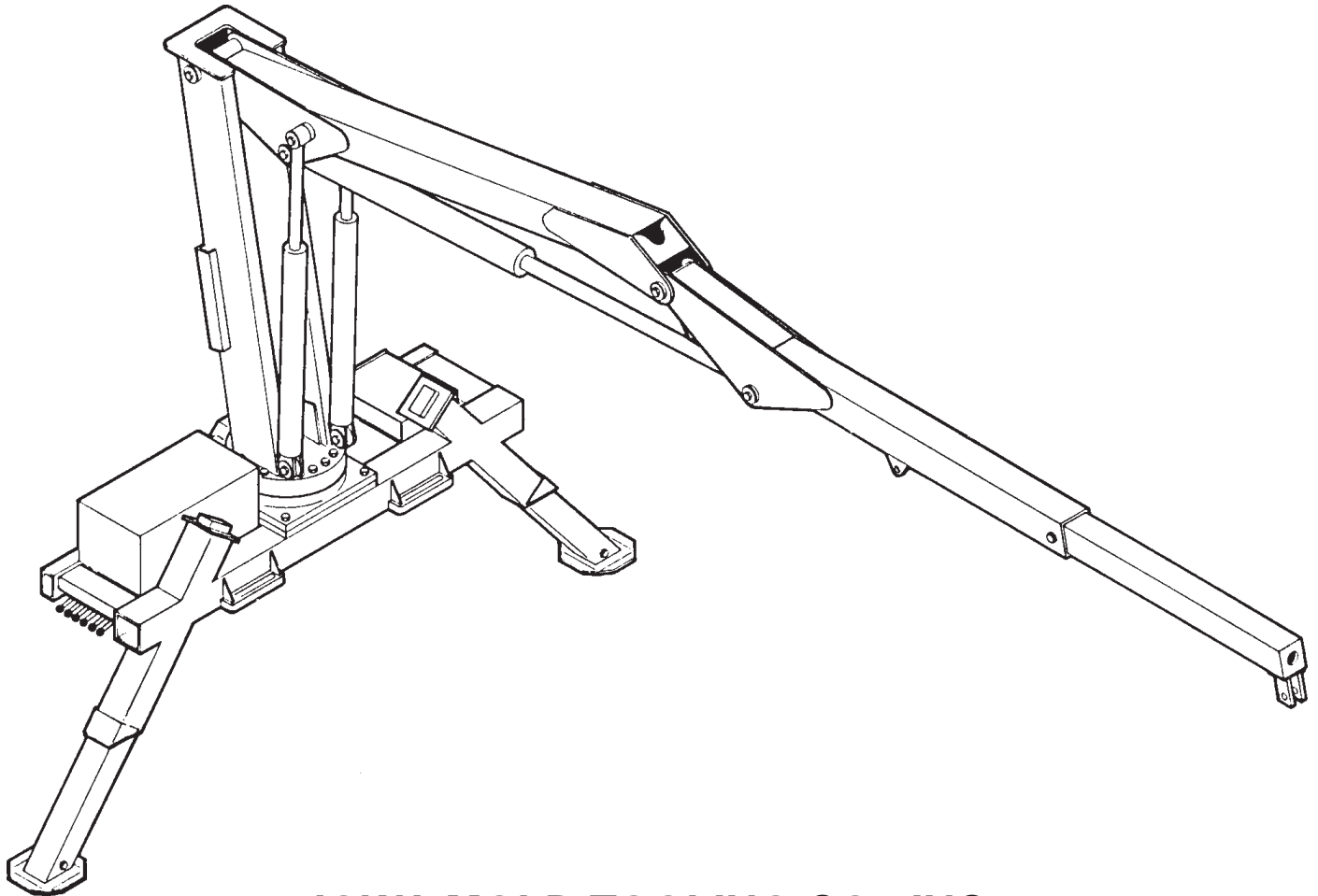




# **3000 Series Crane & Model 445 (Metric Version)**

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

<b>Section 1</b>	<b>SPECIFICATIONS-3000 SERIES</b>
<b>Section 1A.</b>	<b>SPECIFICATIONS-445 CRANE</b>
<b>Section 2</b>	<b>CRANE REFERENCE</b>
<b>Section 3</b>	<b>REPLACEMENT PARTS</b>
<b>Section 4</b>	<b>GENERAL REFERENCE</b>



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

BOX 189, GARNER, IA 50438-0189

TEL: 641-923-3711

MANUAL PART NUMBER 99900915

***Manual Effective August 2004***

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

## REVISIONS LIST

DATE	LOCATION	DESCRIPTION OF CHANGE
20040831	THROUGHOUT PARTS	ECN 9524 - NEW MANUAL RELEASE WITH NEW RADIO REMOTE
20050523	3-35,37	ECN 9769 - ADDED DUST CAP TO 77441102 HARNESS
20051108	3-4,5,7,8,13,15-20	ECN 9832 - 71411817 REPL. 33B175010; 71411818 REPL. 3B165010; 71411819 REPL. 3B160010; 71411820 REPL. 3B170010
20060616	3-4-7,12-17	ECN 9832-2- 71411 CYLINDERS RETURNED TO 3B CYLINDERS
20060714	3-3, 14	ECN 10165 - CHANGE TO 41707992 OUTER BOOM WELDMENT DRAWING
20061020	1-1	UPDATED WITH NEW OWNERSHIP STATEMENT.
20070319	2-5,3-10	CORRECTED INNER CYLINDER INFORMATION
20070605	3-47	ECN 10492 - CHANGE WELDMENT ON 93714829
20070816	2-5	ON SPARE PARTS LIST, CHANGED QUANTITY OF MOLUB FROM 1 TO 3; CHANGED QUANTITY OF RETURN FILTER ELEMENT FROM 3 TO 1
	3-14	ECN 10165 - CORRECTED CYLINDER PART IN 41707992 DRAWING
20090326	3-4,5,6	ADDED NOTE REGARDING INSTALLING DRIVE AND MOTOR ON OPPOSITE SIDE OF STABILIZER LEGS
20110209	3-23	ADDED 94014962 KIT FOR VALVEBANK 51707021
20110718	3-12,20,23,33	ECN 11507 - ADDED STABILIZER PO CHECK VALVE
20111216		ECN 11628 - UPDATED STABILIZER WORDING, ADDED CRANE LEVEL
20120327	3-7,18,27	ECN 11651 - REMOVED WAFER LOCKS FROM CYLINDERS, ADDED PROP REMOTE POTENTIOMETER ADJUSTMENT PROCEDURE
20120914	3-29,33	ECN 11804 - HYD FITTING CHANGES
20140909	2-5, 3-5, 3-6	ECN 12264 - MOLUB-ALLOY 882 WAS MOLUB-ALLOY 936.

## 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.**



**SECTION 1. SPECIFICATIONS-3000 SERIES**

**GENERAL ..... 3**

**PERFORMANCE CHARACTERISTICS ..... 3**

**POWER SOURCE..... 3**

**CYLINDER HOLDING VALVES ..... 4**

**ROTATION SYSTEM ..... 4**

**HYDRAULIC SYSTEM ..... 4**

**CONTROL SYSTEM OPTIONS ..... 4**

**MINIMUM CHASSIS SPECIFICATIONS - For Standard 3000 Series Crane ..... 4**

**GEOMETRIC CONFIGURATION - 3000 SERIES CRANE ..... 5**

**CAPACITY CHART - 3000 SERIES crane ..... 6**



## 3000 SERIES CRANE SPECIFICATIONS

### GENERAL

	<b>3015 CRANE</b>
<b>*CRANE RATING (ANSI B30.22)</b>	30,000 ft-lbs
<b>*MAXIMUM CRANE RATING</b>	30,150 ft-lbs
<b>HORIZONTAL REACH</b> -from centerline of rotation	15'-0"
<b>HYDRAULIC EXTENSION</b>	36"
<b>VERTICAL REACH</b> -from mounting surface	20'-7"
<b>VERTICAL REACH</b> -from ground / 34" frame ht.	23'-5"
<b>CRANE WEIGHT</b>	1825 lbs
<b>STABILIZER SPAN</b>	10'-5"
<b>STABILIZER PADS</b>	10" x 10"
<b>CRANE STORAGE HEIGHT</b> -from mounting surface	6'-2"
<b>CRANE STORAGE HEIGHT</b> -from ground / 34" frame ht.	9'-0"
<b>**MOUNTING SPACE REQUIRED</b>	23-1/2"
<b>ROTATIONAL TORQUE</b>	4920 ft-lbs
<b>OPTIMUM PUMP CAPACITY</b>	5 GPM
<b>SYSTEM OPERATING PRESSURE</b>	2700 PSI
<b>OIL RESERVOIR CAPACITY</b>	10 gallons
<b>HOOK APPROACH - HORIZONTAL</b> -from centerline of rotation	34"
<b>HOOK APPROACH - VERTICAL</b> -from mounting surface	5'-10"

\* 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 2" between the cab and crane base for swing clearance.

### PERFORMANCE CHARACTERISTICS

<b>ROTATION:</b>	400°	35 seconds
<b>INNER BOOM ELEVATION:</b>	-45° to +75°	13 seconds
<b>OUTER BOOM ARTICULATION:</b>	139°	14 seconds
<b>EXTENSION:</b>	36"	8 seconds
<b>STABILIZER STROKE:</b>	28-3/4"	5 seconds each

### POWER SOURCE

Integral-mounted hydraulic pump and PTO application. Other standard power sources may be utilized - minimum power required is 10 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 inner cylinders share a single, common holding valve block. This block contains double counter-balance valves. The outer boom cylinder has a single counter-balance valve. The extension cylinder has a single holding valve on the base end of the cylinder. 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 with external worm gear, powered by a high torque hydraulic motor through a self-locking worm. Total gear reduction is 73:1.

## HYDRAULIC SYSTEM

The hydraulic system is an open centered, full pressure system, requiring 5 GPM optimum oil flow, at 2700 PSI. System includes separate oil reservoir with built-in suction line strainer (except for the stationary mount version), appropriate control valve and return filter.

## CONTROL SYSTEM OPTIONS

### WIRELESS REMOTE:

A six spool, proportional stack-type solenoid operated control valve with a wireless remote hand held transmitter with proportional trigger control.

### DUAL SIDE MANUAL GROUND CONTROLS:

A six spool, stack-type control valve with dual operational handles located at both sides of the crane for convenient operation.

### ON-OFF HARDWIRE REMOTE:

A six spool, stack-type solenoid operated control valve with a 30' (9.14m) hardwire pedant control.

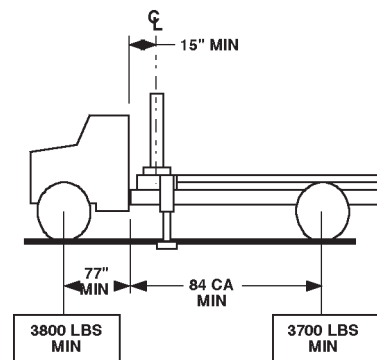
### STATIONARY/CORNER MOUNT, PROPORTIONAL REMOTE HARDWIRE CONTROL APPLICATION:

A four spool, proportional stack-type solenoid operated control valve with a 30' (9.14m) hardwire pendant with proportional trigger control.

## MINIMUM CHASSIS SPECIFICATIONS - For Standard 3000 Series Crane

Crane Mount	Behind Cab
Crane Working Area	360°
Chassis Style	Conventional Cab
Front Axle Rating (GAWR)	5000 lbs
Rear Axle Rating (GAWR)	Single Axle - 9500 lbs
Wheelbase	161"
Cab-to-axle	84"
Stabilizer Width Required	10'-5"
RBM	360,000 in-lbs
Frame Section Modulus	10 cubic inches
Frame Yield Strength	36000 PSI
Minimum Finished Unit Weight To Maintain Vehicle Stability	
Front Axle	* 3800 lbs
Rear Axle	* 3700 lbs
Total Finished Unit Wt.	7500 lbs

**FIGURE A.**  
**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.

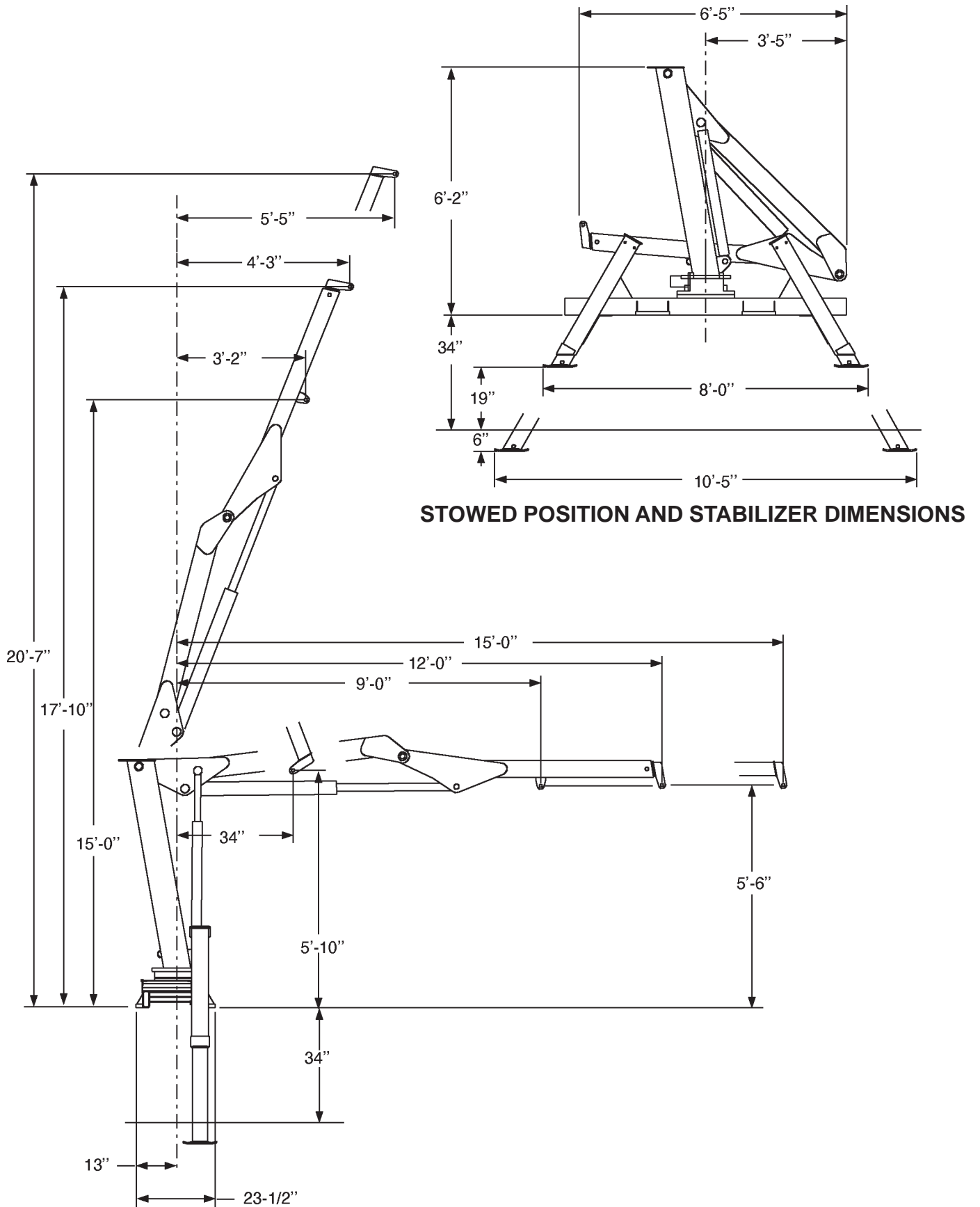
### NOTES:

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.

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



### GEOMETRIC CONFIGURATION - 3000 SERIES CRANE

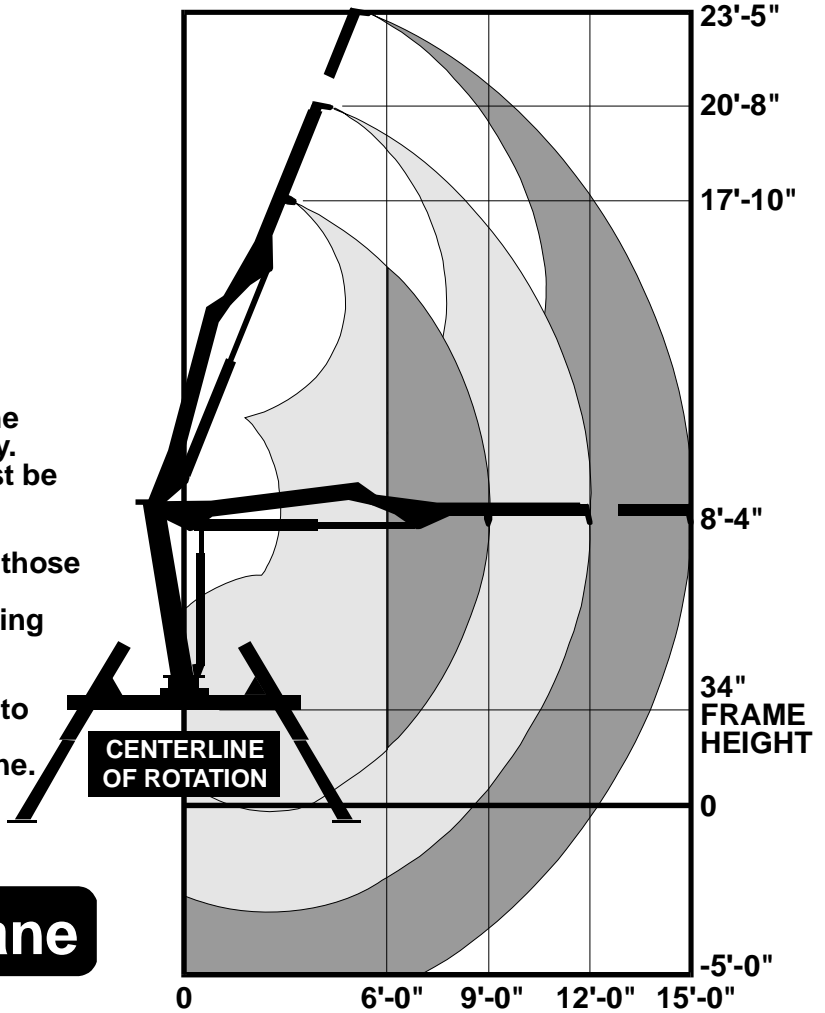


IOWA MOLD TOOLING CO., INC. ● BOX 189 ● GARNER ● IA ● 50438 ● 641-923-3711  
Capacities through geometric range are limited to those shown in horizontal position.

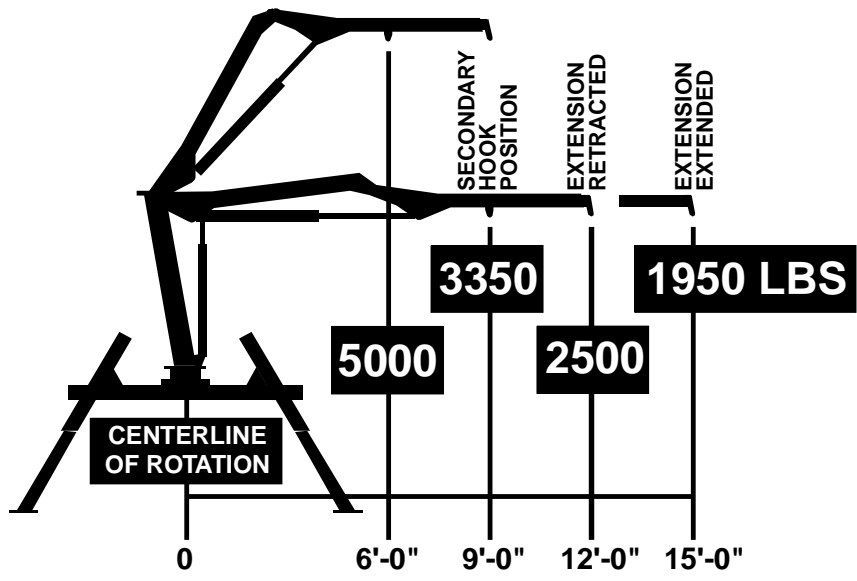
# IMT

## 3000 Series Crane

- 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 2500 LBS for 1-part line.



### Model 3015 Crane



**SECTION 1A. SPECIFICATIONS-445 CRANE**

**GENERAL ..... 3**

**PERFORMANCE CHARACTERISTICS ..... 4**

**POWER SOURCE..... 4**

**CYLINDER HOLDING VALVES ..... 4**

**ROTATION SYSTEM ..... 4**

**HYDRAULIC SYSTEM ..... 4**

**CONTROL SYSTEM OPTIONS..... 4**

**SELECTED WEIGHT OF ANCILLARY EQUIPMENT ..... 4**

**GEOMETRIC CONFIGURATION - MODEL 445 CRANE ..... 5**

**CAPACITY CHART - MODEL 445 CRANE..... 6**



# MODEL 445 CRANE SPECIFICATIONS

## GENERAL

<b>CRANE RATING</b>	4 ton-meters
<b>HORIZONTAL REACH</b> from centerline of rotation	4.57m
<b>HYDRAULIC EXTENSION</b>	91cm
<b>VERTICAL REACH</b> from mounting surface	6.28m
<b>VERTICAL REACH</b> from ground / 86cm frame ht.	7.14m
<b>**BASE CRANE WEIGHT</b>	723 kg
<b>STABILIZER SPAN</b>	3.17m
<b>STABILIZER PADS</b>	25 x 25cm
<b>CRANE STORAGE HEIGHT</b> from mounting surface	1.88m
<b>CRANE STORAGE HEIGHT</b> from ground / 86cm frame ht.	2.74m
<b>*MOUNTING SPACE REQUIRED</b>	60cm
<b>ROTATIONAL TORQUE</b>	680 kg-m
<b>OPTIMUM PUMP CAPACITY</b>	15 liters/min
<b>SYSTEM OPERATING PRESSURE</b>	178 bar
<b>OIL RESERVOIR CAPACITY</b>	38 liters
<b>HOOK APPROACH - HORIZONTAL</b> from centerline of rotation	86cm
<b>HOOK APPROACH - VERTICAL</b> from mounting surface	1.78m
<b>DESIGN FACTOR</b> - pins & hydraulics	4/1

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

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

## PERFORMANCE CHARACTERISTICS

<b>ROTATION:</b>	400°/6.98 rad	35 seconds
<b>INNER BOOM ELEVATION:</b>	-.79 to +1.31 rad	13 seconds
<b>OUTER BOOM ARTICULATION:</b>	2.48 rad	14 seconds
<b>EXTENSION:</b>	91cm	8 seconds
<b>STABILIZER STROKE:</b>	73cm	5 seconds

## POWER SOURCE

Integral-mounted hydraulic pump and PTO application. Other standard power sources may be utilized - minimum power required is 9 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 inner cylinders share a single, common holding valve block. This block contains double counter-balance valves. The outer boom cylinder has double counter-balance valves. The extension cylinder has a single holding valve on the base end of the cylinder. 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 with external worm gear, powered by a high torque hydraulic motor through a self-locking work. Total gear reduction is 73:1.

## HYDRAULIC SYSTEM

The hydraulic system is an open centered, full pressure system, requiring 15 liters/min optimum oil flow, at 186 bar. System includes separate oil reservoir with built-in suction line strainer (except for the stationary mount version), appropriate control valve and return filter.

## CONTROL SYSTEM OPTIONS

### WIRELESS REMOTE:

A six spool, proportional stack-type solenoid operated control valve with a wireless remote hand held transmitter with proportional trigger control.

### DUAL SIDE MANUAL GROUND CONTROLS:

A six spool, stack-type control valve with dual operational handles located at both sides of the crane for convenient operation.

### ON-OFF HARDWIRE REMOTE:

A six spool, stack-type solenoid operated control valve with a 30' (9.14m) hardwire pedant control.

### STATIONARY/CORNER MOUNT, PROPORTIONAL REMOTE HARDWIRE CONTROL APPLICATION:

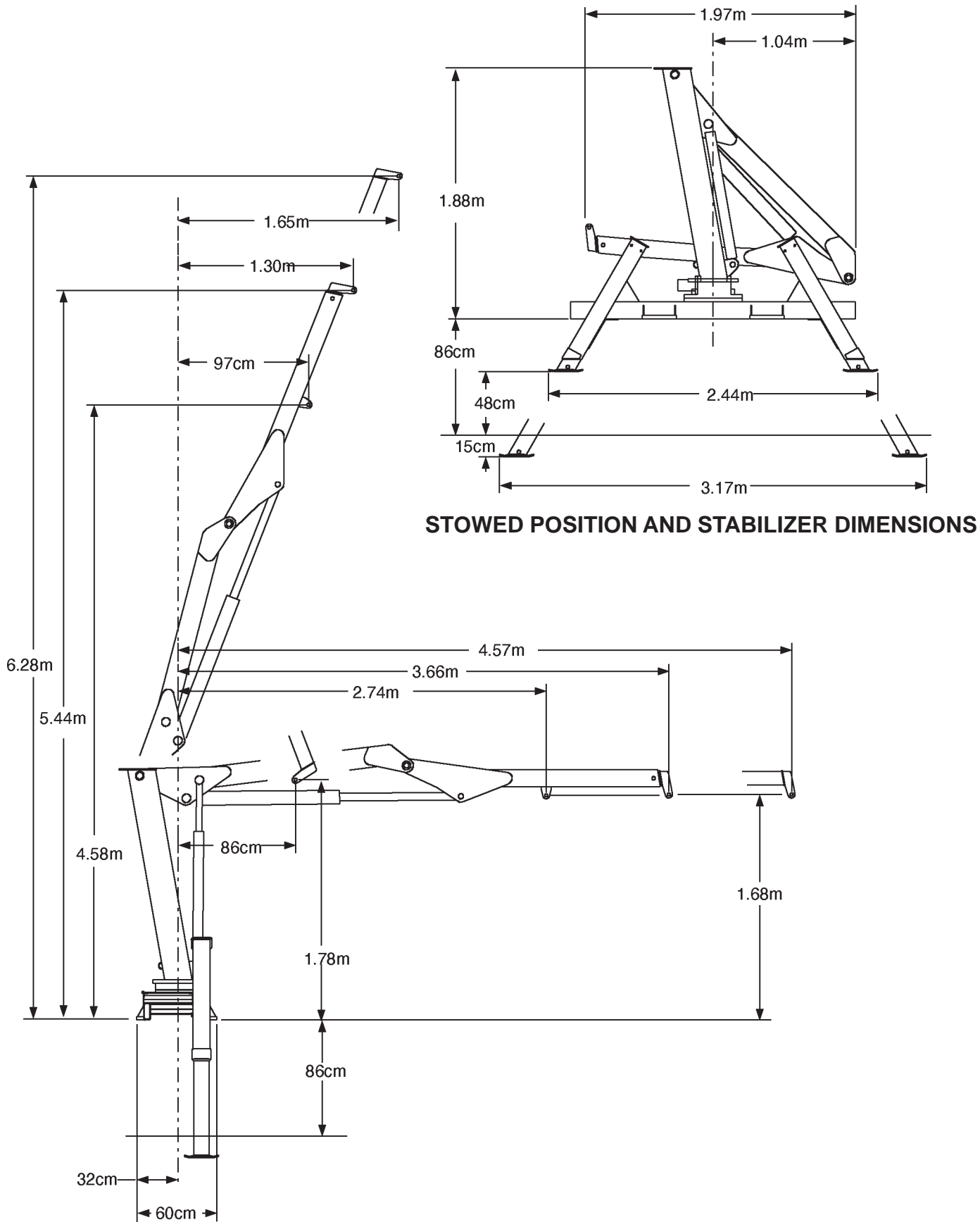
A four spool, proportional stack-type solenoid operated control valve with a 30' (9.14m) hardwire pendant with proportional trigger control.

## SELECTED WEIGHT OF ANCILLARY EQUIPMENT

STABILIZERS	89 kg
HYDRAULIC OIL RESERVOIR	16 kg

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### GEOMETRIC CONFIGURATION - MODEL 445 CRANE



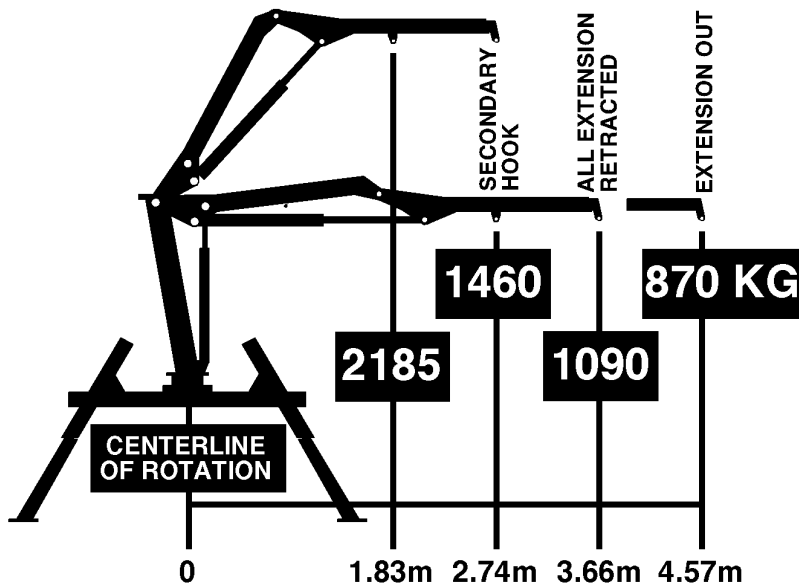
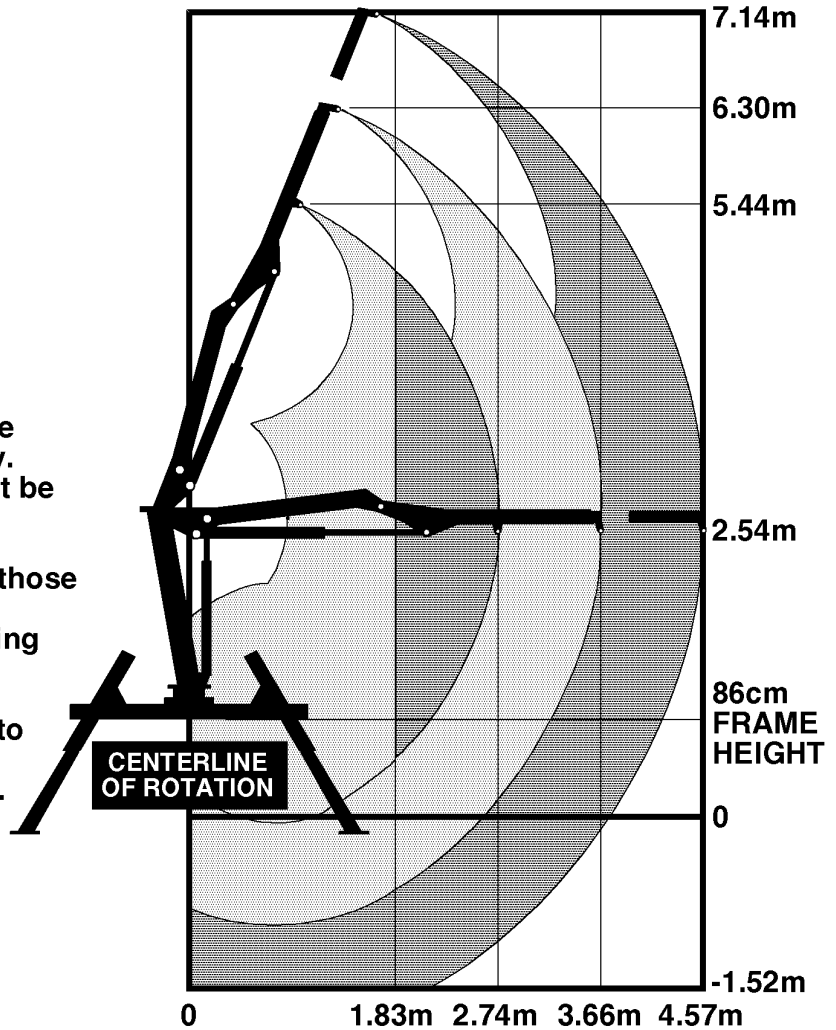
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Capacities through geometric range are limited to those shown in horizontal position.



# MODEL 445

- 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 1135 kg for 1-part line.

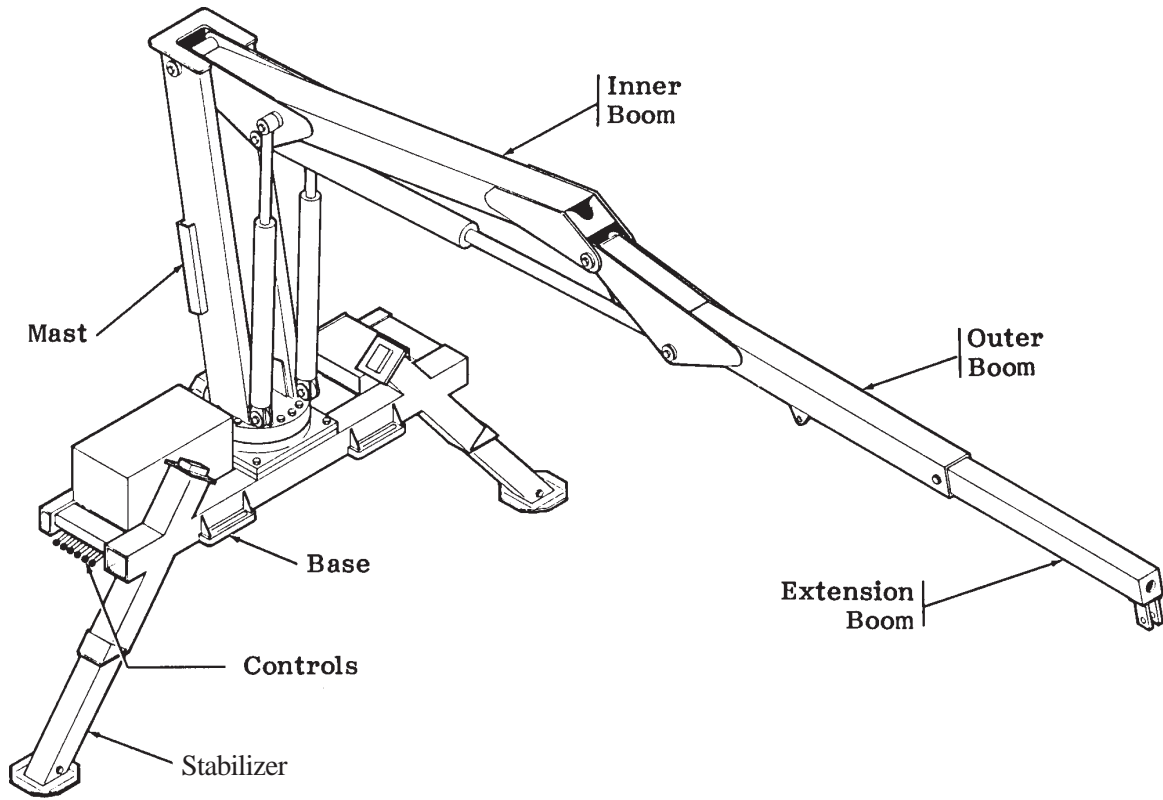




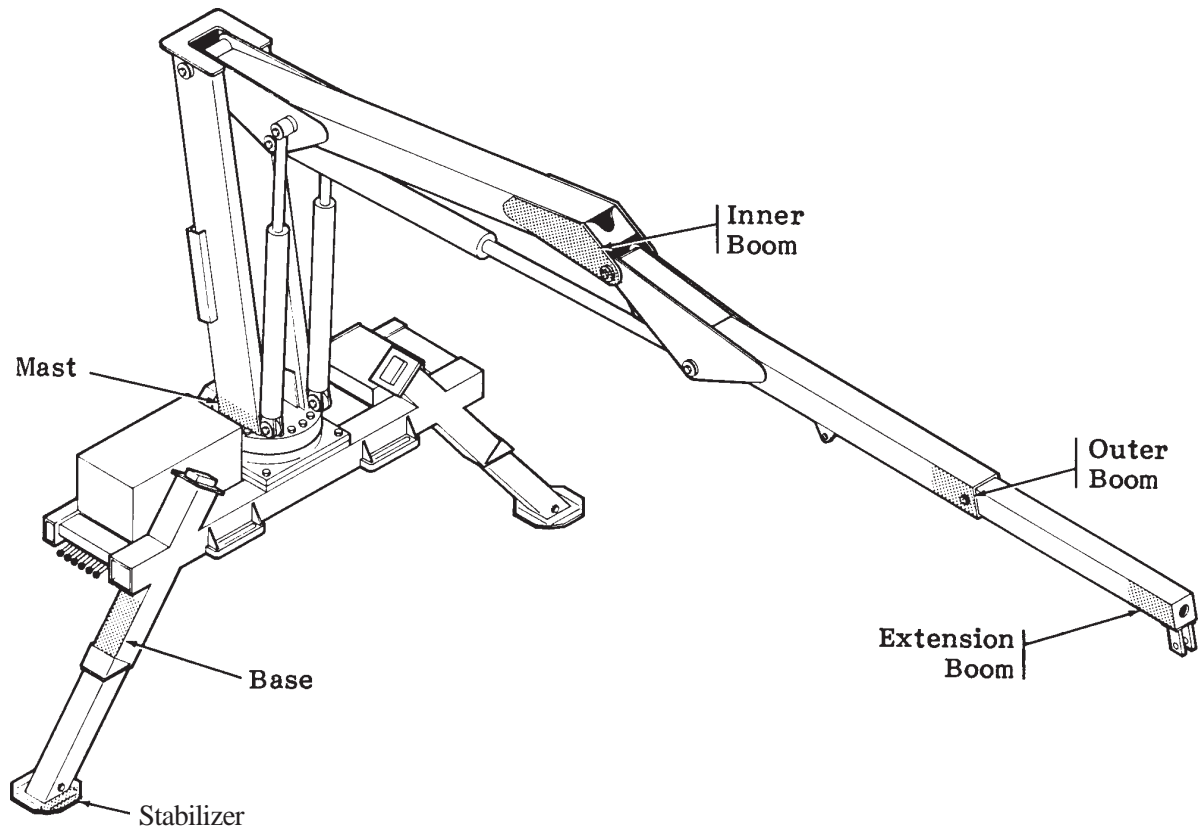
**SECTION 2. CRANE REFERENCE**

**MAJOR CRANE ASSEMBLIES ..... 3**  
**WELDMENT PART NUMBER LOCATIONS ..... 3**  
**GREASE ZERK LOCATIONS & LUBRICANT REQUIREMENTS ..... 4**  
**RECOMMENDED SPARE PARTS LIST ..... 5**  
**CRANE INSTALLATION..... 6**  
**HYDRAULIC INSTALLATION ..... 7**  
**CONTROL VALVE TROUBLESHOOTING ..... 8**



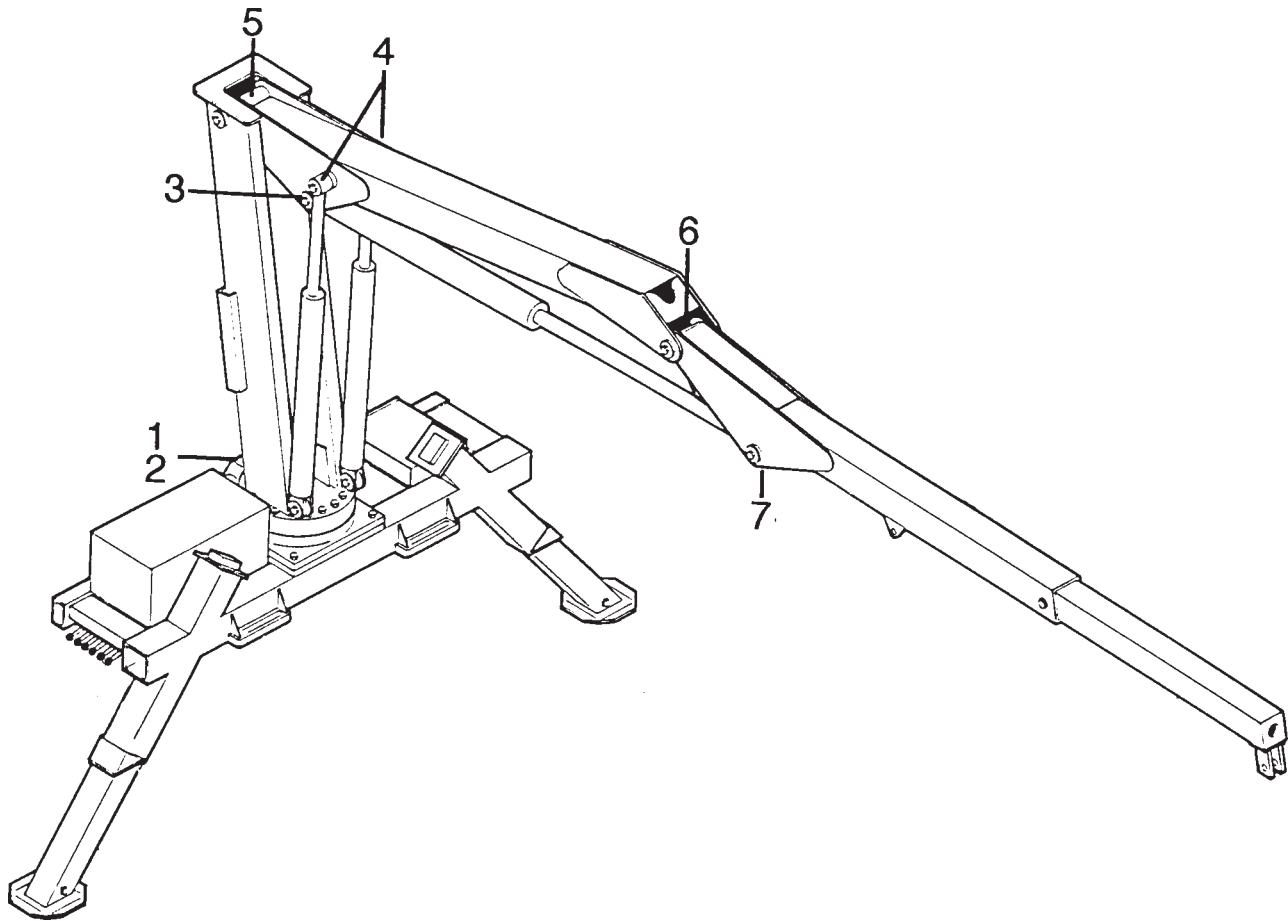


## MAJOR CRANE ASSEMBLIES



## WELDMENT PART NUMBER LOCATIONS

# GREASE ZERK LOCATIONS & LUBRICANT REQUIREMENTS



ITEM	LOCATION DESCRIPTION	LUBRICANT	FREQUENCY
1.	WORM GEAR	SHELL ALVANIA 2EP	WEEKLY
2.	TURNTABLE/BEARING GREASE EXTENSION *ROTATE CRANE WHILE GREASING		
3.	OUTER CYLINDER BASE	OR	
4.	INNER CYLINDER RODS		
5.	MAST/INNER BOOM HINGE PIN	SHELL RETINAX "A"	
6.	INNER BOOM/OUTER BOOM HINGE PIN		
7.	OUTER 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 3000/445 CRANE FOR MANUAL: 99900915

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 DESIGNATION	ITEM NO.	PART NO.	DESCRIPTION	QTY	CODE	SHELF LIFE (MO)	ORDER QTY
41711423	<b>BASE AND STABILIZER ASM</b>						
	5	60030116	THRUST BEARING	2	W		
	8	70055147	BEARING	1	W		
	9	70055148	BEARING	1	W		
	10	70056397	WORM GEAR	1	C		
	32	60030097	WEAR PAD	2	W		
3B175010	<b>STABILIZER CYLINDER</b>						
	3	6HD20012	HEAD	1	W		
	4	6ID20075	PISTON	1	W		
	7	9B081012	SEAL KIT	2	W		
41707990	<b>MAST ASM</b>						
	2	7BF80715	BUSHING	2	W		
41717046	<b>INNER BOOM ASM</b>						
3B165010	3	7BF81215	BUSHING	4	W		
	<b>INNER CYLINDER</b>						
	3	6HD25017	HEAD	1	W		
	4	6ID25087	PISTON	1	W		
	7	7BF81015	BUSHING	4	W		
41707992	9	9D101414	SEAL KIT	2	W		
	<b>OUTER BOOM ASM</b>						
	3	7BF81215	BUSHING	4	W		
	7	60030138	WEAR PAD	2	W		
3B170010	8	60030140	WEAR PAD	1	W		
	<b>OUTER CYLINDER</b>						
	4	6ID35125	PISTON	1	W		
41707993	3	6HD35022	HEAD	1	W		
	9	9D141820	SEAL KIT	1	W		
	21	73054304	COUNTERBALANCE VALVE	1	C		
	7	7BF81215	BUSHING	2	W		
	6	7BF81015	BUSHING	4	W		
	<b>EXTENSION BOOM ASM</b>						
	3	60030137	WEAR PAD	1	W		
3B160010	<b>EXTENSION CYLINDER</b>						
	3	6HD25015	HEAD	1	W		
	4	6ID25125	PISTON	1	W		
	6	73054004	HOLDING VALVE	1	C		
93707994	8	9D101220	SEAL KIT	1	W		
	<b>INSTALLATION KIT</b>						
		73052000	RETURN FILTER ELEMENT	1	P		

# INSTALLATION

## GENERAL

This section contains specific instruction 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 Installation - Chassis Preparation in Volume 1).

## CRANE INSTALLATION

To install the crane on the chassis:

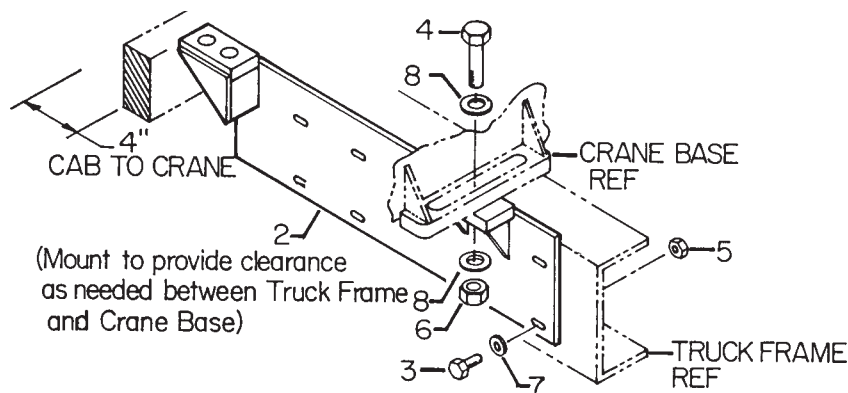
### NOTE

The manually controlled with cross controls, and tethered remote version cranes are mounted with the stabilizers away from the cab and toward the body. The wireless remote version is mounted with the stabilizers toward the truck cab and away from the body.

1. Use a lifting device capable of lifting the weight of the crane-1825 lbs (828 kg). Use a sling or chain around the inner cylinder pin bosses on the inner boom. Secure the lifting device to prevent slippage and lift the crane. Move the carrier vehicle into position under the crane and lower the crane into position on the chassis.

Allow sufficient room between the crane and cab for mast rotation - at least 2" (5cm). Check for front to rear alignment.

2. Position the shear plates under the crane base and bolt them snugly to the crane base. Clamp the shear plates to the truck frame and drill the shear plate mounting holes using the shear plate as a template. Use a 1/4" (7mm) drill for a pilot hole and then remove the shear plates. Finish drilling with a 9/16" (15mm) drill.
3. Install the shear plates on the truck chassis - bolts should be only 1/2 turn more than finger tight. Install 3/4-10 x 3-1/2" hex head bolts through crane base and shear plate mounting blocks. Use 3/4" flat washers and locknuts. Torque to 226 ft-lbs (32 kg-m).
4. Torque the 1/2-13 x 1-1/2" hex head bolts that secure the shear plates to the truck chassis at 90 ft-lbs (13 kg-m).
5. See the installation kits in the Parts section for specific part numbers.



ITEM	DESCRIPTION	QTY
2.	SHEAR PLATE	2
3.	CAP SCREW 1/2-13X1-1/2	16
4.	CAP SCREW 3/4-10X3-1/2	4
5.	NUT 1/2-13 LOCK	16
6.	NUT 3/4-10 LOCK	4
7.	WASHER 1/2 HARDENED	16
8.	WASHER 3/4 HARDENED	8

## CRANE INSTALLATION

## HYDRAULIC INSTALLATION

To install the hydraulic hoses, fittings, etc.:

1. Install the return-line filter on the truck frame in a position that will provide relatively easy access to the element. The filter must be located as close to the reservoir as possible. The suction line uses a 3/4" diameter hose that runs from the reservoir to the hydraulic pump. The suction filter must be lower than the reservoir and higher than the pump. The return-line filter is plumbed using 1/2" diameter hose that runs from the outlet of the cooler to the inlet of the filter.
2. Install the 3/4" diameter suction hose between the reservoir and the suction port of the pump.
3. Install the 1/2" diameter return hose between the outlet port of the cooler and the inlet port of the return-line filter. Install the 1/2" hose between the outlet port of the filter and reservoir.
4. Install the 3/8" diameter pressure hose between the outlet of the pump and the pressure port of the valve bank.

5. Fill the hydraulic reservoir to the "FULL" mark.
6. Open the gate valve at the suction line filter.
7. Open the return gate valve.
8. Start the vehicle engine and engage the PTO. Allow the system to run for about five minutes and insure that there are no obstructions or air leaks on the suction side of the pump. Check for leaks.

### CAUTION

Failure to open the gate valve will result in a dry running pump which may damage the pump.

# CONTROL VALVE TROUBLESHOOTING

## GENERAL

This section describes the operating characteristics of the main control valvebank used on this model of crane. It also provides troubleshooting information which applies to this valvebank. See figure on following page for reference.

## ELECTRICAL-AMP DRIVER

**(For Hardwire Proportional Remote System - Stationary Mount Applications)**

### POWER LED

The Power LED illuminates red while power is being applied to the valve amplifier. If the LED is not illuminated, no power is being applied to the valve amplifier.

If the Power LED does not function as described, inspect input wiring and repair or replace as necessary. When input power is applied, the LED should illuminate.

### PMW% LED

The PMW% LED indicates the condition of the output current flowing to the proportional valve. The LED will change colors from, red to yellow to green. The change of colors indicates the variance of current flowing to the proportional valve. Red indicates minimum current and green indicates maximum current. This represents the flow condition going from low flow (red) to maximum flow (green), thus varying the speed of crane functions.

If the LED stays red, as the speed control trigger is activated, a dead short is present in the circuit. This could be the result of a wiring problem, shorted out proportional coil, etc. Inspect the wiring and replace the proportional coil, if required.

### MIN POTENTIOMETER

The Min adjustment pot will be used to set the minimum amount of movement of an individual function at the valvebank when the corresponding function switch at the handset is depressed. To adjust, set engine at high speed control setting. Depress the "Rotation" function switch at the handset. Adjust the Min pot at the AMP driver card clockwise until crane begins to rotate or counterclockwise until motion begins to stop. No other electrical adjustments are required to properly operate the crane.

## HYDRAULICS-VALVEBANK

**(For Wireless Remote and Proportional Stationary Mount Versions Only)**

### RELIEF VALVE

The relief valve limits the maximum system pressure. Pressure limits the amount of torque or force an actuator will see. This pressure is preset to 2700 psi at 5 gpm. If the relief valve should fail, it would likely stick open. This would prevent system pressure from developing and cause a lack of torque/force at the actuator. The relief valve can be changed easily by screwing it out and replacing with a new one.

### PROPORTIONAL VALVE

The proportional valve varies the oil flow to the individual crane functions. Doing so dictates the speed of the crane functions. As the electrical current increases to the valve, by using the trigger on the control handle, more oil is ported downstream to the crane function. If the valve coil burns out, the operator would be unable to vary the flow to the crane functions. If the valve spool becomes stuck, the operator would be unable to vary the downstream flow. If speed control is the problem, it is likely an indication of a proportional valve problem. It is necessary to verify that current is flowing to the coil correctly, and that it is not an electrical problem. The proportional valve can also be operated manually for test purposes. The valve stem can be screwed out manually to port oil downstream. Doing so will manually position the valve spool and hold it in the manually commanded position.

### DIRECTIONAL VALVES

The directional valves (4) control the direction of the crane functions. When one of the solenoids is energized, it shifts the valve spool. This allows oil to flow out one of the valve ports. If a function does not work, a directional valve may be to blame. These valves have a standard manual override. You may manually shift the valve by pushing the pin, located in the middle of the solenoid.



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## 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  
Technical Support Fax: 641-923-2424

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

**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.

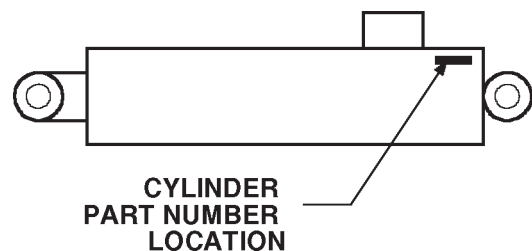
### WELDMENT IDENTIFICATION

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 figure below.

### 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 & MAST ASSEMBLIES**  
**BASE & STABILIZER ASM (41711423)**

1.	51707512	BASE	1REF
2.	52713754	TURNTABLE GUARD RH	1REF
3.	52713755	TURNTABLE GUARD LH	1REF
4.	60030086	TUBING 1/4 X 6	1REF
5.	60030116	THRUST BEARING	2REF
6.	60107543	WORM SUPPORT	1REF
7.	60111627	WORM COVER	1REF
8.	70055147	ROLLER BEARING	1REF
9.	70055148	ROLLER BEARING	1REF
10.	70056397	WORM GEAR	1REF
11.	71056395	TURNTABLE BEARING	1REF
12.	71143165	ROTATION SLIDE	1REF
13.	72053301	COUPLING 1/8NPT	1REF
14.	72063050	WASHER 5/16 LOCK	2REF
15.	72053508	ZERK 1/8NPT	2REF
16.	72060000	CAP SCR 1/4-20X1/2 HHGR5	4REF
17.	72060023	CAP SCR 5/16-18X3/4 HHGR5	2REF
18.	72062251	LOCKNUT 7/8-9	1REF
19.	72062162	NUT 9/16-12 HEX GR8	23REF
20.	72063161	WASHER 1-1/8 HARD	3REF
21.	72063049	WASHER 1/4 LOCK	4REF
22.	72063117	WASHER 9/16 HARD	23REF
23.	72531731	ADAPTER 1/8MPT 1/4TUBE	1REF
24.	72531746	ELBOW 1/8MPT 1/4TUBE 90°	1REF
25.	72601510	CAPSCR 9/16-12X3-3/4HHGR8	23REF

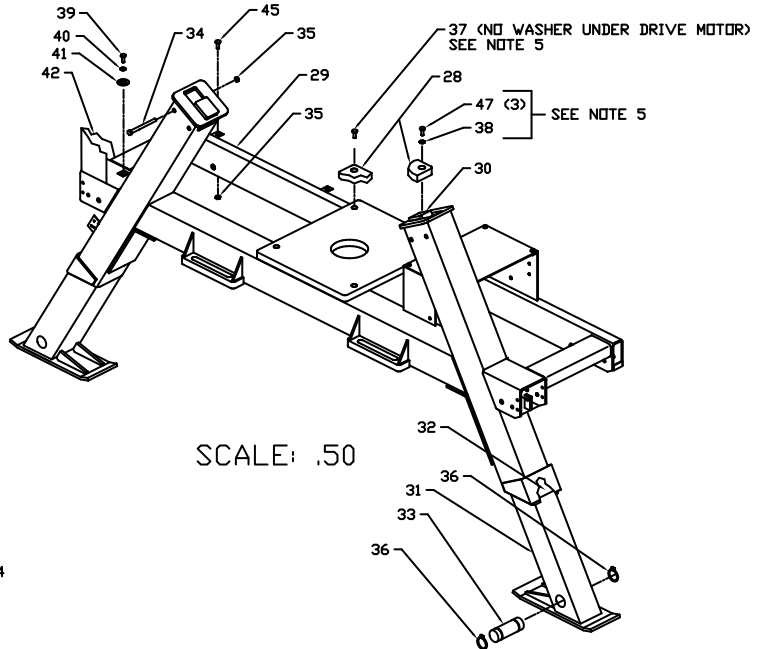
26.	73051482	MOTOR	1REF
27.	72060796	CAP SCR 1/2-13X1-3/4 SH	2REF
28.	41707846	BASE ASM (INCL:1-27)	1
29.	52711414	BASE WLDMT	1
30.	3B175010	STABILIZER CYLINDER	2
31.	52714625	STABILIZER LEG	2
32.	60030097	WEAR PAD	2
33.	60106968	PIN	2
34.	72060059	CAP SCR 3/8-16X5-1/2 HHGR5	4
35.	72062103	NUT 3/8-16 LOCK	6
36.	72066125	RETAINING RING 1" HD EXT	4
37.	72060185	CAP SCR 3/4-10X2 HHGR5	1
38.	72063116	WASHER 3/4 HARD FLAT	3
39.	72060044	CAP SCR 3/8-16X3/4 HHGR5	2
40.	72063051	WASHER 3/8 LOCK	2
41.	72063003	WASHER 3/8 WRT	6
42.	70732577	RESERVOIR ASM - 10 GALLON	1
43.	72531427	ELBOW 3/4MPT #12MJIC 90°	1
45.	72060047	CAP SCR 3/8-16X1-1/4 HHGR5	2
47.	72601625	CAP SCR 3/4-10X2-1/4 HHGR5	3

**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 metal fatigue, causing serious injury or death.

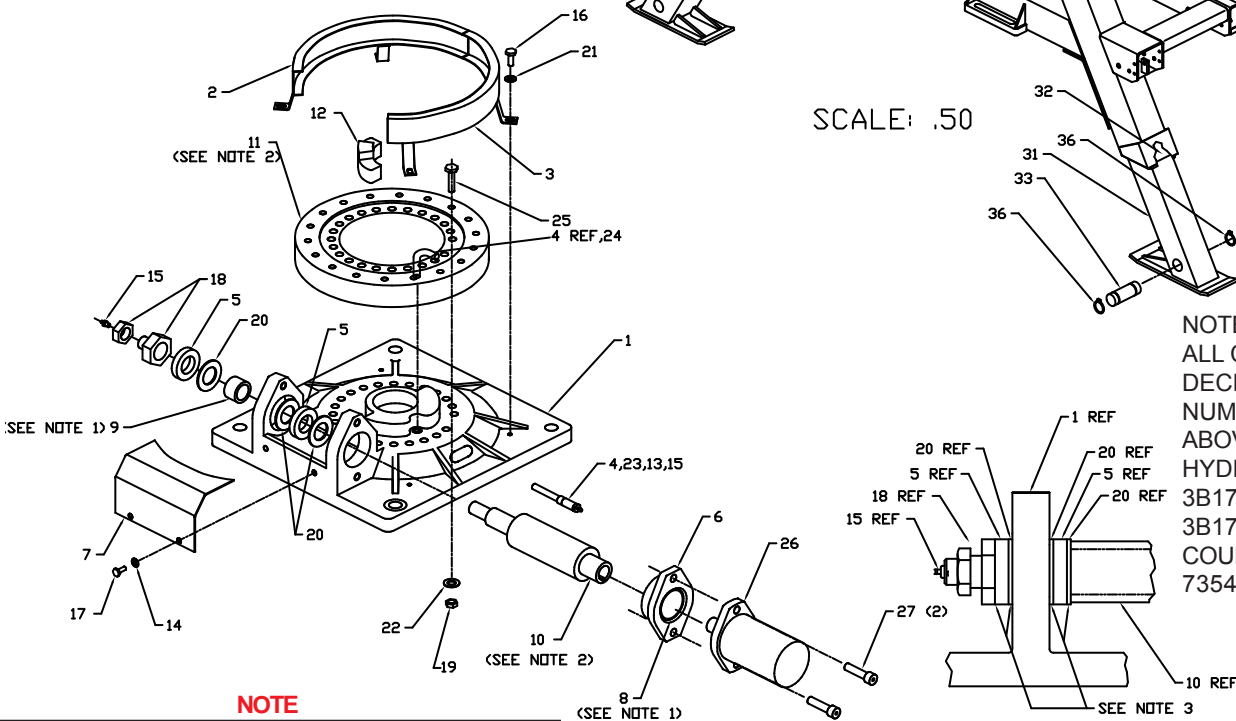
**NOTES:**

1. BEARINGS MUST BE PACKED WITH GREASE AT ASSEMBLY.
2. APPLY 'MOLUB-ALLOY 936' TO TURNTABLE BEARING AND WORM TEETH AT ASSEMBLY.
3. INITIAL LUBRICATION OF BOTH SIDES OF THRUST BEARINGS (ITEM 4) IS REQUIRED AT TIME OF INSTALLATION. SEE NOTE 4 FOR APPROVED LUBRICATIONS.
4. APPROVED LUBRICANTS ARE 'SLIP PLATE', 'LUBRI-PLATE' OR OTHER, LUBRICANTS CONTAINING GRAPHITE OR MS&G.
5. INSTALL ITEM #37 IN THIS LOCATION ONLY, UNDER DRIVE MOTOR. INSTALL ITEMS #47 & #38 IN THE OTHER THREE LOCATIONS. APPLY A SERVICABLE THREADLOCK TO ALL FOUR CONNECTIONS.



SCALE: .50

NOTE:  
 ALL CRANES PRIOR TO DECEMBER 2005 WITH SERIAL NUMBERS ABOVE 445011083 ABOVE USE STABILIZER HYDRAULIC CYLINDERS 3B175010, OUTER CYLINDERS 3B170010, AND COUNTERBALANCE VALVE 73540091.



**NOTE**

Assemble with gear drive and hydraulic motor on opposite side of stabilizer legs.

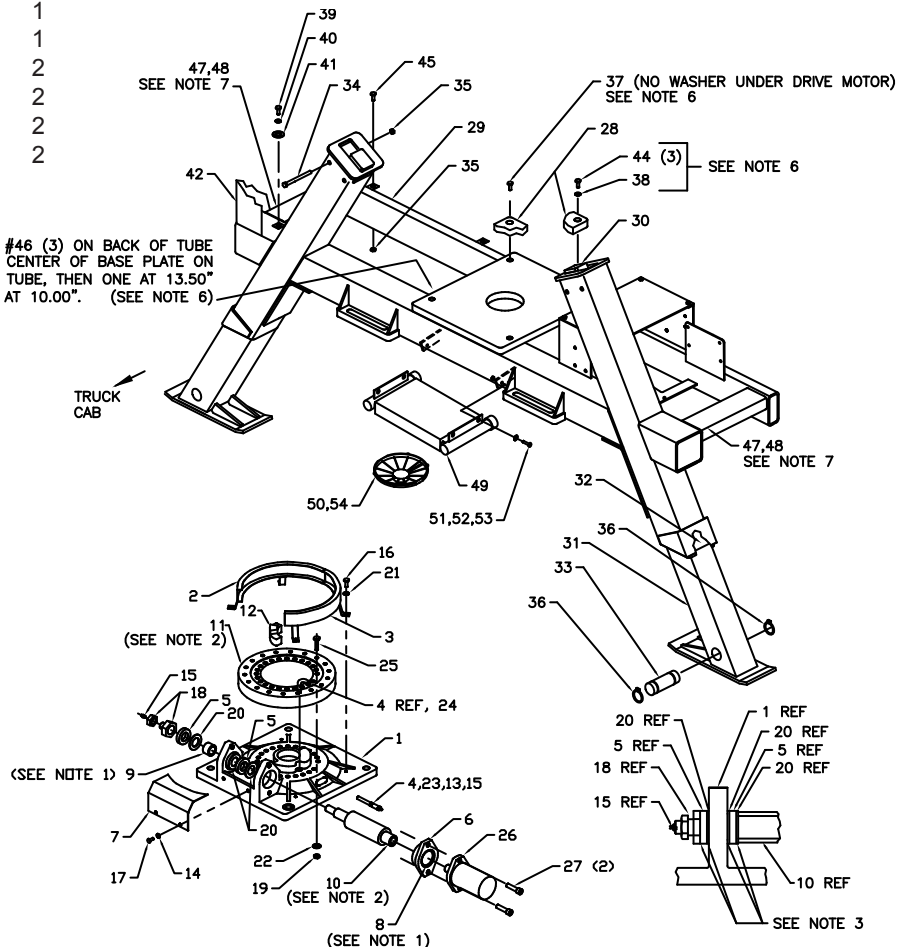
### BASE & STABILIZER ASM-RADIO RMT (41715293)

1.	51707512	BASE	1REF
2.	52713754	TURNTABLE GUARD RH	1REF
3.	52713755	TURNTABLE GUARD LH	1REF
4.	60030086	TUBING 1/4 X 6	1REF
5.	60030116	THRUST BEARING	2REF
6.	60107543	WORM SUPPORT	1REF
7.	60111627	WORM COVER	1REF
8.	70055147	ROLLER BEARING	1REF
9.	70055148	ROLLER BEARING	1REF
10.	70056397	WORM GEAR	1REF
11.	71056395	TURNTABLE BEARING	1REF
12.	71143165	ROTATION SLIDE	1REF
13.	72053301	COUPLING 1/8NPT	1REF
14.	72063050	WASHER 5/16 LOCK	2REF
15.	72053508	ZERK 1/8NPT	2REF
16.	72060000	CAP SCR 1/4-20X1/2 HHGR5	4REF
17.	72060023	CAP SCR 5/16-18X3/4 HHGR5	2REF
18.	72062251	LOCKNUT 7/8-9	1REF
19.	72062162	NUT 9/16-12 HEX GR8	23REF
20.	72063161	WASHER 1-1/8 HARD	3REF
21.	72063049	WASHER 1/4 LOCK	4REF
22.	72063117	WASHER 9/16 HARD	23REF
23.	72531731	ADAPTER 1/8MPT 1/4TUBE	1REF
24.	72531746	ELBOW 1/8MPT 1/4TUBE 90°	1REF
25.	72601510	CAPSCR 9/16-12X3-3/4HHGR8	23REF
26.	73051482	MOTOR	1REF
27.	72060796	CAP SCR 1/2-13X1-3/4 SH	2REF
28.	41707846	BASE ASM (INCL:1-27)	1
29.	52715058	BASE WLDMT-RADIO	1
30.	3B175010	STABILIZER CYLINDER	2
31.	52714625	STABILIZER LEG	2
32.	60030097	WEAR PAD	2
33.	60106968	PIN	2

34.	72060059	CAP SCR 3/8-16X5-1/2 HHGR5	4
35.	72062103	NUT 3/8-16 LOCK	6
36.	72066125	RETAINING RING 1" HD EXT	4
37.	72060185	CAP SCR 3/4-10X2 HHGR5	1
38.	72063116	WASHER 3/4 HARD FLAT	3
39.	72060044	CAP SCR 3/8-16X3/4 HHGR5	2
40.	72063051	WASHER 3/8 LOCK	2
41.	72063003	WASHER 3/8 WRT	6
42.	70732577	RESERVOIR ASM - 10 GALLON	1
43.	72531427	ELBOW 3/4MPT #12MJIC 90°	1
44.	72601625	CAP SCR 3/4-10X2.25 HH GR5	3
45.	72060047	CAP SCR 3/8-16X1-1/4 HHGR5	2
46.	70145799	RETAINER, ELEC HARNESS	3
47.	70395857	DECAL-INSTRUCTION	2
48.	70034069	PLASTIC TIES	2
49.	70143144	OIL COOLER	1REF
50.	51718482	FANASM	1
51.	72060046	CAP SCR 3/8-16X1 HHGR5Z	4REF
52.	72063003	WASHER 3/8 FLAT	4REF
53.	72062103	NUT 3/8-16 HEX NYLOC	4REF
54.	70396481	MOUNT PIN	4

**NOTE:**  
**ALL CRANES PRIOR TO DECEMBER 2005 WITH SERIAL NUMBERS ABOVE 445011083 ABOVE USE STABILIZER HYDRAULIC CYLINDERS 3B175010, OUTER CYLINDERS 3B170010, AND COUNTERBALANCE VALVE 73540091.**

PLACE ITEM #46 (3) ON BACK OF TUBE STARTING IN CENTER OF BASE PLATE ON CENTER OF THE TUBE, THEN ONE AT 13.50" THEN ONE AT 10.00". (SEE NOTE 6)



**ASSEMBLY NOTES:**

1. Pack bearings with grease.
2. Apply Molub-Alloy 882 to turntable bearing and worm teeth.
3. Lubricate both sides of thrust bearings (#4) at installation. See Note 4 for approved lubrications.
4. Approved lubricants include "Slip Plate", "Lubri-Plate," or other lubricants including graphite or 2MSO.
5. Install item #37 in this location only, under drive motor. Install #47 and #38 in the other three locations. Apply servicable threadlock to all four locations.
6. Spray or wipe tube surface with alcohol. Scrub with clean rag or paper towel until surface is dry before applying item #46 to the tube. Apply pressure and hole - 15 psi for 10 to 15 seconds. On heavy grime or oxidized surfaces, you may need to abrade the surface with scotch pad, fine steel wool, or abrasive paper (220 grit or finer) to cut the problem surface.
7. Install decal #47 and tie #48.

**NOTE**  
 Assemble with gear drive and hydraulic motor on opposite side of stabilizer legs.



**BASE ASSEMBLY (41707846)**

ITEM	PART NO.	DESCRIPTION	QTY
1.	51707512	BASE	1
2.	52713754	TURNTABLE GUARD-RH	1
3.	52713755	TURNTABLE GUARD-LH	1
4.	60030086	TUBING 1/4 X 6	1
5.	60030116	THRUST BEARING	2
6.	60107543	WORM SUPPORT PLATE	1
7.	60111627	WORM COVER	1
8.	70055147	ROLLER BEARING	1
9.	70055148	ROLLER BEARING	1
10.	70056397	WORM GEAR	1
11.	71056395	TURNTABLE GEAR-BEARING	1
12.	71143165	ROTATION STOP	1
13.	72053301	COUPLING 1/8 NPT	1
14.	72063050	WASHER 5/16 LOCK	2
15.	72053508	GREASE ZERK, 1/8 NPT	2
16.	72060000	CAP SCR 1/4-20X1/2 HHGR5	4
17.	72060023	CAP SCR 5/16-18X3/4 HHGR5	2
18.	72062251	LOCKNUT 7/8-9 DRAKE	1
19.	72062162	NUT 9/16-12 HEX GR8	23
20.	72063161	WASHER 1-1/8 HARDENED	3
21.	72063049	WASHER 1/4 LOCK	4
22.	72063117	WASHER 9/16 GR8	23

23.	72531731	ADAPTER, 1/8NPT 1/4TUBE	1
24.	72531746	ADAPTER 1/8NPT 1/4TUBE 90°	1
25.	72601510	CAP SCR 9/16-12X3-3/4 GR8	23
26.	73051482	HYDRAULIC MOTOR	1
27.	72060796	CAP SCR 1/2-13X2 SH	2
28.	60121433	SHIM 2.25X1.81X16GA	REF

**WARNING**

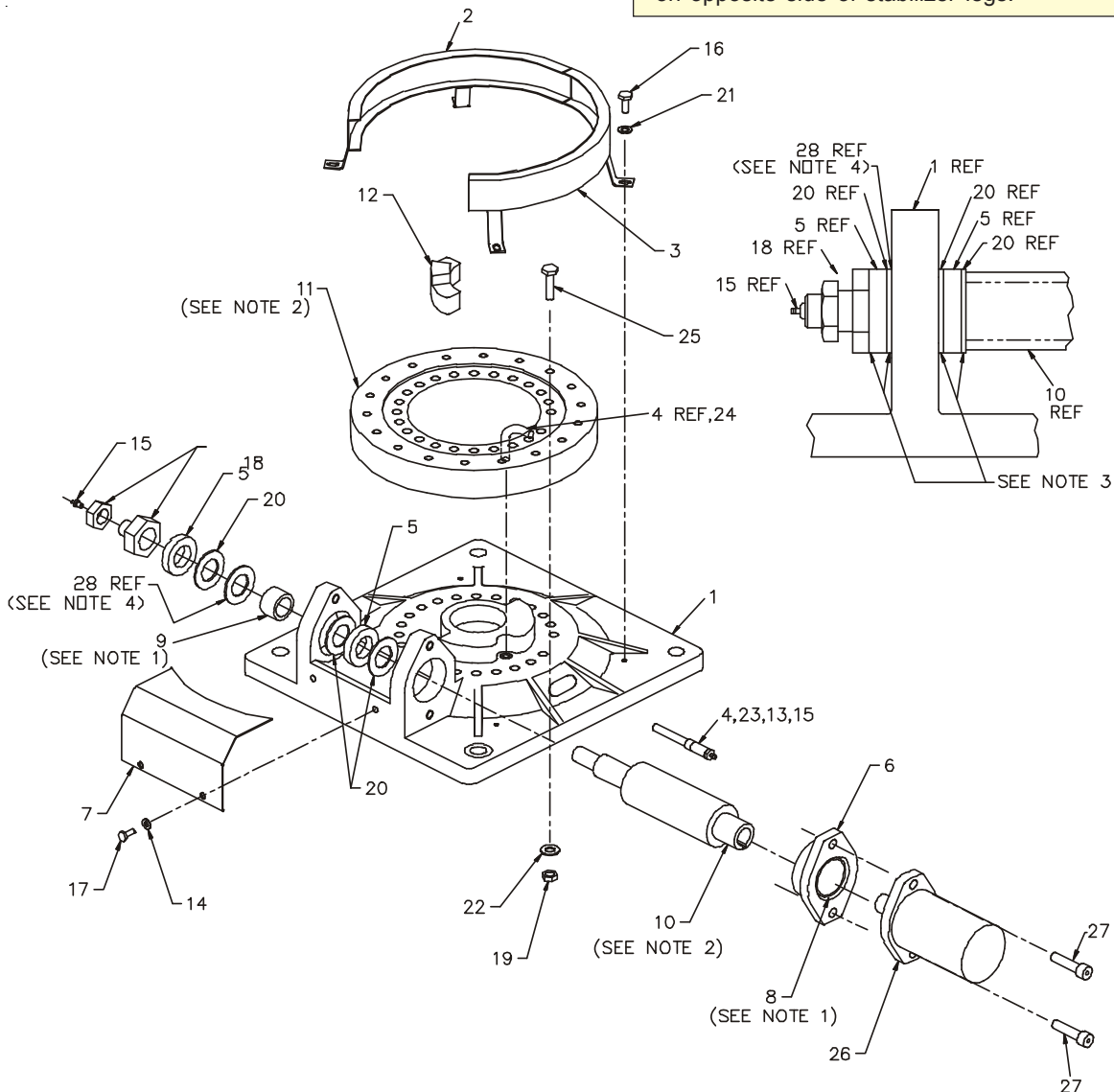
Any time the gear-bearing bolts have been removed, they must be replaced with new bolts of identical grade and size. Failure to replace gear-bearing bolts may result in bolt failure due to metal fatigue causing serious injury or death.

**NOTE**

1. Apply Molub-Alloy 882 to turntable bearing and worm teeth at assembly.
2. Bearings must be packed with grease at assembly.
3. Initial lubrication of both sides of thrust bearings is required at the time of assembly.
4. Approved lubricants are Slip Plate, Lubri-Plate, or other lubricants containing graphite or MSO<sub>2</sub>.
5. Shim as required if needed.

**NOTE**

Assemble with gear drive and hydraulic motor on opposite side of stabilizer legs.



**STABILIZER CYLINDER (3B175010)**

ITEM	PART NO.	DESCRIPTION	QTY
1.	4B175010	CASEASM	1
2.	4G010930	RODASM	1
3.	6HD20012	HEAD	1
4.	6ID20075	PISTON	1
5.	6C300012	STOP TUBE	1
6.	6C075012	STOP TUBE	1
7.	9D081012	SEAL KIT (INCL. 8-17)	1
8.	7Q072129	O-RING (PART OF 7)	1REF
9.	7Q072224	O-RING (PART OF 7)	1REF
10.	7T66P020	PISTON SEAL (PART OF 7)	1REF
11.	7Q10P224	BACKUP RING (PART OF 7)	1REF
12.	7R14P012	ROD WIPER (PART OF 7)	1REF
13.	7R546012	U-CUP LOADED (PART OF 7)	1REF
14.	7T61N075	LOCK RING (PART OF 7)	1REF
15.	7T2NX415	WEAR RING (PART OF 7)	2REF
16.	7T2N4020	WEAR RING (PART OF 7)	1REF
17.	7PNPXT02	PLUB 1/8 (PART OF 18)	3REF
18.	73054004	CHECK VALVE (INCL. 17)	1
19.	72060708	CAP SCR 1/4-20 X 1.25	6
20.	60138271	STOP TUBE (PART OF 7) (WAS 6A025012)	1REF
21.	60125699	PIN-LOCKING TUBE	1REF

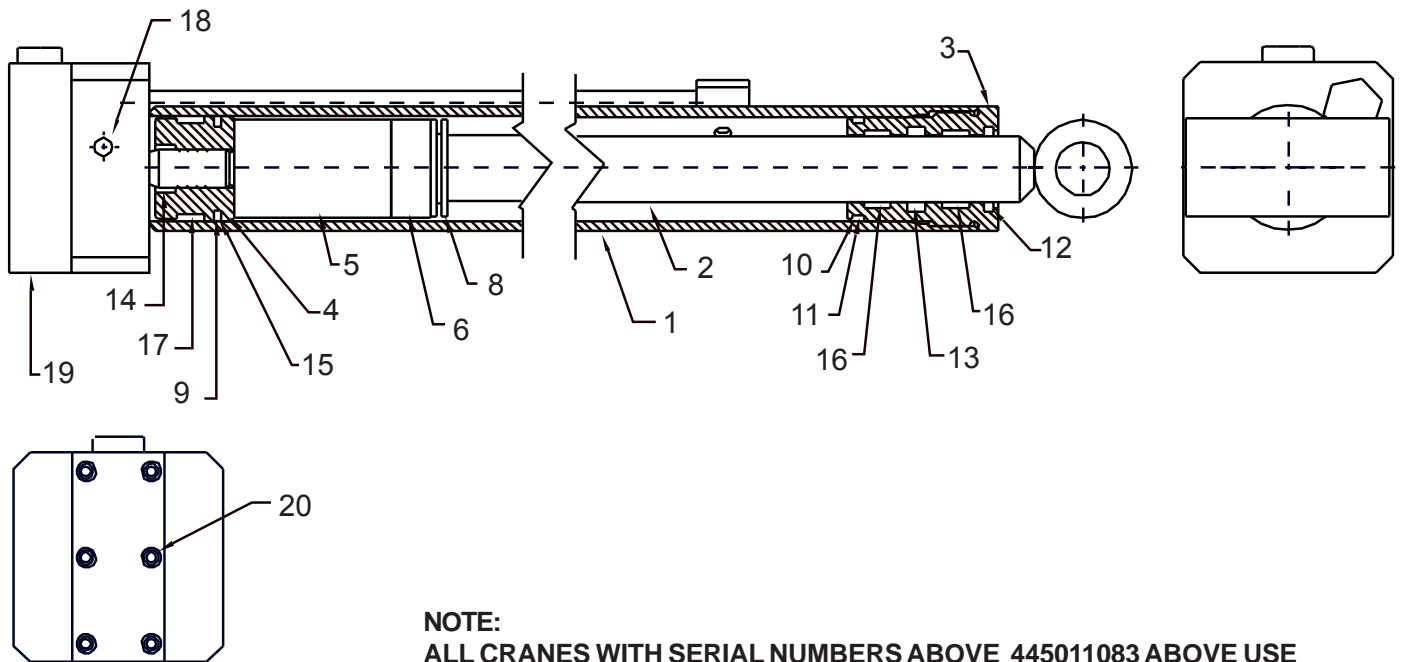
**NOTE**

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.

ITEM #20, STOP TUBE, REPLACED 6A025012 WAFER LOCK. USE STOP TUBE INSTEAD OF WAFER LOCK WHEN RESEALING CYLINDER.

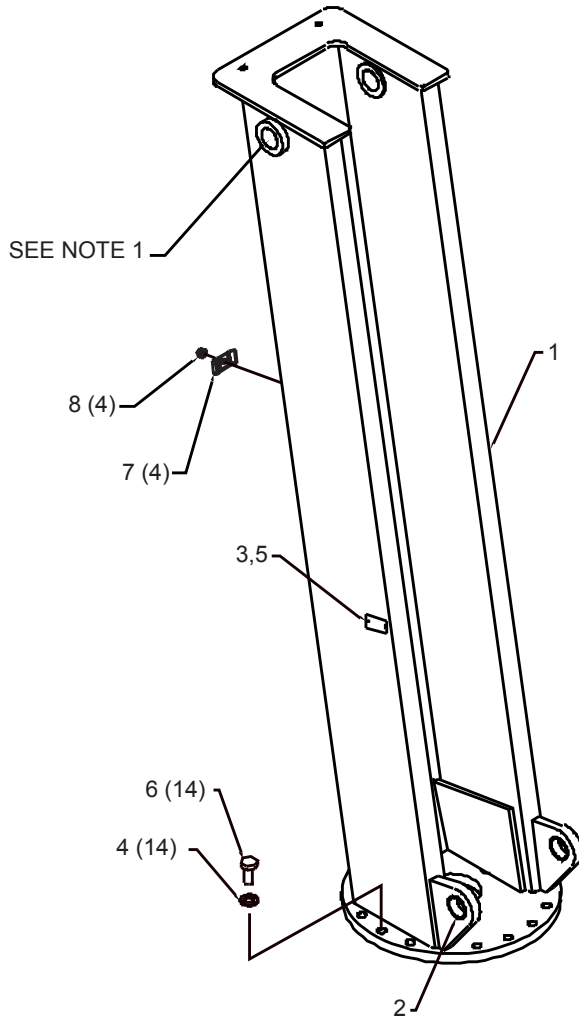


**NOTE:**  
 ALL CRANES WITH SERIAL NUMBERS ABOVE 445011083 ABOVE USE  
 STABILIZER HYDRAULIC CYLINDERS 3B175010, OUTER CYLINDERS 3B170010,  
 AND COUNTERBALANCE VALVE 73540091.

**MAST ASM (41707990)****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 metal fatigue, causing serious injury or death.

ITEM	PART	DESCRIPTION	QTY
1.	52707985	MAST (INCL: 2)	1
2.	7BF80715	BUSHING (PART OF 1)	2REF
3.	70029119	SERIAL NUMBER PLACARD	1
4.	72063117	WASHER 9/16 FLAT GR8	14
5.	72066340	RIVET 1/8	2
6.	72601144	CAP SCR 9/16-12X2 HHGR8	14
7.	60103278	HOSE CLAMP	4
8.	72062104	NUT 1/4-20 HEX NYLOC ZINC	4

**NOTES:**

1. APPLY NEVER-SEEZ TO COLLAR ID.

**NOTE:**

ALL CRANES WITH SERIAL NUMBERS ABOVE 445011083 ABOVE USE STABILIZER HYDRAULIC CYLINDERS 3B175010, OUTER CYLINDERS 3B170010, AND COUNTERBALANCE VALVE 73540091.

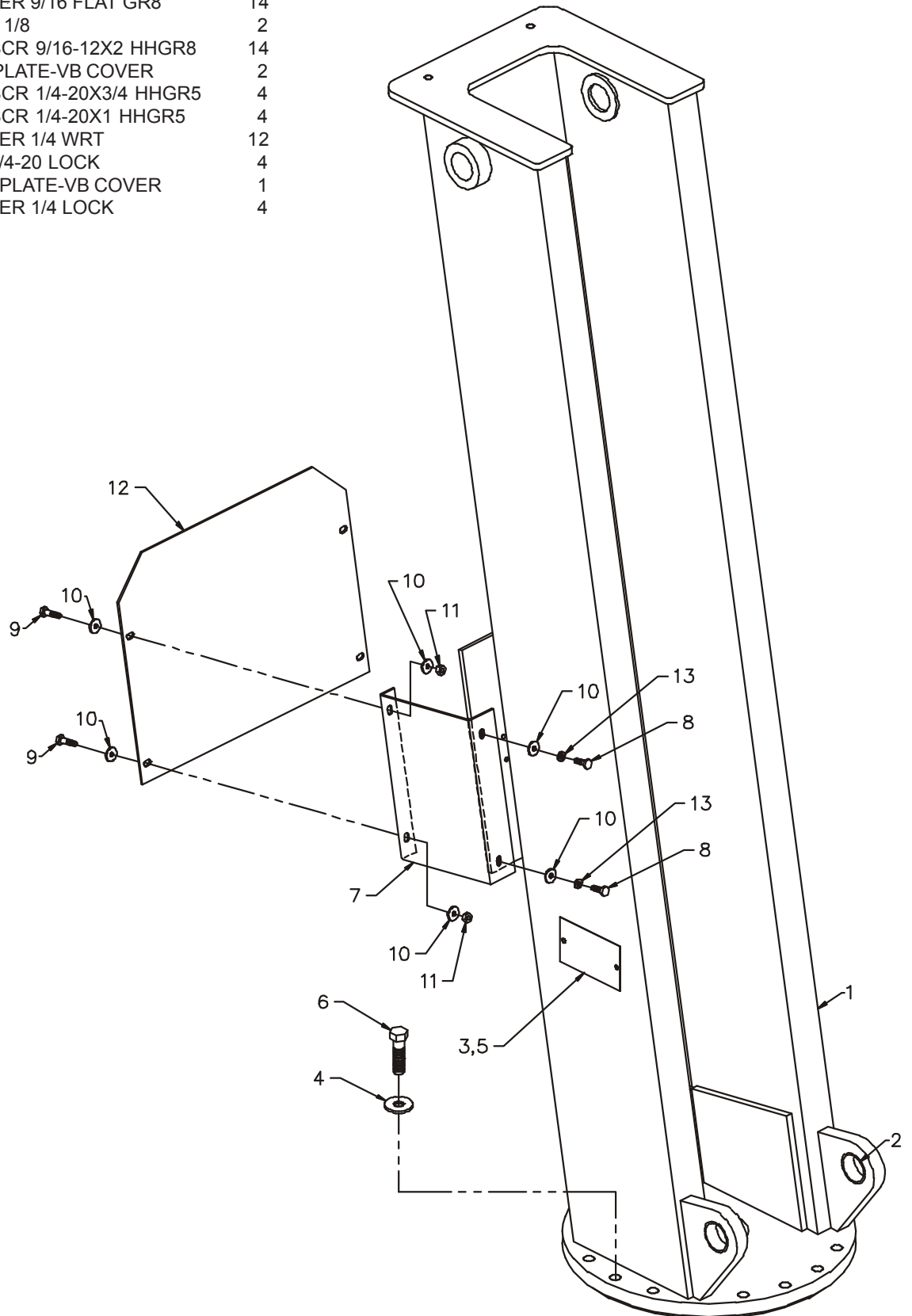


### MAST ASM-STATIONARY MOUNT (41712411)

ITEM	PART	DESCRIPTION	QTY
1.	52712400	MAST (INCL: 2)	1
2.	7BF80715	BUSHING (PART OF 1)	2REF
3.	70029119	SERIAL NUMBER PLACARD	1
4.	72063117	WASHER 9/16 FLAT GR8	14
5.	72066340	RIVET 1/8	2
6.	72601144	CAP SCR 9/16-12X2 HHGR8	14
7.	60118276	SIDE PLATE-VB COVER	2
8.	72060002	CAP SCR 1/4-20X3/4 HHGR5	4
9.	72060004	CAP SCR 1/4-20X1 HHGR5	4
10.	72063001	WASHER 1/4 WRT	12
11.	72062104	NUT 1/4-20 LOCK	4
12.	60118282	BACK PLATE-VB COVER	1
13.	72063049	WASHER 1/4 LOCK	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 metal fatigue, causing serious injury or death.

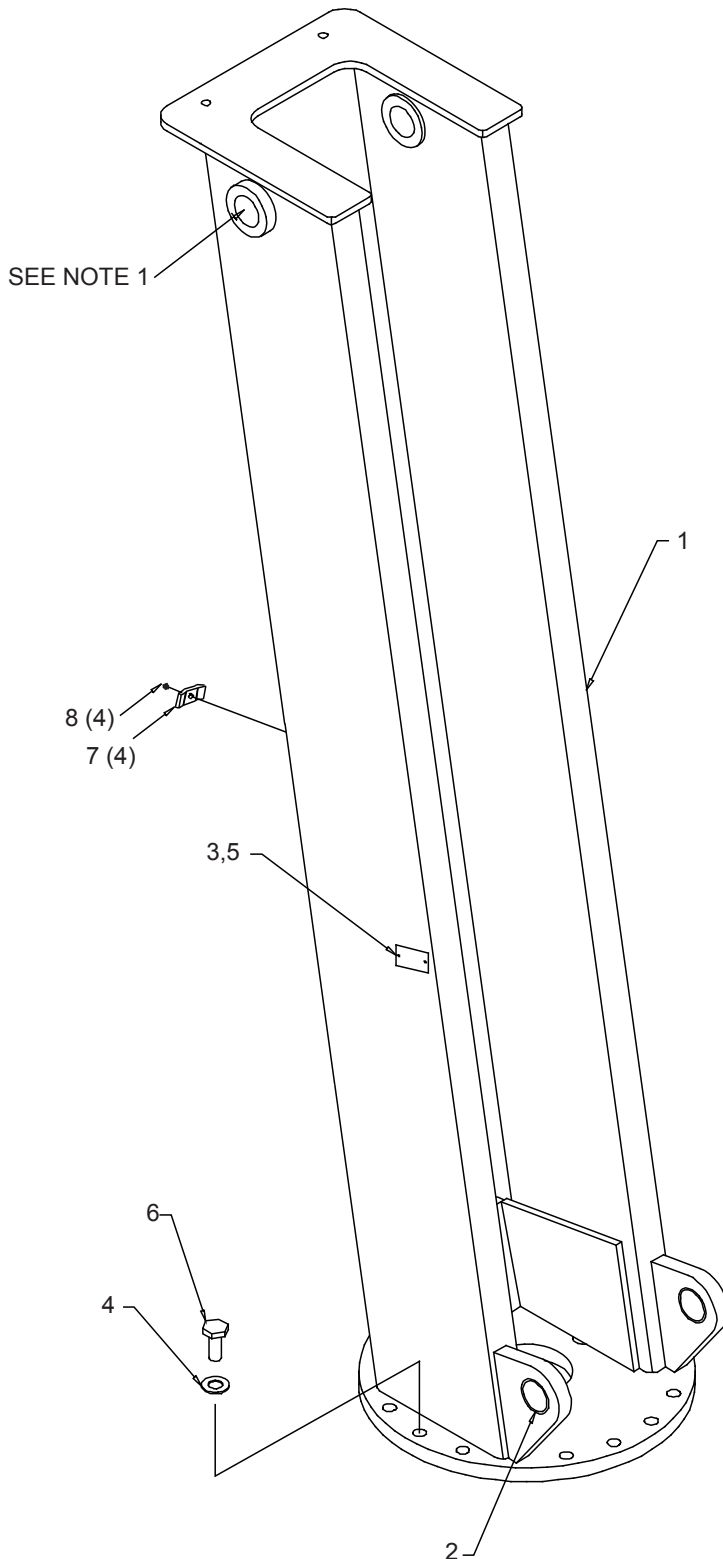


**MAST ASM-RADIO REMOTE (41715825)**

1.	52715813	MAST (INCL: 2)	1
2.	7BF80715	BUSHING (PART OF 1)	2REF
3.	70029119	SERIAL NUMBER PLACARD	1
4.	72063117	WASHER 9/16 FLAT GR8	14
5.	72066340	RIVET 1/8	2
6.	72601144	CAP SCR 9/16-12X2 HHGR8	14
7.	60103278	HOSE CLAMP	4
8.	72062104	NUT 1/4-20 HEX NYLOC ZINC	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 metal fatigue, causing serious injury or death.

**NOTE:**

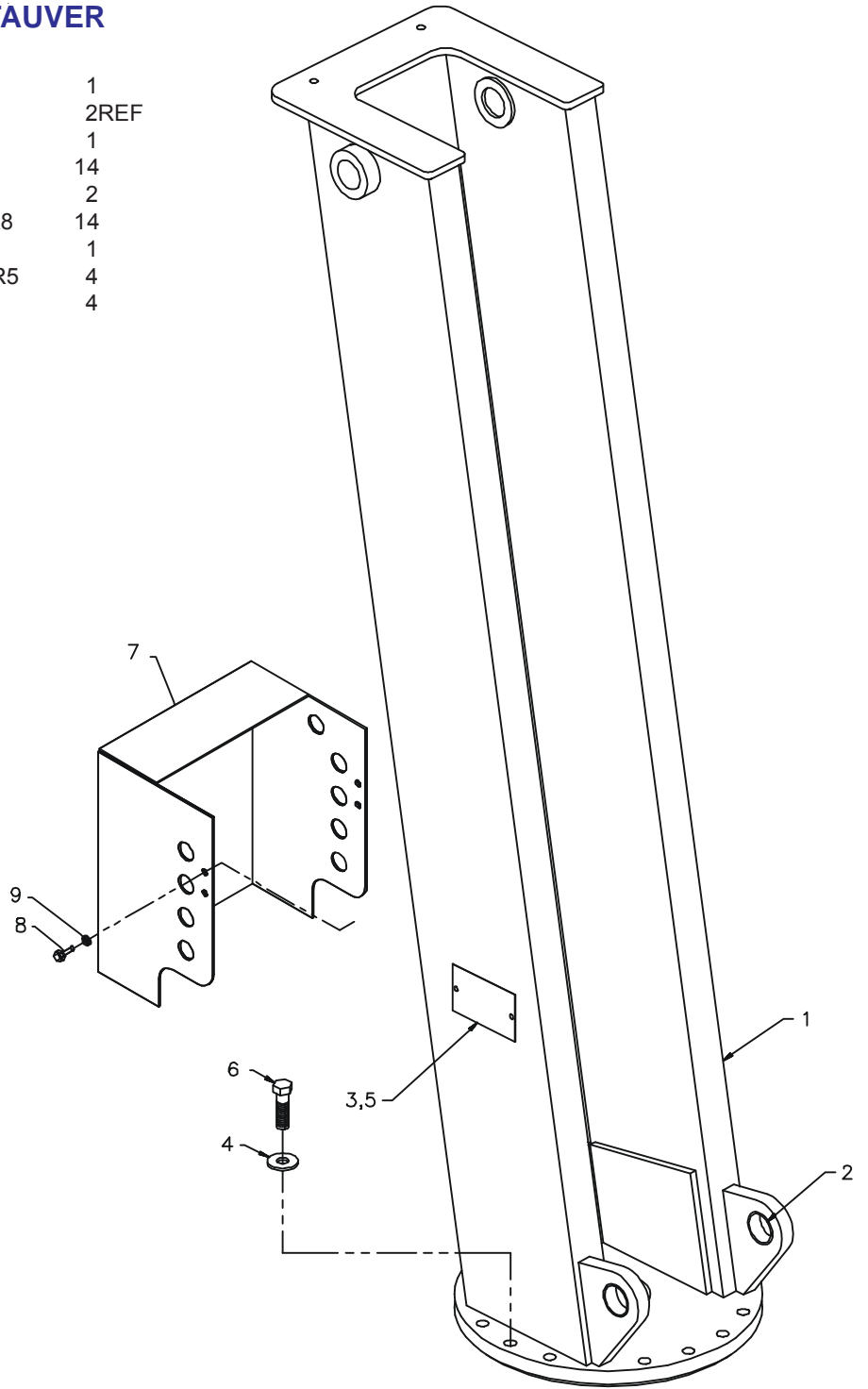
1. APPLY NEVER-SEEZ TO COLLAR ID.

**NOTE:**

ALL CRANES WITH SERIAL NUMBERS ABOVE 445011083 ABOVE USE STABILIZER HYDRAULIC CYLINDERS 3B175010, OUTER CYLINDERS 3B170010, AND COUNTERBALANCE VALVE 73540091.

**MAST ASM-STATIONARY MNT, FAUVER VALVEBANK (41715563)**

1. 52715562	MAST	1
2. 7BF80715	BUSHING	2REF
3. 70029119	SERIAL NO. PLACARD	1
4. 72063117	WASHER 9/16 FLAT HARD	14
5. 72066340	POP RIVET 1/8	2
6. 72601144	CAP SCR 9/16-12X2 HHGR8	14
7. 60121921	VB COVER	1
8. 72060002	CAP SCR 1/4-20X3/4 HHGR5	4
9. 72063040	WASHER 1/4 LOCK	4

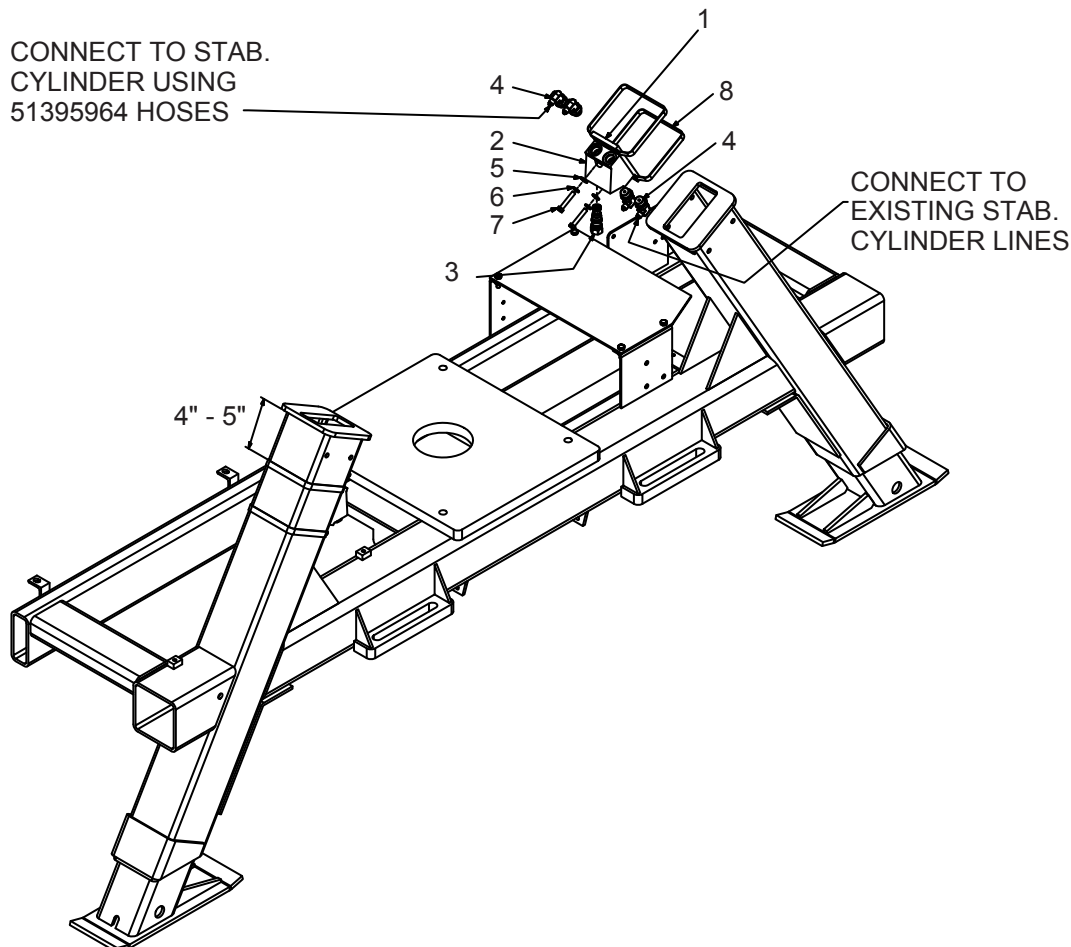


## CONVERSION KIT, STABILIZER CHECK VALVE

1.	60137864	PLATE-MOUNTING	2
2.	70144192	MANIFOLD-CAVITY BLOCK	2
3.	73054218	VALVE-CHECK	2
4.	72534391	ELBOW-#8 MSTR/90/#4 MJIC	8
5.	72063002	WASHER .31 FLAT	4
6.	72063050	WASHER .31 LOCK	4
7.	72060028	CAP SCREW .31-18 X 1.75 HHGR5	4
8.	70034448	BLACK PLASTIC TIES	4
9.	51395964	HOSE-FF .25 X 12	4

## STABILIZER CHECK VALVE INSTALLATION INSTRUCTIONS

- 1 Stow crane and turn off power.
- 2 Block up stabilizer feet to avoid any movement when working on the hydraulic system.
- 3 Disconnect the hydraulic lines to the stabilizer feet.
- 4 Strap the mounting plate (IMT # 60137864) in place between 4" and 5" from the top of the stabilizer housing as shown, using the black 22" wire ties (IMT # 70034448) included in the kit.
- 5 Bolt the manifold block (IMT # 70144192) to the mounting plate, using the supplied cap screws and washers.
- 6 Insert the check valve (IMT # 73054218) into the bottom of the manifold block.
- 7 Plumb the manifold block to the cylinder, using elbows at the top and bottom of the manifold block. Attach the original two hydraulic hoses from the stabilizer cylinder to the bottom of the block, and add the supplied hoses (IMT # 51395964) between the top of the block and the cylinder.



## BOOM ASSEMBLIES & CYLINDERS

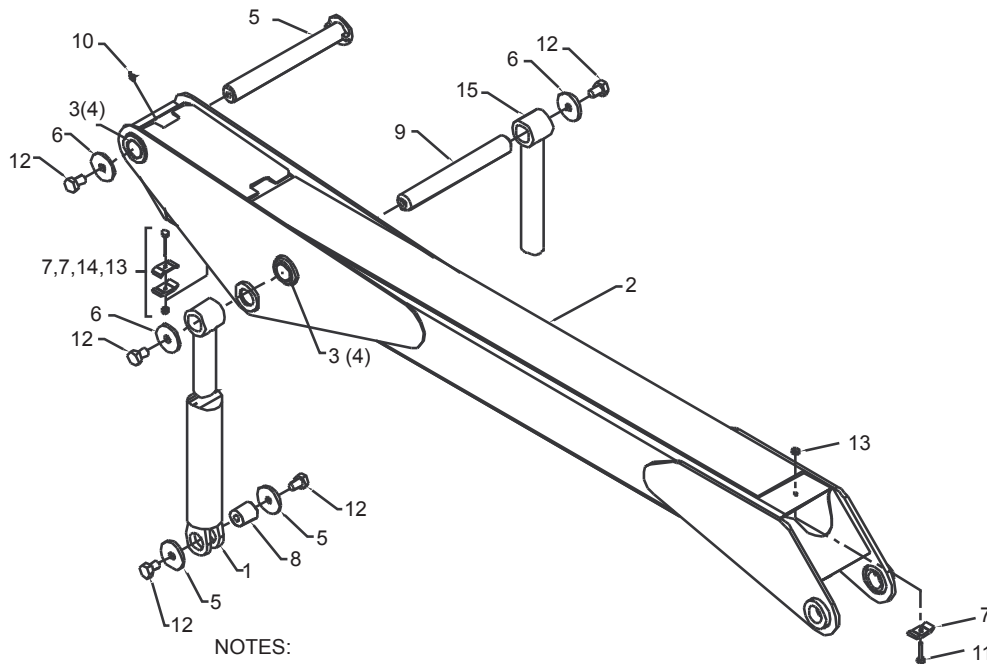
### INNER BOOM ASM (41717046)

ITEM	PART NO.	DESCRIPTION	QTY
1.	3B165010	CYLINDER	2
2.	52708006	BOOM (INCL. 3)	1
3.	7BF81215	BUSHING (PART OF 2)	8REF
5.	52708016	PIN	1
6.	60106333	RETAINER PLATE PIN	7
7.	60103278	HOSE CLAMP	3
8.	60111934	PIN	2
9.	60111935	PIN	1
10.	72053508	GREASE ZERK 1/8	1
11.	72060006	CAP SCREW 1/4-20X1.5	1
12.	72060147	CAP SCREW 5/8-11X1.00	7
13.	72062104	NUT 1/4-20 HEX NYLOC ZINC	2
14.	72060008	CAP SCREW 1/4-20X2.00	1

#### NOTE

Apply Never-Seez to collar i.d. and pin at pin cap, not to exceed collar-width.

Anytime the pin retainer plate bolts have been removed, apply Loctite 262 to the threads before reassembly.



#### NOTES:

1. APPLY NEVER-SEEZ TO COLLAR ID.
2. APPLY NEVER-SEEZ TO PIN AT PIN CAP. DO NOT EXCEED THE WIDTH OF THE COLLAR.
3. IF REQUIRED, SHIM PIN RETAINING PLATES FLUSH (-0/+0.06) WITH OUTSIDE OF COLLAR USING .75 FLAT WASHERS AS REQUIRED.
4. CLEAN/PRIME ALL PIN RETAINING PLATE CAP SCREWS. APPLY A SERVICEABLE THREAD LOCK TO A MINIMUM OF THREE THREADS. TORQUE PIN RETAINING PLATE CAP SCREWS AS FOLLOWS:
  - 3/4-10 CAP SCREW (GR5 PLATED) - 200 FT-LB
  - 5/8-11 CAP SCREW (GR5 PLATED) - 115 FT-LB

#### NOTE:

**ALL CRANES PRIOR TO DECEMBER 2005 WITH SERIAL NUMBERS ABOVE 445011083 ABOVE USE STABILIZER HYDRAULIC CYLINDERS 3B175010, OUTER CYLINDERS 3B170010, AND COUNTERBALANCE VALVE 73540091.**

**INNER CYLINDER (3B165010)**

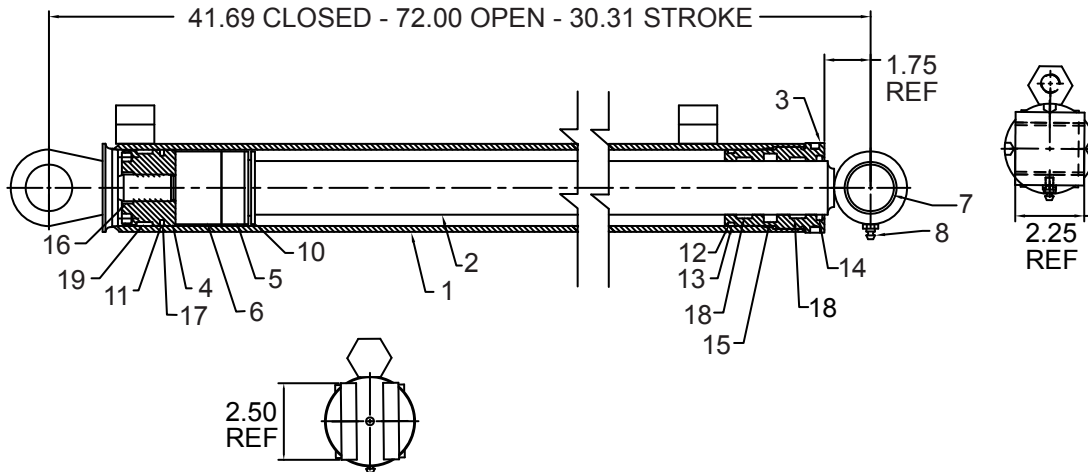
ITEM	PART NO.	DESCRIPTION	QTY
1.	4B165010	CASE	1
2.	4G092880	ROD (INCL:7 & 8)	1
3.	6HD25017	HEAD	1
4.	6ID25087	PISTON	1
5.	6C075017	STOP TUBE	1
6.	6C150017	STOP TUBE	1
7.	7BF81015	BUSHING (PART OF 2)	2REF
8.	72053507	GREASE ZERK	1REF
9.	9D101414	SEAL KIT (INCL:9-19)	1
10.	6A025017	WAFER LOCK (PART OF 9)	1REF
11.	7Q072137	O-RING (PART OF 9)	1REF
12.	7Q072228	O-RING (PART OF 9)	1REF
13.	7Q10P228	BACK-UP RING (PART OF 9)	1REF
14.	7R14P017	ROD WIPER (PART OF 9)	1REF
15.	7R546017	ROD SEAL (PART OF 9)	1REF
16.	7T61N087	LOCK-RING SEAL (PART OF 9)	1REF
17.	7T66P025	PISTON SEAL (PART OF 9)	1REF
18.	7T2NX420	WEAR RING (PART OF 9)	1REF
19.	7T2N4025	WEAR RING (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 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 BOOM ASSEMBLY (41707992)**

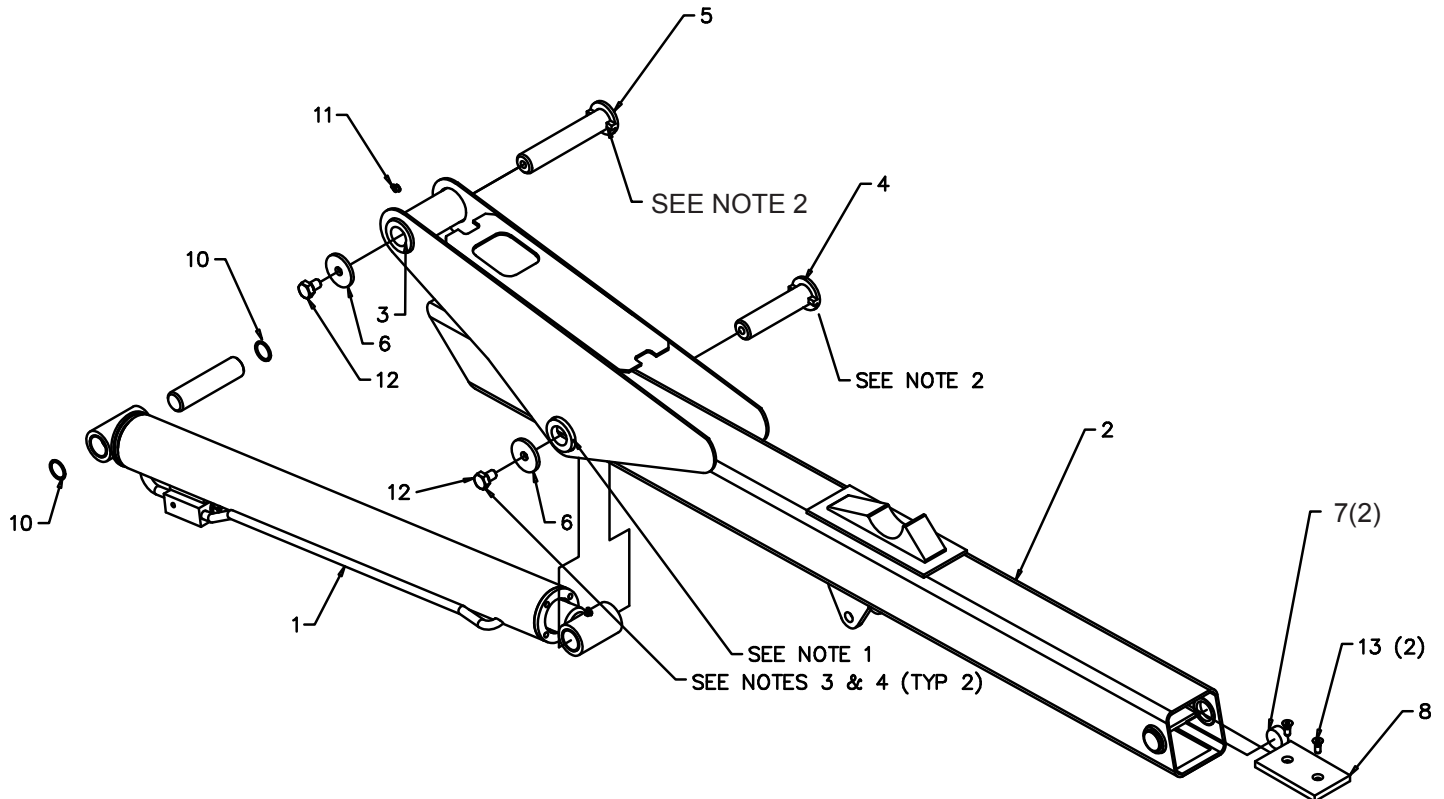
ITEM	PART	DESCRIPTION	QTY
1.	3B170010	OUTER CYLINDER	1
2.	52708101	OUTER BOOM (INCL. 3)	1
3.	7BF81215	BUSHING (PART OF 2)	4REF
4.	52708100	PIN	1
5.	52703765	PIN	1
6.	60106333	PIN RETAINER PLATE 2-1/2"	2
7.	60030138	WEAR PAD	2
8.	60030140	WEAR PAD	1
9.	60111937	PIN	1
10.	72661267	RETAINER RING	2
11.	72053508	ZERK 1/8NPT	1
12.	72060147	CAP SCR 5/8-11X1 HHGR5	2
13.	72601043	CAP SCR 3/8-16X3/4 FLH SOC	2

**NOTE**

Anytime the pin retainer plate bolts have been removed, apply Loctite 262 to the threads before reassembly.

**NOTES**

1. Apply Never-Seez to collar ID and pin at pin cap. Do not exceed the width of the collar.  
 2. If required, shim pin retaining plates flush (-0/+0.06) with outside of collar using 0.75 flat washers as required.  
 3. Clean/prime all pin retaining plate cap screws. Apply serviceable thread locker to three threads minimum. torque pin retaining plate cap screws as follows:  
 0.75-10 CAP SCREW (GR5 PLATED) - 200 FT-LB  
 0.63-11 CAP SCREW (GR5 PLATED) - 115 FT-LB

**NOTE:**

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**OUTER CYLINDER (3B170010)**

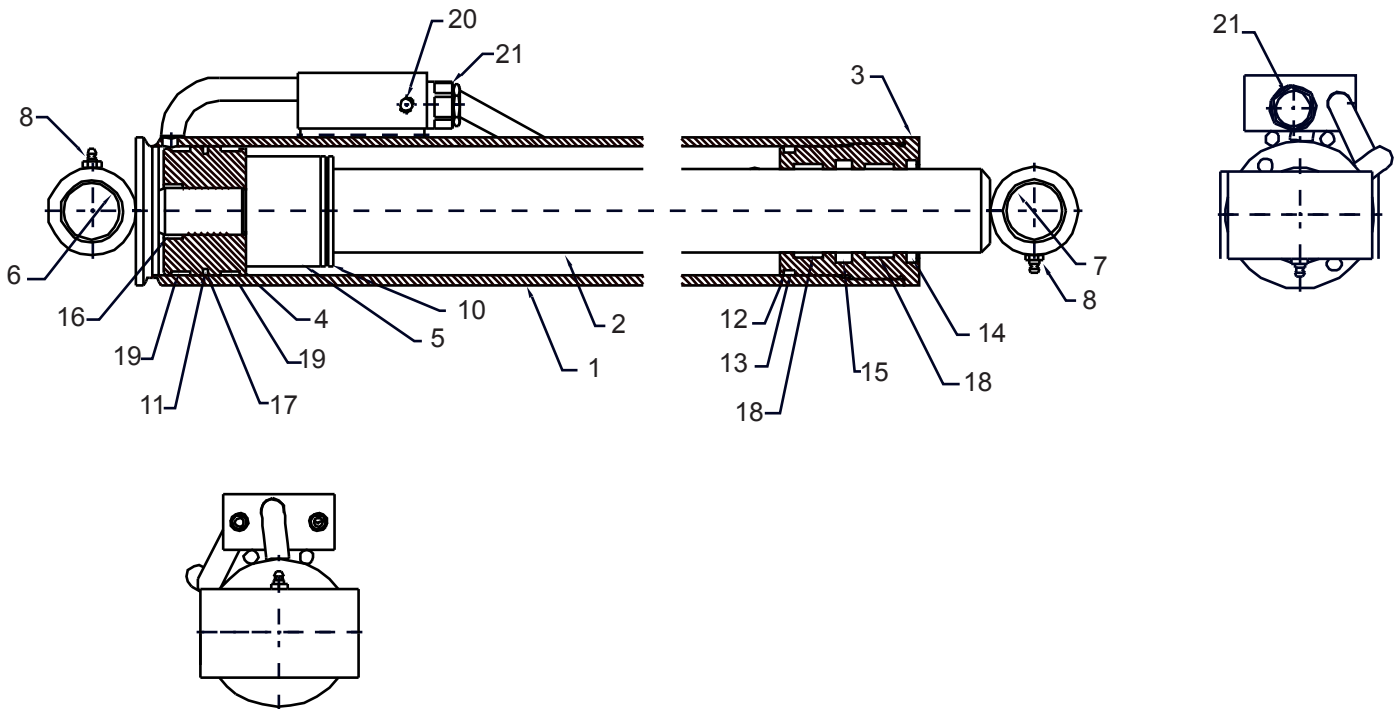
ITEM	PART NO.	DESCRIPTION	QTY
1.	4B170010	CASE (INCL. 6,8,20)	1
2.	4G096880	ROD ASM (INCL. 7,8)	1
3.	6HD35022	HEAD	1
4.	6ID35125	PISTON	1
5.	6C200022	STOP TUBE	1
6.	7BF81015	BUSHING (PART OF 1)	4REF
7.	7BF81215	BUSHING (PART OF 2)	2REF
8.	72053507	ZERK 1/4-18 (PART OF 1,2)	2REF
9.	9D141820	SEAL LOCK (INCL. 10-19)	1
10.	6A025022	WAFER LOCK (PART OF 9)	1REF
11.	7Q072151	O-RING (PART OF 9)	1REF
12.	7Q072338	O-RING (PART OF 9)	1REF
13.	7Q10P338	BACKUP RING (PART OF 9)	1REF
14.	7R14P022	ROD WIPER (PART OF 9)	1REF
15.	7R546022	U-CUP LOADED (PART OF 9)	1REF
16.	7T61N125	LOCK RING (PART OF 9)	1REF
17.	7T66P035	PISTON SEAL (PART OF 9)	1REF
18.	7T2NX625	WEAR RING - ROD (PART OF 9)	2REF
19.	7T2N4035	WEAR RING - PISTON (PART OF 9)	2REF
20.	7PNPXT02	PIPE PLUG (PART OF 1)	3REF
21.	73054304	C-BALANCE VALVE 10GPM	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 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.

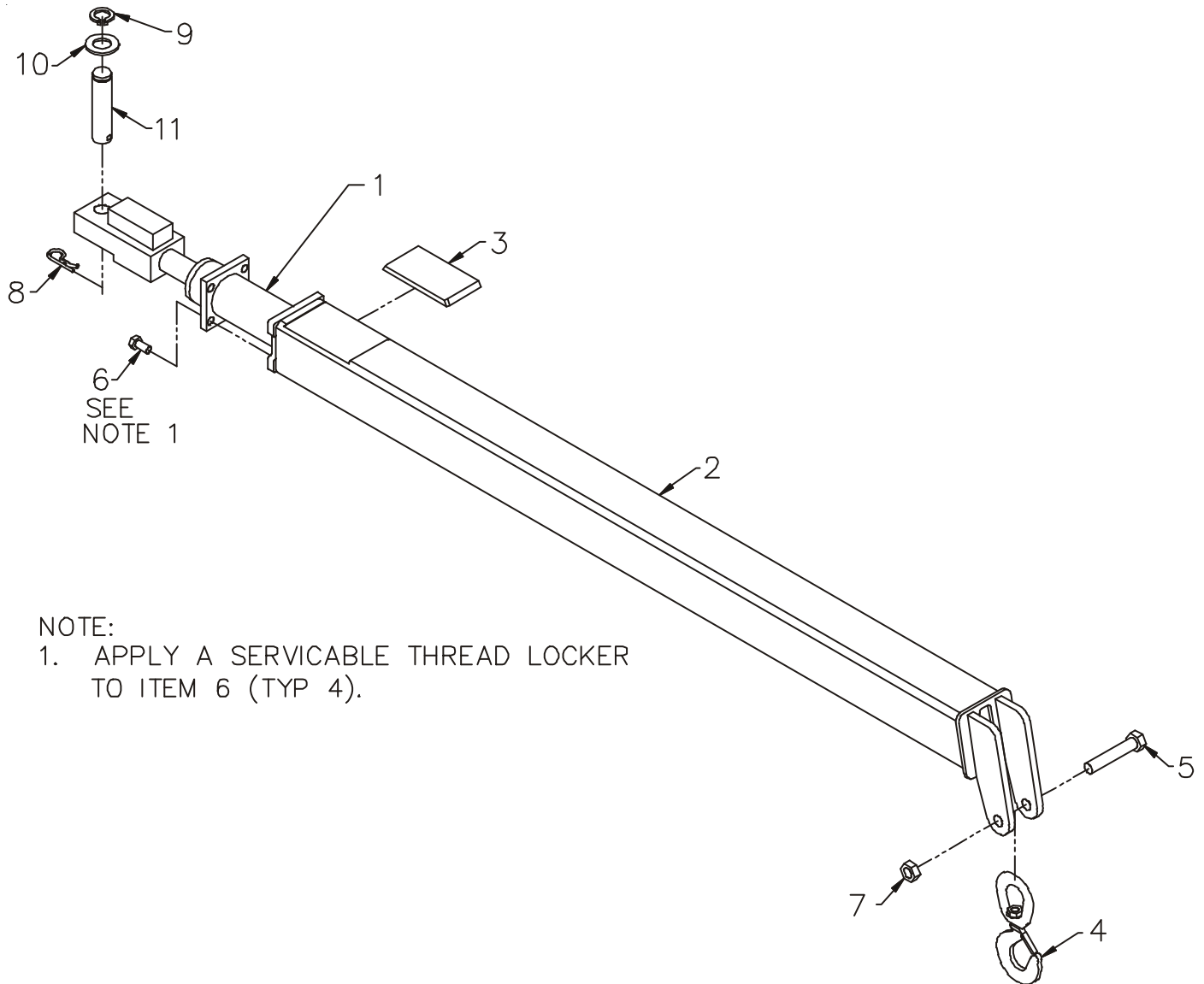


**NOTE:**  
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 STABILIZER HYDRAULIC CYLINDERS 3B175010, OUTER CYLINDERS 3B170010,  
 AND COUNTERBALANCE VALVE 73540091.



**EXT BOOM ASM (41707993)**

ITEM	PART NO.	DESCRIPTION	QTY
1.	3B160010	EXTENSION CYLINDER	1
2.	52708102	EXTENSION BOOM	1
3.	60030137	WEAR PAD	1
4.	71073920	HOOK - 3TON W/LATCH	1
5.	72060189	CAP SCR 3/4-10 X 4 HH GR5	1
6.	72060793	CAP SCR 1/2-13 X 1 SH	4
7.	72062114	NUT 3/4-10 LOCK	1
8.	72066145	HAIR PIN	1
9.	72066125	RETAINING RING 1" HD EXT	1
10.	72063034	MACH BUSHING 1 X 10GA NR	1
11.	60101905	PIN	1

**NOTE:**

1. APPLY A SERVICABLE THREAD LOCKER TO ITEM 6 (TYP 4).

**NOTE:**

ALL CRANES PRIOR TO DECEMBER 2005 WITH SERIAL NUMBERS ABOVE 445011083 ABOVE USE STABILIZER HYDRAULIC CYLINDERS 3B175010, OUTER CYLINDERS 3B170010, AND COUNTERBALANCE VALVE 73540091.

**EXT CYLINDER (3B160010)**

ITEM	PART NO.	DESCRIPTION	QTY
1.	4B160010	CASE	1
2.	4H160010	ROD (INCL: 5)	1
3.	6HD25015	HEAD	1
4.	6ID25125	PISTON	1
5.	7PNPXT02	PIPE PLUG (PART OF 2)	3REF
6.	73054004	CHECK VALVE	1
7.	6C210013	STOP TUBE	1
8.	9D101220	SEAL KIT (INCL. 9-18)	1
9.	60138272	STOP TUBE (PART OF 8) (WAS 6A025015)	1REF
10.	7Q072137	O-RING (PART OF 8)	1REF
11.	7Q072228	O-RING (PART OF 8)	1REF
12.	7Q10P228	BACKUP RING (PART OF 8)	1REF
13.	7R14P015	ROD WIPER (PART OF 8)	1REF
14.	7R546015	U-CUP SEAL (PART OF 8)	1REF
15.	7T61N125	LOCK RING (PART OF 8)	1REF
16.	7T66P025	PISTON SEAL (PART OF 8)	1REF
17.	7T2NX417	WEAR RING - ROD (PART OF 8)	2REF
18.	7T2N4025	WEAR RING - PISTON (PART OF 8)	1REF
19.	72060708	CAP SCR 1/4-20X1.25	6
20.	60125699	PIN-LOCKING TUBE (PART OF 8)	1REF

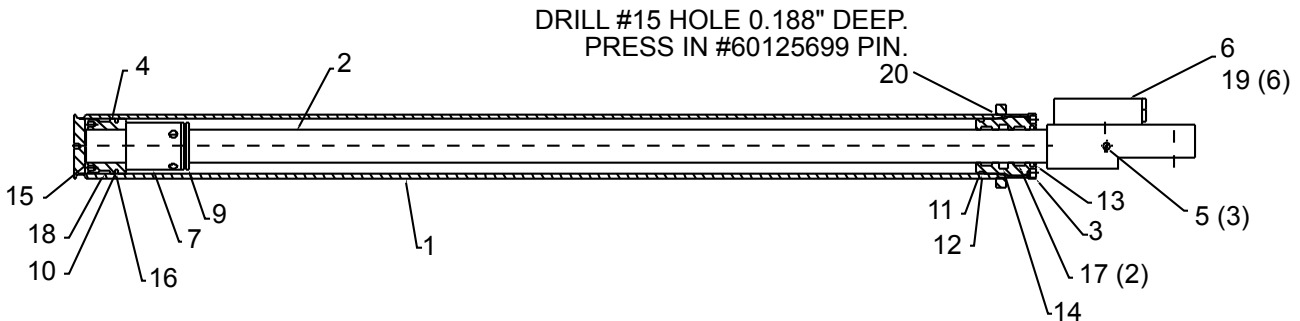
**NOTE**

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.

ITEM #9, STOP TUBE, REPLACED 6A025015 WAFER LOCK. USE STOP TUBE INSTEAD OF WAFER LOCK WHEN RESEALING TUBE.

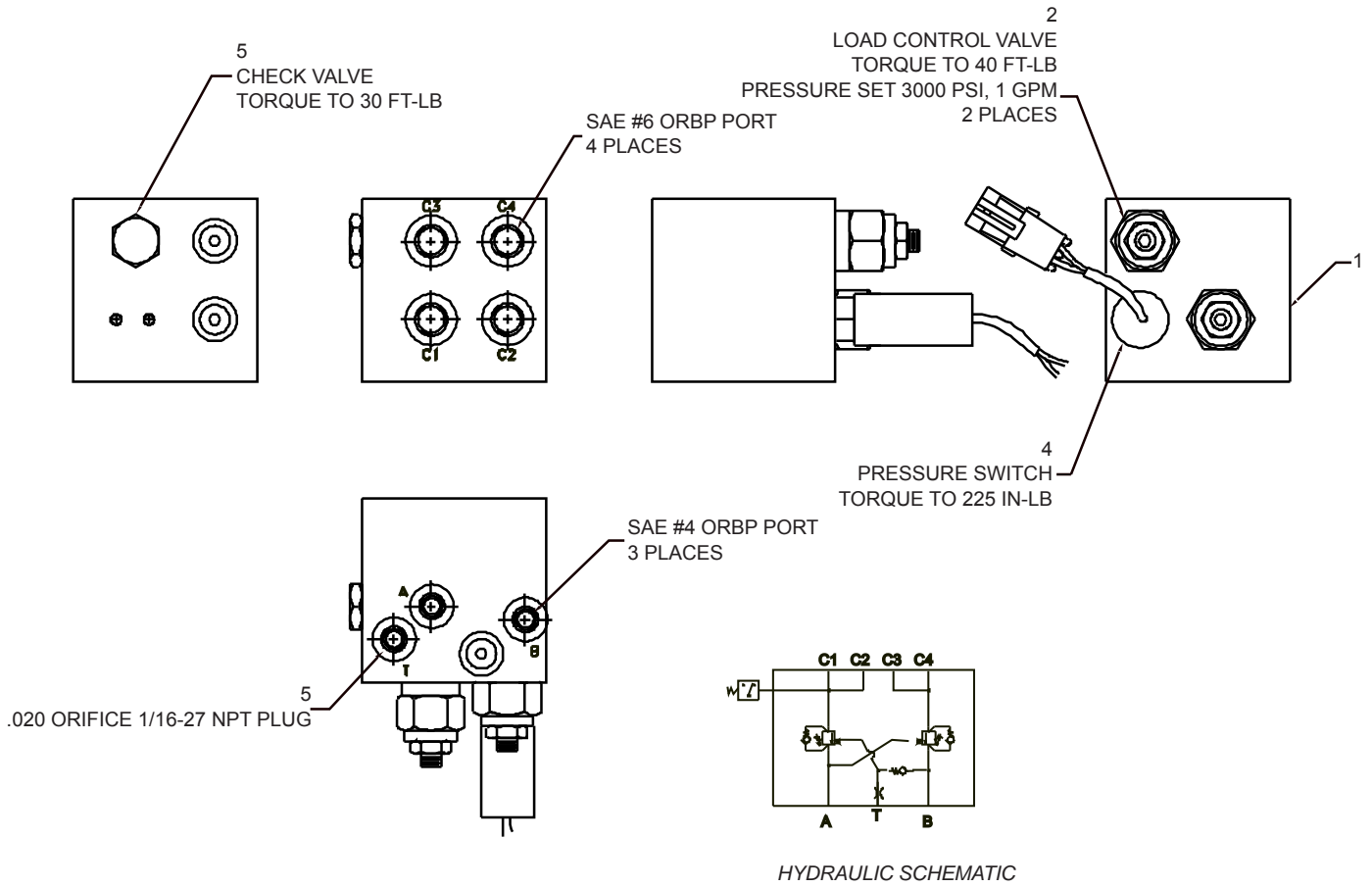


**NOTE:**

ALL CRANES PRIOR TO DECEMBER 2005 WITH SERIAL NUMBERS ABOVE 445011083 ABOVE USE STABILIZER HYDRAULIC CYLINDERS 3B175010, OUTER CYLINDERS 3B170010, AND COUNTERBALANCE VALVE 73540091.

### COUNTERBALANCE VALVE (73540091)

- |    |          |  |   |
|----|----------|--|---|
| 1. | 73540093 | C'BAL VALVE BKICJ                          | 1 |
| 2. | 73540128 | C'BAL VALVE 3000 PSI ADJ<br>(WAS 73540082) | 2 |
| 3. | 70146413 | ORIFICE                                    | 1 |
| 4. | 77041625 | PRESSURE SWITCH<br>(WAS 77041627)          | 1 |
| 5. | 70146414 | CHECK VALVE                                | 1 |

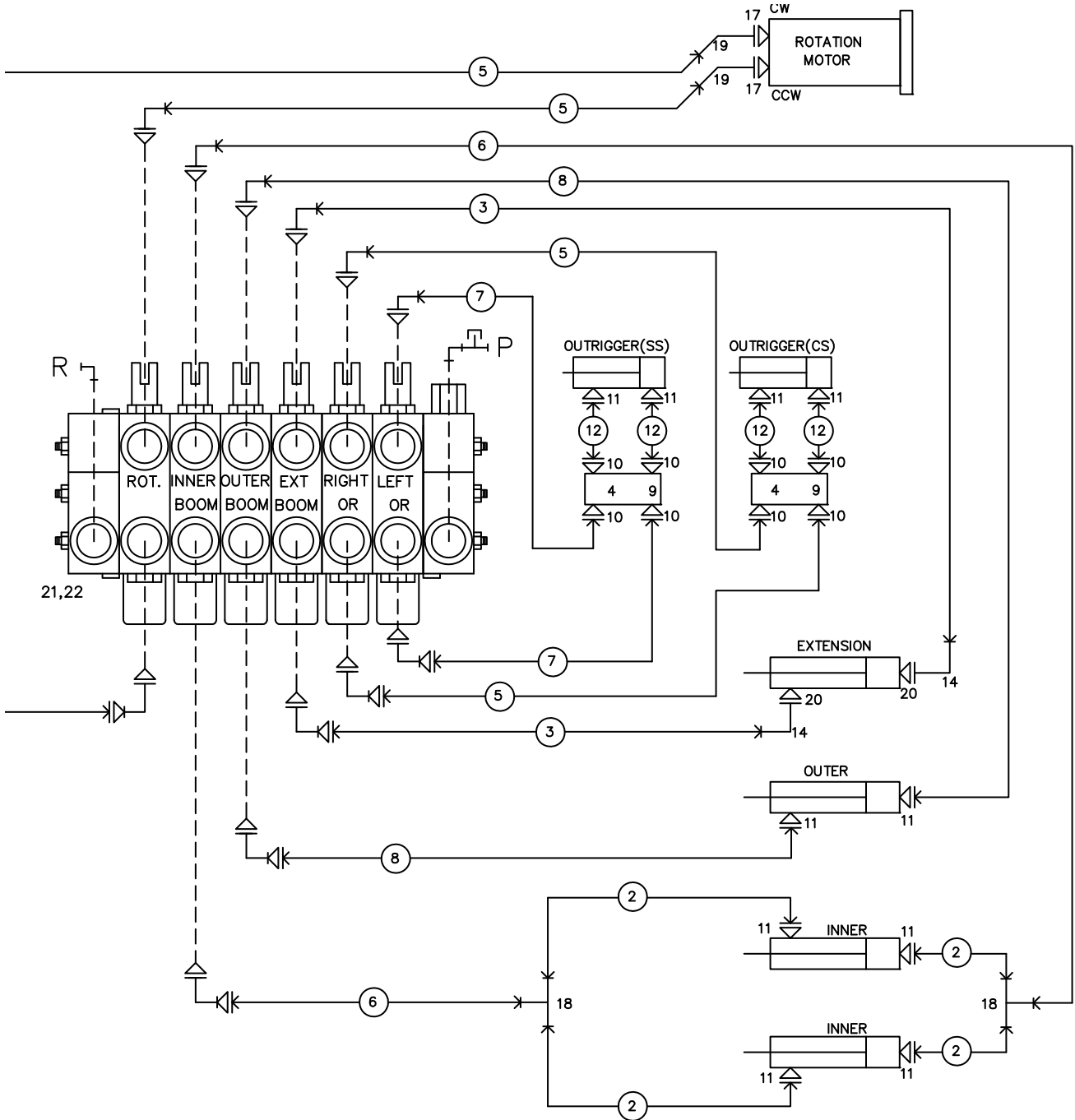


HYDRAULIC SCHEMATIC

# HYDRAULICS & CONTROLS - 6 FUNCTION, MANUAL

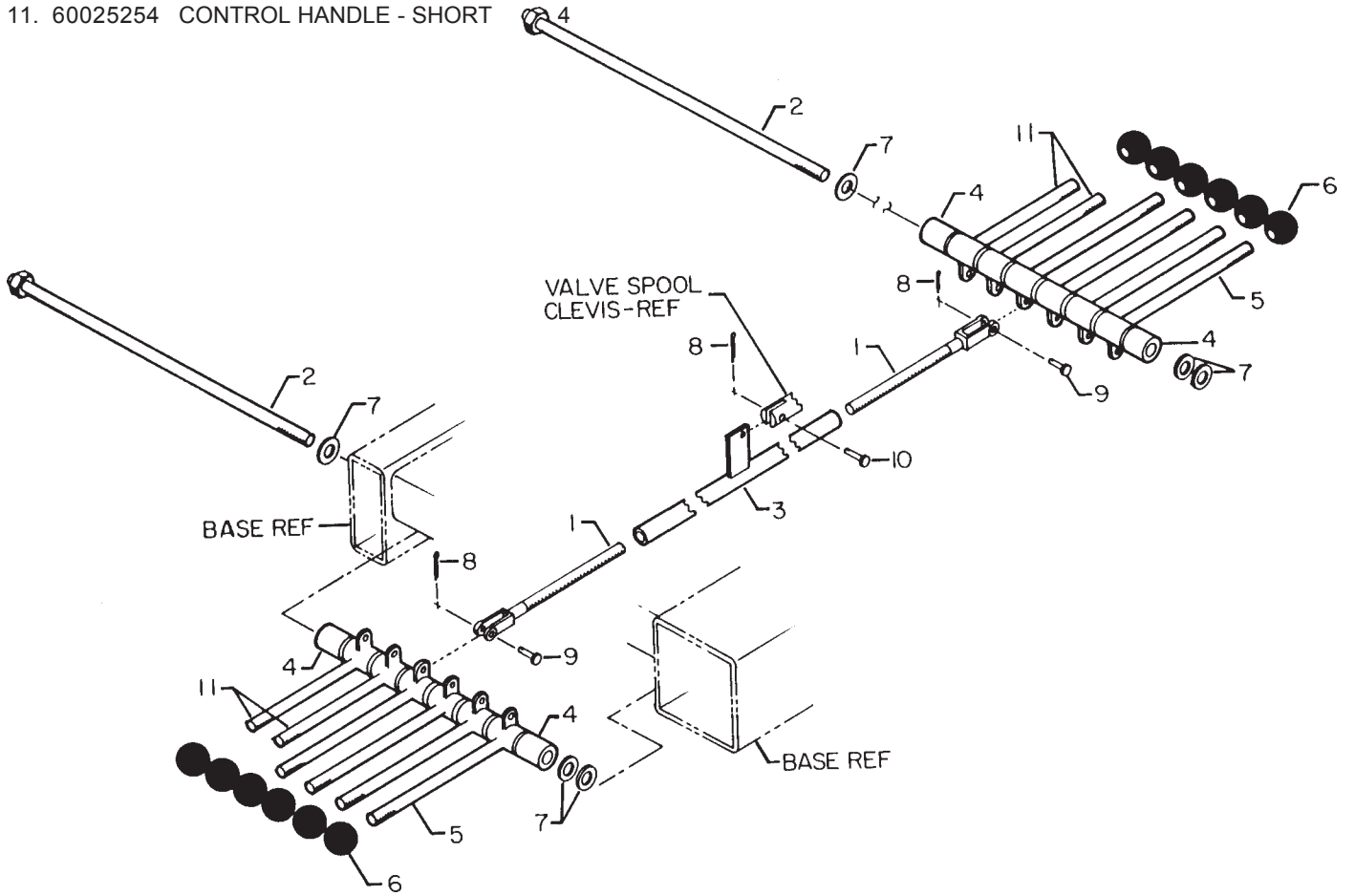
## HYDRAULIC KIT (91707996)

1. 51712470	HOSE KIT (INCL:2-8)	1	10. 72534391	ELBOW-MSTR/90/MJIC 8 4	8
2. 51393982	HOSE ASM 1/4X20 #4F#4F	4REF	11. 72532351	ADAPTER #4MSTR #4MJIC	10
3. 51393974	HOSE ASM 1/4X189 #4F#4F	2REF	12. 51395964	HOSE-FF .25 X 12 (4-4) 100R16	4
4. 70144192	MANIFOLD, CAVITY BLOCK 4 PORT	2	14. 72532699	ELBOW #6MSTR #4MJIC 90°	2
5. 51393976	HOSE ASM 1/4X42 #4F#4F	4REF	17. 72532722	ADAPTER #10MSTR #6FSTR	2
6. 51393977	HOSE ASM 1/4X33 #4F#4F	2REF	18. 72532768	TEE 7/16JIC	2
7. 51393967	HOSE ASM 1/4X56 #4F#4F	2REF	19. 72532985	ELBOW #6MSTR #4MJIC 45°	2
8. 51393979	HOSE ASM 1/4X115 #4F#4F	2REF	20. 72533052	ADAPTER #8MSTR #6FSTR	2
9. 73054218	VALVE-CHECK PILOT	2	21. 72060048	CAP SCR 3/8-16X1-1/2 HHGR5	3
			22. 72062103	NUT 3/8-16 LOCK	3



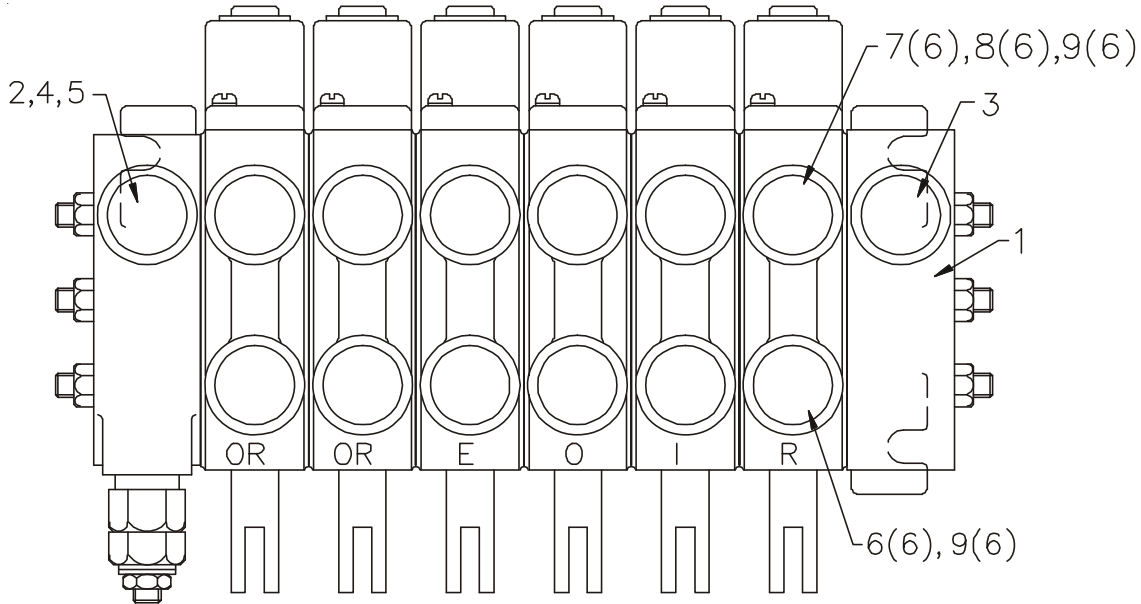
**CONTROL KIT 6-FUNCTION MANUAL  
(90707995)**

- |     |          |                          |    |
|-----|----------|--------------------------|----|
| 1.  | 52704745 | CONTROL ROD - MALE       | 12 |
| 2.  | 52708022 | CONTROL HANDLE ROD       | 2  |
| 3.  | 52708023 | CONTROL ROD - FEMALE     | 6  |
| 4.  | 60030141 | SPACER 1/2               | 4  |
| 5.  | 70029451 | CONTROL HANDLE - VB      | 8  |
| 6.  | 71039096 | CONTROL KNOB 1-1/2       | 12 |
| 7.  | 72063119 | WASHER 5/8 FLAT HARD GR8 | 6  |
| 8.  | 72066168 | COTTER PIN .09X1         | 18 |
| 9.  | 72066338 | CLEVIS PIN 5/16X1        | 12 |
| 10. | 72661169 | CLEVIS PIN 5/16X3/4      | 6  |
| 11. | 60025254 | CONTROL HANDLE - SHORT   | 4  |



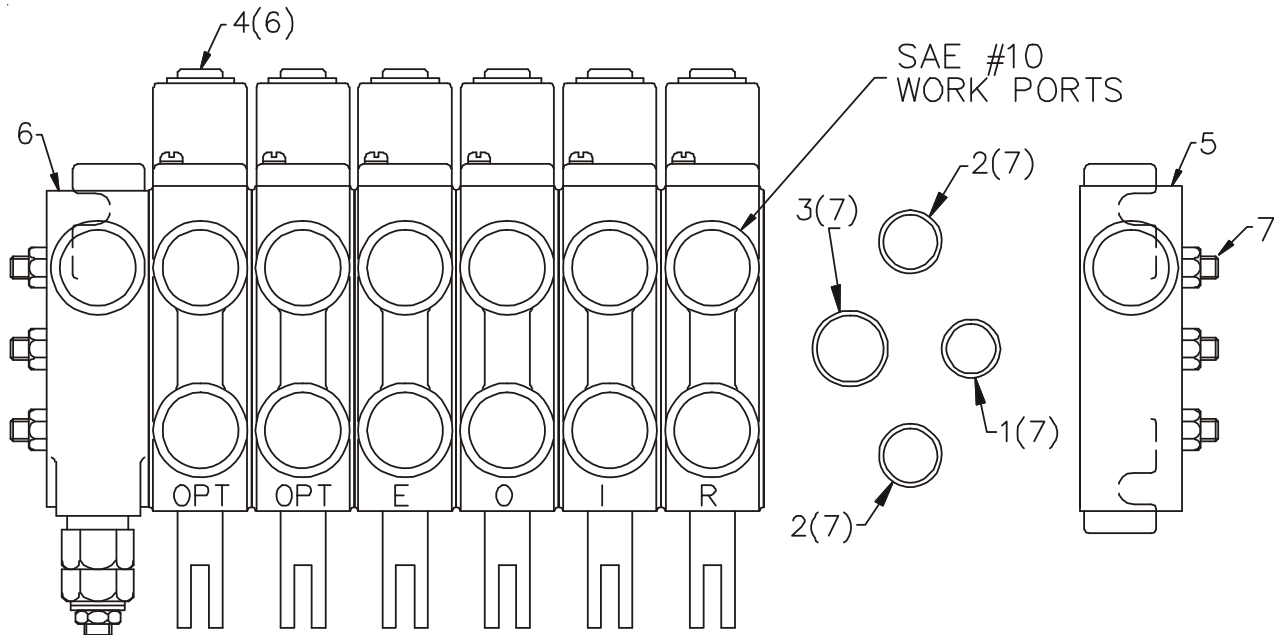
**VALVEBANK ASM 6-SECT (51715037)**

- |    |          |                             |    |
|----|----------|-----------------------------|----|
| 1. | 51704803 | VALVEBANK                   | 1  |
| 2. | 72053763 | ELBOW #8MSTR #8JMIC 90°     | 1  |
| 3. | 72053764 | ELBOW #10MSTR #8JMIC 90°    | 1  |
| 4. | 72532657 | TEE SWVL 3/4JIC             | 1  |
| 5. | 72532675 | CAP STL 3/4JIC              | 1  |
| 6. | 72532699 | ELBOW #6MSTR #4MJIC 90°     | 6  |
| 7. | 72532700 | ELBOW #6MSTR #6MJIC 90° XLG | 6  |
| 8. | 72532707 | ADPTR #4MJIC #6FJIC         | 6  |
| 9. | 72532722 | ADPTR #10MJIC #6FSTR        | 12 |



**VALVEBANK 6-SECT (51704803)**

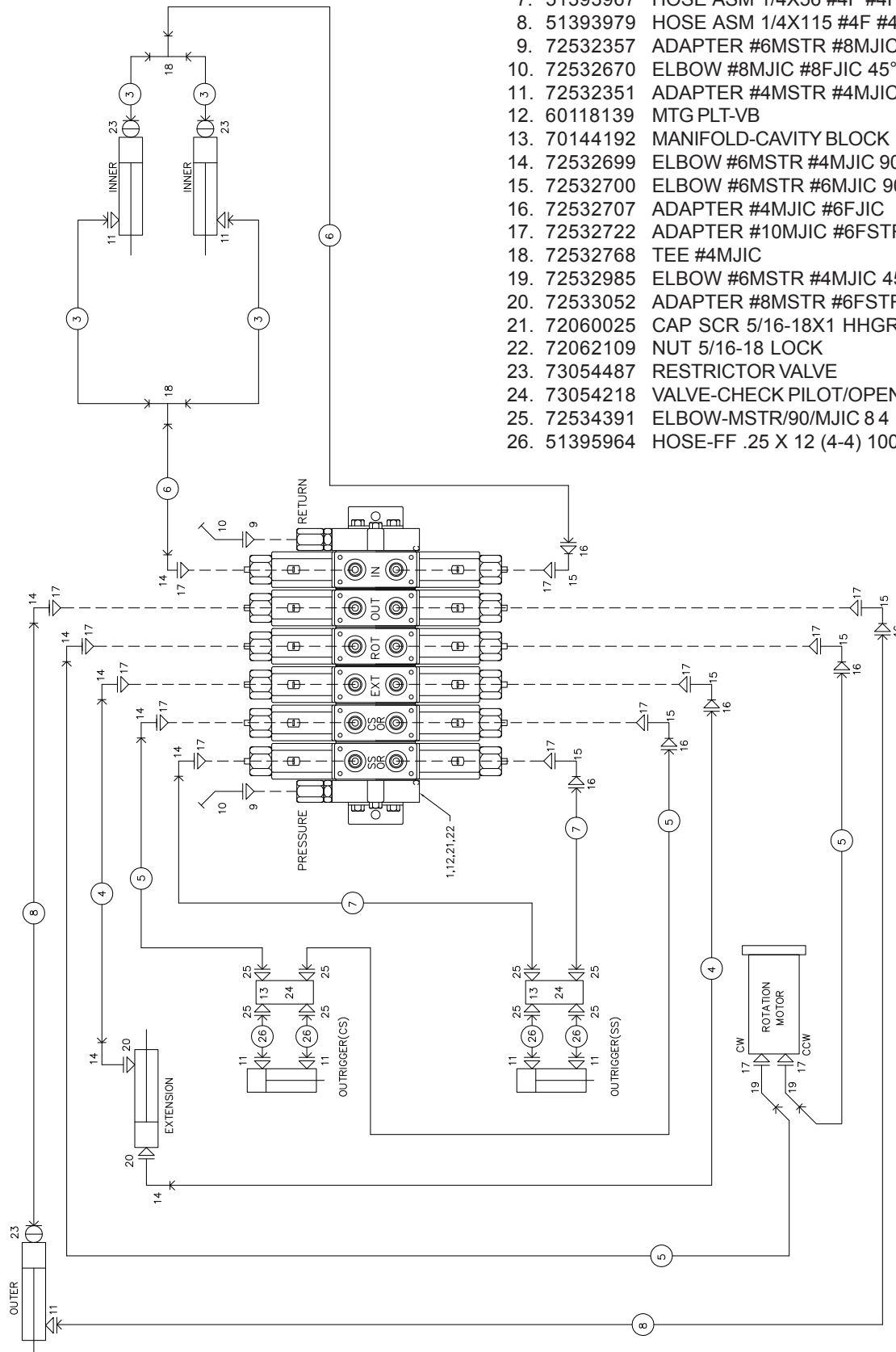
- |    |          |             |    |
|----|----------|-------------|----|
| 1. | 7Q072017 | O-RING      | 7  |
| 2. | 7Q072018 | O-RING      | 14 |
| 3. | 7Q072021 | O-RING      | 7  |
| 4. | 73054490 | SECTION     | 6  |
| 5. | 73731576 | END CAP-RH  | 1  |
| 6. | 73054488 | END CAP-LH  | 1  |
| 7. | 94731591 | TIE ROD KIT | 1  |



**HYDRAULICS & CONTROLS - 6  
FUNCTION, ON/OFF**

**HYD KIT 6-SECT RMT (91712588)**

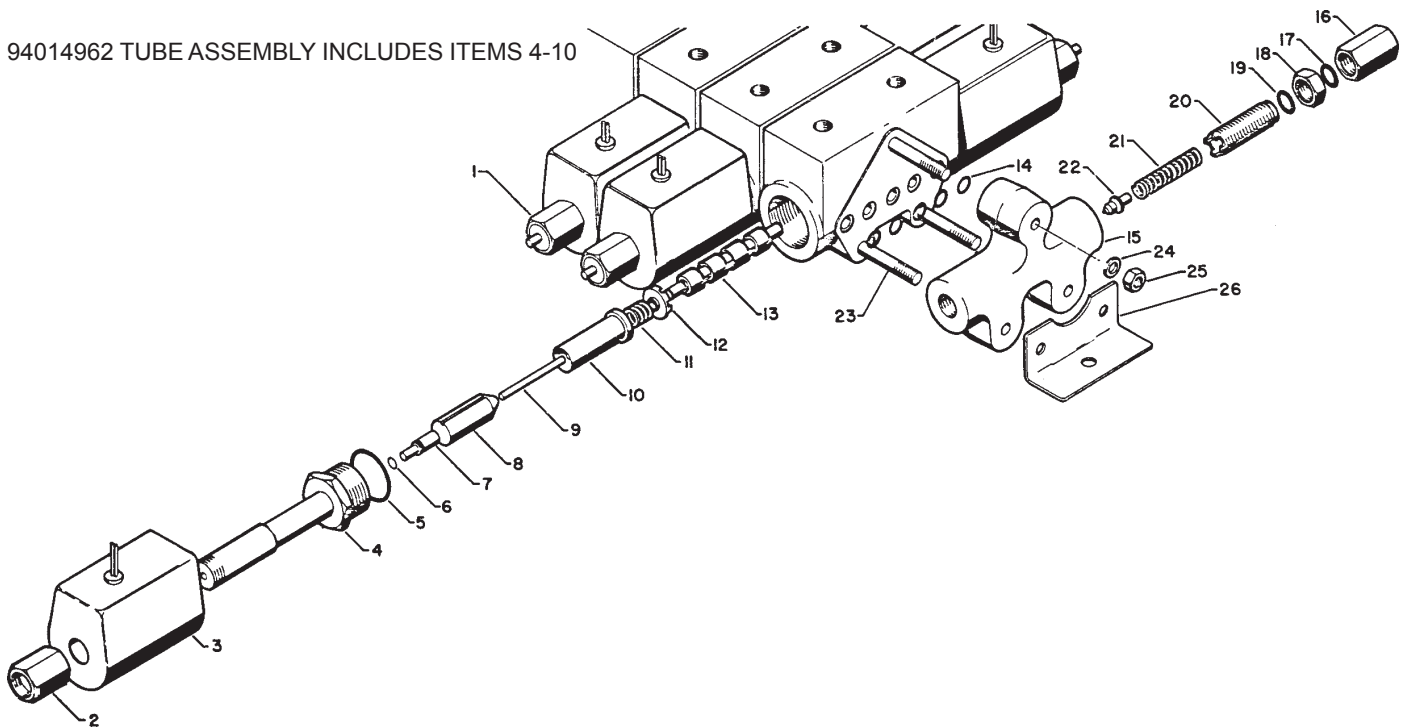
1.	51707021	VALVEBANK	1
2.	51712470	HOSE KIT	1
3.	51393982	HOSE ASM 1/4X20 #4F #4F	4REF
4.	51393974	HOSE ASM 1/4X189 #4F #4F	2REF
5.	51393976	HOSE ASM 1/4X42 #4F #4F	4REF
6.	51393977	HOSE ASM 1/4X33 #4F #4F	2REF
7.	51393967	HOSE ASM 1/4X56 #4F #4F	2REF
8.	51393979	HOSE ASM 1/4X115 #4F #4F	2REF
9.	72532357	ADAPTER #6MSTR #8MJIC	2
10.	72532670	ELBOW #8MJIC #8FJIC 45°	2
11.	72532351	ADAPTER #4MSTR #4MJIC	7
12.	60118139	MTG PLT-VB	1
13.	70144192	MANIFOLD-CAVITY BLOCK	2
14.	72532699	ELBOW #6MSTR #4MJIC 90°	8
15.	72532700	ELBOW #6MSTR #6MJIC 90°	6
16.	72532707	ADAPTER #4MJIC #6FJIC	6
17.	72532722	ADAPTER #10MJIC #6FSTR	14
18.	72532768	TEE #4MJIC	2
19.	72532985	ELBOW #6MSTR #4MJIC 45°	2
20.	72533052	ADAPTER #8MSTR #6FSTR	2
21.	72060025	CAP SCR 5/16-18X1 HHGR5	3
22.	72062109	NUT 5/16-18 LOCK	3
23.	73054487	RESTRICTOR VALVE	3
24.	73054218	VALVE-CHECK PILOT/OPEN	2
25.	72534391	ELBOW-MSTR/90/MJIC 8 4	8
26.	51395964	HOSE-FF .25 X 12 (4-4) 100R16	4



**VALVEBANK ASM 6-SECT (51707021)**

1.	73054077	VALVE SECTION (INCL:2-14)	6
2.	73014950	NUT (PART OF 1)	1REF
3.	77040028	COIL-12V (PART OF 1)	2REF
4.	73014958	TUBE (PART OF 1)	2REF
5.	7Q072113	O-RING (PART OF 1)	2REF
6.	7Q072008	O-RING (PART OF 1)	2REF
7.	73014957	BUTTON (PART OF 1)	2REF
8.	73014956	PLUNGER (PART OF 1)	2REF
9.	73014954	PIN (PART OF 1)	2REF
10.	73014955	PLUG (PART OF 1)	2REF
11.	73014953	SPRING (PART OF 1)	2REF
12.	73014952	SPRING RETAINER (PART OF 1)	2REF
13.	REF	SPOOL & BODY (PART OF 1)	1REF
14.	7Q072012	O-RING (PART OF 1)	5REF
15.	73014948	INLET W/RELIEF	1
16-22.		NOT AVAILABLE SEPARATELY	
23.	60110377	TIE ROD	3
24.	72063002	WASHER 5/16	6
25.	72062001	NUT 5/16-18	6
26.	60110376	MTG BRKT	2

94014962 TUBE ASSEMBLY INCLUDES ITEMS 4-10

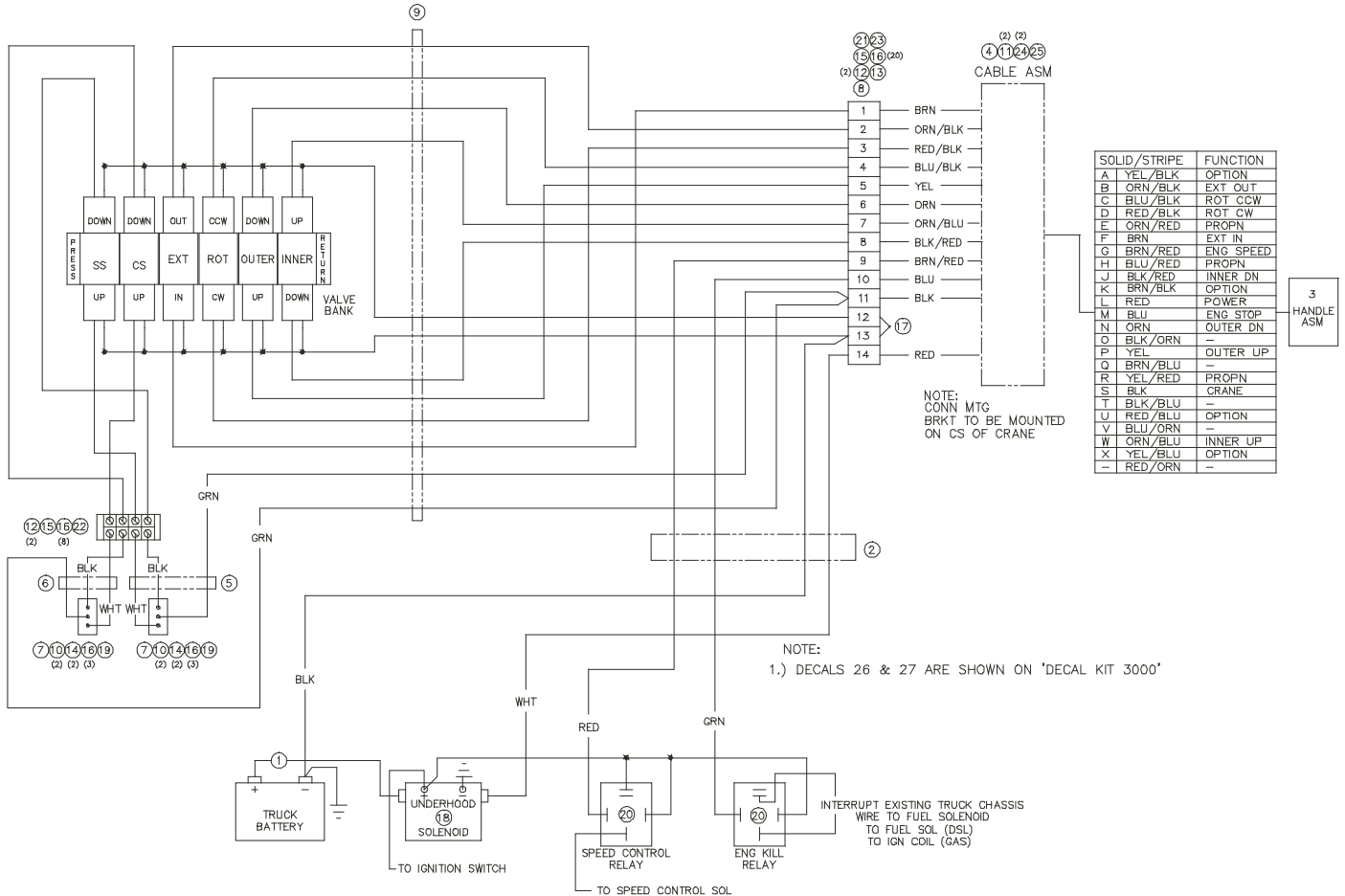




**RMT CTRL KIT-6F ON/OFF (90713550)**

- 1. 51704784 CABLE ASM #1WIRE X 6 1
- 2. 51704993 CABLE ASM 16GA/4WIRE X 150 1
- 3. 51713724 HANDLE ASM 1
- 4. 51713559 CABLE ASM 18GA/24WIRE X 52 1
- 5. 89044053 CABLE 16GA/3WIRE X 60 1
- 6. 89044053 CABLE 16GA/3WIRE X 108 1
- 7. 52713436 MTG PLATE 2
- 8. 60105825 TERMINAL BLOCK MTG BAR 1
- 9. 70034060 TIE 6.75 12
- 10. 72060857 SCR 5/16-12X5/8 HH SLFPTG 4
- 11. 72060004 CAP SCR 1/4-20X1 HHGR5 2
- 12. 72060002 CAP SCR 1/4-20X3/4 HHGR5 4
- 13. 72061009 SHT MTL SCR #6X3/4 PH 4

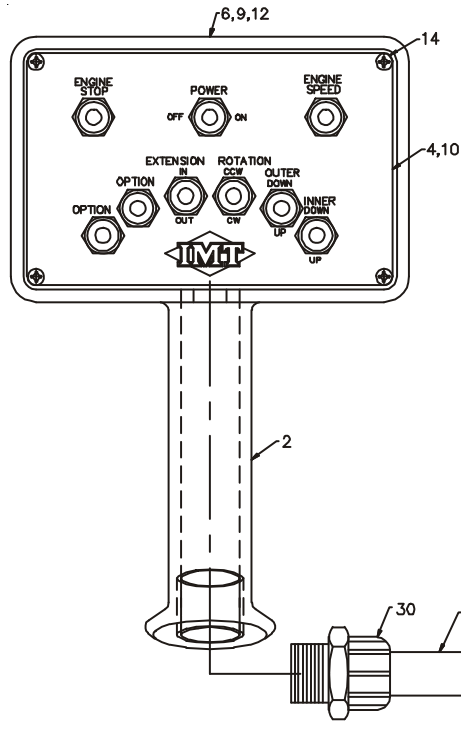
- 14. 72063002 WASHER 5/16 WRT 4
- 15. 72066525 HOSE CLAMP 2
- 16. 77040051 TERM #8 SPRSPD 16-14GA 34
- 17. 77040130 JUMPER BAR 1
- 18. 77041237 SOLENOID 12V 150A 1
- 19. 77041006 TOGGLE SWITCH DT 2
- 20. 77041251 RELAY 2
- 21. 77044309 TERMINAL BLOCK-14 1
- 22. 77044341 TERMINAL BLOCK-4 1
- 23. 60111699 TERMINAL MTG BLOCK 1
- 24. 72062104 NUT 1/4-20 LOCK 2
- 25. 60119806 MTG BRACKET 1
- 26. 71392726 DECAL CTRL STAB (CURB) 1
- 27. 71392725 DECAL CTRL STAB (STREET) 1



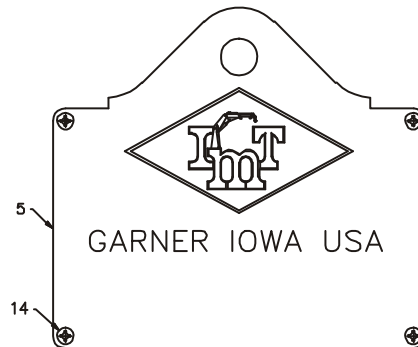
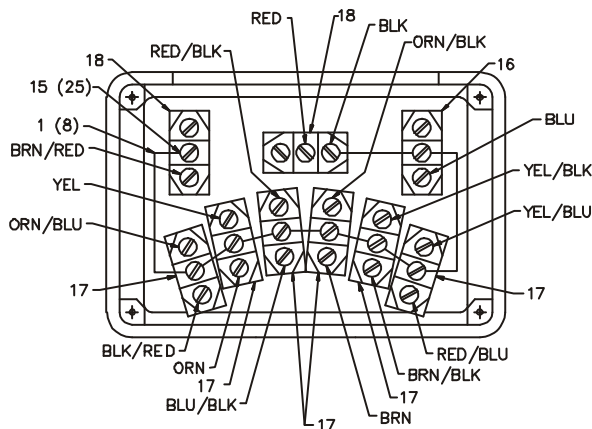
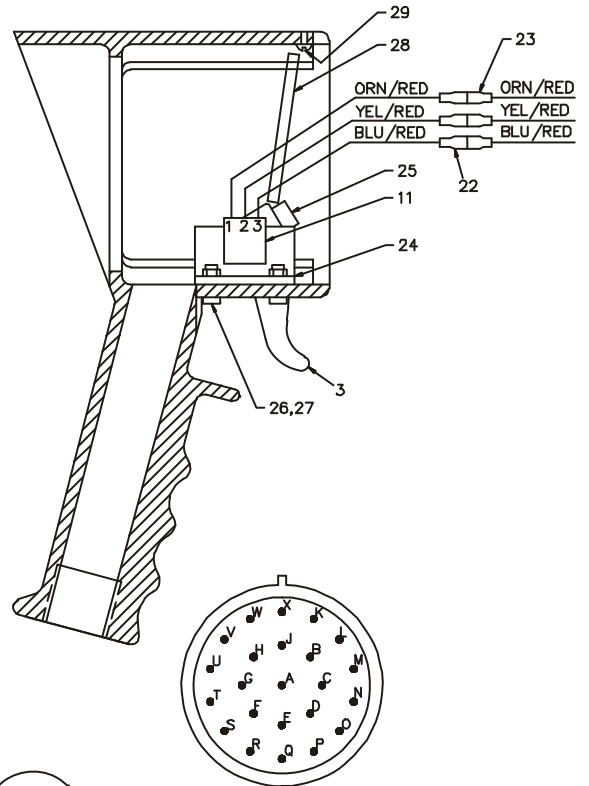
**RMT HANDLE ASM-6F ON/OFF (51713430)**

- 1. 60045031 WIRE 18GA GRN X 4 8
- 2. 60119335 CONTROL HANDLE 1
- 3. 60111141 TRIGGER 1
- 4. 60119277 COVER-RC 1
- 5. 70034306 BACK COVER-RC 1
- 6. 70029119 SER NO PLACARD 1
- 8. 77044621 PIN 23
- 9. 70392862 DECAL-DGR RC ELECTRO SM 1
- 10. 71394283 DECAL-RC HANDLE 1
- 11. 51707507 POTENTIOMETER ASM(INCL 22) 1
- 12. 72066340 POP RIVET 2
- 14. 72061009 SHT MTL SCR #6X3/4 PH 8
- 15. 77040051 TERM #8SPRSPD 16-14GA 25

- 16. 77040371 TOGGLE SWITCH SPST 1
- 17. 77040372 TOGGLE SWITCH SPDT 6
- 18. 77040373 TOGGLE SWITCH SPST 2
- 20. 77044579 CONNECTOR 1
- 21. 89044100 CABLE 18GA/24WIRE X 30FT 1
- 22. 77040047 TERMINAL (PART OF 22) 3REF
- 23. 77040186 TERMINAL 1/4 FSLPON 16-14GA 3
- 24. 60111142 MTG BRACKET 1
- 25. 72060669 CAP SCR #10-32X5/8 SH 1
- 26. 72060636 CAP SCR #10-24X3/4 SH 2
- 27. 72062106 NUT #10-24 LOCK 2
- 28. 70143223 SPRING 1
- 29. 72061000 SHT MTL SCR #6X1/2 PH 1
- 30. 77044196 STRAIN RELIEF 3/4 1

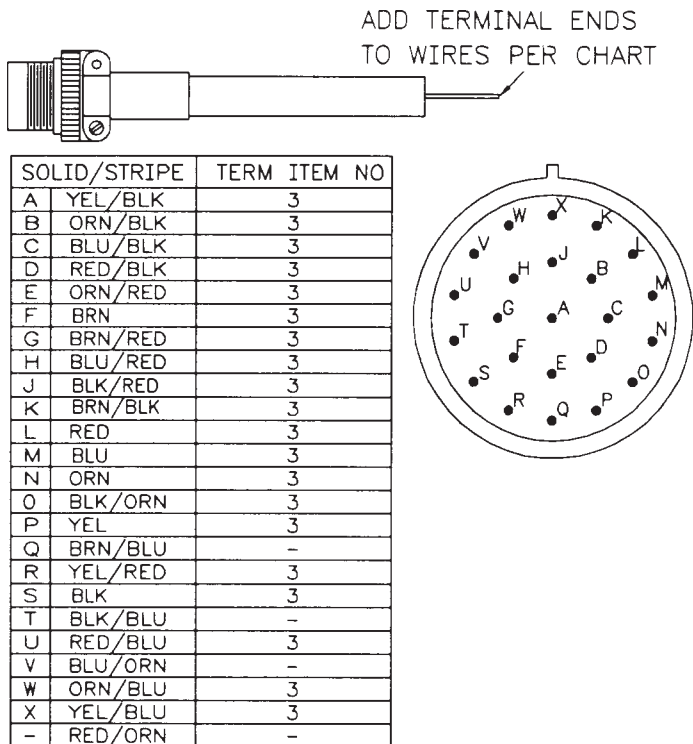


SOLID/STRIPE	FUNCTION
A	YEL/BLK OPTION
B	ORN/BLK EXT OUT
C	BLU/BLK ROT CCW
D	RED/BLK ROT CW
E	ORN/RED PROPN
F	BRN EXT IN
G	BRN/RED ENG SPEED
H	BLU/RED PROPN
J	BLK/RED INNER DN
K	BRN/BLK OPTION
L	RED POWER
M	BLU ENG STOP
N	ORN OUTER DN
O	BLK/ORN -
P	YEL OUTER UP
Q	BRN/BLU -
R	YEL/RED PROPN
S	BLK CRANE
T	BLK/BLU -
U	RED/BLU OPTION
V	BLU/ORN -
W	ORN/BLU INNER UP
X	YEL/BLU OPTION
-	RED/ORN -



**CABLE ASM 18GA/24WIRE X 90 (51713565)**

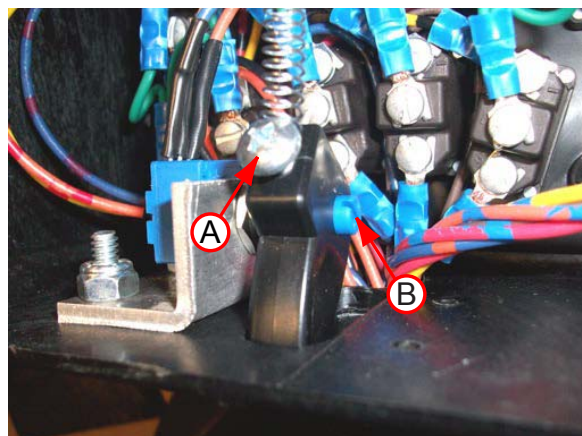
- |             |                        |     |
|-------------|------------------------|-----|
| 1. 89044100 | CABLE 18GA/24WIRE      | 90" |
| 3. 77040051 | TERM #8 SPRSPD 16-14GA | 20  |
| 4. 77044620 | CONNECTOR              | 1   |
| 5. 77044580 | SOCKET                 | 23  |
| 7. 77044667 | PLUG-CAP               | 1   |



**TETHERED PROPORTIONAL REMOTE POTENTIOMETER ADJUSTMENT**

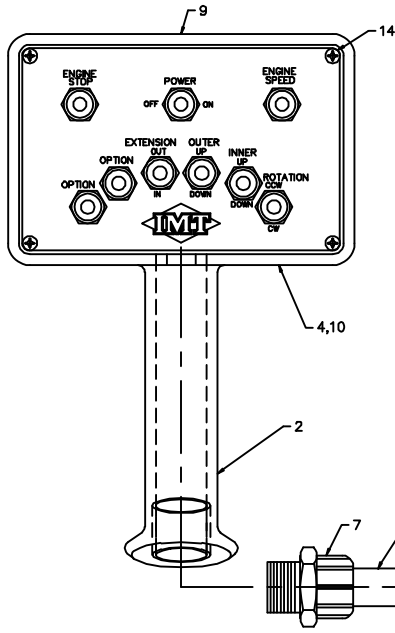
**NOTES:** ONLY use this procedure to set the low-end output on the remote handle assembly if crane functions operate without pulling the proportional trigger. You may need a second operator to help with steps 4 and 5.

- 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.



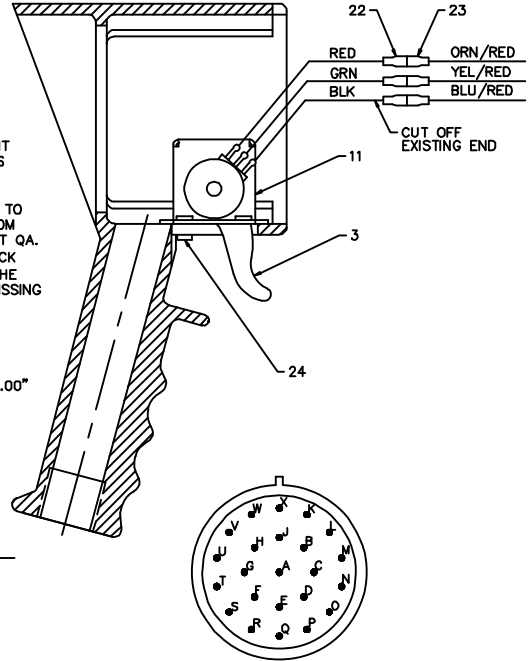
## REMOTE HANDLE ASM-TIRE SERVICE (51715568)

1. 89044214	WIRE 18GA GRN (7-2.25"/1-3.5")	1.61FT	11. 70394183	TRIGGER ASM (INCL:3)	1
2. 60119335	CONTROL HANDLE	1	14. 72061009	SHT MTL SCR #6X3/4 PH	8
3. 60111141	TRIGGER (PART OF 11)	1REF	15. 77040051	TERMINAL #8 SPRSPD 16-14GA	31
4. 60119277	COVER	1	16. 77040371	TOGGLE SWITCH SPST	1
5. 70034306	BACK COVER	1	17. 77040372	TOGGLE SWITCH SPDT	6
7. 77044196	STRAIN RELIEF 3/4	1	18. 77040373	TOGGLE SWITCH SPST	2
8. 77044621	PIN	23	20. 77044579	CONNECTOR	1
9. 77044862	DECAL-DGR RC ELECTRO SM	1	21. 89044100	CABLE 18GA 24WIRE	30FT
10. 70394282	DECAL-RC HANDLE	1	22. 77040147	TERMINAL 1/4 FSLPON 22-18GA	3
			23. 77040047	TERMINAL 1/4 MSLPON 16-14GA	3
			24. 72060602	MACH SCR #6-32X3/8 RDHD	4
			25. 70145495	HEAT SHRINK 3/4 W/ADHESIVE	.50FT



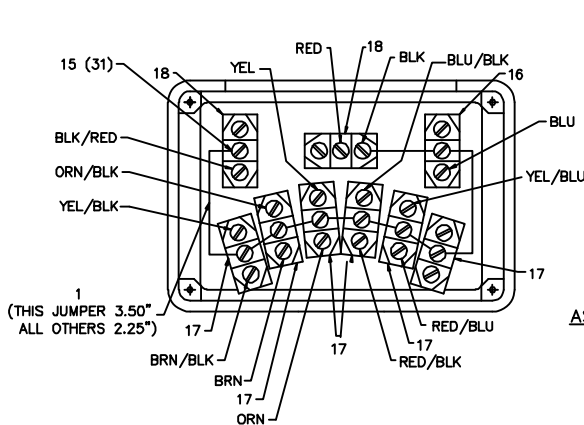
### ASSEMBLY OF PROPORTIONAL TRIGGER

- 1) POSITION TRIGGER ASSEMBLY INTO HANDLE ASSEMBLY.
- 2) LOOKING FROM THE BACKSIDE OF THE HANDLE, INSTALL ONLY THE TWO SCREWS LOCATED ON THE LEFT-HAND SIDE OF THE TRIGGER ASSEMBLY. (TWO SCREWS ARE SUFFICIENT FOR HOLDING THE ASSEMBLY IN PLACE.)
- 3) PUSH THE TRIGGER ASSEMBLY TOWARDS THE FRONT OF THE HOUSING, AS THE MOUNTING SCREW HOLES WILL ALLOW. DO NOT FULLY TIGHTEN AT THIS POINT. TIGHTEN THE SCREWS FULLY AT THIS POINT.
- 4) CONNECT OHMMETER TO GREEN AND BLACK WIRES TO CHECK OHM READING. ALLOWABLE SETTING IS FROM 100 TO 320 OHMS. IF OTHER THAN THIS CONTACT QA.
- 5) FILL THE RIGHT HAND SCREWS WITH SILICONE, BLACK (IF AVAILABLE) OR CLEAR. (THIS WILL ELIMINATE THE CONCERN BY THE CUSTOMER THAT THE UNIT IS MISSING THE TWO SCREWS ON THE RIGHT SIDE.)
- 6) ASSEMBLY THE REST OF THE HANDLE.



### INSTALLATION NOTE:

- 1) CUT WIRE CABLE OUTSIDE JACKET BACK 5.00"
- 2) SLIP ON HEAT SHRINK
- 3) MAKE WIRE CONNECTIONS
- 4) PUSH HEAT SHRINK UP AND HEAT.



### ASSEMBLY OF SWITCHES ONTO FACE PLATE.

- 1) INSTALL (1) STAR WASHER BETWEEN SWITCH & FACE PLATE.
- 2) INSTALL (1) LOCK NUT ON FRONT OF FACE PLATE TO RETAIN SWITCH.
- 3) DISCARD ALL OTHER MOUNTING HARDWARE.

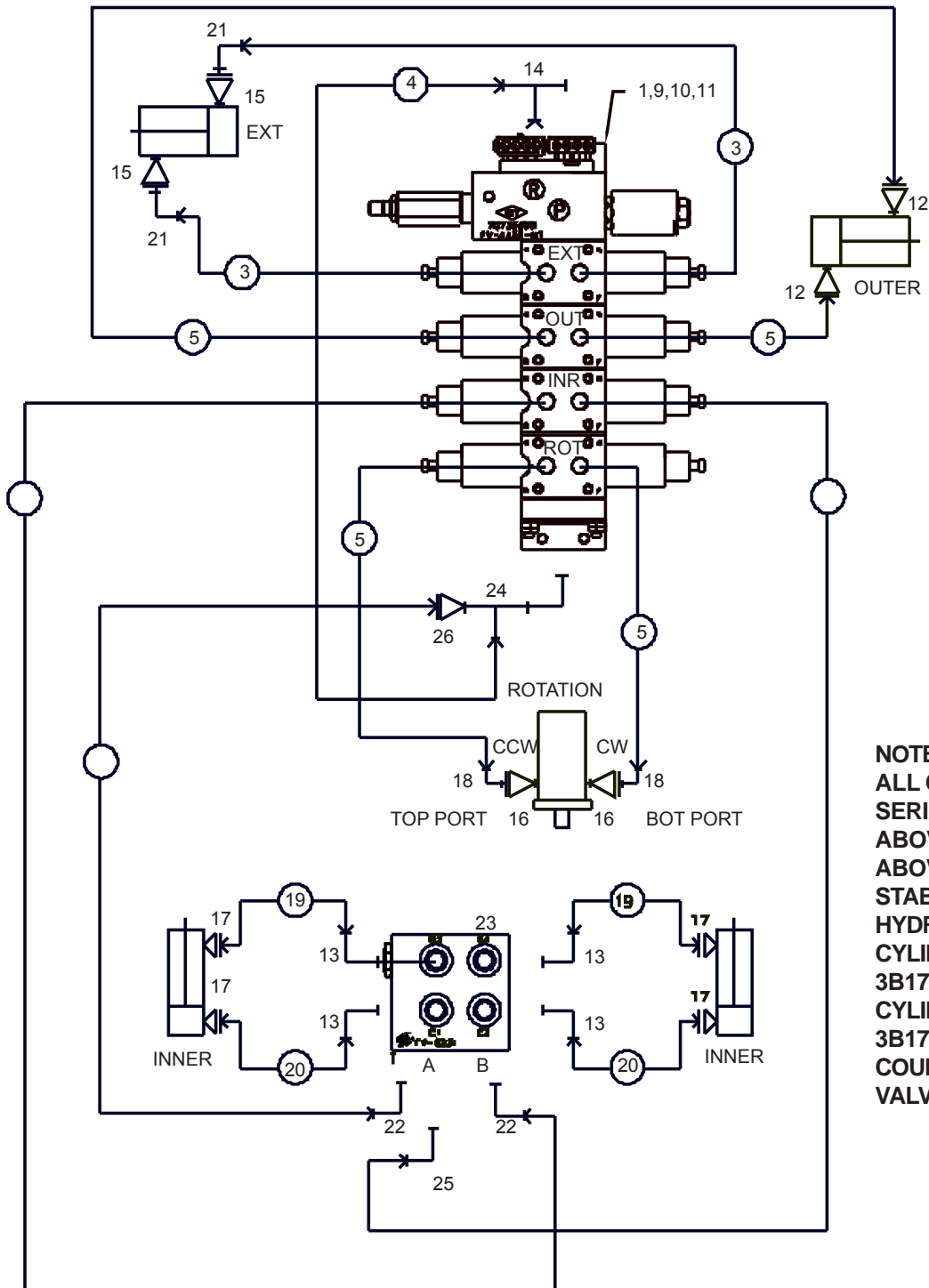
SOLID/STRIPE	FUNCTION
A   YEL/BLK	ROT CW
B   ORN/BLK	INNER DN
C   BLU/BLK	EXT IN
D   RED/BLK	EXT OUT
E   ORN/RED	REF
F   BRN	INNER UP
G   BRN/RED	-
H   BLU/RED	SIGNAL COM
J   BLK/RED	ENG SPEED
K   BRN/BLK	ROT CCW
L   RED	POWER
M   BLU	ENG STOP
N   ORN	OUTER UP
O   BLK/ORN	-
P   YEL	OUTER DN
Q   BRN/BLU	-
R   YEL/RED	VOLTAGE
S   BLK	ON HANDLE
T   BLK/BLU	-
U   RED/BLU	WINCH UP
V   BLU/ORN	-
W   ORN/BLU	-
X   YEL/BLU	WINCH DN
-   RED/ORN	-

### HYDRAULICS & CONTROLS - 4 FUNCTION

#### HYDRAULIC KIT - 4 FUNCTION (91716937)

1.	70733399	VALVE BANK	1
3.	51395552	HOSE-FJ 1/4-135.00 OAL (4-4)	2REF
4.	51394949	HOSE-FJ 1/2X11.50 OAL (8-8)	1REF
5.	51394954	HOSE-FJ 1/4X57.00 OAL (4-4)	4REF
6.	51717652	HOSE KIT (INCL 3-5,7,8)	1
7.	51395644	HOSE-1/4 X 18.00 OAL (4-4)	1REF
8.	51394948	HOSE-1/4 X 21.00 OAL (4-4)	2REF
9.	72060002	CAP SCREW 1/4-20X3/4HH GR5	4
10.	72063001	WASHER 1/4 FLAT	4
11.	72062104	NUT 1/4-20 NYLOC	4
12.	72532351	ADPTR #4MSTR #4MJIC	4

13.	72533163	ELBOW #6MSTR #6MFACE 90°	4
14.	72532671	TEE-SWIVEL NUT BRANCH 8	1
15.	72533052	ADPTR-#8MSTR #6FSTR	2
16.	72532722	ADPTR-#10MSTR #6FSTR	2
17.	72533186	ADPTR #6MFACE #6MSTR	4
18.	72532985	ELBOW #6MSTR #4MJIC 45°	2
19.	70146344	TUBE ASM	2
20.	70146345	TUBE ASM	2
21.	72532699	ELBOW #6MSTR #4MJIC 90°	2
22.	72053758	ELBOW #4MSTR #4MJIC 90°	2
23.	73540091	VALVE	1
24.	72532657	TEE SWIVEL NUT RUN JIC #8	1
25.	72533567	ELBOW-#4M STR/90/#4M JIC XLG (WAS 72533598)	1
26.	72532665	ADPTR #4MJIC #8FJIC	1

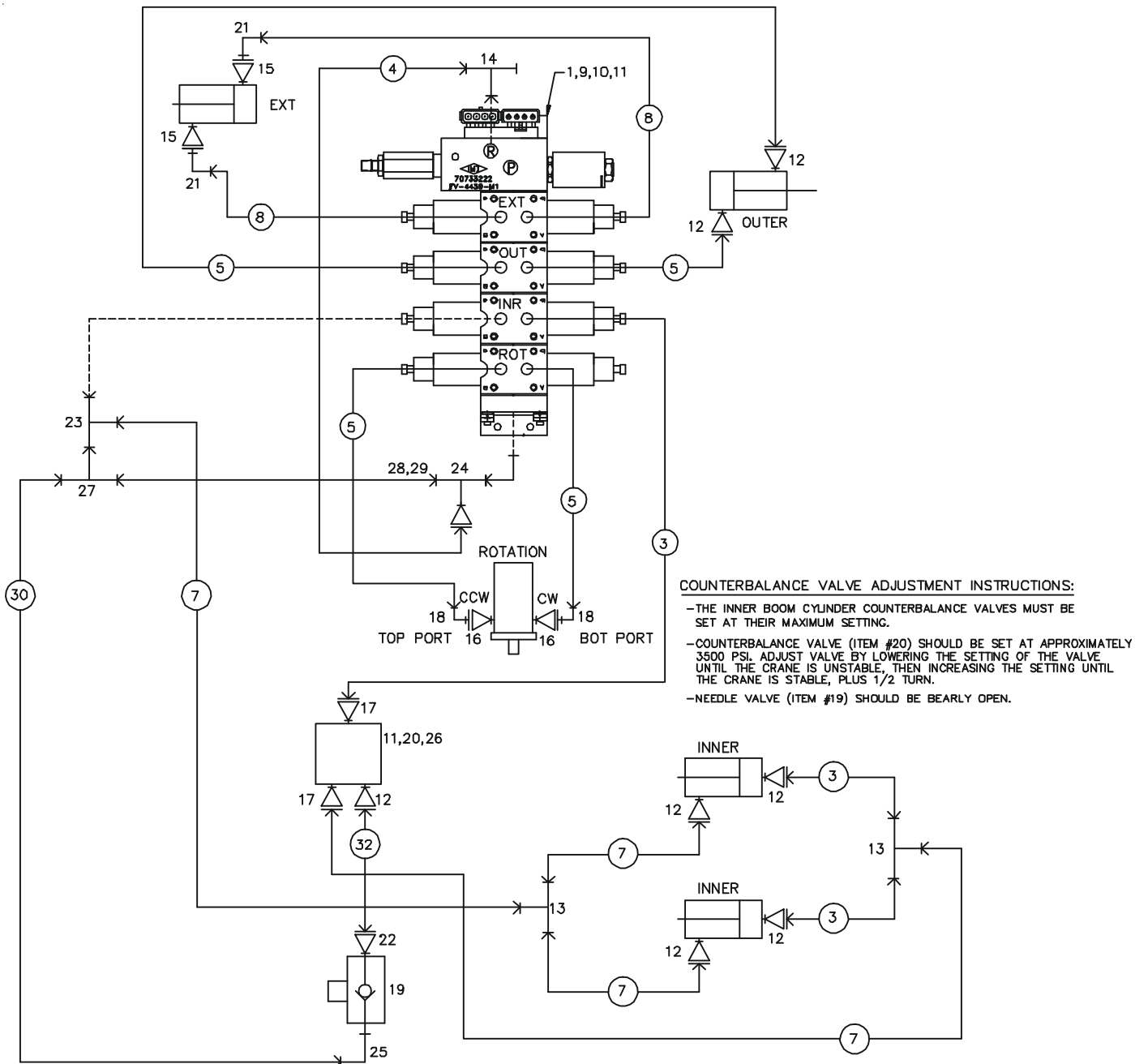


**NOTE:**  
 ALL CRANES WITH  
 SERIAL NUMBERS  
 ABOVE 445011083  
 ABOVE USE  
 STABILIZER  
 HYDRAULIC  
 CYLINDERS  
 3B175010, OUTER  
 CYLINDERS  
 3B170010, AND  
 COUNTERBALANCE  
 VALVE 73540091.

### HYD KIT-4F-STATIONARY MNT (91715565)

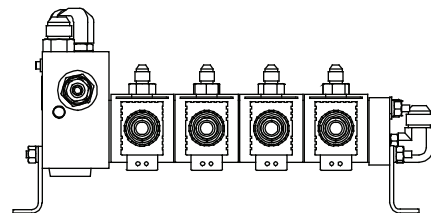
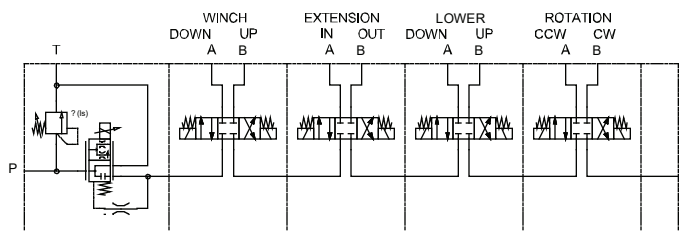
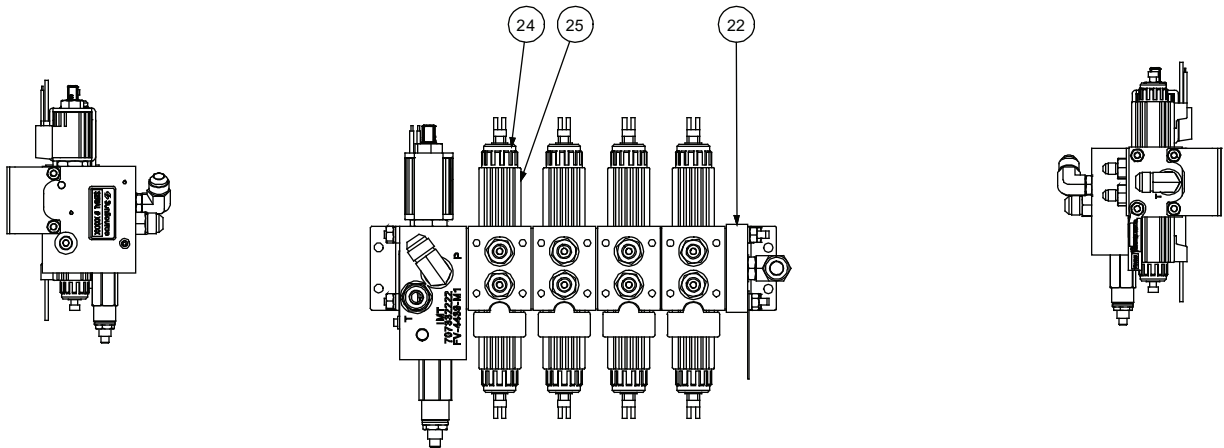
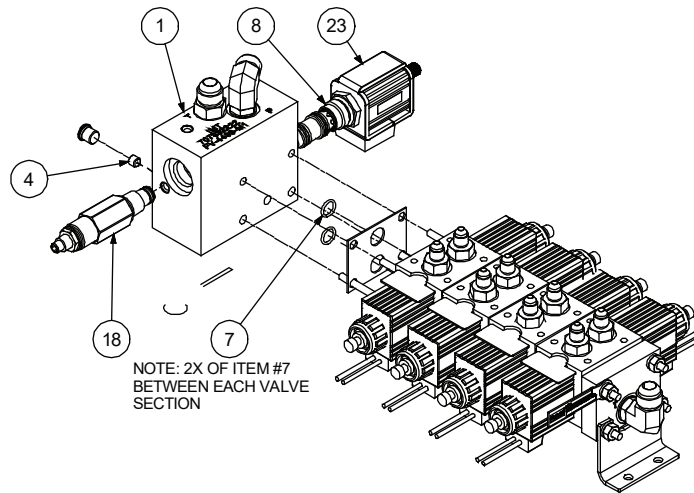
1. 70733399	VALVEBANK 4SECT PROP	1	17. 72532792	ADAPTER #8MSTR #4MJIC	2
2. 51715569	HOSE KIT (INCL:35,7,8,30-32)	1	18. 72532985	ELBOW #6MSTR #4MJIC 45°	2
3. 51394948	HOSE ASM-FJ .25X21 #4#4	3REF*	19. 73540060	NEEDLE VALVE W/CHECK	1
4. 51394950	HOSE ASM-FI .50X11.5 #8#8	1REF*	20. 73540061	C'BAL VALVE	1
5. 51394954	HOSE ASM-FJ .25X57 #4#4	4REF*	21. 72532699	ELBOW #6MSTR #4MJIC 90°	2
7. 51395551	HOSE ASM-FF .25X27 #4#4	4REF*	22. 72053499	ADAPTER 1/4MPT #4MJIC	1
8. 51395552	HOSE ASM-FJ .25X135 #4#4	2REF*	23. 72532981	TEE 1/4MPT #4MJIC	1
9. 72060002	CAP SCR 1/4-20X3/4 HHGR5	4	24. 72532657	TEE #8 SWVLNUTRUN	1
10. 72063001	WASHER 1/4 WRT	4	25. 72531412	ELBOW 1/4MPT #4MJIC 90°	1
11. 72062104	NUT 1/4-20 LOCK	4	26. 72060009	CAP SCR 1/4-20X2-1/4 HHGR5	2
12. 72532351	ADAPTER #4MSTR #4MJIC	7	27. 72533021	TEE #4 SWVLNUTBRANCH	1
13. 72532768	TEE #4MJIC 1/4TUBE	2	28. 72532665	ADAPTER #4MJIC #8FJIC	1
14. 72532671	TEE #8 SWVLNUTBRANCH	1	29. 60120299	ORIFICE	1
15. 72533052	ADAPTER #8MSTR #8FSTR	2	30. 51395663	HOSE-FJ .25X14 #4#4	1REF*
16. 72532722	ADAPTER #10MSTR #6FSTR	2	31. 51395664	HOSE-FJ .25X10.5 #4#4	1REF*
			32. 51395665	HOSE-FI .25X6.5 #4#4	1REF*

\* PART OF ITEM 2, HOSE KIT



# VB- 4 SECT PROP'L (73735157)

	PART NO.	DESCRIPTION	QTY.
1.	73540640	INLET BODY	1
4.	73540642	ORIFICE	1
7.	76396911	-013 O-RING	10
8.	73540645	PROPORTIONAL INLET VALVE	1
18.	73540647	RELIEF VALVE	1
22.	70145628	OUTLET BODY	1
23.	73540646	COIL-12VDC LEADWIRE	1
24.	73540641	VALVE SECTION	4
25.	73540643	COIL-12VDC	8
26.	70733394	WIRE HARNESS	1
27.	77040784	VALVE DRIVER	1
REV. INITIAL RELEASE			





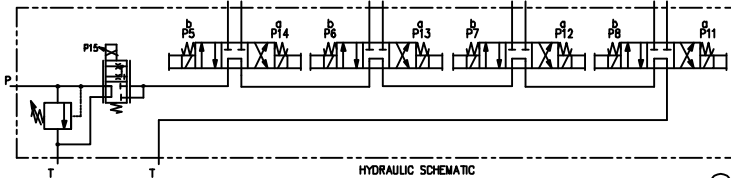
**VB- 4 SECT PROP'L RMT (70733399)**

1. 70145629	INLET BODY	1
2. 70145628	OUTLET BODY	1
3. 70145627	NC PRPL FLOW REG	1
4. 70145626	COIL 12VDC	1
5. 70145625	RELIEF VALVE SEAT @ 2300PSI	1
6. 70145624	SOLENOID VALVE	4
77041602	COIL	REF
7. 70143337	O-RING PLATE	5
8. 70145623	O-RING	10
9. 70145622	ROD 1/4-20X11-1/2 GR8	2
10. 70145621	ROD 1/4-20X9-1/2 GR8	2
11. 72062000	NUT 1/4-20	6
12. 72063047	WASHER 1/4 LOCK	6

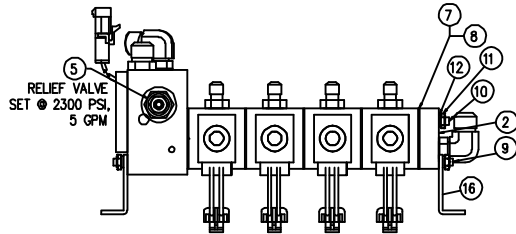
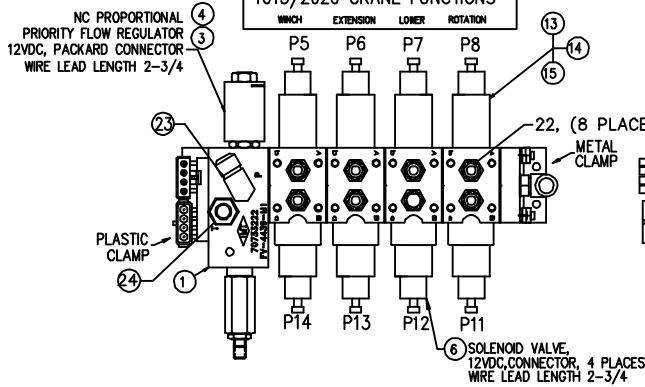
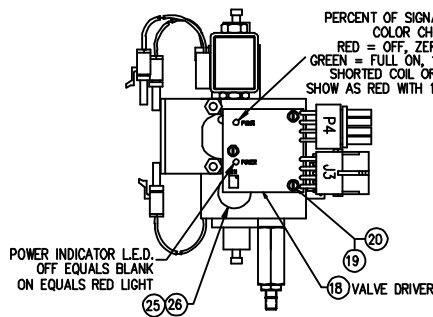
13. 77044574	CONN TOWER	9
14. 77044577	CONN TERM	18
15. 77044578	CABLE SEAL	18
16. 70145738	MTG FOOT	2
17. 70145620	TAG-TIE ROD	1
18. 77044826	VALVE DRIVER	1
19. 72601704	MACH SCR 6-32X3/4	3
20. 72601705	WASHER #6 FLAT	3
21. 70733394	CABLE ASM	1
22. 72532353	ADAPTER #6MSTR #4MJIC	8
23. 72053762	ELBOW #6MSTR #8MJIC 90°	2
24. 72532357	ADAPTER #6MSTR #8MJIC	1
25. 70145884	PLUG	1
26. 70145885	ORIFICE PLUG	1

3000 ST MT CRANE	EXTENSION IN (A) OUT (B)	OUTER UP (A) DOWN (B)	INNER UP (A) DOWN (B)	ROTATION CCW (A) CW (B)
1015/2020 CRANES	WINCH DOWN (A) UP (B)	EXTENSION DOWN (A) UP (B)	LOWER IN (A) OUT (B)	ROTATION CCW (A) CW (B)

- NOTES:  
 1. CONNECT P10 AND J9 TOGETHER  
 2. ADD DUST CAP TO J16



3000 ST MT CRANE FUNCTIONS			
EXTENSION	OUTER	INNER	ROTATION
1015/2020 CRANE FUNCTIONS			
WINCH	EXTENSION	LOWER	ROTATION





### CABLE ASM-STAT MNT (70733394)

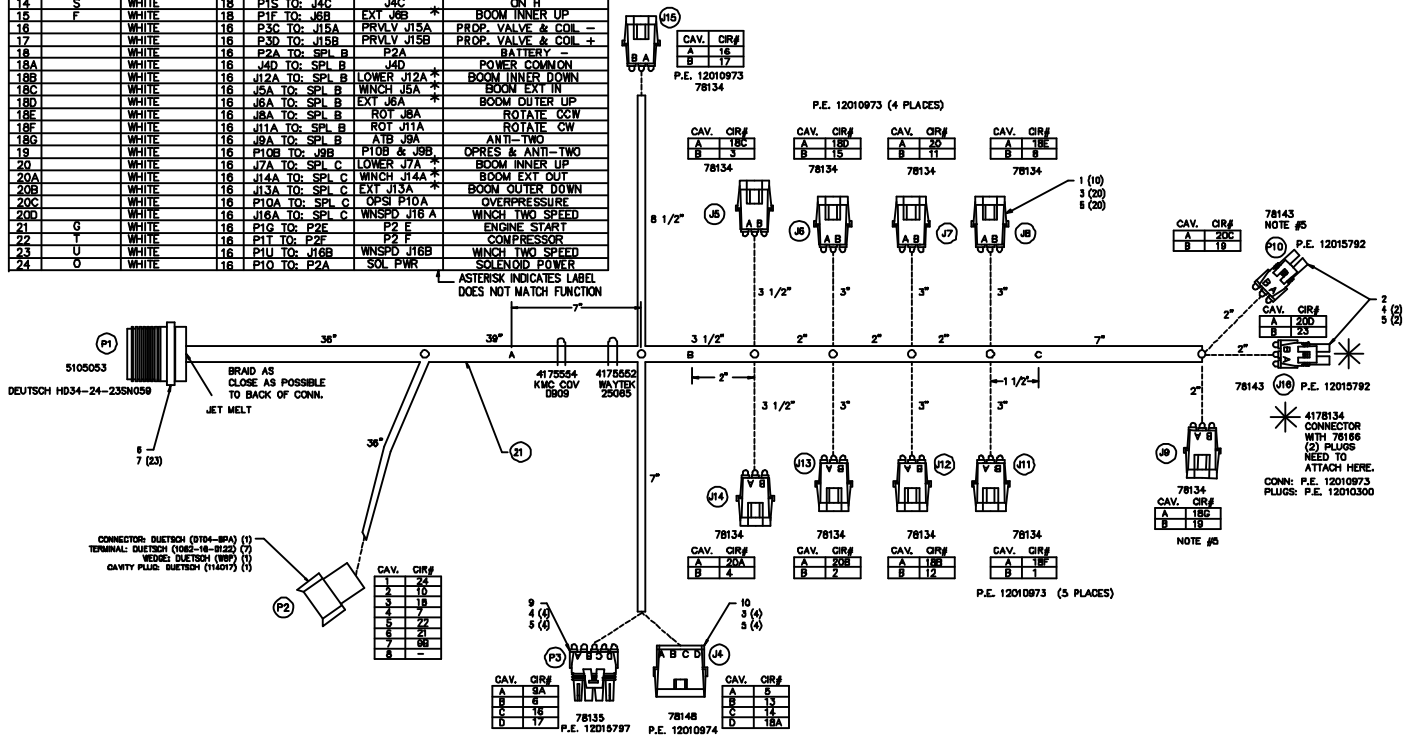
1.	77044573	SHROUD CONN	10REF
2.	77044574	TOWER CONN	2REF
3.	77044576	TERM-M	24REF
4.	77044577	TERM-F	8REF
5.	77044578	CABLE ASM	32REF
6.	77044620	CONN RCPT	1REF
7.	77044580	SOCKET	23REF
9.	77044623	TOWER CONN 4-CONT	1REF
10.	77044624	SHROUD CONN 4-CONT	1REF

WIRE LEGEND					
CR	5105053	COLOR	GA	WEATHER PAK	FUNCTION
CONNECTOR					
1	A	WHITE	18	P1A TO J11B	ROT J11B
2	B	WHITE	18	P1B TO J13B	EXT J13B *
3	C	WHITE	18	P1C TO J6B	WIN J6B *
4	D	WHITE	18	P1D TO J14B	WIN J14B *
5	E	WHITE	18	P1E TO J4A	J4A
6	H	WHITE	18	P1H TO P3B	P3B
7	J	WHITE	18	P1J TO P2C	P2C
8	K	WHITE	18	P1K TO J6B	ROT J6B
9	L	WHITE	16	P1 TO SPL A	N/A
9A		WHITE	16	P3A TO SPL A	P3A
9B		WHITE	16	P3B TO SPL A	P3B
10	M	WHITE	18	P1M TO P2D	P2D
11	N	WHITE	18	P1N TO J7B	LOWER J7B *
12	P	WHITE	18	P1P TO J12B	LOWER J12B *
13	R	WHITE	18	P1R TO J4B	J4B
14	S	WHITE	18	P1S TO J4C	J4C
15	F	WHITE	18	P1F TO J6B	EXT J6B *
16		WHITE	16	P3C TO J15A	PRV.V J15A
17		WHITE	16	P3D TO J15B	PRV.V J15B
18		WHITE	16	P2A TO SPL B	P2A
18A		WHITE	16	J4D TO SPL B	J4D
18B		WHITE	16	J12A TO SPL B	LOWER J12A *
18C		WHITE	16	J5A TO SPL B	WINCH J5A *
18D		WHITE	16	J6A TO SPL B	EXT J6A *
18E		WHITE	16	J8A TO SPL B	ROT J8A
18F		WHITE	16	J11A TO SPL B	ROT J11A
18G		WHITE	16	J9A TO SPL B	A1B J9A
19		WHITE	16	P10B TO J9B	P10B & J9B
20		WHITE	16	J7A TO SPL C	LOWER J7A *
20A		WHITE	16	J14A TO SPL C	WINCH J14A *
20B		WHITE	16	J13A TO SPL C	EXT J13A *
20C		WHITE	16	P10A TO SPL C	OPSP P10A
20D		WHITE	16	J16A TO SPL C	WNSPD J16 A
21	G	WHITE	16	P1G TO P2E	P2 E
22	T	WHITE	16	P1T TO P2F	P2 F
23	U	WHITE	16	P1U TO J16B	WNSPD J16B
24	O	WHITE	16	P1O TO P2A	SOL PWR

WIRE SPECIFICATIONS			
PART #	SIZE (AWG)	# OF STRANDS	INSULATION THICKNESS
GXL16	16	19/29	.023 MILS-NOM.
GXL18	18	16/30	.023 MILS-NOM.

- HEAT RESISTANCE IN ACCORDANCE WITH SAE J-1128  
 - TEMPERATURE RANGE: -51 C TO +125 C  
 - MEETS FORD SPEC (M1L-85B) & CHRYSLER (MS-8900)

THIS WIRE HARNESS CONFIGURATION IS FOR THE 3000 ST MT CRANE ONLY



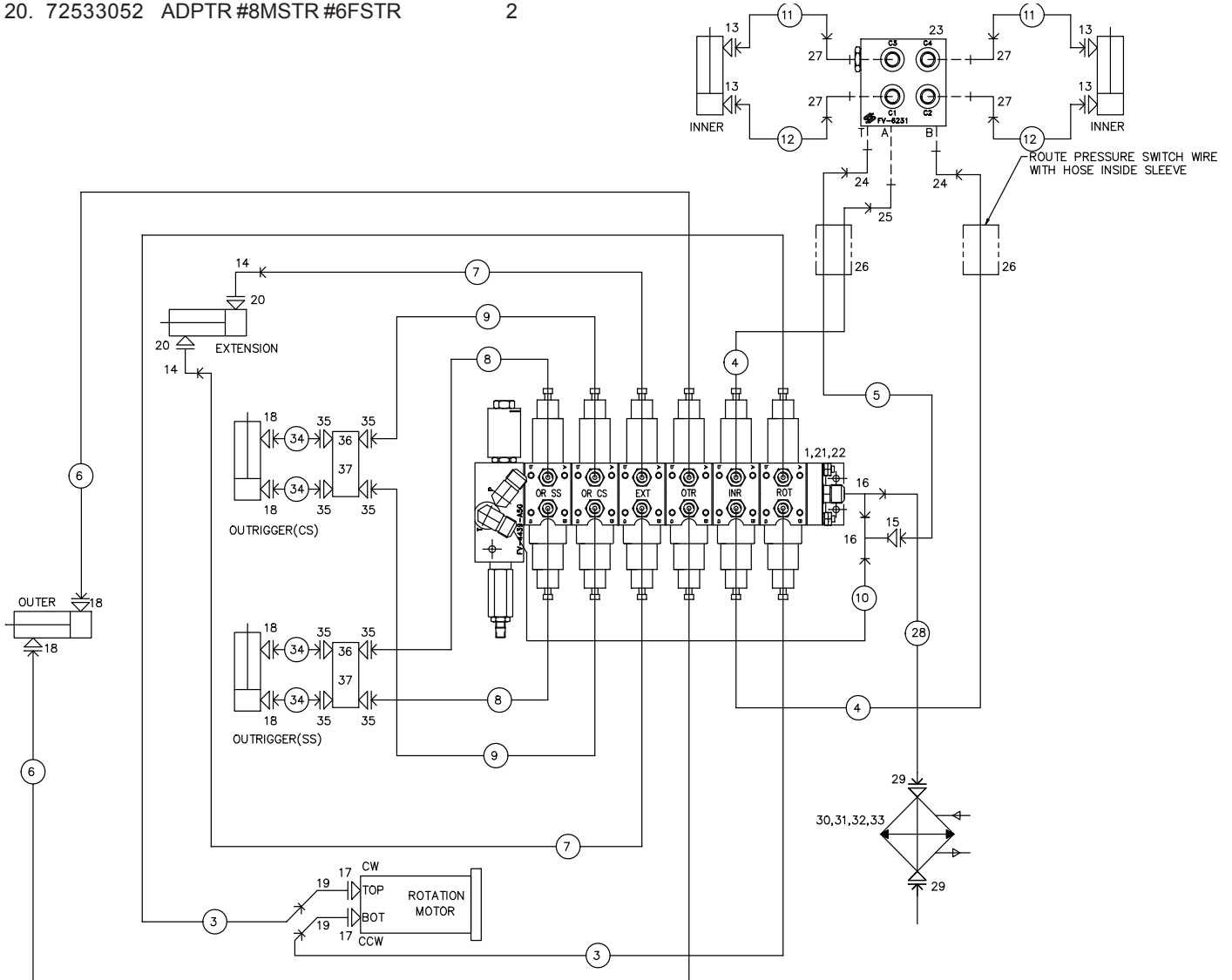
**HYDRAULICS & CONTROLS, RADIO  
REMOTE**

**HYD KIT-6F RADIO RMT (91716735-1)**

1.	73733934	VALVE BANK ASM	1
2.	51716923	HOSE KIT 6F RAD RMT (INCL. 3-10)	1
3.	51395636	HOSE FJ 1/4X33.00 OAL (4-4)	2REF
4.	51395762	HOSE FJ 1/4X69.00 OAL (4-4)	2REF
5.	51395883	HOSE FJ 1/4X56.00 OAL (4-4)	1REF
6.	51395639	HOSE FJ 1/4X117.00 OAL (4-4)	2REF
7.	51395640	HOSE FJ 1/4X196.00 OAL (4-4)	2REF
8.	51395641	HOSE FJ 1/4X28.00 OAL (4-4)	2REF
9.	51395642	HOSE FJ 1/4X54.00 OAL (4-4)	2REF
10.	51395645	HOSE FJ 1/4X16.00 OAL (4-4)	1REF
11.	70146344	TUBE ASM	2
12.	70146345	TUBE ASM	2
13.	72533186	ADPTR #6MFACE #6MSTR	4
14.	72532699	ELBOW #6MSTR #4MJIC 90°	2
15.	72532665	ADPTR #4MJIC #8FJIC	1
16.	72532657	TEE-SWVL NUT RUN JIC #8	2
17.	72532722	ADPTR #10MJIC #6FSTR	2
18.	72532351	ADPTR #4MSTR #4MJIC	6
19.	72532985	ELBOW #6MSTR #4MJIC 45°	2
20.	72533052	ADPTR #8MSTR #6FSTR	2

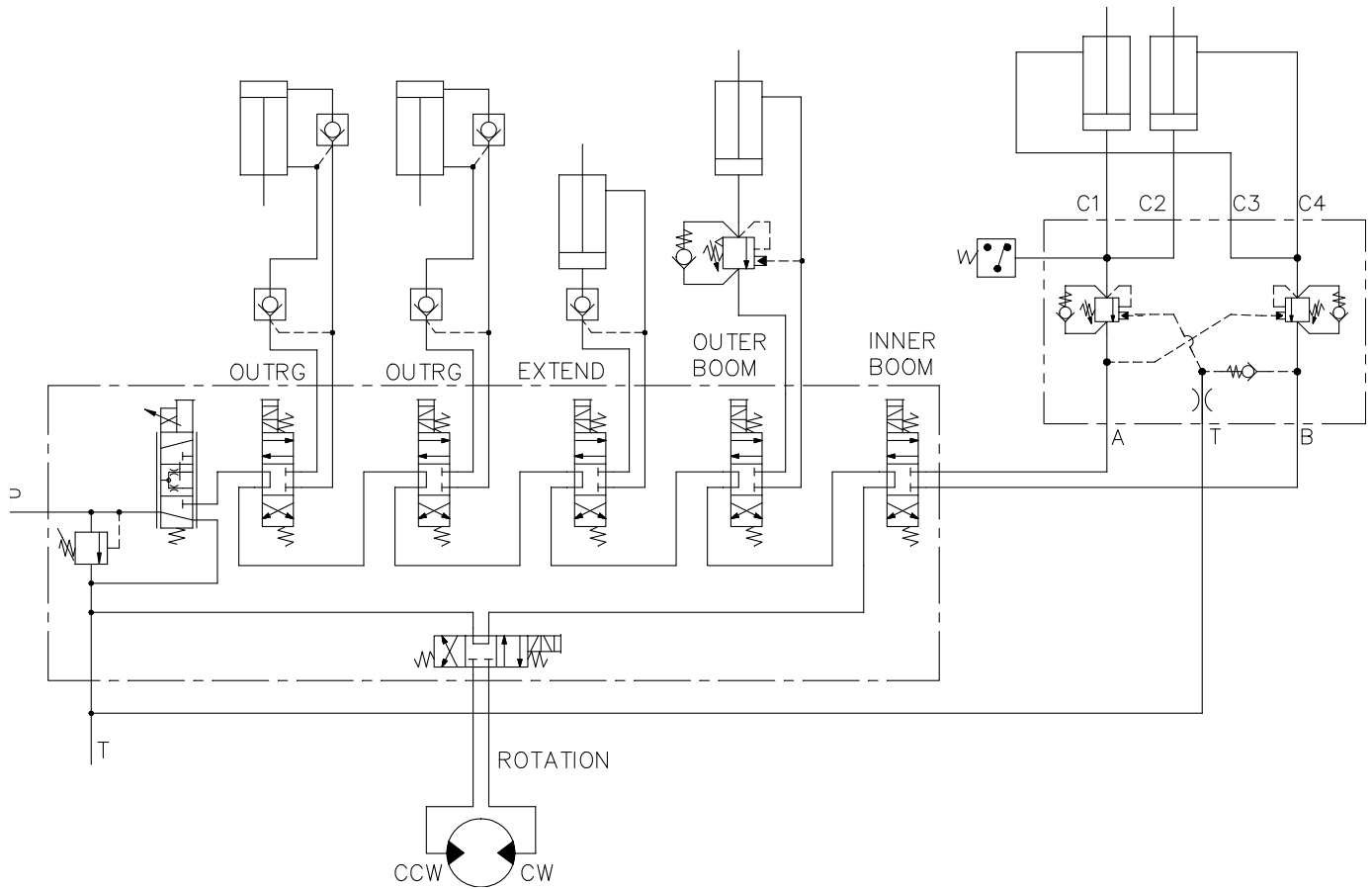
21.	72060002	CAP SCR 1/4-20X.75 HH GR5	4
22.	72062104	NUT 1/4-20 NYLOC	4
23.	73540091	C'BALANCE VALVE	1
24.	72053758	ELBOW #4MSTR #4MJIC 90°	2
25.	72533567	ELBOW-#4M STR/90/#4M JIC XLG (WAS 72533598)	1
26.	60350084	SLEEVE - HOSE	2
27.	72533163	ELBOW #6MSTR #6MFACE 90°	4
28.	51394716	HOSE-FF 1/2X18 OAL (8-8)	1
29.	72534380	ELBOW 1" MPT #8MJIC 90°	2
30.	70143144	OIL COOLER	1
31.	72060046	CAP SCR 3/8-16X1 HHGR5Z	4
32.	72063003	WASHER 3/8 FLAT	4
33.	72062103	NUT 3/8-16 HEX NYLOC	4
34.	51395964	HOSE-FF .25X12 (4-4)	2REF
35.	72534391	ELBOW-#8MSTR/90/#4MJIC	8
36.	70144192	MANIFOLD-CAVITY BLOCK	2
37.	73054218	VALVE-CHECK PILOT/OPEN	2

CONTINUED ON NEXT PAGE



### HYD KIT-6F RADIO RMT (91716735-2)

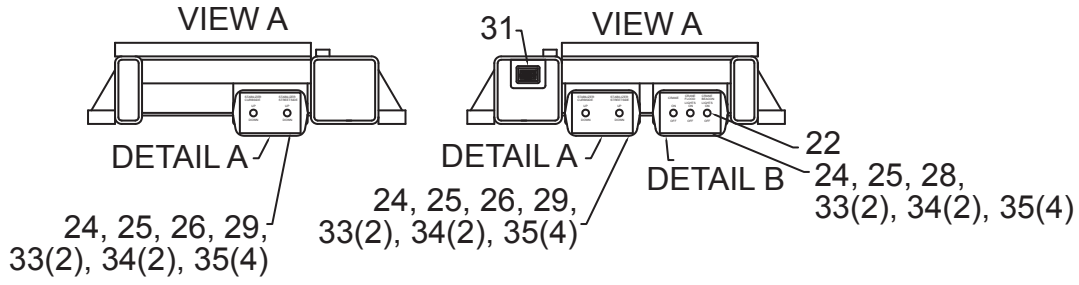
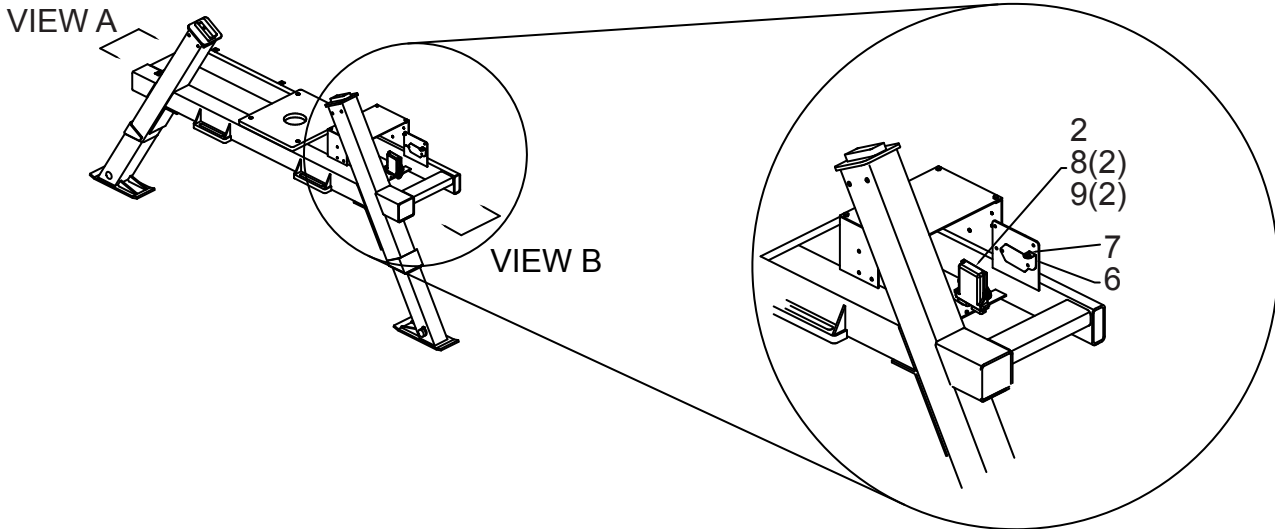
PARTS LIST ON PREVIOUS PAGE



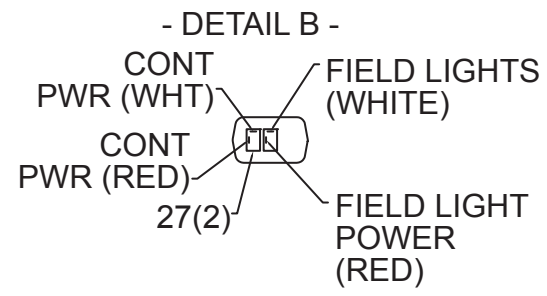
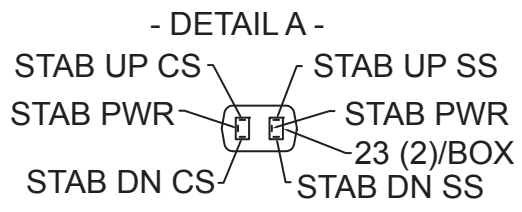
**CONTROL KIT, RADIO REMOTE  
(90718836) (REF. 99903629)**

2.	70733921	RECEIVER, RADIO REMOTE	1
3.	70733882	TRANSMITTER, RADIO REMOTE	1
6.	60125959	BRACKET, TETHER CONNECTOR	1
7.	72066340	POP RIVET, 1/8 X 3/8 GRIP	1
8.	72601846	CAP SCR, SS 1/4-20 X 1-1/4 HH	2
9.	72062194	NUT, SS 1/4-20 NYLOC	3
11.	99903634	INSTRUCTIONS, RADIO REMOTE	1
13.	99903629	INSTALLATION, RADIO REMOTE	1
22.	70392785	PLUG, PLASTIC 1/2 PRY-OUT BLACK	1
23.	77041346	SWITCH, TOGGLE	4

24.	77044018	CONNECTOR, 1/2 STR RELIEF	3
25.	60119077	JIC BOX MACHINING	1
26.	60121517	JIC BOX MACHINING, STABILIZER	2
27.	77041345	TOGGLE	2
28.	70395102	DECAL, LTS STAB RADIO REMOTE	1
29.	70395103	DECAL, STAB RADIO REMOTE	2
30.	72066535	CLAMP, HOSE, VINYL COVERED	1
31.	70733496	METER, HOSE, PUSHLOCK	1
32.	77044968	HARNESS	1
33.	72061823	SCREW, MACH SS #10-24 X 3/4 RDH PH	6
34.	72062123	NUT, SS #10-24 NYLOC	6
35.	72063181	WASHER, SS 10 WRT TYPE 304	12
36.	99903632	INSTALLATION DWG, HARNESS	1



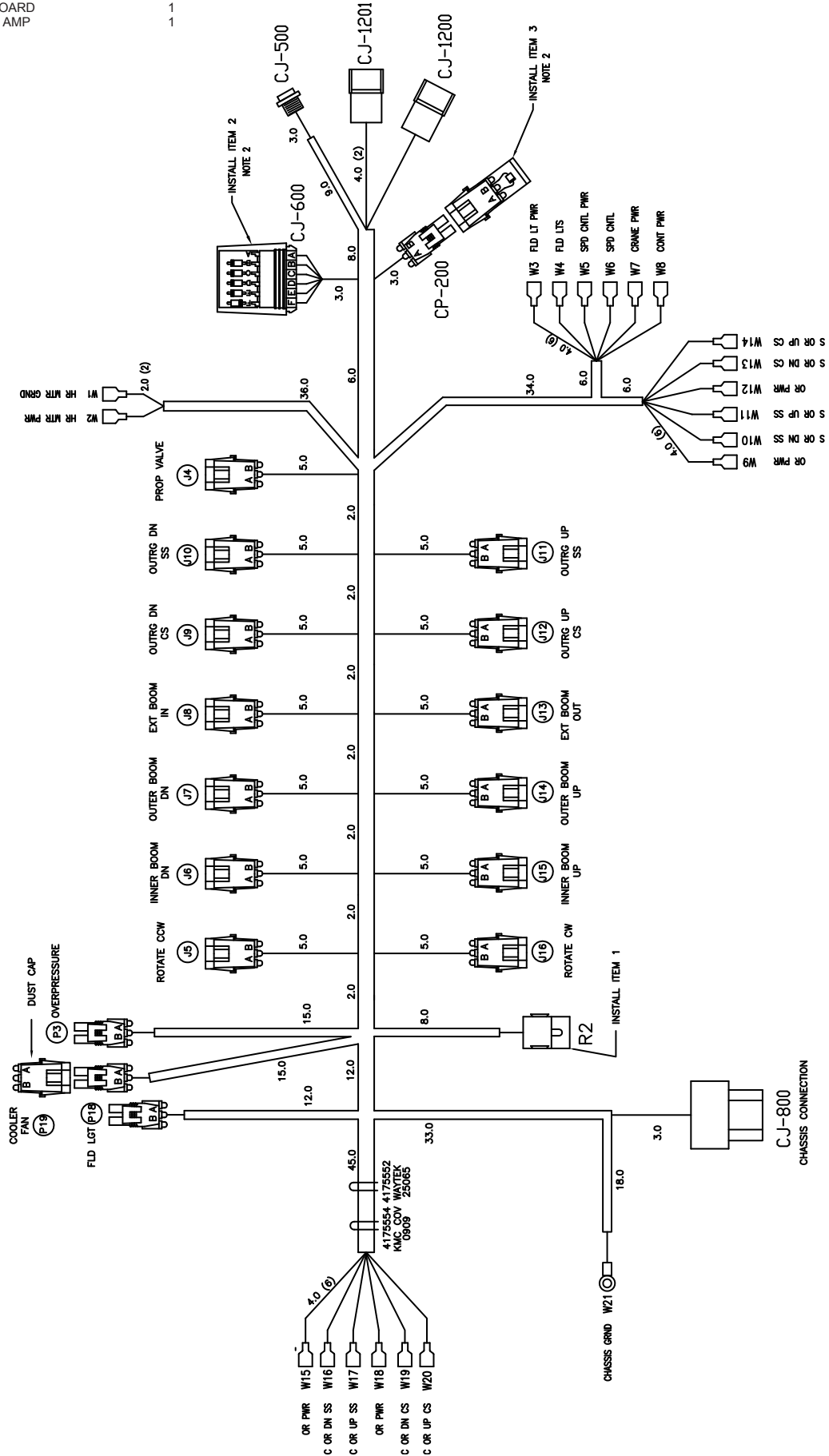
NOTE: DETAILS A & B ARE SHOWN FLIPPED DOWN 180°



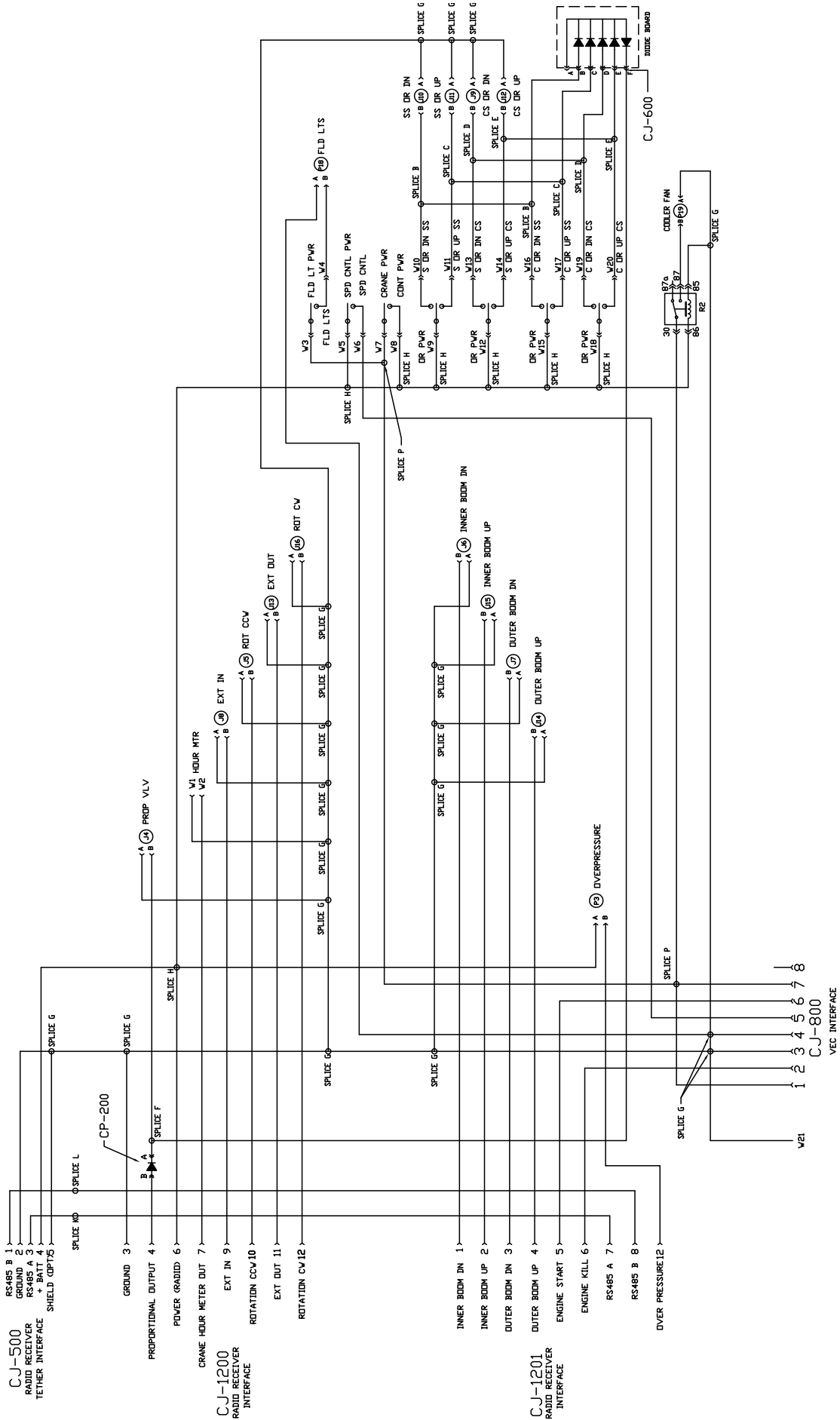
NOTE: WIRES WILL ALSO HAVE DESIGNATION "C" FOR CURBSIDE OR "S" FOR STREET SIDE

### WIRE HARNESS, RADIO REMOTE (77441102-1)

- 1. 77041676 RELAY 1
- 2. 77044931 DIODE BOARD 1
- 3. 77441073 DIODE, 3 AMP 1



# SCHEMATIC, RADIO REMOTE (77441102-2)



CIRCUIT CHART, RADIO REMOTE (77441102-3)

LOCATOR CODE: CJ-500 BRAD/HARRIS: 8R5A00A18A120
TERMS: 12124582 SEAL: 12015323
CAVITY COLOR GA PRINT LABEL TO CON-SPLC CAVITY

LOCATOR CODE: CJ-600 METRI-PACK: 12069573
TERMS: 12124582 SEAL: 12015323
CAVITY COLOR GA PRINT LABEL TO CON-SPLC CAVITY

LOCATOR CODE: CJ-800 DUETSCH D704-8PA
TERMS: 1060-16-0122 WEDGE: W8P CAVITY PLUS: 114017
CAVITY COLOR GA PRINT LABEL TO CON-SPLC CAVITY

LOCATOR CODE: CJ-1200 DEUTSCH: DTM06-125A
TERMS: 1062-20-0122 WEDGE: WM125 CAVITY PLUS: 0413-204-2005
CAVITY COLOR GA PRINT LABEL TO CON-SPLC CAVITY

LOCATOR CODE: CJ-1201 DEUTSCH: DTM06-125B
TERMS: 1062-20-0122 WEDGE: WM125 CAVITY PLUS: 0413-204-2005
CAVITY COLOR GA PRINT LABEL TO CON-SPLC CAVITY

LOCATOR CODE: CP-200 PACKARD: 12015792
TERMS: 12124580 SEAL: 12015323
CAVITY COLOR GA PRINT LABEL TO CON-SPLC CAVITY

LOCATOR CODE: P3 PACKARD: 12015792
TERMS: 12124580 SEAL: 12015323
CAVITY COLOR GA PRINT LABEL TO CON-SPLC CAVITY

LOCATOR CODE: J4 PACKARD: 12010973
TERMS: 12124582 SEAL: 12015323
CAVITY COLOR GA PRINT LABEL TO CON-SPLC CAVITY

LOCATOR CODE: J5 PACKARD: 12010973
TERMS: 12124582 SEAL: 12015323
CAVITY COLOR GA PRINT LABEL TO CON-SPLC CAVITY

LOCATOR CODE: J6 PACKARD: 12010973
TERMS: 12124582 SEAL: 12015323
CAVITY COLOR GA PRINT LABEL TO CON-SPLC CAVITY

LOCATOR CODE: J7 PACKARD: 12010973
TERMS: 12124582 SEAL: 12015323
CAVITY COLOR GA PRINT LABEL TO CON-SPLC CAVITY

LOCATOR CODE: J8 PACKARD: 12010973
TERMS: 12124582 SEAL: 12015323
CAVITY COLOR GA PRINT LABEL TO CON-SPLC CAVITY

LOCATOR CODE: J9 PACKARD: 12010973
TERMS: 12124582 SEAL: 12015323
CAVITY COLOR GA PRINT LABEL TO CON-SPLC CAVITY

LOCATOR CODE: J10 PACKARD: 12010973
TERMS: 12124582 SEAL: 12015323
CAVITY COLOR GA PRINT LABEL TO CON-SPLC CAVITY

LOCATOR CODE: J11 PACKARD: 12010973
TERMS: 12124582 SEAL: 12015323
CAVITY COLOR GA PRINT LABEL TO CON-SPLC CAVITY

LOCATOR CODE: J12 PACKARD: 12010973
TERMS: 12124582 SEAL: 12015323
CAVITY COLOR GA PRINT LABEL TO CON-SPLC CAVITY

LOCATOR CODE: J13 PACKARD: 12010973
TERMS: 12124582 SEAL: 12015323
CAVITY COLOR GA PRINT LABEL TO CON-SPLC CAVITY

LOCATOR CODE: J14 PACKARD: 12010973
TERMS: 12124582 SEAL: 12015323
CAVITY COLOR GA PRINT LABEL TO CON-SPLC CAVITY

LOCATOR CODE: J15 PACKARD: 12010973
TERMS: 12124582 SEAL: 12015323
CAVITY COLOR GA PRINT LABEL TO CON-SPLC CAVITY

LOCATOR CODE: J16 PACKARD: 12010973
TERMS: 12124582 SEAL: 12015323
CAVITY COLOR GA PRINT LABEL TO CON-SPLC CAVITY

LOCATOR CODE: P18 PACKARD: 12015792
TERMS: 12124580 SEAL: 12015323
CAVITY COLOR GA PRINT LABEL TO CON-SPLC CAVITY

LOCATOR CODE: P19 PACKARD: 12015792/12010973
TERMS: 12124580 SEAL: 12015323
CAVITY COLOR GA PRINT LABEL TO CON-SPLC CAVITY

LOCATOR CODE: R2 RELAY SOCKET: PACKARD 12065685, 12052834
TERMS: 12066614 RELAY: HELLA 87411 (SEALED)
CAVITY COLOR GA PRINT LABEL TO CON-SPLC CAVITY

LOCATOR CODE: - SPLICE B
CAVITY COLOR GA PRINT LABEL TO CON-SPLC CAVITY

LOCATOR CODE: - SPLICE C
CAVITY COLOR GA PRINT LABEL TO CON-SPLC CAVITY

LOCATOR CODE: - SPLICE D
CAVITY COLOR GA PRINT LABEL TO CON-SPLC CAVITY

LOCATOR CODE: - SPLICE E
CAVITY COLOR GA PRINT LABEL TO CON-SPLC CAVITY

LOCATOR CODE: - SPLICE F
CAVITY COLOR GA PRINT LABEL TO CON-SPLC CAVITY

LOCATOR CODE: - SPLICE G
CAVITY COLOR GA PRINT LABEL TO CON-SPLC CAVITY

LOCATOR CODE: - SPLICE H
CAVITY COLOR GA PRINT LABEL TO CON-SPLC CAVITY

LOCATOR CODE: - SPLICE I
CAVITY COLOR GA PRINT LABEL TO CON-SPLC CAVITY

LOCATOR CODE: - SPLICE J
CAVITY COLOR GA PRINT LABEL TO CON-SPLC CAVITY

LOCATOR CODE: - SPLICE K
CAVITY COLOR GA PRINT LABEL TO CON-SPLC CAVITY

LOCATOR CODE: - SPLICE L
CAVITY COLOR GA PRINT LABEL TO CON-SPLC CAVITY

LOCATOR CODE: - SPLICE M
CAVITY COLOR GA PRINT LABEL TO CON-SPLC CAVITY

LOCATOR CODE: - SPLICE N
CAVITY COLOR GA PRINT LABEL TO CON-SPLC CAVITY

LOCATOR CODE: - SPLICE O
CAVITY COLOR GA PRINT LABEL TO CON-SPLC CAVITY

LOCATOR CODE: - SPLICE P
CAVITY COLOR GA PRINT LABEL TO CON-SPLC CAVITY

LOCATOR CODE: Wx WAYTEK: 31913 (HS FEMALE 1/4" PUSH ON)
WAYTEK: 31905 (HS 5/16" RING)
WIRE COLOR GA PRINT LABEL TO CON-SPLC CAVITY

W1 BLK 16 HR MTR GRND TO SPL G -

W2 WHT 16 HR MTR PWR TO CJ-1200 7

W3 RED 16 FLD LT PWR TO SPL P -

W4 WHT 16 FLD LTS TO P18 B

W5 WHT 16 SPD CNTL PWR TO SPL H -

W6 WHT 16 SPD CNTL TO CJ-800 5

W7 RED 16 CRANE PWR TO SPL P -

W8 WHT 16 CNT PWR TO SPL H -

W9 WHT 16 DR PWR TO SPL H -

W10 WHT 16 S DR DN SS TO SPL B -

W11 WHT 16 S DR UP SS TO SPL C -

W12 WHT 16 DR PWR TO SPL H -

W13 WHT 16 S DR DN CS TO SPL D -

W14 WHT 16 S DR UP CS TO SPL E -

W15 WHT 16 DR PWR TO SPL H -

W16 WHT 16 C DR DN SS TO SPL B -

W17 WHT 16 C DR UP SS TO SPL C -

W18 WHT 16 DR PWR TO SPL H -

W19 WHT 16 C DR DN CS TO SPL D -

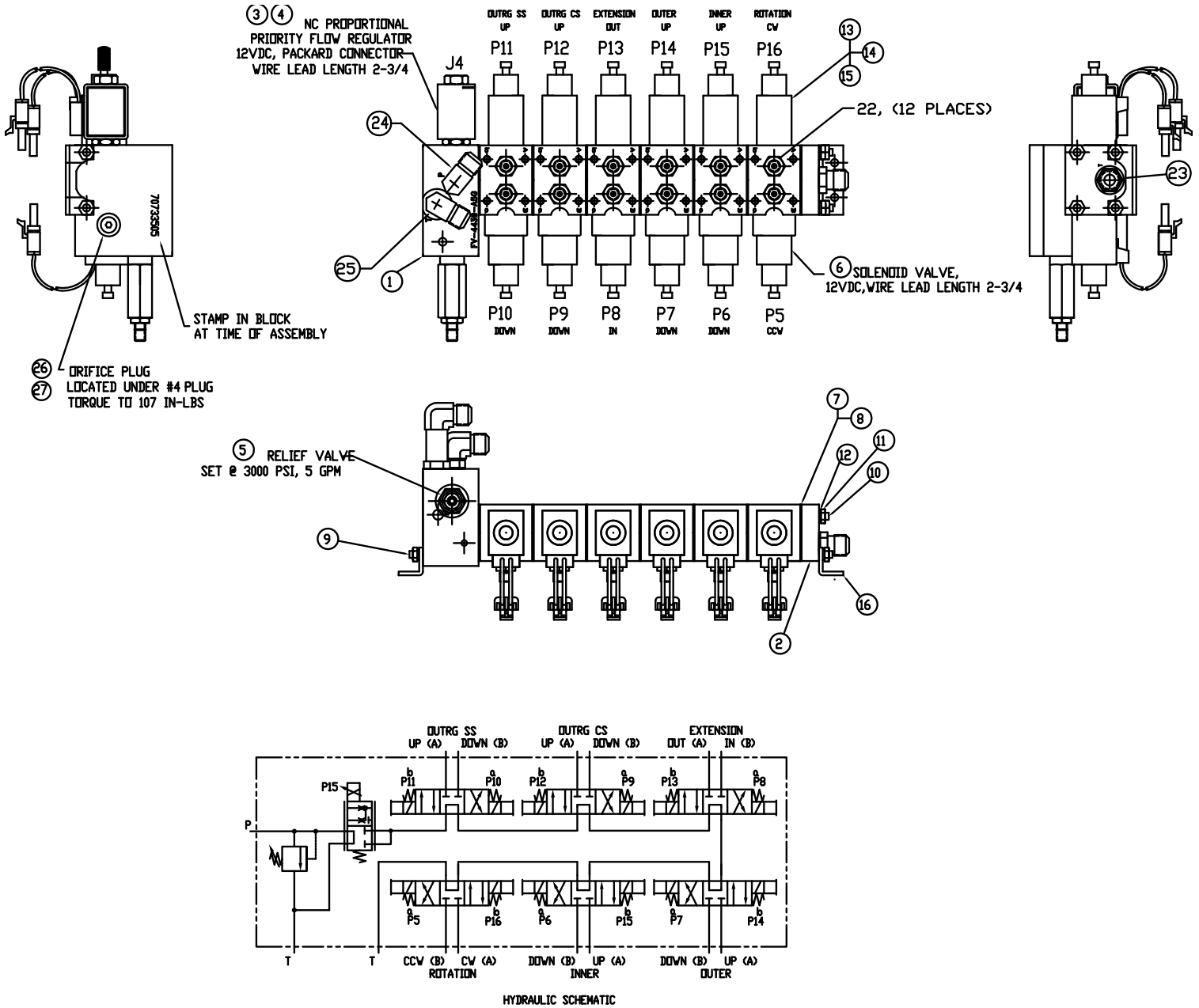
W20 WHT 16 C DR UP CS TO SPL E -

\* W21 BLK 14 CHASSIS GRND TO SPL G -

### VALVEBANK ASSEMBLY, RADIO REMOTE (73733934)

1.	70145629	INLET BODY	1
2.	70145628	OUTLET BODY	1
3.	70145627	FLOW REGULATOR	1
4.	70145626	COIL 12VDC	1
5.	70145625	RELIEF VALVE SET@3000PSI 5GPM	1
6.	70145624	SOLENOID VALVE	6
7.	70143337	O-RING PLATE	7
8.	70145623	O-RING	14
9.	70145859	THREADED ROD 1/4-20X13.45	2
10.	70145860	THREADED ROD 1/4-20X15.37	2
11.	72062000	NUT 1/4-20	6

12.	72063047	WASHER 1/4 LOCK	6
13.	77044574	CONNECTOR TOWER	13
14.	77044577	CONNECTOR TERMINAL	26
15.	77044578	CABLE SEAL-GRN	26
16.	70143336	MOUNTING FOOT	2
17.	70145620	NAME TAG-TI ROD	1
21.	77441102	WIRING HARNESS	1
22.	72532353	ADAPTER #6MSTR #4MJIC	12
23.	72532357	ADAPTER #6MSTR #8MJIC	1
24.	72053762	ELBOW #6MSTR #8MJIC 90°	1
25.	72532779	ELBOW #6MSTR #8MJIC 90°XLG	1
26.	70145861	ORIFICE PLUG 1/16-27NPT	1
27.	70145862	PLUG #4 HEX SH	1





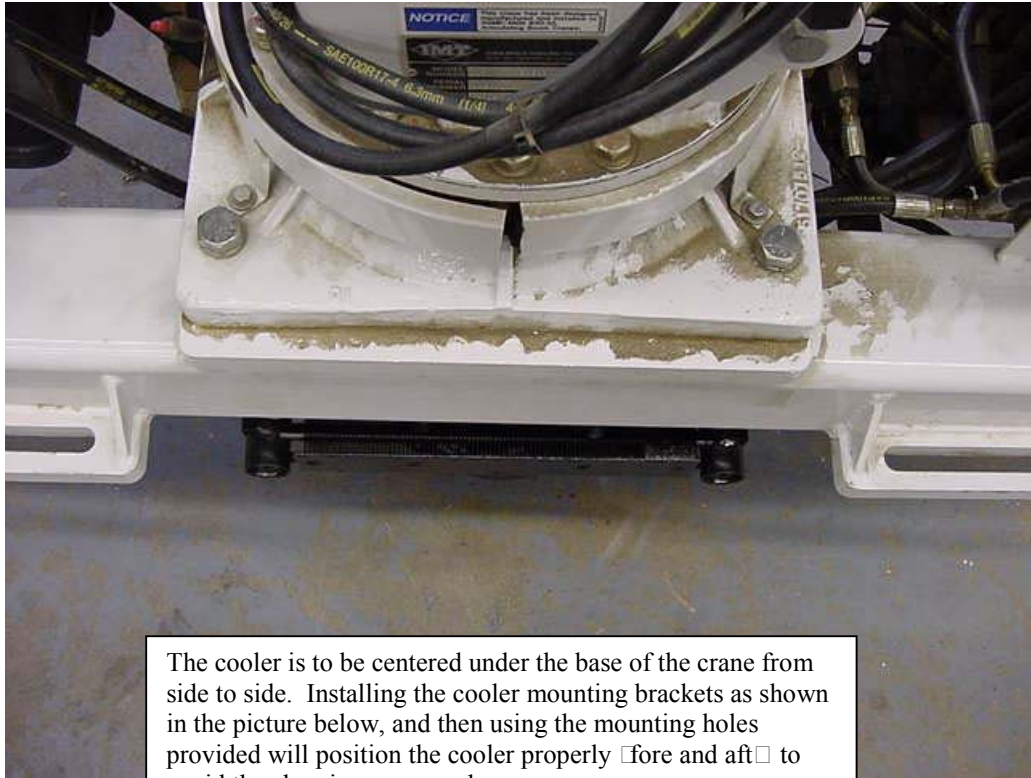
**MISCELLANEOUS****RETROFIT KIT - 7.5" PULLER FAN****(91717654)**

1.	70143144	OIL COOLER	1
2.	51394716	HOSE-FF 1/2 X 18.00 OAL (8-8)	1
3.	77043056	FAN-7.5" PULLER	1
4.	60124457	MOUNT-COOLER	2
5.	72531421	ELBOW 1/2 MPT #8MJIC 90°	2
6.	72531308	RED BUSHING-BLK 1 - 1/2	2
7.	72060046	CAP SCR 3/8-16 X 1 HHGR5	4
8.	72063003	WASHER 3/8 FLAT	4
9.	72062103	NUT 3/8-16 HEX NYLOC	4
10.	89044232	WIRE-14GA RED STRD GPT	4'
11.	77040048	TERMINAL-BUTT CONN 16-14GA	2
12.	77040282	TERM-PB FVD 16/14GA 1/4TAB	1
13.	70146065	HEAT SHRINK 1/4 DUAL WALL-6"	1
14.	89044056	LOOM-5/16 ID SPLIT (BULK)	8'
15.	89044274	WIRE-14GA BLACK STRD GPT	4'
16.	77040052	TERM-RING I 3/8 STUD 12-10GA	1
17.	99903435	MANUAL-7.5" FAN RETRO	1

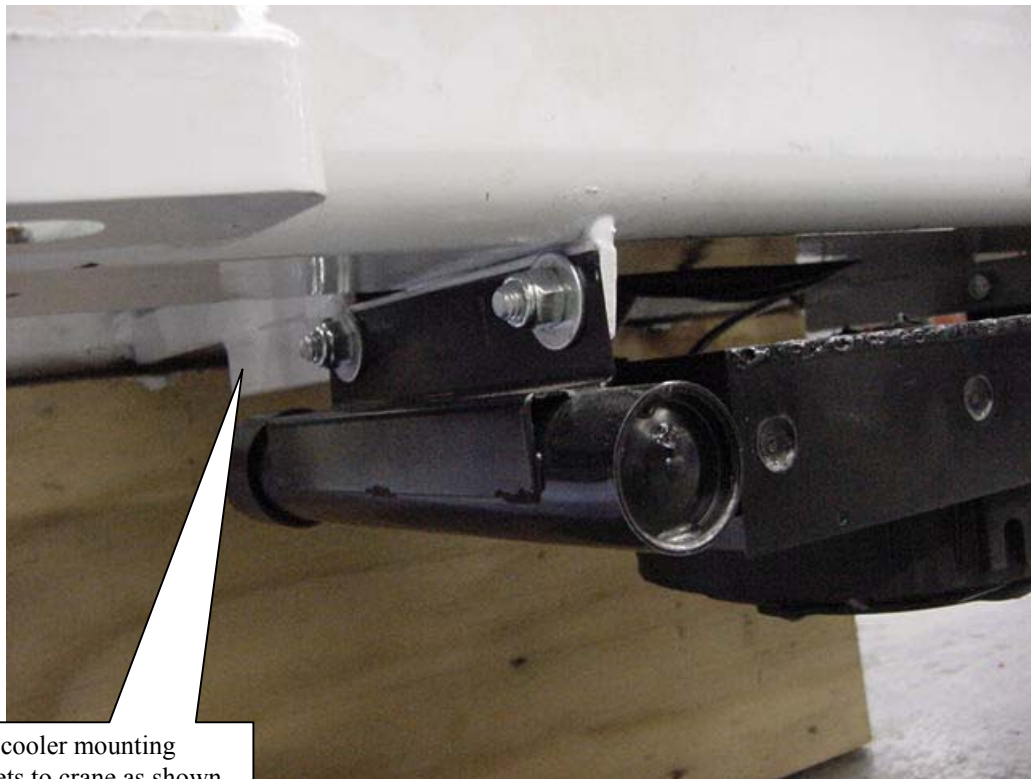
## NOTE:

NO DRAWING FOR THIS PART NUMBER. SEE 99903435  
FOR INSTALLATION AND WIRING INFORMATION FOR  
THE 91717654 PULLER FAN.

## INSTALLATION GUIDE - 7.5" PULLER FAN (99903435-1)



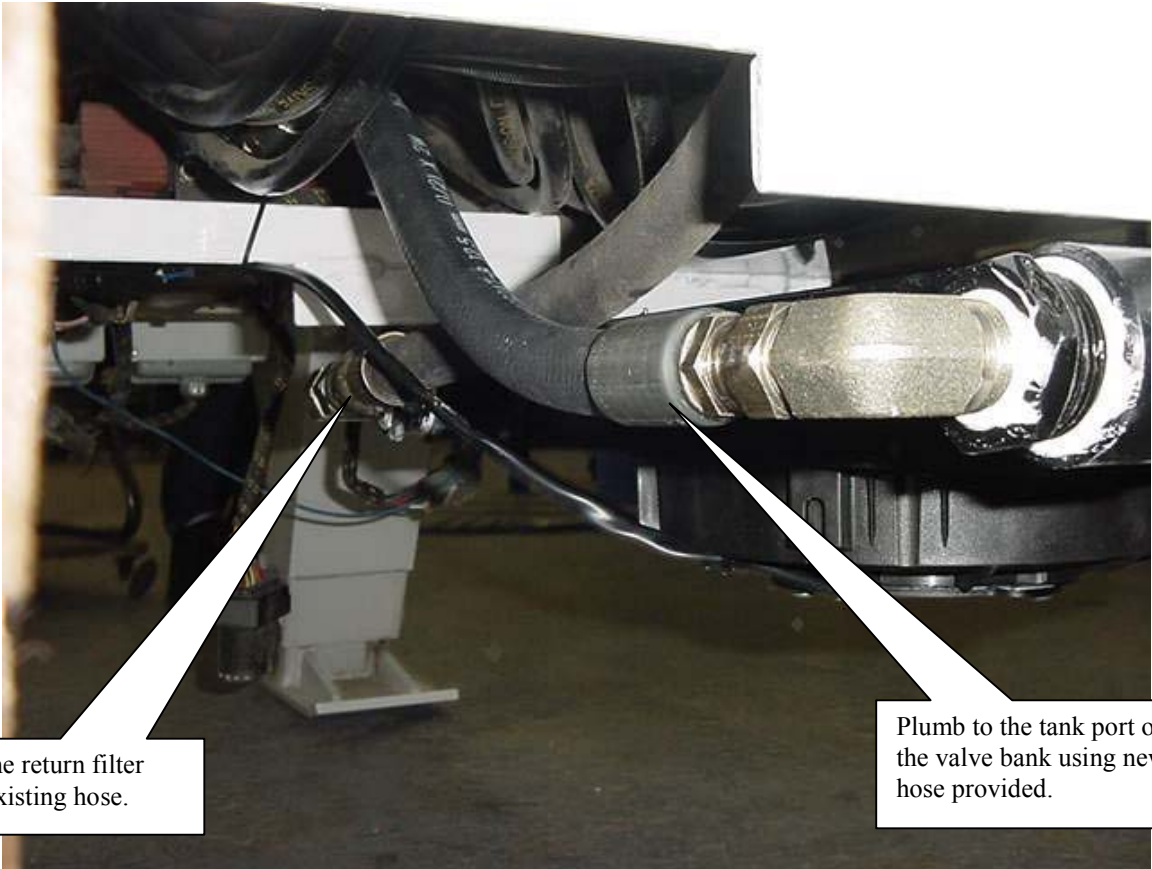
The cooler is to be centered under the base of the crane from side to side. Installing the cooler mounting brackets as shown in the picture below, and then using the mounting holes provided will position the cooler properly fore and aft to avoid the chassis cross member.



Weld cooler mounting brackets to crane as shown.

Plumb cooler as indicated using fittings in 91717654 retrofit kit.

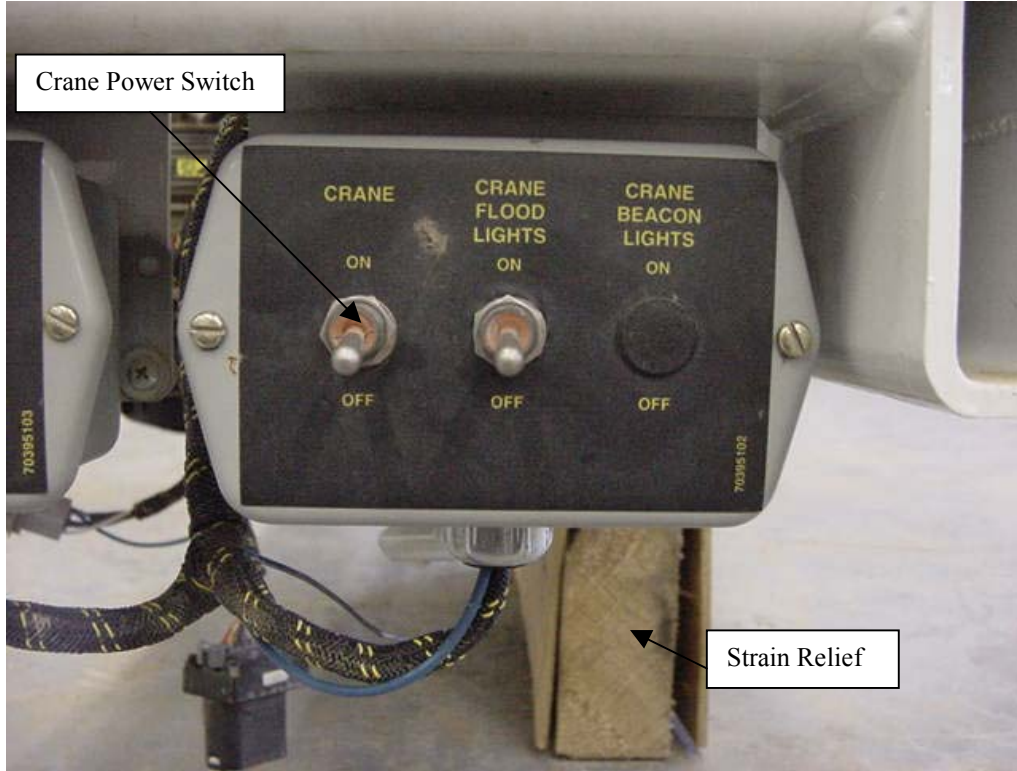
**INSTALLATION GUIDE - 7.5" PULLER FAN  
(99903435-2)**



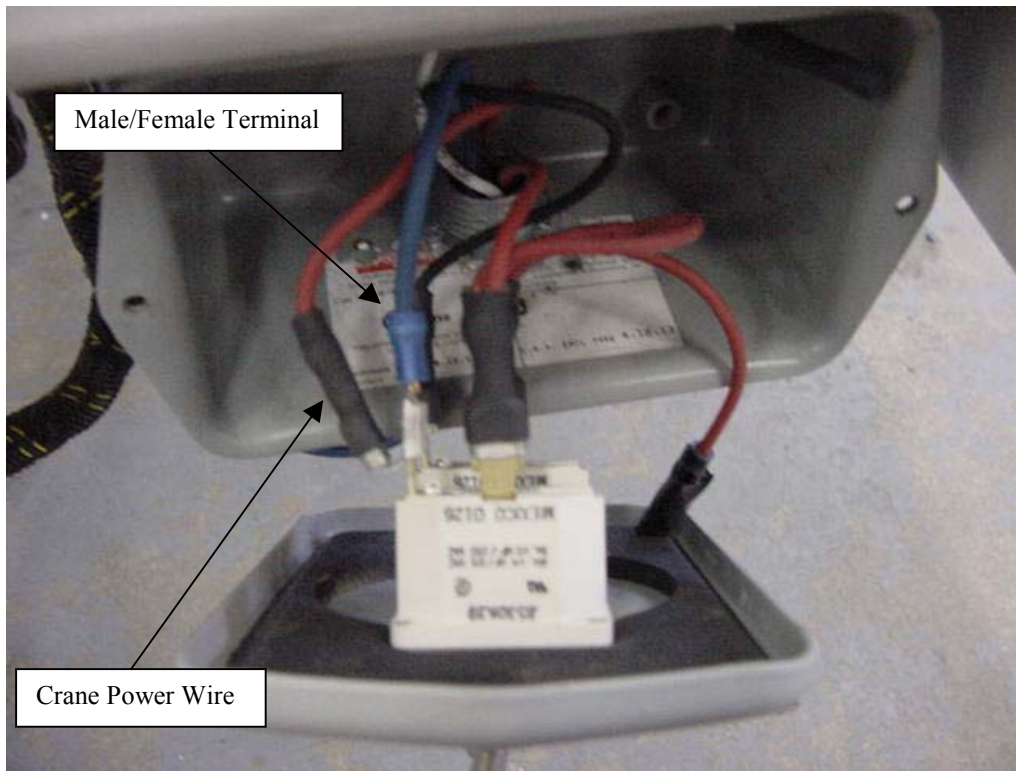
Plumb to the return filter using the existing hose.

Plumb to the tank port of the valve bank using new hose provided.

### ELECTRICAL INSTALLATION GUIDE - 7.5” PULLER FAN (99903435-3)



1. Loosen the strain relief on the JIC box containing the crane power switch.



2. Remove the two screws holding the cover of the JIC box containing the crane power switch.

**ELECTRICAL INSTALLATION GUIDE - 7.5" PULLER FAN (99903435-4)**

(NOTE: Steps 1 and 2 on previous page with photos.)

3. Thread RED wire through the strain relief and crimp on the male/female push-on terminal.
4. Remove the crane power wire from the crane power switch. Push on the male/female terminal, then attach the crane power wire to the male/female terminal.
5. Replace the cover of the JIC box. Tighten the strain relief.
6. Thread the red wire back to the cooling fan.
7. Place approximately 2.5" of heat shrink over the red wire. Butt connect the red wire to the cooling fan positive wire (usually blue).
8. Center the heat shrink over the butt-connector. Heat up the heat shrink to shrink over the butt-connector and seal it.
9. Place approximately 2.5" of heat shrink over the BLACK wire. Butt-connect the black wire to the fan negative wire (usually black).
10. Center the heat shrink over the butt-connector. Heat up the heat shrink to shrink over the butt-connector and seal it.
11. Thread the black wire to a location on the chassis frame where it can be attached with the 3/8" terminal ring.
12. Place approximately 1-inch of heat shrink over the black wire. Crimp the 3/8" terminal ring to the black wire.
13. Center the heat shrink over the terminal ring. Heat it up to shrink over the terminal ring crimp and seal it.
14. Bolt the terminal ring to the chassis frame.
15. Use the supplied wire loom to cover the red and black wires for their protection.

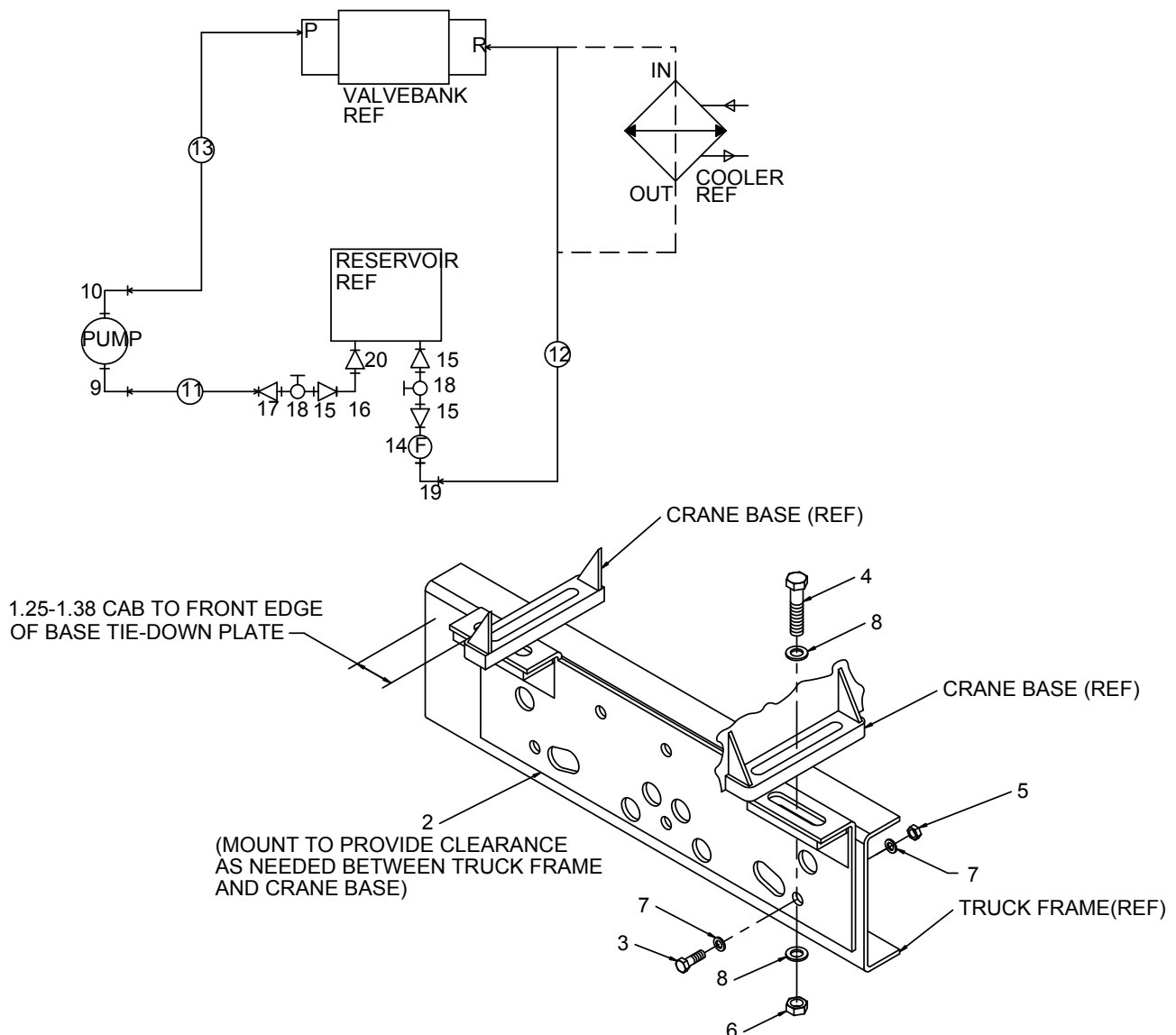


## INSTALLATION KIT-RADIO RMT-FACTORY (93715831)

2.	52714705	SHEAR PLATE	2REF*
3.	72060151	CAP SCR 5/8-11X2 HHGR8	16REF*
4.	72060188	CAP SCR 3/4-10X3-1/2 HHGR5	4REF*
5.	72062233	NUT 5/8-11 HEX TOP LOCK	16REF*
6.	72062140	NUT 3/4-10 HEX STL INS GR5	4REF*
7.	72063119	WASHER 5/8 FLAT HARD	32REF*
8.	72063116	WASHER 3/4 FLAT HARD	8REF*
9.	72053767	ELBOW #12MSTR #12MJIC 90°	1
10.	72053764	ELBOW #10MSTR #8MJIC 90°	1
11.	975412100	HOSE 3/4X100 (PART OF 200129)	1REF
12.	975408040	HOSE 1/2X40 (PART OF 200129)	1REF
13.	975508096	HOSE 1/2X96 (PART OF 200129)	1REF
14.	73052000	HYD FILTER 10MIC 3/4NPTF	1REF*
15.	72053558	ADAPTER 3/4MPT 3/4MPT HEX	3
16.	72531134	STREET ELBOW 3/4NPT 90° STL	1
17.	72053676	ADAPTER 3/4MPT #12MJIC	1
18.	73054230	BALL VALVE 3/4NPT	2
19.	72531422	ELBOW .75MPT #8MJIC 90°	1
20.	72053559	REDUCER BUSHING 1NPT-3/4 STL	1

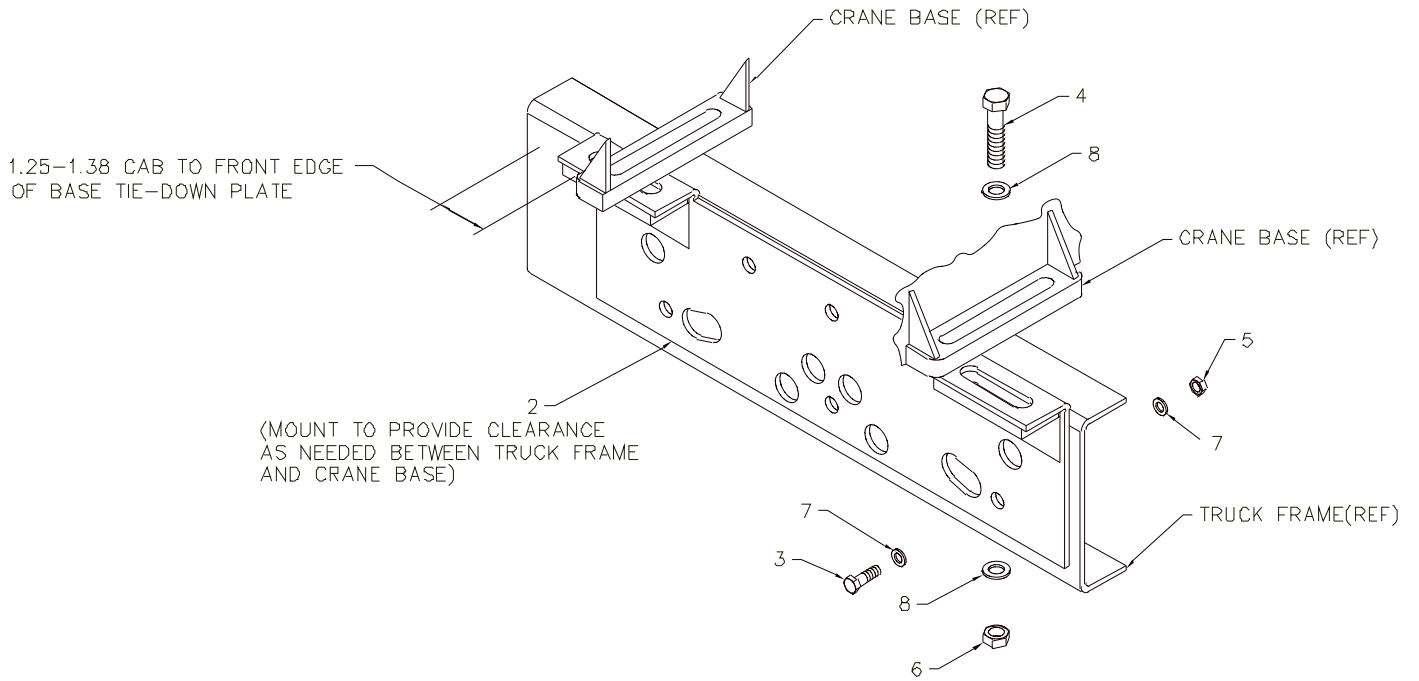
\* PART OF 93715830

NOTE: WHEN CRANE IS EQUIPED WITH A COOLER  
HOSE #12 CONNECTS TO COOLER OUTLET PORT  
HOSE P/N 51394716 (PART OF CRANE) CONNECTS "R"  
PORT OF VALVE BANK TO INLET PORT OF COOLER



**INSTALLATION KIT-RADIO RMT-SHIPOUT  
(93715830)**

1.	73052000	FILTER-HYD RTN 10MIC 3/4 NPTF	1
2.	52714705	SHEAR PLATE	2
3.	72060151	CAP SCR 5/8-11X2 HHGR8	16
4.	72060188	CAP SCR 3/4-10X3-1/2 HHGR5	4
5.	72062233	NUT 5/8-11 HEX TOP LOCK	16
6.	72062140	NUT 3/4-10 HEX STL INS GR5	4
7.	72063119	WASHER 5/8 FLAT HARD	32
8.	72063116	WASHER 3/4 FLAT HARD	8

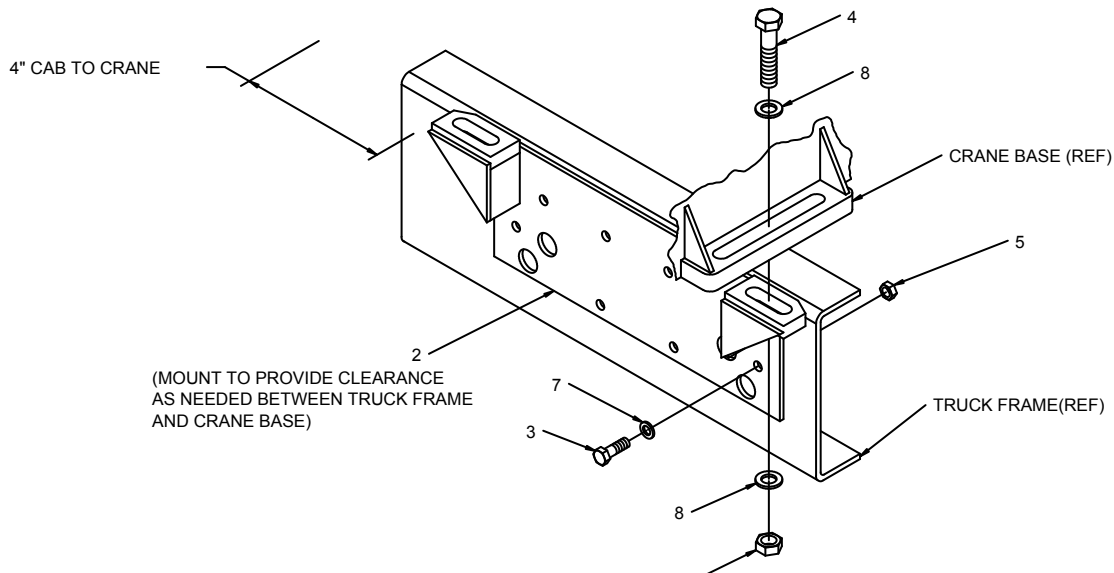
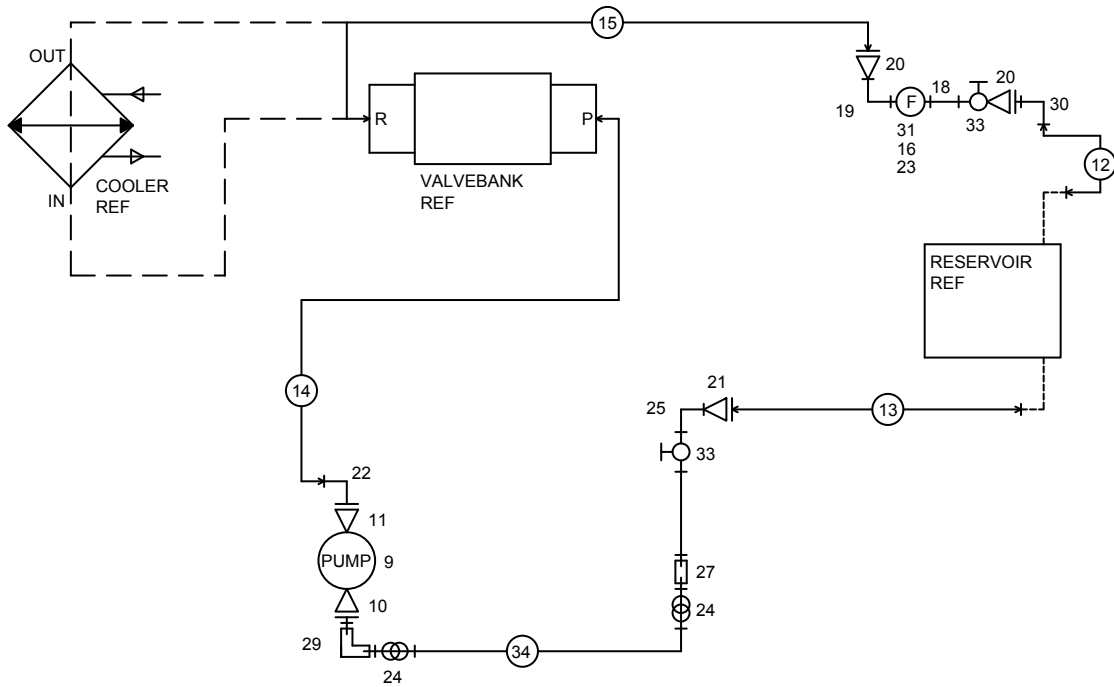


**INSTALLATION KIT (93707994)**

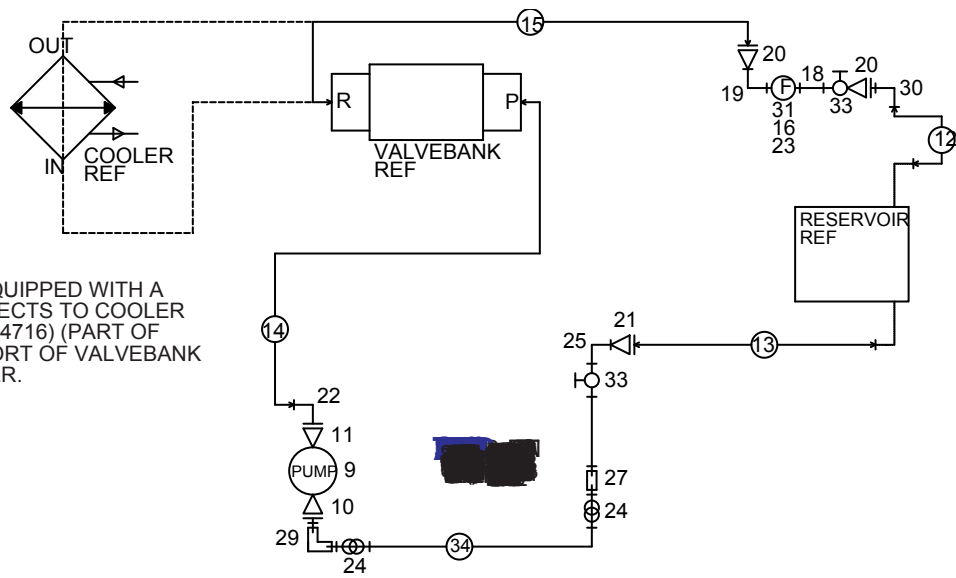
ITEM	PART NO.	DESCRIPTION	QTY
2.	52712213	SHEAR PLATE	2
3.	72060117	CAP SCR 1/2-13X1-1/2 HHGR8	16
4.	72060188	CAP SCR 3/4-10X3-1/2 HHGR5	4
5.	72062232	NUT 1/2-13 TOP LOCK	16
6.	72062140	NUT 3/4-10 LOCK	4
7.	72063132	WASHER 1/2 FLAT HARDENED	16
8.	72063116	WASHER 3/4 FLAT GR8	8
9.		PUMP	1
10.		ADAPTER (PER PUMP)	1
11.		ADAPTER (PER PUMP)	1
12.	51703866	HOSE ASM 1/2 X 12	1
13.	51703945	HOSE ASM 3/4 X 17	1
14.	51704030	HOSE ASM 3/8 X 84	1

15.	51706041	HOSE ASM 1/2 X 22	1
16.	60103870	OIL FILTER BRACKET	1
18.	72053141	PIPE NIPPLE 3/4 X CLOSE	1
19.	72053556	STREET ELBOW 3/4NPT 90°	1
20.	72053671	ADAPTER 3/4MPT 3/4MJIC	2
21.	72053676	ADAPTER 3/4MPT 1-1/16MJIC	1
22.	72053763	ELBOW 3/4MSTR 3/4MJIC 90°	1
23.	72060025	CAP SCR 5/16-18 X 1 HH GR5	2
24.	72066514	HOSE CLAMP 2-BOLT 3/4	2
25.	72531087	STREET ELBOW 3/4NPT 45°	1
27.	72531548	BARB NIPPLE 3/4BARB3/4HOSE	1
29.	72532344	BARB NIPPLE 3/4 3/4 90°	1
30.	72532670	ELBOW 3/4MJIC 3/4FJIC 45°	1
31.	73052000	RETURN FILTER	1
33.	73054129	GATE VALVE 3/4NPT	2
34.	60035959	HOSE 3/4 100R4 X 32"	1

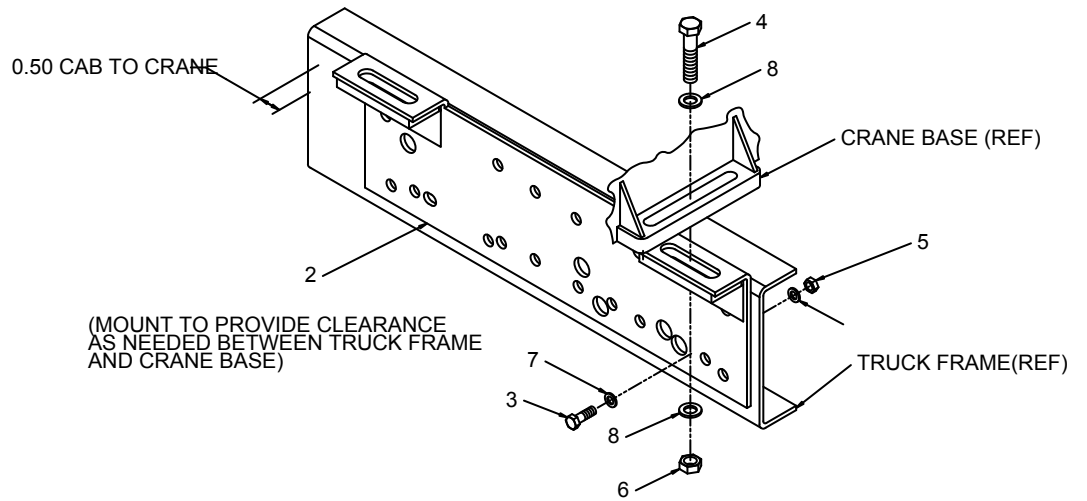
NOTE: WHEN CRANE IS EQUIPED WITH A COOLER  
 HOSE #15 CONNECTS TO COOLER OUTLET PORT  
 HOSE P/N 51394716 (PART OF CRANE) CONNECTS "R"  
 PORT OF VALVE BANK TO INLET PORT OF COOLER

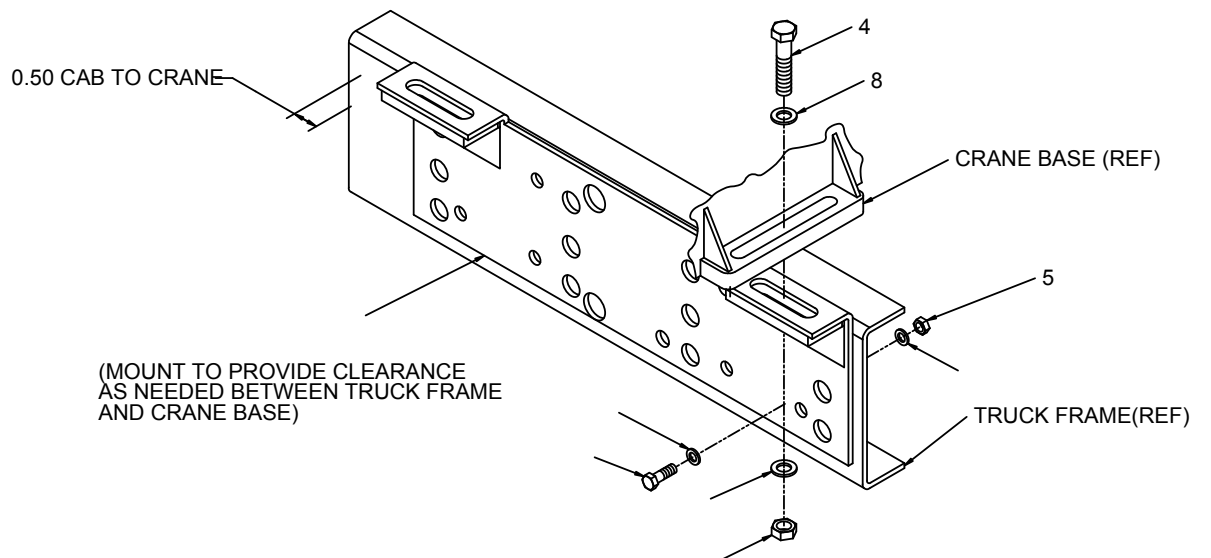
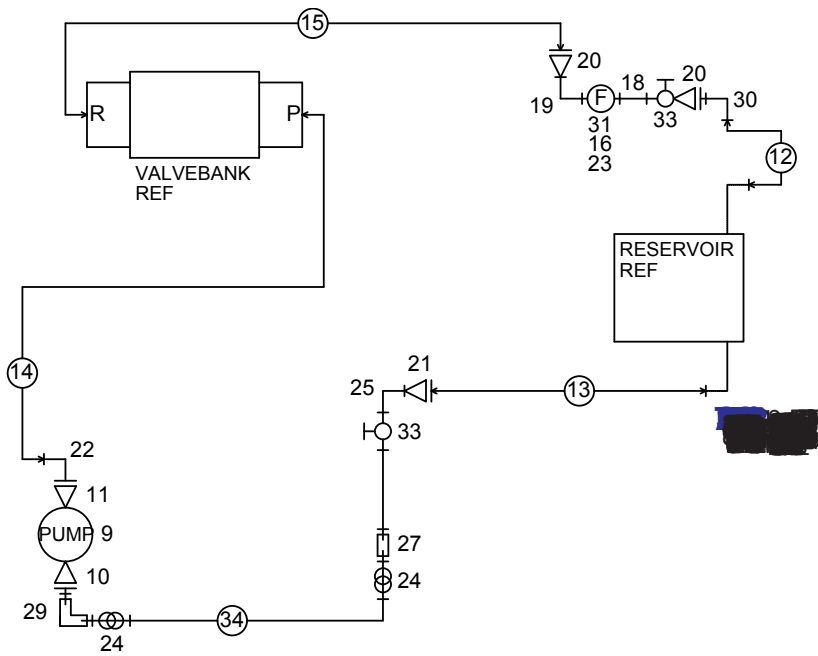






NOTE: WHEN CRANE IS EQUIPPED WITH A COOLER, HOSE #15 CONNECTS TO COOLER OUTLET PORT HOSE (51394716) (PART OF CRANE) CONNECTS "R" PORT OF VALVEBANK TO INLET PORT OF COOLER.

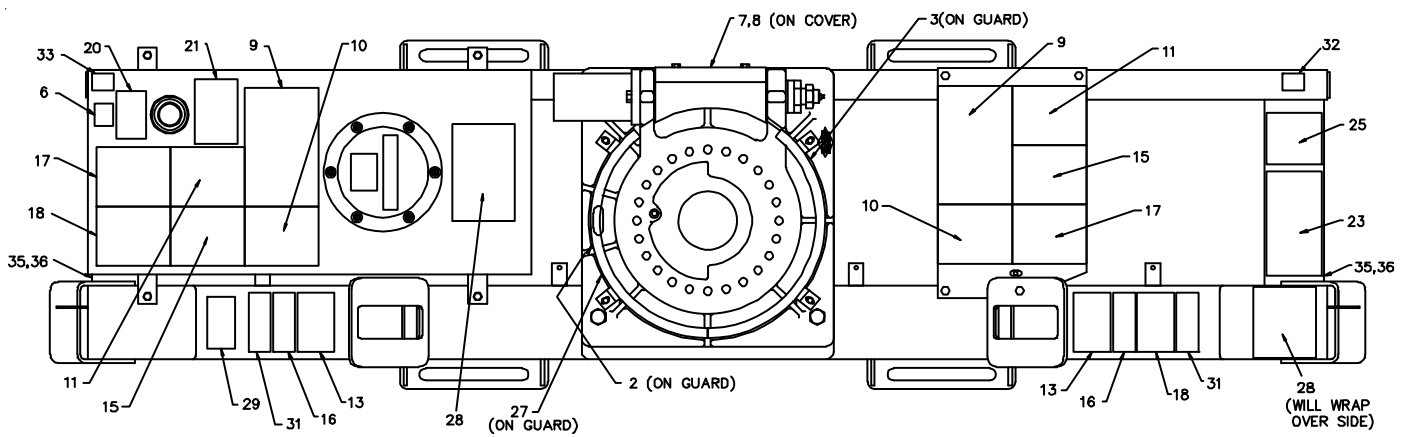






**NOTE**

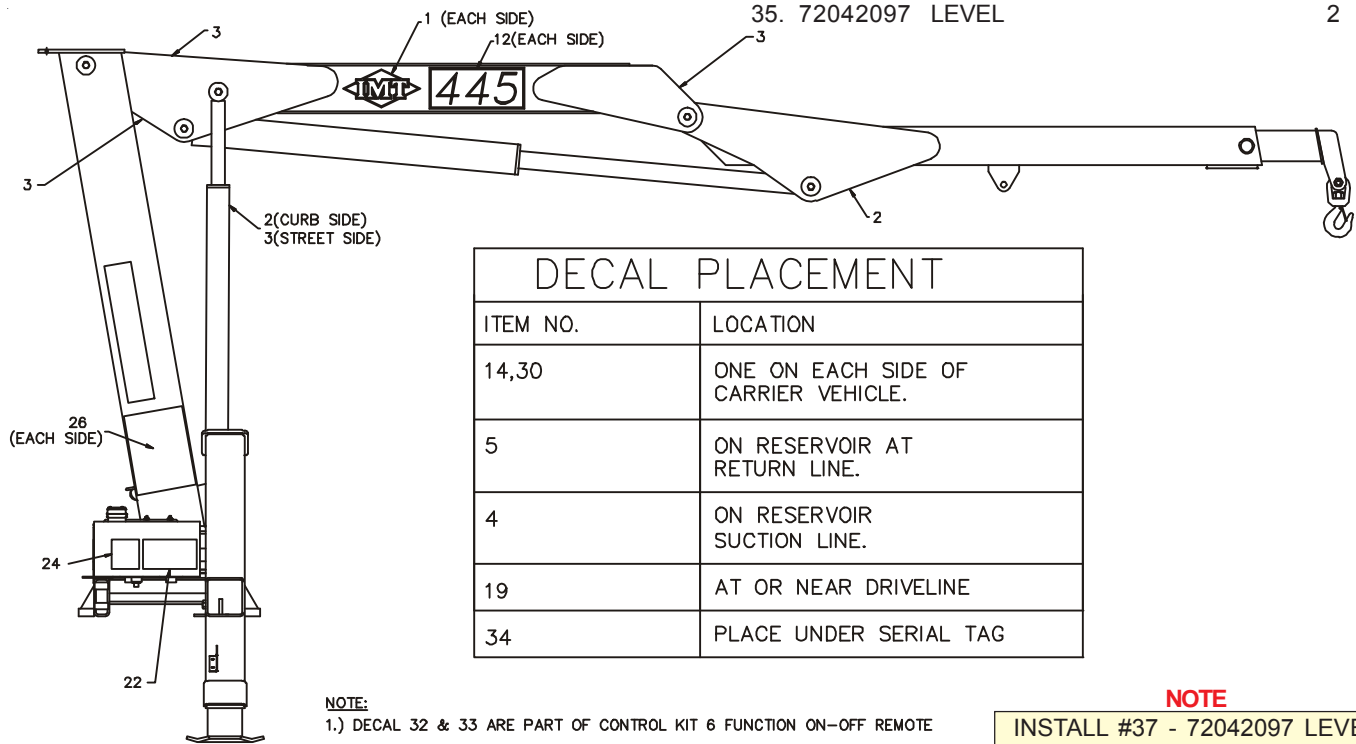
INSTALL #37 - 72042097 LEVEL  
ON THE FRONT AND SIDE OF  
THE CRANE BASE.



**DECAL KIT-445 SERIES CRANE  
(95711800)**

- 1. 70392887 PLACARD - IMT DIAMOND 2
- 2. 70391612 DECAL-GREASE WKLY LH 3
- 3. 70391613 DECAL-GREASE WKLY RH 4
- 4. 70392108 DECAL-SUCTION LINE 1
- 5. 70392109 DECAL-RETURN LINE 1
- 6. 70392213 DECAL-CAUTION WASH/WAX 1
- 7. 70392399 DECAL-LUBRICATE WORM 1
- 8. 70392524 DECAL-ROTATE/GREASE 1
- 9. 70392813 DECAL-DGR ELECTROCUTION 2
- 10. 70392814 DECAL-DNGR OPER TRAINING 2
- 11. 70392815 DECAL-DANGER OPERATION 2
- 12. 71393788 DECAL-445 IDENTIFICATION 2
- 13. 70392864 DECAL-DGR STAB STD CLR 2
- 14. 70392865 DECAL-DGR ELECTROCUTION 4
- 15. 70392866 DECAL-DGR OPER CONDITIONS 2

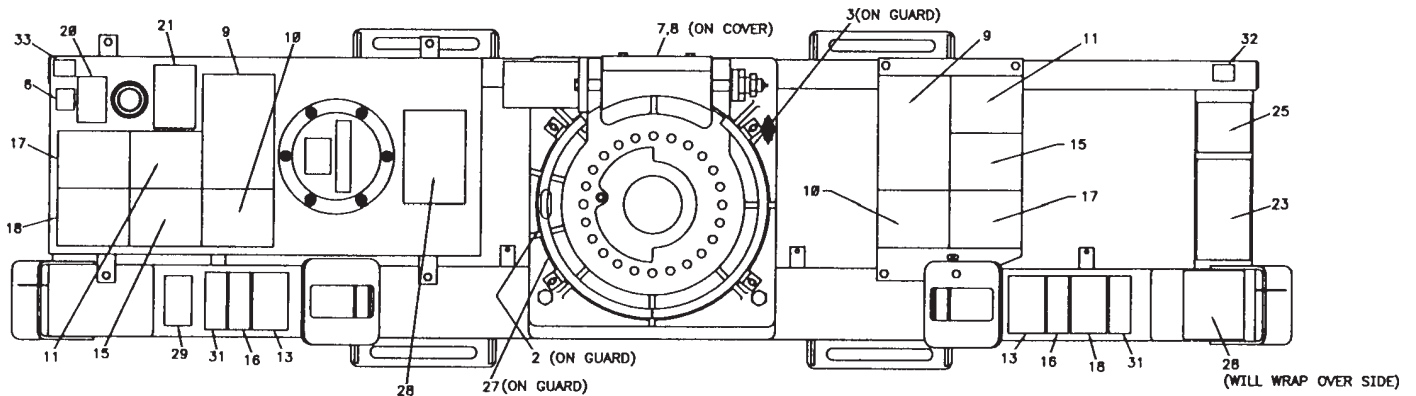
- 17. 70392888 DECAL-DGR OPER RESTRICT 2
- 18. 70392890 DECAL-DANGER STOW/FOLD 2
- 19. 70392891 DECAL-DANGER DRIVELINE 2
- 20. 70392982 DECAL-CONTACT IMT 1
- 21. 71039134 DECAL-CAUTION OIL LEVEL 1
- 22. 71392255 DECAL-CONTROLS SS 1
- 23. 71392256 DECAL-CONTROLS CS 1
- 24. 71392257 DECAL-PWR DN OR SS 1
- 25. 71392258 DECAL-PWR DN OR CS 1
- 26. 71393769 CAPACITY PLACARD-445 2
- 27. 71392365 DECAL-ALIGN CRANE 1
- 28. 70391583 DECAL-WARNING STD CLR 2
- 29. 70394189 DECAL-RECOMMEND HYD OIL 1
- 30. 70392868 DECAL-DANGER CR LOADLINE 4
- 31. 70392863 DECAL-DANGER HOIST PERS 2
- 32. 71392726 DECAL-CTRL STAB (CURB) 1REF
- 33. 71392725 DECAL-CTRL STAB (STREET) 1REF
- 34. 70395323 DECAL-ASME/ANSI B30.22 1
- 35. 72042097 LEVEL 2



DECAL PLACEMENT	
ITEM NO.	LOCATION
14,30	ONE ON EACH SIDE OF CARRIER VEHICLE.
5	ON RESERVOIR AT RETURN LINE.
4	ON RESERVOIR SUCTION LINE.
19	AT OR NEAR DRIVELINE
34	PLACE UNDER SERIAL TAG

**NOTE:**  
1.) DECAL 32 & 33 ARE PART OF CONTROL KIT 6 FUNCTION ON-OFF REMOTE

**NOTE**  
INSTALL #37 - 72042097 LEVEL ON THE FRONT AND SIDE OF THE CRANE BASE.

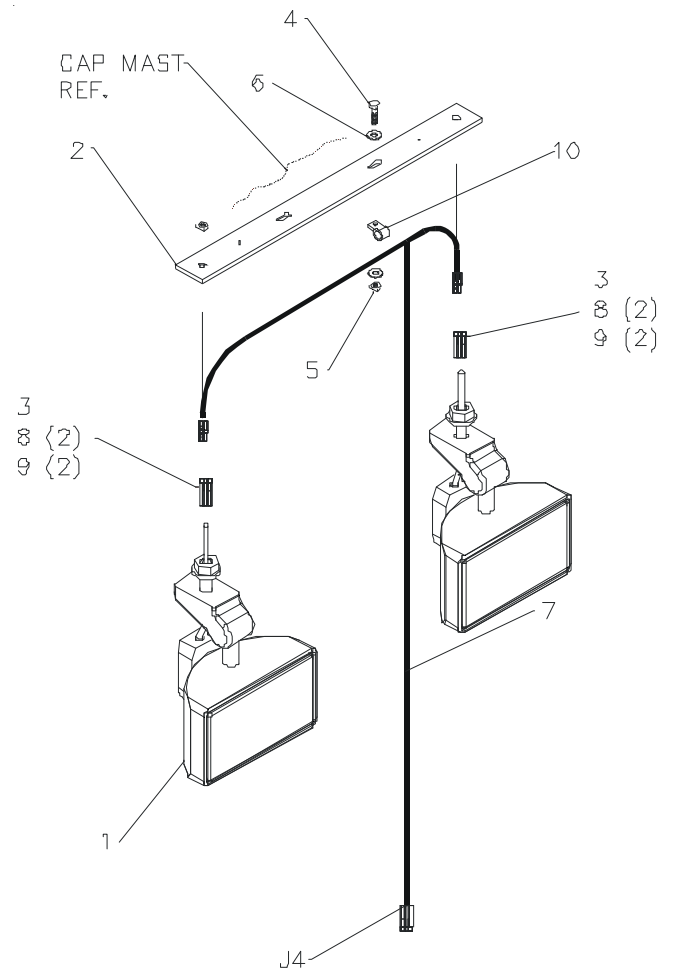
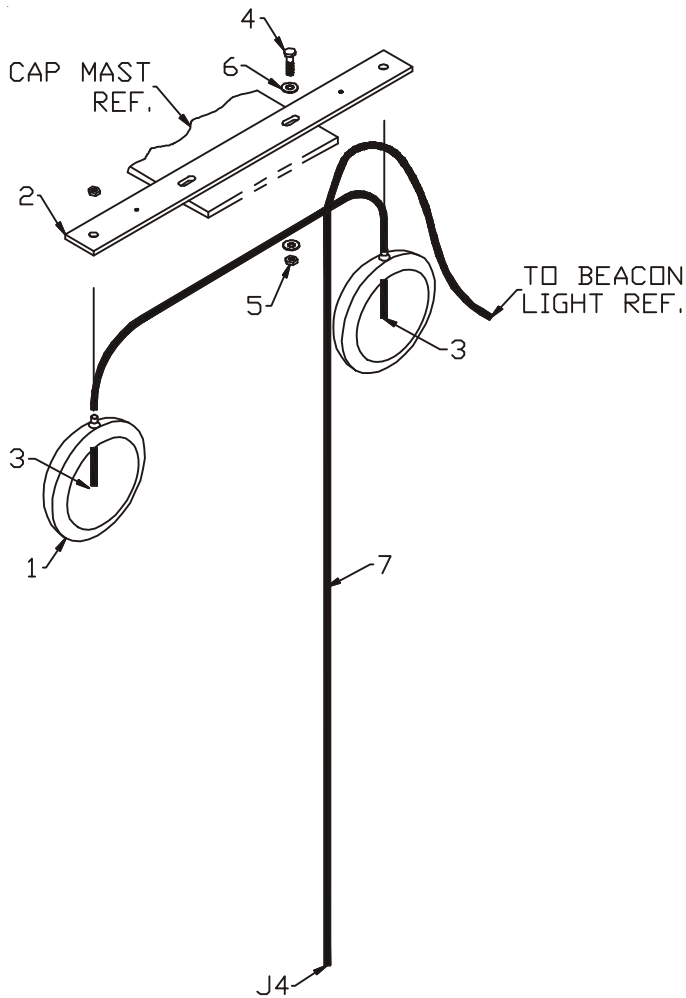


**OPTION-FLOODLIGHT KIT (51708400)**

- 1. 77040281 FLOODLIGHT (PRE: 3-1-01) 2
- 77040193 FLOODLIGHT  
(EFF: 3-1-01 TO 9-1-01) 2
- 77040424 FLOODLIGHT (EFF: 9-1-01) 2
- 2. 60113425 LIGHT BRACKET 1
- 3. 77040000 TERM-RING #10 (PRE: 3-1-01) 2
- 77044573 CONNECTOR 2-WAY (EFF: 3-1-01) 2
- 4. 72060048 CAP SCR 3/8-16X1-1/2 HHGR5 2
- 5. 72062103 NUT 3/8-16 LOCK 2
- 6. 72063003 WASHER 3/8 FLAT 4
- 7. 77044702 HARNESS (PRE: 3-1-01) 1
- 77044968 HARNESS (EFF: 3-1-01) 1
- 8. 77044552 TERMINAL 18-20GA (EFF: 3-1-01) 4
- 9. 70394069 CABLE SEAL (EFF: 3-1-01) 4
- 10. 72661312 CLAMP-.50 LOOP CUSHION 2

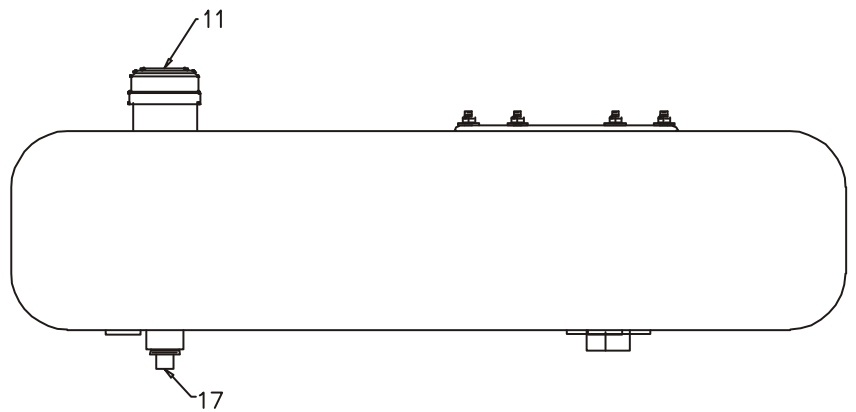
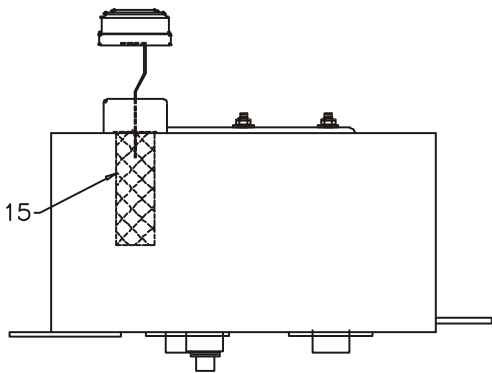
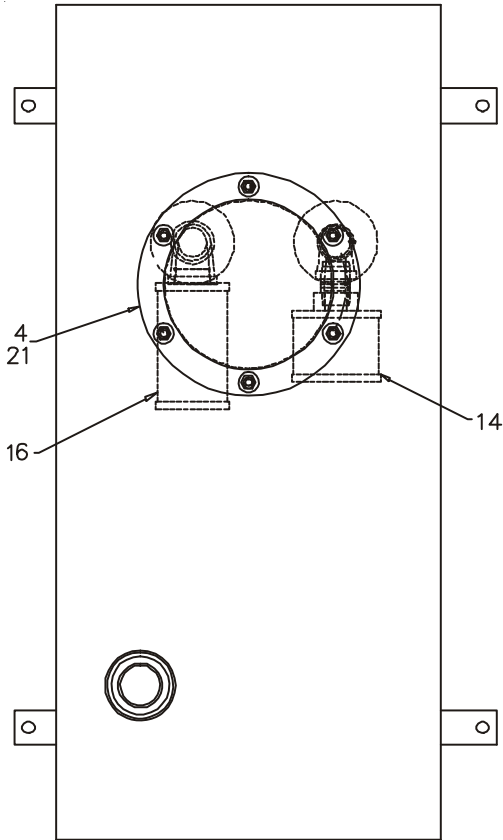
PRE: 3-1-01

EFF: 9-1-01



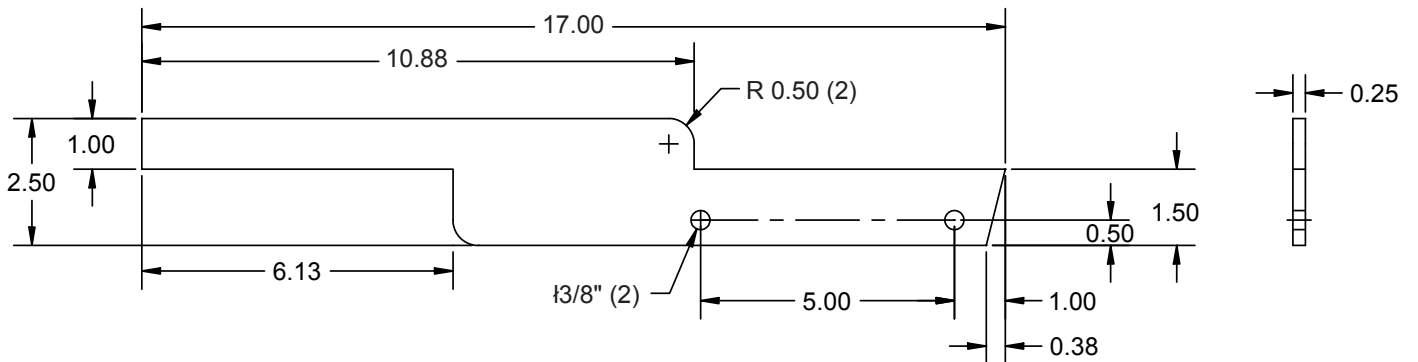
**RESERVOIR ASM (70732577)**

ITEM	PART NO.	DESCRIPTION	QTY
4.	70144163	COVER	1
11.	70732788	DIPSTICK ASM	1
14.	70034410	DIFFUSER	1
15.	70732792	SCREEN	1
16.	70144325	STRAINER	1
17.	73052001	PLUG	1
21.	76393565	O-RING	1



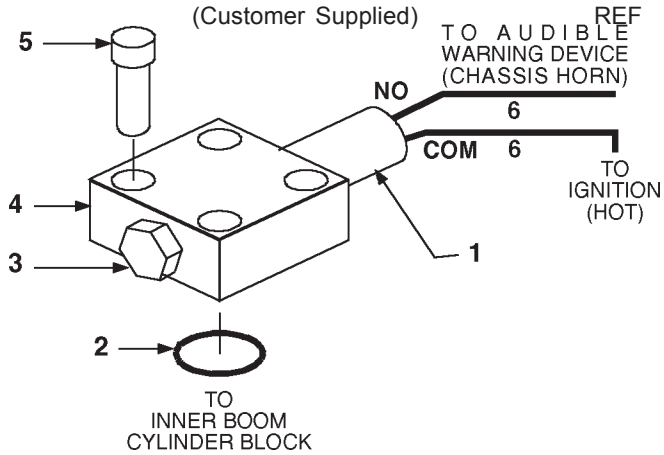
60124457.01.20020606

**MOUNT - COOLER (60124457)**



**CAPACITY ALERT KIT-AUDIBLE-3000PSI  
(31711302)**

- 1. 77041258 PRESS. SWITCH-3000PSI 1  
(WAS 77041283)
- 2. 7Q072015 O-RING 1
- 3. 72532140 PLUG 9/16-18 STR THD HH 1
- 4. 60025221 MANIFOLD 1
- 5. 72060731 CAP SCR 5/16-18X3/4 SH 4
- 6. 89044188 WIRE-14GA 4  
(Customer Supplied)



**NOTE**

This capacity alert system consists of a pressure switch mounted on the lift side of the inner boom lift cylinder which senses hydraulic pressure. It is to be connected electrically (by the customer) to an audible warning device such as the truck chassis horn, using 14-gauge wire.

### HYD SHUTDOWN KIT (31713025)

- |     |          |                            |   |
|-----|----------|----------------------------|---|
| 1.  | 77041459 | LIMIT SWITCH               | 2 |
| 2.  | 52713106 | HANDLE WELDMENT            | 2 |
| 3.  | 72060053 | CAP SCR 3/8-16X2-3/4 HHGR5 | 4 |
| 4.  | 72062103 | NUT 3/8-16 LOCK            | 4 |
| 5.  | 73054980 | VALVE-SOLENOID             | 1 |
| 6.  | 72060008 | CAP SCR 1/4-20X2 HHGR5     | 2 |
| 7.  | 72063001 | WASHER 1/4 WRT             | 6 |
| 8.  | 72063049 | NUT 1/4-20 LOCK            | 2 |
| 9.  | 72532358 | ADAPTER #8MSTR #8MJIC      | 1 |
| 10. | 72053763 | ELBOW #8MSTR #8MJIC 90°    | 1 |
| 11. | 51710586 | HOSE ASM 1/2X30 FF         | 2 |
| 12. | 72532658 | ELBOW #8MJIC #8FJIC SWVL   | 1 |
| 13. | 72532657 | TEE 3/4JIC SWVL NUT RUN    | 1 |
| 14. | 77044686 | HARNESS                    | 1 |
| 15. | 77044705 | STRAIN RELIEF              | 2 |
| 16. | 77040000 | TERMINAL-#10 RING 16-14GA  | 4 |
| 17. | 72060002 | CAP SCR 1/4-20X3/4 HHGR5   | 2 |
| 18. | 72062104 | NUT 1/4-20 LOCK            | 2 |
| 19. | 77040020 | ALARM-BACKUP HORN          | 1 |

