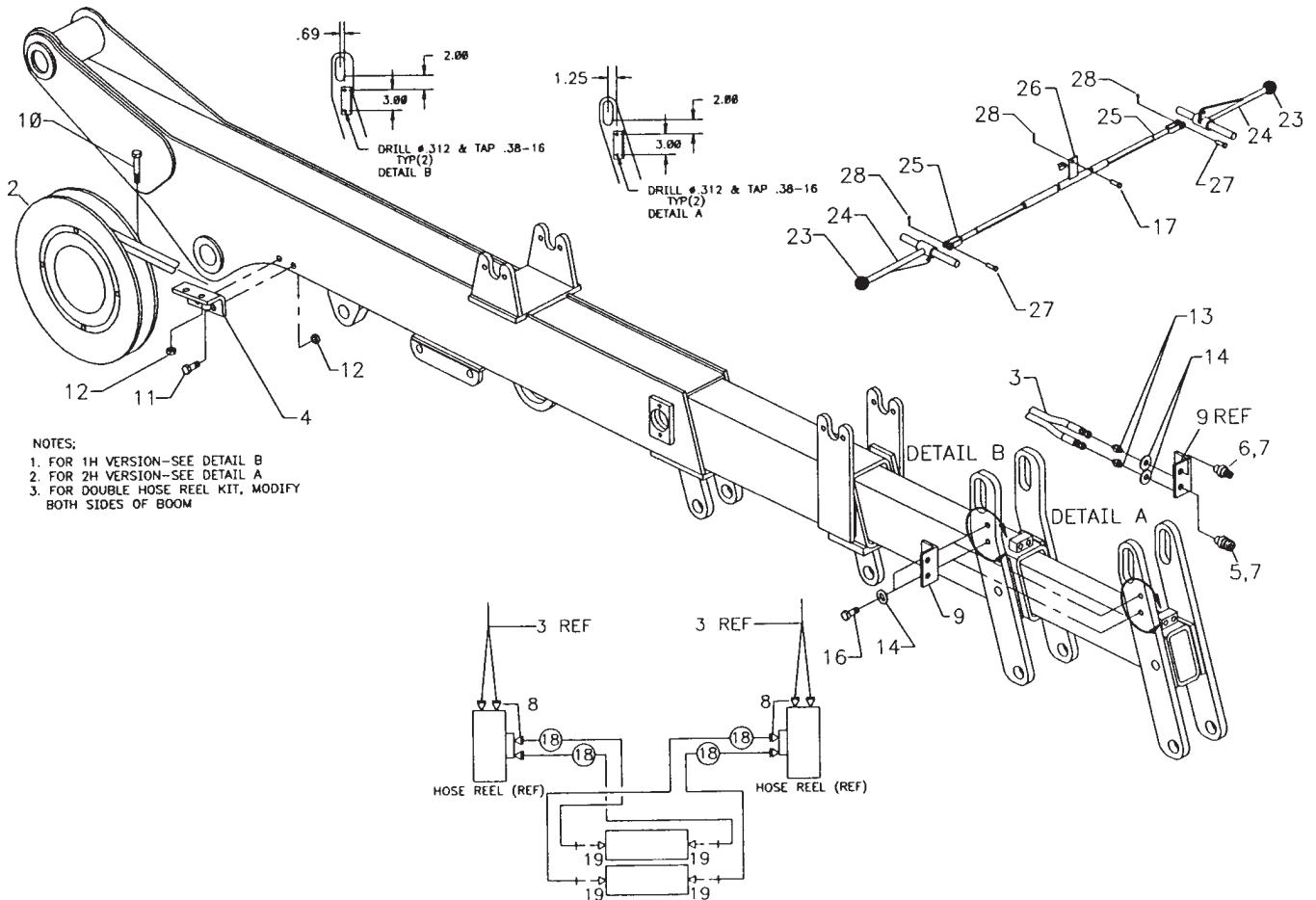
|     |          |                       |   |
|-----|----------|-----------------------|---|
| 12. | 72062080 | NUT 1/2-13 LOCK       | 4 |
| 13. | 72053499 | ADAPTER 1/4MPT #4MJIC | 2 |
| 14. | 72063003 | WASHER 3/8 WRT        | 4 |
| 16. | 72060044 | CAP SCR 3/8-16X3/4    | 2 |
| 17. | 72066337 | PIN-SPECIAL           | 2 |
| 18. | 51708888 | HOSE ASM 1/4X323 FF   | 2 |
| 19. | 72532665 | ADAPTER #4MJIC #8FJIC | 2 |
| 23. | 71039096 | KNOB                  | 2 |
| 24. | 70029451 | CONTROL HANDLE        | 2 |
| 25. | 52704745 | CONTROL ROD-M         | 2 |
| 26. | 52705877 | CONTROL ROD-F         | 1 |
| 27. | 72066338 | CLEVIS PIN 5/16X1     | 2 |
| 28. | 72066168 | COTTER PIN .09X.75    | 3 |



# **OPTION-DBL HOSE REEL KIT-V20 (31712011)**

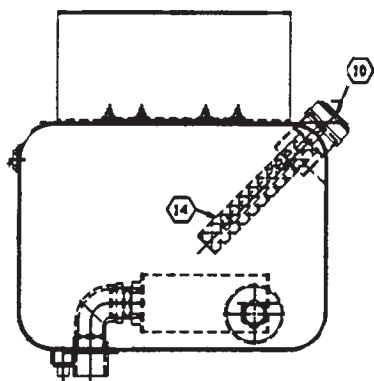
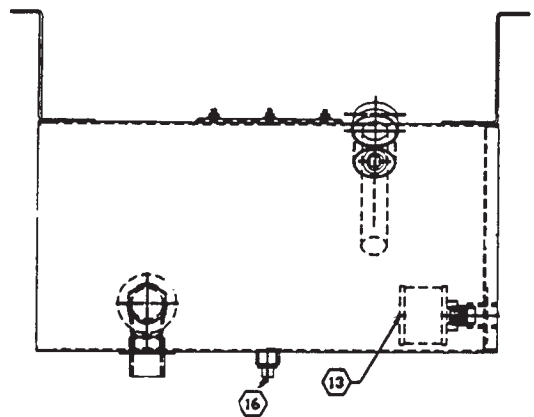
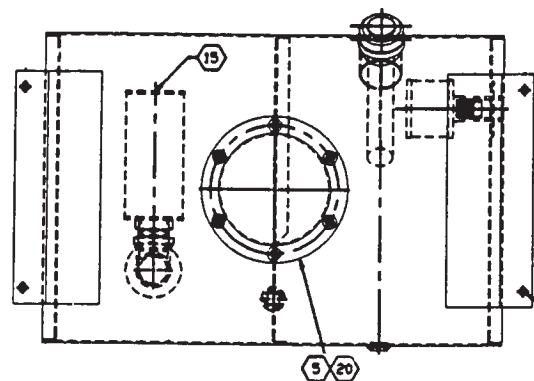
| ITEM | PART NO. | DESCRIPTION                | QTY |
|------|----------|----------------------------|-----|
| 1.   | 70732863 | HOSE REEL-LH               | 1   |
| 2.   | 70732864 | HOSE REEL-RH               | 1   |
| 3.   | 51393812 | HOSE ASM 1/4X300 TWIN-LINE | 2   |
| 4.   | 60117715 | BRACKET                    | 2   |
| 5.   | 72533380 | DISCONNECT COUPLER 1/4NPT  | 2   |
| 6.   | 72533382 | DISCONNECT NIPPLE 1/4NPT   | 2   |
| 7.   | 72533381 | DUST CAP                   | 4   |
| 8.   | 72532353 | ADAPTER #6MSTR #4MJIC      | 8   |
| 9.   | 60115137 | ANGLE                      | 2   |
| 10.  | 72060097 | CAP SCR 1/2-13X3 HHGR5     | 4   |
| 11.  | 72060093 | CAP SCR 1/2-13X1-1/2 HHGR5 | 4   |

|     |          |                       |   |
|-----|----------|-----------------------|---|
| 12. | 72062080 | NUT 1/2-13 LOCK       | 8 |
| 13. | 72053499 | ADAPTER 1/4MPT #4MJIC | 4 |
| 14. | 72063003 | WASHER 3/8 WRT        | 8 |
| 16. | 72060044 | CAP SCR 3/8-16X3/4    | 4 |
| 17. | 72066337 | PIN-SPECIAL           | 2 |
| 18. | 51708888 | HOSE ASM 1/4X323 FF   | 4 |
| 19. | 72532665 | ADAPTER #4MJIC #8FJIC | 4 |
| 23. | 71039096 | KNOB                  | 4 |
| 24. | 70029451 | CONTROL HANDLE        | 4 |
| 25. | 52704745 | CONTROL ROD-M         | 4 |
| 26. | 52705877 | CONTROL ROD-F         | 2 |
| 27. | 72066338 | CLEVIS PIN 5/16X1     | 4 |
| 28. | 72066168 | COTTER PIN .09X.75    | 6 |



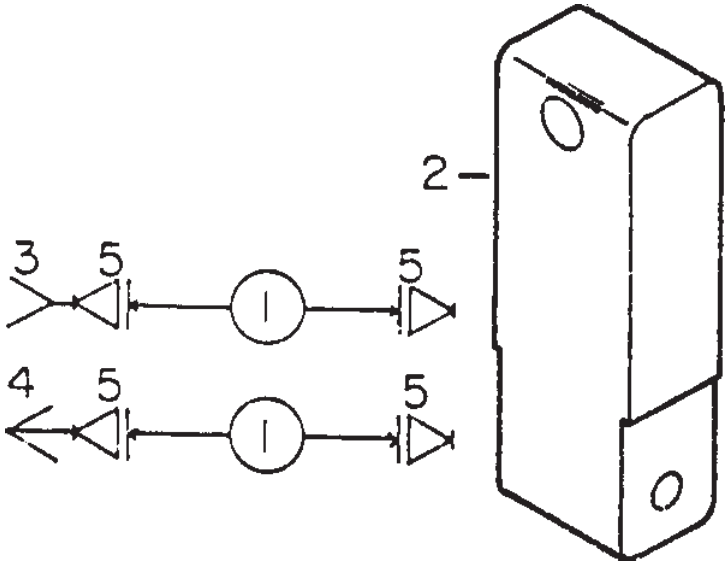
# **OPTION-RESERVOIR ASM 25-GAL (70732578)**

| ITEM | PART NO. | DESCRIPTION               | QTY |
|------|----------|---------------------------|-----|
| 5.   | 70144163 | COVER                     | 1   |
| 10.  | 70732789 | DIPSTICK ASM              | 1   |
| 13.  | 70034410 | DIFFFUSER 3/4NPT 33GPM    | 1   |
| 14.  | 70732791 | SCREEN 100MESH            | 1   |
| 15.  | 70144166 | STRAINER 100MESH 20GPM    | 1   |
| 16.  | 73052001 | PLUG 3/4FPT SQHD MAGNETIC | 1   |
| 20.  | 76393565 | O-RING 6 ID X 6-1/2 OD    | 1   |



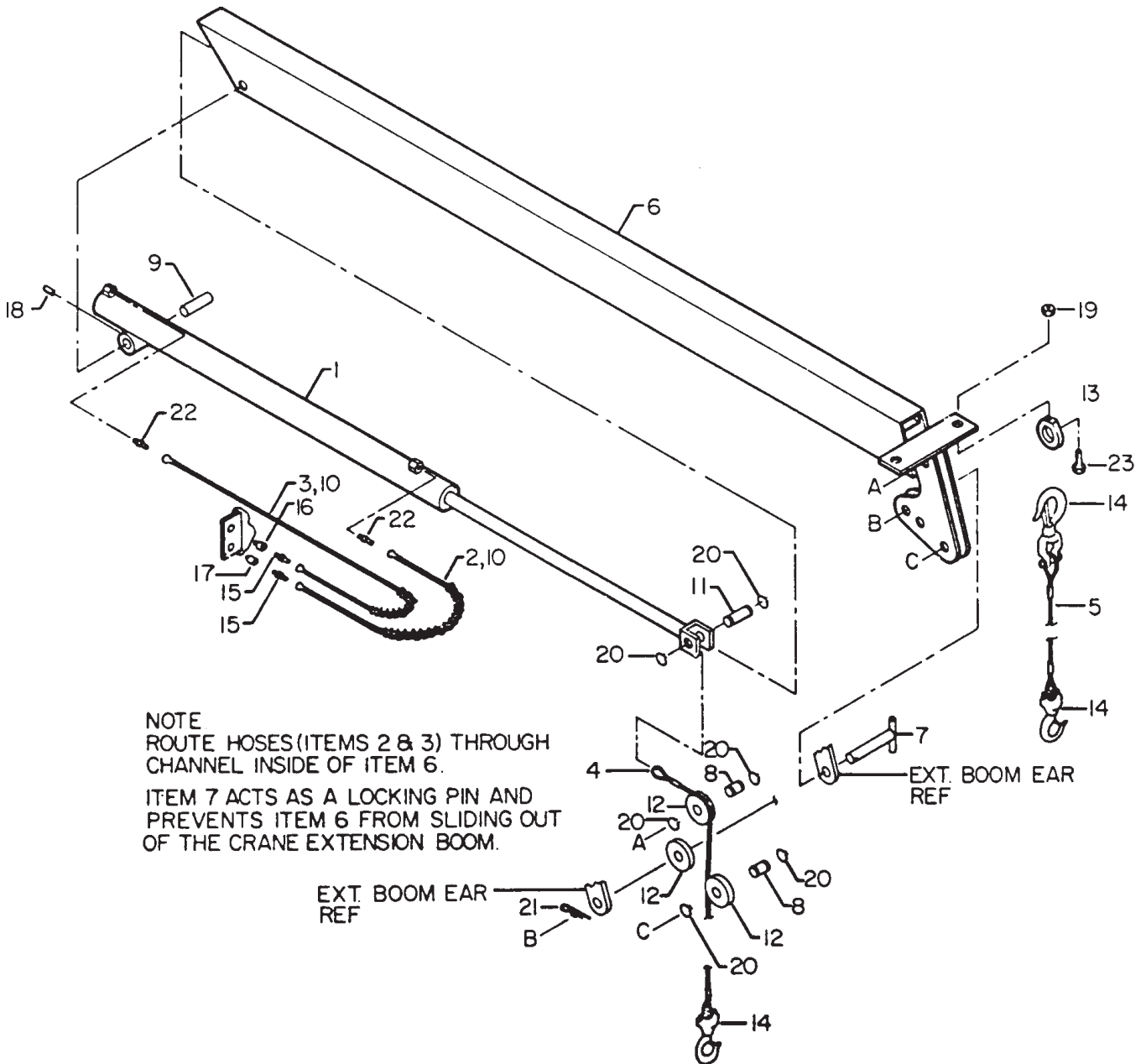
**OPTION-AUGER MTG KIT (51707059)**

| ITEM | PART NO. | DESCRIPTION               | QTY |
|------|----------|---------------------------|-----|
| 1.   | 51705062 | HOSE ASM 1/2X48 FF        | 2   |
| 2.   | 60108961 | SWIVEL LINK               | 1   |
| 3.   | 72533101 | COUPLER 3/8FPT DISCONNECT | 1   |
| 4.   | 72533102 | NIPPLE 3/8FPT DISCONNECT  | 1   |
| 5.   | 72053670 | ADAPTER 3/8MPT 3/4MJIC    | 4   |



# **OPTION-IGLOO HANDLING KIT (51709224)**

| ITEM | PART NO. | DESCRIPTION           | QTY |     |          |                            |   |
|------|----------|-----------------------|-----|-----|----------|----------------------------|---|
| 1.   | 3B289890 | CYLINDER-IGLOO CABLE  | 1   | 11. | 60113568 | PIN                        | 1 |
| 2.   | 51704024 | HOSE ASM 1/4X54 FF    | 1   | 12. | 70056426 | SHEAVE                     | 3 |
| 3.   | 51705191 | HOSE ASM 1/4X96 FF    | 1   | 13. | 70143644 | NUT #4 EYE STD             | 1 |
| 4.   | 51709391 | LIFT CABLE 1/4X63-3/4 | 1   | 14. | 70580020 | HOOK 1/2 TON               | 3 |
| 5.   | 51709392 | LIFT CABLE 1/4X33-1/4 | 1   | 15. | 72053499 | ADAPTER 1/4MPT 7/16MJIC    | 2 |
| 6.   | 52709372 | BOOM                  | 1   | 16. | 72053539 | COUPLER 1/4FPT DISCONNECT  | 1 |
| 7.   | 52705802 | PIN                   | 1   | 17. | 72053541 | NIPPLE 1/4FPT DISCONNECT   | 1 |
| 8.   | 60113559 | PIN                   | 2   | 18. | 72060578 | SET SCR 3/8-16X3/8 SH      | 1 |
| 9.   | 60113561 | PIN                   | 1   | 19. | 72062102 | NUT 5/8-11 LOCK            | 1 |
| 10.  | 60113567 | SPRING GUARD          | 2   | 20. | 72066123 | RETAINING RING 3/4 STD EXT | 6 |
|      |          |                       |     | 21. | 72066145 | HAIR PIN .19               | 1 |
|      |          |                       |     | 22. | 72532351 | ADAPTER 7/16MSTR 7/16MJIC  | 2 |
|      |          |                       |     | 23. | 72601258 | CAP SCR 5/8-11X1-1/2 HHGR8 | 1 |



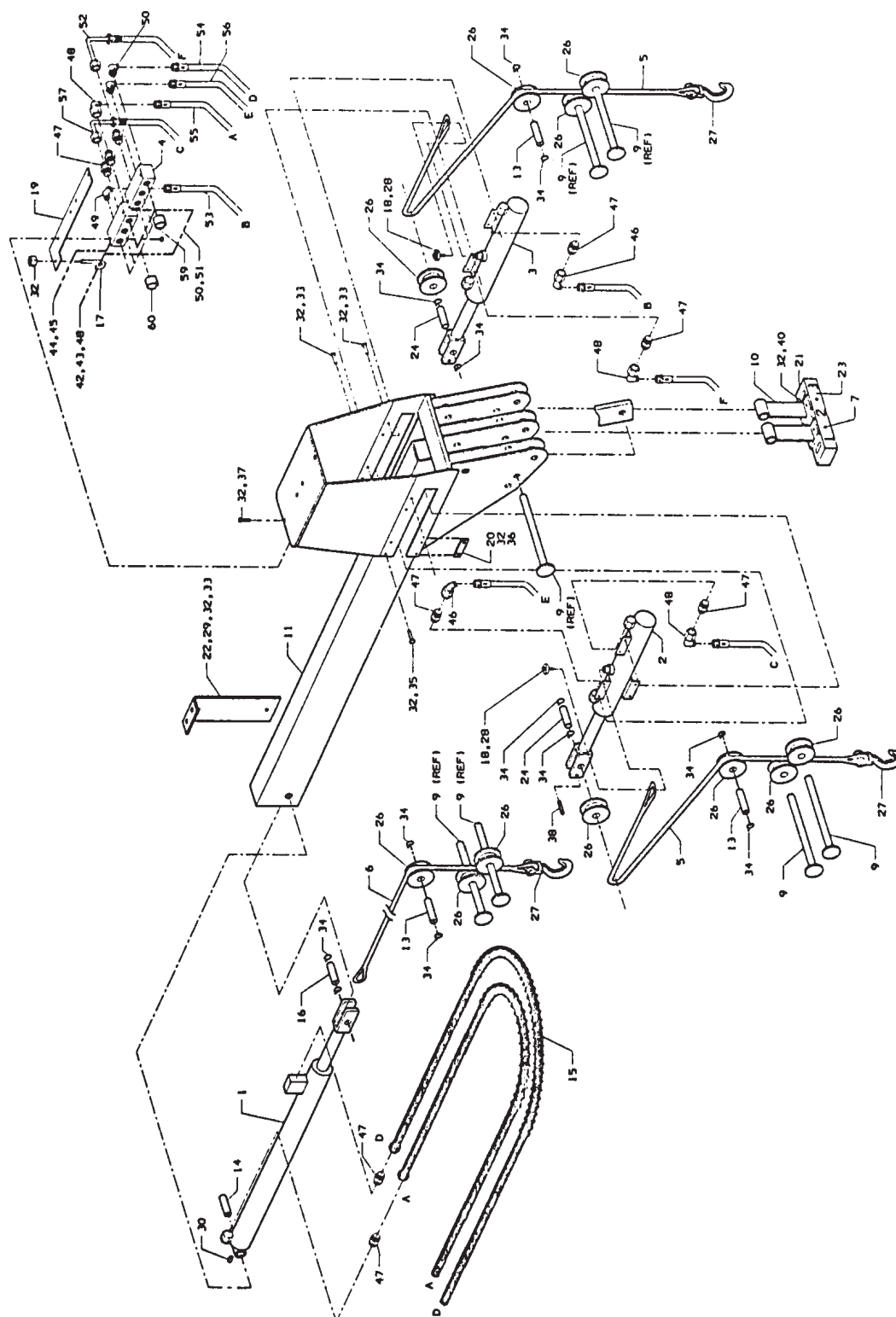
# **OPTION-RECYCLING CONTAINER KIT-3 HOLE (31709622)**

| ITEM | PART NO. | DESCRIPTION                  | QTY |
|------|----------|------------------------------|-----|
| 1.   | 3B044900 | CYLINDER                     | 1   |
| 2.   | 3B045900 | CYLINDER                     | 1   |
| 3.   | 3B046900 | CYLINDER                     | 1   |
| 4.   | 5V051900 | VALVE BLOCK                  | 2   |
| 5.   | 51709554 | LIFT CABLE 1/4X98-3/4        | 2   |
| 6.   | 51709391 | LIFT CABLE 1/4X63-3/4        | 1   |
| 7.   | 72061100 | SCR #10X1/2 HH SLOT SLFTPG   | 4   |
| 9.   | 52709555 | PIN                          | 2   |
| 10.  | 52709556 | CABLE GUIDE                  | 2   |
| 11.  | 52709594 | EXT BOOM                     | 1   |
| 12.  | 60107237 | BLOCK                        | 2   |
| 13.  | 60113559 | PIN                          | 3   |
| 14.  | 60113561 | PIN                          | 1   |
| 15.  | 60113567 | SPRING GUARD                 | 2   |
| 16.  | 60113568 | PIN                          | 1   |
| 17.  | 60113786 | HOOK-HOSE MTG                | 1   |
| 18.  | 60113788 | CABLE END CAP                | 2   |
| 19.  | 60113789 | SOLENOID MTG PLATE           | 1   |
| 20.  | 60113790 | SPACER BAR                   | 2   |
| 21.  | 60113791 | CABLE GUIDE                  | 1   |
| 22.  | 60113815 | CORD REEL MTG BRACKET        | 2   |
| 23.  | 60113851 | CABLE ID PLATE               | 2   |
| 24.  | 60113957 | PIN                          | 2   |
| 25.  | 70034381 | SUPPORT                      | 2   |
| 26.  | 70056426 | SHEAVE                       | 11  |
| 27.  | 70580020 | HOOK-1/2 TON                 | 3   |
| 28.  | 72060002 | CAP SCR 1/4-20X3/4 HHGR5     | 2   |
| 29.  | 72060090 | CAP SCR 1/2-13X7/8 HHGR5     | 2   |
| 30.  | 72060578 | SET SCR 3/8-16X3/8 SH        | 1   |
| 31.  | 72062080 | NUT 1/2-13 LOCK              | 2   |
| 32.  | 72062109 | NUT 5/16-18 LOCK             | 21  |
| 33.  | 72063005 | WASHER 1/2 WRT               | 2   |
| 34.  | 72066074 | RETAINING RING 3/4 EXT STD   | 12  |
| 35.  | 72601597 | CAP SCR 5/16-18X1 FLH SOC    | 8   |
| 36.  | 72601598 | CAP SCR 5/16-18X1-1/2 FLHSOC | 4   |
| 37.  | 72601599 | CAP SCR 5/16-18X2-1/2 FLHSOC | 4   |
| 38.  | 72661386 | ROLL PIN                     | 2   |
| 39.  | 99900373 | HYDRAULIC SCHEMATIC          | 1   |
| 40.  | 72060030 | CAP SCR 5/16-18X2-1/4 HHGR5  | 4   |
| 42.  | 72053541 | NIPPLE 1/4FPT DISCONNECT     | 1   |

|     |          |                              |       |
|-----|----------|------------------------------|-------|
| 43. | 72531412 | ELBOW 1/4MPT 7/16MJIC 90°    | 1     |
| 44. | 72053539 | COUPLER 1/4FPT DISCONNECT    | 1     |
| 45. | 72533013 | ADAPTER 1/4MSTR 7/16MPT      | 1     |
| 46. | 72532770 | ELBOW 7/16MJIC 7/16FJIC 45°  | 2     |
| 47. | 72532351 | ADAPTER 7/16MSTR 7/16MJIC    | 9     |
| 48. | 72532690 | ELBOW 7/16MJIC 7/16FJIC SWVL | 4     |
| 49. | 72533020 | ELBOW 7/16MSTR 7/16MJIC 45°  | 1     |
| 50. | 72533758 | ELBOW 7/16MSTR 7/16MJIC 90°  | 3     |
| 51. | 51709592 | HOSE ASM 1/4X5 FJ            | 1     |
| 52. | 51709800 | HOSE ASM 1/4X13 FJ           | 1     |
| 53. | 51703593 | HOSE ASM 1/4X11 FF           | 1     |
| 54. | 51703733 | HOSE ASM 1/4X45 FF           | 1     |
| 55. | 51709580 | HOSE ASM 1/4X68 FF           | 1     |
| 56. | 51704023 | HOSE ASM 1/4X19 FF           | 1     |
| 57. | 51709741 | HOSE ASM 1/4X24 FJ           | 1     |
| 58. | 99900374 | ELECTRICAL SCHEMATIC         | 1     |
| 59. | 73054638 | VALVE-NORMALLY OPEN          | 2     |
| 60. | 73054705 | VALVE-NORMALLY CLOSED        | 4     |
| 61. | 77044491 | CONNECTOR-3 WAY              | 1     |
| 62. | 70732291 | CABLE REEL                   | 1     |
| 63. | 72060023 | CAP SCR 5/16-18X3/4          | 2     |
| 64. | 72062109 | NUT 5/16-18 LOCK             | 2     |
| 65. | 72063002 | WASHER 5/16 WRT              | 2     |
| 66. | 77041346 | TOGGLE SWITCH DT             | 2     |
| 67. | 77041251 | RELAY                        | 2     |
| 68. | 77041147 | DIODE                        | 2     |
| 69. | 89044039 | CABLE 14GA/3 WIRE            | 18'   |
| 70. | 89044398 | WIRE 16GA BLK                | 2.5'  |
| 71. | 89044395 | WIRE 16GA GRN                | 2.5'  |
| 72. | 89044235 | WIRE 14GA WHT                | 1.25' |
| 73. | 89044232 | WIRE 14GA RED                | .5'   |
| 74. | 89044034 | CABLE 14GA/4 WIRE            | 10'   |
| 75. | 89044188 | WIRE 14GA/DUPLEX             | 1'    |
| 76. | 60113847 | JIC BOX-MACHINED             | 1     |
| 77. | 52709633 | JIC BOX-WELDMENT             | 1     |
| 78. | 72060004 | CAP SCR 1/4-20X1 HHGR5       | 4     |
| 79. | 77040048 | BUTT CONNECTOR               | 6     |
| 80. | 77044238 | TERMINAL-BULLET              | 2     |
| 81. | 77040282 | TERMINAL-PIGGYBACK           | 17    |
| 82. | 77040186 | TERMINAL-FSLPON              | 30    |
| 83. | 77040047 | TERMINAL-MSLPON              | 1     |
| 84. | 72062104 | NUT 1/4-20 LOCK              | 4     |

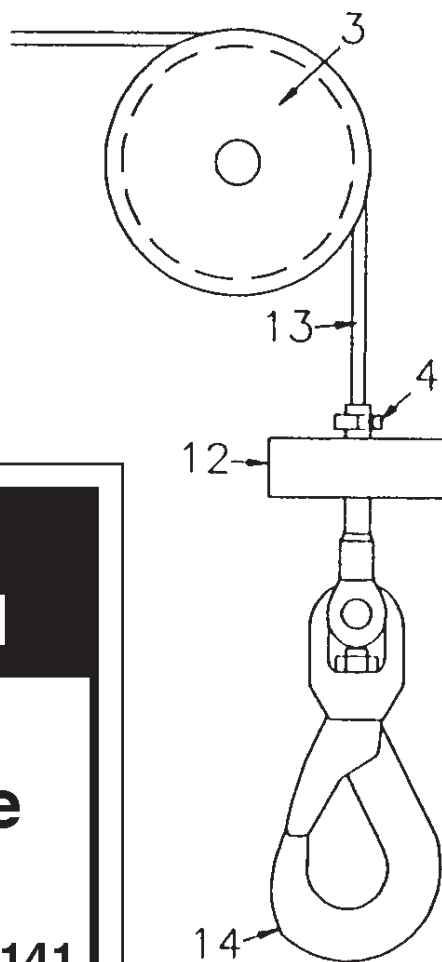
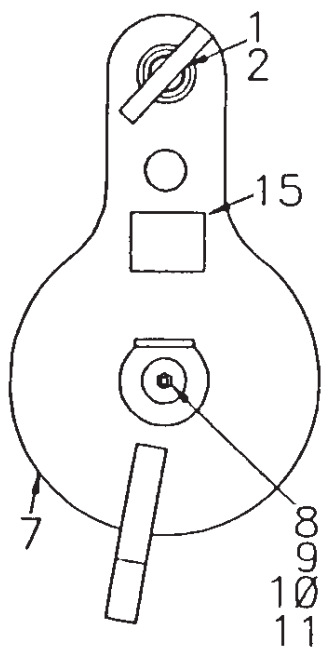
**SEE FOLLOWING PAGE FOR DRAWING**



**OPTION-RECYCLING CONTAINER KIT-3  
HOLE (31709622)**

# **OPTION-CABLE & HOOK KIT-5000 LB DP WINCH (31712572)**

| ITEM | PART NO. | DESCRIPTION     | QTY |     |          |                        |   |
|------|----------|-----------------|-----|-----|----------|------------------------|---|
| 1.   | 52070151 | PIN             | 1   | 10. | 60109337 | PIN RETAINER PLATE 3   | 1 |
| 2.   | 72066145 | HAIR PIN .19    | 1   | 11. | 72060147 | CAP SCR 5/8-11X1 HHGR5 | 1 |
| 3.   | 60030255 | SHEAVE 9" NYLON | 1   | 12. | 60118434 | DOWN HAUL WEIGHT       | 1 |
| 4.   | 70145121 | COLLAR          | 1   | 13. | 70580089 | WIRE ROPE ASM          | 1 |
| 7.   | 52712573 | YOKE            | 1   | 14. | 70732882 | SWIVEL HOOK 5.9 TON    | 1 |
|      |          |                 |     | 15. | 70394141 | DECAL-STORAGE PIN      | 2 |



## **SAFETY INSTRUCTION**

**This hole to be  
used for sheave  
storage pin.**

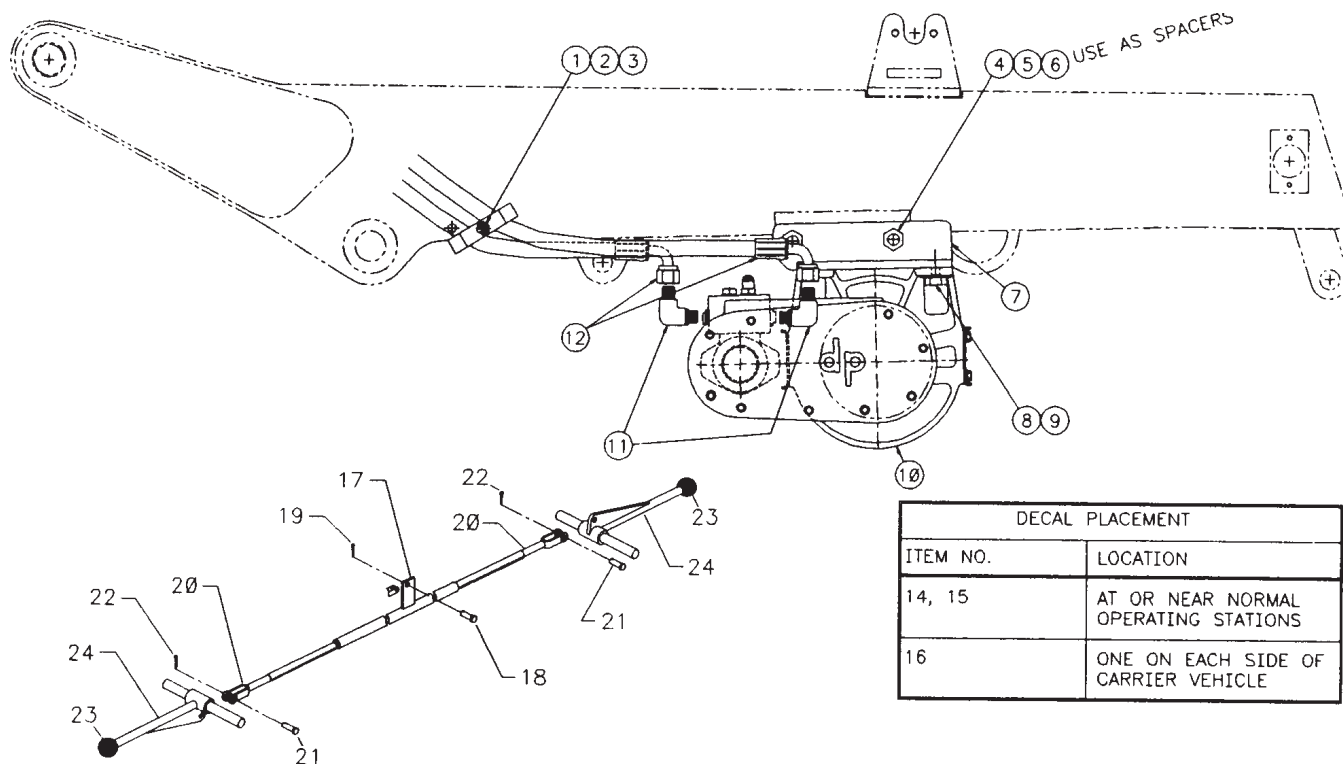
**70394141**

**DETAIL  
ITEM 15**

# **OPTION-WINCH KIT-DP 5000# BOLT-ON (31905000)**

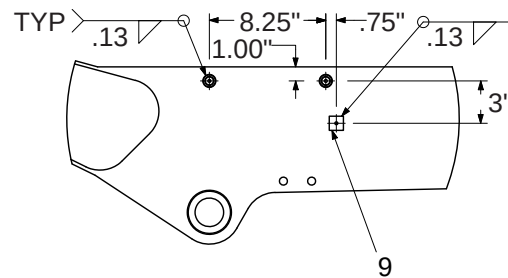
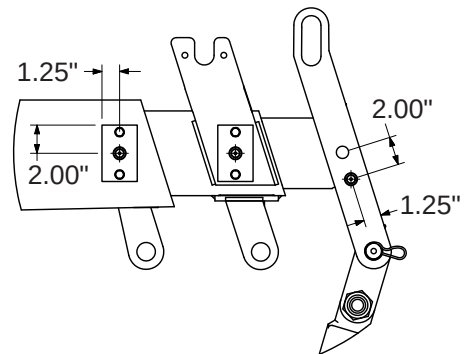
| ITEM | PART NO. | DESCRIPTION                | QTY |
|------|----------|----------------------------|-----|
| 1.   | 72062103 | NUT 3/8-16 LOCK            | 1   |
| 2.   | 60107648 | HOSE CLAMP                 | 1   |
| 3.   | 72060048 | CAP SCR 3/8-16X1-1/2 HHGR5 | 1   |
| 4.   | 72062114 | NUT 3/4-10 LOCK            | 2   |
| 5.   | 72060199 | CAP SCR 3/4-10X9 HHGR5     | 2   |
| 6.   | 72063028 | MACH BUSHING 3/4X14GA      | 4   |
| 7.   | 52712475 | MTG BRACKET                | 1   |
| 8.   | 72601272 | CAP SCR 1/2-13X1-1/4 HHGR8 | 4   |
| 9.   | 72063053 | WASHER 1/2 LOCK            | 4   |
| 10.  | 71570217 | WINCH-5000#                | 1   |

|     |          |                          |   |
|-----|----------|--------------------------|---|
| 11. | 72053763 | ELBOW #8MSTR #8MJIC 90°  | 2 |
| 12. | 51712981 | HOSE ASM 3/8X312 FJ #8#8 | 2 |
| 14. | 70392861 | DECAL-DANGER 2-BLOCKING  | 2 |
| 15. | 70392863 | DECAL-DANGER HOIST PERS  | 2 |
| 16. | 70392868 | DECAL-DANGER CRANE LOAD  | 4 |
| 17. | 52705877 | CONTROL ROD-F            | 1 |
| 18. | 72066337 | PIN-SPCL VB              | 1 |
| 19. | 72066336 | COTTER PIN-SPCL SHORT    | 1 |
| 20. | 52704745 | CONTROL ROD-M            | 2 |
| 21. | 72066338 | CLEVIS PIN 5/16X1        | 2 |
| 22. | 72066168 | COTTER PIN 3/32X3/4      | 2 |
| 23. | 71039096 | CONTROL KNOB 1-1/2       | 2 |
| 24. | 70029451 | CONTROL HANDLE VB        | 2 |



| ITEM | PART NO. | DESCRIPTION                    | QTY |
|------|----------|--------------------------------|-----|
| 1.   | 51724375 | YOKE-TWO-BLK DMG PREV ASM      | 1   |
| 2.   | 72661693 | BLOCK-TPD .25-20X .44X 0.91DIA | 5   |
| 3.   | 51724374 | CORD REEL ASM                  | 1   |
| 4.   | 70034381 | SUPPORT                        | 3   |
| 5.   | 72060006 | CAP SCR .25-20X 1.50 HH GR5 Z  | 3   |
| 6.   | 72060000 | CAP SCR .25-20X .50 HH GR5 Z   | 3   |
| 7.   | 72063001 | WASHER .25 FLAT                | 3   |
| 8.   | 72063049 | WASHER .25 LOCK                | 3   |
| 9.   | 60107237 | BLOCK-TPD .25-20 X 1 X 1 X .5  | 1   |
| 10.  | 60138820 | BRACKET                        | 1   |

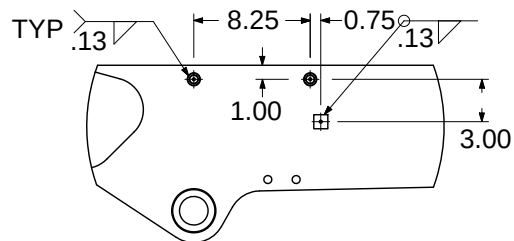
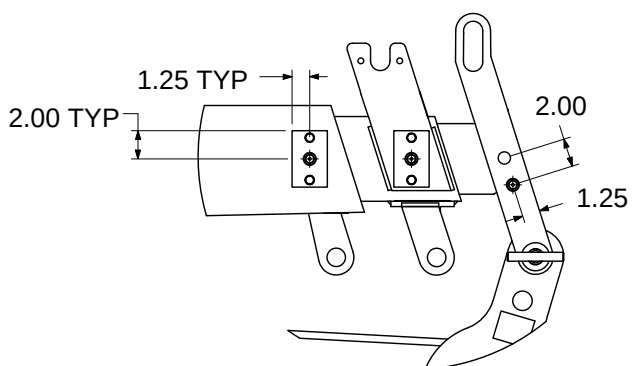
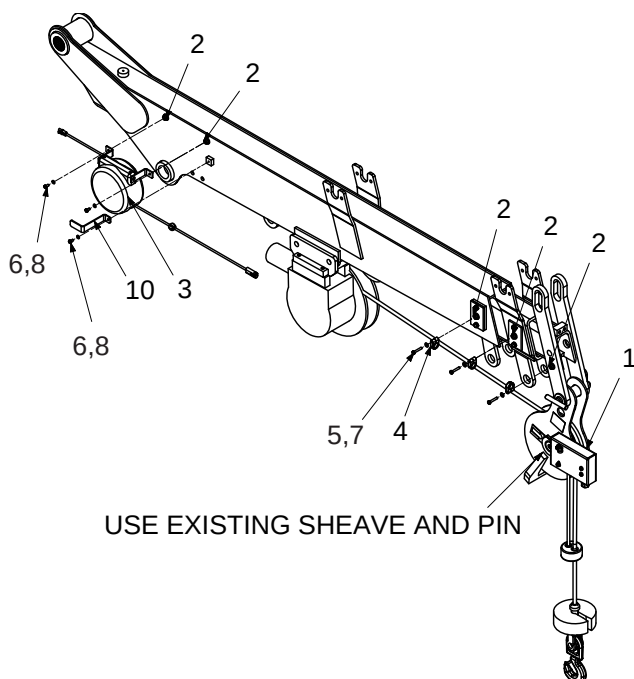
NOTE: USE EXISTING  
SHEAVE, BEARING & PIN



## TWO-BLOCK DAMAGE PREVENTION KIT (51724356 / DWG 99905343)

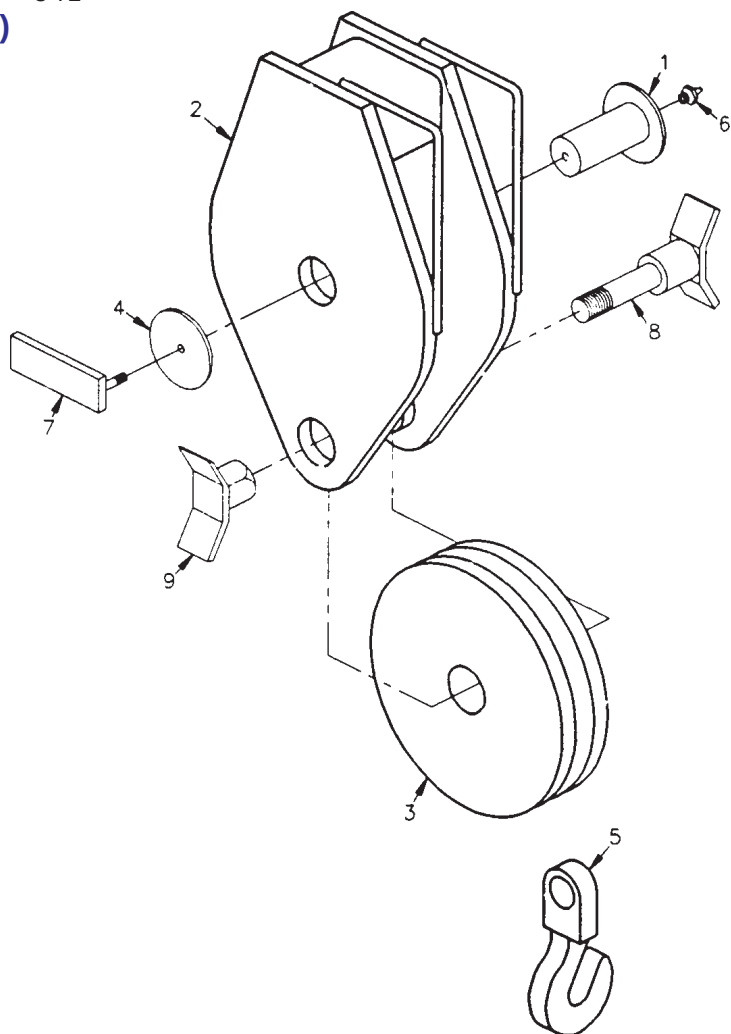
| ITEM | PART NO. | DESCRIPTION                    | QTY |
|------|----------|--------------------------------|-----|
| 1.   | 51724414 | YOKE-A2BASM                    | 1   |
| 2.   | 72661693 | BLOCK-TPD .25-20X .44X 0.91DIA | 5   |
| 3.   | 51724374 | CORD REEL ASM                  | 1   |
| 4.   | 70034381 | SUPPORT                        | 3   |
| 5.   | 72060006 | CAP SCR .25-20X 1.50 HH GR5 Z  | 3   |
| 6.   | 72060000 | CAP SCR .25-20X .50 HH GR5 Z   | 3   |
| 7.   | 72063001 | WASHER .25 FLAT                | 3   |
| 8.   | 72063049 | WASHER .25 LOCK                | 3   |
| 9.   | 60107237 | BLOCK-TPD .25-20 X 1 X 1 X .5  | 1   |
| 10.  | 60138820 | BRACKET-CORD REEL RET.         | 1   |

NOTE: FOR USE WITH 5000 LB WINCH



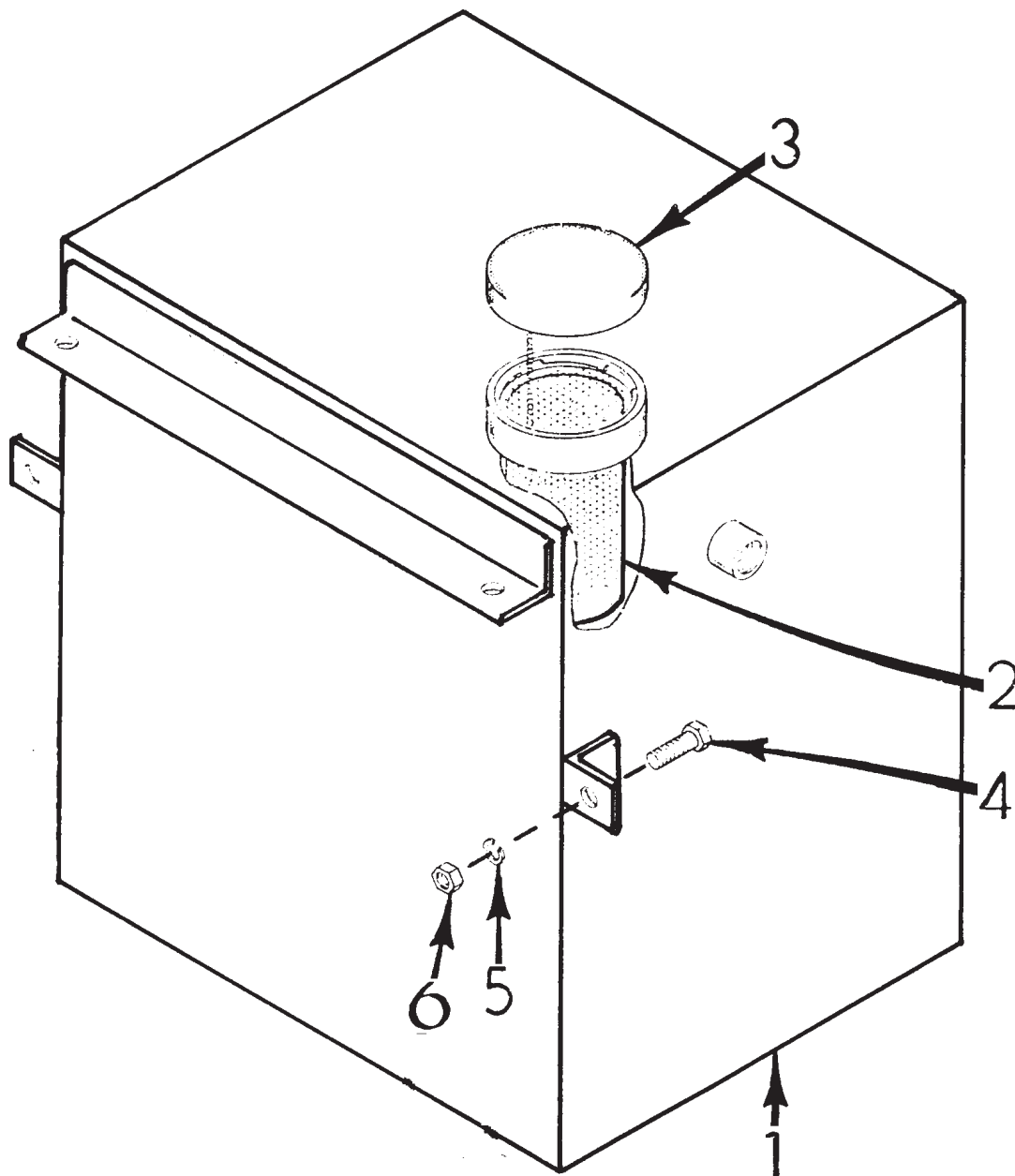
**OPTION-SNATCH BLOCK KIT (51711963)**

| ITEM | PART NO. | DESCRIPTION           | QTY |
|------|----------|-----------------------|-----|
| 1.   | 52707731 | PIN                   | 1   |
| 2.   | 52707735 | SNATCH BLOCK          | 1   |
| 3.   | 60030134 | SHEAVE-8" NYLON       | 1   |
| 4.   | 60109337 | PIN RETAINER PLATE 3" | 1   |
| 5.   | 71073035 | HOOK 4.5 TON SWVL     | 1   |
| 6.   | 72053508 | ZERK 1/8NPT           | 1   |
| 7.   | 52709458 | WING BOLT             | 1   |
| 8.   | 52711964 | PIN                   | 1   |
| 9.   | 52706671 | RETAINER PLATE W/NUT  | 1   |



**OPTION-AUX RESERVOIR-30 GAL  
(31701760)**

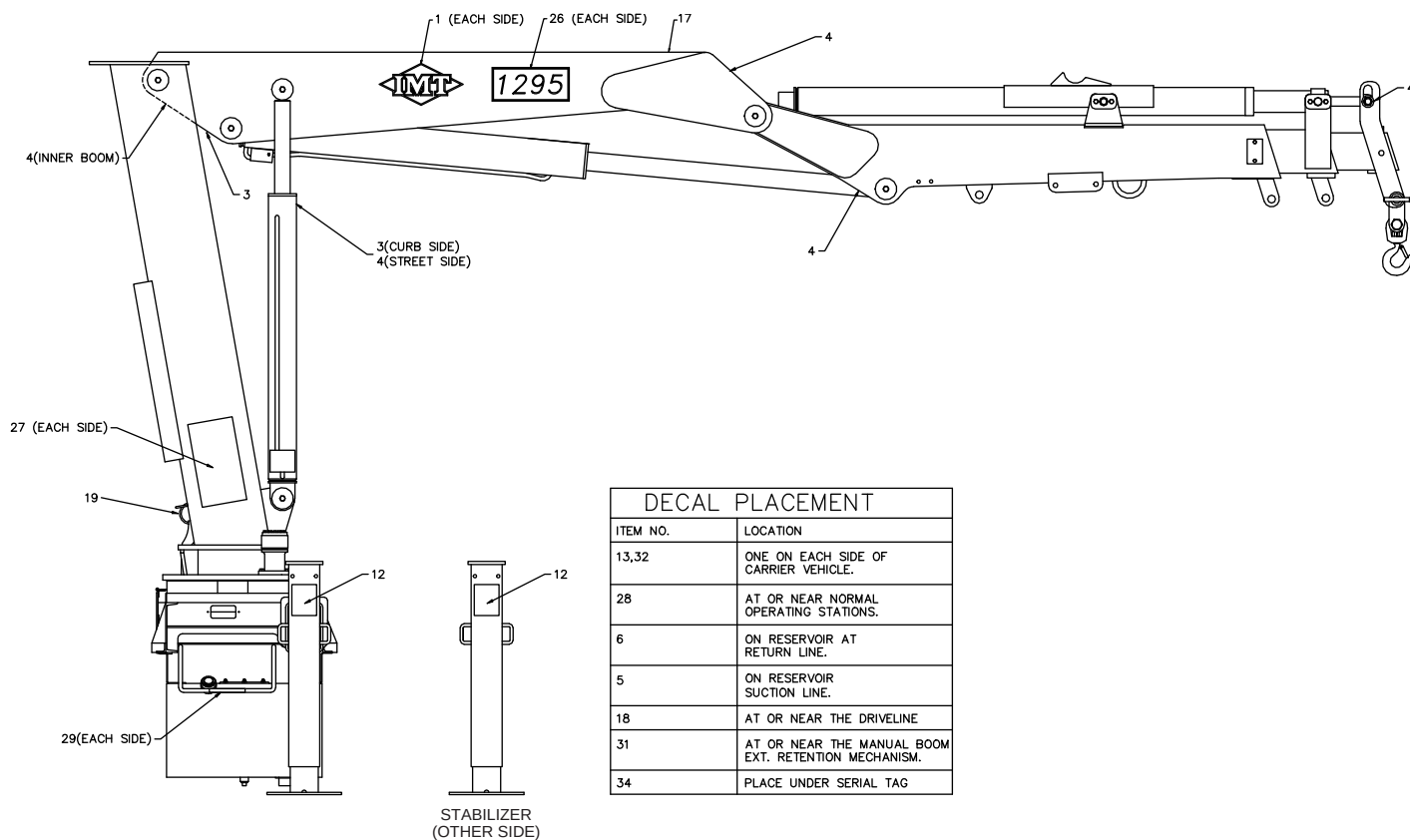
| ITEM | PART NO. | DESCRIPTION                | QTY |
|------|----------|----------------------------|-----|
| 1.   | 52701550 | RESERVOIR                  | 1   |
| 2.   | 73141276 | STRAINER                   | 1   |
| 3.   | 73014671 | FILL CAP                   | 1   |
| 4.   | 72060093 | CAP SCR 1/2-13X1-1/2 HHGR5 | 4   |
| 5.   | 72063053 | WASHER 1/2 LOCK            | 4   |
| 6.   | 72062004 | NUT 1/2-13 HEX             | 4   |



# **DECAL KIT-MODEL 1295 1H & 2H (95712013-1)**

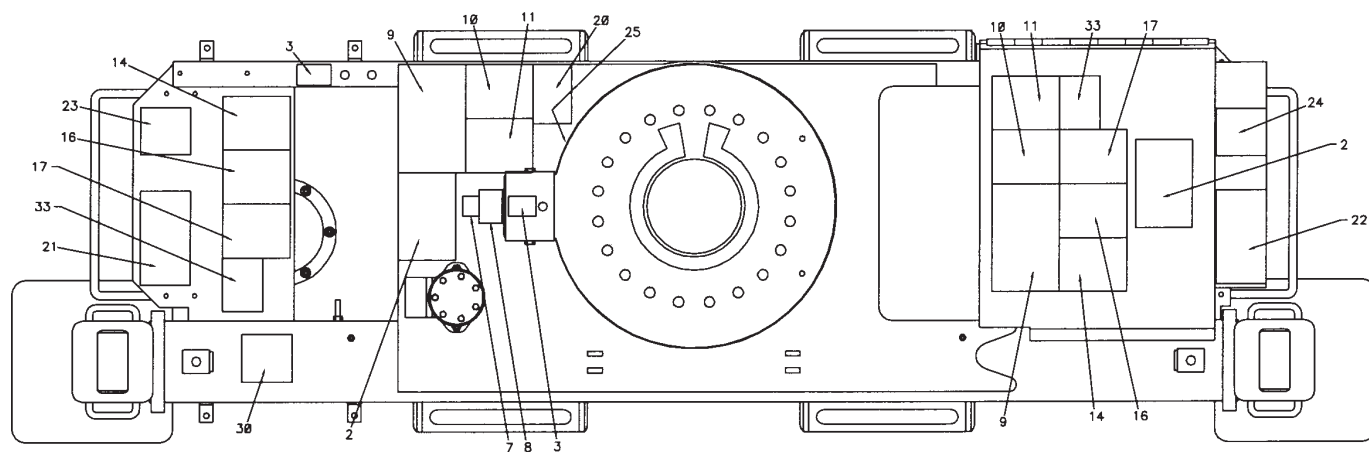
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|              |                           |   |              |                           |      |
|--------------|---------------------------|---|--------------|---------------------------|------|
| 1. 70029251  | PLACARD - IMT DIAMOND     | 2 | 18. 70392891 | DECAL-DANGER DRIVELINE    | 2    |
| 2. 70391583  | DECAL-SETUP/STOW INST.    | 2 | 19. 70392982 | DECAL-CONTACT IMT         | 1    |
| 3. 70391612  | DECAL-GREASE WEEKLY LEFT  | 3 | 20. 71039134 | DECAL-CAUTION OIL LEVEL   | 1    |
| 4. 70391613  | DECAL-GREASE WEEKLY RIGHT | 7 | 21. 71392255 | DECAL-CONTROL STRT SIDE   | 1    |
| 5. 70392108  | DECAL-SUCTION LINE        | 1 | 22. 71392256 | DECAL-CONTROL CURB SIDE   | 1    |
| 6. 70392109  | DECAL-RETURN LINE         | 1 | 23. 71392257 | DECAL-STAB PD STRT SIDE   | 1    |
| 7. 70392213  | DECAL-CAUTION WASH/WAX    | 1 | 24. 71392258 | DECAL-STAB PD CURB SIDE   | 1    |
| 8. 70392524  | DECAL-ROTATE CRNE/GREASE  | 1 | 25. 71392365 | DECAL-ALIGNMENT CRNE ROT  | 1    |
| 9. 70392813  | DECAL-DANGER ELECTROC'N   | 2 | 26. 71393793 | DECAL-1295 IDENTIFICATION | 2    |
| 10. 70392814 | DECAL-WARN OPERATOR       | 2 | 27. 71393779 | CAPACITY PLACARD-1H & 2H  | 2    |
| 11. 70392815 | DECAL-WARN OPERATION      | 2 | 28. 70392889 | DECAL-RC ELECTROCUTION    | 2    |
| 12. 70392864 | DECAL-WARN STAB STD CLR   | 2 | 29. 70394190 | DECAL-CAUTION NOT A STEP  | 2    |
| 13. 70392865 | DECAL-DANGER ELECTROC'N   | 4 | 30. 70394189 | PLACARD-OIL REC           | 1    |
| 14. 70392866 | DECAL-WARN OPER COND      | 2 | 31. 70394443 | DECAL-WARN FALL BOOM      | 1REF |
| 16. 70392888 | DECAL-WARN OPER RESTRICT  | 2 | 32. 70392868 | DECAL-WARN CR LOADLINE    | 4    |
| 17. 70392890 | DECAL-DGER STOW/UNFOLD    | 2 | 33. 70392863 | DECAL-WARN HOIST PERS     | 2    |
|              |                           |   | 34. 70395323 | DECAL-ASME/ANSI B30.22    | 1    |
|              |                           |   | 35. 72052097 | LEVEL                     | 2    |



NOTE: PLACE ITEM #35, LEVEL, ON FRONT AND SIDE OF CRANE BASE.

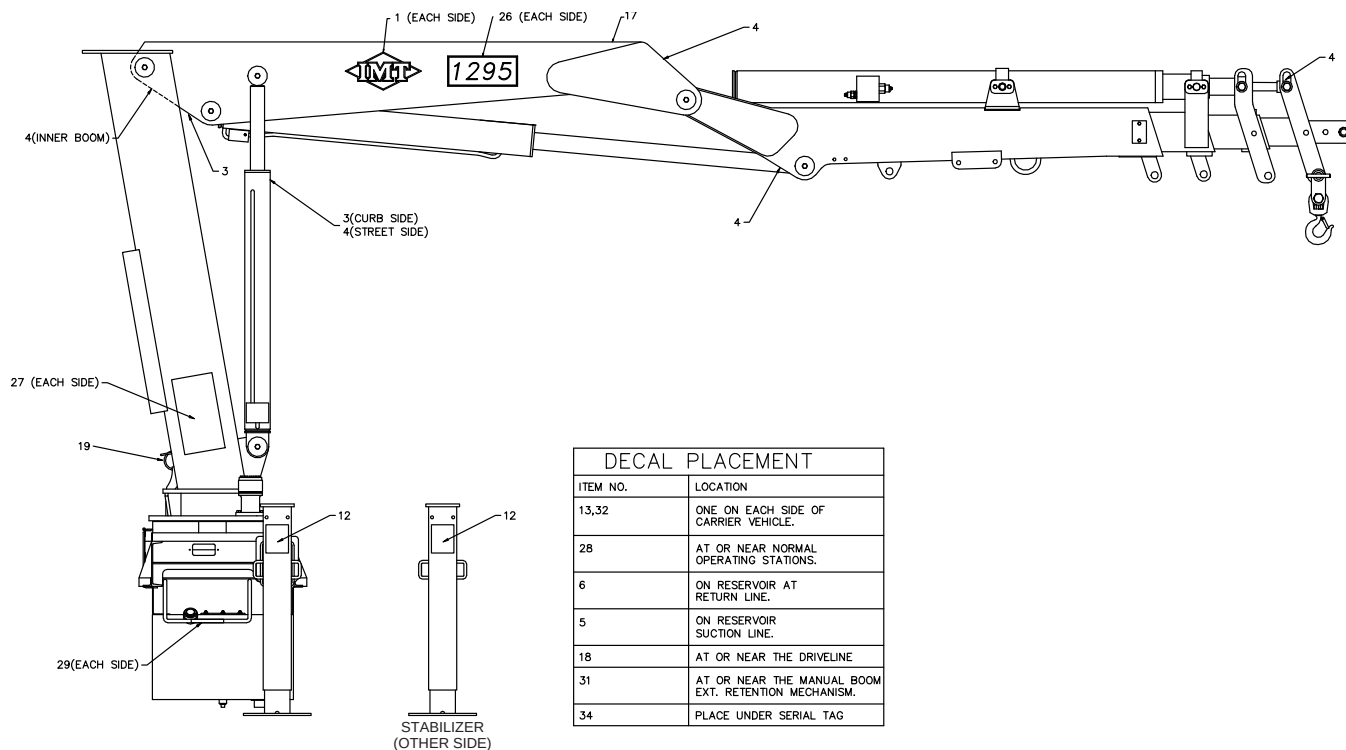


**DECAL KIT-MODEL 1295 1H & 2H  
(95712013-2)**

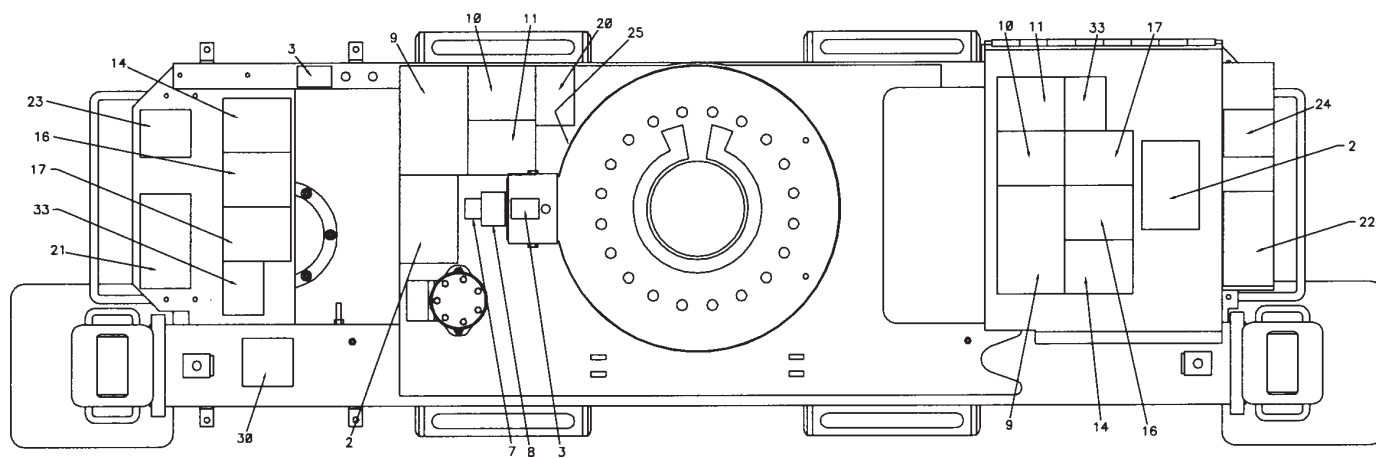
# **DECAL KIT-MODEL 1295 2H1M-3H1M (95711908-1)**

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|              |                           |   |              |                           |       |
|--------------|---------------------------|---|--------------|---------------------------|-------|
| 1. 70029251  | PLACARD - IMT DIAMOND     | 2 | 18. 70392891 | DECAL-DANGER DRIVELINE    | 2     |
| 2. 70391583  | DECAL-SETUP/STOW INST.    | 2 | 19. 70392982 | DECAL-CONTACT IMT         | 1     |
| 3. 70391612  | DECAL-GREASE WEEKLY LEFT  | 4 | 20. 71039134 | DECAL-CAUTION OIL LEVEL   | 1     |
| 4. 70391613  | DECAL-GREASE WEEKLY RIGHT | 5 | 21. 71392255 | DECAL-CONTROL STRT SIDE   | 1     |
| 5. 70392108  | DECAL-SUCTION LINE        | 1 | 22. 71392256 | DECAL-CONTROL CURB SIDE   | 1     |
| 6. 70392109  | DECAL-RETURN LINE         | 1 | 23. 71392257 | DECAL-STAB PD STRT SIDE   | 1     |
| 7. 70392213  | DECAL-CAUTION WASH/WAX    | 1 | 24. 71392258 | DECAL-STAB PD CURB SIDE   | 1     |
| 8. 70392524  | DECAL-ROT CRANE/GREASE    | 1 | 25. 71392365 | DECAL-ALIGNMENT CRNE ROT  | 1     |
| 9. 70392813  | DECAL-DANGER ELECTROC'N   | 2 | 26. 71393793 | DECAL-1295 IDENTIFICATION | 2     |
| 10. 70392814 | DECAL-WARN OPERATOR       | 2 | 27. 71393757 | CAP PLACARD-2H1M-3H1M     | 2     |
| 11. 70392815 | DECAL-WARN OPERATION      | 2 | 28. 70392889 | DECAL-RC ELECTROCUTION    | 2     |
| 12. 70392864 | DECAL-WARN STAB STD CLR   | 2 | 29. 70394190 | DECAL-CAUTION NOT A STEP  | 2     |
| 13. 70392865 | DECAL-DANGER ELECTROC'N   | 4 | 30. 70394189 | PLACARD-OIL REC           | 1     |
| 14. 70392866 | DECAL-WARN OPER COND      | 2 | 31. 70394446 | DECAL-WARN FALL BOOM      | 1 REF |
| 16. 70392888 | DECAL-WARN OPER RESTRICT  | 2 | 32. 70392868 | DECAL-WARN CR LOADLINE    | 4     |
| 17. 70392890 | DECAL-DGR STOW/UNFOLD     | 2 | 33. 70392863 | DECAL-WARN HOIST PERS     | 2     |
|              |                           |   | 34. 70395323 | DECAL-ASME/ANSI B30.22    | 1     |
|              |                           |   | 35. 72042097 | LEVEL                     | 2     |



NOTE: PLACE ITEM #35, LEVEL, ON FRONT AND SIDE OF CRANE BASE.

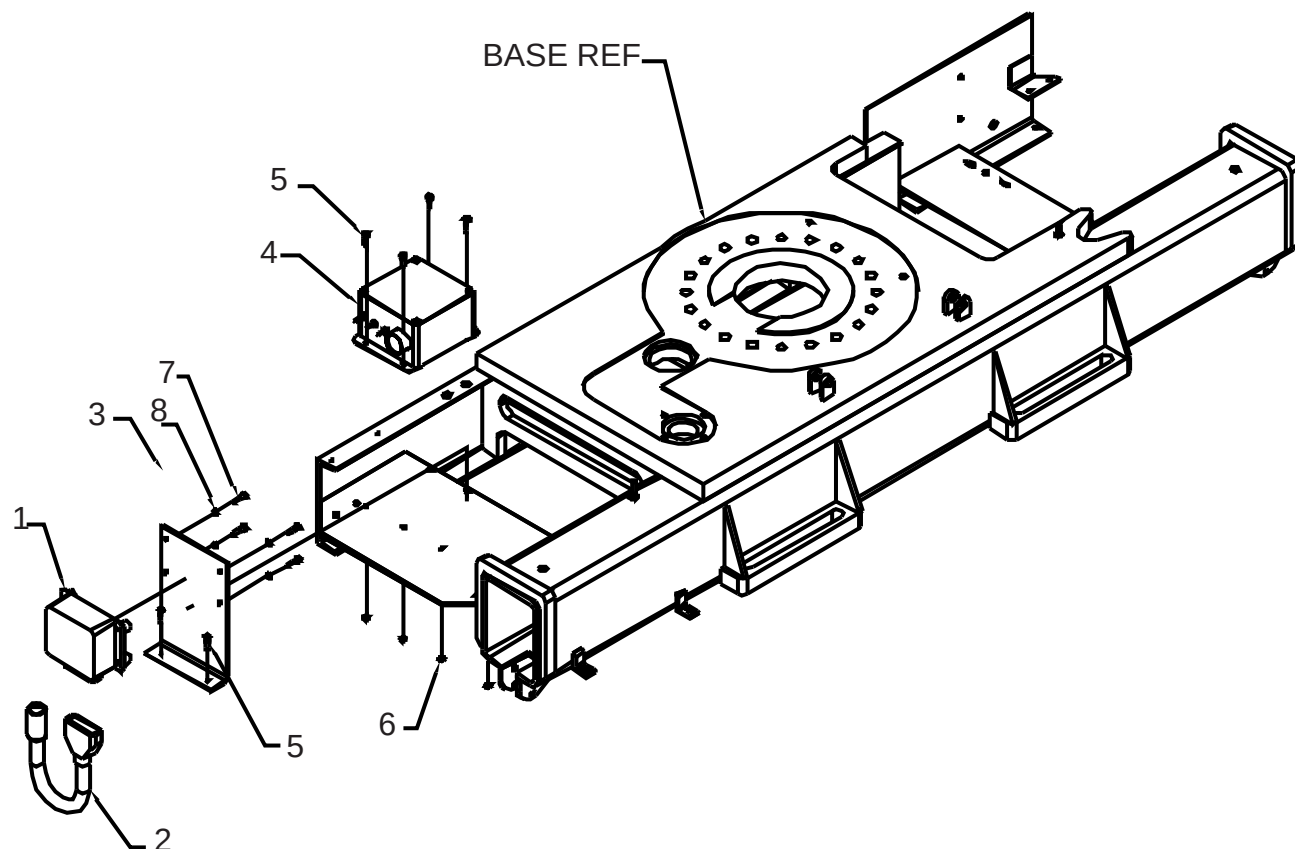
**DECAL KIT-MODEL 1295 2H1M-3H1M  
(95711908-2)**

# **RADIO REMOTE RETROFIT KIT (DWG. 99903330-1) (KIT 91717058)**

|     |          |                                 |   |
|-----|----------|---------------------------------|---|
| 1.  | 73733600 | RADIO REMOTE KIT                | 1 |
| 2.  | 77045894 | HARNESS                         | 1 |
| 3.  | 60123676 | MOUNTING PLATE                  | 1 |
| 4.  | 51717059 | JIC BOX ASM                     | 1 |
| 5.  | 72060005 | CAP SCR 1/4-20X1.25             | 6 |
| 6.  | 72062104 | NUT 1/4-20HEX NYLOC ZINC        | 6 |
| 7.  | 72601761 | CAP SCR 6MMX12MMX1.00           | 4 |
| 8.  | 72601762 | WASHER LOCK 6MM                 | 4 |
| 10. | 73054876 | VALVE-PROP N PRIORITY FLOW 1REF |   |
| 11. | 72060051 | CAP SCR 3/8-16X2.25             | 2 |
| 12. | 72062103 | NUT 3/8-16 HEX NYLOC ZINC       | 2 |
| 13. | 77041251 | RELAY                           | 3 |
| 14. | 77041237 | SOLENOID                        | 1 |
| 15. | 51704784 | CABLE ASM                       | 1 |

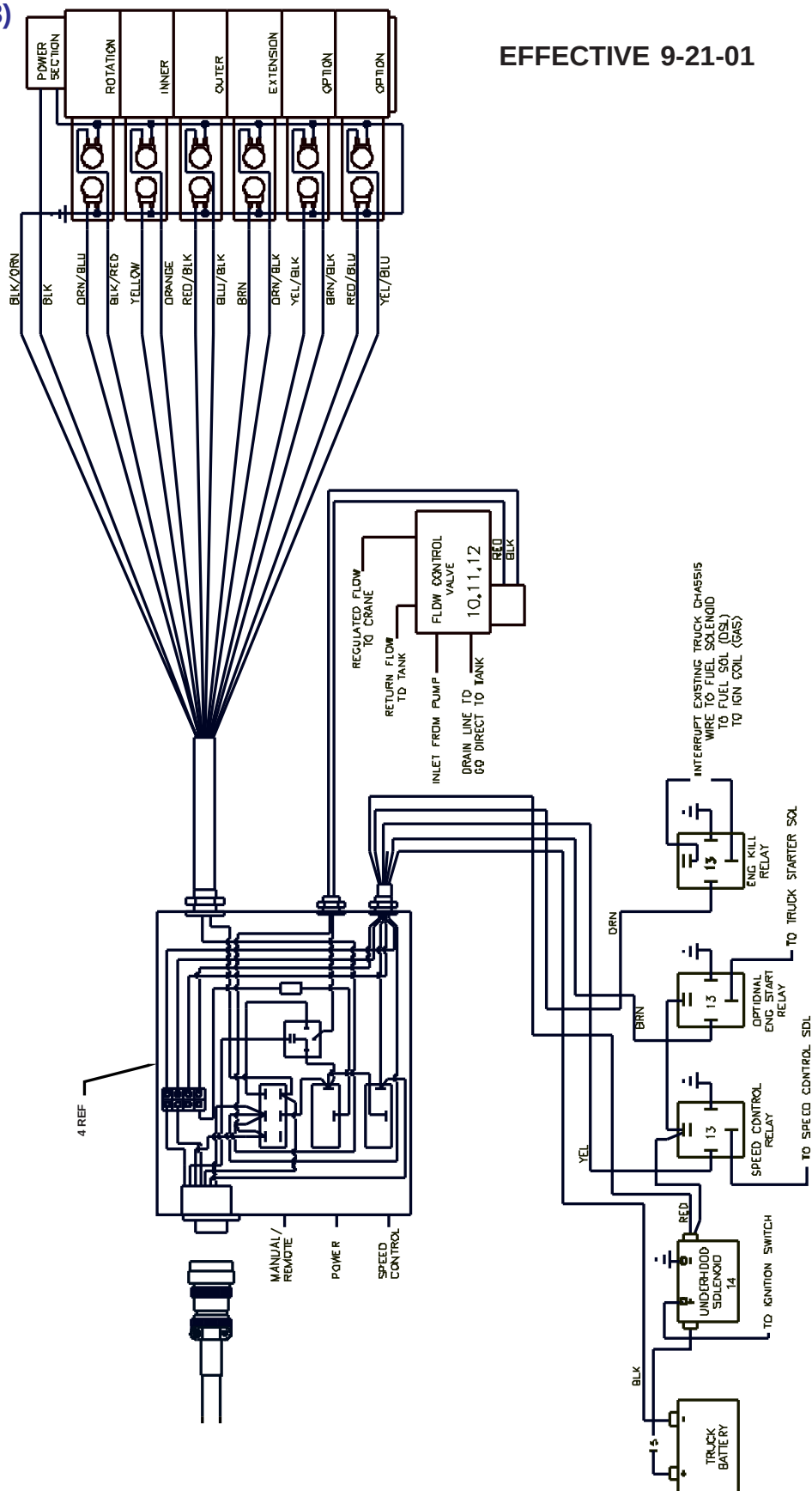
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EFFECTIVE 9-21-01



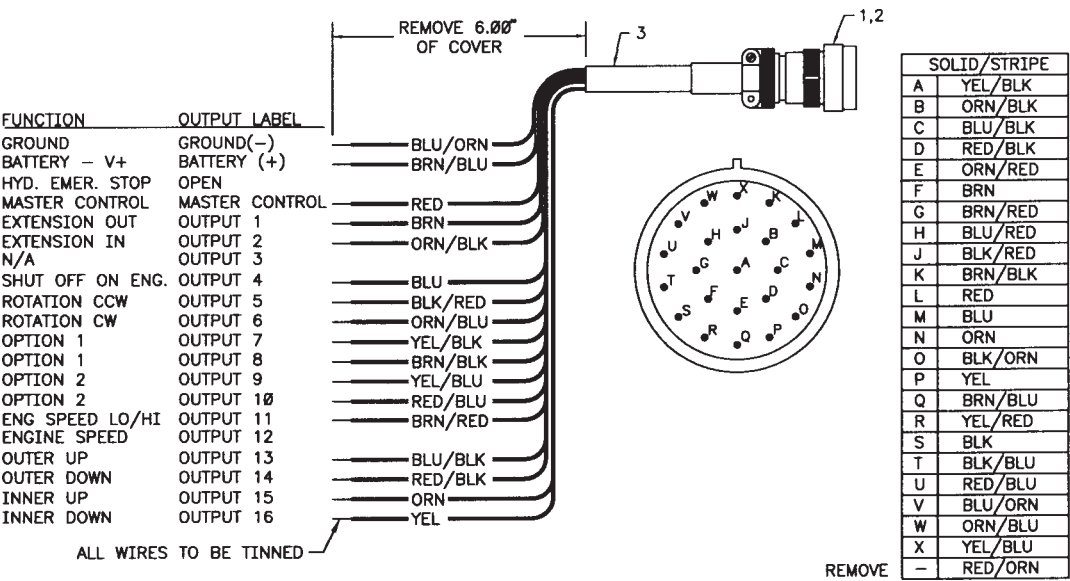
PARTS LIST ON PREVIOUS PAGE

**EFFECTIVE 9-21-01**



CABLE ASM-18GA/24 WIREX115  
(51714624)

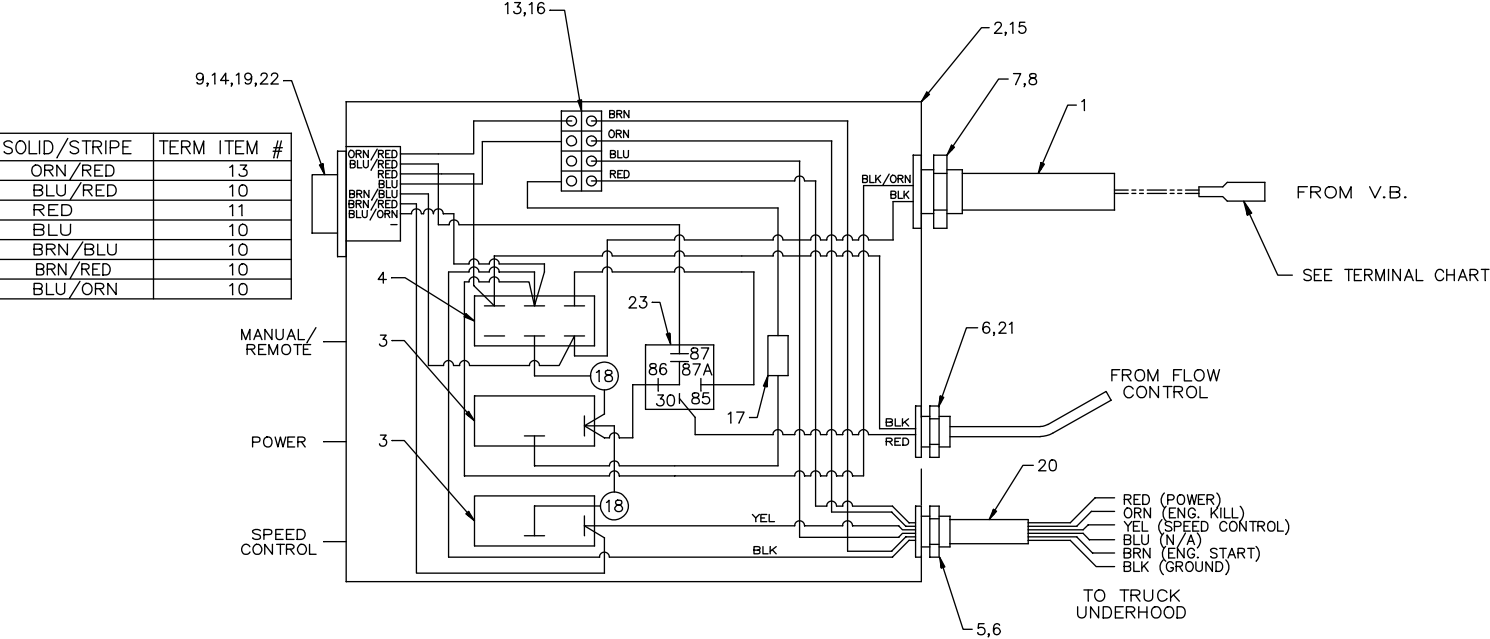
| ITEM | PART NO. | DESCRIPTION            | QTY |
|------|----------|------------------------|-----|
| 1.   | 77044621 | PIN                    | 24  |
| 2.   | 77044579 | CONNECTOR              | 1   |
| 3.   | 89044100 | CABLE 18GA/24 WIREX115 | 1   |



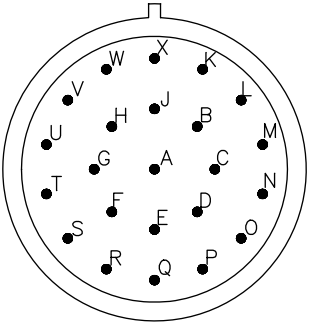
JIC BOX ASM-RADIO REMOTE (51717059)

|     |          |                              |         |
|-----|----------|------------------------------|---------|
| 1.  | 89044100 | CABLE 18GA/24                | 7.83 FT |
| 2.  | 90714496 | JIC BOX ASM 6X6X6            | 1       |
| 3.  | 77041345 | TOGGLE SWITCH (WAS 77041237) | 2       |
| 4.  | 77041354 | TOGGLE SWITCH                | 1       |
| 5.  | 77044018 | CONNECTOR 1/2 STR RLF        | 3       |
| 6.  | 77044201 | NUT ELEC 1/2 LOCK            | 3       |
| 7.  | 77044196 | CONNECTOR 3/4 STR RLF        | 1       |
| 8.  | 77044202 | NUT ELEC 3/4 LOCK            | 1       |
| 9.  | 77044620 | CONNECTOR                    | 1       |
| 10. | 77040186 | TERMINAL FSLPON 1.25TAB      | 14      |

|     |          |                                    |       |
|-----|----------|------------------------------------|-------|
| 11. | 77040282 | TERMINAL PIGBAC                    | 6     |
| 12. | 77044668 | SEAL PLUG                          | 2     |
| 13. | 77040051 | TERMINAL SPRSPADE                  | 6     |
| 14. | 77044667 | CAP PLUG                           | 1     |
| 15. | 70393257 | DECAL 6X6X4 JIC BOX                | 1     |
| 16. | 77044341 | TERMINAL BLOCK 4 CONTACT           | 1     |
| 17. | 77041056 | IN-LINE 20 AMP FUSE                | 1     |
| 18. | 89044232 | WIRE 14GA RED                      | .5 FT |
| 19. | 77044646 | WASHER LOCK                        | 1     |
| 20. | 89044354 | CABLE 14GA/6                       | 7 FT  |
| 21. | 77044468 | CONNECTOR 1/2 STR RLF              | 1     |
| 22. | 77044645 | NUT DEUTSCH                        | 1     |
| 23. | 77041251 | RELAY-12V 30 AMP NOM/<br>40AMP MAX | 1     |



| SOLID/STRIPE | TERM ITEM NO |
|--------------|--------------|
| A YEL/BLK    | 10           |
| B ORN/BLK    | 10           |
| C BLU/BLK    | 10           |
| D RED/BLK    | 10           |
| E ORN/RED    | -            |
| F BRN        | 10           |
| G BRN/RED    | -            |
| H BLU/RED    | -            |
| J BLK/RED    | 10           |
| K BRN/BLK    | 10           |
| L RED        | -            |
| M BLU        | -            |
| N ORN        | 10           |
| O BLK/ORG    | 10           |
| P YEL        | 10           |
| Q BRN/BLU    | -            |
| R YEL/RED    | -            |
| S BLK        | 10           |
| T BLK/BLU    | -            |
| U RED/BLU    | 10           |
| V BLU/ORN    | -            |
| W ORN/BLU    | 10           |
| X YEL/BLU    | 10           |
| - RED/ORN    | -            |

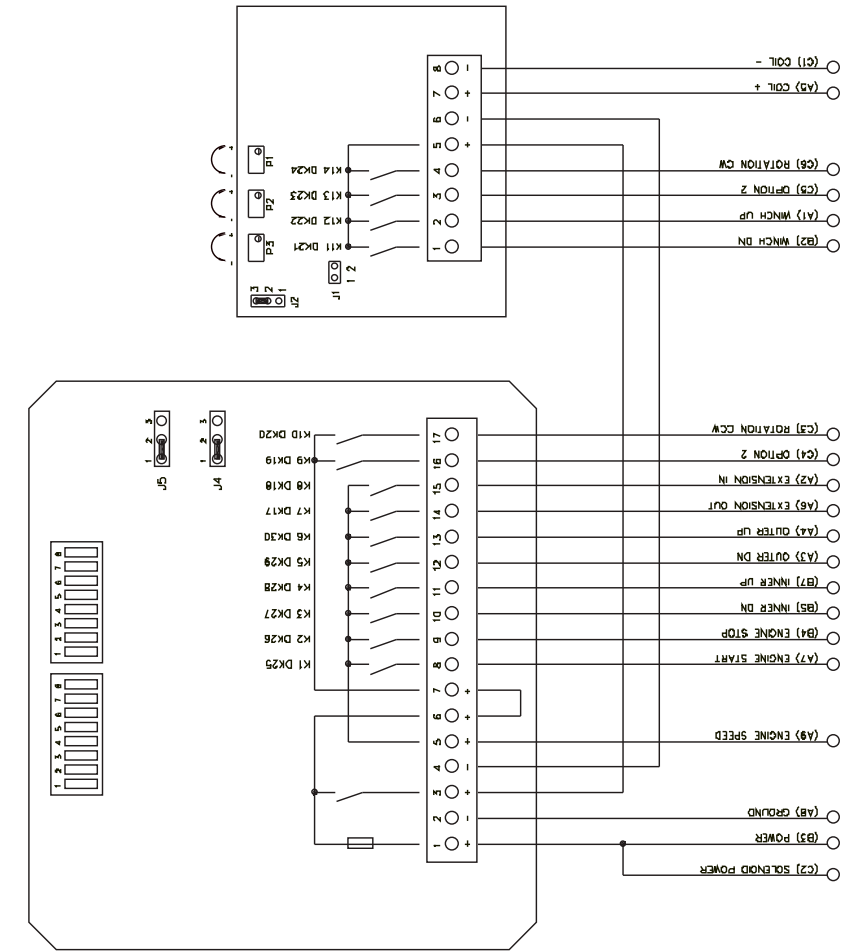


**RADIO REMOTE KIT (73733600-1)**

- |    |          |                                |   |
|----|----------|--------------------------------|---|
| 1. | 73733588 | RADIO RMT RECEIVER             | 1 |
| 2. | 73733589 | RADIO RMT TRANSMITTER          | 1 |
| 3. | 70146100 | BATTERY-VERSA PAK 3.6V         | 2 |
| 5. | 70146279 | BATTERY CHARGER (EFF. 10/02)   | 1 |
|    | 70146102 | BATTERY CHARGER (THRU 9/30/02) | 1 |
| 6. | 70146103 | MAGNET- RADIO RMT TRANSM.      | 1 |

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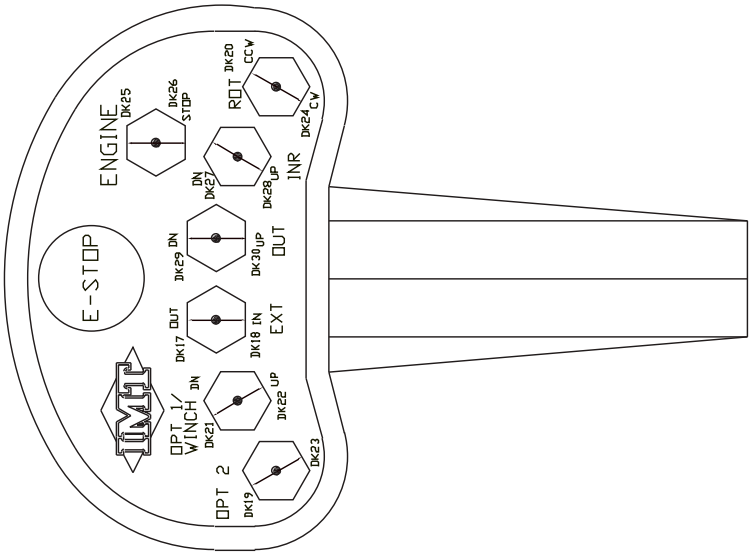
**EFFECTIVE 9-21-01**



JUMPER CONNECTIONS INSIDE RECEIVER

J1: PULSE/DITHER FREQUENCY  
- NO JUMPER

J2: CONTROL RANGE OF OUTPUT CURRENT  
(ONLY CURRENT - CONTROL)  
- PIN 2/3 CONNECTED: D-2A



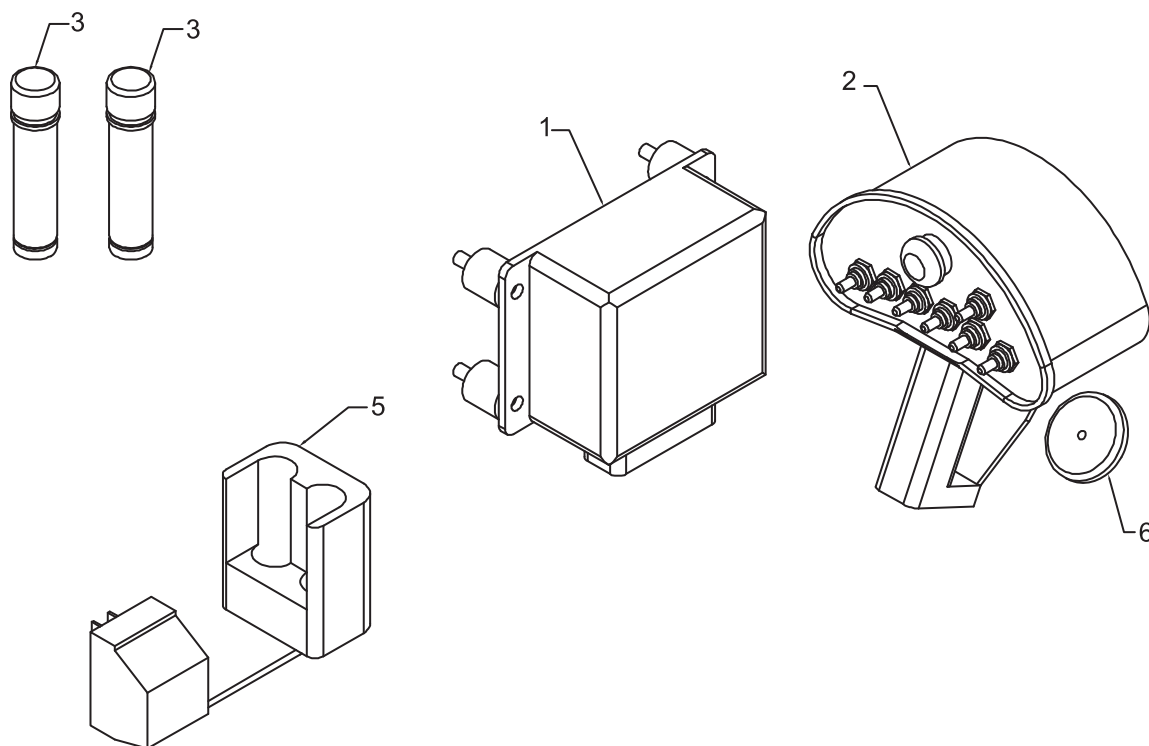
- P1: Trimming Potentiometer for Maximum Values**  
On transmitter handle, engage Rotation CW or CCW function switch and pull trigger fully on. Crane MAY or MAY NOT begin to move at this time due to initial P1 setting. Turn P1 potentiometer counter-clockwise until desired maximum speed is obtained or until speed no longer continues to increase.
- P2: Trimming Potentiometer for Initial Value Adjustment**  
On transmitter, engage Rotation CW or CCW function switch. Without pulling trigger, adjust P2 counterclockwise until crane begins to move. At this time, adjust P2 clockwise until no movement is detected. Slightly engage trigger and adjust P2 to fine tune.
- P3: Trimming Potentiometer to Adjust Dither Amplitude**  
Adjust clockwise or counterclockwise for smoothness of operation.



**RADIO REMOTE KIT (73733600-2)**

PARTS LIST ON PREVIOUS PAGE

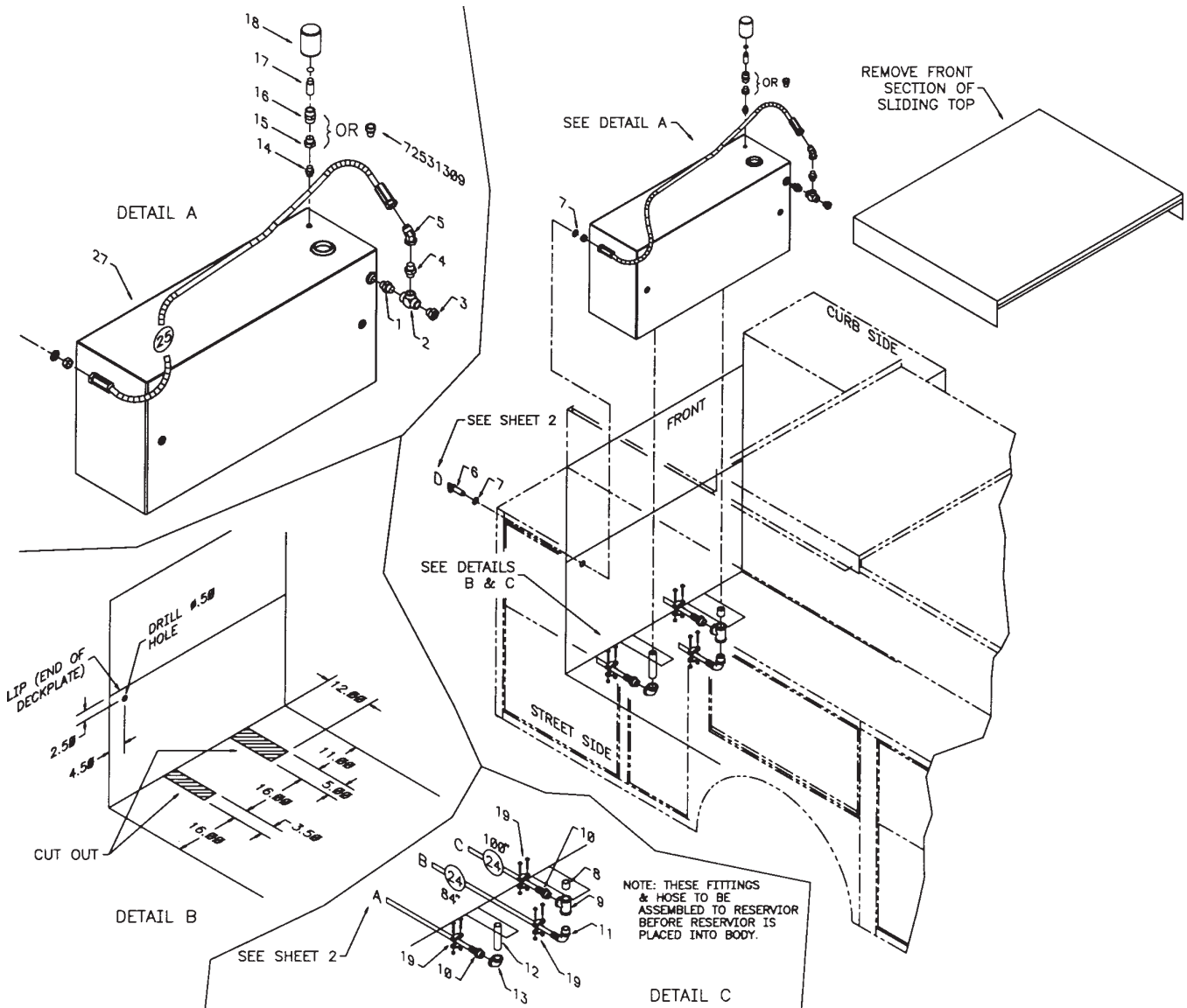
**EFFECTIVE 9-21-01**



# **INSTALLATION DWG-RESERVOIR PLUMBING (99901277-1)**

| ITEM | PART NO. | DESCRIPTION                                          | QTY  |
|------|----------|------------------------------------------------------|------|
| 1.   | 72053558 | ADPTR 3/4MPT 3/4MPT                                  | 1    |
| 2.   | 72053555 | TEE-3/4STL                                           | 1    |
| 3.   | 72532681 | SIGHT GAGE 3/4PLUG W/REFLT<br>(PART OF 27)           | 1REF |
| 4.   | 72053671 | ADPTR 3/4MPT #8MJIC                                  | 1    |
| 5.   | 72532670 | ELBOW #8MJIC #8FJIC 45°                              | 1    |
| 6.   | 72532986 | ELBOW #8MJIC #8MJIC BLKHD                            | 1    |
| 7.   | 72063116 | WASHER 3/4 FLAT                                      | 2    |
| 8.   | 72053211 | NIPPLE-PIPE BLK                                      | 1    |
| 9.   | 72053606 | TEE-BLK 1-1/4                                        | 1    |
| 10.  | 72531550 | NIPPLE-BARB STL 1-1/4MPT                             | 2    |
| 11.  | 72532346 | NIPPLE-BARB 90° 1-1/4 1-1/4                          | 1    |
| 12.  | 72053216 | NIPPLE-PIPE BLK 1-1/4X6                              | 1    |
| 13.  | 72053327 | ELBOW BLK 1-1/4X90°                                  | 1    |
| 14.  | 72053723 | ADPTR 3/8MPT 3/8MPT                                  | 1    |
| 15.  | 72531832 | REDUCER BUSH-STL 3/4-3/8                             | 1    |
| 16.  | 72053472 | COUPLING-STL 3/4HEX                                  | 1    |
| 17.  | 72533514 | ADPTR-BREATHR FLTR OILTnk                            | 1    |
| 18.  | 73054974 | FILTER-BREATHR OIL RSRVR                             | 1    |
| 19.  | 72066516 | CLAMP-HOSE 1-1/4 2-BOLT                              | 3    |
| 20.  | 52712969 | TANK 60GAL SALV/RES TD<br>(PART OF 27)               | 1REF |
| 21.  | 60109297 | ROD-THRD 1/2-13X21-1/2<br>(PART OF 27)               | 2REF |
| 22.  | 72062080 | NUT 1/2-13 HEX (PART OF 27)                          | 4REF |
| 23.  | 72063005 | WASHER 1/2W (PART OF 27)                             | 4REF |
| 24.  | 89393401 | HOSE-HYD 1-1/4                                       | 184" |
| 25.  | 51394528 | HOSE 1/2X73 #8F#8F                                   | 1    |
| 26.  | 70732184 | FILLNECK ASM-VENTED CAP<br>(PART OF 27)              | 1REF |
| 27.  | 51712968 | TANK-ASM 60G SAL/RES TD                              | 1    |
| 28.  | 99900910 | SALVAGE TANK INST/MOD DWG<br>(NOT USED) (PART OF 27) | 1REF |

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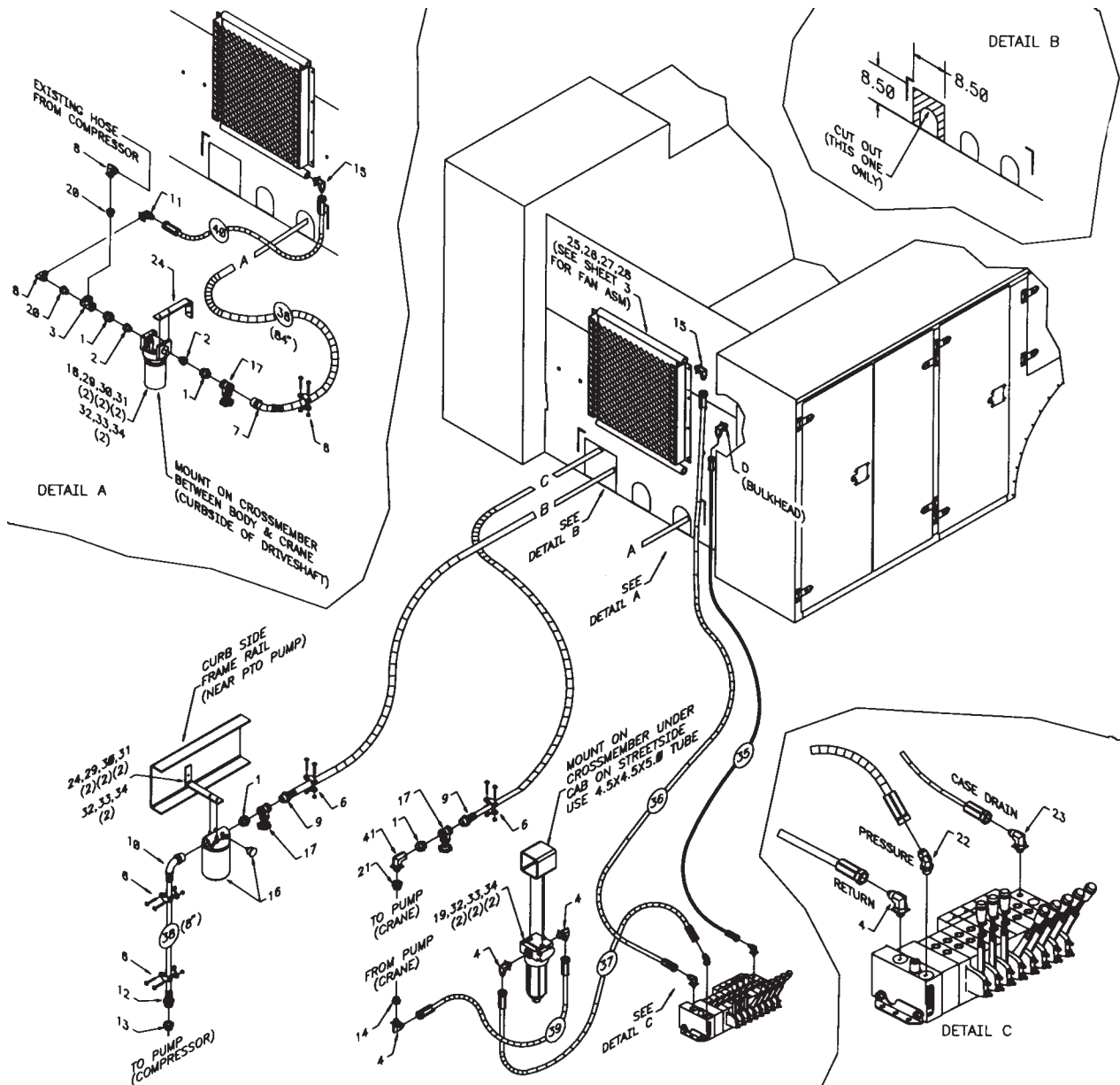
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**INSTALLATION DWG-PLUMBING  
(99901277-2)**

3-85

| ITEM | PART NO. | DESCRIPTION                    | QTY |
|------|----------|--------------------------------|-----|
| 1.   | 72053729 | ADPTR 1-1/4MPT MPT             | 4   |
| 2.   | 72053378 | REDUCER BUSH-BLK 1-1/2 1-1/4 2 |     |
| 3.   | 72053606 | TEE-BLK 1-1/4                  | 1   |
| 4.   | 72053767 | ELBOW #12MSTR #12MJIC 90°      | 4   |
| 5.   | 72053781 | ELBOW #12MSTR #12MJIC 45°      | 1   |
| 6.   | 72066516 | CLAMP-HOSE 1-1/4 2-BOLT        | 5   |
| 7.   | 72531196 | NIPPLE-BARB 45° 1-1/4 1-1/4    | 1   |
| 8.   | 72531427 | ELBOW 3/4MPT #12MJIC 90°       | 1   |
| 9.   | 72531550 | NIPPLE-BARB STL 1-1/4MPT       | 2   |
| 10.  | 72532346 | NIPPLE-BARB 90° 1-1/4 1-1/4    | 1   |
| 11.  | 72532696 | ELBOW #12MJIC #12FJIC SW       | 1   |
| 12.  | 72532833 | NIPPLE-BEAD 1MPT 1-1/4HOSE     | 1   |
| 13.  | 72532854 | ADPTR #24MSTR 1FPT             | 1   |
| 14.  | 72532949 | ADPTR #20MSTR #12FSTR          | 1   |
| 15.  | 72533372 | ELBOW #16MSTR #12MJIC 90°      | 1   |
| 16.  | 73052012 | FILTER-HYD 100MESH W/GAGE      | 1   |
| 17.  | 73054130 | VALVE-GATE 1-1/4 BRASS         | 3   |
| 18.  | 73054973 | FILTER-RETURN 10MIC            | 1   |
| 19.  | 73540000 | FILTER-PRES                    | 1   |

|     |          |                            |     |
|-----|----------|----------------------------|-----|
| 20. | 72053180 | REDUCER BUSH-BLK 1-1/4 3/4 | 2   |
| 21. | 72053753 | ADPTR #20MSTR 1-1/4FPT     | 1   |
| 22. | 72053781 | ELBOW #12MSTR #12MJIC 45°  | 1   |
| 23. | 72053763 | ELBOW #8MSTR #8MJIC 90°    | 1   |
| 24. | 60103870 | BRACKET-OIL FILTER         | 2   |
| 25. | 70145028 | FAN-12" PUSHER             | 2   |
| 26. | 70143824 | OIL COOLER W/O FAN         | 1   |
| 27. | 52715022 | GUARD-AFTERCOOLER          | 1   |
| 28. | 52715021 | MTG BRKT-AFTERCOOLER       | 1   |
| 29. | 72060025 | CAP SCR 5/16-18X1 HHGR5    | 4   |
| 30. | 72063002 | WASHER 5/16W FLAT          | 4   |
| 31. | 72063050 | WASHER 5/16 LOCK ZINC      | 4   |
| 32. | 72060048 | CAP SCR 3/8-16X1-1/2 HHGR5 | 5   |
| 33. | 72063003 | WASHER 3/8W FLAT           | 7   |
| 34. | 72062103 | NUT 3/8-16 HEX NYLOC       | 5   |
| 35. | 51394016 | HOSE 1/2X67 #8F#8F         | 1   |
| 36. | 51395064 | HOSE 3/4X94 #12F#12F       | 1   |
| 37. | 51394605 | HOSE 3/4X69 #12F#12F       | 1   |
| 38. | 89393401 | HOSE-HYD 1-1/4             | 92" |
| 39. | 51394526 | HOSE 3/4X73 #12F#12F       | 1   |
| 40. | 51394364 | HOSE 3/4X83 #12F#12F       | 1   |
| 41. | 72531135 | ELBOW STR STL 1-1/4X90°    | 1   |

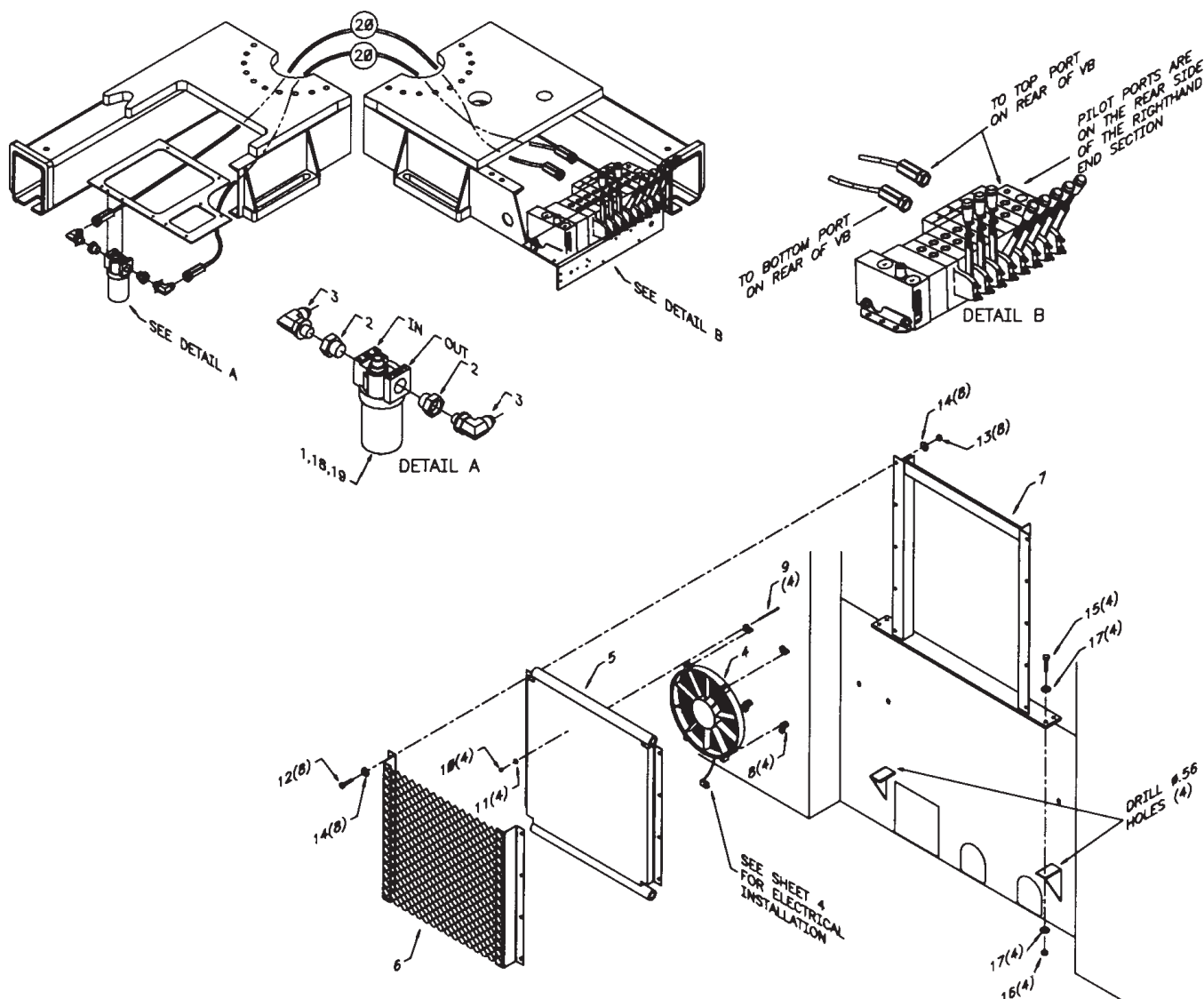


# **INSTALLATION DWG-PILOT & COOLER ASM (99901277-3)**

| ITEM | PART NO. | DESCRIPTION             | QTY  |
|------|----------|-------------------------|------|
| 1.   | 73054975 | FILTER-PILOT LINE 5MIC  | 1    |
| 2.   | 72532951 | ADPTR #12MSTR #8FSTR    | 2    |
| 3.   | 72053761 | ELBOW #8MSTR #6MJIC 90° | 2    |
| 4.   | 70145028 | FAN-12" PUSHER          | 1REF |
| 5.   | 70143824 | OIL COOLER W/O FAN      | 1REF |
| 6.   | 52715022 | GUARD-AFTERCOOLER       | 1REF |
| 7.   | 52715021 | MTG BRKT-AFTERCOOLER    | 1REF |
| 8.   | 70145030 | BRKT-FAN MTG 90°        | 4    |
| 9.   | 72601753 | SCR-MACH #10-24X3-1/2   | 4    |

|     |          |                             |    |
|-----|----------|-----------------------------|----|
| 10. | 72062106 | NUT #10-24 HEX NYLOC ZINC   | 4  |
| 11. | 72063123 | WASHER #10W FLAT            | 4  |
| 12. | 72060064 | CAP SCR 7/16-14X1-1/2 HHGR5 | 8  |
| 13. | 72062105 | NUT 7/16-14 HEX NYLOC Z     | 8  |
| 14. | 72063004 | WASHER 7/16W FLAT           | 16 |
| 15. | 72060093 | CAP SCR 1/2-13X1-1/2 HHGR5Z | 4  |
| 16. | 72062080 | NUT 1/2-13 HEX NYLOC Z      | 4  |
| 17. | 72063005 | WASHER 1/2W FLAT            | 8  |
| 18. | 72060004 | CAP SCR 1/4-20X1 HHGR5 Z    | 2  |
| 19. | 72063001 | WASHER 1/4W FLAT            | 2  |
| 20. | 51393908 | HOSE 1/2X81#8F#8F           | 2  |

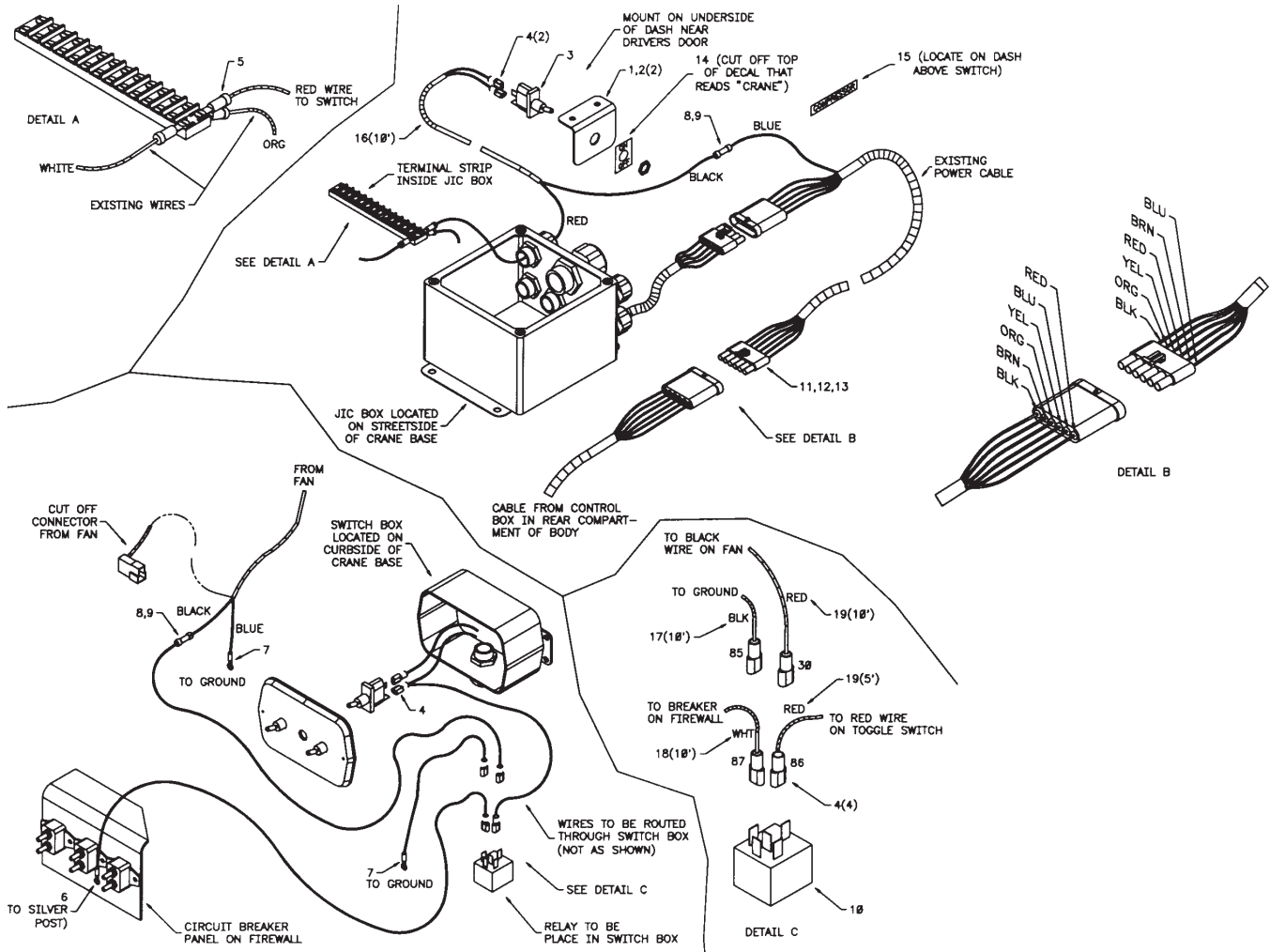
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**INSTALLATION DWG-ELEC (99901277-4)**

| ITEM | PART NO. | DESCRIPTION                  | QTY |
|------|----------|------------------------------|-----|
| 1.   | 60103535 | SWITCH BRKT-1 HOLE           | 1   |
| 2.   | 72061739 | SCR-TEK #12-14X1 HWH #3PT    | 2   |
| 3.   | 77041345 | TOGGLE SGL THW               | 1   |
| 4.   | 77040186 | TERM-FSLPON I .25TAB 16-14GA | 7   |
| 5.   | 77040051 | TERM-SPRSPDE I #8STUD 16-14  | 1   |
| 6.   | 77040053 | TERM-RING I .25STUD 12-10GA  | 1   |
| 7.   | 77040052 | TERM-RING I .38STUD 12-10GA  | 2   |
| 8.   | 77040048 | TERM-BUTT CONN 16-14GA       | 2   |
| 9.   | 70145420 | HEAT SHRINK 1/4 DUAL WALL    | 2   |

|     |          |                          |     |
|-----|----------|--------------------------|-----|
| 10. | 77041251 | RELAY-P&B                | 1   |
| 11. | 77044622 | CONN-PKRD 6-WAY          | 1   |
| 12. | 77044550 | TERM-FEM 18-20GA         | 6   |
| 13. | 70394069 | SEAL-CABLE CONN WEATRPAC | 6   |
| 14. | 70394202 | DECAL-OFF/ON             | 1   |
| 15. | 70392837 | DECAL-CPRSR 7/16X1-1/4   | 1   |
| 16. | 89044188 | CABLE-14AWG PRIMARY      | 10' |
| 17. | 89044274 | WIRE-14GA BLK STRD       | 10' |
| 18. | 89044235 | WIRE-14GA WHITE STRD     | 10' |
| 19. | 89044232 | WIRE-14GA RED STRD       | 15' |





SECTION 4. GENERAL REFERENCE

INSPECTION CHECKLIST ..... 3

WIRE ROPE INSPECTION ..... 7

HOOK INSPECTION ..... 7

HOLDING VALVE INSPECTION ..... 8

ANTI-TWO BLOCKING DEVICE INSPECTION ..... 8

TORQUE DATA CHART - DOMESTIC ..... 9

TORQUE DATA CHART - METRIC ..... 10

TURNTABLE BEARING FASTENER TIGHTENING SEQUENCE ..... 11

TURNTABLE BEARING INSPECTION FOR REPLACEMENT ..... 12

[illegible]



**NOTICE**

The user of this form is responsible in determining that these inspections satisfy all applicable regulatory requirements

OWNER/COMPANY

CONTACT PERSON

CRANE MAKE &amp; MODEL

CRANE SERIAL NUMBER

UNIT I.D. NUMBER

LOCATION OF UNIT

**Inspection Checklist****CRANES****1**

REV: 11-22-11

TYPE OF INSPECTION (check one)

☐

DAILY (if deficiency found)

☐

QUARTERLY

☐

MONTHLY

☐

ANNUAL

DATE INSPECTED

HOUR METER READING (if applicable)

INSPECTED BY (print)

SIGNATURE OF INSPECTOR

**TYPE OF INSPECTION****NOTES:**

Daily and monthly inspections are to be performed by a “competent person”, who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

Quarterly and annual inspections are to be performed by a “qualified person” who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training and experience, successfully demonstrated the ability to solve/resolve problems relating to the subject matter, the work, or the project.

One hour of normal crane operation assumes 20 complete cycles per hour. If operation exceeds 20 cycles per hour, inspection frequency should be increased accordingly.

Consult Operator / Service Manual for additional inspection items, service bulletins and other information.

Before inspecting and operating crane, crane must be set up away from power lines and leveled with stabilizers deployed according to the crane manufacturer’s directions.

**DAILY (D):** Before each shift of operation, those items designated with a ( D ) must be inspected.

**MONTHLY (M):** Monthly inspections or 100 hours of normal operation (which ever comes first) includes all daily inspections plus items designated with an ( M ). This inspection must be recorded and retained for a minimum of 3 months.

**QUARTERLY (Q):** Every three months or 300 hours of normal operation (which ever comes first) includes all daily and monthly inspection items plus items designated with a ( Q ). This inspection must be documented, maintained, and retained for a minimum of 12 months, by the employer that conducts the inspection.

**ANNUAL (A):** Each year or 1200 hours of normal operation (which ever comes first) includes all items on this form which encompasses daily, monthly and quarterly inspections plus those items designated by ( A ). This inspection must be documented, maintained, and retained for a minimum of 12 months, by the employer that conducts the inspection.

| FREQUENCY | ITEM | KEY                                           | ✓ = SATISFACTORY<br><b>R</b> = RECOMMENDATION (Should be considered for corrective action)<br><b>NA</b> = Not Applicable                                                          | X = Deficient (Note: If a deficiency is found, an immediate determination must be made as to whether the deficiency constitutes a safety hazard and must be corrected prior to operation.) | STATUS<br><br>✓, R, X, NA |
|-----------|------|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|
|           |      |                                               | INSPECTION DESCRIPTION                                                                                                                                                            |                                                                                                                                                                                            |                           |
| D         | 1    | Labels                                        | All load charts, safety & warning labels, & control labels are present and legible.                                                                                               |                                                                                                                                                                                            |                           |
| D         | 2    | Crane                                         | Check all safety devices for proper operation.                                                                                                                                    |                                                                                                                                                                                            |                           |
| D         | 3    | Controls                                      | Control mechanisms for proper operation of all functions, leaks & cracks.                                                                                                         |                                                                                                                                                                                            |                           |
| D         | 4    | Station                                       | Control and operator's station for dirt, contamination by lubricants, & foreign materials.                                                                                        |                                                                                                                                                                                            |                           |
| D         | 5    | Hyd System                                    | Hydraulic system (hoses, tubes & fittings) for leakage & proper oil level.                                                                                                        |                                                                                                                                                                                            |                           |
| D         | 6    | Hook                                          | Presence & proper operation of hook safety latches.                                                                                                                               |                                                                                                                                                                                            |                           |
| D         | 7    | Wire Rope                                     | Inspect for apparent deficiencies per applicable requirements and manufacturer's specifications.                                                                                  |                                                                                                                                                                                            |                           |
| D         | 8    | Pins                                          | Proper engagement of all connecting pins & pin retaining devices.                                                                                                                 |                                                                                                                                                                                            |                           |
| D         | 9    | General covers.                               | Overall observation of crane for damaged or missing parts, cracked welds & presence of safety                                                                                     |                                                                                                                                                                                            |                           |
| D         | 10   | Operation                                     | During operation, observe crane for abnormal performance, unusual wear (loose pins, wire rope damage, etc.). If observed, discontinue use & determine cause & severity of hazard. |                                                                                                                                                                                            |                           |
| D         | 11   | Remote Ctrl's                                 | Operate remote control devices to check for proper operation.                                                                                                                     |                                                                                                                                                                                            |                           |
| D         | 12   | Electrical                                    | Operate all lights, alarms, etc. to check for proper operation.                                                                                                                   |                                                                                                                                                                                            |                           |
| D         | 13   | Anti Two-Block or Two-Block Damage Prevention | Operate anti-two-blocking or two-block prevention devices to check for proper operation.                                                                                          |                                                                                                                                                                                            |                           |

**Inspection Checklist****CRANES****2**

| FREQUENCY | ITEM | KEY                                                                                                                | ✓ = SATISFACTORY<br>R = RECOMMENDATION (Should be considered for corrective action)<br>NA = Not Applicable                                                                          | X = Deficient (Note: If a deficiency is found, an immediate determination must be made as to whether the deficiency constitutes a safety hazard and must be corrected prior to operation.) | STATUS<br>✓, R, X, NA |
|-----------|------|--------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
|           |      |                                                                                                                    | INSPECTION DESCRIPTION                                                                                                                                                              |                                                                                                                                                                                            |                       |
| D         | 14   | Tires                                                                                                              | Check tires (when in use) for proper inflation and condition.                                                                                                                       |                                                                                                                                                                                            |                       |
| D         | 15   | Ground conditions around and around stabilizers and supporting foundations, ground water accumulation, or similar. | Ground conditions around the equipment for proper support, including ground settling under and around stabilizers and supporting foundations, ground water accumulation,            |                                                                                                                                                                                            |                       |
| D         | 16   | Level Position                                                                                                     | The equipment for level position within tolerances specified by the equipment manufacturer's recommendations, both before each shift and after each move and setup.                 |                                                                                                                                                                                            |                       |
| D         | 17   | Operator Cab Windows                                                                                               | Significant cracks, breaks, or other deficiencies that would hamper the operator's view.                                                                                            |                                                                                                                                                                                            |                       |
| D         | 18   | Rails, rail stops, clamps, supporting surfaces.                                                                    | Rails, rail stops, rail clamps and supporting surfaces when the equipment has rail traveling.                                                                                       |                                                                                                                                                                                            |                       |
| D         | 19   | Safety Devices                                                                                                     | Safety devices and operational aids for proper operation.                                                                                                                           |                                                                                                                                                                                            |                       |
| D         | 20   | Electrical                                                                                                         | Electrical apparatus for malfunctioning, signs of apparent excessive deterioration, dirt or moisture accumulation.                                                                  |                                                                                                                                                                                            |                       |
| D         | 21   | Other                                                                                                              |                                                                                                                                                                                     |                                                                                                                                                                                            |                       |
| D         | 22   | Other                                                                                                              |                                                                                                                                                                                     |                                                                                                                                                                                            |                       |
|           |      |                                                                                                                    |                                                                                                                                                                                     |                                                                                                                                                                                            |                       |
| M         | 23   | Daily                                                                                                              | All daily inspection items.                                                                                                                                                         |                                                                                                                                                                                            |                       |
| M         | 24   | Cylinders                                                                                                          | Visual inspection of cylinders for leakage at rod, fittings & welds. Damage to rod & case.                                                                                          |                                                                                                                                                                                            |                       |
| M         | 25   | Valves                                                                                                             | Holding valves for proper operation.                                                                                                                                                |                                                                                                                                                                                            |                       |
| M         | 26   | Valves                                                                                                             | Control valve for leaks at fittings & between sections.                                                                                                                             |                                                                                                                                                                                            |                       |
| M         | 27   | Valves                                                                                                             | Control valve linkages for wear, smoothness of operation & tightness of fasteners. Relief valve for proper pressure settings.                                                       |                                                                                                                                                                                            |                       |
| M         | 28   | General                                                                                                            | Bent, broken or significantly rusted/corroded parts.                                                                                                                                |                                                                                                                                                                                            |                       |
| M         | 29   | Electrical                                                                                                         | Electrical apparatus for malfunctioning, signs of apparent excess deterioration, dirt or moisture accumulation. Electrical systems for presence of dirt, moisture and frayed wires. |                                                                                                                                                                                            |                       |
| M         | 30   | Structure                                                                                                          | All structural members for damage.                                                                                                                                                  |                                                                                                                                                                                            |                       |
| M         | 31   | Welds                                                                                                              | All welds for breaks & cracks.                                                                                                                                                      |                                                                                                                                                                                            |                       |
| M         | 32   | Pins                                                                                                               | All pins for proper installation & condition.                                                                                                                                       |                                                                                                                                                                                            |                       |
| M         | 33   | Hardware                                                                                                           | All bolts, fasteners & retaining rings for tightness, wear & corrosion                                                                                                              |                                                                                                                                                                                            |                       |
| M         | 34   | Wear Pads                                                                                                          | Condition of wear pads.                                                                                                                                                             |                                                                                                                                                                                            |                       |
| M         | 35   | Pump & Motor mounting bolts.                                                                                       | Hydraulic pumps & motors for leakage at fittings, seals & between sections. Check tightness of                                                                                      |                                                                                                                                                                                            |                       |
| M         | 36   | PTO                                                                                                                | Transmission/PTO for leakage, abnormal vibration & noise, alignment & mounting bolt torque.                                                                                         |                                                                                                                                                                                            |                       |
| M         | 37   | Hyd Fluid                                                                                                          | Quality of hydraulic fluid and for presence of water.                                                                                                                               |                                                                                                                                                                                            |                       |
| M         | 38   | Hyd Lines                                                                                                          | Hoses & tubes for leakage, abrasion damage, blistering, cracking, deterioration, fitting leakage & secured properly.                                                                |                                                                                                                                                                                            |                       |
| M         | 39   | Hook                                                                                                               | Load hook for abnormal throat distance, twist, wear & cracks.                                                                                                                       |                                                                                                                                                                                            |                       |
| M         | 40   | Wire Rope                                                                                                          | Condition of load line.                                                                                                                                                             |                                                                                                                                                                                            |                       |
| M         | 41   | Manual                                                                                                             | Presence of operator's manuals with unit.                                                                                                                                           |                                                                                                                                                                                            |                       |
| M         | 42   |                                                                                                                    | Other                                                                                                                                                                               |                                                                                                                                                                                            |                       |
| M         | 43   |                                                                                                                    | Other                                                                                                                                                                               |                                                                                                                                                                                            |                       |
| Q         | 44   | Daily                                                                                                              | All daily inspection items.                                                                                                                                                         |                                                                                                                                                                                            |                       |
| Q         | 45   | Monthly                                                                                                            | All monthly inspection items.                                                                                                                                                       |                                                                                                                                                                                            |                       |
| Q         | 46   | Rotation Sys                                                                                                       | Rotation bearing for proper torque of all mounting bolts.                                                                                                                           |                                                                                                                                                                                            |                       |
| Q         | 47   | Hardware                                                                                                           | Base mounting bolts for proper torque.                                                                                                                                              |                                                                                                                                                                                            |                       |
| Q         | 48   | Structure                                                                                                          | All structural members for deformation, cracks & corrosion.                                                                                                                         |                                                                                                                                                                                            |                       |
|           | 49   |                                                                                                                    | ● Base                                                                                                                                                                              |                                                                                                                                                                                            |                       |
|           | 50   |                                                                                                                    | ● Stabilizer beams & legs                                                                                                                                                           |                                                                                                                                                                                            |                       |
|           | 51   |                                                                                                                    | ● Mast                                                                                                                                                                              |                                                                                                                                                                                            |                       |
|           | 52   |                                                                                                                    | ● Inner boom                                                                                                                                                                        |                                                                                                                                                                                            |                       |
|           | 53   |                                                                                                                    | ● Outer boom                                                                                                                                                                        |                                                                                                                                                                                            |                       |
|           | 54   |                                                                                                                    | ● Extension(s)                                                                                                                                                                      |                                                                                                                                                                                            |                       |
|           | 55   |                                                                                                                    | ● Jib boom                                                                                                                                                                          |                                                                                                                                                                                            |                       |
|           | 56   |                                                                                                                    | ● Jib extension(s)                                                                                                                                                                  |                                                                                                                                                                                            |                       |
|           | 57   |                                                                                                                    | ● Other                                                                                                                                                                             |                                                                                                                                                                                            |                       |
| Q         | 58   | Hardware                                                                                                           | Pins, bearings, shafts, gears, rollers, & locking devices for wear, cracks, corrosion & distortion.                                                                                 |                                                                                                                                                                                            |                       |

| <i>Inspection Checklist</i> |      |                | <b>CRANES</b>                                                                                                                                                         | <b>3</b>              |
|-----------------------------|------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| FREQUENCY                   | ITEM | KEY            | ✓ = SATISFACTORY<br>R = RECOMMENDATION (Should be considered for corrective action)<br>NA = Not Applicable                                                            | STATUS<br>✓, R, X, NA |
|                             |      |                | INSPECTION DESCRIPTION                                                                                                                                                |                       |
|                             | 59   |                | ● Rotation bearing(s)                                                                                                                                                 |                       |
|                             | 60   |                | ● Inner boom pivot pin(s) & retainer(s)                                                                                                                               |                       |
|                             | 61   |                | ● Outer boom pivot pin(s) & retainer(s)                                                                                                                               |                       |
|                             | 62   |                | ● Inner boom cylinder pin(s) & retainer(s)                                                                                                                            |                       |
|                             | 63   |                | ● Outer boom cylinder pin(s) & retainer(s)                                                                                                                            |                       |
|                             | 64   |                | ● Extension cylinder pin(s) & retainer(s)                                                                                                                             |                       |
|                             | 65   |                | ● Jib boom pin(s) & retainer(s)                                                                                                                                       |                       |
|                             | 66   |                | ● Jib cylinder pin(s) & retainer(s)                                                                                                                                   |                       |
|                             | 67   |                | ● Jib extension cylinder pin(s) & retainer(s)                                                                                                                         |                       |
|                             | 68   |                | ● Boom tip attachments                                                                                                                                                |                       |
|                             | 69   |                | ● Other                                                                                                                                                               |                       |
| Q                           | 70   | Hyd Lines      | Hoses, fittings & tubing for proper routing, leakage, blistering, deformation & excessive abrasion.                                                                   |                       |
|                             | 71   |                | ● Pressure line(s) from pump to control valve                                                                                                                         |                       |
|                             | 72   |                | ● Return line(s) from control valve to reservoir                                                                                                                      |                       |
|                             | 73   |                | ● Suction line(s) from reservoir to pump                                                                                                                              |                       |
|                             | 74   |                | ● Pressure line(s) from control valve to each function                                                                                                                |                       |
|                             | 75   |                | ● Load holding valve pipe(s) and hose(s)                                                                                                                              |                       |
|                             | 76   |                | ● Other                                                                                                                                                               |                       |
| Q                           | 77   | Pumps & Motors | Pumps & motors for loose bolts/fasteners, leaks, noise, vibration, loss of performance, heating & excess pressure.                                                    |                       |
|                             | 78   |                | ● Winch motor(s)                                                                                                                                                      |                       |
|                             | 79   |                | ● Rotation motor(s)                                                                                                                                                   |                       |
|                             | 80   |                | ● Other                                                                                                                                                               |                       |
| Q                           | 81   | Valves         | Hydraulic valves for cracks, spool return to neutral, sticking spools, proper relief valve setting, relief valve failure.                                             |                       |
|                             | 82   |                | ● Main control valve                                                                                                                                                  |                       |
|                             | 83   |                | ● Load holding valve(s)                                                                                                                                               |                       |
|                             | 84   |                | ● Stabilizer or auxiliary control valve(s)                                                                                                                            |                       |
|                             | 85   |                | ● Other                                                                                                                                                               |                       |
|                             | 86   |                | ● Other                                                                                                                                                               |                       |
| Q                           | 87   | Cylinders      | Hydraulic cylinders for drifting, rod seal leakage & leakage at welds. Rods for nicks, scores & dent s. Case for damage. Case & rod ends for damage & abnormal wear . |                       |
|                             | 88   |                | ● Stabilizer cylinder(s)                                                                                                                                              |                       |
|                             | 89   |                | ● Inner boom cylinder(s)                                                                                                                                              |                       |
|                             | 90   |                | ● Outer boom cylinder(s)                                                                                                                                              |                       |
|                             | 91   |                | ● Extension cylinder(s)                                                                                                                                               |                       |
|                             | 92   |                | ● Rotation cylinder(s)                                                                                                                                                |                       |
|                             | 93   |                | ● Jib lift cylinder(s)                                                                                                                                                |                       |
|                             | 94   |                | ● Jib extension cylinder(s)                                                                                                                                           |                       |
|                             | 95   |                | ● Other                                                                                                                                                               |                       |
| Q                           | 96   | Winch          | Winch, sheaves & drums for damage, abnormal wear , abrasions & other irregularities.                                                                                  |                       |
| Q                           | 97   | Hyd Filters    | Hydraulic filters for replacement per maintenance schedule.                                                                                                           |                       |
| A                           | 98   | Daily          | All daily inspection items.                                                                                                                                           |                       |
| A                           | 99   | Monthly        | All monthly inspection items.                                                                                                                                         |                       |
| A                           | 100  | Quarterly      | All quarterly inspection items.                                                                                                                                       |                       |
| A                           | 101  | Hyd Sys        | Hydraulic fluid change per maintenance schedule.                                                                                                                      |                       |
| A                           | 102  | Controls       | Control valve calibration for correct pressures & relief valve settings                                                                                               |                       |
| A                           | 103  | Valves         | Safety valve calibration for correct pressures & relief valve settings.                                                                                               |                       |
| A                           | 104  | Valves         | Valves for failure to maintain correct settings.                                                                                                                      |                       |
| A                           | 105  | Rotation Sys   | Rotation drive system for proper backlash clearance & abnormal wear , deformation & cracks.                                                                           |                       |
| A                           | 106  | Lubrication    | Gear oil change in rotation drive system per maintenance schedule.                                                                                                    |                       |
| A                           | 107  | Hardware       | Check tightness of all fasteners and bolts.                                                                                                                           |                       |
| A                           | 108  | Wear Pads      | Wear pads for excessive wear .                                                                                                                                        |                       |
| A                           | 109  | Loadline       | Loadline for proper attachment to drum.                                                                                                                               |                       |

## ***Deficiency / Recommendation / Corrective Action Report***

4

[illegible]

*If additional space is required, reproduce this page and attach to this report.*

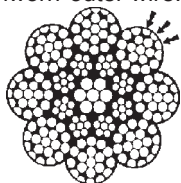
**WIRE ROPE INSPECTION**

Wire rope with any of the deficiencies shown below shall be removed and replaced immediately .

- A. Corrosion can be cause for replacement. Any development of corrosion must be noted and monitored closely.
- B. When there are either 3 broken wires in one strand or a total of six broken wires in all strands in any one rope lay.



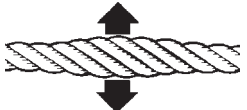
- C. When flat spots on the outer wires appear and those outside wires are less than 2/3 the thickness of the unworn outer wire.



- D. When there is a decrease of diameter indicating a core failure.



- E. When kinking, crushing, birdcaging or other distortion occurs.



- F. When there is noticeable heat damage (discoloration) of the rope by any means.



- G. When the diameter is reduced from nominal size by 1/32" or more.



- H. If a broken wire protrudes or loops out from the core of the rope.

**HOOK INSPECTION**

Hooks having any of the listed deficiencies shall be removed from service unless a qualified person approves their continued use and initiates corrective action. Hooks approved for continued use shall be subjected to periodic inspection.

**A. DISTORTION****Bending / Twisting**

A bend or twist exceeding 10° from the plane of the unbent hook.

**Increased Throat Opening**

**HOOK WITHOUT LATCH:** An increase in throat opening exceeding 15% (Or as recommended by the manufacturer)

**HOOK WITH LATCH:** An increase of the dimension between a fully-opened latch and the tip section of the hook exceeding 8% (Or as recommended by the manufacturer)

**B. WEAR**

If wear exceeds 10% of the original sectional dimension. (Or as recommended by the manufacturer)

**C. CRACKS, NICKS, GOUGES**

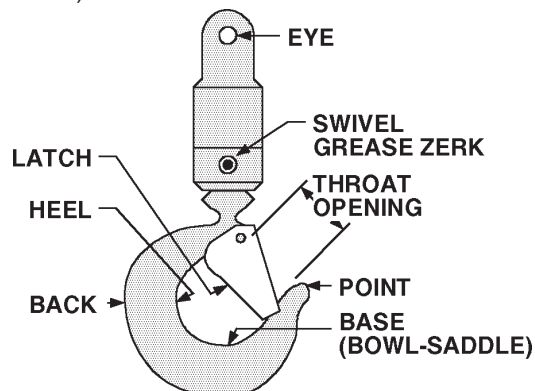
Repair of cracks, nicks, and gouges shall be carried out by a designated person by grinding longitudinally , following the contour of the hook, provided that no dimension is reduced more than 10% of its original value. (Or as recommended by the manufacturer) (A qualified person may authorize continued use if the reduced area is not critical.)

**D. LATCH****Engagement, Damage & Malfunction**

If a latch becomes inoperative because of wear or deformation, and is required for the service involved, it shall be replaced or repaired before the hook is put back into service. If the latch fails to fully close the throat opening, the hook shall be removed from service or "moused" until repairs are made.

**E. HOOK ATTACHMENTS & SECURING MEANS**

If any indication of distortion, wear, cracks, nicks or gouges are present, unless a qualified person authorizes their use. (Or as recommended by the manufacturer)



**HOLDING VALVE INSPECTION**

The cylinders are equipped with holding valves that prevent sudden movement of the cylinder rods in the event of a hydraulic hose or other hydraulic component failure. The valve is checked in the following manner:

1. With a full rated load, extend the cylinder in question and kill the engine.
2. Operate the control valve to retract the cylinder. If the cylinder "creeps", replace the holding valve. If the cylinder does not "creep", the valve is serviceable.

**TWO BLOCK PREVENTION DEVICE INSPECTION**

(See Vol. 1, Operation, Maintenance and Repair for a complete description)

The two block prevention system halts the "winch-up" and "extension-out" crane functions before the block contacts the sheave. The two block prevention system should be checked daily as follows:

1. Examine flexible rod and weight to insure free unrestricted mechanical operation
2. Examine cord for damage, cuts or breaks. Grasp cord and pull to check operation of cord reel. The cord should retract on reel when released.
3. Start vehicle, engage PTO and slowly winch loadline up until anti-two block weight comes in contact with the hook end of the loadline cable. At the moment the weight is fully supported by the hook end, the winch up function should become non-functioning, because the two-block damage prevention switch will stop further movement.

If operation other than as described occurs, stop immediately and investigate. Failure to do so will risk damage to the cable or the crane.

Then, extend the winch cable to relieve the two-block condition, and actuate the boom extend function slowly. Again, once the weight is fully supported by the hook end, the boom extend function should become non-functioning, because the two-block damage prevention switch will stop further movement. If operation other than described occurs, stop immediately, reverse the function, and check the system.

If the anti two block function appears to be functioning normally, winch the cable down until the sensing weight swings free.

**COARSE THREAD BOLTS**

| SIZE<br>(DIA-TPI) | BOLT DIA<br>(INCHES) | TIGHTENING TORQUE   |                    |                     |                    |
|-------------------|----------------------|---------------------|--------------------|---------------------|--------------------|
|                   |                      | SAE J429<br>GRADE 5 |                    | SAE J429<br>GRADE 8 |                    |
|                   |                      | PLAIN<br>(FT-LBS)   | PLATED<br>(FT-LBS) | PLAIN<br>(FT-LBS)   | PLATED<br>(FT-LBS) |
| 5/16-18           | 0.3125               | 17                  | 13                 | 25                  | 18                 |
| 3/8-16            | 0.3750               | 31                  | 23                 | 44                  | 33                 |
| 7/16-14           | 0.4375               | 49                  | 37                 | 70                  | 52                 |
| 1/2-13            | 0.5000               | 75                  | 57                 | 105                 | 80                 |
| 9/16-12           | 0.5625               | 110                 | 82                 | 155                 | 115                |
| 5/8-11            | 0.6250               | 150                 | 115                | 220                 | 160                |
| 3/4-10            | 0.7500               | 265                 | 200                | 375                 | 280                |
| 7/8-9             | 0.8750               | 395                 | 295                | 605                 | 455                |
| 1-8               | 1.0000               | 590                 | 445                | 910                 | 680                |
| 1 1/8-7           | 1.1250               | 795                 | 595                | 1290                | 965                |
| 1 1/4-7           | 1.2500               | 1120                | 840                | 1815                | 1360               |
| 1 3/8-6           | 1.3750               | 1470                | 1100               | 2380                | 1780               |
| 1 1/2-6           | 1.5000               | 1950                | 1460               | 3160                | 2370               |

When using the torque data in the charts above, the following rules should be observed.

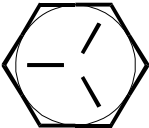
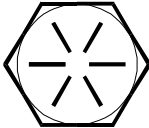
1. Bolt manufacturer's particular specifications should be consulted when provided.
2. Flat washers of equal strength must be used.
3. All torque measurements are given in foot-pounds. To convert to inch-pounds, multiply by 12.
4. Torque values specified are for bolts with residual oils or no special lubricants applied. If special lubricants of high stress ability, such as Never-Seez compound graphite and oil, molybdenum disulphite, colloidal copper or white lead are applied, multiply the torque values in the charts by the factor .90. The use of Loctite does not affect the torque values listed above.

**WARNING**

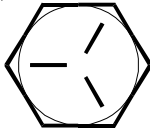
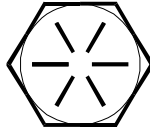
Anytime a gear-bearing bolt is removed, it must be replaced with a new bolt of the identical grade and size. Once a bolt has been torqued to 75% of its proof load and then removed, the torque coefficient may no longer be the same as when the bolt was new thus giving indeterminate clamp loads after torquing. Failure to replace gear-bearing bolts may result in bolt failure due to metal fatigue causing serious injury or DEATH.

# TORQUE DATA CHART - DOMESTIC

## FINE THREAD BOLTS

| SIZE<br>(DIA-TPI) | BOLT DIA<br>(INCHES) | TIGHTENING TORQUE                                                                 |                    |                                                                                   |                    |
|-------------------|----------------------|-----------------------------------------------------------------------------------|--------------------|-----------------------------------------------------------------------------------|--------------------|
|                   |                      |  |                    |  |                    |
|                   |                      | SAE J429<br>GRADE 5                                                               |                    | SAE J429<br>GRADE 8                                                               |                    |
|                   |                      | PLAIN<br>(FT-LBS)                                                                 | PLATED<br>(FT-LBS) | PLAIN<br>(FT-LBS)                                                                 | PLATED<br>(FT-LBS) |
| 5/16-24           | 0.3125               | 19                                                                                | 14                 | 27                                                                                | 20                 |
| 3/8-24            | 0.3750               | 35                                                                                | 26                 | 49                                                                                | 35                 |
| 7/16-20           | 0.4375               | 55                                                                                | 41                 | 78                                                                                | 58                 |
| 1/2-20            | 0.5000               | 90                                                                                | 64                 | 120                                                                               | 90                 |
| 9/16-18           | 0.5625               | 120                                                                               | 90                 | 170                                                                               | 130                |
| 5/8-18            | 0.6250               | 170                                                                               | 130                | 240                                                                               | 180                |
| 3/4-16            | 0.7500               | 300                                                                               | 225                | 420                                                                               | 315                |
| 7/8-11            | 0.8750               | 445                                                                               | 325                | 670                                                                               | 500                |
| 1-12              | 1.0000               | 645                                                                               | 485                | 995                                                                               | 745                |
| 1 1/8-12          | 1.1250               | 890                                                                               | 670                | 1445                                                                              | 1085               |
| 1 1/4-12          | 1.2500               | 1240                                                                              | 930                | 2010                                                                              | 1510               |
| 1 3/8-12          | 1.3750               | 1675                                                                              | 1255               | 2710                                                                              | 2035               |
| 1 1/2-12          | 1.5000               | 2195                                                                              | 1645               | 3560                                                                              | 2670               |

## COARSE THREAD BOLTS

| SIZE<br>(DIA-TPI) | BOLT DIA<br>(INCHES) | TIGHTENING TORQUE                                                                   |                    |                                                                                     |                    |
|-------------------|----------------------|-------------------------------------------------------------------------------------|--------------------|-------------------------------------------------------------------------------------|--------------------|
|                   |                      |  |                    |  |                    |
|                   |                      | SAE J429<br>GRADE 5                                                                 |                    | SAE J429<br>GRADE 8                                                                 |                    |
|                   |                      | PLAIN<br>(FT-LBS)                                                                   | PLATED<br>(FT-LBS) | PLAIN<br>(FT-LBS)                                                                   | PLATED<br>(FT-LBS) |
| 5/16-18           | 0.3125               | 17                                                                                  | 13                 | 25                                                                                  | 18                 |
| 3/8-16            | 0.3750               | 31                                                                                  | 23                 | 44                                                                                  | 33                 |
| 7/16-14           | 0.4375               | 49                                                                                  | 37                 | 70                                                                                  | 52                 |
| 1/2-13            | 0.5000               | 75                                                                                  | 57                 | 105                                                                                 | 80                 |
| 9/16-12           | 0.5625               | 110                                                                                 | 82                 | 155                                                                                 | 115                |
| 5/8-11            | 0.6250               | 150                                                                                 | 115                | 220                                                                                 | 160                |
| 3/4-10            | 0.7500               | 265                                                                                 | 200                | 375                                                                                 | 280                |
| 7/8-9             | 0.8750               | 395                                                                                 | 295                | 605                                                                                 | 455                |
| 1-8               | 1.0000               | 590                                                                                 | 445                | 910                                                                                 | 680                |
| 1 1/8-7           | 1.1250               | 795                                                                                 | 595                | 1290                                                                                | 965                |
| 1 1/4-7           | 1.2500               | 1120                                                                                | 840                | 1815                                                                                | 1360               |
| 1 3/8-6           | 1.3750               | 1470                                                                                | 1100               | 2380                                                                                | 1780               |
| 1 1/2-6           | 1.5000               | 1950                                                                                | 1460               | 3160                                                                                | 2370               |

When using the torque data in the charts above, the following rules should be observed.

1. Bolt manufacturer's particular specifications should be consulted when provided.
2. Flat washers of equal strength must be used.
3. All torque measurements are given in foot-pounds. To convert to inch-pounds, multiply by 12.
4. Torque values specified are for bolts with residual oils or no special lubricants applied.  
If special lubricants of high stress ability, such as Never-Seez compound graphite and oil, molybdenum disulphite, colloidal copper or white lead are applied, multiply the torque values in the charts by the factor .90. The use of Loctite does not affect the torque values listed above.

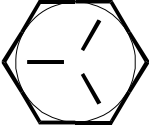
### WARNING

Anytime a gear-bearing bolt is removed, it must be replaced with a new bolt of the identical grade and size. Once a bolt has been torqued to 75% of its proof load and then removed, the torque coefficient may no longer be the same as when the bolt was new thus giving indeterminate clamp loads after torquing. Failure to replace gear-bearing bolts may result in bolt failure due to metal fatigue causing serious injury or DEATH.

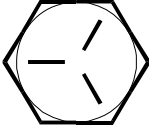


# TORQUE DATA CHART - METRIC

## FINE THREAD BOLTS

| SIZE<br>(DIA-TPI) | BOLT DIA<br>(INCHES) | TIGHTENING TORQUE                                                                 |                  |                                                                                   |                  |
|-------------------|----------------------|-----------------------------------------------------------------------------------|------------------|-----------------------------------------------------------------------------------|------------------|
|                   |                      |  |                  |  |                  |
|                   |                      | SAE J429<br>GRADE 5                                                               |                  | SAE J429<br>GRADE 8                                                               |                  |
|                   |                      | PLAIN<br>(KG-M)                                                                   | PLATED<br>(KG-M) | PLAIN<br>(KG-M)                                                                   | PLATED<br>(KG-M) |
| 5/16-24           | 0.3125               | 3                                                                                 | 2                | 4                                                                                 | 3                |
| 3/8-24            | 0.3750               | 5                                                                                 | 4                | 7                                                                                 | 5                |
| 7/16-20           | 0.4375               | 8                                                                                 | 6                | 11                                                                                | 8                |
| 1/2-20            | 0.5000               | 12                                                                                | 9                | 17                                                                                | 12               |
| 9/16-18           | 0.5625               | 17                                                                                | 12               | 24                                                                                | 18               |
| 5/8-18            | 0.6250               | 24                                                                                | 18               | 33                                                                                | 25               |
| 3/4-16            | 0.7500               | 41                                                                                | 31               | 58                                                                                | 44               |
| 7/8-11            | 0.8750               | 62                                                                                | 45               | 93                                                                                | 69               |
| 1-12              | 1.0000               | 89                                                                                | 67               | 138                                                                               | 103              |
| 1 1/8-12          | 1.1250               | 123                                                                               | 93               | 200                                                                               | 150              |
| 1 1/4-12          | 1.2500               | 171                                                                               | 129              | 278                                                                               | 209              |
| 1 3/8-12          | 1.3750               | 232                                                                               | 174              | 375                                                                               | 281              |
| 1 1/2-12          | 1.5000               | 304                                                                               | 228              | 492                                                                               | 369              |

## COARSE THREAD BOLTS

| SIZE<br>(DIA-TPI) | BOLT DIA<br>(INCHES) | TIGHTENING TORQUE                                                                   |                  |                                                                                     |                  |
|-------------------|----------------------|-------------------------------------------------------------------------------------|------------------|-------------------------------------------------------------------------------------|------------------|
|                   |                      |  |                  |  |                  |
|                   |                      | SAE J429<br>GRADE 5                                                                 |                  | SAE J429<br>GRADE 8                                                                 |                  |
|                   |                      | PLAIN<br>(KG-M)                                                                     | PLATED<br>(KG-M) | PLAIN<br>(KG-M)                                                                     | PLATED<br>(KG-M) |
| 5/16-18           | 0.3125               | 2                                                                                   | 2                | 3                                                                                   | 2                |
| 3/8-16            | 0.3750               | 4                                                                                   | 3                | 6                                                                                   | 5                |
| 7/16-14           | 0.4375               | 7                                                                                   | 5                | 10                                                                                  | 7                |
| 1/2-13            | 0.5000               | 10                                                                                  | 8                | 15                                                                                  | 11               |
| 9/16-12           | 0.5625               | 15                                                                                  | 11               | 21                                                                                  | 16               |
| 5/8-11            | 0.6250               | 21                                                                                  | 16               | 30                                                                                  | 22               |
| 3/4-10            | 0.7500               | 37                                                                                  | 28               | 52                                                                                  | 39               |
| 7/8-9             | 0.8750               | 55                                                                                  | 41               | 84                                                                                  | 63               |
| 1-8               | 1.0000               | 82                                                                                  | 62               | 126                                                                                 | 94               |
| 1 1/8-7           | 1.1250               | 110                                                                                 | 82               | 178                                                                                 | 133              |
| 1 1/4-7           | 1.2500               | 155                                                                                 | 116              | 251                                                                                 | 188              |
| 1 3/8-6           | 1.3750               | 203                                                                                 | 152              | 329                                                                                 | 246              |
| 1 1/2-6           | 1.5000               | 270                                                                                 | 210              | 438                                                                                 | 328              |

When using the torque data in the charts above, the following rules should be observed.

1. Bolt manufacturer's particular specifications should be consulted when provided.
2. Flat washers of equal strength must be used.
3. All torque measurements are given in kilogram-meters.
4. Torque values specified are for bolts with residual oils or no special lubricants applied.  
If special lubricants of high stress ability, such as Never-Seez compound graphite and oil, molybdenum disulphite, colloidal copper or white lead are applied, multiply the torque values in the charts by the factor .90. The use of Loctite does not affect the torque values listed above.

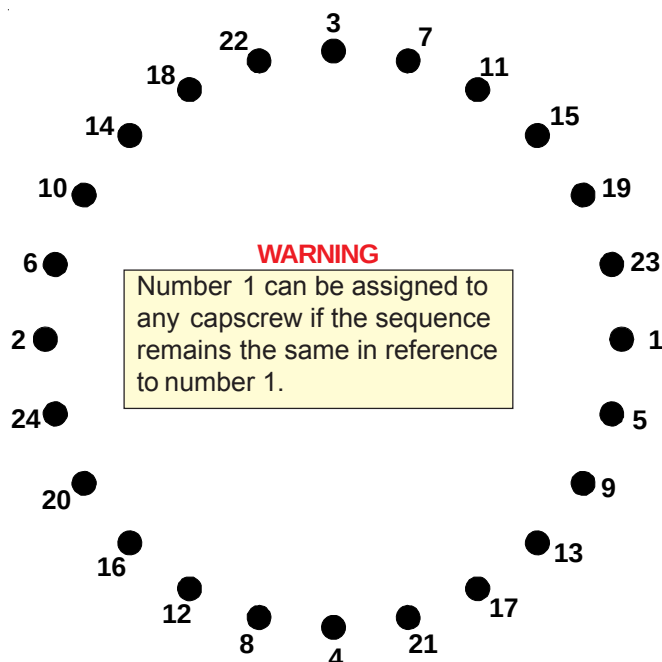
### WARNING

Anytime a gear-bearing bolt is removed, it must be replaced with a new bolt of the identical grade and size. Once a bolt has been torqued to 75% of its proof load and then removed, the torque coefficient may no longer be the same as when the bolt was new thus giving indeterminate clamp loads after torquing. Failure to replace gear-bearing bolts may result in bolt failure due to metal fatigue causing serious injury or DEATH.



# TURNTABLE BEARING FASTENER TIGHTENING SEQUENCE

Refer to the diagram below for proper tightening/torquing sequence of the turntable bearing to the crane base and crane mast. The total quantity of cap screws varies dependent on crane model.



## TIGHTENING PROCEDURE:

1. Refer to the Torque Data Chart to determine the proper torque value to apply to the size of capscrew used.
2. Follow the tightening sequence shown in the diagram. Note that the quantity of capscrews may differ from the diagram, but the sequence must follow the criss-cross pattern as shown in the diagram.
3. Torque all capscrews to approximately 40% of the specified torque value, by following the sequence.  
(EXAMPLE: .40 x 265 FT-LBS = 106 FT-LBS)  
(EXAMPLE-METRIC: .40 x 36 KG-M = 14.4 KG-M)
4. Repeat Step 3, but torquing all capscrews to 75% of the specified torque value. Continue to follow the tightening sequence.  
(EXAMPLE: .75 x 265 FT-LBS = 199 FT-LBS)  
(EXAMPLE-METRIC: .75 x 36 KG-M = 27 KG-M)
5. Using the proper sequence, torque all capscrews to the listed torque value as determined from the Torque Data Chart.

# TURNTABLE BEARING INSPECTION FOR REPLACEMENT

Before a bearing is removed from a crane for inspection, one of the following conditions should be evident:

1. Metal particles present in the bearing lubricant.
2. Increased drive power required to rotate the crane.
3. Noise emitting from the bearing during crane rotation.
4. Rough crane rotation.
5. Uneven or excessive wear between the pinion gear and turntable gear.

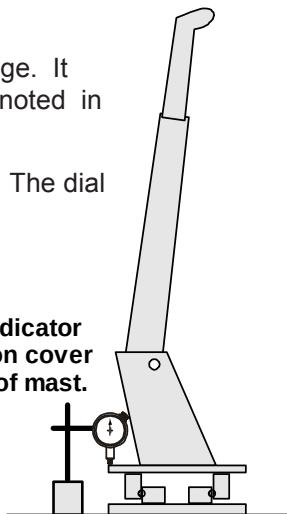
If none of the above conditions exists, the bearing is functioning properly and need not be replaced. But, if one or more of the above conditions exists, inspection may be required. Limits are measured in "TILT" which is dependent on the internal clearances of the bearing. TILT is the most practical determination of a bearing's internal clearance once mounted on a crane.

Periodic readings indicating a steady increase in TILT may be an indicator of bearing wear. Note that a bearing found to have no raceway cracks or other structural irregularities should be reassembled and returned to service.

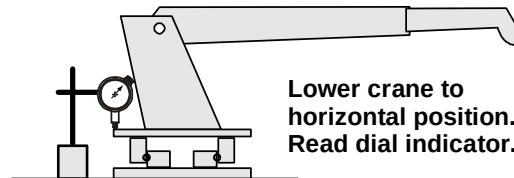
## TEST PROCEDURE

1. Place crane in vertical position.
2. Set a dial indicator at 0 on the pinion cover plate at back side of mast.
3. Lower crane to the horizontal position.
4. Check and record the dial indicator change. It should not exceed the tilt measurement noted in the chart below.
5. Return the crane to the vertical position. The dial indicator should return to 0.

Set up dial indicator to 0" on pinion cover at back side of mast.



Lower crane to horizontal position. Read dial indicator.



**COMPARISON CHART - MODEL TO MEASURED TILT DIMENSION**

|                                                                                                                                                                                                                                                                                                                                 |                                                                    |                                                                                                                                                                                                                           |                                                                                                             |                                                |                                                                                                                                                                           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <div><b>NOTE</b></div> <div>THE FIGURES LISTED IN THIS CHART ARE SERVICE GUIDELINES AND DO NOT, IN THEMSELVES, REQUIRE THAT THE BEARING BE INSPECTED.</div> <div>IF THERE IS REASON TO SUSPECT AN EXCESS OF BEARING WEAR AND THE MEASURED TILT DIMENSION EXCEEDS THE DIMENSION LISTED, REMOVE THE BEARING FOR INSPECTION.</div> | <div>IMT<br/>CRANE,<br/>LOADER<br/>OR<br/>TIREHAND<br/>MODEL</div> | 1007<br>1014<br>1014A<br>1015<br>2015/2020<br>2109<br>3000<br>3816/3820<br>3016/3020<br>421/425<br>4300<br>5016/5020<br>6016/6020<br>TH7 BODY ROT'N<br>TH1449 BODY ROT'N<br>TH15B CLAMP<br>TH2551B CLAMP<br>TH2557A CLAMP | 5200<br>5200R<br>5217<br>5800<br>7020<br>7025<br>7200<br>7415<br>9000<br>TH10 BODY ROT'N<br>TH14 BODY ROT'N | 16000<br>32018<br>32027<br>32030<br>T30<br>T40 | 9800<br>12916<br>13031<br>13034<br>14000<br>15000<br>18000<br>20017<br>8000L<br>H1200<br>H1200RR<br>T50<br>TH2551B BODY ROT'N<br>TH2557B BODY ROT'N<br>TH2557A BODY ROT'N |
|                                                                                                                                                                                                                                                                                                                                 | BALL DIA.<br>(REF)                                                 | .875"<br>(22mm)                                                                                                                                                                                                           | 1.00"<br>(25mm)                                                                                             | 1.18"-1.25"<br>(30-32mm)                       | 1.75"<br>(44mm)                                                                                                                                                           |
|                                                                                                                                                                                                                                                                                                                                 | TILT DIM.<br>(A <sub>1</sub> -A <sub>2</sub> )                     | .060"<br>(1.524mm)                                                                                                                                                                                                        | .070"<br>(1.778mm)                                                                                          | .075"<br>(1.905mm)                             | .090"<br>(2.286mm)                                                                                                                                                        |

The information within this manual has been compiled and checked but errors do occur. To provide our customers with a method of communicating those errors we have provided the Manual Change Request form below. In addition to error reporting, you are encouraged to suggest changes or additions to the manual which would be of benefit to you. We cannot guarantee that these additions will be made but we do promise to consider them. When completing the form, please write or print clearly. Submit a copy of the completed form to the address listed below

MANUAL CHANGE REQUEST

|                  |                   |                    |
|------------------|-------------------|--------------------|
| DATE             | PRODUCT<br>MANUAL | MANUAL<br>PART NO. |
| SUBMITTED BY     |                   |                    |
| COMPANY          |                   |                    |
| ADDRESS          |                   |                    |
| CITY, STATE, ZIP |                   |                    |
| TELEPHONE        |                   |                    |

☐ ERROR FOUND

LOCATION OF ERROR (page no.):

DESCRIPTION OF ERROR:

☐ ERROR FOUND

DESCRIPTION OF ADDITION:

REASON FOR ADDITION:

MAIL TO:  
IOWA MOLD TOOLING CO., INC.  
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GARNER, IA 50438-0189  
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