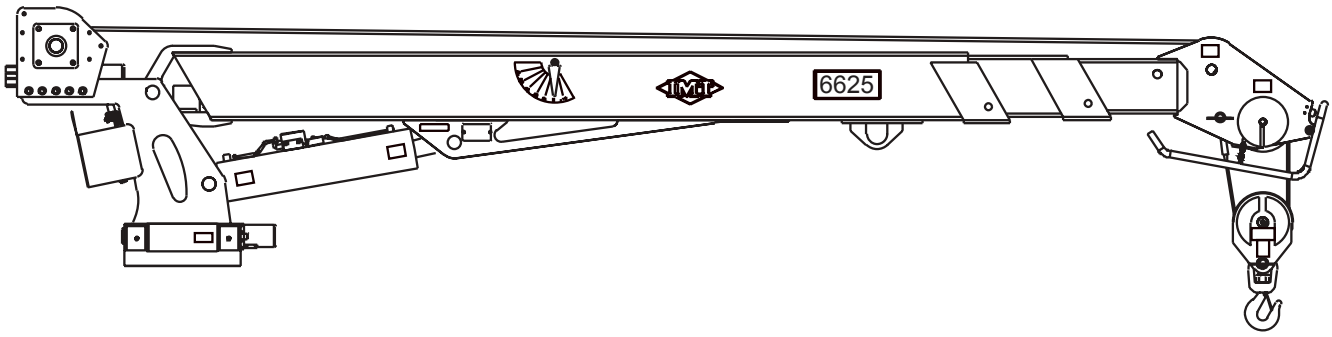
5525/6025/6625:99903289: 20040302

Model 5525 Crane
Model 6025 Crane
Model 6625 Crane

Volume 2 - PARTS AND SPECIFICATIONS



IOWA MOLD TOOLING CO., INC.
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TEL: 641-923-3711

MANUAL PART NUMBER 99903289
Manual Effective Through July, 2004

REVISIONS LIST

DATE	LOCATION	DESCRIPTION OF CHANGE
20011126	3-4,9,10,19,20	ECN #8828 - CHANGE LOWER BOOM WELDMENT TO ADD MACH. BUSHINGS
20011210	2-4	REMOVED WINCH BEARING GREASE NOTE
	2-7	EDITED INSTALLATION ITEM #2 - BOLT SPECS.
	3-8	ADDED REPAIR NOTE
	3-9	ADDED ITEM 8 TO TORQUE NOTES
20011220	3-29	ADDED 99903340 CHASSIS WIRING HARNESS
20020208	1-1-3, ADDED 5	ADDED 5525 SPECIFICATIONS TO MANUAL
	2-5,6	ADDED 5525 SPARE PARTS
	3-4,6,12,15,29	NEW WINCH, WINCH KIT, CYLINDER, LOWER BOOM ASM. AND DECAL DRAWING
20020219	3-9	BASE ASM 41716514 - GEAR ROTATOR WAS 71056574, NOW 71056577
20020225	3-23-26, 29-32, 35-38	ECN 8833 - ADDED RADIO REMOTE CONTROL & HYDRAULIC KITS FOR ALL MODELS AND STANDARD CONTROL & HYD KIT FOR 5525
20020416	3-1, 43-50	ECN 8909 - ADDED 5525 RCLC DECAL TO KIT, RENUMBERED PAGES
20020422	2-6, 3-23	CORRECTED SPARE PARTS LIST, ECN 8910 - NEW HOSE LENGTHS IN HYD KIT
20020508	3-23,42,44	ECN 8915 - CHANGES TO HOSE & DECAL KIT
	3-31-38	ECN 8913 - CHANGES WIRING HARNESS
	3-50	ECN 8914 - ADDED DOM 1 BOOM SUPPORT
20020821	3-12-14, 19-20, 31, 33,35,37,41	ECN 8966 - VARIOUS CHANGES
	3-50	ADDED BACKUP RMT HANDSET, 51716912, TO MANUAL
20021114	3-4,5	ECN9059 - ADDED LOCKING COLLAR TO WINCH KIT
		ECN 9050 (ref) - WIRE ROPE WINDING CHANGE
	3-35,37	ECN 9008 - CONTROL KITS (90717398, 90717156)
20030325	3-39	CORRECTED ERROR ON O-RING PART NO. - ITEM #6 IS 7Q072013
	3-18	ECN 9142 - NEW PRESSURE SWITCH PARTS ON C-BAL VALVE 73540094
20030410	3-31-34, 35,37,40-41	CONTROL KITS - CORRECTED WIRE HARNESSES AND ADDED TETHERED REMOTE CABLES; CORRECTED CABLES FOR RADIO REMOTES; ADDED VALVEBANK FOR RADIO REMOTE
20030611	3-34	CORRECTED NOTE - “J” IS WEATHERPACK SHROUD, NOT TOWER
20030707	2-11	ECN 9195 - CHANGES FOR 2002 FORD SUPERDUTY WIRING
20030908	3-23-29	ECN 9207 - UPDATE TO SWIVELS ON HYDRAULIC KITS
	3-31-43	ECN 9211 - CONTROL KIT & HARNESS CHANGES. ADDED HARNESS DWGS.
	3-44	ADDED NUT PART NUMBER TO VALVEBANK (TS)
	3-55	ADDED NOTE TO 51716912
20040302	1-8-10	ADDED REDUCED CAPACITY INSTRUCTIONS

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 B30.5
MOBILE and LOCOMOTIVE 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.

NOTES

SECTION 1: SPECIFICATIONS

MODELS 5525, 6025 AND 6625 CRANE SPECIFICATIONS

GENERAL SPECIFICATIONS	5525	6025	6625
CRANE RATING	55,000 ft-lb (7.6 ton-meters)	60,000 ft-lb (8.3 ton-meters)	66,000 ft-lb (9.1 ton-meters)
HORIZONTAL REACH from centerline of rotation	25'-4" (7.7 m)	25'-4" (7.7 m)	25'-4" (7.7 m)
HYDRAULIC EXTENSIONS (2)	78" & 78" (198.1 cm & 198.1 cm)	78" & 78" (198.1 cm & 198.1 cm)	78" & 78" (198.1 cm & 198.1 cm)
LIFTING HEIGHT from base of crane	26'-7" (8.1 m)	26'-7" (8.1 m)	26'-7" (8.1 m)
CRANE WEIGHT	2,350 lb (1,065.9 kg)	2,350 lb (1,065.9 kg)	2,350 lb (1,065.9 kg)
OUTRIGGER SPAN - required option			
crane side from centerline of chassis	90'' (228.6 cm)	90'' (228.6 cm)	90'' (228.6 cm)
opposite crane side from centerline of chassis	48'' (121.9 cm)	48'' (121.9 cm)	48'' (121.9 cm)
CRANE STORAGE HEIGHT	40" (101.6 cm)	40" (101.6 cm)	40" (101.6 cm)
MOUNTING SPACE REQUIRED crane base	20" x 21" (50.8 cm x 53.3 cm)	20" x 21" (50.8 cm x 53.3 cm)	20" x 21" (50.8 cm x 53.3 cm)
OPTIMUM PUMP CAPACITY	10 U.S. gpm (37.9 L/min)	10 U.S. gpm (37.9 L/min)	10 U.S. gpm (37.9 L/min)
SYSTEM OPERATING PRESSURE	3,000 psi (206.8 bar)	3,000 psi (206.8 bar)	3,000 psi (206.8 bar)
CENTER OF GRAVITY			
horizontal from centerline of rotation	41" (104.1 cm)	41" (104.1 cm)	41" (104.1 cm)
vertical from bottom of crane base	22" (55.9 cm)	22" (55.9 cm)	22" (55.9 cm)
TIE-DOWN BOLT PATTERN 8 bolts	14-3/4" x 14-3/4" (37.5 cm x 37.5 cm)	14-3/4" x 14-3/4" (37.5 cm x 37.5 cm)	14-3/4" x 14-3/4" (37.5 cm x 37.5 cm)
ROTATIONAL TORQUE	9,000 ft-lb (1.2 tm)	9,000 ft-lb (1.2 tm)	9,000 ft-lb (1.2 tm)

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PERFORMANCE CHARACTERISTICS

ROTATION:	400° (6.98 rad)	33 seconds
LOWER BOOM ELEVATION:	-5° to +75° (-0.09 rad to +1.31 rad)	11 seconds (6025 Model) 12 seconds (6625 Model)
EXTENSION CYLINDERS (2):	78" & 78" (198.1 cm & 198.1 cm)	27 seconds total
PLANETARY GEAR LINE SPEED	60 feet per minute (6025 & 6625 Models)	
WORM GEAR LINE SPEED	(5525 Model)	
First layer	25 ft/min	
Second layer	27 ft/min	
Third layer	30 ft/min	

POWER SOURCE

Hydraulic power is provided by an integral mounted hydraulic pump and pto. Other standard power sources may be utilized. Minimum power required is 23.5 horsepower based on 10 gpm at 3,000 psi (38 L/min at 207 bar).

CYLINDER HOLDING VALVES

The holding sides of all cylinders are equipped with integral mounted counterbalance valves or load-holding check valves to prevent sudden cylinder collapse in case of hose or other hydraulic component failure.

ROTATION SYSTEM

Rotation of the crane is accomplished through a turntable gear bearing powered by a high-torque hydraulic motor through a self-locking worm. Standard rotation is 400°.

HYDRAULIC SYSTEM

The hydraulic system is an open-centered, full pressure system with pump requiring 10 US gpm (38 L/min) optimum oil flow at 3000 psi (207 bar). It consists of a four-section, electric remote, stack-type control valve with a 40 ft (12.2 m) control pendant. The system includes a hydraulic oil reservoir, suction line filter, return line filter and control valve.

EXCESSIVE LOAD LIMIT SYSTEM (ELLS)

The ELLS limits overloading of the crane. Dual pressure switches mounted on the lift cylinder sense various overload conditions. When in an overload situation, the winch up, extension out, and boom down functions are stopped. To relieve the situation, raise the boom, retract the extensions, or lower the winch.

WINCH - 6025 & 6625 MODELS

The 5,500 lb capacity planetary winch is powered by a high-torque hydraulic motor. The lifting capacity of the winch is 5,500 lb (2,495 kg) one-part line. Maximum two-part line winch capacity is 10,500 lb (4.762 kg). The winch is equipped with 100 ft (30.5 m) of 7/16" (1.1 cm) 6x25 FW PRF RRL IWRC XIPS wire rope. A compact, anti-two block device is included to prevent the lower block or hook assembly from coming in contact with the boom sheave assembly. The winch meets ANSI B30.5 standards.

WINCH - 5525 MODEL

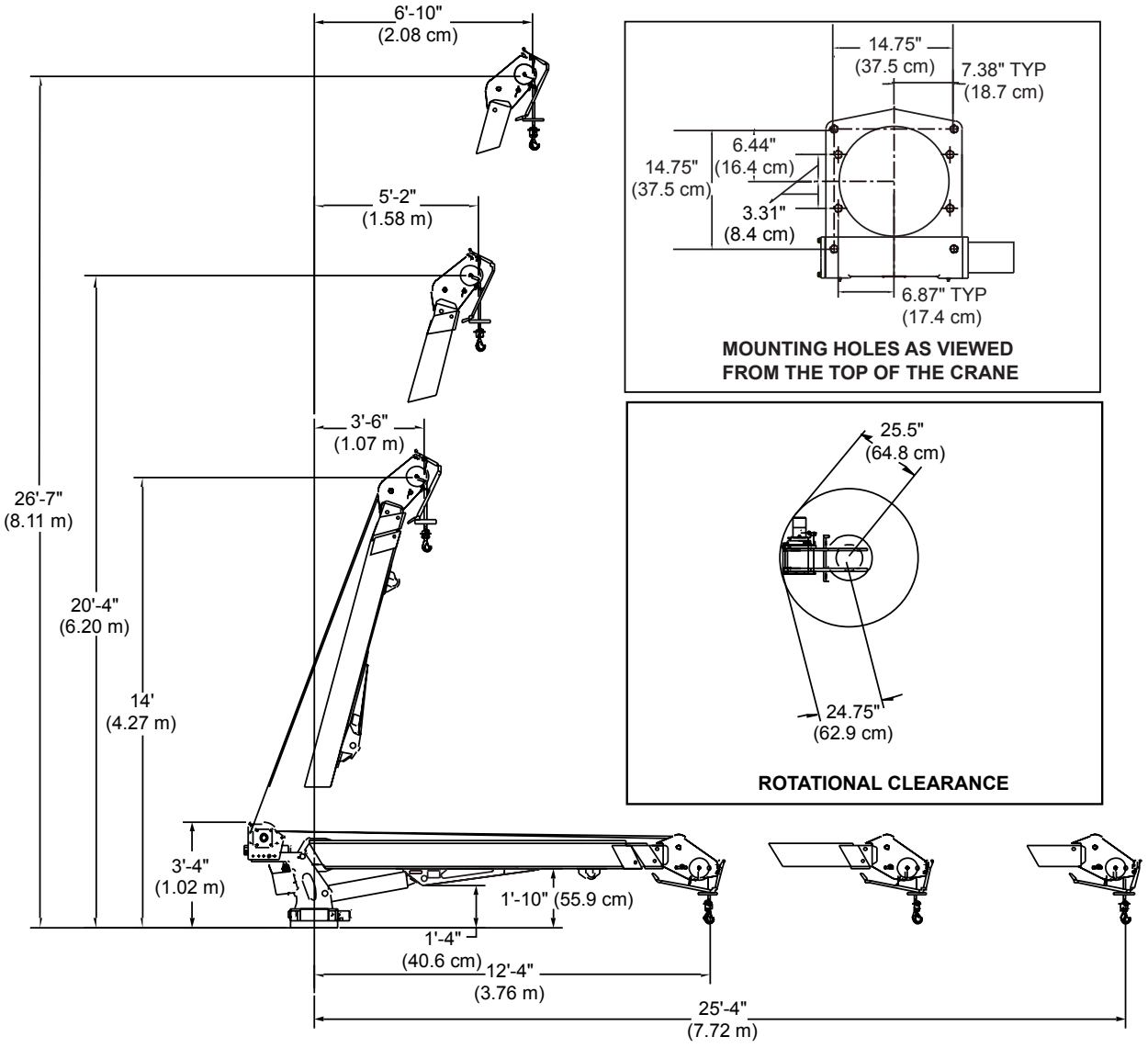
The winch is powered using a hydraulic motor driving a 27:1 worm gear arrangement with a mechanical brake. Maximum single line lifting capacity of the winch, achieved on the second layer of wire rope, is 5500 lb (2495 kg). Maximum two-part line winch capacity is 10,400 lb (4717 kg). The winch is equipped with 100 ft (30.5 m) of 7/16" (1.1 cm) 6 x 25 FW PRF RRL IWRC XIPS wire rope. Nylon sheaves are located at the tip of the extension boom. An anti-two block device is included to prevent the lower block or hook assembly from coming in contact with the boom sheave assembly. The winch meets ANSI B30.5 standards.

MINIMUM CHASSIS SPECIFICATIONS

Chassis Style	Conventional Cab
Front Axle Rating (GAWR)	9,000 lb (4,082.3 kg)
Rear Axle Rating (GAWR)	17,000 lb (7,711.0 kg)
Wheelbase	154" (391.2 cm)
Cab-to-Axle	84" (213.4 cm)
Resistance to Bending Moment (RBM)	800,000 in-lb (9,217 kg-m)
Frame Section Modulus	16 cubic inches (262.2 cc)
Frame Yield Strength	50,000 psi (3,447.4 bar)
Gross Vehicle Rating	26,000 lbs (11793 kg)
Transmission	5-speed

In addition to these specifications, heavy duty electrical and cooling systems are required. It is recommended that the vehicle be equipped with an engine tachometer, auxiliary brake lock, and power steering.

IMT reserves the right to change specifications or design without notice.



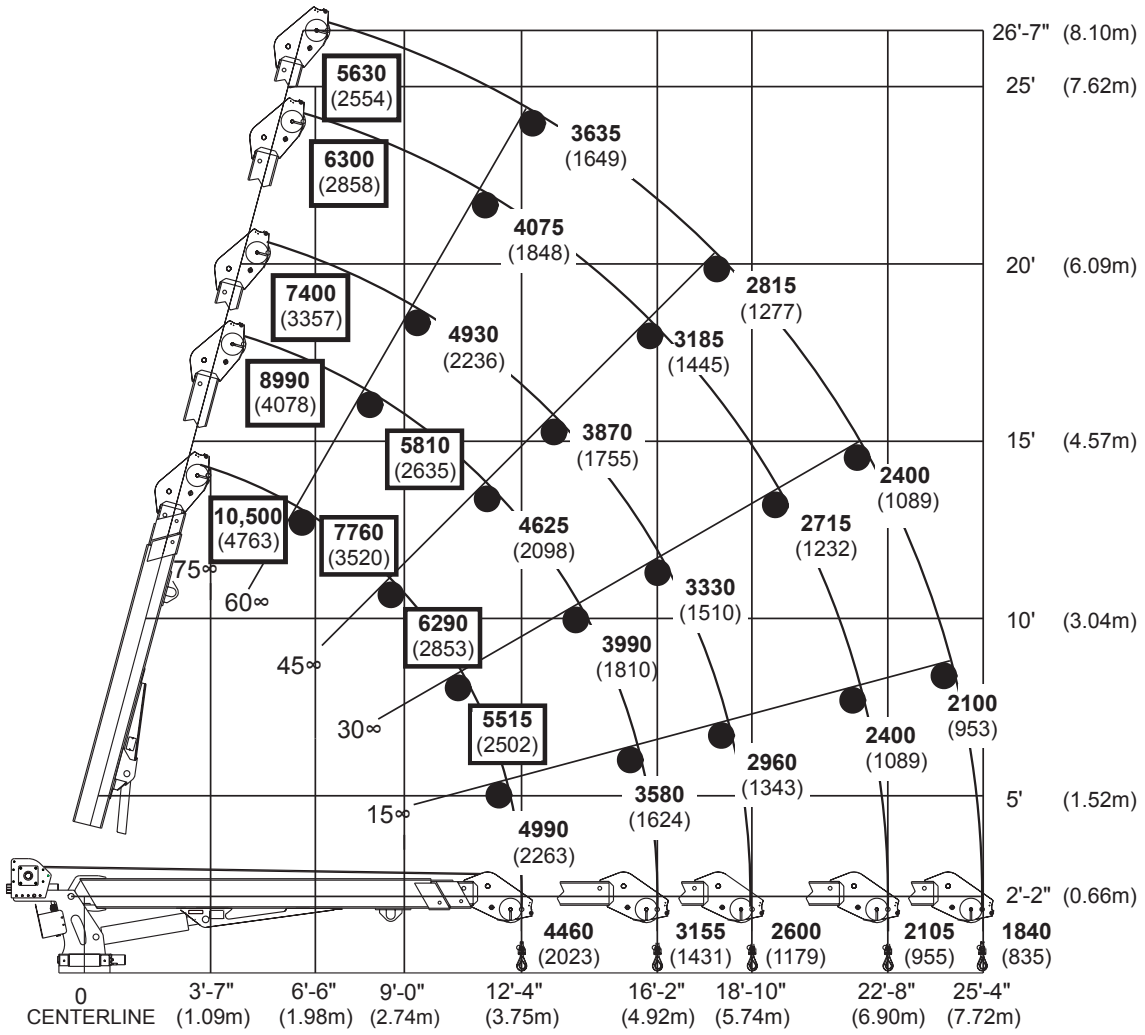
GEOMETRIC CONFIGURATION

5525 HYDRAULIC CAPACITY CHART

See reduced capacity placard for additional information if applicable.

XXXX lb
XXXX kg

Values in the box denote the use of 2 part line.
Maximum 1 part line is 5500 lb (2495 kg).



REACH IN FEET (METERS)
CAPACITY IN POUNDS (KILOGRAMS)

Weight of load handling devices are part of the load lifted and must be deducted from the capacity.

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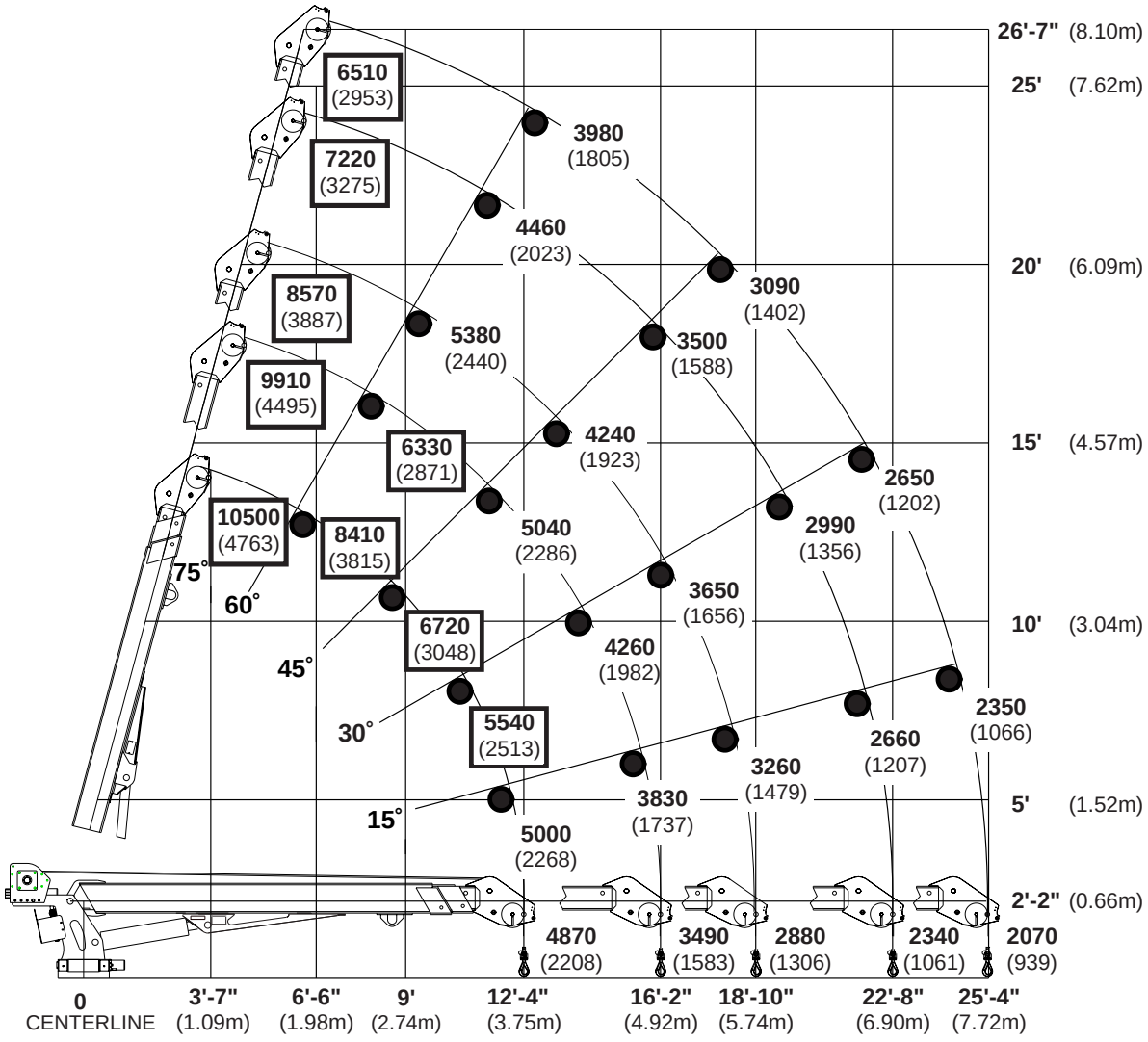
6025 HYDRAULIC CAPACITY CHART

See reduced capacity placard for additional information if applicable.

XXXX lb
XXXX kg

Values in the box denote the use of 2 part line. Maximum 1 part line is 5500 lb (2494 kg).



REACH IN FEET / METERS
CAPACITY IN POUNDS / KILOGRAMS

Weight of load handling devices are part of the load lifted and must be deducted from the capacity.

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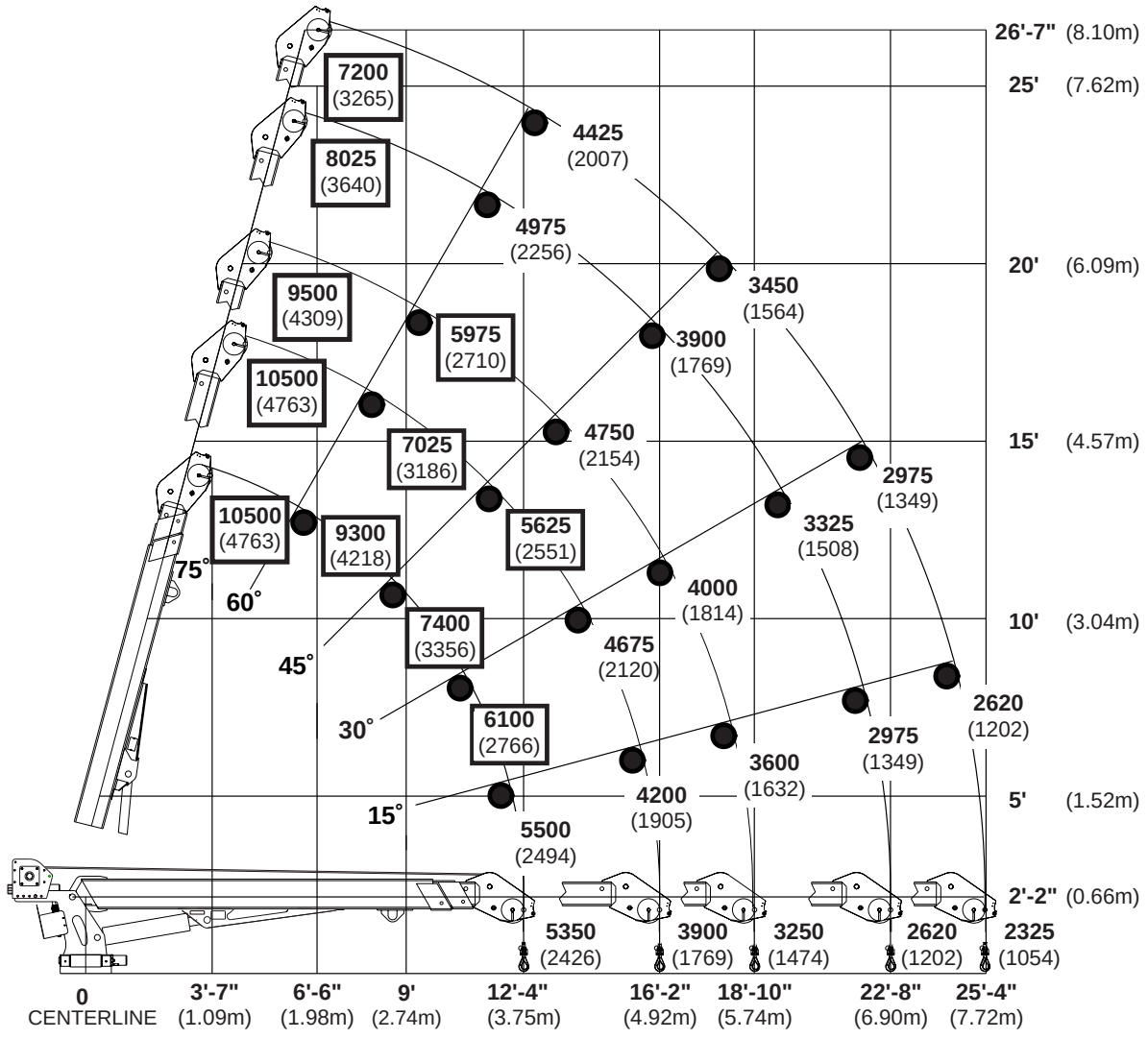
6625 HYDRAULIC CAPACITY CHART

See reduced capacity placard for additional information if applicable.

XXXX lb
XXXX kg

Values in the box denote the use of 2 part line.
Maximum 1 part line is 5500 lb (2494 kg).



REACH IN FEET / METERS
CAPACITY IN POUNDS / KILOGRAMS

Weight of load handling devices are part of the load lifted and must be deducted from the capacity.

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REDUCED CAPACITY LIFT CHARTS

The Reduced Capacity Lift Chart System was conceived to inform the end user of the allowable loads which can be lifted off the sides of a mechanics truck. IMT devised a color-coded chart defining the sectors where less than full hydraulic crane capacity can be lifted. The color-coded chart (Reduced Capacity Lift Chart or RCLC) corresponds to a visual indicator on the base of the crane. The RCLC displays the percentage of the full hydraulic crane capacity to be lifted in each sector. The visual indicator on the crane base gives the operator a reference of the sectors. With this information the end user can more safely use the mechanics truck.

Stability confirmation yields data to produce a Reduced Capacity Lift Chart if necessary. Some units may not require derating over the sides, but a majority will.

If the IMT crane is installed by an IMT distributor, the distributor is responsible for stability confirmation. IMT supplies a generic RCLC decal for dealer installation.

CAUTION:

CHASSIS WEIGHT, SUSPENSION, AND UNIT SET UP, INCLUDING NUMBER AND TYPE OF OUTRIGGERS, LIFTING SURFACE, ETC., HAVE A SIGNIFICANT IMPACT ON STABILITY.

The basic illustration graph shows full crane capacity off the rear of the truck and reduced capacity when lifting over the sides. Lifting over the front of the truck is not permitted.

For an IMT 5525 crane with a standard IMT Dominator II body, the derated percentage is 80% in the yellow quandrants. For an IMT 6025 crane with a standard Dominator II body, the derated percentage is 70% in the yellow quadrants.

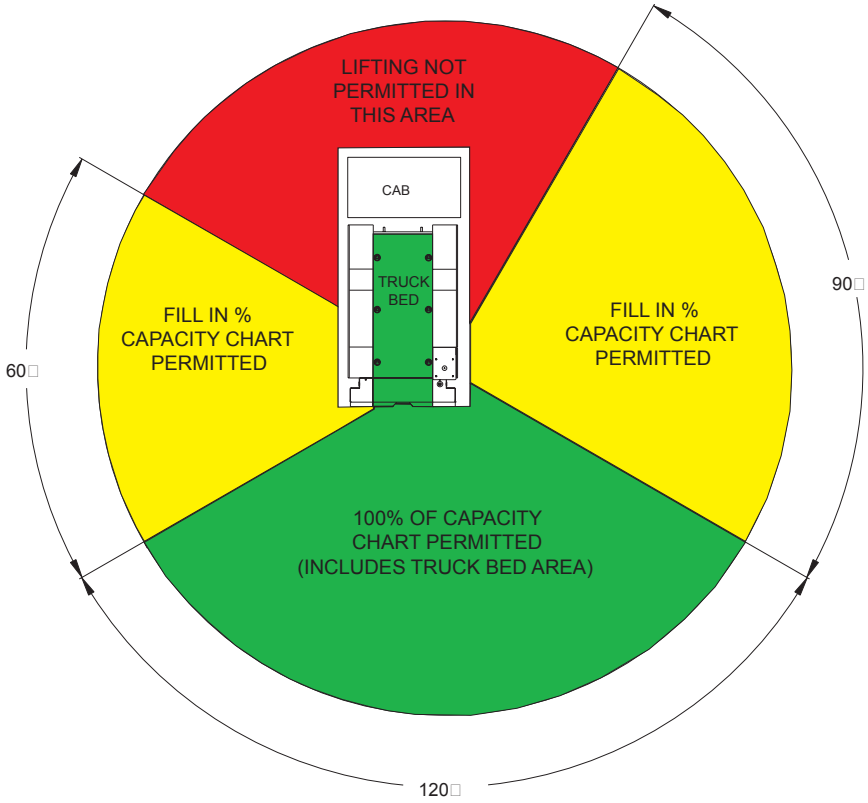


ILLUSTRATION - REDUCED CAPACITY COLOR-CODED CHART

STABILITY CONFIRMATION PROCESS

To confirm stability,

1) Set up unit on a hard, flat surface which meets SAE J765 requirements. Use all recommended equipment such as outriggers, etc.

2) Position the crane at full, horizontal reach. For a 5525 crane, use a 2,172 ± 10 lb test weight suspended over the rear of the truck. For a 6025 crane, use a 2443 ± 10 lb test weight suspended over the rear of the truck. Rotate the test weight up to the point where the pointer on the crane base meets the yellow bands on both sides of the unit. If the unit keeps at least one rear tire firmly touching the ground, the test can be continued for the capacity on the sides. If the criterion is not met for the rear of the unit, a custom RCLC is required. Please contact IMT for assistance in this situation.

NOTE: The tire is touching the ground when at least 90% or more of the tread surface is contacting the ground.

Once stability is verified over the rear section of the truck, test the stability on the sides of the truck. Again, using the test weight in a fully extended, horizontal position, rotate the crane around the sides of the truck. If the test weight passes the sides with at least one rear tire firmly touching the ground, a standard Hydraulic Capacity Chart may be used rather than a Reduced Capacity Lift Chart.

CAUTION

THE UNIT MAY TILT SEVERELY!

If the unit does not pass the side load test, you must begin retracting the booms to find the usable percentage of the crane capacity.

For a 5525 crane, retract the booms 42” for a capacity derating to 80%. For a 6025 crane, retract the booms 63” for a capacity derating to 70%. Measure from a fixed point on the boom tip horizontally to a fixed point on the main boom to verify how far the booms have been retracted. See table.

Once the booms are retracted, re-check stability by again rotating the crane around the sides of the truck, making sure the weight passes by the yellow region marked on the crane base with at least one rear tire firmly touching the ground.

Test both sides of the truck. If the crane cannot rotate through the yellow zone with at least one rear tire firmly touching the ground, you must work with IMT for a custom Reduced Capacity Lift Chart. In this situation, please contact IMT for assistance.

CAUTION

DO NOT LIFT IN THE “NO LIFTING ZONE.”

Follow safe crane practices throughout the testing. Keep the load as close to the ground as possible.

3) The minimum 90° “No Lifting Zone” over the cab must be on ALL Reduced Capacity Load Charts. The zone may need to be increased if front outriggers are not used. In addition, the stability may be greater on one side of the unit than the other, but IMT has chosen to keep both ratings the same. Thus, the lowest stability percentage is reported for each side.

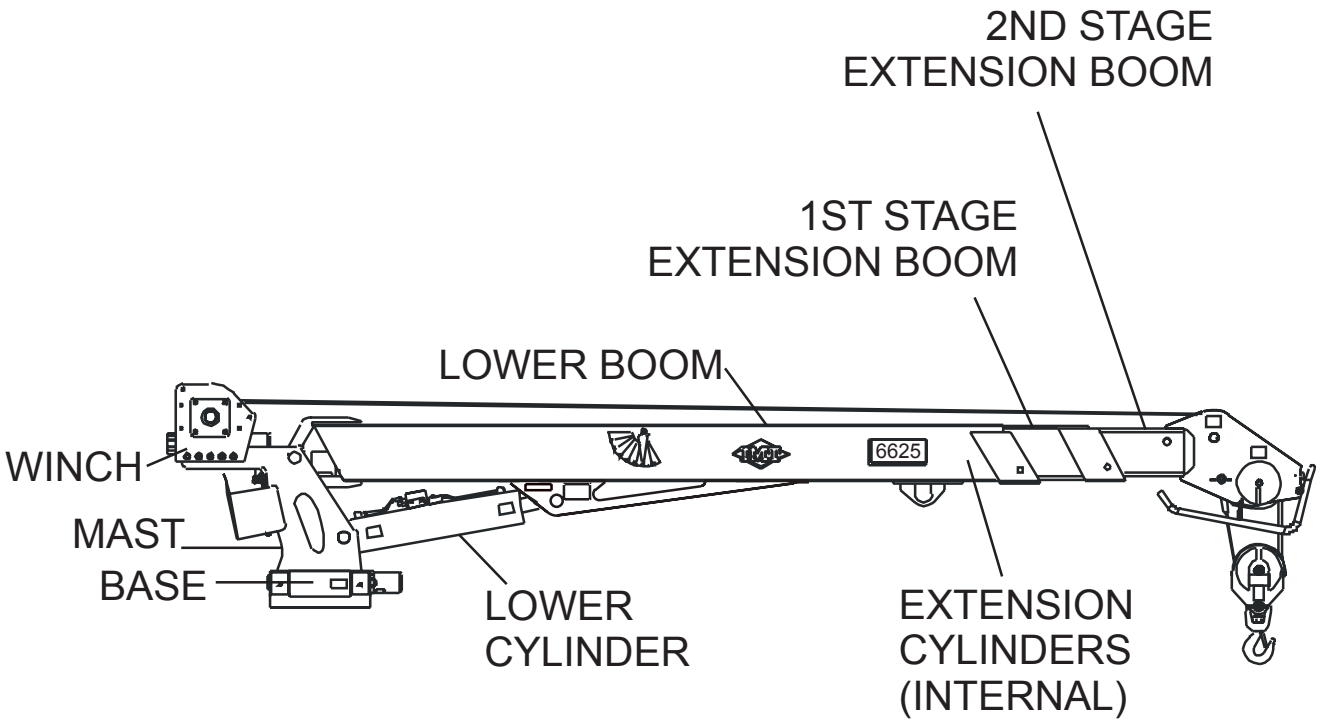
Install the RCLC decal on the inside of the crane compartment door.

Keep a record of the reduced stability test to verify the decals in case replacement is necessary.

CRANE MODEL	TEST WEIGHT	PERCENT RATED LOAD (%)	DISTANCE BOOMS ARE RETRACTED FROM FULL EXTENSION (INCHES)
5525	2,172 ± 10 lb	80%	42”
6025	2,443 ± 10 lb	70%	63”

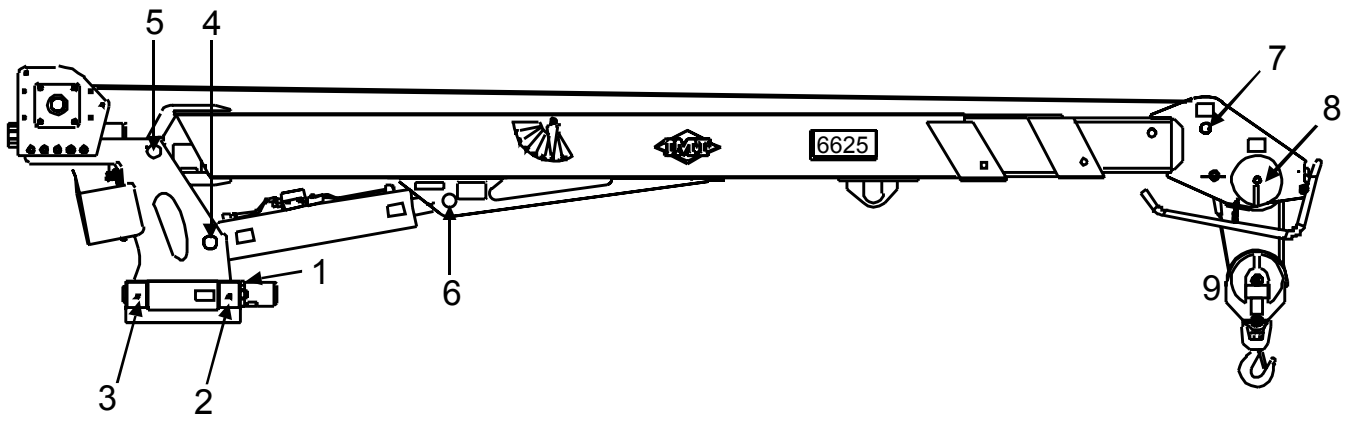
SECTION 2: CRANE REFERENCE

NOTES



MAJOR CRANE ASSEMBLIES

GREASE ZERK LOCATIONS & LUBRICANT REQUIREMENTS



ITEM	LOCATION DESCRIPTION	LUBRICANT	FREQUENCY
1. 4. 5. 6. 7. 8. 9.	TURNTABLE/BEARING GREASE EXTENSION *ROTATE CRANE WHILE GREASING LOWER CYLINDER MAST/LOWER BOOM LOWER CYLINDER ROD UPPER SHEAVE PIN LOWER SHEAVE PIN SNATCH BLOCK PIN	SHELL ALVANIA 2EP OR SHELL RETINAX “A”	WEEKLY
2. 3.	WORM GEAR (FWD)* WORM GEAR (REAR)* * Apply 3 “pumps” then rotate crane fully	EXTREME PRESSURE EP2 GREASE	EVERY 3 MONTHS

NOTE: All application points except 2 & 3 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

MODEL 5525/ 6025 / 6625 TELESCOPING CRANE

FOR MANUAL: 99903289

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
Base Assembly	**41716514**			
(ALL)		73051919	Hydraulic Motor	1
Mast Assembly	**41716515**			
(ALL)		72601629	Cap Screw .75-10 x 4.00	8
		72060209	Cap Screw .75-10 x 2.75	14
Lower Boom Assembly		70146462	5525-Lower Cylinder	1
(ALL)		70146427	6025 - Lower Cylinder	1
		70146304	6625 - Lower Cylinder	1
		73540094	Block C-bal w/dbl Pressure Switch	1
		73540052	Valve- Counter Balance	1
		77041625	Pressure Switch 3100 psi	1
		77041626	Pressure Switch 3500 psi	1
		70145753	Port Tube-Base	1
		70145927	Port Tube-Rod	1
		60122982	Wear Pad	1
		60122985	Wear Pad-Mushroom	2
		70055203	Bushing-Garlock	2
		77041251	Relay	1
5525 Lower Cylinder	**70146462**	075TC0064	Rod Weldment	1
		060KT0007	Head	1
		050KE0008	Piston	1
		092KT0010	Seal Kit	1
		70055225	Bushing-Garlock	4
6025 Lower Cylinder	**70146427**			
		075TC0058	Rod Weldment	1
		060LT0007	Head	1
		050LE0013	Piston	1
		092LT0059	Seal Kit	1
		70055225	Bushing-Garlock	4
6625 Lower Cylinder	**70146304**			
		075TC0058	Rod Weldment	1
		060LT0008	Head	1
		050LE0011	Piston	1
		092LT0056	Seal Kit	1
		70055225	Bushing-Garlock	4
Extension Boom Assembly	**41716517**			
(ALL)		51716461	Extension Cylinder Assembly	
		60122981	Wear Pad	1
		60122984	Wear Pad-Cylinder	1
		60122980	Wear Pad	1
		60122983	Wear Pad	1
		60122985	Wear Pad-Mushroom	2
		60030255	Sheave	2

ASSEMBLY DESIGNATION	ITEM NO.	PART NO.	DESCRIPTION	QTY
Extension Cylinder Assembly	**51716461**			
(ALL)		001EE0006	Port Tube	2
		075RD0015	Rod Weldment-1st Stage	1
		075RC0059	Rod Weldment-2nd Stage	1
		060FR0007	Head-1st Stage	1
		060FR0006	Head-2nd Stage	1
		050FE0016	Piston-1st Stage	1
		050FE0015	Piston-2nd Stage	1
		092FR0012	Seal Kit-1st Stage	1
		092FR0013	Seal Kit-2nd Stage	1
		114BB0024	Valve-Counterbalance	1
Winch, Cable & Hook Kit				
(ALL)		70580143	Cable Assembly	1
		51713168	Cord Reel	1
		77041459	Limit Switch	1
		60030313	Sheave-Snatch Block	1
		71073035	Hook	1
		70732882	Hook	1
		70074004	Safety Latch	1
		60122358	Downhaul Weight	1
		72661367	Pin	1
		73733171	Pin	1
5525 Worm Gear Winch	**70570198**			
		73051513	Motor	1
		70055117	Pillow Block	1
		76393419	Oil Seal	1
		70143948	Bushing	1
		70143949	Bushing	1
		76393420	O-ring	1
		76394300	Gasket	1
		76393171	Gasket	1
6025 & 6625 Planetary Winch	**70146319**			
		70146399	Motor	1
		70146400	Seal Kit	1
		70146402	Valve-Counter Balance	1
6025 & 6625 Hydraulic Kit	**91716519**			
		73540090	Solenoid Valve-Brake	1
Valve Bank	**73733395**			
(ALL)		73054934	Proportional Valve	1
		73054935	Relief Valve	1
		77041518	Coil-Sections	4
		77041556	Coil- Proportional Valve	1
Installation Kit				
(ALL)		73052006	Filter Element- 10 Micron	1
Remote Control Handle	**51713182**			
(ALL)				
		70394183	Trigger Assembly	1
		77040371	Switch SPST	1
		77040372	Switch SPDT	2
		77040373	Switch SPST	1
		77040374	Switch SPDT	1

INSTALLATION

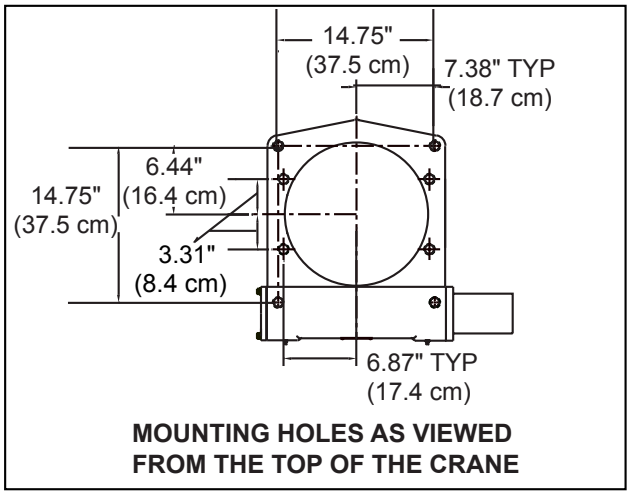
GENERAL

This section contains instructions for the installation of your crane. Prior to installing the crane and hydraulic components, make sure that the chassis is ready to receive the crane (refer to Section 5, Volume 1). Reinforce the chassis frame, as necessary, and install the PTO and pump.

Each installation may vary in components used. It is important to use hoses of proper length, pumps of correct size, and PTO's of adequate speed. Study the applicable installation kit in the parts section before attempting any installation.

CRANE INSTALLATION

In addition to meeting Minimum Chassis Specifications in Section 1, there must be sufficient room for mounting the crane and the platform must be strong enough to support the crane and rated load. Install the crane only on an IMT designed and approved truck body. The body must be designed to sustain the forces imposed by the crane when lifting the full rated load. In addition, an IMT designed body is designed to take full advantage of the standard reservoir placement. This reservoir is installed in the cargo area of the body. Before attempting to install the crane, the body must be installed. To install the crane:



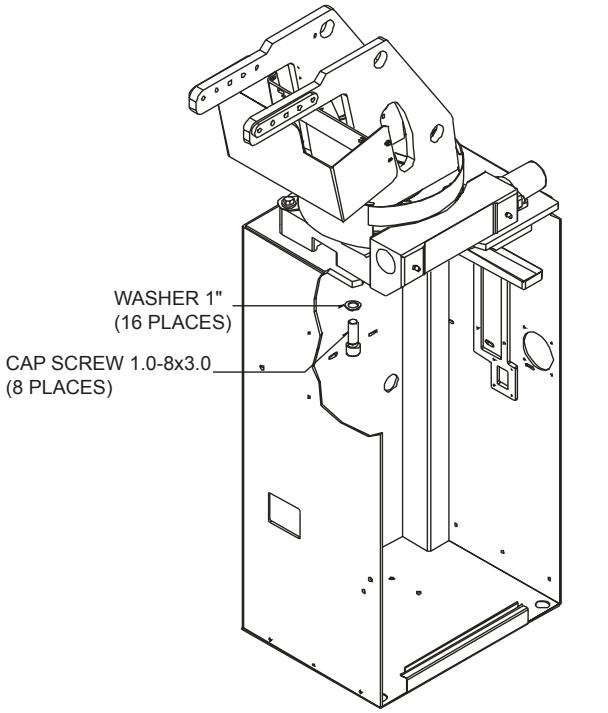
MOUNTING HOLES AS VIEWED FROM THE TOP OF THE CRANE

1. Use a lifting device capable of lifting the weight of the crane. See Specifications Section for crane weight. Attach fabric slings to the crane lower boom, centered approximately 18 inches from the mast hinge. Make certain the crane is well balanced on the slings by slowly lifting approximately 6" off the ground. Lift the crane, apply a bead of waterproof compound, such as silicon based caulk, to the bottom of the base. Move the chassis under the crane and lower the crane into the desired position.

2. Install the 1-8x3.0" mounting cap screws and 1" washers to secure the crane base to the truck body (see Figure below). Torque the cap screws to 680 ft-lbs (94 kg-m).

CAUTION

The 3.0" bolts supplied are for use on bodies with a crane box top plate thickness of 7/8-1" only. Determine the crane box top plate thickness prior to mounting. If different length bolts are required, they must be 1-8, grade 8 (minimum) of the proper length. Failure to use proper length bolts may cause the bolts under the worm housing to bottom out before torqueing. Insure a minimum of 1-1/2" thread engagement.



HYDRAULIC INSTALLATION

Before installation, familiarize yourself with the installation kit drawing in the parts section for specific hydraulic components used. The figure below is used to show major components and general hose routings only.

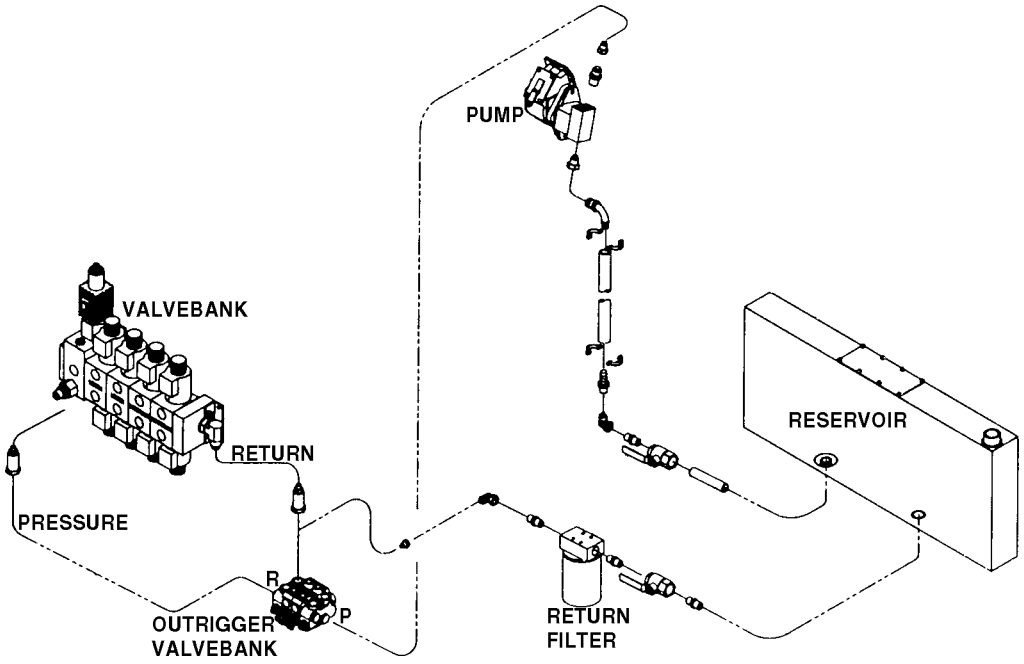
1. Plumb the hydraulic components as shown in the applicable installation kit in the parts section. Make certain all fittings are securely tightened and that hoses are free of possible chafing or contact with hot or sharp edges which could cause damage.

2. Refer to Volume 1 for hydraulic oil specifications. Fill the hydraulic reservoir.

3. Check all connections for leaks.

4. Start the vehicle engine and test each crane function individually. Conduct a visual inspection to make certain that there are no leaks and that everything is operating properly.

5. Check oil level in the reservoir and add oil if necessary. Oil level should be visible in the fill screen. Add oil if not visible.



HYDRAULIC INSTALLATION

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

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

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 3000 psi at 10 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 in manually to port oil downstream. Doing so will manually position the valve spool and hold it in the manually commanded position.

DIRECTIONAL VALVES

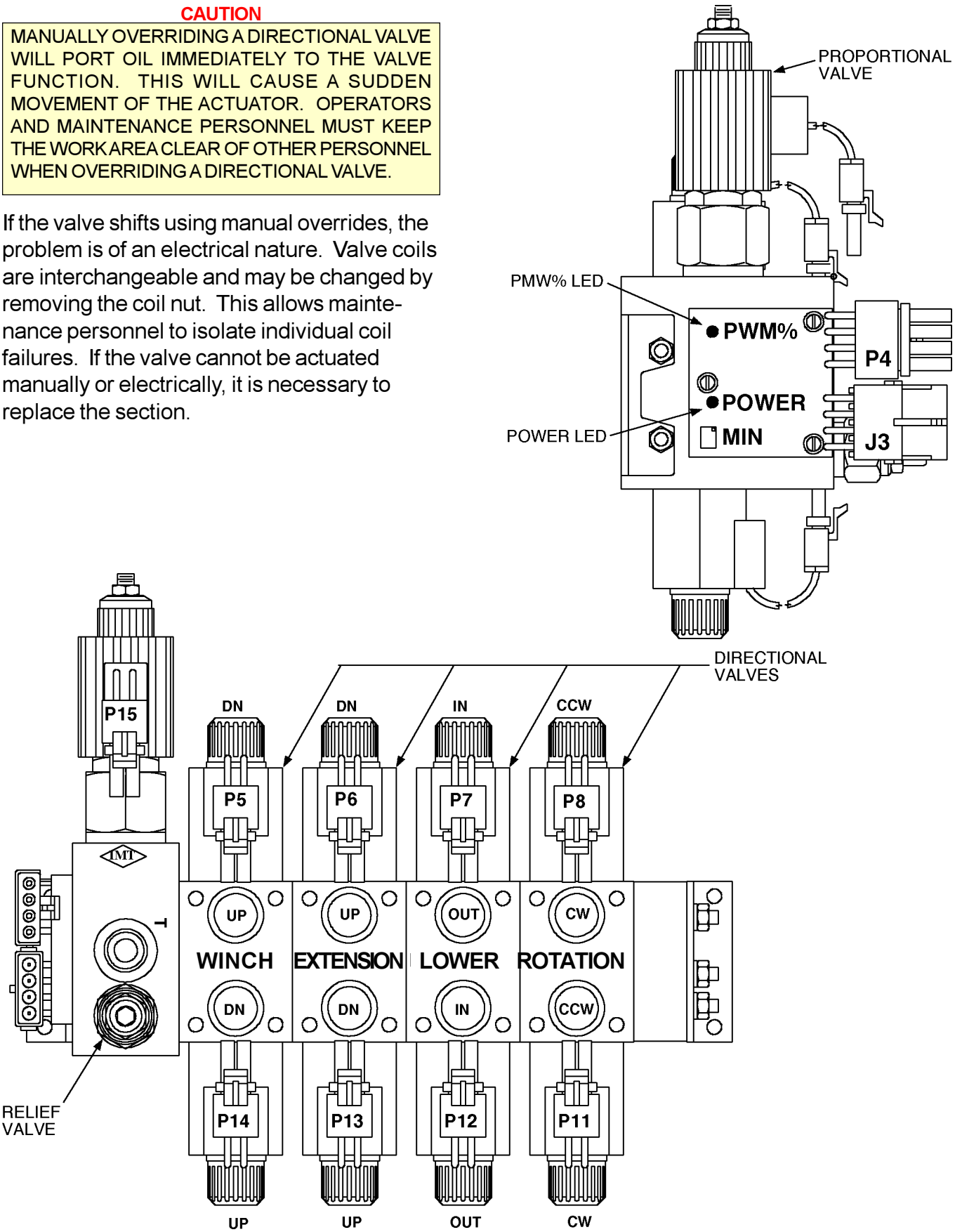
The directional valves (4) control the direction of the crane functions. When one of the solenoids is energized, it shifts the valve spool. This allows oil to flow out one of the valve ports. If a function does not work, a directional valve may be to blame.

These valves have a standard manual override. You may manually shift the valve by pushing the pin, located in the middle of the solenoid.

CAUTION

MANUALLY OVERRIDING A DIRECTIONAL VALVE WILL PORT OIL IMMEDIATELY TO THE VALVE FUNCTION. THIS WILL CAUSE A SUDDEN MOVEMENT OF THE ACTUATOR. OPERATORS AND MAINTENANCE PERSONNEL MUST KEEP THE WORK AREA CLEAR OF OTHER PERSONNEL WHEN OVERRIDING A DIRECTIONAL VALVE.

If the valve shifts using manual overrides, the problem is of an electrical nature. Valve coils are interchangeable and may be changed by removing the coil nut. This allows maintenance personnel to isolate individual coil failures. If the valve cannot be actuated manually or electrically, it is necessary to replace the section.

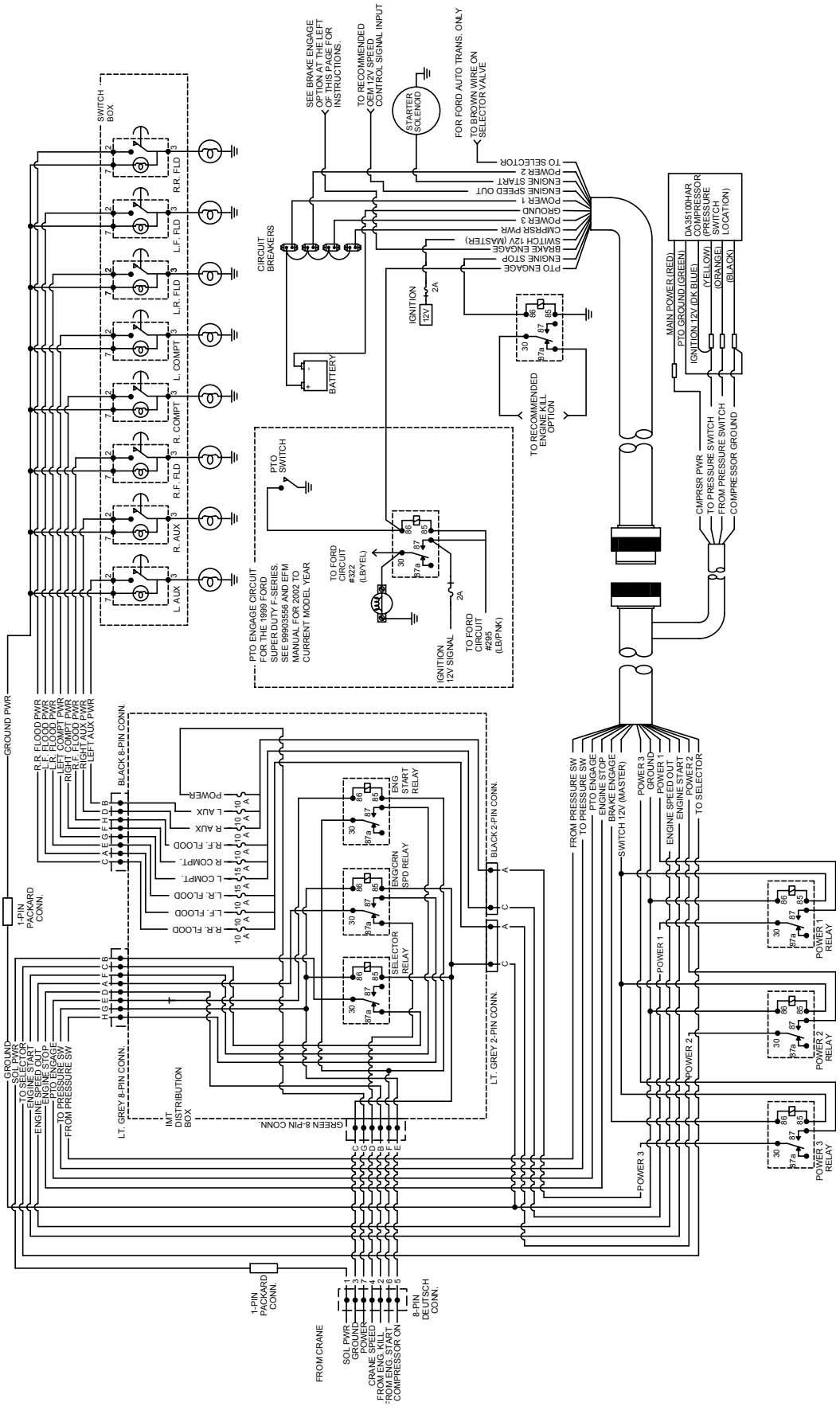


VALVEBANK

ELEC SCHEMATIC (99903187)

NOTE:

This electrical schematic illustrates how an IMT-manufactured crane would typically be mounted on an IMT-manufactured body.



WINCH BRAKE HARNESS & DUAL PRESSURE SYSTEM

The 6025 and 6625 model cranes feature the standard harness assembly as shown in the parts section of this manual, and they have two jumper harnesses for the winch brake and the dual pressure system.

The following sections describe the connection methods for the jumper harnesses.

WINCH BRAKE HARNESS

A T-style connector is placed between the *Winch Down* function on the valve bank harness and the winch down solenoid. The other end is connected to the winch brake. See Figure 1 for details.

The harness will release the winch brake when the winch down function is activated.

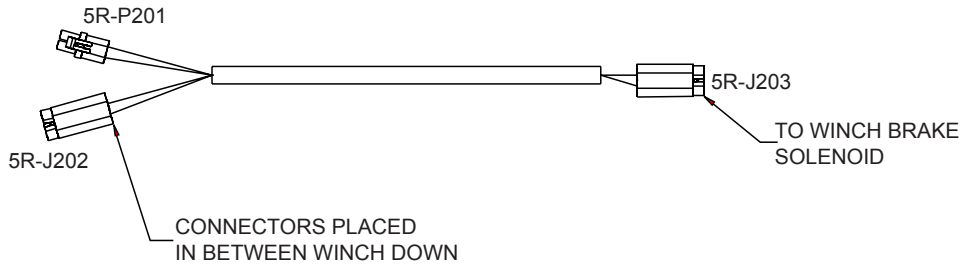


FIGURE 1: WINCH BRAKE HARNESS

DUAL PRESSURE SYSTEM

WIRING: Connector 5R-CP201 is connected to the *Boom Down* function on the valve bank harness. Connector 5R-CJ200 connects to the boom down solenoid. 5R-CJ202 is connected with P10 on the valve bank harness (anti two-block system). 5R-CP204 and 5R-CJ203 are both connected to the appropriate pressure switches. 5R-W1(relay) is fastened to the valve bank bracket.

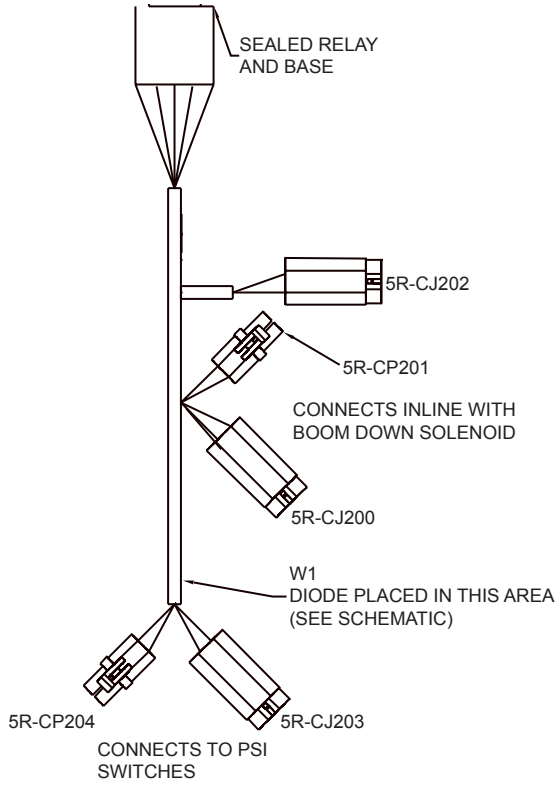


FIGURE 2: DUAL PRESSURE SYSTEM HARNESS

ANTI TWO-BLOCKING DEVICE

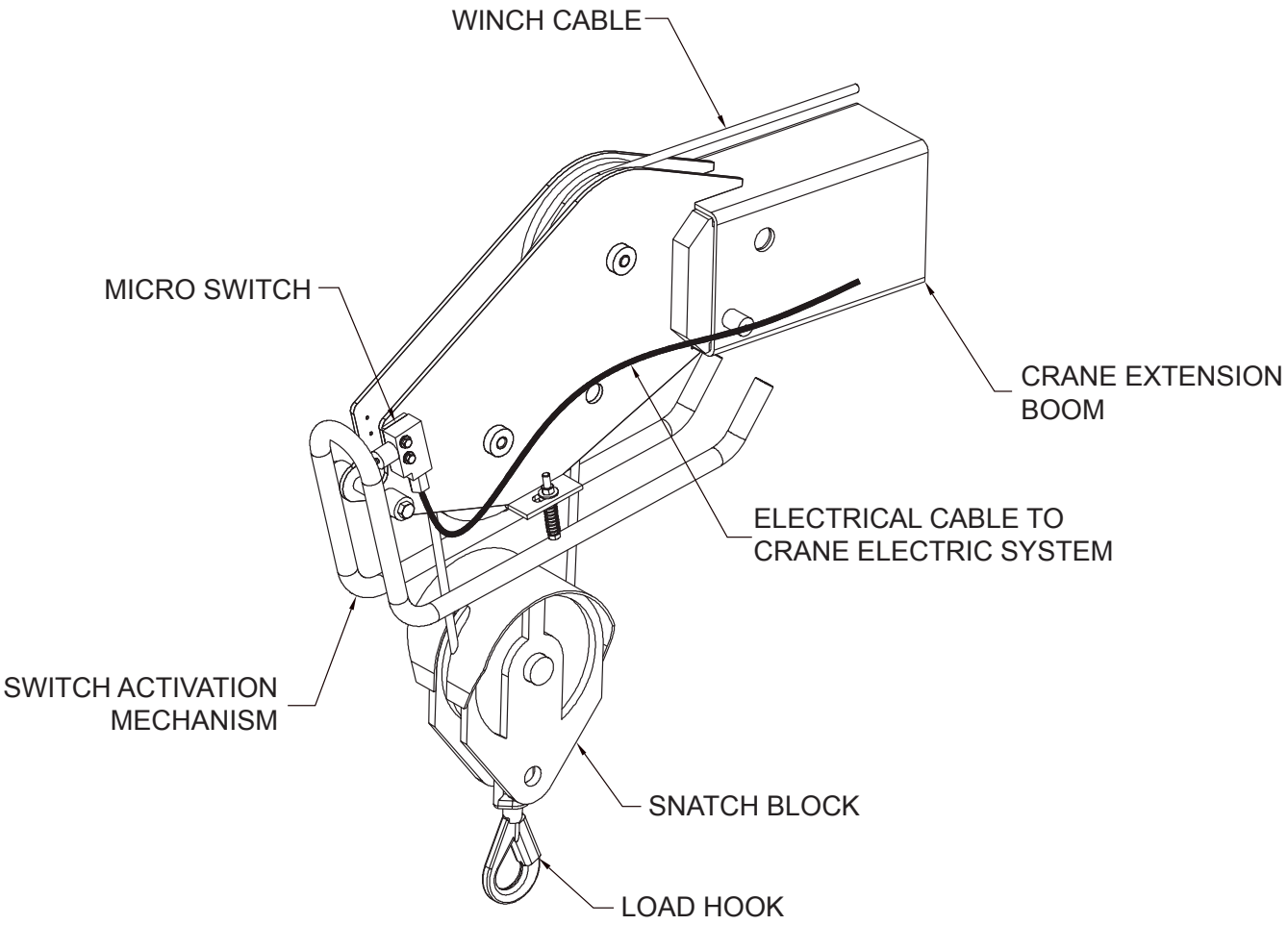
IMT telescoping cranes using a winch are equipped with an Anti Two-Blocking Device which is designed to provide a method of sensing an approaching Two-Blocking situation and prevent the crane from entering that situation. It is the operator's responsibility to avoid Two-Blocking and not to rely on this device alone. The device must be checked daily for proper operation.

By keeping the system clean and the microswitch in operating condition, the system should function properly.

NOTE

”Two-Blocking” is the condition in which the lower load block or hook assembly comes in contact with the upper load block or boom point sheave assembly.

Three means are available to relieve a two-blocking condition. The load may be lowered to the ground, the extension boom may be retracted, or the lower boom may be raised, thus reducing the reach of the crane.



ANTI TWO-BLOCKING DEVICE COMPONENTS

Excessive Load Limit System (ELLS) TEST PROCEDURE

This procedure is to be used for testing the Excessive Load Limit System (ELLS) used on the IMT Telescoping Crane models. Following this test procedure will ensure the system is currently operable and will not allow the crane to be excessively overloaded.

The purpose of the ELLS is to prohibit the excessive overloading of the crane. It does this by disarming the functions that make it possible for the operator to apply greater than allowable stress to the crane structure and components. The functions which are involved in the ELLS may vary for each crane model (Refer to TABLE 1 for which functions are shut down by the ELLS on each crane).

The load rating of the crane is determined by the pressure induced in the lower boom cylinder. The ELLS senses the pressure in the base end of the lower boom cylinder with a normally closed pressure switch located on the valve block on the top of the cylinder. When the pressure in the base end of the cylinder exceeds the setting of the pressure switch for that particular crane, the pressure switch opens and breaks the ground connection for the solenoids that shift the valve spool on the appropriate functions. Once the ground connection is disengaged, the solenoids that shift the valve spools for the appropriate functions can not be activated using the remote control handle. Only those functions that will not increase the load moment of the crane structure and components will be operable (i.e.- winch down, extension in, lower boom up, rotation). The operator is able to use “WINCH DOWN” to set the weight down to relieve the crane and “EXTENSION IN” to bring the load in for a shorter load radius. Either of these two functions will decrease the load moment of the crane structure and components, thus decreasing the pressure in the main cylinder.

ITEMS REQUIRED TO TEST THE CRANE ELLS (SEE PHOTOS NEXT PAGE)

PRESSURE GAGE ASSEMBLY (GAGE & PIPE-JIC ADAPTER)		
-5000 PSI LIQUID FILLED PRESSURE GAGE W/ ¼” PIPE THRD		QTY 1
-1/4 PIPE-#6 JIC ADAPTER	(ref) PARKER PART# 0203-4-6	QTY 1
16” HOSE ASSEMBLY (3/8”OR ¼” HOSE W/ #6 FEM. JIC FITTINGS & T-FITTING)		
-TEE FITTING	(ref) PARKER PART# 653T-6-6	QTY 1
-#6 FJIC FITTING	(ref) PARKER PART# 10643-66	QTY 2
-3/8” SAE 100R16 HOSE	(ref) PARKER PART# 431-6	QTY 16”
4” HOSE ASSEMBLY (3/8” OR ¼” HOSE W/ #6 FEM. JIC FITTINGS)		
-#6 FJIC FITTING	(ref) PARKER PART# 10643-66	QTY 2
-3/8” SAE 100R16 HOSE	(ref) PARKER PART# 10643-66	QTY 4”
#6 STR-#6 MALE JIC FITTING	(ref) PARKER PART# 0503-6-6	QTY 2

#6 MALE STRAIGHT THREAD

#6 MALE JIC

#6 MALE STRAIGHT THREAD

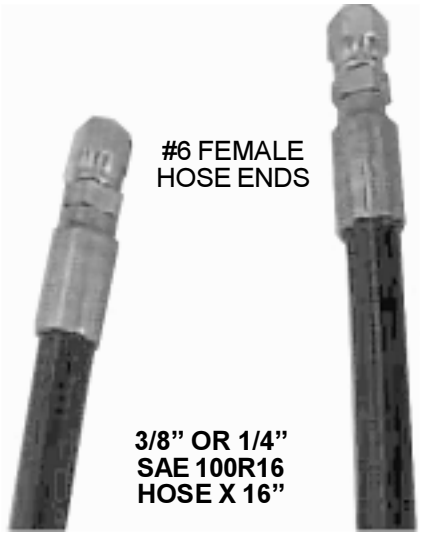
TEE

#6 MALE JIC

ADAPTER

1/4" FEMALE PIPE THREAD

5000 PSI LIQUID FILLED PRESSURE GAUGE



#6 FEMALE HOSE ENDS

3/8" OR 1/4" SAE 100R16 HOSE X 16"

#6 FEMALE HOSE END

3/8" OR 1/4" SAE 100R16 HOSE X 4"

#6 FEMALE HOSE END

TEST PROCEDURE

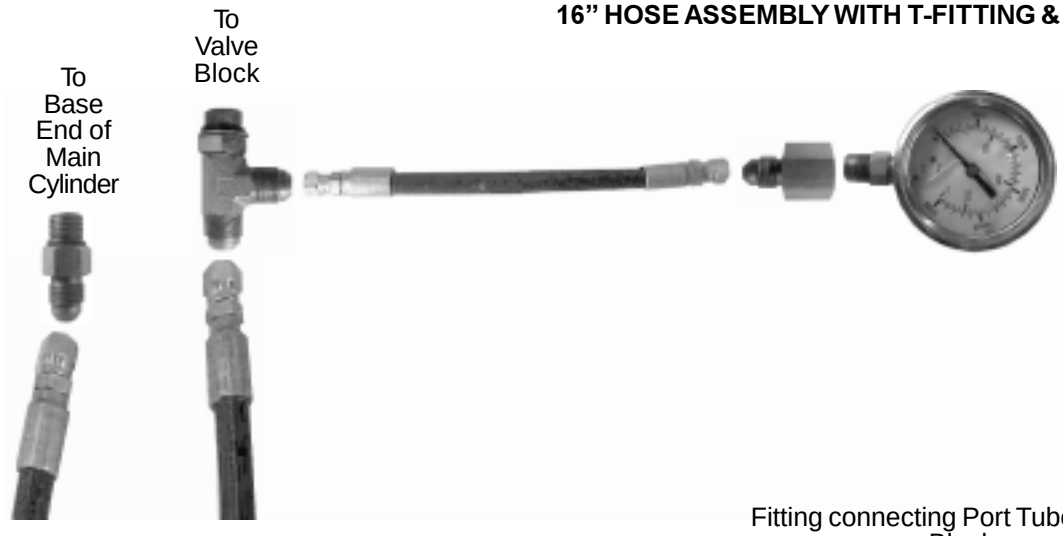
A. Position Crane Boom

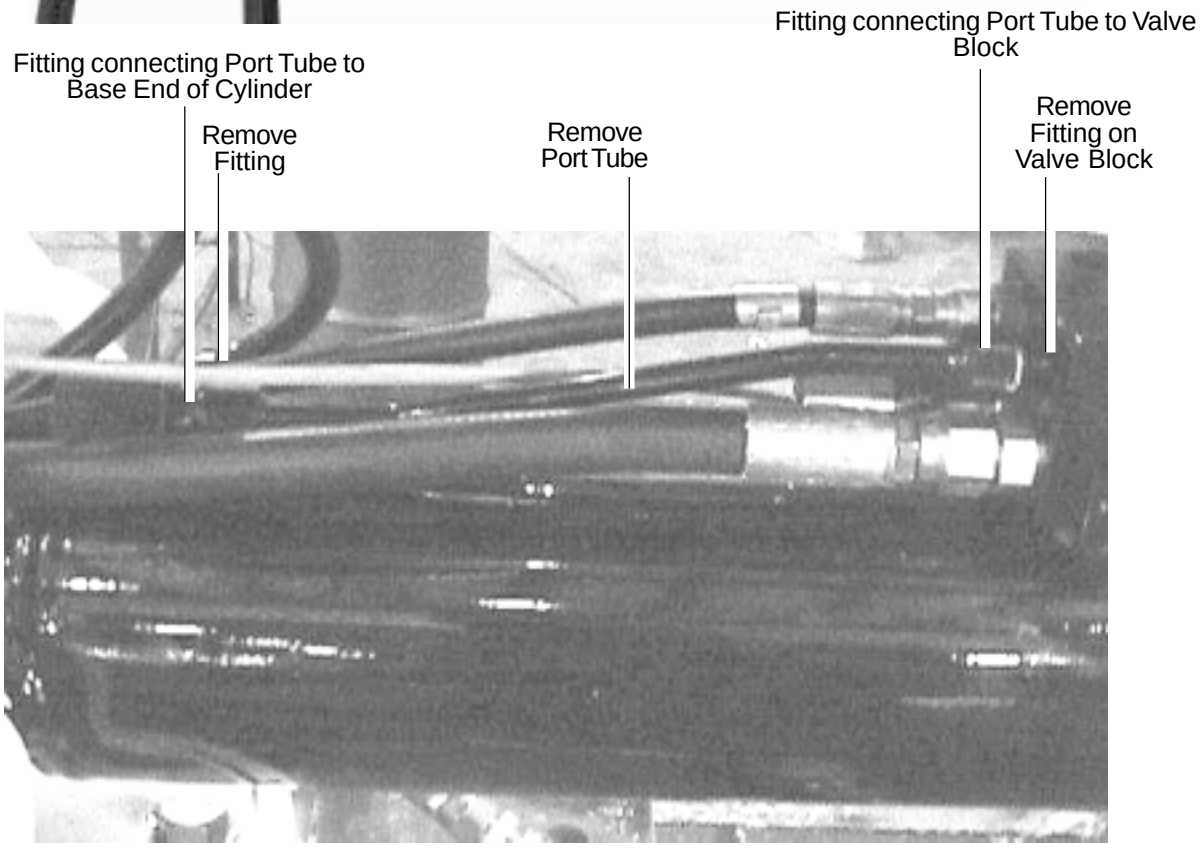
1. Back the truck up to an immovable object to which the crane hook can be securely fastened. The boom tip must be directly over the immovable object when the crane is rotated to the rear of the truck, with the extension extended one foot.
2. Engage the parking brake and PTO.
3. Properly position all outriggers.
4. Rotate crane so it is pointing directly off the rear of the truck. (Most stable position)
5. Extend extension boom one foot.
6. Check to assure that the boom tip is positioned directly over the immovable object to which the crane hook can be securely attached.
7. Lower the lower boom until the lower boom cylinder is fully retracted and bottoms out.
8. After the boom is bottomed out, hold the "LOWER BOOM DOWN" function for two seconds to make sure cylinder is bottomed out.
9. Disengage PTO and turn off the engine in the truck.
10. Turn the truck ignition back on after the engine is stopped. BE AWARE OF TRAPPED PRESSURE BEHIND THE PLUG IN THIS STEP!! PRESSURIZED OIL MAY CAUSE SERIOUS INJURY!!
11. Trigger the function for the main boom up and down a few times to relieve trapped pressure in cylinder.

B. Attach Pressure Gage

a. Remove bolts that attach the valve block to the cylinder
b. BE AWARE OF TRAPPED PRESSURE BEHIND THE PLUG IN THIS STEP!! PRESSURIZED OIL MAY CAUSE SERIOUS INJURY!! Turn off fitting connecting port tube to base end of cylinder (end closest to crane base).
c. Turn off fitting connecting port tube to valve block.
d. Carefully remove port tube that runs from the valve block on the lower boom cylinder to the base end of the lower boom cylinder, being sure not to damage fittings.
e. Remove fitting from valve block.
f. Install 16” hose assembly with T-fitting (refer below) between block on lower boom cylinder and base end of lower boom cylinder.
g. Attach pressure gage assembly to T-fitting using 4” hose assembly (refer to figure below).
h. Be sure to tighten all fittings securely.

16” HOSE ASSEMBLY WITH T-FITTING & 4” HOSE ASSEMBLY





C. Test System

1. Start truck engine.
2. Raise boom up until boom cylinder is fully extended, then lower boom until cylinder is fully retracted to remove air that may have been introduced while installing the gage.
3. Raise boom to 15 degrees above horizontal and securely fasten crane hook to immovable object using a double line attachment.
4. Use the winch up function to take slack out of cable.
5. Refer to TABLE 1 for maximum pressure at which ELLS system should shut down appropriate functions for the particular crane model being tested.
6. While monitoring the pressure gage, use the winch up function to slowly apply down force on end of boom. If the pressure on the gage exceeds the maximum pressure for that particular crane and the ELLS has not shut down the appropriate functions, the ELLS is not working. Do not go any higher.
7. If the system is operating properly, the function should stop working before the gage reaches maximum pressure.
8. While the pressure gage still reads the pressure at which the ELLS shut down the appropriate functions, test the other functions that should be shut down by the ELLS (TABLE 1).
9. If the appropriate functions are not operational, the ELLS system is working
10. If any of the functions in Table 1 are still operational, the ELLS system is not working.
11. Refer to the TROUBLE SHOOTING PROCEDURE (page 6) for instructions to determine the problem with the ELLS.

TABLE 1

	FUNCTIONS SHUT DOWN BY ELLS			
IMT CRANE MODEL	**WINCH UP**	**EXTENSION OUT**	**LOWER DOWN**	**MAX. TEST GAGE PRESSURE ALLOWED**
1014	X	X	X*	2600
1014A	X	X	X	3000
2015	X	X	X*	3000
2020	X	X	X	3000
3016	X	X	X	3000
3020	X	X	X	3300
3816	X	X	X	3500
5016	X	X	X	3500
5020	X	X	X	3500
6016	X	X	X	3500
6020	X	X	X	3500
6025/6625	X	X	X	3300
7020	X	X	X	3200
7025	X	X	X	3200
315A	X	X	N/A*	3200

* NOTE: Cranes before July 1996 do not have ìLOWER BOOM DOWNî function tied into the Excessive Load Limit System.

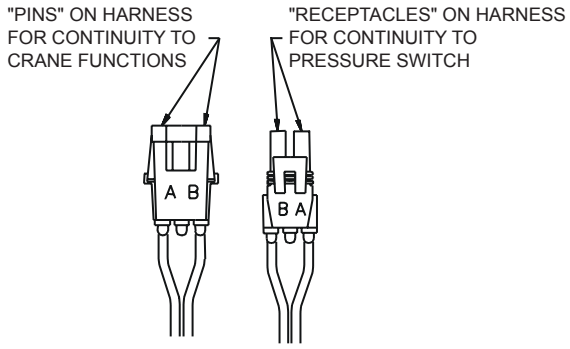
ELLS TROUBLESHOOTING PROCEDURE

Each function (winch up, winch down, extension in, etc.) is actuated by a solenoid that shifts the valve spool to perform the particular function. The solenoids are located on the valve bank. Each solenoid has two wires protruding with a connector on the end that is plugged into a connector on the wire harness for the crane. There are two wires, one wire is black (ground) and the other wire is colored. The “ground receptacle” is the receptacle that the black wire connects to.

A. Find which solenoid actuates which function

-When a solenoid is actuated, it becomes magnetic. By using a piece of steel to find which solenoid is magnetic, (steel ruler, paper clip, etc.) the solenoids can be matched with which function it controls. It will not be a real strong magnetic pull, but will be detectable with a small piece of metal.

1. Be sure the truck ignition is on, the parking brake is engaged, and power is “on” to the crane. The PTO does not need to be engaged.
2. Activate “LOWER UP” on the remote control handle and use the piece of steel to find which solenoid is magnetic (being actuated).
3. When the correct solenoid is found, unplug the connector protruding from the solenoid.
4. Activate “WINCH UP” on the remote control handle and use the piece of steel to find which solenoid is magnetic (being actuated).
5. When the correct solenoid is found, unplug the connector protruding from the solenoid.
6. Unplug the connector protruding from the pressure switch (Some models may have wire terminals instead of a connection. Detach the wires from the pressure switch.)



7. Using a multi-meter, check continuity (setting on multi-meter that “beeps” if two wires are connected) between the ground receptacle on the connector that plugs into the connector on the “LOWER UP” solenoid and the ground receptacle on the connector that plugs into the connector on the “WINCH UP” solenoid. They should not be continuous. If they are, the harness is the problem, which needs to be either repaired or replaced.
8. Reconnect the pressure switch.
9. Repeat steps 4-8 for each of the functions shut down by the ELLS. Instead of using “WINCH UP”, use the appropriate function and find the controlling solenoid and check for continuity with ground receptacle on the connector that plugs into the connector on the “LOWER UP” solenoid.
10. Activate “WINCH UP” on the remote control handle and use the piece of steel to find which solenoid is magnetic (being actuated).
11. When the correct solenoid is found, unplug the connector protruding from the solenoid.
12. Unplug the connector protruding from the pressure switch (Some models may have wire terminals instead of a connection. In this case, detach the wires and use the ground wire that attaches to the pressure switch for the next step.)
13. Using a multi-meter, check continuity between the ground receptacle on the connector that plugs into connector on the pressure switch and the ground receptacle on the connector that plugs into the connector on the “WINCH UP” solenoid. They should be continuous. If they are not, there is a problem with the harness, which either needs to be repaired or replaced.
14. Reconnect the pressure switch.
15. Repeat steps 10-14 for each of the functions shut down by the ELLS. Instead of using “WINCH UP”, use the appropriate function and find the corresponding solenoid. Each one should be continuous with the ground receptacle on the connector that plugs into the connector on the pressure switch.
16. If there is no problem found with the harness, the pressure switch is the problem and it will need to be replaced.

SECTION 3: REPLACEMENT PARTS

NOTES

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, refer to the appropriate manual, or consult your IMT sales reprsentative.

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 attached to the mast or to one of the booms in a prominent location. When ordering parts, communicating warranty information, or referring to the unit in correspondence, always include the serial number and model number. All inquiries should be directed to:

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

CYLINDER IDENTIFICATION

To insure that the proper cylinder replacement parts are recieved, it is necessary to specify the complete number/letter sequence for any part requested. Part numbers must be verified by checking the number stamped on the cylinder case (See figure below) against the information included in the service manual. You must include the part number stamped on the cylinder case when ordering parts.

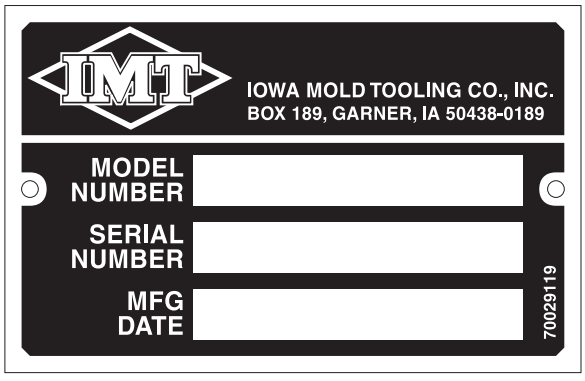
WELDMENT IDENTIFICATION

Each of the major weldments, base, mast, lower boom, extension boom, and outriggers, have a part number stamped on them. Any time one of the weldments is to be replaced, it is necessary to specify the complete part number as stamped on that weldment. The location of the part numbers are shown Section 2.

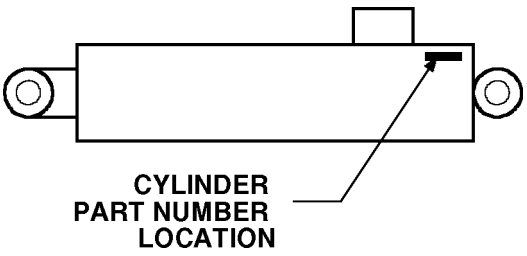
ORDERING REPAIR PARTS

When ordering replacement parts it is important to follow the steps as outlined below.

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.



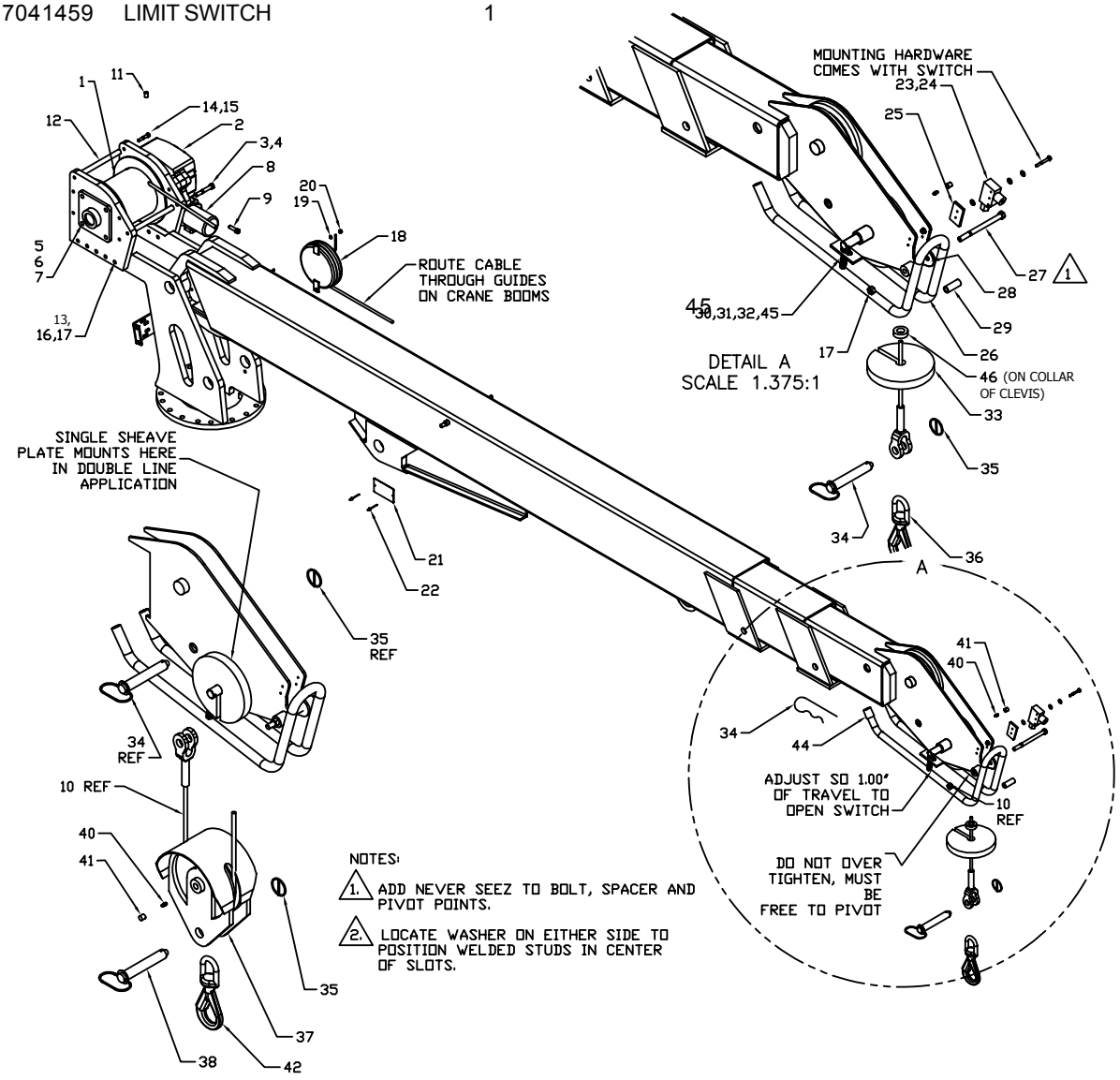
SERIAL NUMBER PLACARD



CYLINDER PART NUMBER LOCATION

WINCH / CABLE / HOOK KIT (31716518)

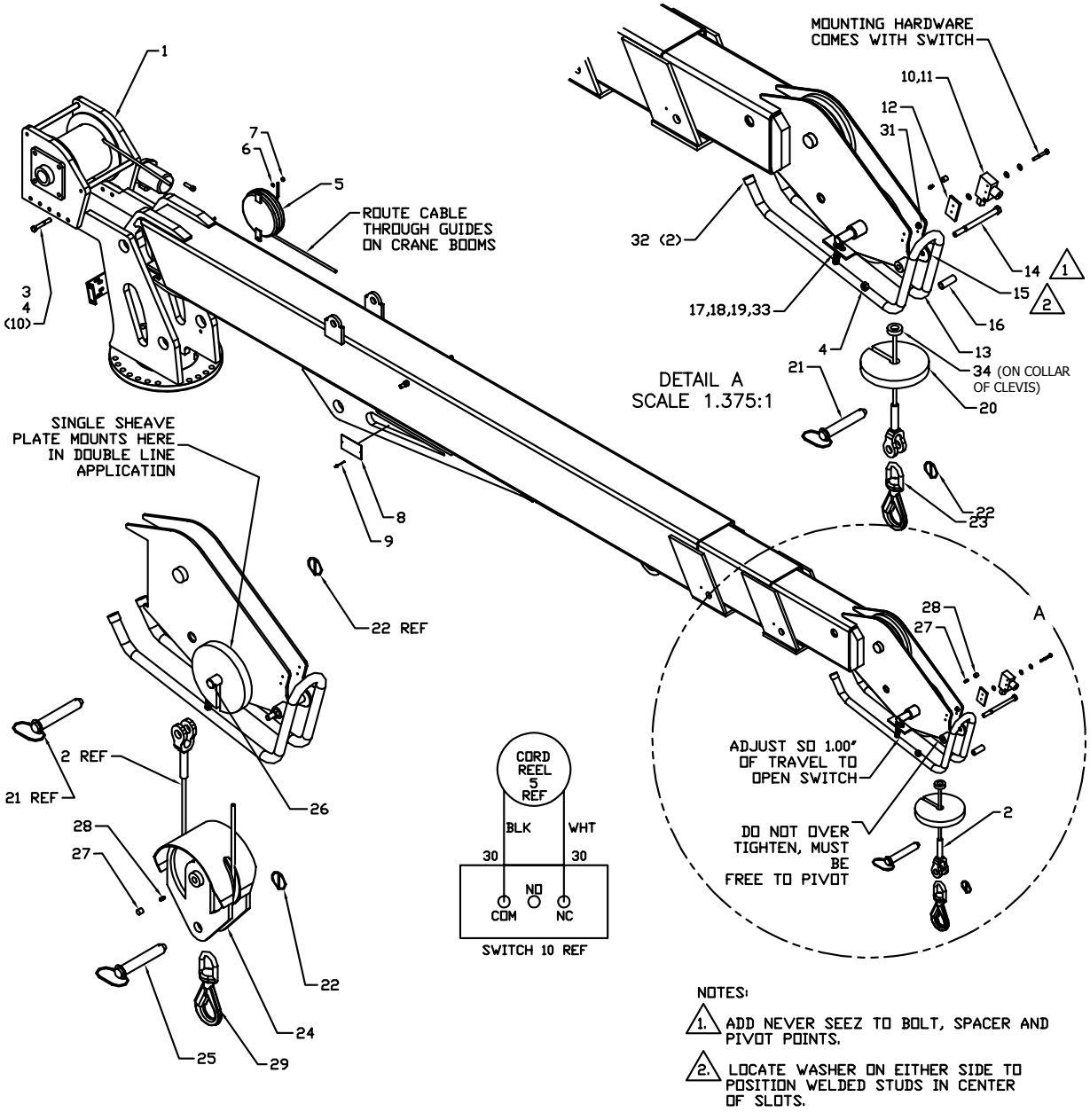
1.	52712162	WINCH DRUM	1
2.	70570198	WINCH	1
3.	72060921	CAP SCR 1/2-13 X 3.75 HH GR5	4
4.	72063053	WASHER 1/2 LOCK	4
5.	70055117	BEARING-FLANGE BLOCK	1
6.	72060148	CAP SCREW 5/8-11 X 1.25	4
7.	72063055	WASHER 5/8 LOCK	4
8.	73051513	HYDRAULIC MOTOR	1
9.	72060064	CAP SCREW 7/16-14 X 1.5 HH	2
10.	70580089	WIRE ROPE ASM	1
11.	72060596	SET SCR 1/2-13 X 3/4 SH-PL	1
12.	60122978	SPACER-WINCH MTG	2
13.	52717294	WINCH MTG PLATE	2
14.	72060050	CAP SCR 3/8-16 X 2.00 HH GR5	4
15.	72063051	WASHER 3/8 LOCK	4
16.	72060096	CAP SCR 1/2-13 X 2.5 HH GR5	10
17.	72062004	NUT 1/2-13 HEX ZINC	11
18.	51713168	CORD REEL ASM	1
19.	72063001	WASHER 1/4 FLAT	2
20.	72062104	NUT 1/4-20 HEX NYLOC ZINC	2
21.	70029119	PLACARD S/N	1
22.	72066340	POP RIVET - AL 1/8 X .375	1
23.	77041459	LIMIT SWITCH	1
24.	77044468	CONNECTOR 1/2 STR RLF	1
25.	60122311	SPACER	1
26.	52715833	GUARD, WLDMT BOOM TIP	1
27.	72060104	CAP SCR 1/2-13 X 6.5	1
28.	72063005	WASHER 1/2 FLAT	2
29.	60122329	SPACER 1/2 BLK PIPE	1
30.	70146096	SPRING 5/8 X 2.5 X 14GA	2
31.	72063003	WASHER 3/8 FLAT	4
32.	72062103	NUT 3/8-16 HEX NYLOC	2
33.	60122358	PLATE	1
34.	72661514	PIN	1
35.	72661543	PIN-QUICK	2
36.	71073035	SWIVEL HOOK	1
37.	52715896	GUARD-WLDMT SNATCH BLOCK	1
38.	73733171	LOCK PIN 1 X 6 W/HAIRPIN	1
39.	72066145	HAIR PIN 3/16 ZINC	1
40.	72053508	ZERK 1/8 NPT	2
41.	70034382	GREASE CAP	2
42.	70732882	SWIVEL HOOK 5.9 TON	1
43.	77040051	TERM SPRSPADE 18 STUD	2
44.	70396121	PLASTIC CAP	2
45.	72063117	WASHER 9/16 FLAT	2
46.	70145121	COLLAR, LOCKING (EFF. 11-02)	1



WINCH / CABLE / HOOK KIT-PLANETARY (31716521)

1.	70146319	WINCH-PLANETARY	1
2.	70580168	WIRE ROPE ASM, LH (EFF. 11/02)	1
	70580089	WIRE ROPE ASM (THRU 10/31/02)	1
3.	72060096	CAP SCR 1/2-13X2.50 HHGR5Z	10
4.	72062080	NUT 1/2-13 HEX NYLOC ZINC	11
5.	51713168	CORD REEL ASM	1
6.	72063001	WASHER 1/4 FLAT	2
7.	72062104	NUT 1/4-20 HEX NYLOC	2
8.	70029119	PLACARD	1
9.	72066340	POP RIVET 1/8 X 3/8 GRIP	2
10.	77041459	LIMIT SWITCH	1
11.	77044468	CONNECTOR-1/2 STR RLF	1
12.	60122311	SPACER-SINGLE SHEAVE SW	1
13.	52715833	GUARD WELDMENT	1
14.	72060104	CAP SCR 1/2-13 X 6.5 HHGR5Z	1
15.	72063005	WASHER 1/2 FLAT	1
16.	60122329	SPACER 1/2 BLACK PIPE X 2.00	1
17.	70146096	SPRING 5/8 X 2.5 X 14GA	2
18.	72063003	WASHER 3/8 FLAT	4
19.	72062103	NUT 3/8-16 HEX NYLOC	2
20.	60122358	PLATE-SINGLE SHEAVE	1
21.	72661514	PIN-LOCK W/ HANDLE	1
22.	72661543	QUICK PIN	2
23.	71073035	SWIVEL HOOK	1
24.	52715896	GUARD WELDMENT	1
25.	73733171	LOCK PIN 1X6 W/HAIRPIN	1
26.	72066145	HAIR PIN .19 ZINC	1
27.	72053508	GREASE ZERK 1/8 NPT	3
28.	70034382	GREASE CAP, RED	3
29.	70732882	SWIVEL HOOK	1
30.	77040051	TERMINAL, SPRSPADE 8STUD	2
31.	72601726	NUT #6-32 HEX NYLOC	2
32.	70396121	PLASTIC CAP	2
33.	72063117	WASHER 9/16 FLAT	2
34.	70145121	SHAFT COLLAR (EFF. 11-02)	1

NOTE:
UNITS WITH S/N 6025021111 TO PRESENT HAVE WIRE ROPE ASM 70580168.



NOTES:

1. ADD NEVER SEEZ TO BOLT, SPACER AND PIVOT POINTS.
2. LOCATE WASHER ON EITHER SIDE TO POSITION WELDED STUDS IN CENTER OF SLOTS.

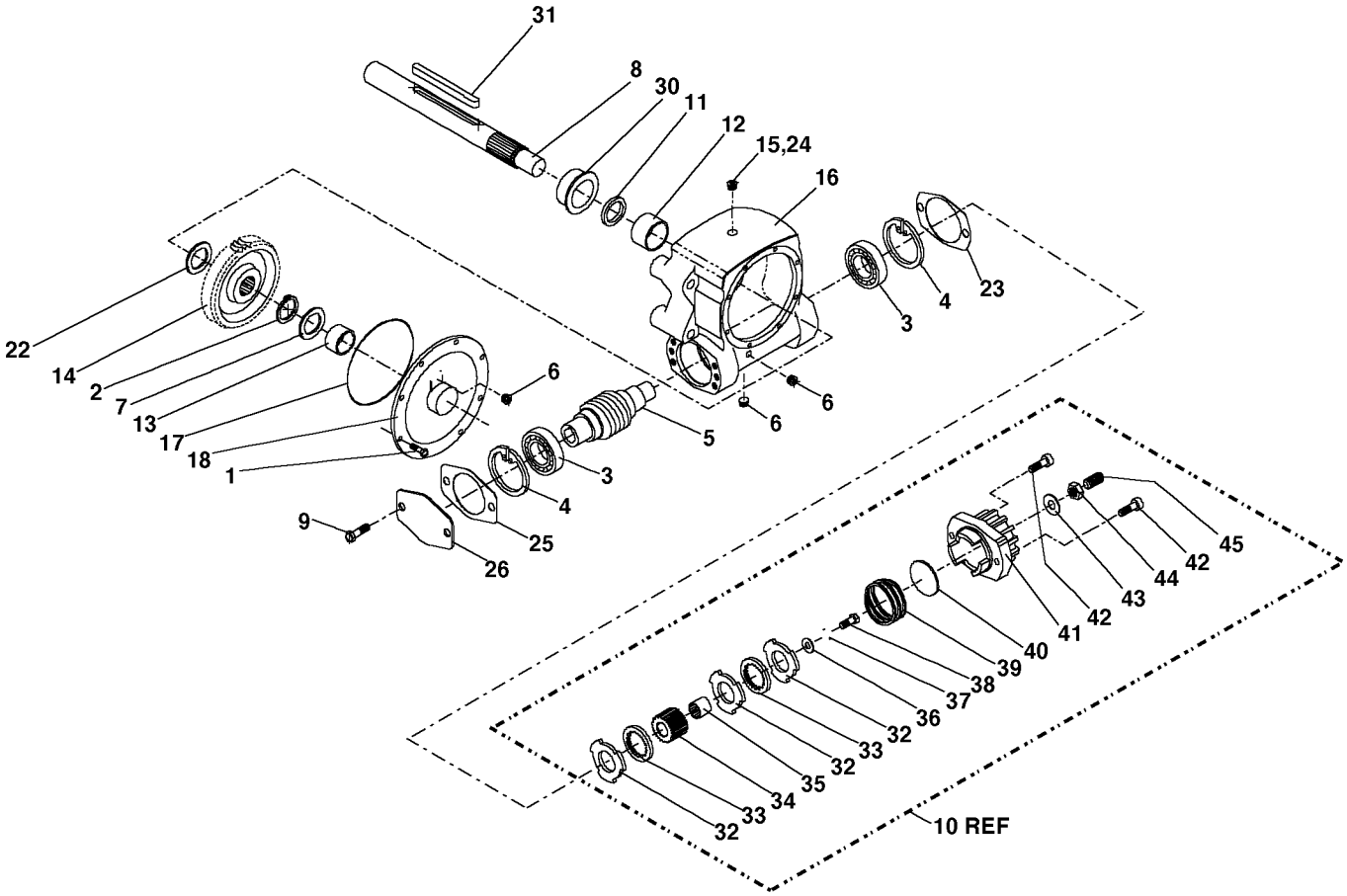
5525 MODEL ONLY

WINCH (70570198)

1.	72601568	CAP SCREW	8
2.	70143945	RETAINING RING	1
3.	70055220	BALL BEARING	2
4.	72661403	RETAINING RING	2
5.	70056522	WORM-SR	1
6.	70143865	PIPE PLUG	2
7.	70143946	THRUST WASHER	1
8.	70145384	OUTPUT SHAFT	1
9.	72601567	CAP SCREW	2
10.	70733135	BRAKE KIT (INCL:32-45)	1
11.	76393419	OIL SEAL	1
12.	70143948	BUSHING	1
13.	70143949	BUSHING	1
14.	70056521	WORM GEAR-SR	1
15.	70048156	BREATHER	1
16.	70143950	HOUSING	1
17.	76393420	O-RING	1
18.	70143951	COVER	1
19.	70029559	TAG-NAMEPLATE	1
22.	70143952	WASHER	1
23.	76394300	GASKET	1
24.	70143861	PIPE BUSHING	1
25.	76393171	GASKET	1
26.	—	PROTECTOR (DISCARD)	REF
30.	70145383	SPACER	1
31.	70145382	KEY	1
32.	70145381	*STATOR PLATE	3REF
33.	70145380	*FRICTION DISC	2REF
34.	70145379	*BRAKE HUB	1REF
35.	70143662	*CAM CLUTCH	1REF
36.	70145377	*WASHER	1REF
37.	72063188	*LOCKWASHER	1REF
38.	72601724	*CAP SCREW	1REF
39.	70145376	*BRAKE SPRING	1REF
40.	70143660	*THRUST WASHER	1REF
41.	70143666	*BRAKE HOUSING	1REF
42.	72601721	*CAP SCREW	2REF
43.	76393172	*WASHER-SEAL	1REF
44.	72601722	*LOCKNUT-SEAL	1REF
45.	72601723	*SET SCREW	8REF

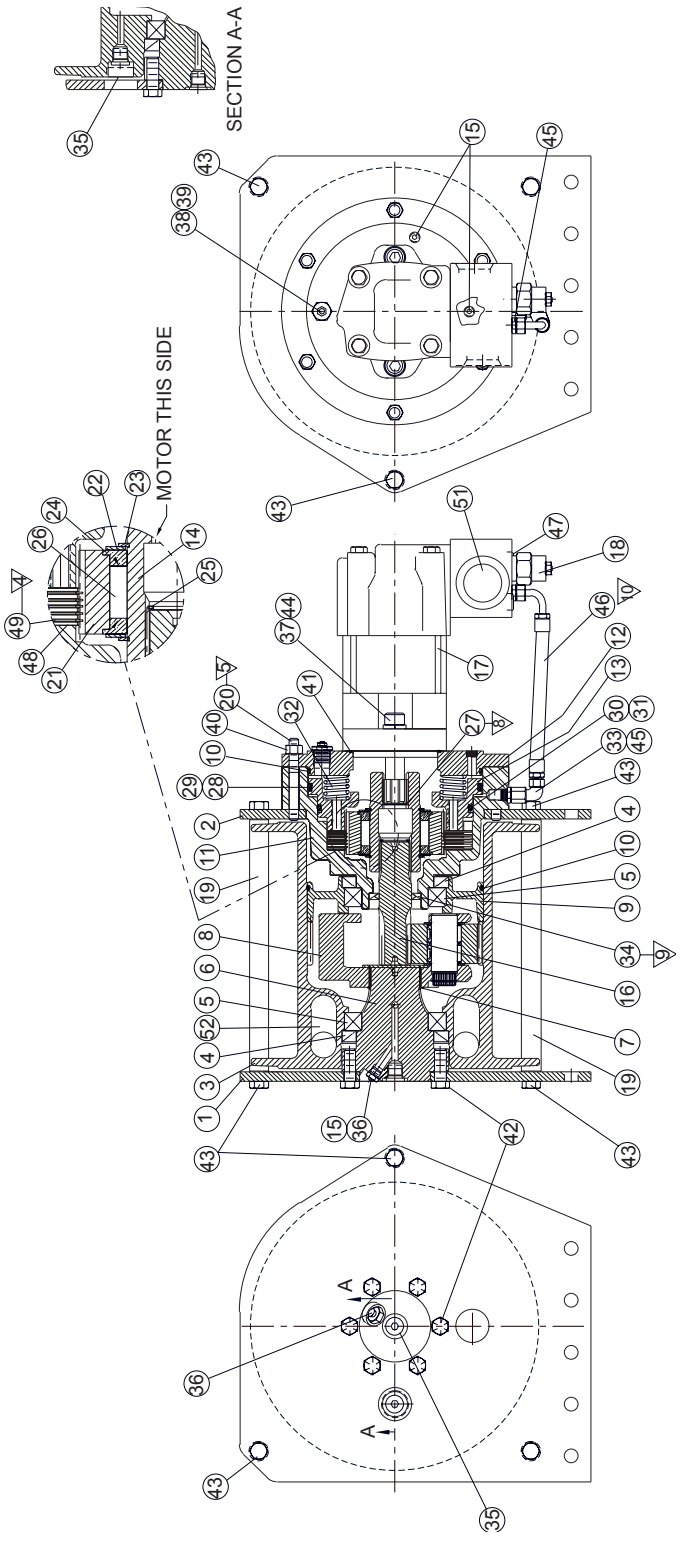
* PART OF ITEM 10.

GEAR RATIO: 27:1
OUTPUT TORQUE: 27328 IN-LBS
MAX INPUT TORQUE: 2249 IN-LBS
MAX INPUT SPEED: 316 RPM
INSTALLED WEIGHT: 62 LBS
LUBRICATION: EP 140



WINCH PLANETARY (70146319)

1.	43135	SIDE PLATE	1
2.	43134	SIDE PLATE	1
3.	42351	DRUM	1
4.	4312	SEAL KIT	1
5.	29386	BEARING	2
6.	42356	SHAFT	1
7.	996456	RETAINING RING	1
8.	4178	PLANETARY GEAR SET	1
9.	42379	CARRIER BEARING	1
11.	43509	BRAKE HOUSING	1
12.	43604	BRAKE COVER	1
13.	42358	BRAKE PISTON	1
14.	42359	BRAKE DRIVER	1
15.	21684	PIPE PLUG	3
16.	43510	SUN INPUT GEAR	1
17.	42439	HYDRAULIC MOTOR	1
18.	40434	COUNTER BALANCE VALVE	1
19.	42384	SUPPORT ROD	3
20.	72396	STUD	6
21.	41740	BRAKE DRIVER	1
22.	41723	RACE 707W 1200W	2
23.	26980	RETAINING RING	2
24.	41743	BUSHING 707W 1200W	2
25.	29043	RETAINING RING 707W 1200W	1
26.	41759	CLUTCH 707W 1200W	1
27.	41994	RETAINING RING 2025S	1
32.	41718	BRAKE SPRING 707W 1200W	12
33.	417873	SWIVEL ADAPTER 90°	1
35.	42392	O-RING PLUG	2
36.	13050	BREATHER	2
37.	13529	SOCKET HEAD CAP SCREW	2
38.	12208	PIPE BUSHING	1
39.	32220	PIPE PLUG	1
40.	20271	NUT	6
42.	42397	CAP SCREW	6
43.	30379	CAP SCREW	6
44.	41000	LOCK WASHER HI COLLAR	2
45.	41838	STRAIGHT ADAPTER	2
46.	42123	HOSE ASSY	1
47.	40557	SOCKET HEAD CAP SCREW	3
48.	42148	STATOR PLATE 2707S 707W	6
49.	32765	FRICTION DISC	5
51.	32058	CAPLUG	2
52.	40884	WEDGE	52

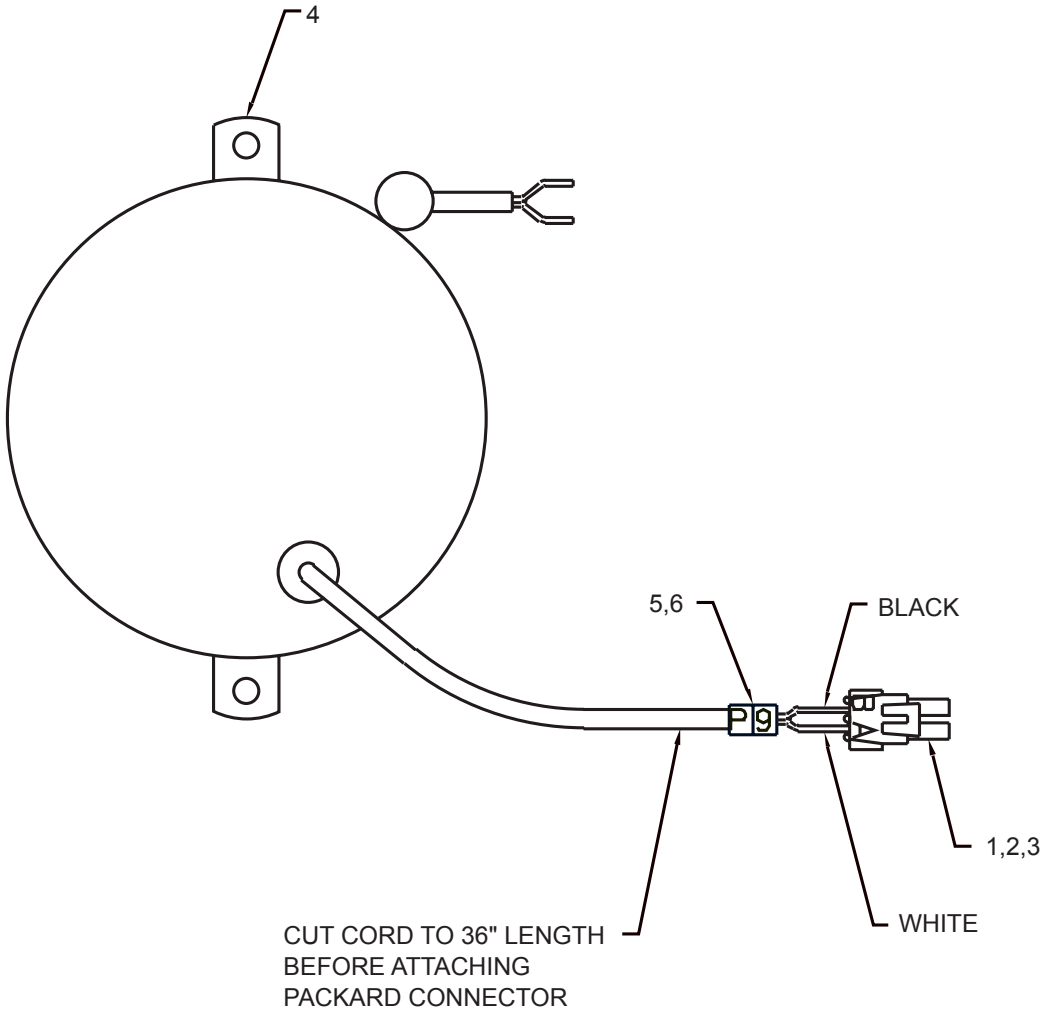


NOTE:

Do not use EP type gear lubes in the brake section of this winch. EP lubes may prevent the clutch from locking up, causing a load to fall, resulting in property damage, personal injury, or death.

CORD REEL ASSEMBLY (51713168)

1.	77044574	CONN-PKRD F 2-WAY WEATRPK	1
2.	77044550	TERM-FEM 18-20GAL WEATRPK	2
3.	70394069	SEAL-CABLE GRN 20-18 GA PACK	2
4.	70732193	CORD REEL-ANTI-2 BLOCK	1
5.	77041493	WIRE MARKER PA2-P-YELLOW	1
6.	77041491	WIRE MARKER PA2-9-YELLOW	1

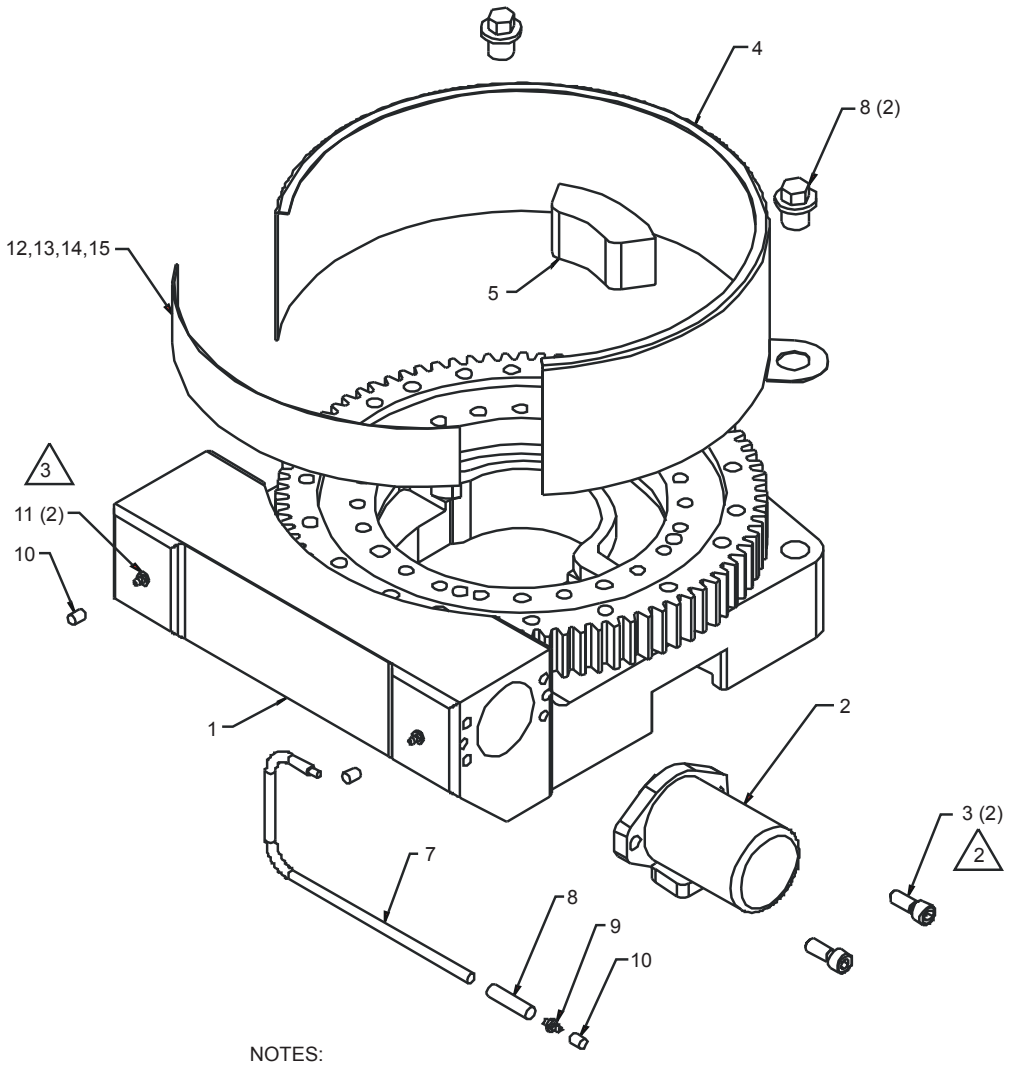


BASE ASM (41716514)

1.	71056577	GEAR ROTATOR (INCLUDES 11)	1
2.	73051919	MOTOR – HYD (101-2638-009)	1
3.	72060795	CAP SCR 1/2–13x 1.50 SH PLAIN	2
4.	60123611	GEAR GUARD – 6625	1
5.	60120138	SLIDE – ROTATION STOP	1
6.	70029595	THREADED PLUG 1.00 – 8	2
7.	51395121	HOSE – AA .13 x 13.50OAL (2-2)	1 REF
8.	72053301	COUPLING – BLK .12	1
9.	72053508	ZERK – NPT .12	1
10.	70034382	GREASE CAP-RED	3
11.	72533605	ZERK – GREASE	2 REF
12.	60123612	GEAR GUARD - 6625	1
13.	72601647	MACHINE SCREW #10-24X.50 FLH	2
14.	72062106	NUT #10-24 HEX NYLOC ZINC	2

NOTE:

GEAR ROTATOR 71056577 USED ON CRANE SERIAL NO. 6625021001 AND BEYOND.



NOTES:

1. APPLY "MOLLUB-ALLOY 935F" TO TURNTABLE BEARING AND WORM TEETH AT ASSEMBLY.

2 USE SERVICEABLE THREAD LOCK.

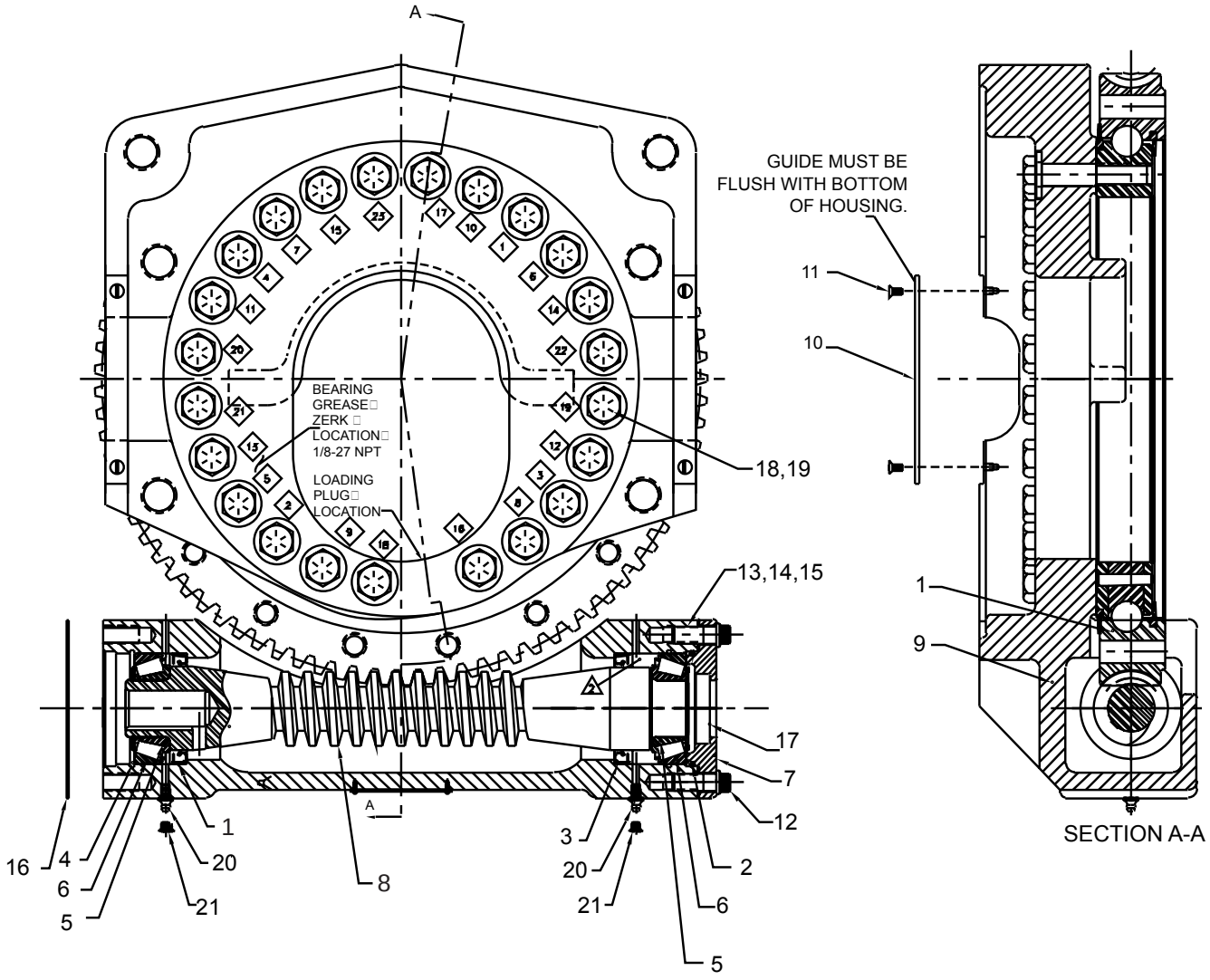
3 APPLY 3 PUMPS OF EXTREME PRESSURE (EP2) GREASE TO GREASE WORM BEARINGS. ROTATE CRANE FULLY AFTER APPLYING GREASE.

GEAR ROTATOR (71056574)

1.	70056527	SRB-E13.5-0 G8-085T5	1
2.	70395074	O-RING	1
3.	70395076	SEAL	2
4.	70145786	SNAP RING	1
5.	70055271	CONE BEARING	2
6.	70055281	CUP BEARING	2
7.	70145501	RETAINER BEARING	1
8.	70056550	WORM 17-010024-1	1
9.	70146322	MAIN HOUSING	1
10.	70145848	HOSE GUIDE	1
11.	72601754	SCR SLT FH1 1/4-29 NC x 1/2	2
12.	72601733	CAP SCREW FERRY 1/2NCx1.25	4
13.	73145506	SHIM .005	2
14.	73145505	SHIM .015	1
15.	73145504	SHIM .030	1
16.	76039295	GASKET GEA19 008-10056-1	1
17.	72533604	PLUG-EX CUP DORM	1
18.	72601751	CAP SCR HX 5/8NCx2-3/4 GR8	23
19.	72063219	CAP SCR HX 5/8NCx2-3/4 GR8	23
20.	72533605	ZERK	2
21.	72533439	VENT PLUG	2

NOTE:

Because of the difficulty in correctly setting the worm to bearing backlash, IMT recommends no repair to the rotator assembly. Contact IMT for information.



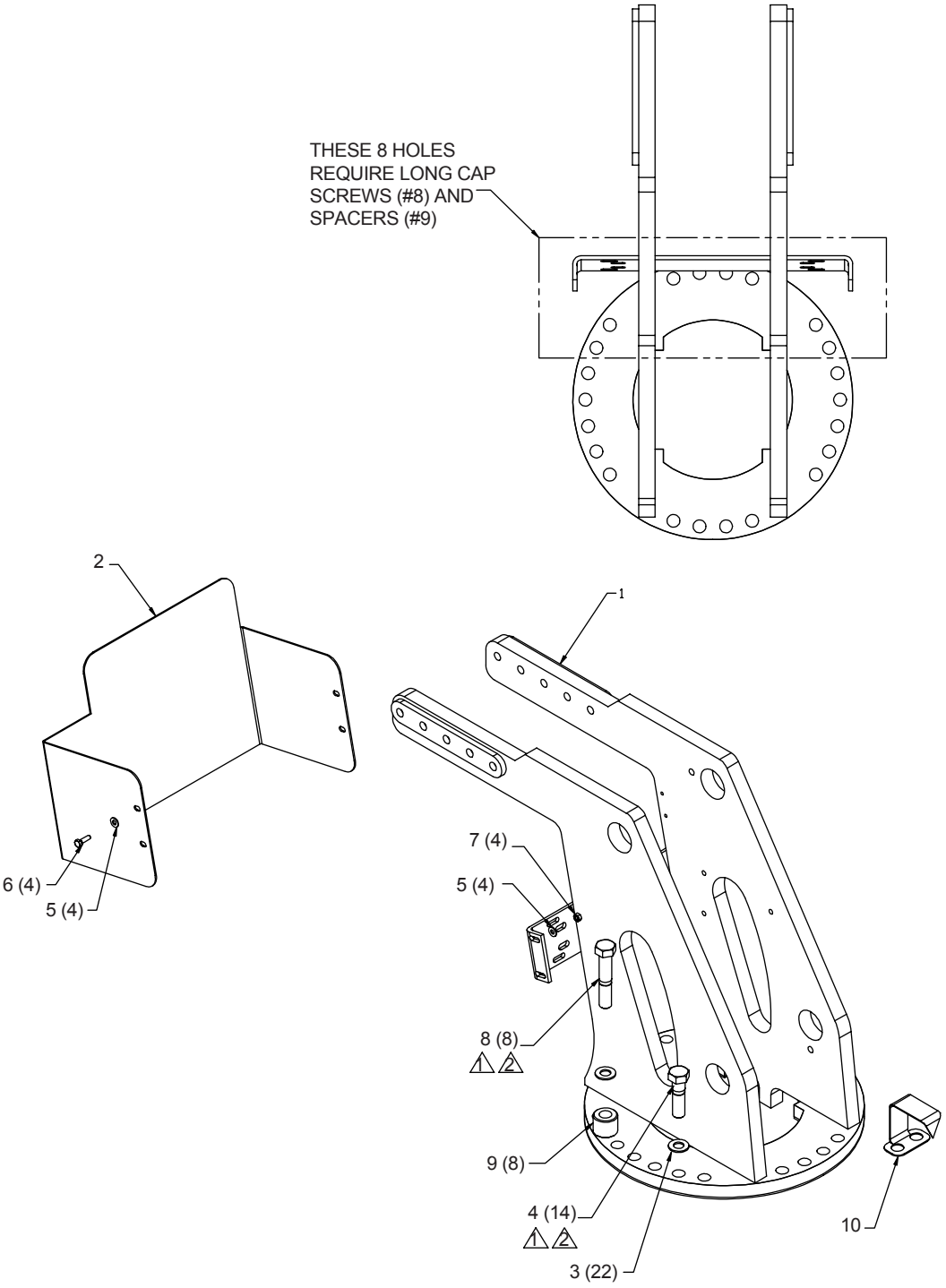
MAST ASM (41716515)

1.	52716466	MAST-WELDMENT 6625	1
2.	60119128	COVER – VALVE BANK	1
3.	72063116	WASHER – .75 N FLAT H	22
4.	72060209	CAP SCREW .75-10x2.75	14
5.	72063001	WASHER – 0.25 WRT Z	8
6.	72060004	CAP SCR 0.25 – 20 x 1.00 HH GR5 Z	4
7.	72062104	NUT 0.25 – 20 HEX NYLOC ZINC	4
8.	72601629	CAP SCREW .75-10X 4.00 HH	8
9.	60123540	SPACER 1.5 X .78 X 1.25	1
10.	60123610	POINT - GEAR GUARD	1

NOTES:

1. TORQUE ITEM #4 AND ITEM #8 TO 280 FT-LB.

2. DO NOT USE PERMANENT THREAD LOCK ON ITEM #4 OR ITEM #8.



5525 MODEL ONLY

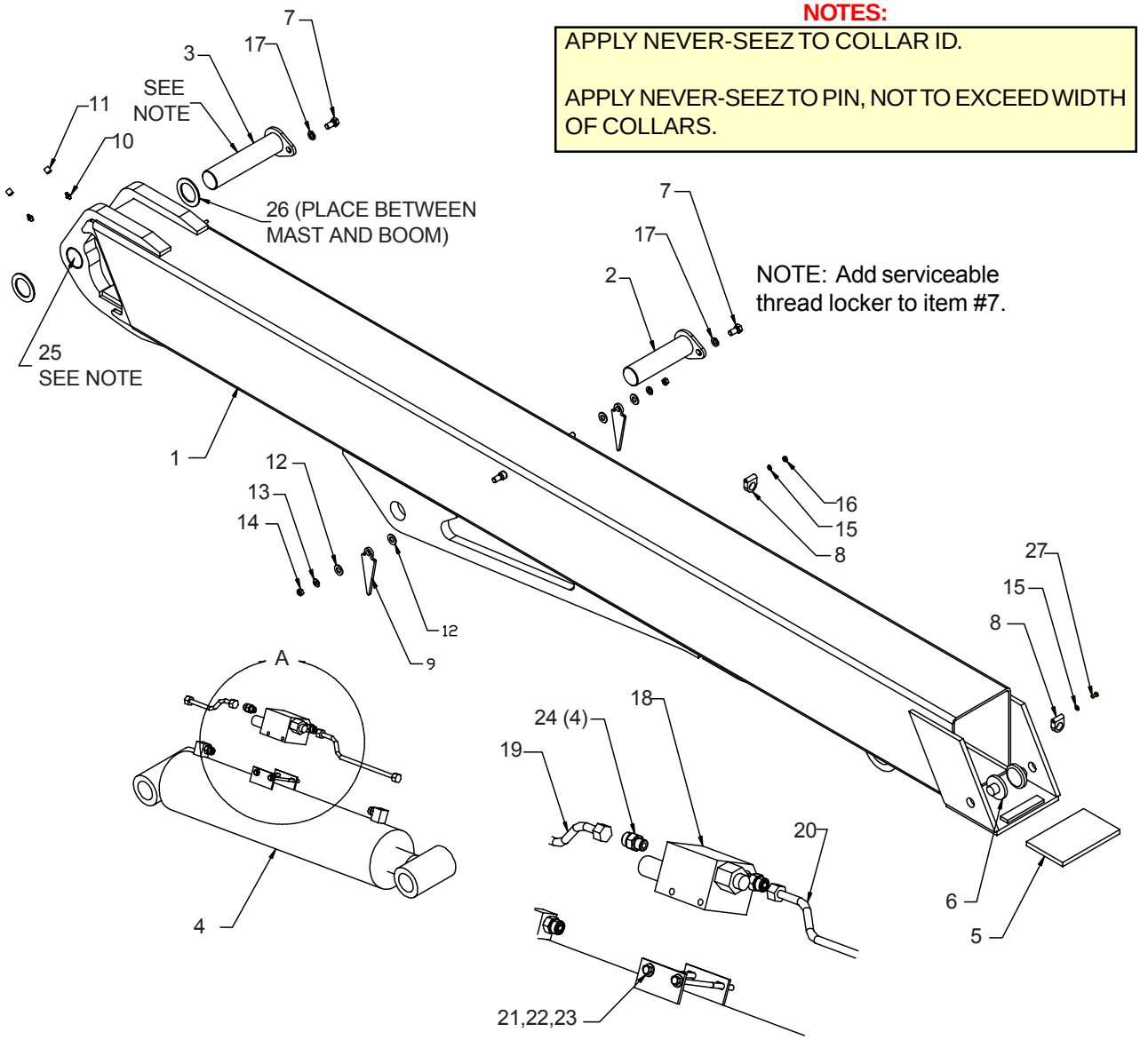
LOWER BOOM ASM - 5525 (41717301)

1.	52716469	BOOM – LOWER WLDMT (INCLUDES 25)	1
2.	52716486	PIN – TYPE MM 2.00X 8.19 (7.94)	1
3.	52716487	PIN – TYPE MM 2.00X 9.31 (9.06)	2
4.	70146462	CYL – 5525 LOWER	1
5.	60122982	WEAR PAD – 0.50 x 5.00 x 7.88	1
6.	60122985	WEAR PAD – RND 6625 BOOMS	2
7.	72060091	CAP SCR 1/2 – 13X 1.00	3
8.	70034381	SUPPORT – GP STAUFF LN – 4190-PA	2
9.	60105544	PLATE – ANGLE PLASTIC	2
10.	72053508	ZERK – NPT .12	2
11.	70034382	GREASE CAP – RED	2
12.	72063005	WASHER 1/2 W FLAT	4
13.	72063003	WASHER 3/8 W FLAT ANSI B27.2Z	2
14.	72062103	NUT 3/8-16 HEX NYLOC ZINC	2
15.	72063001	WASHER 1/4 LOCK ZINC	4
16.	72062104	NUT 1/4-20 HEX NYLOC ZINC	1
17.	72063053	WASHER 1/2 LOCK ZINC	3
18.	73540094	VALVE – DUAL CONTROL PRESS SWITCH	1
19.	70145753	TUBE ASM – 2015 LOWER CYL	1
20.	70145927	TUBE ASM – 5020 LOWER CYL	1
21.	72060037	CAP SCR 5/16 – 18X 4.00 HH GR5 Z	2
22.	72063002	WASHER 5/16 W FLAT ANSI B27.2Z	4
23.	72062109	NUT 5/16-18 HEX NYLOC ZINC	2
24.	72533186	ADPTR-#6 M FACE/#6 M STR	4
25.	70055203	BEARING-GAR DX 2.00X2.19X1.5	2 REF
26.	72063039	MACH BUSING 2.00X10 GA NR	2
27.	72060006	CAP SCR 1/4-20 X 1.5 HHGR5	1

NOTES:

APPLY NEVER-SEEZ TO COLLAR ID.

APPLY NEVER-SEEZ TO PIN, NOT TO EXCEED WIDTH OF COLLARS.

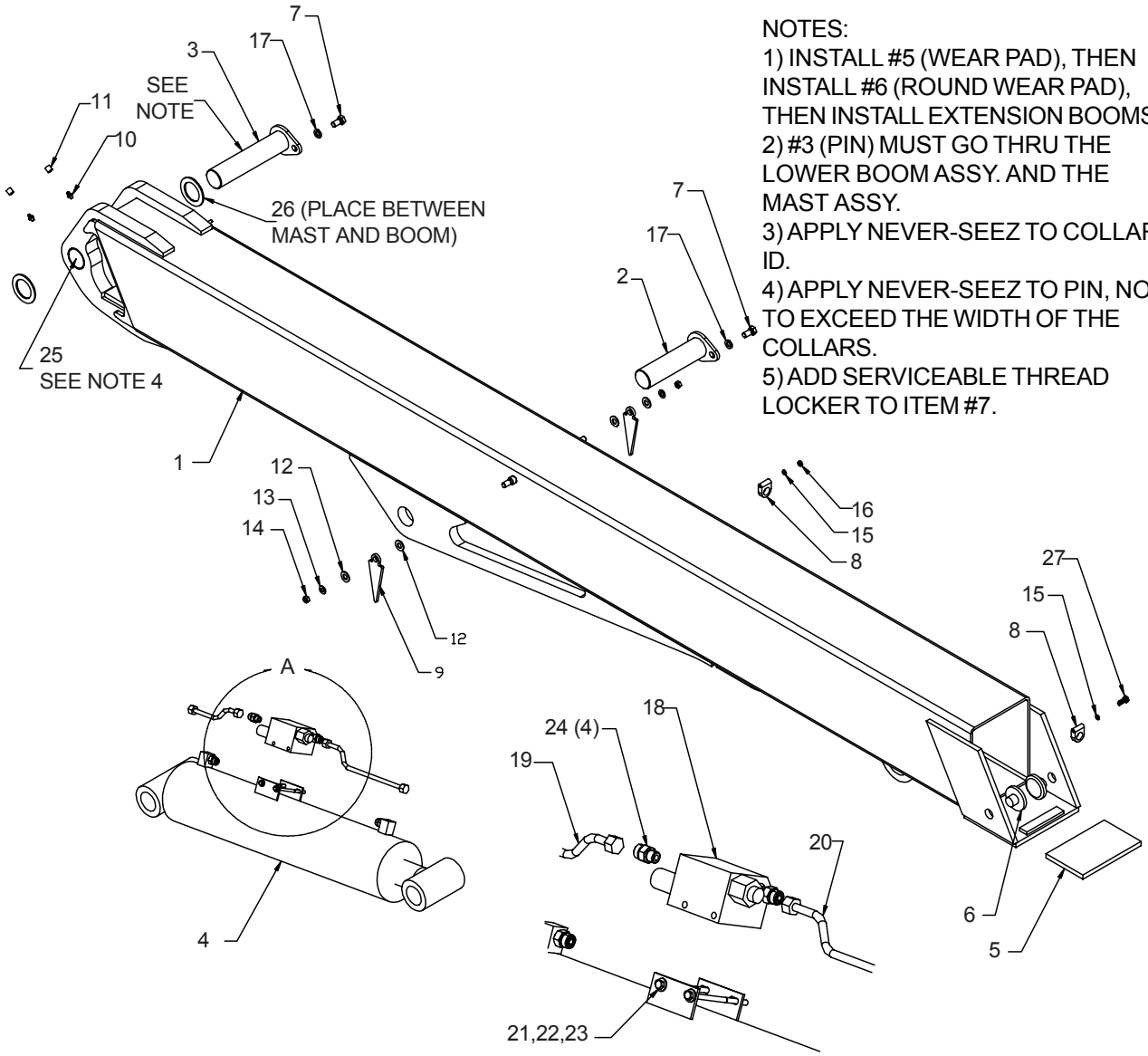


DETAIL A
SCALE 3:1

6025 MODEL ONLY

LOWER BOOM ASM - 6025 (41717027)

1.	52716469	BOOM – LOWER WLDMT (INCLUDES 25)	1
2.	52716486	PIN – TYPE MM 2.00X 8.19 (7.94)	1
3.	52716487	PIN – TYPE MM 2.00X 9.31 (9.06)	2
4.	70146427	CYL – 6025 LOWER	1
5.	60122982	WEAR PAD – 0.50 x 5.00 x 7.88	1
6.	60122985	WEAR PAD – RND 6625 BOOMS	2
7.	72060091	CAP SCR 1/2 – 13X 1.00	3
8.	70034381	SUPPORT – GP STAUFF LN – 4190-PA	2
9.	60105544	PLATE – ANGLE PLASTIC	2
10.	72053508	ZERK – NPT .12	2
11.	70034382	GREASE CAP – RED	2
12.	72063005	WASHER 1/2 W FLAT	4
13.	72063003	WASHER 3/8 W FLAT ANSI B27.2Z	2
14.	72062103	NUT 3/8-16 HEX NYLOC ZINC	2
15.	72063001	WASHER 1/4 LOCK ZINC	4
16.	72062104	NUT 1/4-20 HEX NYLOC ZINC	1
17.	72063053	WASHER 1/2 LOCK ZINC	3
18.	73540094	VALVE – DUAL CONTROL PRESS SWITCH	1
19.	70145753	TUBE ASM – 2015 LOWER CYL	1
20.	70145927	TUBE ASM – 5020 LOWER CYL	1
21.	72060037	CAP SCR 5/16 – 18X 4.00 HH GR5 Z	2
22.	72063002	WASHER 5/16 W FLAT ANSI B27.2Z	4
23.	72062109	NUT 5/16-18 HEX NYLOC ZINC	2
24.	72533186	ADPTR-#6 M FACE/#6 M STR	4
25.	70055203	BEARING-GAR DX 2.00X2.19X1.5	2 REF
26.	72063039	MACH BUSING 2.00X10 GA NR	2
27.	72060006	CAP WCR 1/4-20 X 1.5 HH GR5Z	1

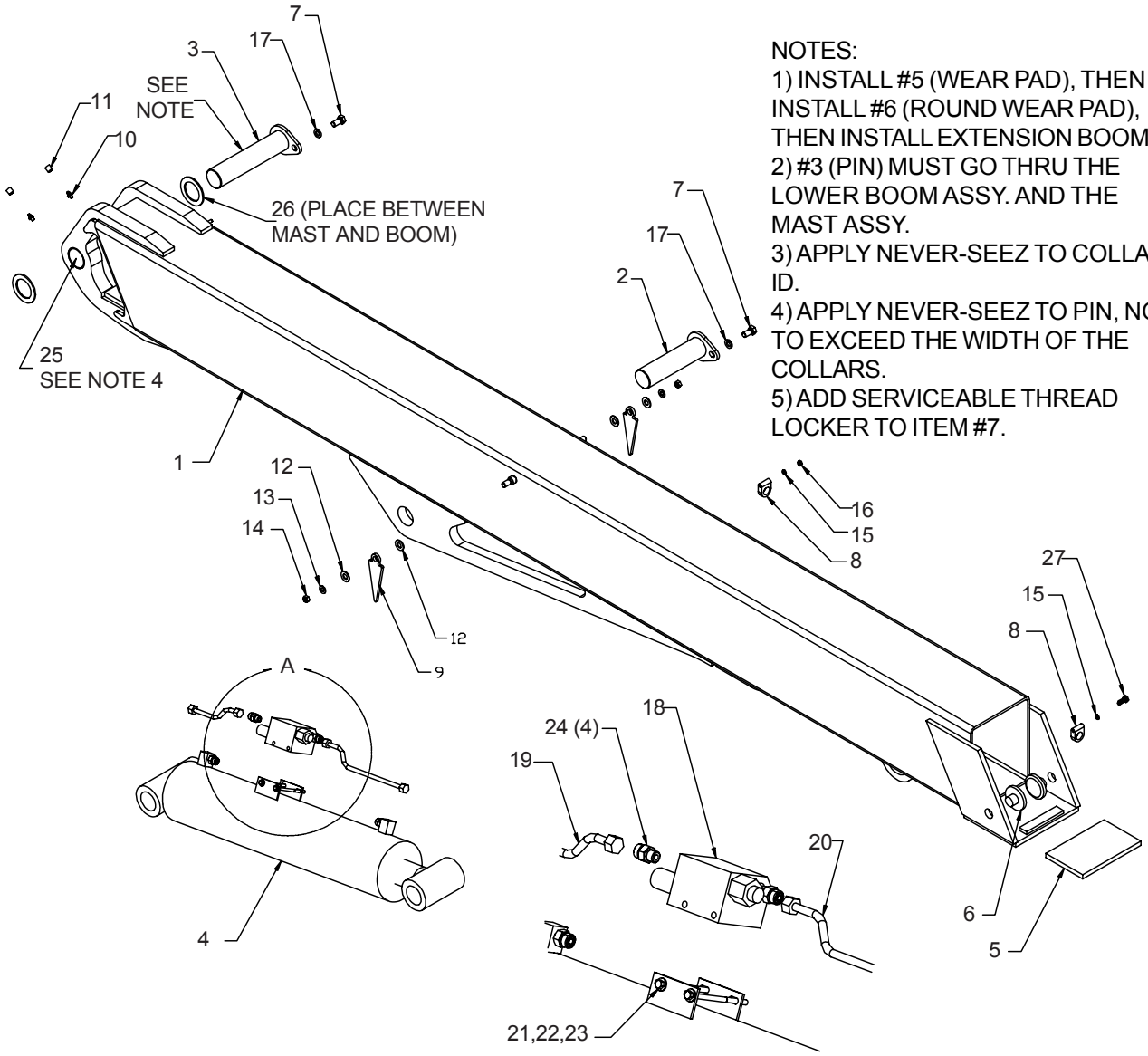


DETAIL A
SCALE 3:1

NOTES:
1) INSTALL #5 (WEAR PAD), THEN INSTALL #6 (ROUND WEAR PAD), THEN INSTALL EXTENSION BOOMS.
2) #3 (PIN) MUST GO THRU THE LOWER BOOM ASSY. AND THE MAST ASSY.
3) APPLY NEVER-SEEZ TO COLLAR ID.
4) APPLY NEVER-SEEZ TO PIN, NOT TO EXCEED THE WIDTH OF THE COLLARS.
5) ADD SERVICEABLE THREAD LOCKER TO ITEM #7.

LOWER BOOM ASM - 6625 (41716516)

1.	52716469	BOOM – LOWER WLDMT (INCLUDES 25)	1
2.	52716486	PIN – TYPE MM 2.00X 8.19 (7.94)	1
3.	52716487	PIN – TYPE MM 2.00X 9.31 (9.06)	2
4.	70146304	CYL – 6625 LOWER	1
5.	60122982	WEAR PAD – 0.50 x 5.00 x 7.88	1
6.	60122985	WEAR PAD – RND 6625 BOOMS	2
7.	72060091	CAP SCR 1/2 – 13X 1.00	3
8.	70034381	SUPPORT – GP	2
9.	60105544	PLATE – ANGLE PLASTIC	2
10.	72053508	ZERK – NPT 1/8	2
11.	70034382	GREASE CAP – RED	2
12.	72063005	WASHER 1/2 FLAT	4
13.	72063003	WASHER 3/8 FLAT	2
14.	72062103	NUT 3/8-16 HEX NYLOC ZINC	2
15.	72063001	WASHER 1/4 LOCK ZINC	4
16.	72062104	NUT 1/4-20 HEX NYLOC ZINC	1
17.	72063053	WASHER 1/2 LOCK ZINC	3
18.	73540094	VALVE – DUAL CONTROL PRESS SWITCH	1
19.	70145753	TUBE ASM – 2015 LOWER CYL	1
20.	70145927	TUBE ASM – 5020 LOWER CYL	1
21.	72060037	CAP SCR 5/16 – 18X 4.00 HHGR5	2
22.	72063002	WASHER 5/16 FLAT	4
23.	72062109	NUT 5/16-18 HEX NYLOC ZINC	2
24.	72533186	ADPTR-#6 M FACE/#6 M STR	4
25.	70055203	BEARING-GAR DX 2.00X2.19X1.5	2 REF
26.	72063039	MACH BUSHING 2.00 X 10GA	2
27.	72060006	CAP SCR 1/4-20 X 1.5 HH GR5Z	1

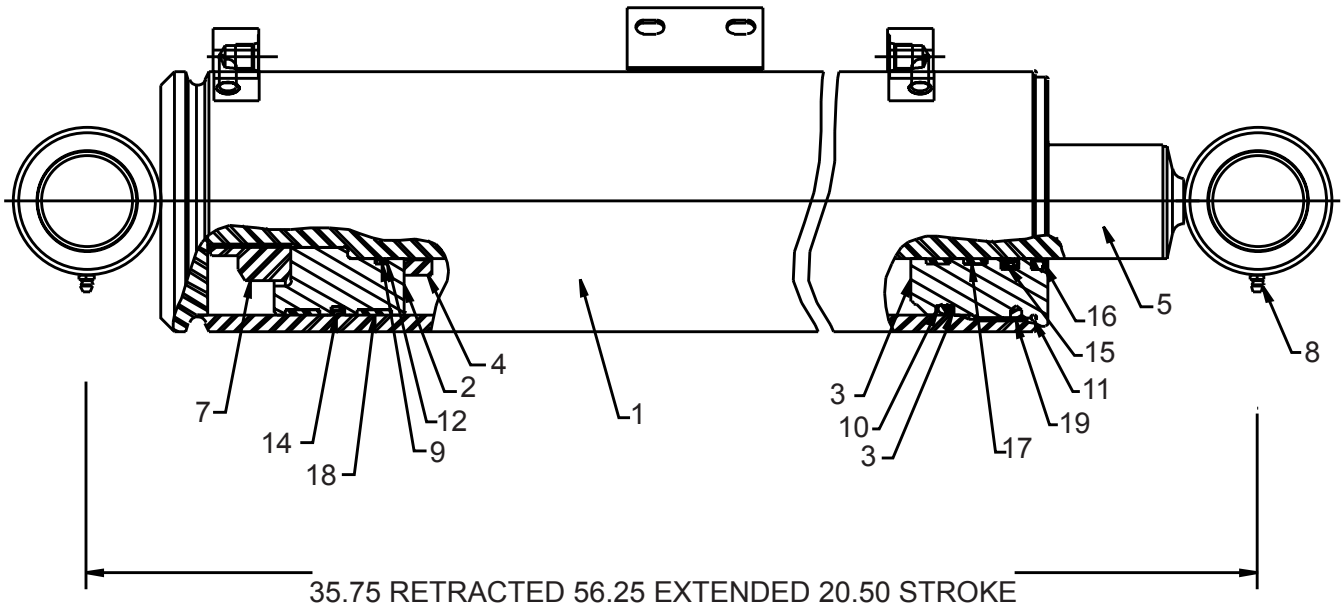


DETAIL A
SCALE 3:1

NOTES:
1) INSTALL #5 (WEAR PAD), THEN INSTALL #6 (ROUND WEAR PAD), THEN INSTALL EXTENSION BOOMS.
2) #3 (PIN) MUST GO THRU THE LOWER BOOM ASSY. AND THE MAST ASSY.
3) APPLY NEVER-SEEZ TO COLLAR ID.
4) APPLY NEVER-SEEZ TO PIN, NOT TO EXCEED THE WIDTH OF THE COLLARS.
5) ADD SERVICEABLE THREAD LOCKER TO ITEM #7.

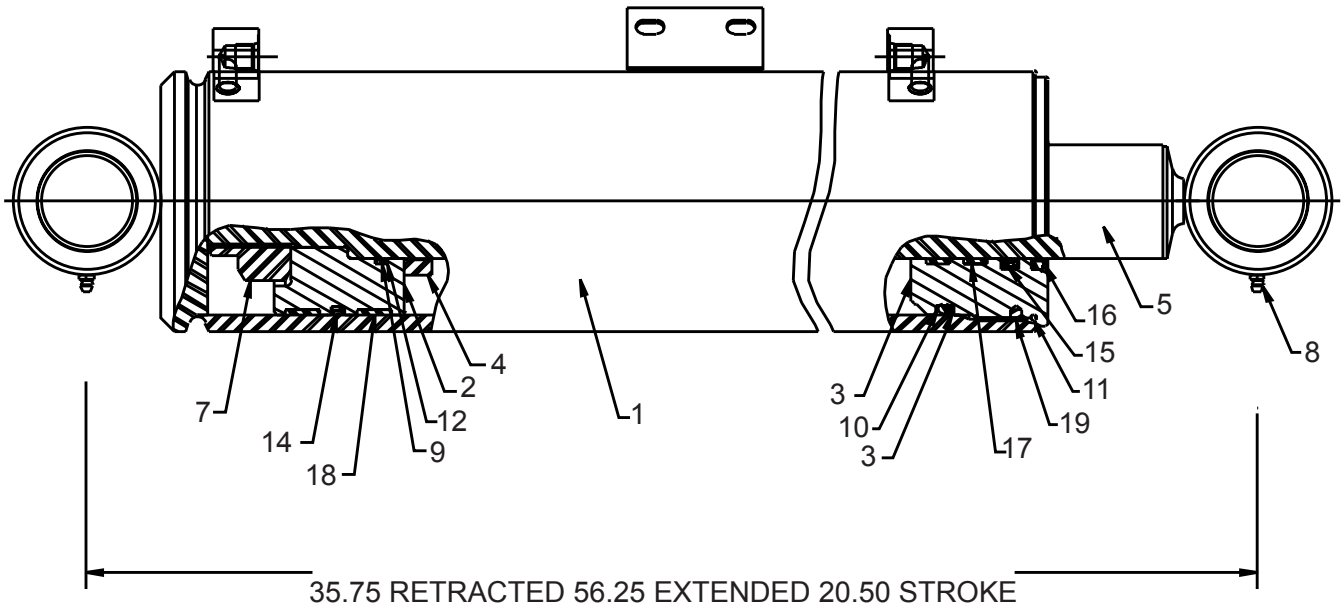
CYLINDER - 5525 (70146462)

1.	015KC0045	TUBE WLDMT	1
2.	050KE0008	PISTON – LOWER CYL	1
3.	060KT0007	HEAD GLAND – LOWER CYL	1
4.	065TB0001	ROD SPACER – LOWER CYL	1
5.	075TC0064	ROD WLDMT – LOWER CYL	1
6.	107KS0011	BUSHING-DX	4
7.	108BL0004	2.00 – 12 UN LOCK NUT	1
8.	109BA0001	GREASE ZERK	2
9.	120FZ0006	O-RING	1 REF
10.	120KZ0004	O-RING	1 REF
11.	120LZ0002	O-RING	1 REF
12.	123FZ0011	BACKUP RING, DYNAMIC	2 REF
13.	123KZ0005	BACKUP RING	1 REF
14.	128KZ0003	DISO – PAC PISTON SEAL	1 REF
15.	134GZ0003	DEEP Z-SEAL W/ ROD BACKUP	1 REF
16.	156FZ0002	HD ROD WIPER, SEALED OD	1 REF
17.	166FZ0005	PRECISION WEARBAND	2 REF
18.	166KZ0006	PRECISION WEARBAND	2 REF
19.	174CZ0002	LOCKING INSERT	2 REF
20.	092KT0010	SEAL KIT – LOWER CYL (INCLUDES 9-19)	1



CYLINDER - 6025 (70146427)

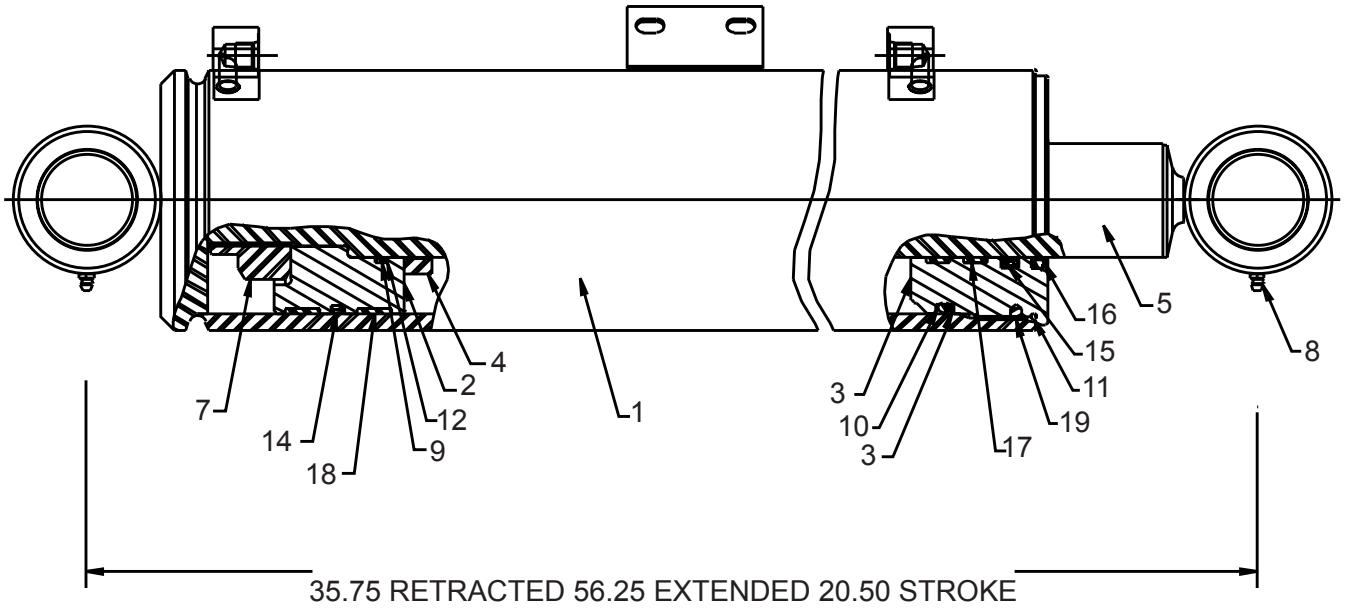
1.	015LC0063	TUBE WLDMT	1
2.	050LE0013	PISTON – LOWER CYL	1
3.	060LT0007	HEAD GLAND – LOWER CYL	1
4.	065TB0001	ROD SPACER – LOWER CYL	1
5.	075TC0058	ROD WLDMT – LOWER CYL	1
6.	107KS0011	BUSHING-DX	4
7.	108BL0006	2.00 – 12 UN LOCK NUT	1
8.	109BA0001	GREASE ZERK	2
9.	120FZ0006	O-RING	1 REF
10.	120LZ0001	O-RING	1 REF
11.	120LZ0003	O-RING	1 REF
12.	123FZ0011	BACKUP RING, DYNAMIC	2 REF
13.	123LZ0002	BACKUP RING	1 REF
14.	128LZ0004	DISO – PAC PISTON SEAL	1 REF
15.	134GZ0003	DEEP Z-SEAL W/ ROD BACKUP	1 REF
16.	156FZ0002	HD ROD WIPER, SEALED OD	1 REF
17.	166FZ0005	PRECISION WEARBAND	2 REF
18.	166LZ0001	PRECISION WEARBAND	2 REF
19.	174CZ0002	LOCKING INSERT	2 REF
20.	092LT0059	SEAL KIT – LOWER CYL (INCLUDES 9-19)	1



6625 MODEL ONLY

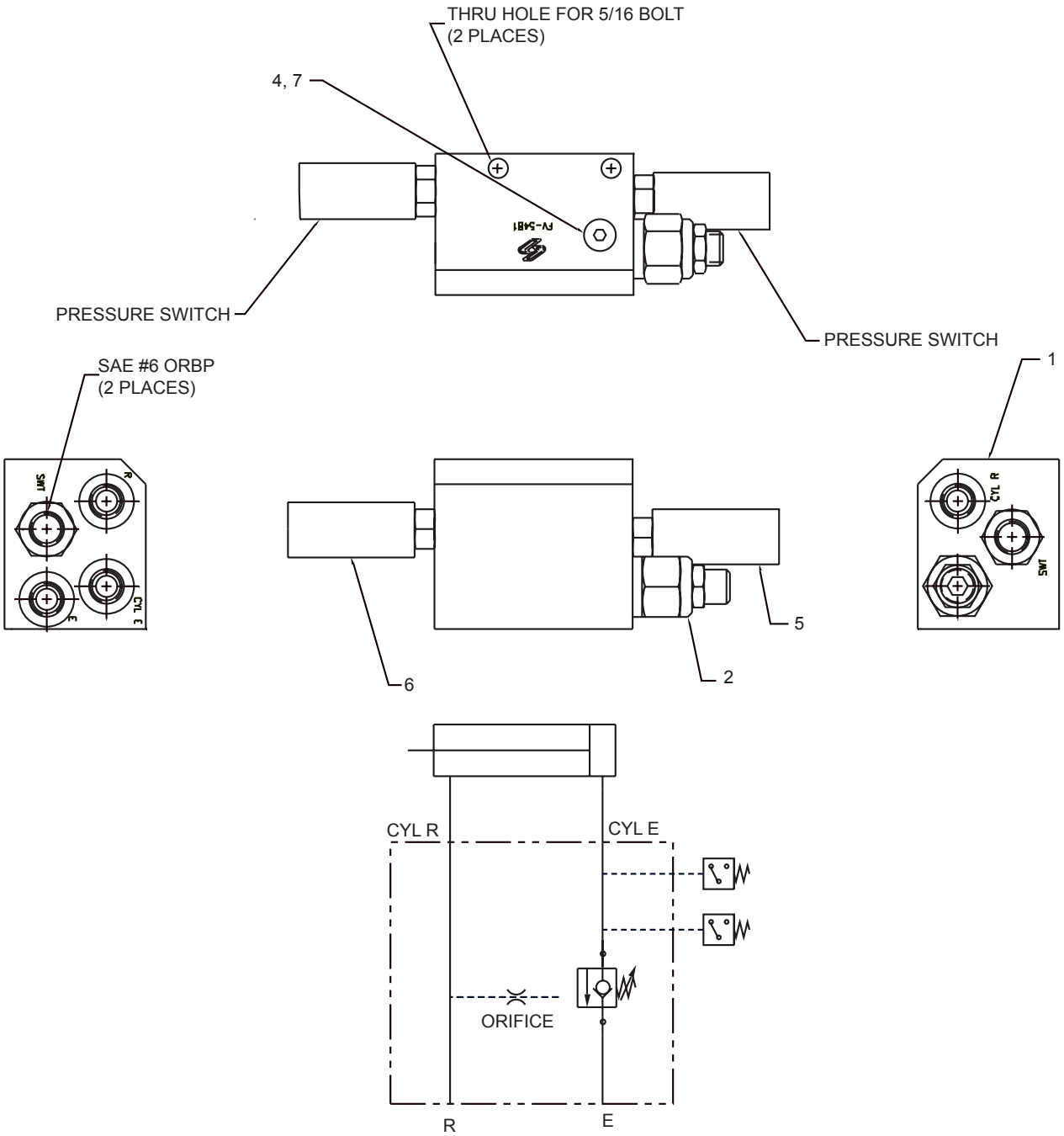
CYLINDER - 6625 (70146304)

1.	015LC0055	TUBE WLDMT	1
2.	050LE0011	PISTON – LOWER CYL	1
3.	060LT0008	HEAD GLAND – LOWER CYL	1
4.	065TB0001	ROD SPACER – LOWER CYL	1
5.	075TC0058	ROD WLDMT – LOWER CYL	1
6.	107KS0011	BUSHING-DX	4
7.	108BL0006	2.00 – 12 UN LOCK NUT	1
8.	109BA0001	GREASE ZERK	2
9.	120FZ0006	O-RING	1 REF
10.	120LZ0009	O-RING	1 REF
11.	120MZ0005	O-RING	1 REF
12.	123FZ0011	BACKUP RING, DYNAMIC	2 REF
13.	123LZ0008	BACKUP RING	1 REF
14.	128LZ0005	DISO – PAC PISTON SEAL	1 REF
15.	134GZ0003	DEEP Z-SEAL W/ ROD BACKUP	1 REF
16.	156FZ0002	HD ROD WIPER, SEALED OD	1 REF
17.	166FZ0005	PRECISION WEARBAND	2 REF
18.	166LZ0006	PRECISION WEARBAND	2 REF
19.	174CZ0002	LOCKING INSERT	2 REF
20.	092LT0056	SEAL KIT – LOWER CYL (INCLUDES 9-19)	1



VALVE (73540094)

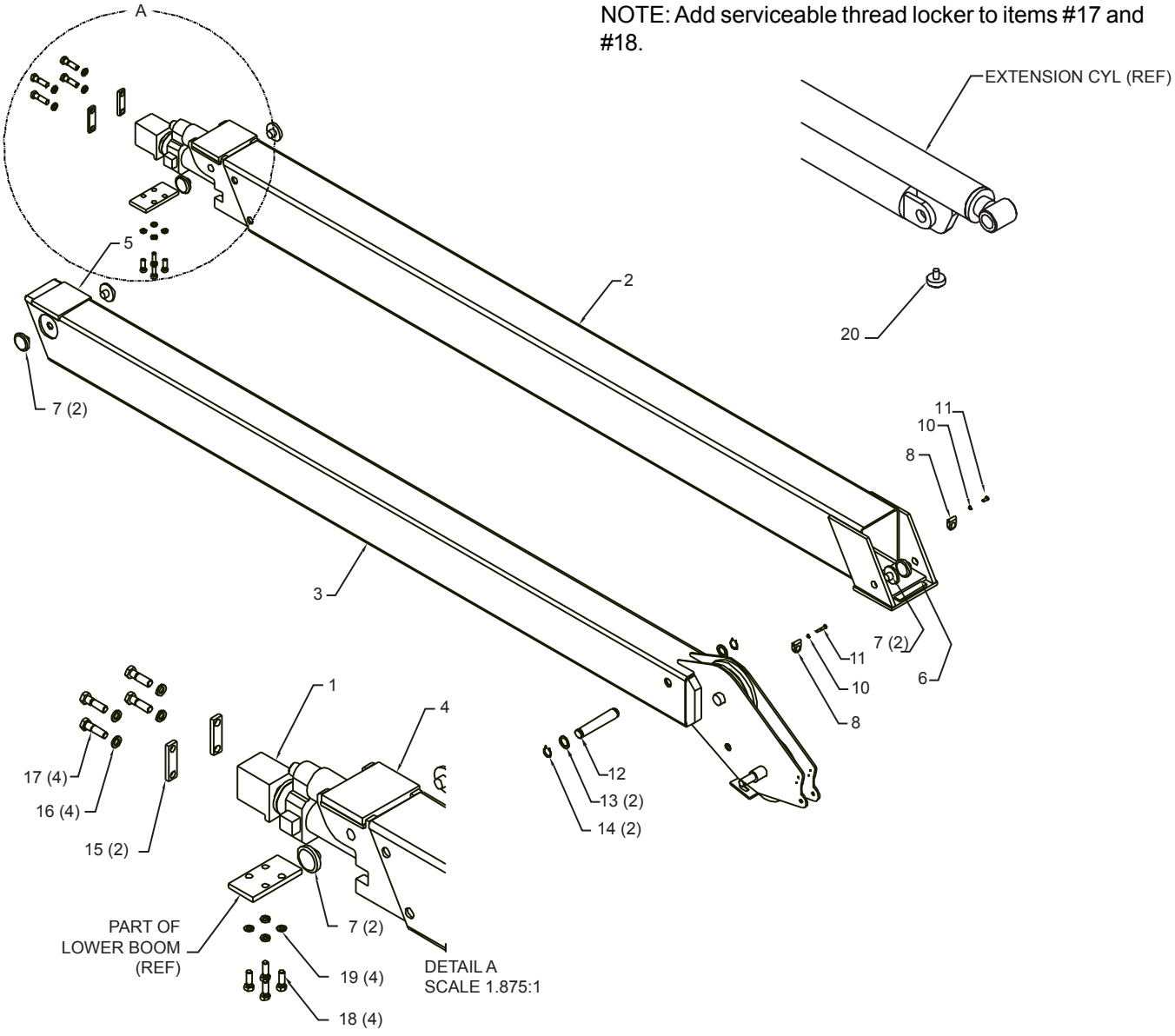
1.	73540051	VALVE-CBAL FAUV BLOCK FV-5481	1
2.	73540052	VALVE-CBAL 1.75: 1 3300 PSI ADJ	1
4.	70145750	ORIFICE FV-1147-H(.030)-M	1
5.	77041626	PRESSURE SWITCH (8533-3500-R-9109SP)	1
6.	77041625	PRESSURE SWITCH (8533-3100-R-9517SP)	1
7.	72533477	PLUG-STR HOL HEX STL 44 THD	2



EXTENSION BOOM ASSEMBLY (41716517)

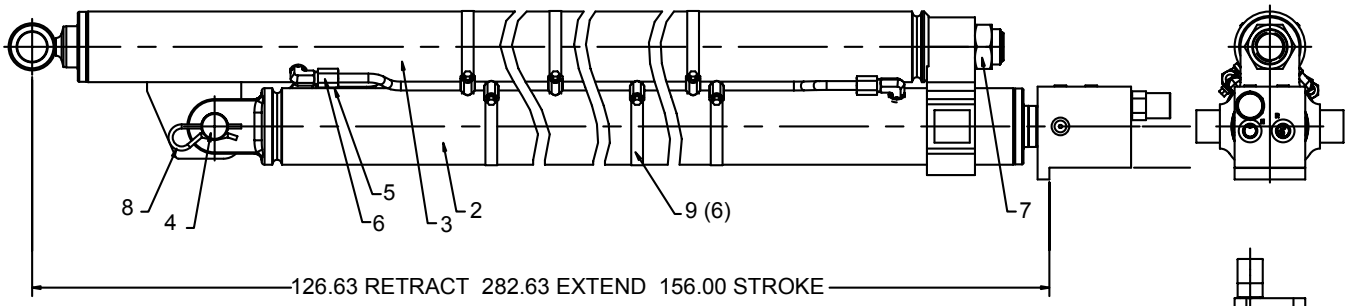
1.	51716461	EXTENSION CYLINDER ASM	1
2.	52716467	BOOM – EXT WLDMT 1ST STAGE	1
3.	52716473	BOOM – EXT WLDMT STINGER	1
4.	60122980	WEAR PAD – RC NYL 0.75 x 5.00 x 7.00	1
5.	60122981	WEAR PAD – RC NYL 0.75 x 5.00 x 6.00	1
6.	60122983	WEAR PAD – RC NYL 0.50 x 5.00 x 6.88	1
7.	60122985	WEAR PAD –RND BOOM	6
8.	70034381	SUPPORT – WIRE GUIDE	2
10.	72063001	WASHER 1/4 FLAT ZINC	2
11.	72060006	CAP SCR 1/4–20 X 1.50 HH GR5	2
12.	60122986	PIN – TYPE A 1.25 X 7.00 (6.31)	1
13.	72063035	MACH BUSHING 1.25 X 7.00 (6.31)	2
14.	72066129	RETAINING RING–EXT 1.25 HD	2
15.	60122977	RETAINER PLATE–EXT 1.25 HD	2
16.	72063055	WASHER 5/8 LOCK ZINC	4
17.	72060149	CAP SCR 5/8-11 X 1.50 HH GR5 Z	4
18.	72060093	CAP SCR 1/2 – 13X 1.50 HH GR5 Z	4
19.	72063053	WASHER 1/2 LOCK ZINC	4
20.	60122984	WEAR PAD – RND CYLINDER	1

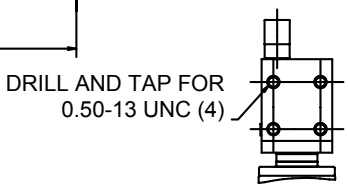
NOTE: Add serviceable thread locker to items #17 and #18.

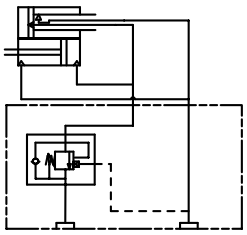


CYL ASM – EXTENSION (51716461)

1.	001EE0006	HYDRAULIC LINE - 6625 EXT CYL	2
2.	70146296	CYL – 2.7/1.7 78.00S 118.88CC C	1
3.	70146297	CYL – 2.5/1.7 78.00S 121.50CC C	1
4.	103MG0006	CLEVIS PIN – EXT CYL	1
5.	106EA0006	FLARELESS TUBE NUT – 6	4
6.	106EB0007	FLARELESS TUBE FERRELE – 6	4
7.	108BL0002	LOCK NUT – 1.25 – 12 UNF	1
8.	108LZ0002	HITCH PIN CLIP	2
9.	108NL0005	HOSE CLAMP	6







HYDRAULIC SCHEMATIC

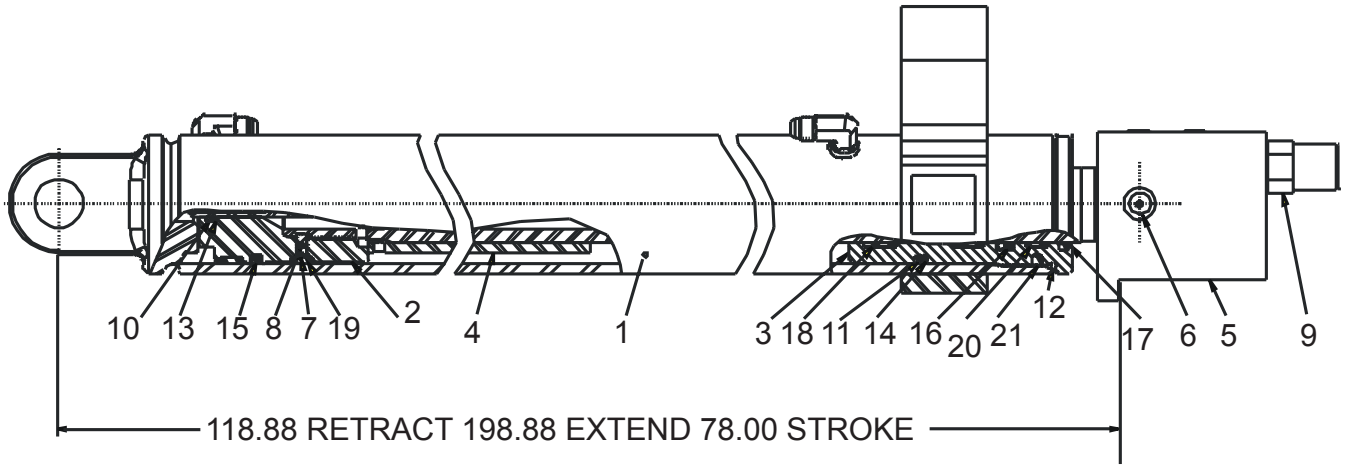
NOTES:

1. OPERATING PRESSURE: 3000 PSI
   TEST PRESSURE: 3500 PSI

2. TORQUE ITEM #7 (LOCKNUT) WITH THREADLOCKING COMPOUND TO 325-380 FT-LB. USE LOCTITE GRADE 271 OR EQUIVALENT.

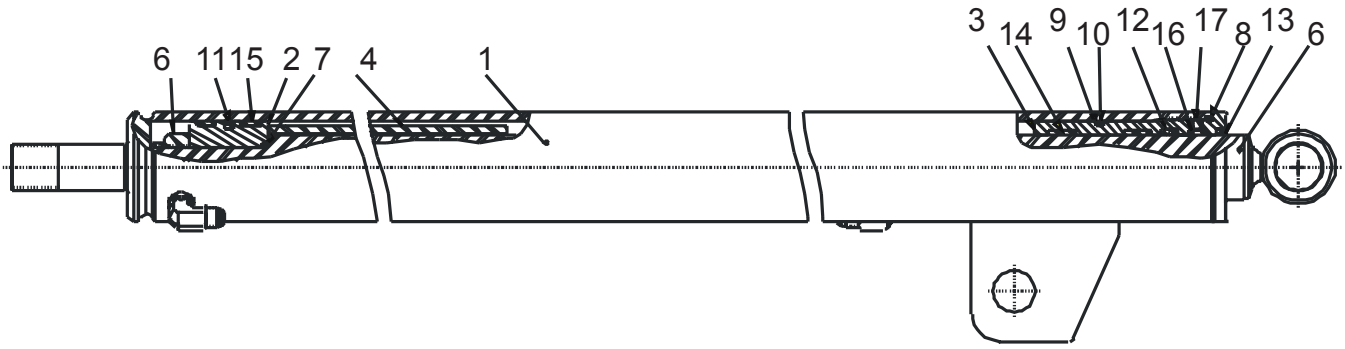
CYLINDER (70146296)

1.	015FC0032	TUBE WLDMT	1
2.	050FE0016	PISTON	1
3.	060FR0007	HEAD GLAND	1
4.	065RY0004	ROD SPACER	1
5.	075RD0015	ROD WLDMT	1
6.	106CJ0007	PLUG – SAE 3 HOL HEX	5
7.	108FB0006	SET SCR .25-20X .25	1
8.	108FB0030	SET SCR .25-20X.31	1
9.	114BB0029	VALVE – CBAL CCC – 4000 PSI	1
10.	120BZ0021	O-RING	1 REF
11.	120FZ0009	O-RING	1 REF
12.	120GZ0003	O-RING	1 REF
13.	120BZ0013	BACKUP RING DYNAMIC	2 REF
14.	123FZ0006	BACKUP RING	1 REF
15.	128FZ0004	DISO-PAC	1 REF
16.	134EZ0007	DEEP Z-SEAL	1 REF
17.	156DZ0001	HD ROD WIPER, SEALED OD	1 REF
18.	165EZ0005	WEARBAND	2 REF
19.	165FZ0005	WEARBAND	2 REF
20.	167EZ0001	WEARBAND 15% PTFE IMPREG	1 REF
21.	174CZ0002	LOCKING INSERT	2 REF
22.	092FR0012	SEAL KIT -6625 EXT CYL (INCLUDES 10-21)	1



CYLINDER (70146297)

1.	015FC0033	TUBE WELDMENT	1
2.	050FE0015	PISTON	1
3.	060FR0008	HEAD GLAND	1
4.	065RY0005	ROD SPACER	1
5.	075RC0059	ROD WELDMENT	1
6.	108BL0001	LOCK NUT – 1.125 – 12 UNF	1
7.	120CZ0032	O-RING	1 REF
8.	120FZ0006	O-RING	1 REF
9.	120FZ0013	O-RING	1 REF
10.	123FZ0003	BACKUP RING	1 REF
11.	128FZ0003	DISO – PAC	1 REF
12.	134EZ0007	DEEP Z – SEAL	1 REF
13.	156DZ0001	HD ROD WIPER, SEALED OD	1 REF
14.	165EZ0005	WEARBAND	2 REF
15.	165FZ0002	WEARBAND	2 REF
16.	167EZ0001	WEARBAND 15% PRFE IMPREG	1 REF
17.	174CZ0002	LOCKING INSERT	2REF
18.	092FR0013	SEAL KIT (INCLUDES 7-17)	1



HYDRAULIC KIT - 5525 (91717399-1)

1.	73733395	VALVE BANK 5020/3820 PROPN (INCLUDES 24, 27, 28)	1
2.	72062104	NUT 1/4-20x1.25 HH GR5	4
3.	72060005	CAP SCR 1/4-20x1.25 HH GR5	4
4.	72063001	WASHER 1/4 FLAT	4
5.	51717397	HOSE/ADPTR KIT (INCL 6-26,29-31)	1
6.	51396170	HOSE-BBX 3/8x13.00 OAL(6-4)	1REF
7.	51396171	HOSE-BBX 3/8x15.00 OAL(6-4)	1REF
8.	51396043	HOSE-XX 3/8x32.00 OAL(4-6)	2REF
9.	51396044	HOSE-BBX 1/2x34.50 OAL(8-8)	1REF
10.	51396045	HOSE-BBX 3/8x32.50 OAL(6-4)	1REF
11.	51395557	HOSE-BBX 1/4x34.50 OAL(4-4)	2REF
12.	51396046	HOSE-BBX 1/4x19.50 OAL(4-6)	2REF
16.	51396050	HOSE BBX 5/8x25.00 OAL (8-8)	1REF
17.	51396172	HOSE-BBY 1/2x26.00 OAL (8-8)	1REF
19.	72533186	ADPTR #6MFACE #6MSTR	3REF
20.	72533423	ADPTR #8MFACE #6MSTR	1REF
21.	72533540	SWIVEL #4MFACE #4MFACE 90°	2REF
22.	72533296	ADPTR #6MFACE #10MSTR	4REF
24.	72533425	ADPTR #4MFACE #8MSTR (PART OF 1(7))	7REF
26.	72533538	SWIVEL #8MFACE #8MFACE IN-LINE (PART OF 5)	2REF
27.	72533162	ELBOW #8MSTR #8MFACE 90°	2REF
28.	72533166	ADPTR #8MSTR #8MFACE 90°	2REF
29.	72533612	ADPTR #8FFACE #8MJIC	2REF
34.	60350075	SLEEVE-HOSE AS-B-27 1.63"x24	1
35.	60350085	SLEEVE-HOSE AS-B-37 2.38"x12	1
39.	72532675	CAP-JIC STL .75 THD	2REF

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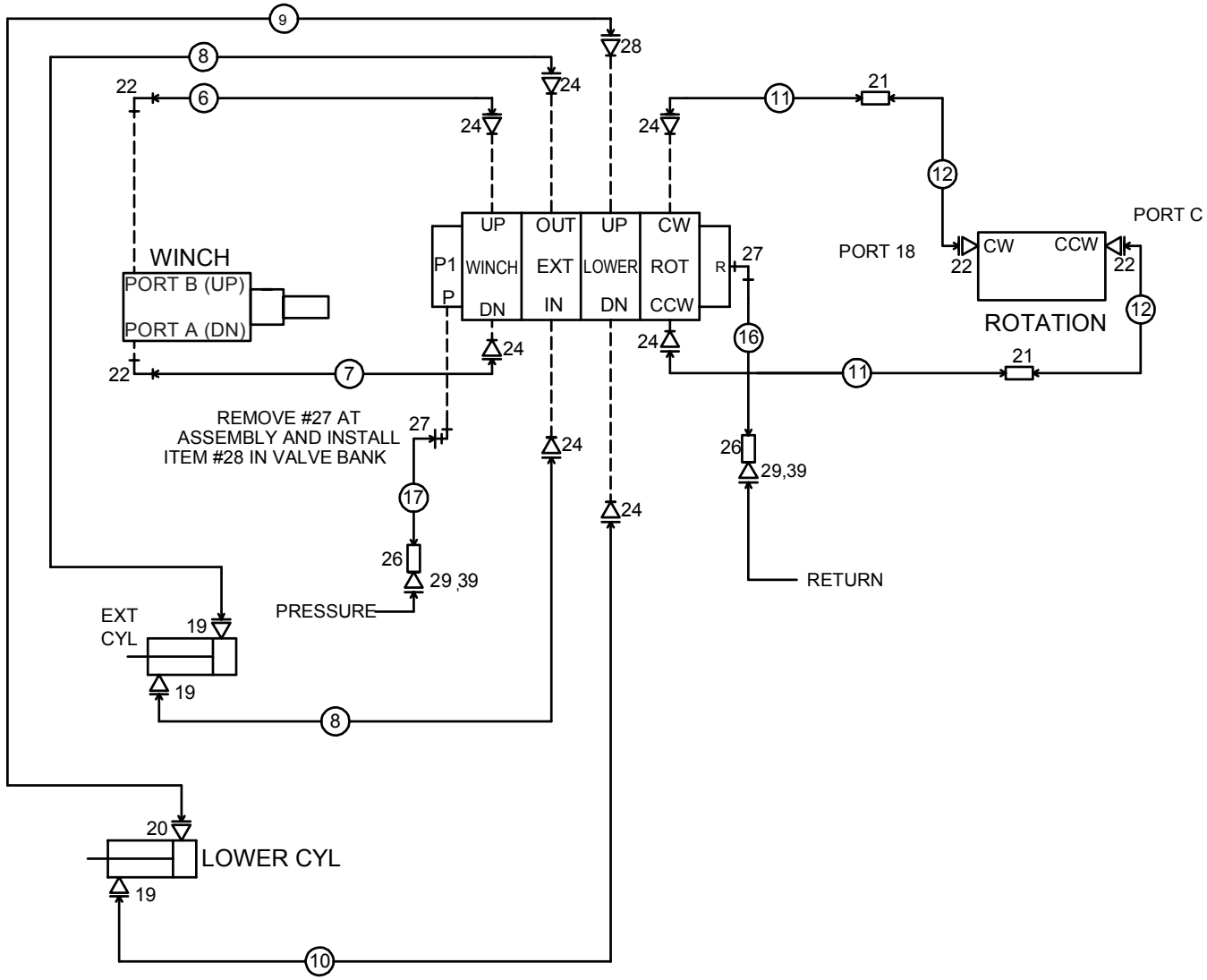
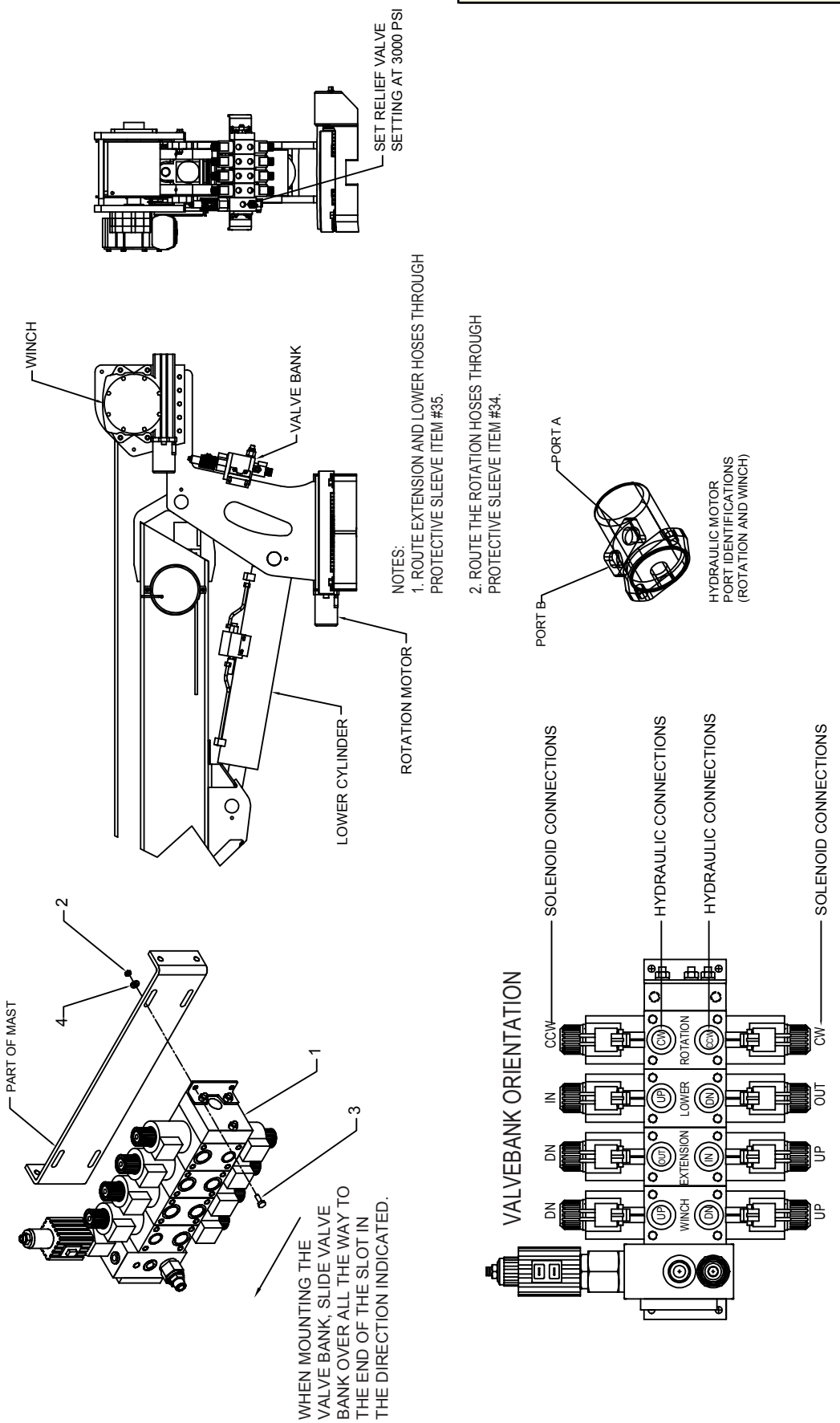


HYDRAULIC KIT - 5525 (91717399-2)

PARTS LIST ON PREVIOUS PAGE



HYDRAULIC KIT - 5525 RADIO REMOTE (91717400-1)

1.	73733380	VALVE BANK -PROPN RAD RMT (INCLUDES 24, 27, 28)	1
2.	72062104	NUT 1/4-20x1.25 HH GR5	4
3.	72080005	CAP SCR 1/4-20x1.25 HH GR5	4
4.	72063001	WASHER 1/4 FLAT	4
5.	51717397	HOSE/ADPTR KIT (INCL 6-22,26, 28,29,39)	1
6.	51396170	HOSE-BBX 3/8x10.00 OAL(8-6)	1REF
7.	51396171	HOSE-BBX 3/8x12.00 OAL(8-6)	1REF
8.	51396043	HOSE-XX 3/8x32.00 OAL(4-6)	2REF
9.	51396044	HOSE-BBX 1/2x34.50 OAL(8-8)	1REF
10.	51396045	HOSE-BBX 3/8x32.50 OAL(6-4)	1REF
11.	51395557	HOSE-BBX 1/4x34.50 OAL(4-4)	2REF
12.	51396046	HOSE-BBX 1/4x19.50 OAL(4-6)	2REF
16.	51396050	HOSE BBX 5/8x25.00 OAL (8-8)	1REF
17.	51396172	HOSE-BBY 1/2x26.00 OAL (8-8)	1REF
19.	72533186	ADPTR #6MFACE #6MSTR	3REF
20.	72533423	ADPTR #8MFACE #6MSTR	1REF
22.	72533296	ADPTR #6MFACE #10MSTR	4REF
24.	72533425	ADPTR #4MFACE #8MSTR (PART OF 1(7))	7REF
26.	72533538	SWIVEL #8MFACE #8MFACE	2 REF
27.	72533162	ELBOW #8MSTR #8MFACE 90°	2REF
28.	72533166	ADPTR #8MSTR #8MFACE 90°	2REF
29.	72533612	ADPTR #8FFACE #8MJIC	2REF
34.	60350075	SLEEVE-HOSE AS-B-27 1.63"x24	1
35.	60350085	SLEEVE-HOSE AS-B-37 2.38"x12	1
39.	72532675	CAP-JIC STL 3/4 THD	2REF

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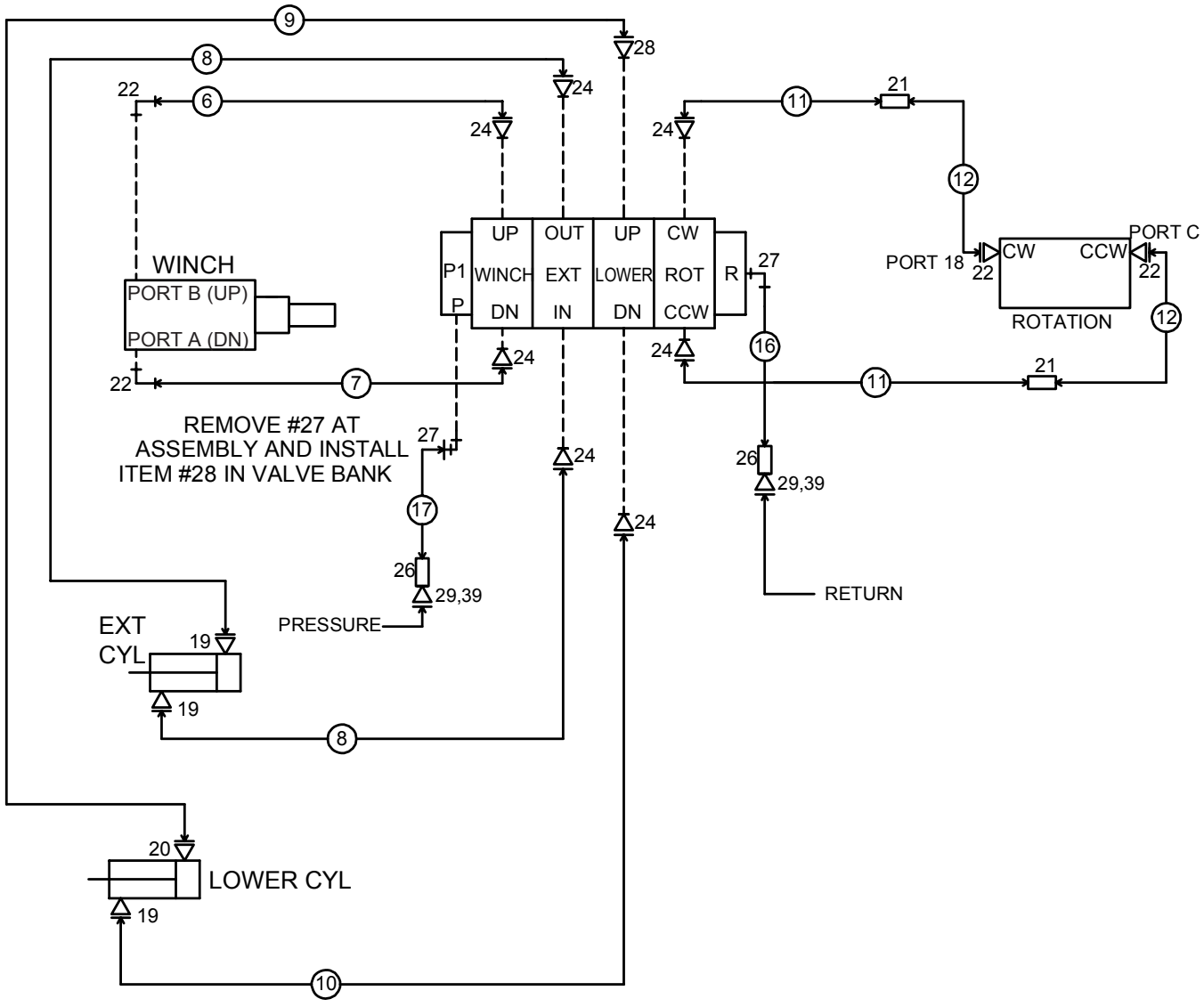
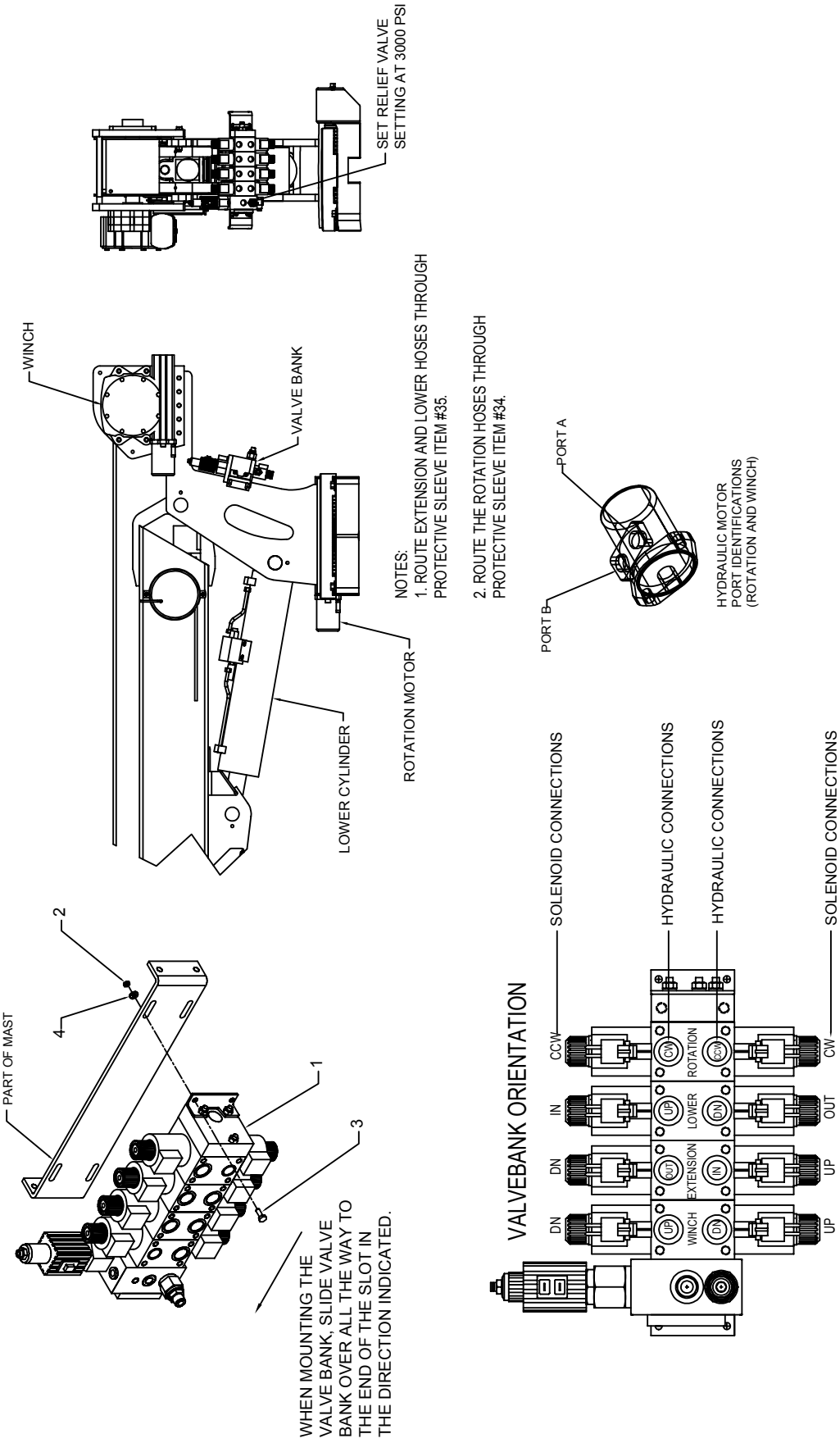


5525 MODEL ONLY

HYDRAULIC KIT - 5525 RADIO REMOTE (91717400-2)

PARTS LIST ON PREVIOUS PAGE



HYDRAULIC KIT (91716519-1)

1.	73733395	VALVE BANK 5020/3820 PROPN (INCLUDES 24, 27, 28)	1
2.	72062104	NUT 1/4-20x1.25 HH GR5	4
3.	72080005	CAP SCR 1/4-20x1.25 HH GR5	4
4.	72063001	WASHER 1/4 FLAT	12
5.	51716788	HOSE/ADPTR KIT (INCL 6-26,29-31)	1
6.	51396041	HOSE-BBX 3/8x20.50 OAL(8-4)	1REF
7.	51396042	HOSE-BBX 3/8x18.50 OAL(8-4)	1REF
8.	51396043	HOSE-XX 3/8x32.00 OAL(4-6)	2REF
9.	51396044	HOSE-BBX 1/2x34.50 OAL(8-8)	1REF
10.	51396045	HOSE-BBX 3/8x32.50 OAL(6-4)	1REF
11.	51395557	HOSE-BBX 1/4x34.50 OAL(4-4)	2REF
12.	51396046	HOSE-BBX 1/4x19.50 OAL(4-6)	2REF
13.	51396047	HOSE-BBX 1/4x7.50 OAL (4-4)	1REF
14.	51396048	HOSE XX 1/4x10.50 OAL (4-4)	1REF
15.	51396049	HOSE XX 1/4x18.00 OAL (4-8)	1REF
16.	51396050	HOSE BBX 5/8x25.00 OAL (8-8)	1REF
17.	51396051	HOSE-BBBB 1/2x26.00 OAL (8-8)	1REF
18.	72533156	ELBOW #12MSTR #8MFACE 90°	2REF
19.	72533186	ADPTR #6MFACE #6MSTR	3REF
20.	72533423	ADPTR #8MFACE #6MSTR	1REF
21.	72533540	SWIVEL #4MFACE #4MFACE 90°	2REF
22.	72533396	ADPTR #6MFACE #10MSTR	2REF
23.	72533376	ADPTR #4MFACE2#4MSTR	4REF
24.	72533425	ADPTR #4MFACE #8MSTR (PART OF 1(7))	7REF
26.	72533538	SWIVEL #8MFACE #8MFACE IN-LINE (PART OF 5)	2REF
27.	72533162	ELBOW #8MSTR #8MFACE 90°	2REF
28.	72533166	ADPTR #8MSTR #8MFACE 90°	1REF
29.	72533612	ADPTR #8FFACE #8MJIC	2REF
30.	72533411	TEE SWVL NUT RUN FACE #4	1REF
31.	72533413	TEE SWVL NUT RUN FACE #8	1REF
32.	51717338	VALVE-SOLENOID DUMP	1
33.	72063049	WASHER 1/4 LOCK ZINC	2
34.	60350075	SLEEVE-HOSE AS-B-27 1.63”x24	1
35.	60350085	SLEEVE-HOSE AS-B-37 2.38”x12	1
40.	72060008	CAP SCR 1/4-20x2.00 HH GR5Z	2

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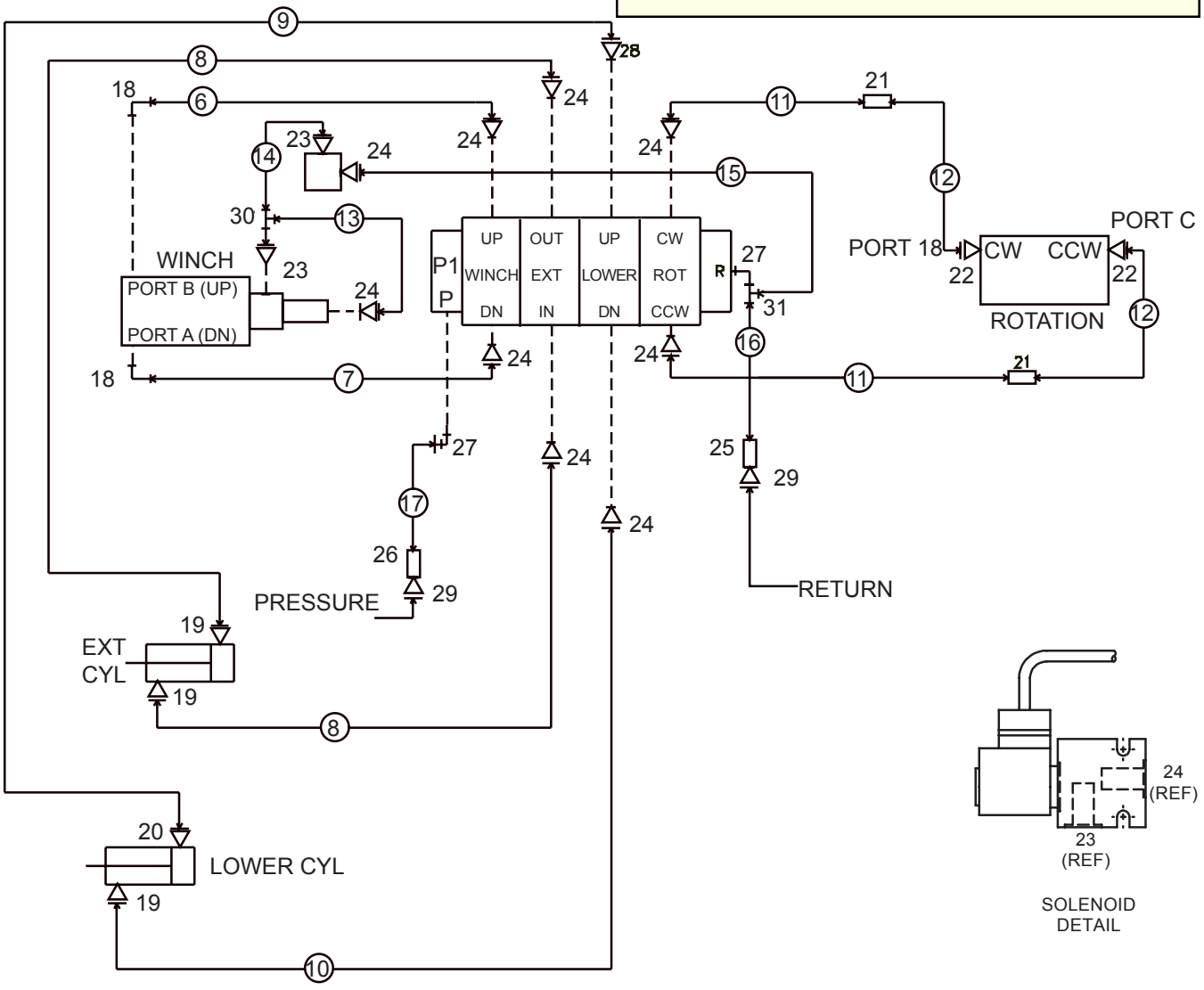

PARTS LIST ON PREVIOUS PAGE

HYD KIT -6025/ 6625 RADIO REMOTE (91717393-1)

1.	73733380	VALVE BANK -PROPN RAD RMT (INCLUDES 24, 27, 28)	1
2.	72062104	NUT 1/4-20x1.25 HH GR5	4
3.	72080005	CAP SCR 1/4-20x1.25 HH GR5	4
4.	72063001	WASHER 1/4 FLAT	4
5.	51716788	HOSE/ADPTR KIT (INCL 6-26)	1
6.	51396041	HOSE-BBX 3/8x20.50 OAL(8-4)	1REF
7.	51396042	HOSE-BBX 3/8x18.50 OAL(8-4)	1REF
8.	51396043	HOSE-XX 3/8x32.00 OAL(4-6)	2REF
9.	51396044	HOSE-BBX 1/2x34.50 OAL(8-8)	1REF
10.	51396045	HOSE-BBX 3/8x32.50 OAL(6-4)	1REF
11.	51395557	HOSE-BBX 1/4x34.50 OAL(4-4)	2REF
12.	51396046	HOSE-BBX 1/4x19.50 OAL(4-6)	2REF
13.	51396047	HOSE-BBX 1/4x7.50 OAL(4-4)	1REF
14.	51396048	HOSE-XX 1/4x10.5 OAL (4-4)	1REF
15.	51396049	HOSE-XX 1/4x18,00 OAL (4-8)	1REF
16.	51396050	HOSE BBX 5/8x25.00 OAL (8-8)	1REF
17.	51396051	HOSE-BBBB 1/2x26.00 OAL (8-8)	1REF
18.	72533156	ELBOW #12MSTR #8MFACE 90°	2REF
19.	72533186	ADPTR #6MFACE #6MSTR	3REF
20.	72533423	ADPTR #8MFACE #6MSTR	1REF
21.	72533540	SWIVEL #4MFACE #4MFACE 90°	2REF
22.	72533296	ADPTR #6MFACE #10MSTR	2REF
23.	72533376	ADPTR - #4MFACE #4MSTR	4REF
24.	72533425	ADPTR #4MFACE #8MSTR (PART OF 1(7))	7REF
26.	72533538	SWIVEL #8MFACE #8MFACE	2 REF
27.	72533162	ELBOW #8MSTR #8MFACE 90°	2REF
28.	72533166	ADPTR #8MSTR #8MFACE 90°	2REF
29.	72533612	ADPTR #8FFACE #8MJIC	2REF
30.	72533411	TEE-SWVL NUT RUN FACE #4	1REF
31.	72533413	TEE-SWVL NUT RUN FACE #8	1REF
32.	51717338	VALVE-SOLENOID DUMP	1
33.	72063049	WASHER 1/4 LOCK	
34.	60350075	SLEEVE-HOSE AS-B-27 1.63"x24	1
35.	60350085	SLEEVE-HOSE AS-B-37 2.38"x12	1
39.	72532675	CAP-JIC STL 3/4 THD	2REF
40.	72060008	CAP SCR 1/4-20 X 2.00 HHGR5Z	2

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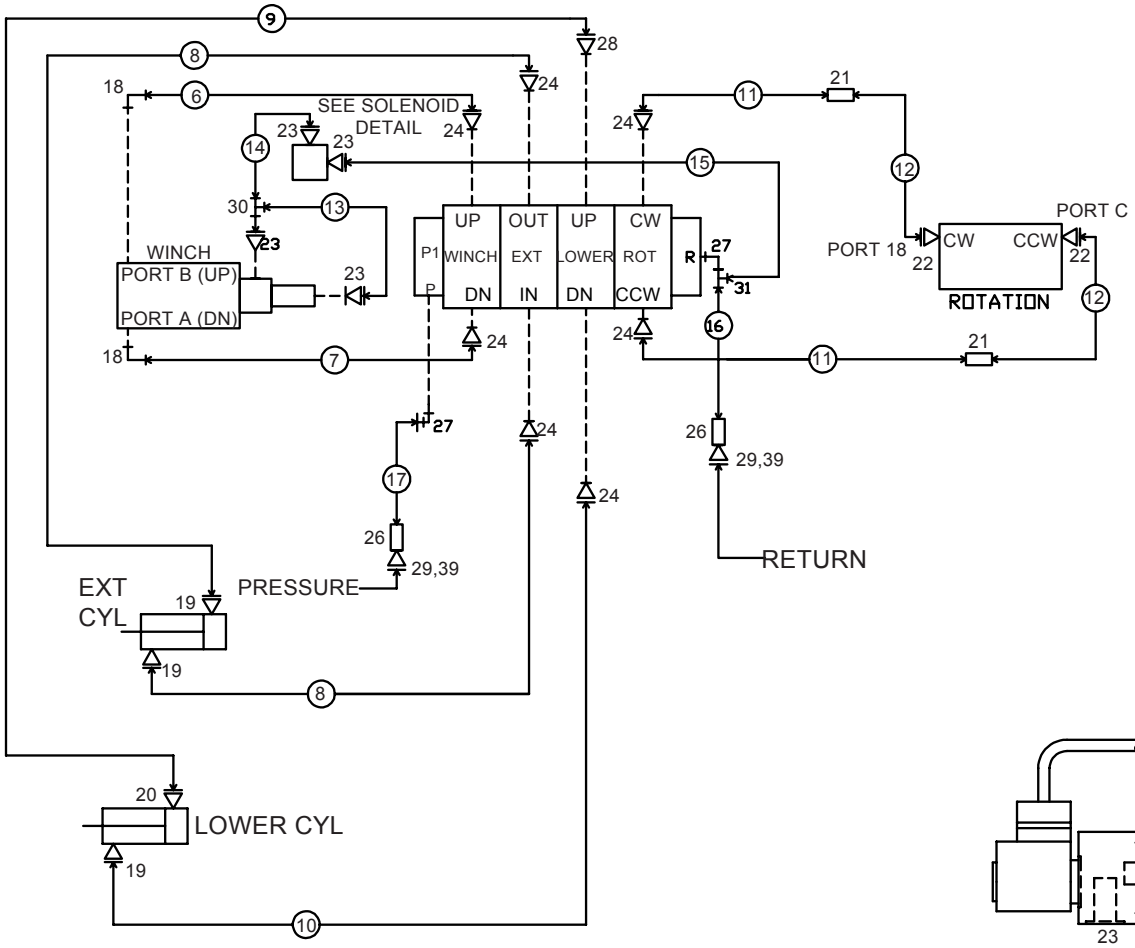
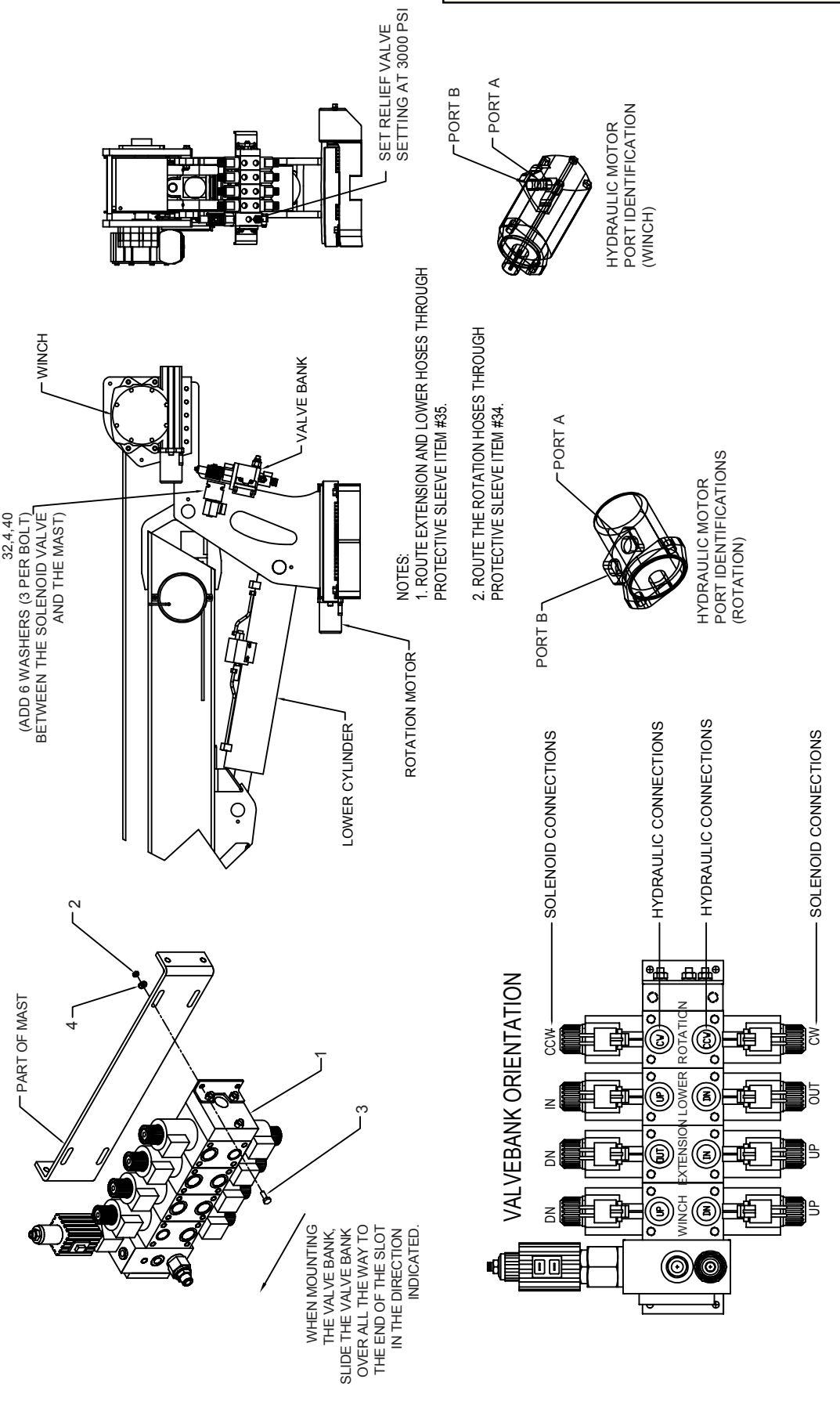


SOLENOID DETAIL

HYD KIT -6025/ 6625 RADIO REMOTE (91717393-2)

PARTS LIST ON PREVIOUS PAGE



5525 MODEL ONLY

CONTROL KIT, TETHERED - 5525 (90717396-1)

1.	51716562	HANDLE ASM	1
3.	77441006	HARNESS-DUAL PRESS SWITCH	1
4.	70034439	LOCK WIRE	5
5.	60119299	BRACKET	1
6.	77044645	NUT-DEUTSCH 24	1
7.	77044646	WASHER-LOCK DEUTSCH	1
8.	70733394	CABLE ASM - TETHERED (ADDED CABLE # 4-10-03)	REF

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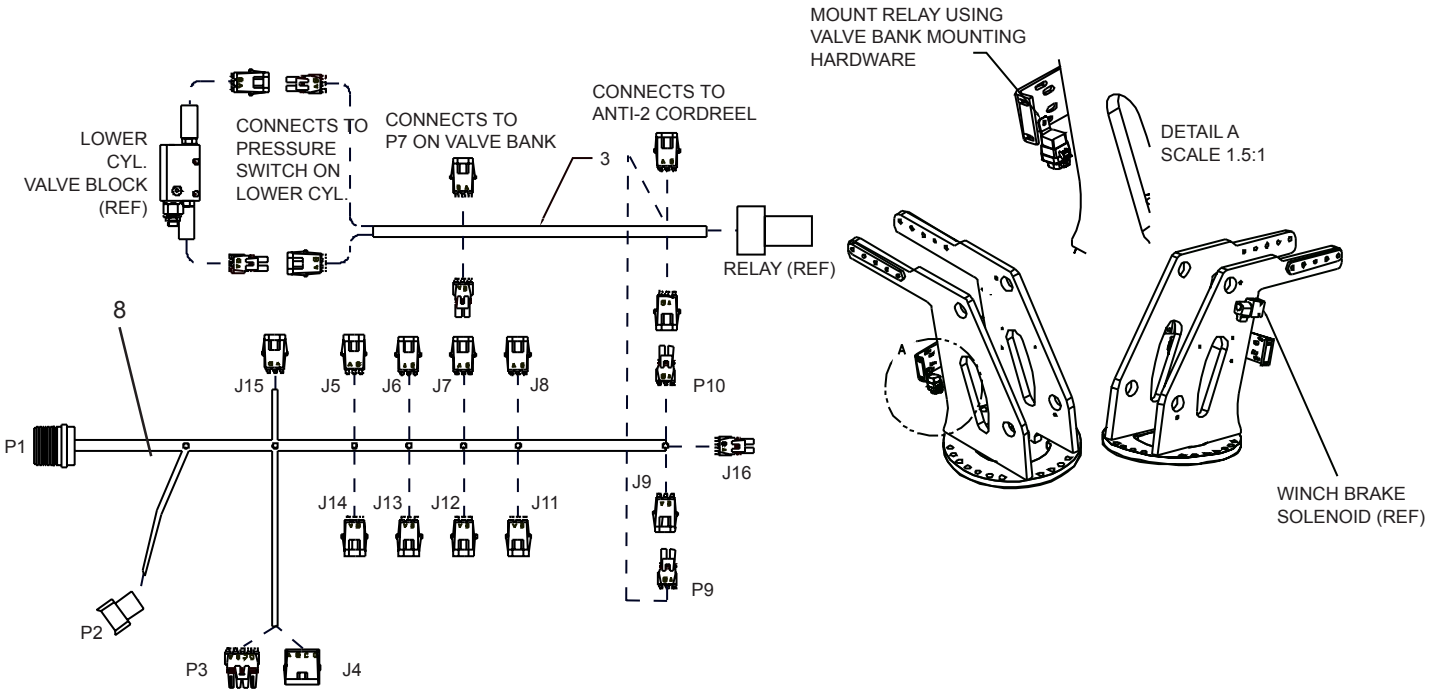

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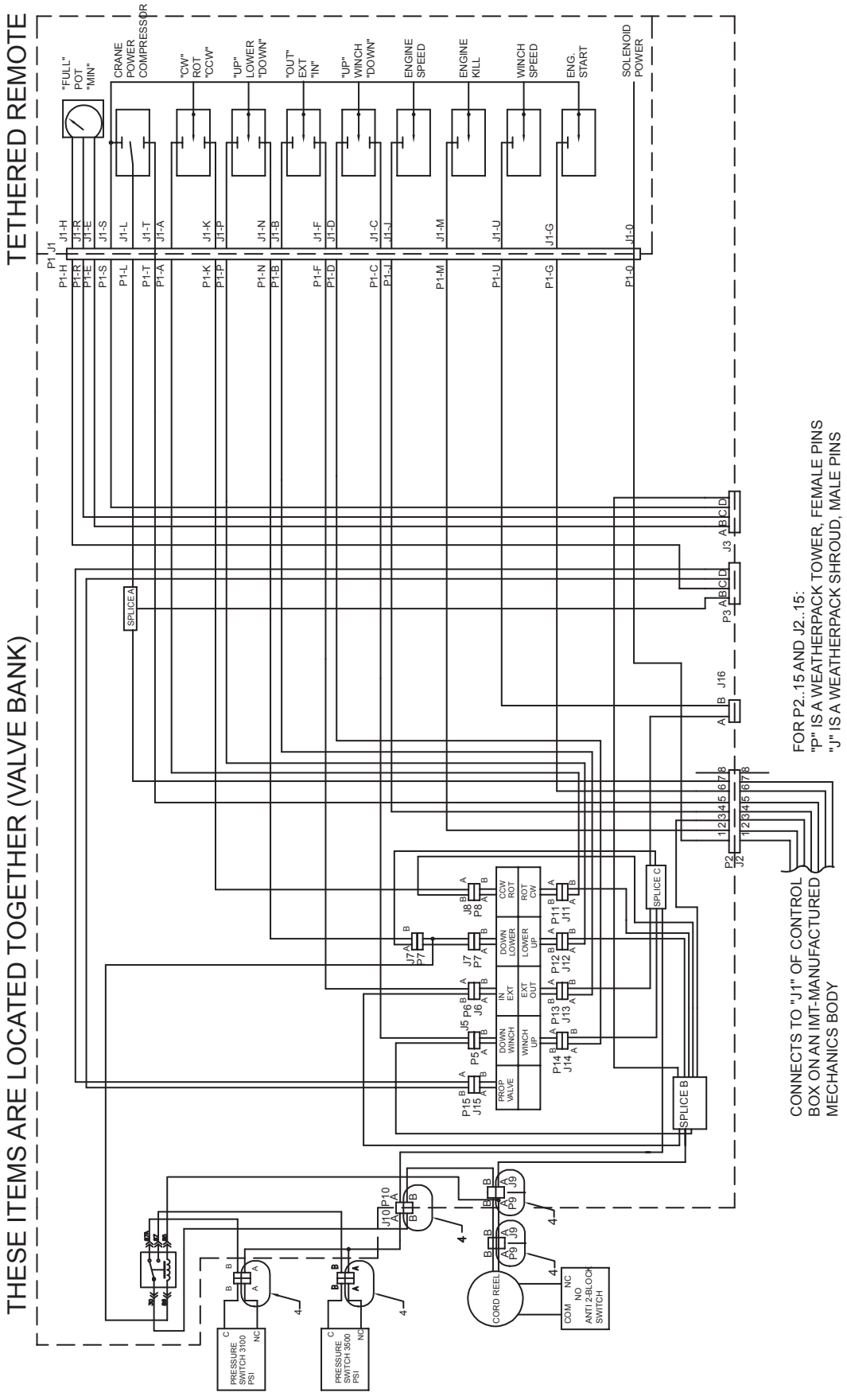
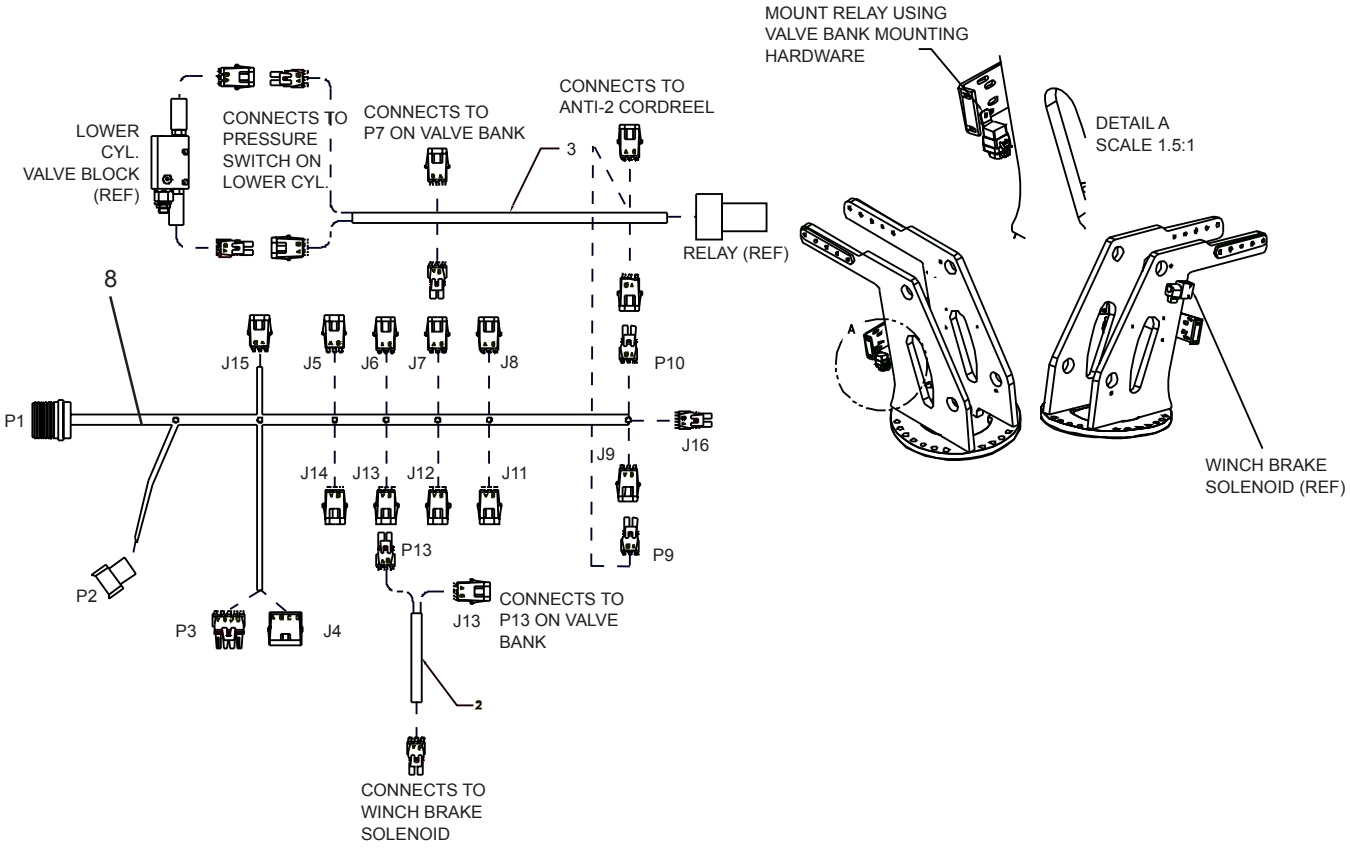


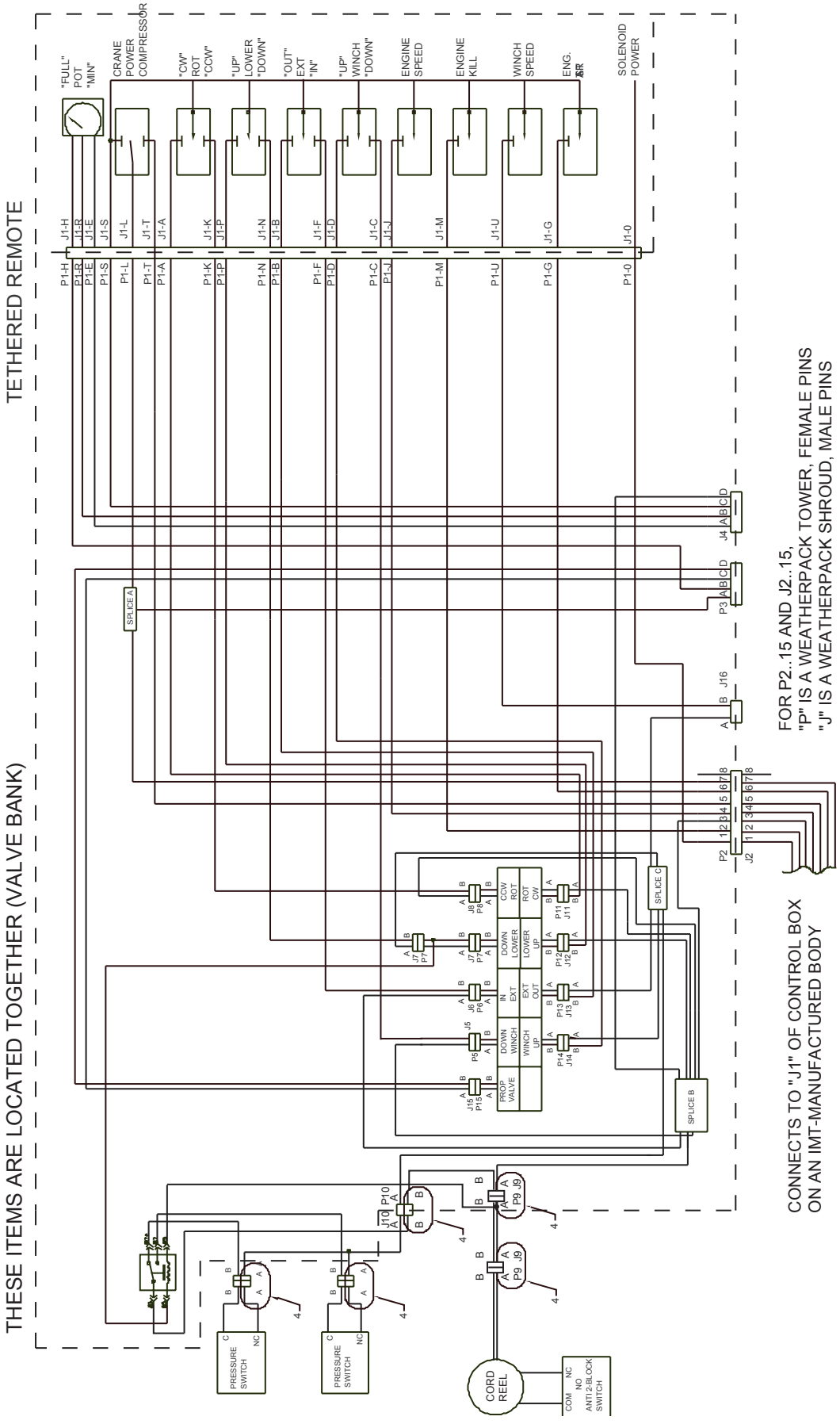
CONTROL KIT, TETHERED (90716520-1)

1.	51716562	HANDLE ASM W/ENG START 40’	1
2.	77045870	WINCH BRAKE HARNESS	1
3.	77441006	DUAL-PRESS SWITCH HARNESS	1
4.	70034439	LOCK WIRE LEAD SEAL 8”	5
5.	60119299	BRACKET-DEUTSCH CONN.	1
6.	77044645	NUT-DEUTSCH 24	1
7.	77044646	WASHER-LOCK DEUTSCH	1
8.	70733394	CABLE ASM - TETHERED (ADDED CABLE # 4-10-03)	REF



CONTROL KIT, TETHERED (90716520-2)

PARTS LIST ON PREVIOUS PAGE



CONTROL KIT-5525 RADIO REMOTE (90717398-1)

1.	70733354	RADIO RMT-TELESCOPIC	1
3.	77441006	HARNESS-DUAL PRESS SWITCH	1
4.	70034439	LOCK WIRE - LEAD SEAL 8”	5
6.	72601778	CAP SCR METRIC 6-1.00 X 12 HHZ	4
7.	72601762	LOCK WASHER 6MM	4
8.	72601785	FLAT WASHER M6	4
9.	70733351	CABLE ASM-RADIO REMOTE	REF

(NOTE: 60124202 MOUNTING PLATE & 72062103 NUTS REMOVED 10/02.)

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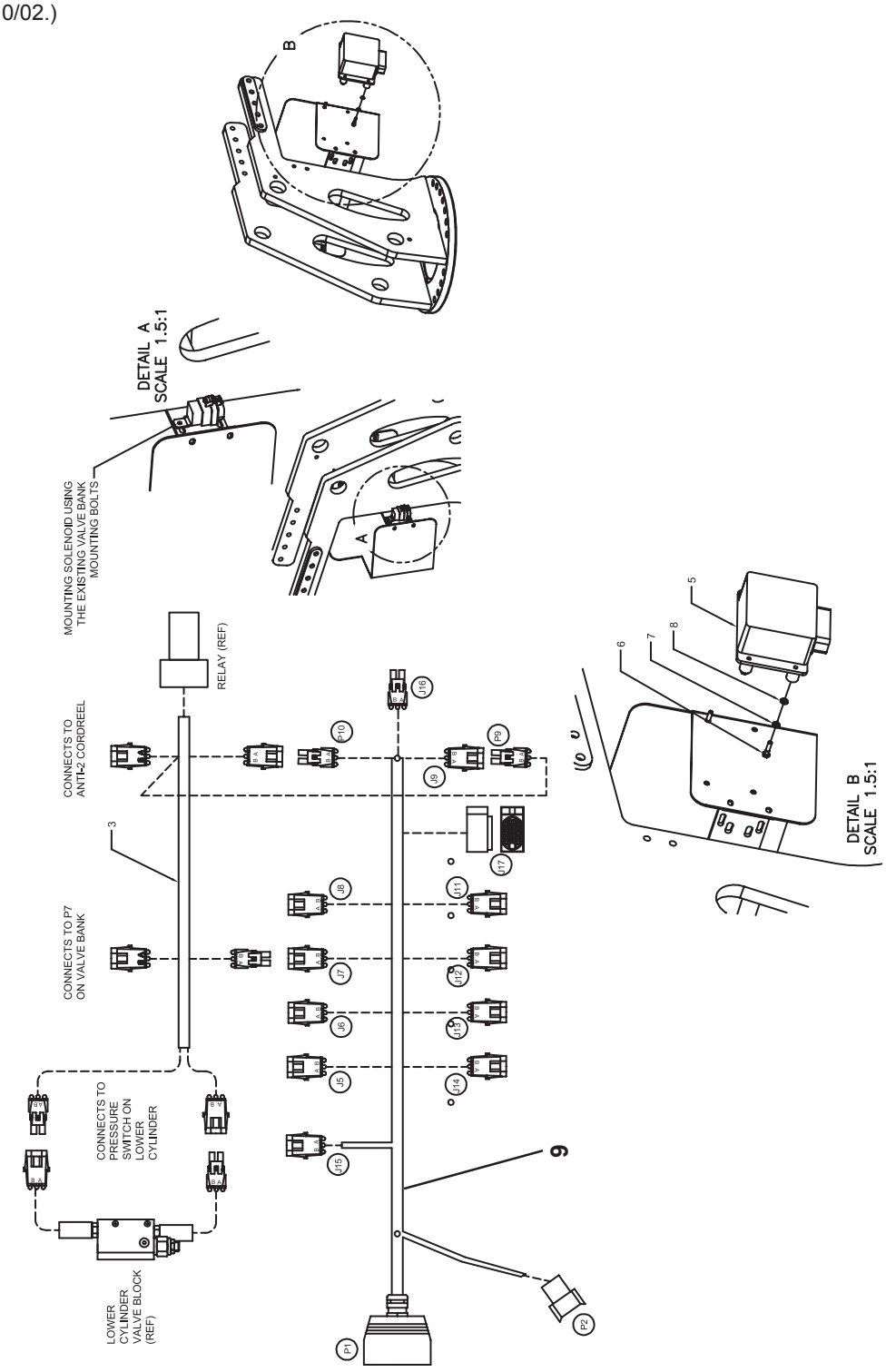
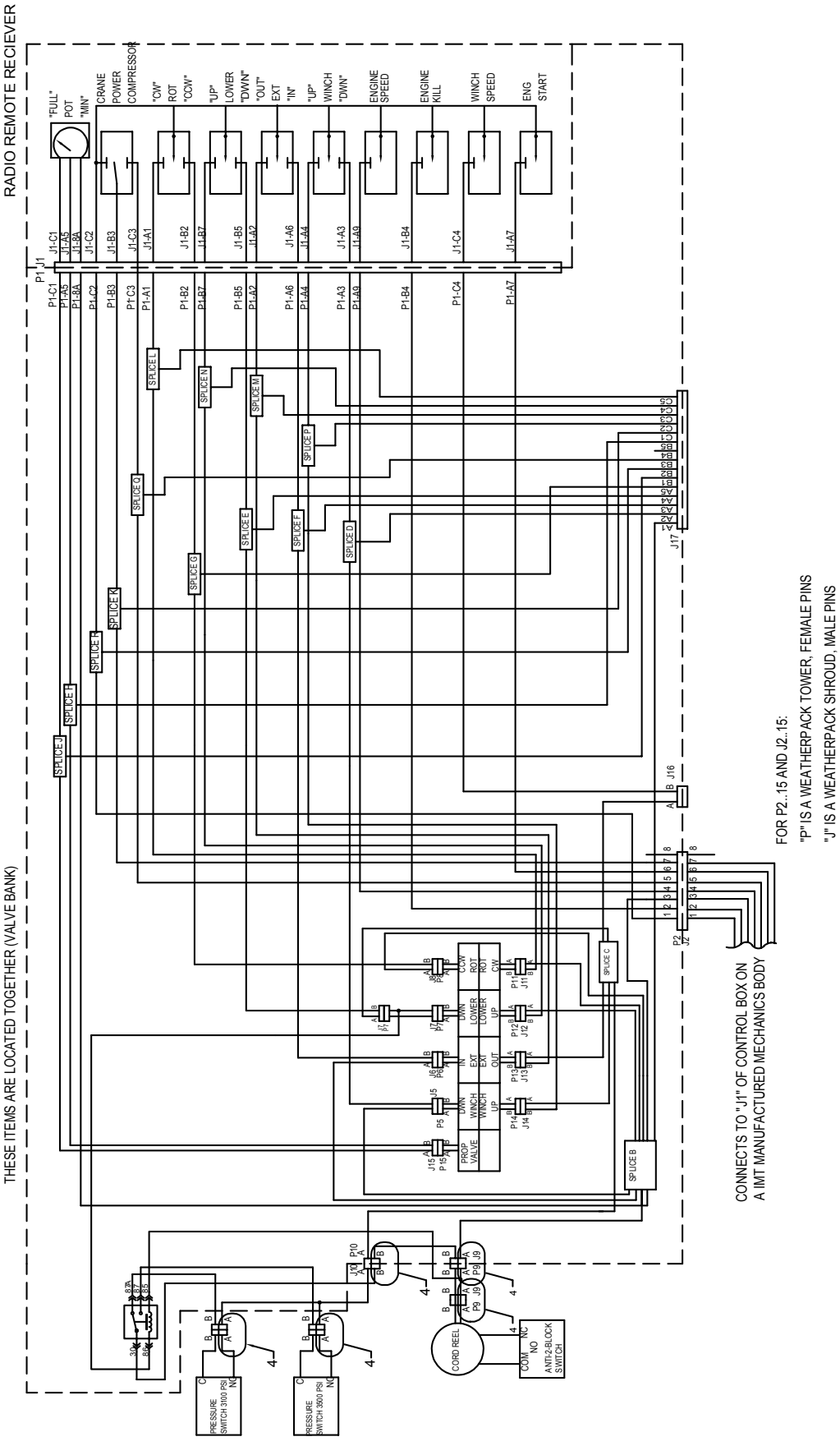


5525 MODEL ONLY

CONTROL KIT-5525 RADIO REMOTE (90717398-2)

PARTS LIST ON PREVIOUS PAGE



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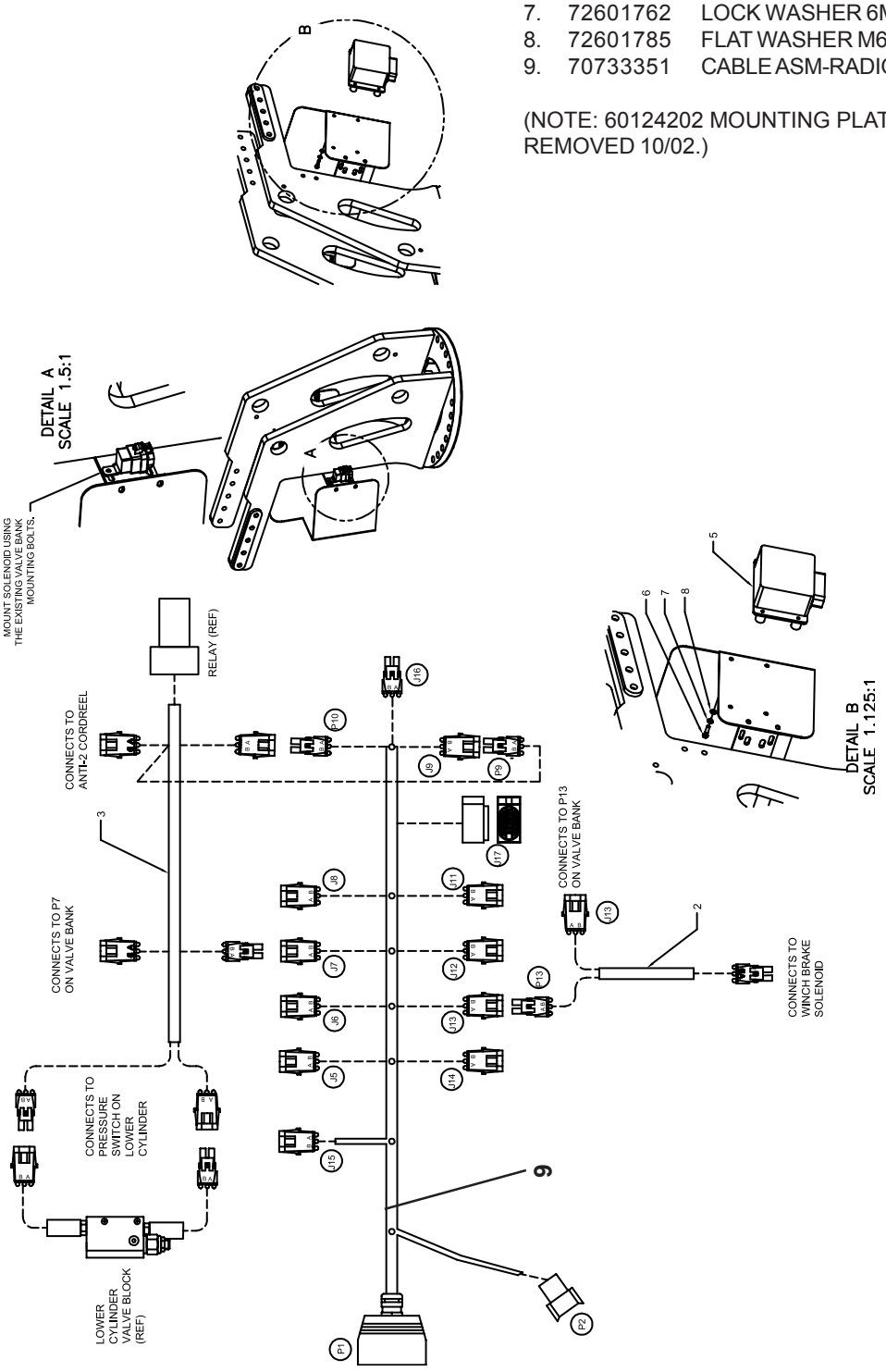
CONTROL KIT-6025 & 6625 RADIO REMOTE (90717156-1)

1.	70733354	RADIO RMT-TELESCOPIC	1
2.	77045870	HARNESS-WINCH BK PIGTAIL	1
3.	77441006	HARNESS-DUAL PRESS SWITCH	1
4.	70034439	LOCK WIRE - LEAD SEAL 8”	5
6.	72601778	CAP SCR METRIC 6-1.00 X 12 HHZ	4
7.	72601762	LOCK WASHER 6MM	4
8.	72601785	FLAT WASHER M6	4
9.	70733351	CABLE ASM-RADIO REMOTE	REF

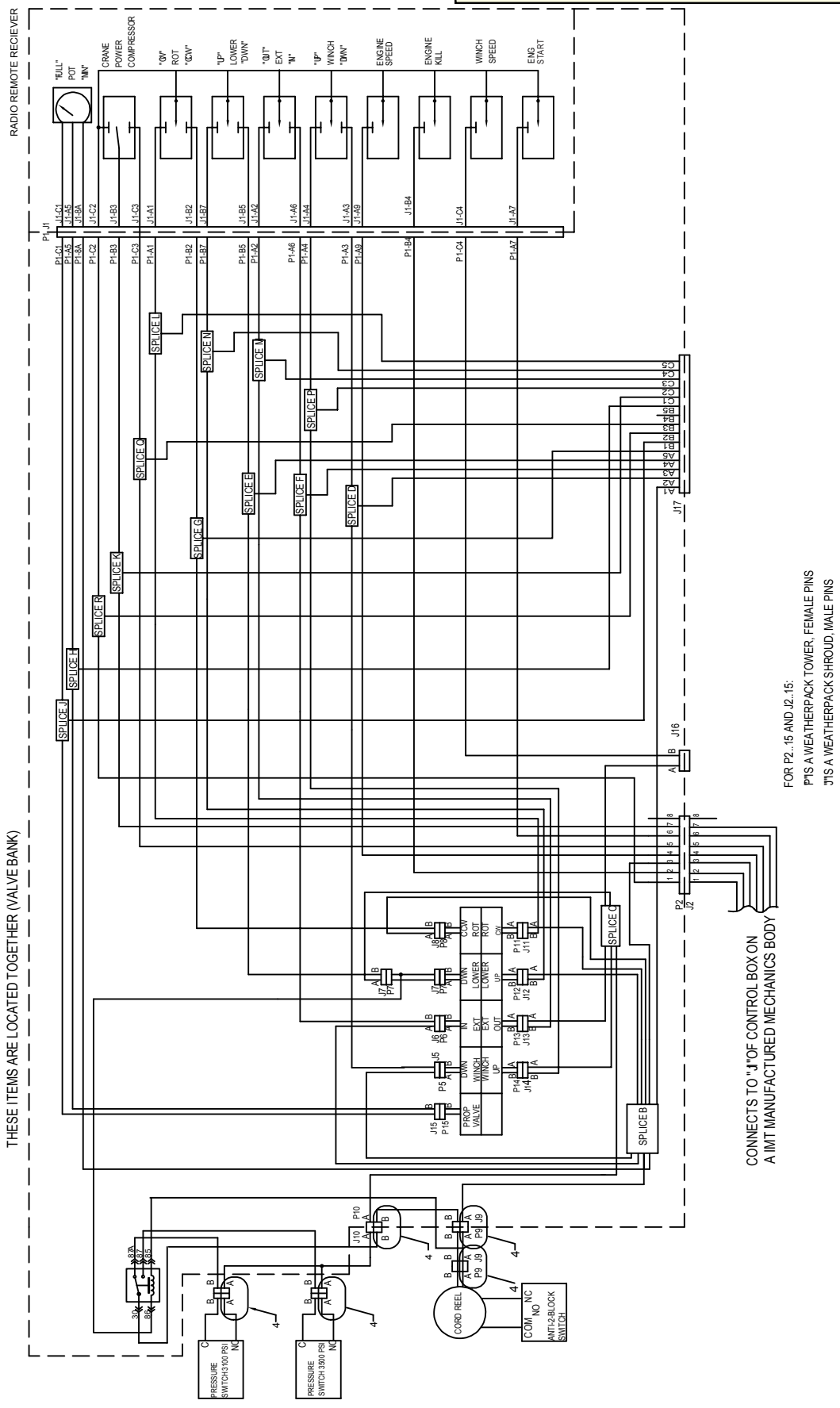
(NOTE: 60124202 MOUNTING PLATE AND 72062103 NUTS REMOVED 10/02.)



6625 MODEL ONLY

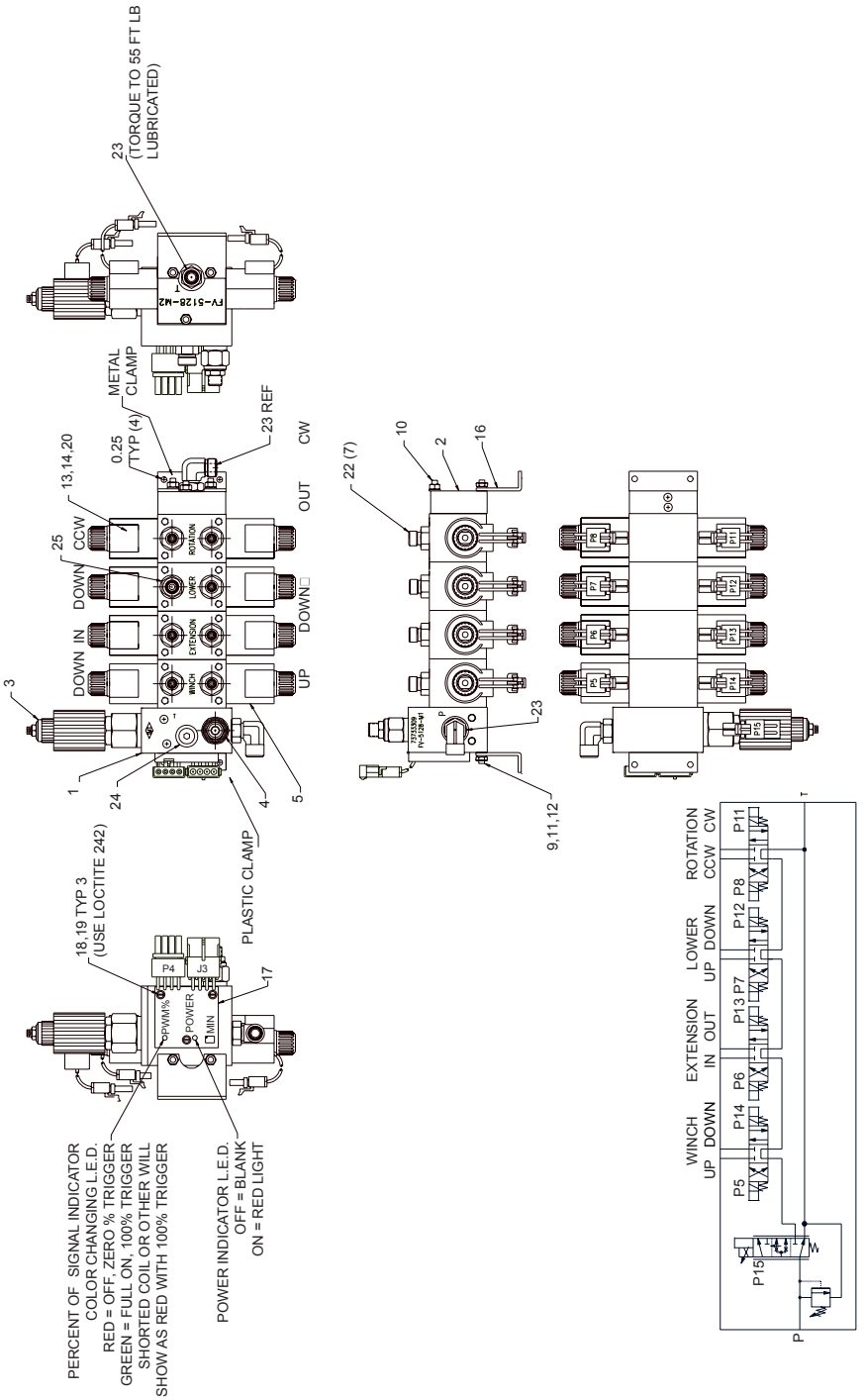
CONTROL KIT-6625 RADIO REMOTE (90717156-2)

PARTS LIST ON PREVIOUS PAGE



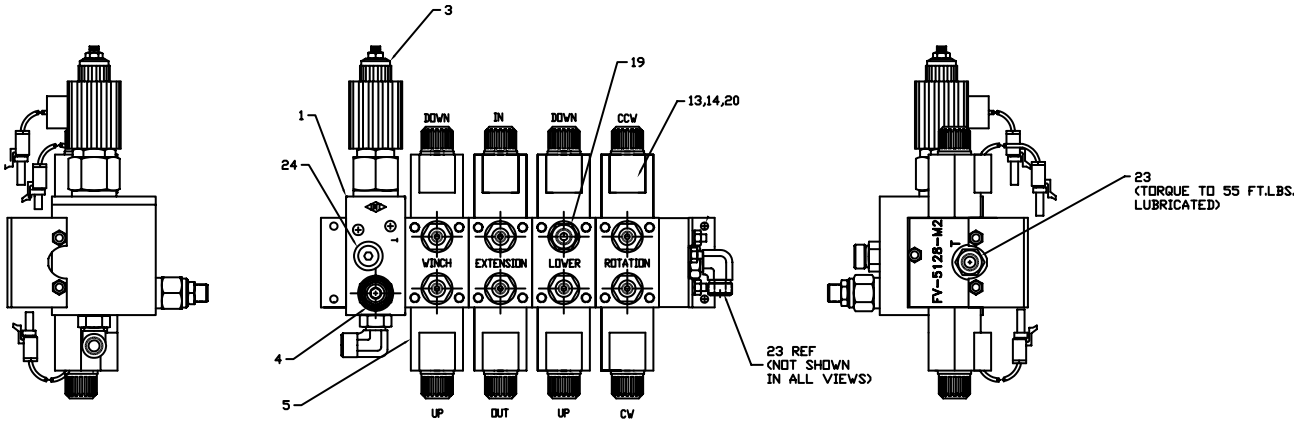
VALVE BANK (73733395)

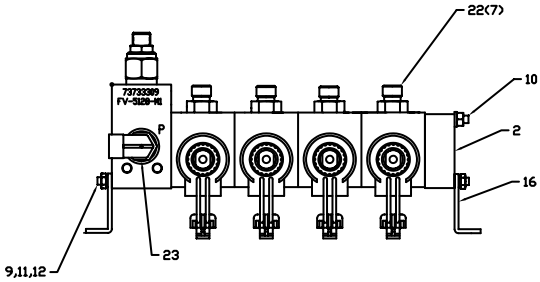
1.	73540028	BLOCK-INLET VB FV-5128-M1	1REF
2.	73540027	END CAP-VB FV-5128-M2	1REF
3.	73054934	SOLENOID VALVE-PROP FLOW	1REF
4.	73054935	VALVE-RELIEF RVPS-10-N-5-0-30	1REF
5.	91722649	VALVE-SECT-(was 73540044)	4REF
6.	7Q072013	O-RING .44X56X.06 70	10REF
7.	72533477	PLUG-STR HOL HEX STL 44THD	1REF
8.	70145829	EXPANDER PLUG	4REF
9.	60119363	ROD-THRD 1/4-20X12.5	2REF
10.	60119364	ROD-THRD 1/4-20X10.56	1REF
11.	72062000	NUT 1/4-20 HEX ZINC	5REF
12.	72063047	WASHER #10 LOCK ZINC	5REF
13.	77044574	CONN-CKRD F 2-WAY WEARTPK	9REF
14.	77044550	TERMINAL-FEM 18-20GA WTPK	9REF
15.	70394069	SEAL-CABLE CONN WEARPK	2REF
16.	70145830	BRKT-MOUNTING EXTRA LONG	2REF
17.	77044595	VALVE DRIVER-HCT 99910011	1REF
18.	72601704	SCR-MACH #8-32X.75 RDH	3REF
19.	72061705	WASHER #8 W FLAT	3REF
20.	77044594	CABLE SEAL-RED PACK 39004	16REF
21.	70733394	CABLE ASM-TLS CRANES 1999	1REF
22.	72533425	ADPTR #4MFACE #8MSTR	7
23.	72533162	ELBOW #8MSTR #8MFACE 90°	2
24.	72533603	PLUB-STR HOL HEX STL 56	1REF
25.	72533166	ADPTR #8MFACE #8MSTR	1
26.	73733602	VALVE BANK PROPN (INCL 1-21, 24)	1

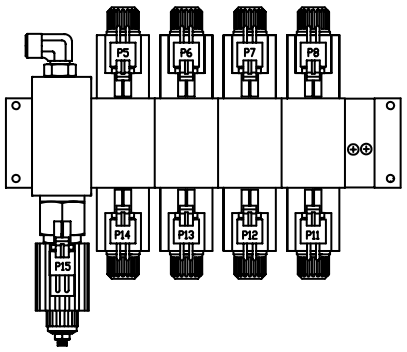


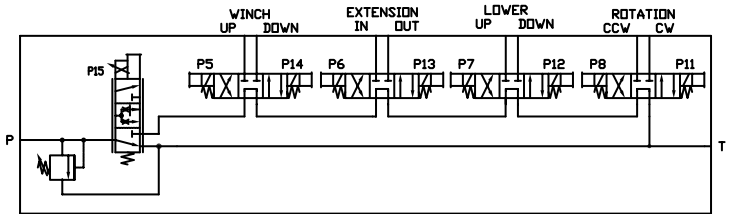
VALVE BANK (73733380)

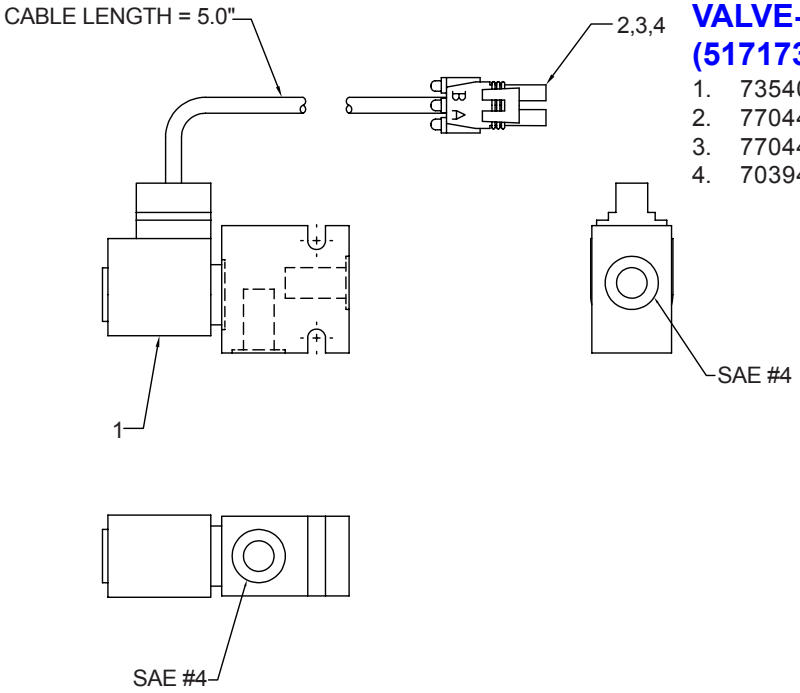
1.	73540028	BLOCK-INLET VB FV-5128-M1	1REF
2.	73540027	END CAP-VB FV-5128-M2	1REF
3.	73054934	SOLENOID VALVE-PROP FLOW	1REF
4.	73054935	VALVE-RELIEF RVPS-10-N-5-0-30	1REF
5.	91722649	VALVE-SECT-(was 73540044)	4REF
6.	7Q072013	O-RING .44X56X.06 70	10REF
7.	72533477	PLUG-STR HOL HEX STL 44THD	1REF
8.	70145829	EXPANDER PLUG	4REF
9.	60119363	ROD-THRD 1/4-20X12.5	2REF
10.	60119364	ROD-THRD 1/4-20X10.56	1REF
11.	72062000	NUT 1/4-20 HEX ZINC	5REF
12.	72063047	WASHER #10 LOCK ZINC	5REF
13.	77044574	CONN-CKRD F 2-WAY WEARTPK	9REF
14.	77044550	TERMINAL-FEM 18-20GA WTPK	18REF
15.	70394069	SEAL-CABLE CONN WEARPK	2REF
16.	70145830	BRKT-MOUNTING EXTRA LONG	2REF
19.	72533166	ADPTR #8MFACE #8MSTR	1
20.	77044594	CABLE SEAL-RED PACK 39004	16REF
21.	70733351	CABLE ASM-RADIO RMT	1REF
22.	72533425	ADPTR #4MFACE #8MSTR	7
23.	72533162	ELBOW #8MSTR #8MFACE 90°	2
24.	72533603	PLUB-STR HOL HEX STL 56	1REF
25.	73733603	VALVE BANK RADIO (INCL. 1-16,20,21,24)	1











VALVE-SOLENOID DUMP 6025/6625 (51717338)

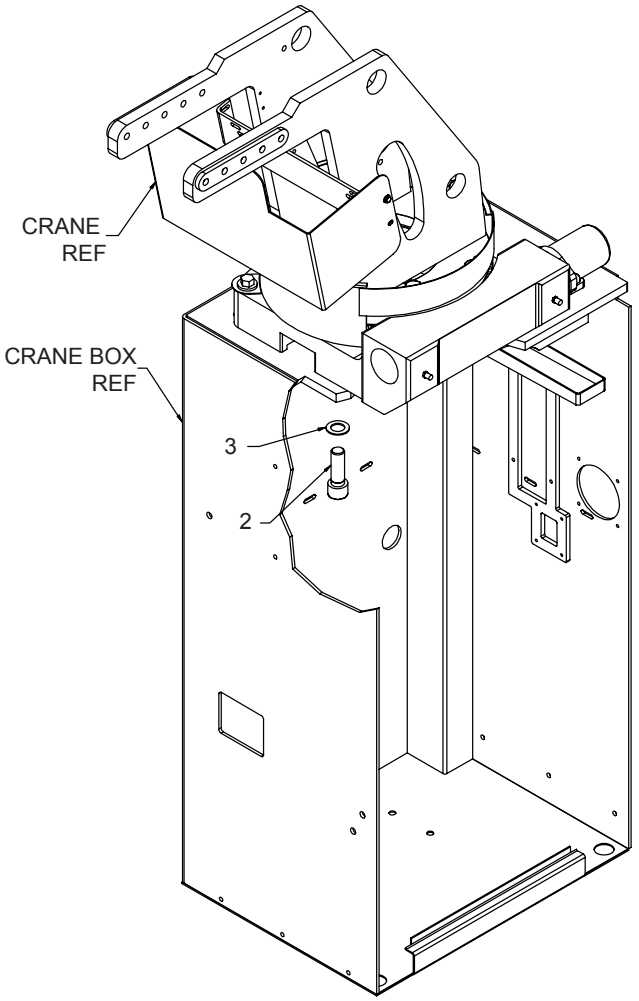
1.	73540090	VALVE-SOLENOID	1
2.	77044574	CONNECTOR-PKRD 2CAV F	1
3.	77044550	TERMINAL-PKRD 18-20GA FEM	2
4.	70394069	CABLE SEAL-PKRD WP/MP 16GA	2

ALL MODELS

20020821

INSTALLATION KIT (93716522)

2.	72601748	CAP SCREW 1.0-8X 3.0 SH GR8	8
3.	72063066	WASHER 1.00 HI-STR ZINC	16
4.	73052091	FILTER (INCL. 5)	1
5.	73052092	FILTER ELEMENT (PART OF 4)	1REF



DECAL KIT - 5525 (95717305-1)

1.	70391598	DECAL-WARNING 315A OUT	2
2.	70391612	DECAL-GREASE WEEKLY (LEFT)	4
3.	70391613	DECAL-GREASE WEEKLY (RT)	4
4.	70392108	DECAL-SUCTION LINE	1
5.	70392109	DECAL-RETURN LINE	1
6.	70392213	DECAL-CAUTION WASH/WAX	1
7.	70392524	DECL-ROTATE CRANE WHILE GREASE	1
8.	70396148	DECAL-5525 IDENTIFICATION	2
9.	70394444	DECAL-DANGER ELECTRO TELESCOPIC	1
10.	70392814	DECAL-DANGER OPERATOR TRAINING	1
11.	70392815	DECAL-DANGER OPERATION	1
12.	70392861	DECAL-DANGER 2 BLOCKING	1
13.	70392863	DECAL-DANGER HOISTING PERSONNEL	1
14.	70392864	DECAL-DANGER OUTRG STAND CLEAR	2
15.	70394445	DECAL-DANGER ELEC HZD LG TELES	4
16.	70392866	DECAL-DANGER OPER CONDITIONS	1
17.	70392867	DECAL-DANGER OUTRG (MV)	1
18.	70392868	DECAL-DANGER CR LOADLINE	4
19.	70029251	DECAL-DIAMOND IMT	2
20.	70392888	DECAL-DANGER OPER RESTRICTIONS	1
21.	70394446	DECAL-DANGER RC ELECT LG TELES	1
22.	70392891	DECAL-DANGER DRIVELINE	1
23.	70392982	DECAL-SERVICE & REPAIR	1
24.	71039134	DECAL-CAUTION OIL LEVEL	1
25.	71391522	DECAL-ANGLE INDICATOR RH	1
26.	71391523	DECAL-ANGLE INDICATOR LH	1
27.	70396149	PLACARD-CAPACITY 5525	1
28.	70393860	DECAL-LD BLK RATING 5.5 TONS	2
29.	70394166	DECAL-INSTR FOR MNL OP	1
30.	70394189	PLACARD-MOBILOIL RESERVOIR	1
32.	70392399	DECAL-LUBRICATE WORM	1
33.	70395090	DECAL-GREASE WORM DRIVE BRNGS	1
34.	70395324	DECAL-ASME/ANSI B30.5	1
35.	70395670	DECAL-CAUTION DOWN HAUL WT	2

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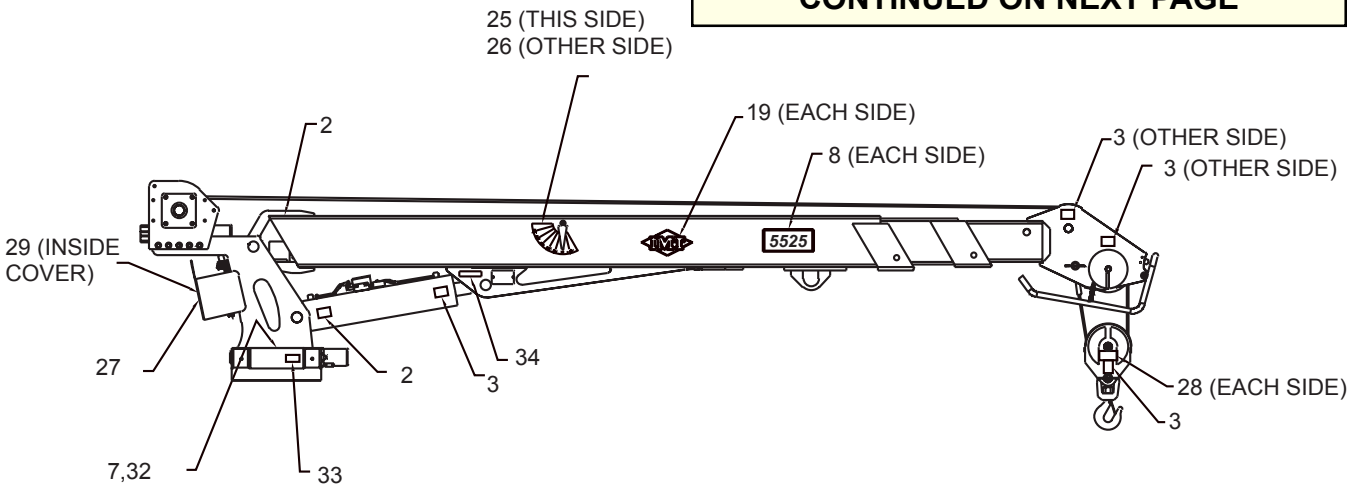


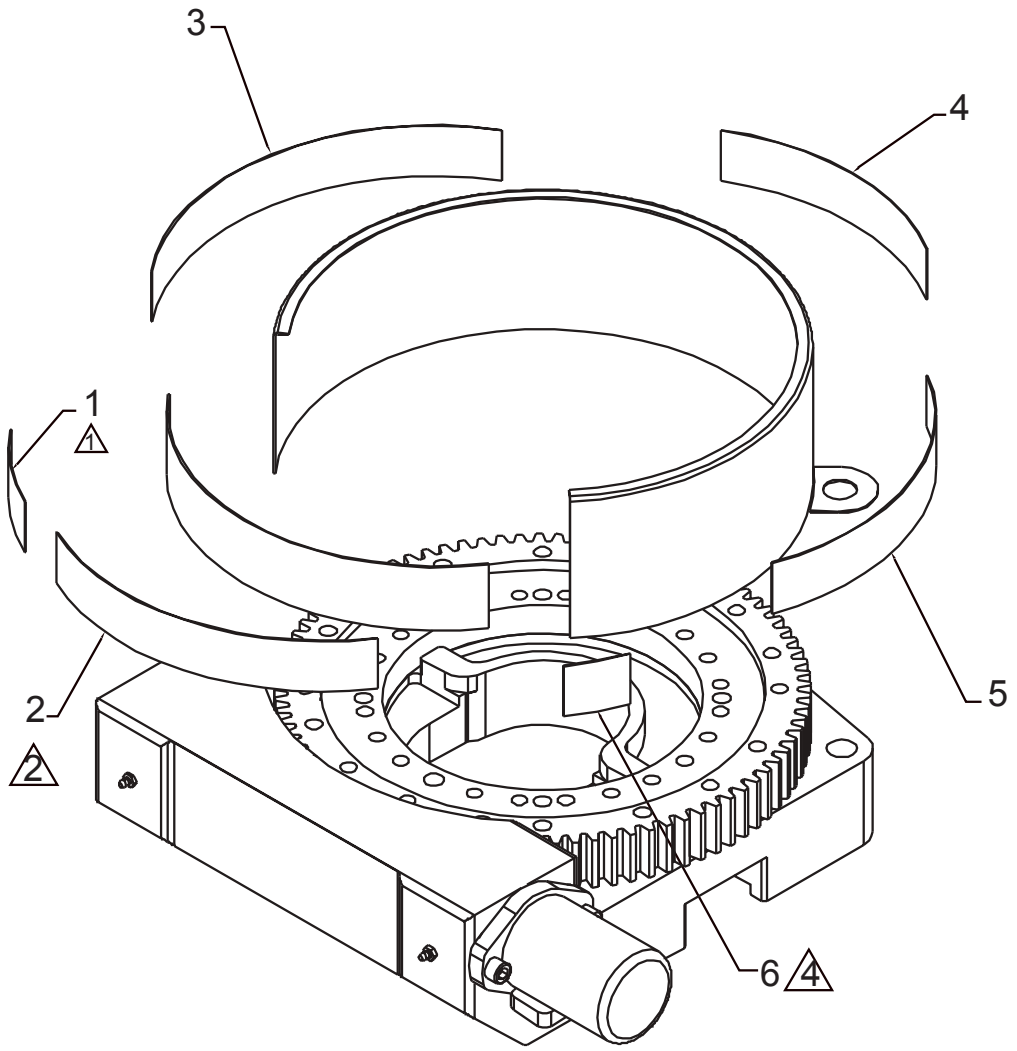
DECAL LOCATION

ITEM NO.	LOCATION
6,9,10,11,12, 13,16,17,20, 21,23,24	AT OR NEAR REMOTE CONTROL STORAGE POINT
1,14	ONE ON EACH OUTRIGGER
15,18	ONE ON EACH SIDE OF CARRIER VEHICLE
5	ON RESERVOIR AT RETURN LINE
4	ON RESERVOIR AT SUCTION LINE
30	AT OR NEAR HYDRAULIC RESERVOIR
22	AT OR NEAR DRIVELINE

5025 MODEL ONLY

DECAL KIT - 5525 TAPE APPLICATION (95717305-2)

1.	60350086	TAPE-GREEN REFLECT 2.0X4.0	1
2.	60350087	TAPE-YELLOW REFLECT 2.0X12.5	1
3.	60350088	TAPE-GREEN REFLECT 2.0X16.0	1
4.	60350089	TAPE-YELLOW REFLECT 2.0X9.5	1
5.	60350090	TAPE-RED REFLECT 2.0X14.75	1
6.	60350091	TAPE-YELLOW REFLECT 2.0X2.25	1
7.	70396193	DECAL-RED CAPACITY 5025	1



NOTES:

1. INSTALL ITEM #1 (GREEN TAPE) STARTING FROM THE FAR EDGE OF THE GEAR GUARD. CENTER THE TAPE FROM TOP TO BOTTOM.

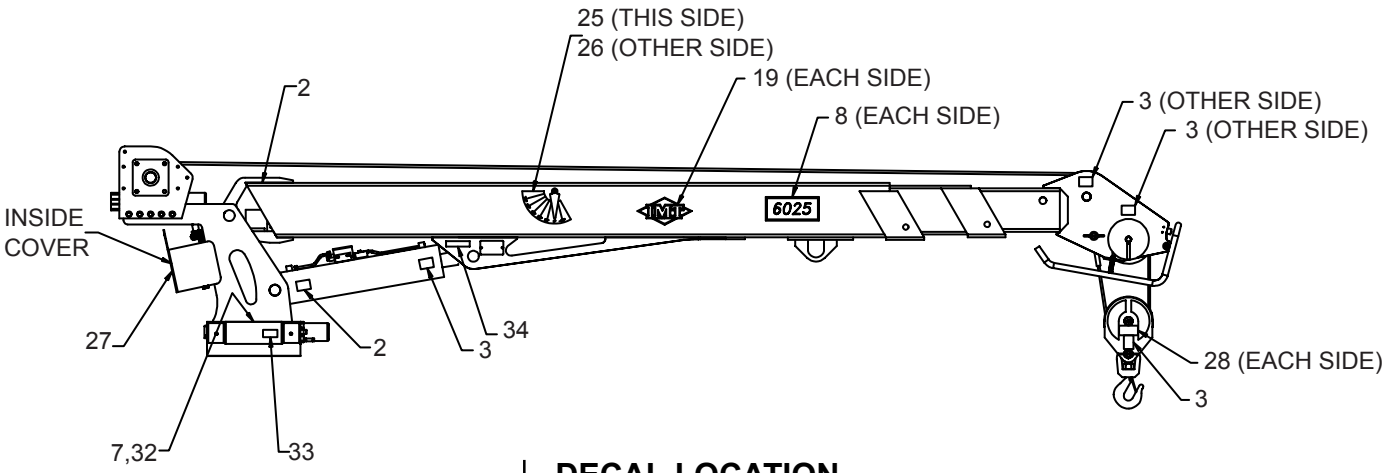
2. INSTALL ITEM #2 (YELLOW TAPE) WITH ONE EDGE TOUCHING ITEM #1 (GREEN TAPE) AND THE OTHER END RUNNING TO THE EDGE OF THE PART.

3. INSTALL ITEM #3 APPROXIMATELY 1/4" DOWN FROM THE TOP EDGE OF THE ROLLED GUARD AND BUTTED TO THE EDGE OF THE LARGE GEAR GUARD.

4. ITEM #6 MAY RUN OVER THE EDGE OF THE GUARD.

DECAL KIT - 6025 (95717028-1)

1.	70391598	DECAL-WARNING 315A OUT	2
2.	70391612	DECAL-GREASE WEEKLY (LEFT)	4
3.	70391613	DECAL-GREASE WEEKLY (RT)	4
4.	70392108	DECAL-SUCTION LINE	1
5.	70392109	DECAL-RETURN LINE	1
6.	70392213	DECAL-CAUTION WASH/WAX	1
7.	70392524	DECL-ROTATE CRANE WHILE GREASE	1
8.	70396094	DECAL-6025 IDENTIFICATION	2
9.	70394444	DECAL-DANGER ELECTRO TELESCOPIC	1
10.	70392814	DECAL-DANGER OPERATOR TRAINING	1
11.	70392815	DECAL-DANGER OPERATION	1
12.	70392861	DECAL-DANGER 2 BLOCKING	1
13.	70392863	DECAL-DANGER HOISTING PERSONNEL	1
14.	70392864	DECAL-DANGER OUTRG STAND CLEAR	2
15.	70394445	DECAL-DANGER ELEC HZD LG TELES	4
16.	70392866	DECAL-DANGER OPER CONDITIONS	1
17.	70392867	DECAL-DANGER OUTRG (MV)	1
18.	70392868	DECAL-DANGER CR LOADLINE	4
19.	70029251	DECAL-DIAMOND IMT	2
20.	70392888	DECAL-DANGER OPER RESTRICTIONS	1
21.	70394446	DECAL-DANGER RC ELECT LG TELES	1
22.	70392891	DECAL-DANGER DRIVELINE	1
23.	70392982	DECAL-SERVICE & REPAIR	1
24.	71039134	DECAL-CAUTION OIL LEVEL	1
25.	71391522	DECAL-ANGLE INDICATOR RH	1
26.	71391523	DECAL-ANGLE INDICATOR LH	1
27.	70396096	PLACARD-CAPACITY 6025	1
28.	70393860	DECAL-LD BLK RATING 5.5 TONS	2
29.	70394166	DECAL-INSTR FOR MNL OP	1
30.	70394189	PLACARD-MOBILOIL RESERVOIR	1
32.	70392399	DECAL-LUBRICATE WORM	1
33.	70395090	DECAL-GREASE WORM DRIVE BRNGS	1
34.	70395324	DECAL-ASME/ANSI B30.5	1
35.	70395670	DECAL-CAUTION DOWN HAUL WT	2



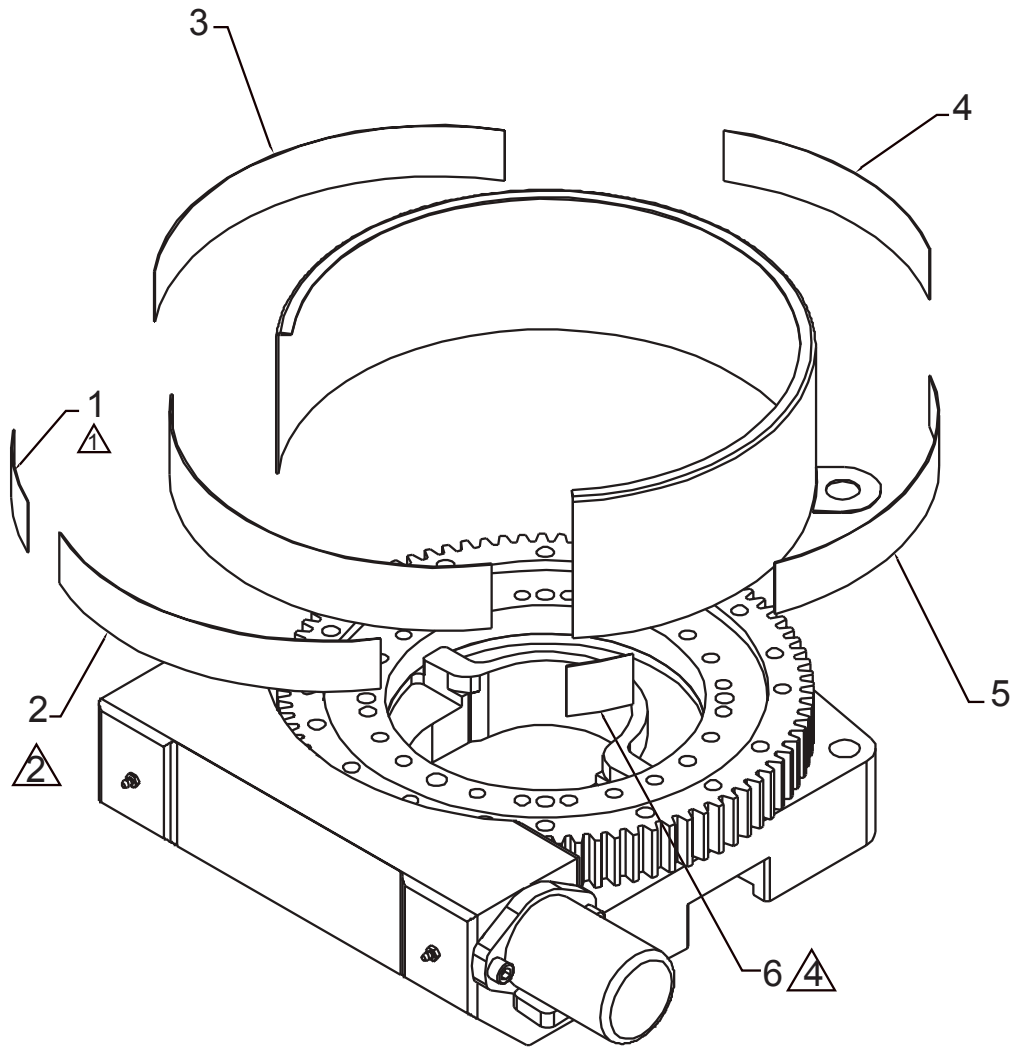
DECAL LOCATION

ITEM NO.	LOCATION
6,9,10,11,12, 13,16,17,20, 21,23,24	AT OR NEAR REMOTE CONTROL STORAGE POINT
1,14	ONE ON EACH OUTRIGGER
15,18	ONE ON EACH SIDE OF CARRIER VEHICLE
5	ON RESERVOIR AT RETURN LINE
4	ON RESERVOIR AT SUCTION LINE
30	AT OR NEAR HYDRAULIC RESERVOIR
22	AT OR NEAR DRIVELINE

6025 MODEL ONLY

DECAL KIT - TAPE APPLICATION (95717028-2)

1.	60350086	TAPE-GREEN REFLECT 2.0X4.0	1
2.	60350087	TAPE-YELLOW REFLECT 2.0X12.5	1
3.	60350088	TAPE-GREEN REFLECT 2.0X16.0	1
4.	60350089	TAPE-YELLOW REFLECT 2.0X9.5	1
5.	60350090	TAPE-RED REFLECT 2.0X14.75	1
6.	60350091	TAPE-YELLOW REFLECT 2.0X2.25	1
7.	70396097	DECAL-RED CAPACITY 6025	1



NOTES:

1. INSTALL ITEM #1 (GREEN TAPE) STARTING FROM THE FAR EDGE OF THE GEAR GUARD. CENTER THE TAPE FROM TOP TO BOTTOM.

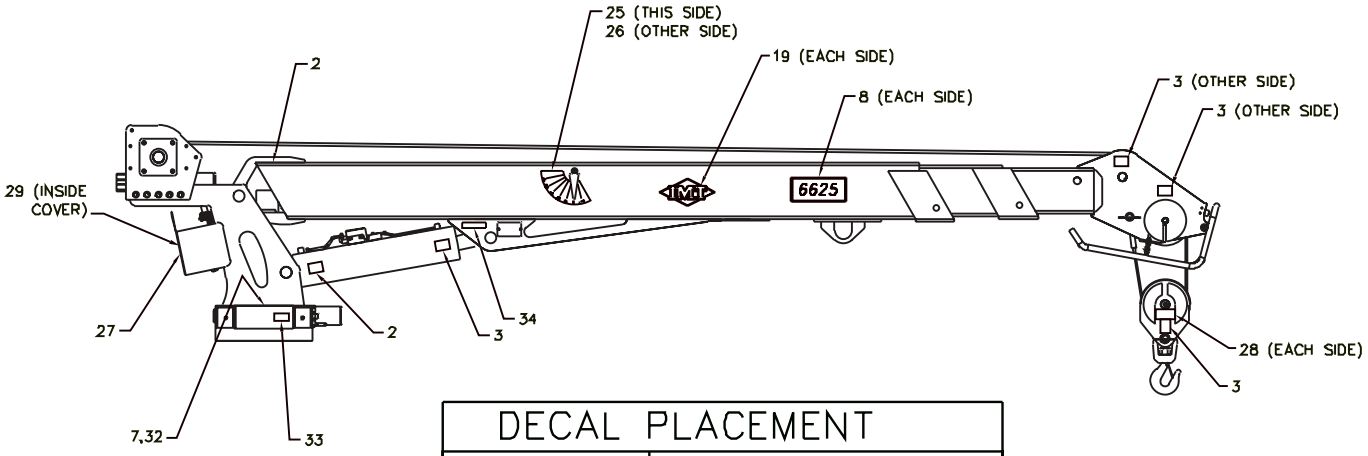
2. INSTALL ITEM #2 (YELLOW TAPE) WITH ONE EDGE TOUCHING ITEM #1 (GREEN TAPE) AND THE OTHER END RUNNING TO THE EDGE OF THE PART.

3. INSTALL ITEM #3 APPROXIMATELY 1/4" DOWN FROM THE TOP EDGE OF THE ROLLED GUARD AND BUTTED TO THE EDGE OF THE LARGE GEAR GUARD.

4. ITEM #6 MAY RUN OVER THE EDGE OF THE GUARD.

DECAL KIT - 6625 (95716800)

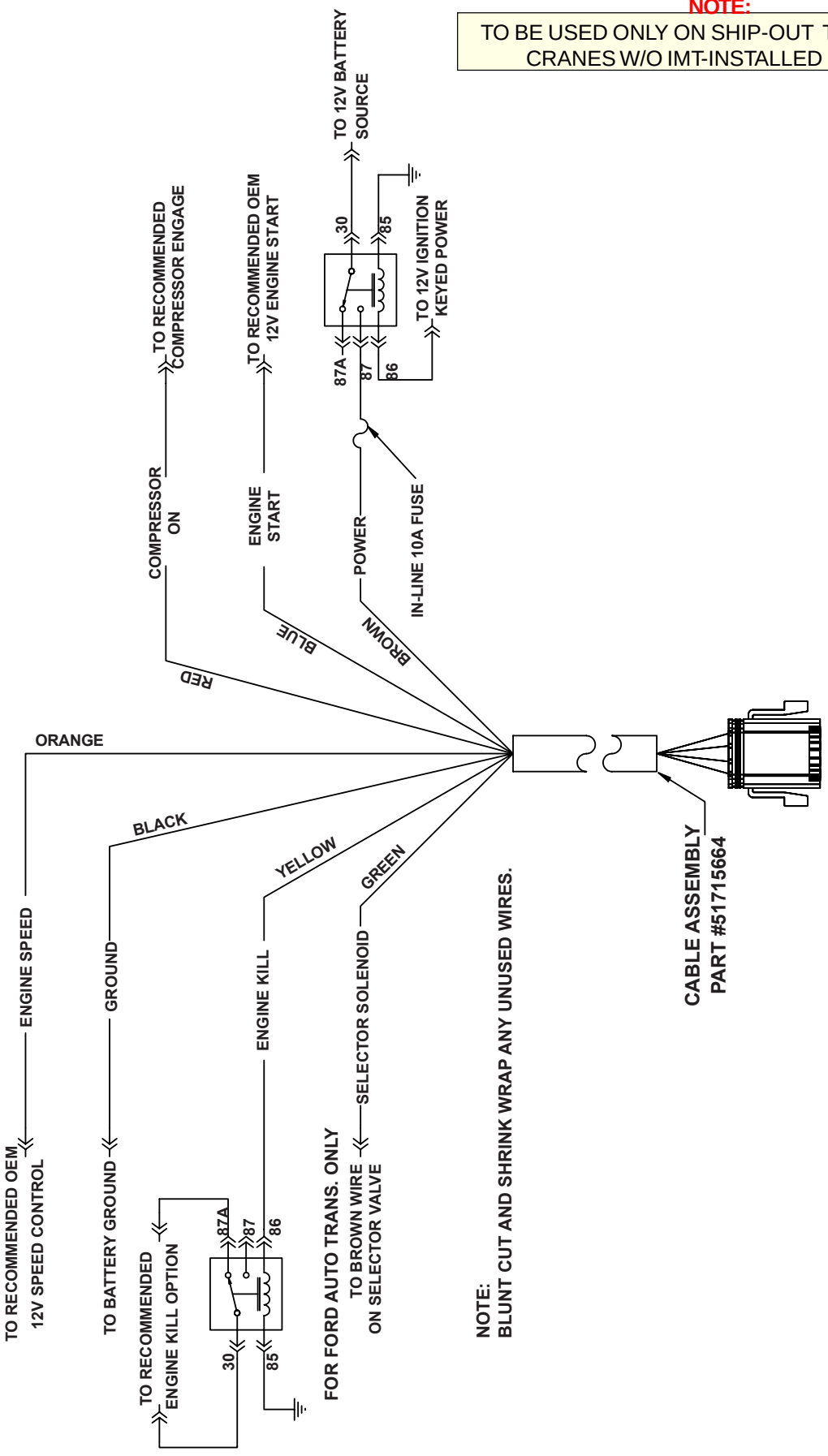
1.	70391598	DECAL-WARNING 315A OUT	2
2.	70391612	DECAL-GREASE WEEKLY (LEFT)	4
3.	70391613	DECAL-GREASE WEEKLY (RT)	4
4.	70392108	DECAL-SUCTION LINE	1
5.	70392109	DECAL-RETURN LINE	1
6.	70392213	DECAL-CAUTION WASH/WAX	1
7.	70392524	DECL-ROTATE CRANE WHILE GREASE	1
8.	70396052	DECAL-6625 IDENTIFICATION	2
9.	70394444	DECAL-DANGER ELECTRO TELESCOPIC	1
10.	70392814	DECAL-DANGER OPERATOR TRAINING	1
11.	70392815	DECAL-DANGER OPERATION	1
12.	70392861	DECAL-DANGER 2 BLOCKING	1
13.	70392863	DECAL-DANGER HOISTING PERSONNEL	1
14.	70392864	DECAL-DANGER OUTRG STAND CLEAR	2
15.	70394445	DECAL-DANGER ELEC HZD LG TELES	4
16.	70392866	DECAL-DANGER OPER CONDITIONS	1
17.	70392867	DECAL-DANGER OUTRG (MV)	1
18.	70392868	DECAL-DANGER CR LOADLINE	4
19.	70029251	DECAL-DIAMOND IMT	2
20.	70392888	DECAL-DANGER OPER RESTRICTIONS	1
21.	70394446	DECAL-DANGER RC ELECT LG TELES	1
22.	70392891	DECAL-DANGER DRIVELINE	1
23.	70392982	DECAL-SERVICE & REPAIR	1
24.	71039134	DECAL-CAUTION OIL LEVEL	1
25.	71391522	DECAL-ANGLE INDICATOR RH	1
26.	71391523	DECAL-ANGLE INDICATOR LH	1
27.	70396054	PLACARD-CAPACITY 6625	2
28.	70393860	DECAL-LD BLK RATING 5.5 TONS	2
29.	70394166	DECAL-INSTR FOR MNL OP	1
30.	70394189	PLACARD-MOBILOIL RESERVOIR	1
32.	70392399	DECAL-LUBRICATE WORM	1
33.	70395090	DECAL-GREASE WORM DRIVE BRNGS	1
34.	70395324	DECAL-ASME/ANSI B30.5	1



DECAL PLACEMENT	
ITEM NO.	LOCATION
6,9,10,11,12, 13,16,17,20, 21,23,24,27	AT OR NEAR RMT CTRL STORAGE POINT.
1,14	ONE ON EACH OUTRIGGER.
15,18	ONE ON EACH SIDE OF CARRIER VEHICLE.
5	ON RESERVOIR AT RETURN LINE.
4	ON RESERVOIR SUCTION LINE.
30	AT OR NEAR THE HYDRAULIC RESERVOIR.
22	AT OR NEAR THE DRIVELINE.

CHASSIS WIRING HARNESS (99903340)

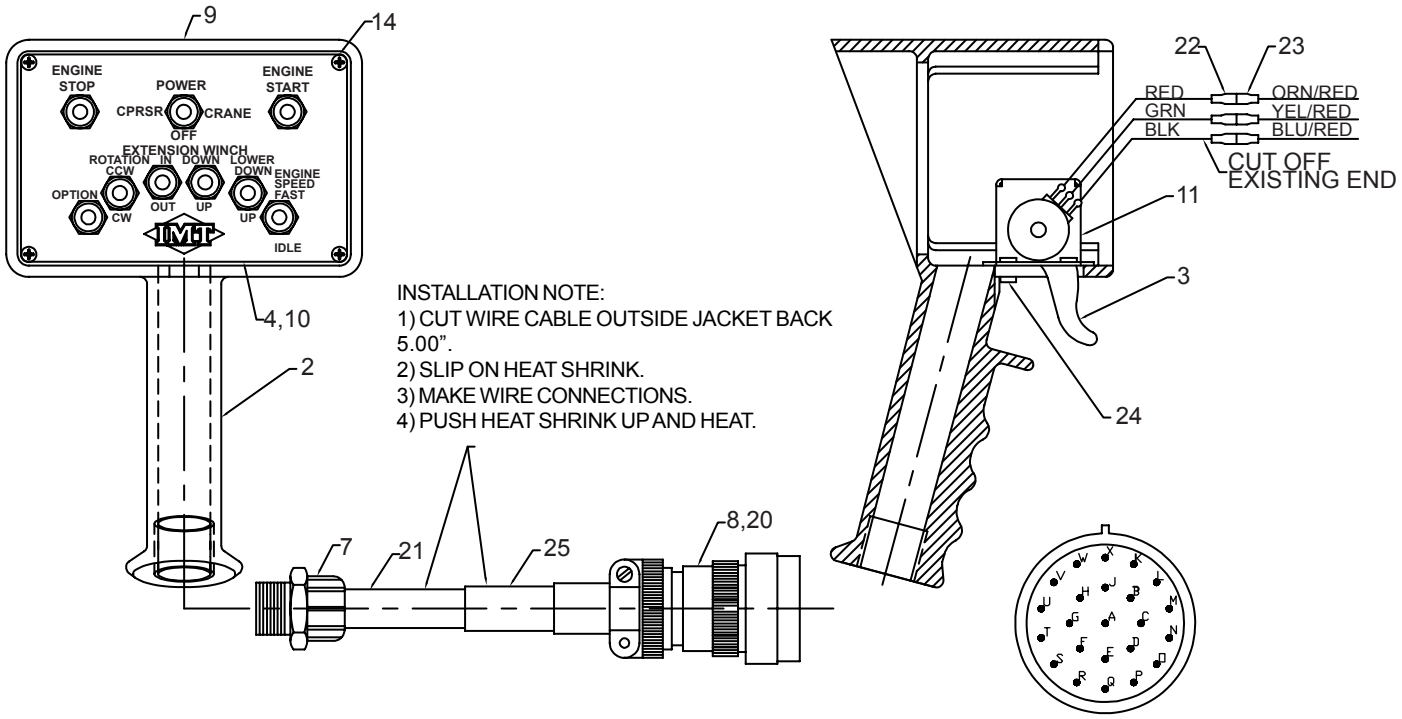
NOTE:
TO BE USED ONLY ON SHIP-OUT TELESCOPIC CRANES W/O IMT-INSTALLED BODIES.



HANDLE ASM W/ENG START - HANDLE & TRIGGER (51716562)

CONTINUED ON NEXT PAGE

1.	89044214	WIRE-18GA GRN STRD (7 @ 2.25", 1 @ 3.50")	1.61 FT
2.	60119335	CONTROL HANDLE	1
3.	60111141	TRIGGER, MACHINING	1REF
4.	60119277	RC HANDLE FRONT COVER	1
5.	70034306	RC HANDLE BACK COVER	1
7.	77044196	CONNECTOR, 3/4 STRAIN RLF	1
8.	77044621	PIN-DEUTSCH CONTACT	23
9.	70394447	DECAL-DANGER RC ELECT	1
10.	70394142	DECAL-TELESCOPIC REMOTE	1
11.	70394183	TRIGGER ASM - RC (INCL. 3)	1
14.	72061009	SCR-SHT MET #6 X 3/4 PH ZA	8
15.	77040051	TERM-SPRSPADE I #8 STUD	31
16.	77040371	SWITCH-TOGGLE SPST	2
17.	77040372	SWITCH TOGGLE SPDT	4
18.	77040373	SWITCH TOGGLE SPST	2
19.	77040374	SWITCH TOGGLE SPDT	1
20.	77044579	CONNECTOR	1
21.	89044100	CABLE-18GA 24 WIRE TYPE	40 FT
22.	77040147	TERM-FSLPON I 1/4 TAB	3
23.	77040047	TERM-MSLPON I 1/4 TAB	4
24.	72060602	SCR-MACH #6-32 X 3/8 RDH	4
25.	70145495	HEAT SHRINK 3/4" W/ADH	1/2 FT



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 PROPORTIONAL TRIGGER

1) POSITION TRIGGER ASSEMBLY INTO HANDLE ASSEMBLY.

2) FROM THE HANDLE BACK, INSTALL ONLY THE TWO SCREWS LOCATED ON THE LEFT-HAND SIDE OF THE TRIGGER ASSEMBLY. (TWO SCREWS ARE SUFFICIENT TO ANCHOR THE HANDLE AT THIS TIME.) DO NOT FULLY TIGHTEN.

3) PUSH THE TRIGGER ASSEMBLY TOWARDS THE FRONT OF THE HOUSING AS MOUNTING SCREW HOLES ALLOW.

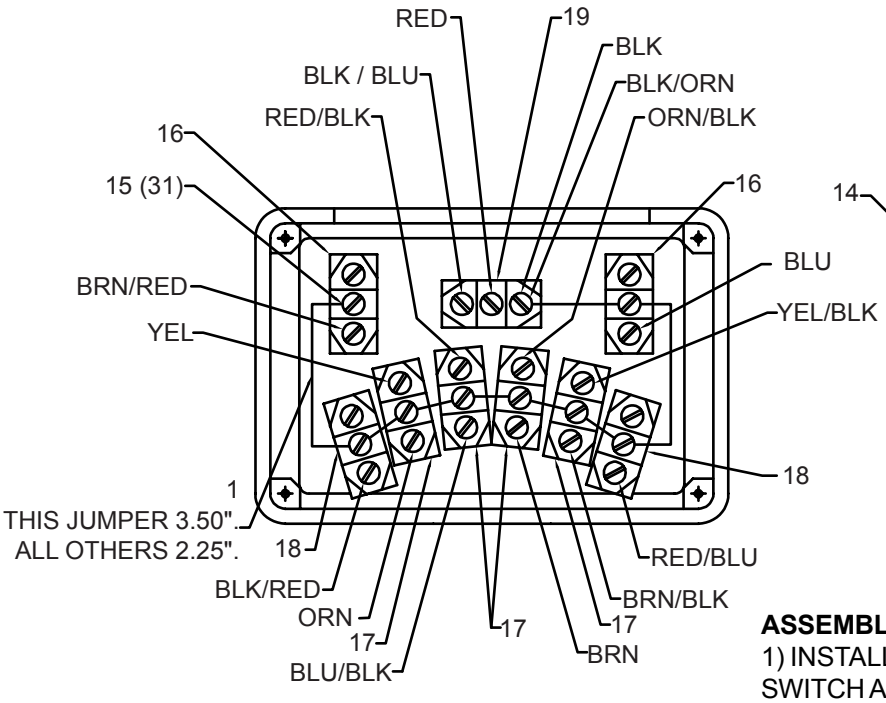
4) CONNECT OHMMETER TO GREEN AND BLACK WIRES TO CHECK OHM READING. ALLOWABLE SETTING IS FROM 100 TO 320 OHMS.

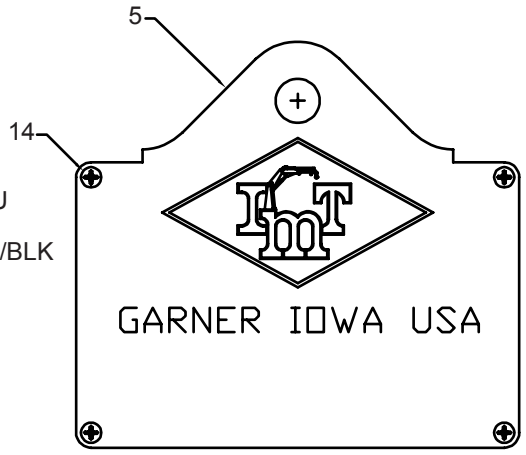
5) FILL RIGHT HAND SCREW HOLES WITH BLACK OR CLEAR SILICON.

6) ASSEMBLE REST OF HANDLE.

HANDLE ASM W/ENG START - SWITCHES & FACE PLATE (51716562)

PARTS LIST ON PREVIOUS PAGE





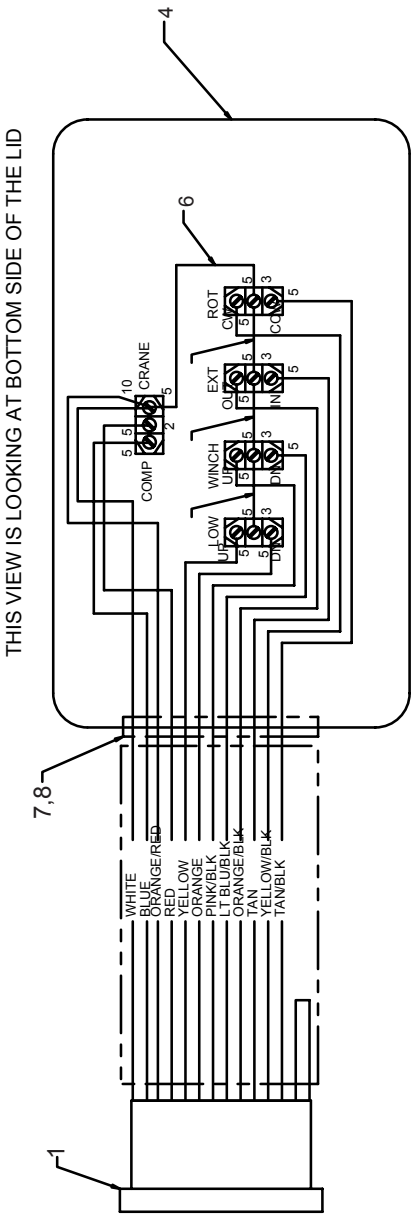
ASSEMBLY OF SWITCHES ONTO FACE PLATE:

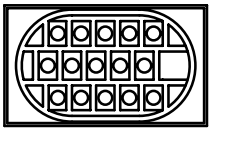
1) INSTALL 1 STAR WASHER BETWEEN SWITCH AND FACE PLATE.
2) INSTALL 1 LOCK NUT ON FRONT OF FACE PLATE TO RETAIN SWITCH.
3) DISCARD ALL OTHER MOUNTING HARDWARE.

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

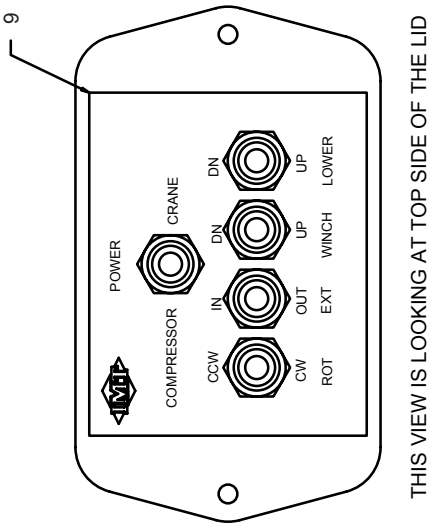
HANDLE ASM - RADIO REMOTE BACKUP (51716912)

1.	73733374	CABLE ASM	1
2.	77041404	TOGGLE SWITCH, ON-OFF-ON	1
3.	77041346	TOGGLE SWITCH, (ON)-OFF-(ON)	4
4.	60121724	JIC BOX	1
5.	77040186	TERMINAL-FSLPON 1/4TAB	15
6.	60045031	WIRE-GREEN 4" LONG	4
7.	77044018	CONNECTOR 1/2 STR RLF 3/8-1/2	1
8.	77044201	NUT-ELEC 1/2	1
9.	70395537	DECAL-CONTROL	1
10.	77040282	TEM-PIGBAK 16/14 GA 1/4TAB	1



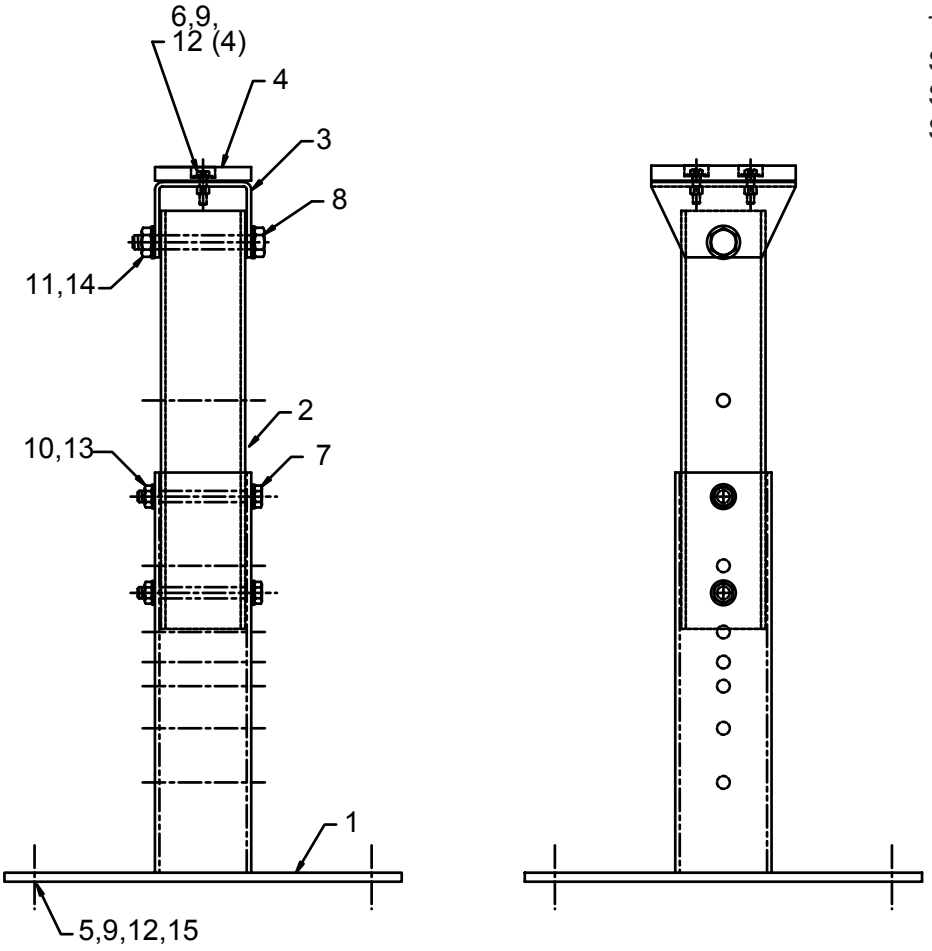


CAV.	COLOR	FUNCTION
A1	BLACK	JUMPER TO PIN B1 (GND)
A2	LT BLUE/BLACK	WINCH DOWN
A3	TAN	EXT BOOM IN
A4	ORANGE	LOWER BOOM DN
A5	TAN/BLACK	ROT CCW
B5	ORANGE/RED	PROP VALVE (+)
B1	BLACK	JUMPER TO PIN A1 (GND)
C5	YELLOW/BLACK	ROT CW
C4	YELLOW	LOWER BOOM UP
C3	ORANGE/BLACK	EXT BOOM OUT
C2	PINK/BLACK	WINCH UP
C1	RED	MAIN POWER
B2	WHITE	SOLENOID POWER
B3	BLUE	COMPRESSOR

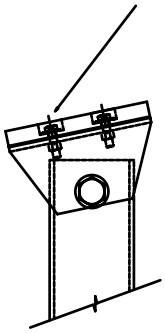


BOOM SUPPORT - DOMINATOR 1 (51714181)

1.	52708159	PEDESTAL	1
2.	60121853	TUBE-PEDESTAL	1
3.	60120516	BOOM SUPPORT	1
4.	60030306	WEAR PAD	1
5.	72060048	CAP SCR 3/8-16 X 1.50 HHGR5	4REF
6.	72060049	CAP SCR 3/8-16 X 1.75 HHGR5	2REF
7.	72060101	CAPSCR 1/2-13 X 5.00 HHGR5	2REF
8.	72601671	CAP SCR 3/4-10 X 5.50 HHGR5	1REF
9.	72602103	NUT 3/8-16 HEX NYLOC	6REF
10.	72062080	NUT 1/2-13 HEX NYLOC	2REF
11.	72062114	NUT 3/4-10 HEX NYLOC	1REF
12.	72063003	WASHER 3/8 WRT	12REF
13.	72063005	WASHER 1/2 WRT	4REF
14.	72063008	WASHER 3/4 WRT	2REF
15.	76392821	WASHER-BONDED PLATED	4REF
16.	51716384	HARDWARE KIT (INCL. 5-15)	1



THE 1-3/4" CAPSCREW SHALL SERVE AS A STOP FOR THE SADDLE WHILE ROTATING SIDE TO SIDE.



SECTION 4. GENERAL REFERENCE

NOTES

NOTICE

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

Inspection Checklist

CRANES

1

REV: 6-18-99

OWNER/COMPANY	*TYPE OF INSPECTION (check one)* ☐ *DAILY (if deficiency found)* ☐ *QUARTERLY* ☐ *MONTHLY* ☐ *ANNUAL*
CONTACT PERSON	
CRANE MAKE & MODEL	*DATE INSPECTED*
CRANE SERIAL NUMBER	*HOUR METER READING (if applicable)*
UNIT I.D. NUMBER	*INSPECTED BY (print)*
LOCATION OF UNIT	*SIGNATURE OF INSPECTOR*

TYPE OF INSPECTION

NOTES:
Daily and monthly inspections are to be performed by a "designated" person, who has been selected or assigned by the employer or the employer's representative as being competent to perform specific duties.

Quarterly and annual inspections are to be performed by a "qualified" person who, by possession of a recognized degree in an applicable field or certificate of professional standing, or who, by extensive knowledge, training and experience has successfully demonstrated the ability to solve or resolve problems related to the subject matter and work.

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

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

Before inspecting and operating crane, crane must be set up away from power lines and leveled with outriggers fully extended.

DAILY (D): Before each day of operation, those items designated with a (**D**) must be inspected. This inspection need not be recorded unless a deficiency (✘) is found. If the end user chooses to record all daily inspections and those daily inspections include the monthly inspection requirements, there would be no need for a separate monthly inspection.

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

QUARTERLY (Q): Every three to four months or 300 hours of normal operation (which ever comes first) includes all daily and monthly inspection items plus items designated with a (**Q**). This inspection must be recorded.

ANNUAL (A): Each year or 1200 hours of normal operation (which ever comes first) includes all items on this form which encompasses daily, monthly and quarterly inspections plus those items designated by (**A**). This inspection must be recorded.

✔ = SATISFACTORY
✘ = DEFICIENCY (must be corrected prior to operation)
R = RECOMMENDATION (should be considered for corrective action)
NA = NOT APPLICABLE

FREQUENCY	ITEM	KEY	INSPECTION DESCRIPTION	STATUS ✔ , ✘ *R, NA*
D	1	Labels	All load charts, safety & warning labels, & control labels are present and legible.	
D	2		Check all safety devices for proper operation.	
D	3	Controls	Control mechanisms for proper operation of all functions, leaks & cracks.	
D	4	Station	Control and operator's station for dirt, contamination by lubricants, & foreign materials.	
D	5	Hyd System	Hydraulic system (hoses, tubes & fittings) for leakage & proper oil level.	
D	6	Hook	Presence & proper operation of hook safety latches.	
D	7	Rope	Proper reeving of wire rope on sheaves & winch drum.	
D	8	Pins	Proper engagement of all connecting pins & pin retaining devices.	
D	9	General	Overall observation of crane for damaged or missing parts, cracked welds & presence of safety covers.	
D	10	Operation	During operation, observe crane for abnormal performance, unusual wear (loose pins, wire rope damage, etc.). If observed, discontinue use & determine cause & severity of hazard.	
D	11	Remote Ctrls	Operate remote control devices to check for proper operation.	
D	12	Electrical	Operate all lights, alarms, etc. to check for proper operation.	
D	13	Anti 2-Blocking	Operate anti 2-blocking device to check for proper operation.	
D	14		Other	
D	15		Other	

Inspection Checklist — CRANES — 2

✔ = SATISFACTORY
✘ = DEFICIENCY (must be corrected prior to operation)
R = RECOMMENDATION (should be considered for corrective action)
NA = NOT APPLICABLE

FREQUENCY	ITEM	KEY	INSPECTION DESCRIPTION	STATUS ✔ , ✘ R, NA
M	16	Daily	All daily inspection items.	
M	17	Cylinders	Visual inspection of cylinders for leakage at rod, fittings & welds. Damage to rod & case.	
M	18	Valves	Holding valves for proper operation.	
M	19	Valves	Control valve for leaks at fittings & between sections.	
M	20	Valves	Control valve linkages for wear, smoothness of operation & tightness of fasteners.	
M	21	General	Bent, broken or significantly rusted/corroded parts.	
M	22	Electrical	Electrical systems for presence of dirt, moisture & frayed wires.	
M	23	Structure	All structural members for damage.	
M	24	Welds	All welds for breaks & cracks.	
M	25	Pins	All pins for proper installation & condition.	
M	26	Hardware	All bolts, fasteners & retaining rings for tightness, wear & corrosion	
M	27	Wear Pads	Presence of wear pads.	
M	28	Pump & Motor	Hydraulic pumps & motors for leakage at fittings, seals & between sections.	
M	29	PTO	Transmission/PTO for leakage, abnormal vibration & noise.	
M	30	Hyd Fluid	Quality of hydraulic fluid and for presence of water.	
M	31	Hyd Lines	Hoses & tubes for leakage, abrasion damage, blistering, cracking, deterioration, fitting leakage & secured properly.	
M	32	Hook	Load hook for abnormal throat distance, twist, wear & cracks.	
M	33	Rope	Condition of load line.	
M	34	Manual	Presence of operator's manuals with unit.	
M	35		Other	
Q	36	Daily	All daily inspection items.	
Q	37	Monthly	All monthly inspection items.	
Q	38		Condition of wear pads	
Q	39	Rotation Sys	Rotation bearing for proper torque of all accessible mounting bolts.	
Q	40	Hardware	Base mounting bolts for proper torque.	
Q	41	Structure	All structural members for deformation, cracks & corrosion.	
	42		● Base	
	43		● Outrigger beams & legs	
	44		● Mast	
	45		● Inner boom	
	46		● Outer boom	
	47		● Extension(s)	
	48		● Jib boom	
	49		● Jib extension(s)	
	50		● Other	
Q	51	Hardware	Pins, bearings, shafts, gears, rollers, & locking devices for wear, cracks, corrosion & distortion.	
	52		● Rotation bearing(s)	
	53		● Inner boom pivot pin(s) & retainer(s)	
	54		● Outer boom pivot pin(s) & retainer(s)	
	55		● Inner boom cylinder pin(s) & retainer(s)	
	56		● Outer boom cylinder pin(s) & retainer(s)	
	57		● Extension cylinder pin(s) & retainer(s)	
	58		● Jib boom pin(s) & retainer(s)	
	59		● Jib cylinder pin(s) & retainer(s)	
	60		● Jib extension cylinder pin(s) & retainer(s)	
	61		● Boom tip attachments	
	62		● Other	
Q	63	Hyd Lines	Hoses, fittings & tubing for proper routing, leakage, blistering, deformation & excessive abrasion.	
	64		● Pressure line(s) from pump to control valve	
	65		● Return line(s) from control valve to reservoir	
	66		● Suction line(s) from reservoir to pump	
	67		● Pressure line(s) from control valve to each function	
	68		● Load holding valve pipe(s) and hose(s)	
	69		● Other	

Inspection Checklist — CRANES — 3

✔ = SATISFACTORY
✘ = DEFICIENCY (must be corrected prior to operation)
R = RECOMMENDATION (should be considered for corrective action)
NA = NOT APPLICABLE

FREQUENCY	ITEM	KEY	INSPECTION DESCRIPTION	STATUS ✔, ✘ R, NA
Q	70	Pumps, PTO's & Motors	Pumps, PTO's & motors for loose bolts/fasteners, leaks, noise, vibration, loss of performance, heating & excess pressure.	
	71		● Winch motor(s)	
	72		● Rotation motor(s)	
	73		● Other	
Q	74	Valves	Hydraulic valves for cracks, spool return to neutral, sticking spools, proper relief valve setting, relief valve failure.	
	75		● Main control valve	
	76		● Load holding valve(s)	
	77		● Outrigger or auxiliary control valve(s)	
	78		● Other	
	79		● Other	
Q	80	Cylinders	Hydraulic cylinders for drifting, rod seal leakage & leakage at welds. Rods for nicks, scores & dents. Case for damage. Case & rod ends for damage & abnormal wear.	
	81		● Outrigger cylinder(s)	
	82		● Inner boom cylinder(s)	
	83		● Outer boom cylinder(s)	
	84		● Extension cylinder(s)	
	85		● Rotation cylinder(s)	
	86		● Jib lift cylinder(s)	
	87		● Jib extension cylinder(s)	
	88		● Other	
Q	89	Winch	Winch, sheaves & drums for damage, abnormal wear, abrasions & other irregularities.	
Q	90	Hyd Filters	Hydraulic filters for replacement per maintenance schedule.	
A	91	Daily	All daily inspection items.	
A	92	Monthly	All monthly inspection items.	
A	93	Quarterly	All quarterly inspection items.	
A	94	Hyd Sys	Hydraulic fluid change per maintenance schedule.	
A	95	Controls	Control valve calibration for correct pressures & relief valve settings	
A	96	Valves	Safety valve calibration for correct pressures & relief valve settings.	
A	97	Valves	Valves for failure to maintain correct settings.	
A	98	Rotation Sys	Rotation drive system for proper backlash clearance & abnormal wear, deformation & cracks.	
A	99	Lubrication	Gear oil change in rotation drive system per maintenance schedule.	
A	100	Hardware	Check tightness of all fasteners and bolts.	
A	101	Wear Pads	Wear pads for excessive wear.	
A	102	Loadline	Loadline for proper attachment to drum.	

Deficiency / Recommendation / Corrective Action Report

DATE	*OWNER*	*UNIT I.D. NUMBER*

GUIDELINES

A. A deficiency (✘) may constitute a hazard. ✘ must be corrected and/or faulty parts replaced before resuming operation.
B. Recommendations (***R***) should be considered for corrective actions. Corrective action for a particular recommendation depends on the facts in each situation.
C. Corrective actions (***CA***), repairs, adjustments, parts replacement, etc. are to be performed by a qualified person in accordance with all manufacturer's recommendations, specifications and requirements.

NOTE: *Deficiencies (✘) listed must be followed by the corresponding corrective action taken (**CA**).*

✘ = DEFICIENCY ***R*** = RECOMMENDATION ***CA*** = CORRECTIVE ACTION TAKEN

✘, R, CA	ITEM #	EXPLANATION	DATE CORRECTED

Deficiency / Recommendation / Corrective Action Report (cont) 4

✘ , R, CA	ITEM #	EXPLANATION	DATE CORRECTED

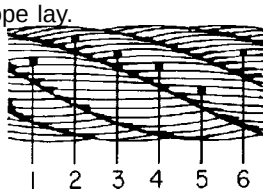
If additional space is required, reproduce this page and attach to this report.

WIRE ROPE INSPECTION

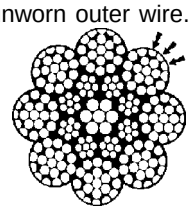
Wire rope with any of the deficiencies shown below shall be removed and replaced immediately.

A. Corrosion can be cause for replacement. Any development of corrosion must be noted and monitored closely.

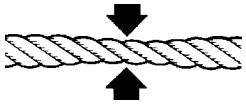
B. When there are either 3 broken wires in one strand or a total of six broken wires in all strands in any one rope lay.



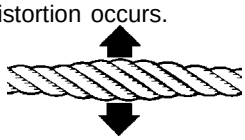
C. When flat spots on the outer wires appear and those outside wires are less than 2/3 the thickness of the unworn outer wire.



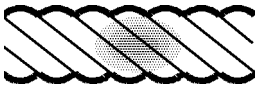
D. When there is a decrease of diameter indicating a core failure.



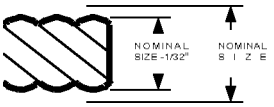
E. When kinking, crushing, birdcaging or other distortion occurs.



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



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



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

HOOK INSPECTION

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

A. DISTORTION

Bending / Twisting

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

Increased Throat Opening

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

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

B. WEAR

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

C. CRACKS, NICKS, GOUGES

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

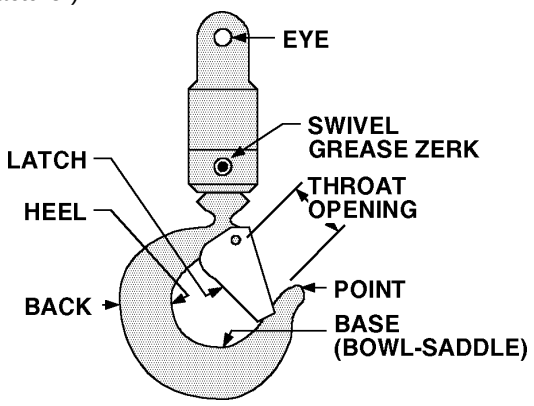
D. LATCH

Engagement, Damage & Malfunction

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

E. HOOK ATTACHMENTS & SECURING MEANS

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



HOLDING VALVE INSPECTION

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

1. With a full rated load, extend the cylinder in question and kill the engine.

2. Operate the control valve to retract the cylinder. If the cylinder “creeps”, replace the holding valve. If the cylinder does not “creep”, the valve is serviceable.

ANTI-TWO BLOCKING DEVICE INSPECTION

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

The anti two block system should be checked daily as follows:

1. Examine flexible rod and weight to insure free unrestricted mechanical operation

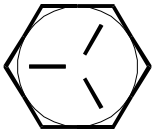
2. Examine cord for damage, cuts or breaks. Grasp cord and pull to check operation of cord reel. The cord should retract on reel when released.

3. Start vehicle, engage PTO and slowly winch loadline up until anti-two block weight comes in contact with the hook end of the loadline cable. At the moment the weight is fully supported, a marked difference in winch operation should be noted. At this point, the winch up function should become very sluggish or non-functioning and have very little pull capability. Slowly increase truck engine speed while simultaneously actuating the winch up function. The winch characteristics should remain sluggish with little or no tensioning of the cable. If operation other than as described occurs, stop immediately and investigate. Failure to do so will risk damage to the cable or the crane.If all is well at this point, actuate the boom extend function slowly, and gradually increase to full actuation. Once again the function should be sluggish or non-existent with no tightening of the winch cable. If operation other than described occurs, stop immediately and reverse the function.

The final check involves actuating both the winch up and extend functions together and checking for proper operation of the anti two blocking circuit. Once again, start slowly and stop if it appears the cable is being tensioned.

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

COARSE THREAD BOLTS

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

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

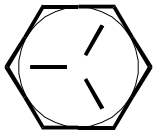
1. Bolt manufacturer’s particular specifications should be consulted when provided.
2. Flat washers of equal strength must be used.
3. All torque measurements are given in foot-pounds. To convert to inch-pounds, multiply by 12.
4. Torque values specified are for bolts with residual oils or no special lubricants applied. If special lubricants of high stress ability, such as Never-Seez compound graphite and oil, molybdenum disulphite, collodial copper or white lead are applied, multiply the torque values in the charts by the factor .90. The use of Loctite does not affect the torque values listed above.
5. Torque values for socket-head capscrews are the same as for Grade 8 capscrews.

WARNING

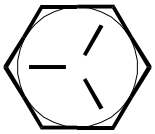
Anytime a gear-bearing bolt is removed, it must be replaced with a new bolt of the identical grade and size. Once a bolt has been torqued to 75% of its proof load and then removed, the torque coefficient may no longer be the same as when the bolt was new thus giving indeterminate clamp loads after torquing.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

TORQUE DATA CHART - DOMESTIC

FINE THREAD BOLTS

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

COARSE THREAD BOLTS

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

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

1. Bolt manufacturer's particular specifications should be consulted when provided.

2. Flat washers of equal strength must be used.

3. All torque measurements are given in foot-pounds. To convert to inch-pounds, multiply by 12.

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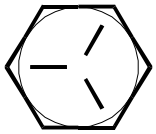
5. Torque values for socket-head capscrews are the same as for Grade 8 capscrews.

WARNING

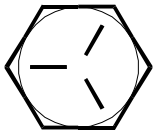
Anytime a gear-bearing bolt is removed, it must be replaced with a new bolt of the identical grade and size. Once a bolt has been torqued to 75% of its proof load and then removed, the torque coefficient may no longer be the same as when the bolt was new thus giving indeterminate clamp loads after torquing.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

TORQUE DATA CHART - METRIC

FINE THREAD BOLTS

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

COARSE THREAD BOLTS

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

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

1. Bolt manufacturer's particular specifications should be consulted when provided.

2. Flat washers of equal strength must be used.

3. All torque measurements are given in kilogram-meters.

4. Torque values specified are for bolts with residual oils or no special lubricants applied. If special lubricants of high stress ability, such as Never-Seez compound graphite and oil, molybdenum disulphite, collodial copper or white lead are applied, multiply the torque values in the charts by the factor .90. The use of Loctite does not affect the torque values listed above.

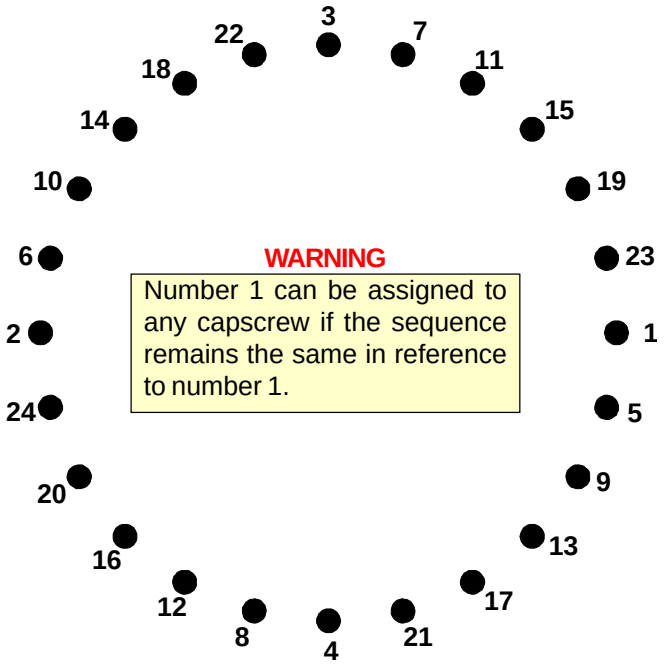
5. Torque values for socket-head capscrews are the same as for Grade 8 capscrews.

WARNING

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

TURNTABLE BEARING FASTENER TIGHTENING SEQUENCE

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



TIGHTENING PROCEDURE:

1. Refer to the Torque Data Chart to determine the proper torque value to apply to the size of capscrew used.

2. Follow the tightening sequence shown in the diagram. Note that the quantity of capscrews may differ from the diagram, but the sequence must follow the criss-cross pattern as shown in the diagram.

3. Torque all capscrews to approximately 40% of the specified torque value, by following the sequence.
   (EXAMPLE: .40 x 265 FT-LBS = 106 FT-LBS)
   (EXAMPLE-METRIC: .40 x 36 KG-M = 14.4 KG-M)

4. Repeat Step 3, but torqueing all capscrews to 75% of the specified torque value. Continue to follow the tightening sequence.
   (EXAMPLE: .75 x 265 FT-LBS = 199 FT-LBS)
   (EXAMPLE-METRIC: .75 x 36 KG-M = 27 KG-M)

5. Using the proper sequence, torque all capscrews to the listed torque value as determined from the Torque Data Chart.

TURNTABLE BEARING INSPECTION FOR REPLACEMENT

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

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

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

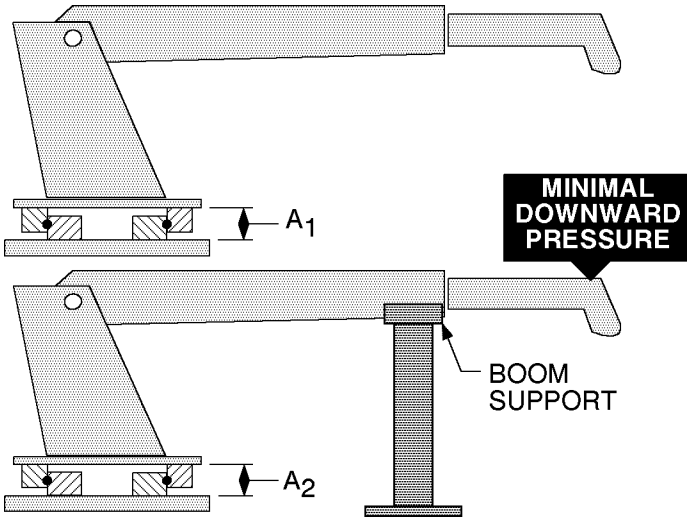
Periodic readings indicating a steady increase in TILT may be an indicator of bearing wear. Note that a bearing found to have no raceway cracks or other structural irregularities should be reassembled and returned to service.

TEST PROCEDURE

STEP 1.
With the crane horizontal and fully extended, measure between the top and bottom mounting surfaces of the turntable bearing (A1), using a dial indicator for accuracy.

STEP 2.
Reverse the load by applying minimal downward pressure on the boom while the boom is in the boom support or on a solid surface. Again measure A2.

STEP 3.
Subtract A1 from A2 to determine tilt and compare the result with the accompanying chart.



COMPARISON CHART - MODEL TO MEASURED TILT DIMENSION

NOTE	IMT CRANE, LOADER OR TIREHAND MODEL				
THE FIGURES LISTED IN THIS CHART ARE SERVICE GUIDELINES AND DO NOT, IN THEMSELVES, REQUIRE THAT THE BEARING BE INSPECTED. IF THERE IS REASON TO SUSPECT AN EXCESS OF BEARING WEAR AND THE MEASURED TILT DIMENSION EXCEEDS THE DIMENSION LISTED, REMOVE THE BEARING FOR INSPECTION.		1007 1014 1014A 1015 2015/2020 2109 3000 3816/3820 3016/3020 421/425 4300 5016/5020 6016/6020 TH7 BODY ROT'N TH1449 BODY ROT'N TH15B CLAMP TH2551B CLAMP TH2557A CLAMP	5200 5200R 5217 5800 7020 7025 7200 7415 9000 TH10 BODY ROT'N TH14 BODY ROT'N	16000 32018 32030 T30 T40	9800 12916 13031 13034 14000 15000 18000 20017 H1200 H1200RR T50 TH2551B BODY ROT'N TH2557B BODY ROT'N TH2557A BODY ROT'N
	BALL DIA. (REF)	.875" (22mm)	1.00" (25mm)	1.18"-1.25" (30-32mm)	1.75" (44mm)
	TILT DIM. (A_1-A_2)	**.060" (1.524mm)**	**.070" (1.778mm)**	**.075" (1.905mm)**	**.090" (2.286mm)**

20000710

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

MANUAL CHANGE REQUEST

DATE	PRODUCT MANUAL	MANUAL PART NO.
SUBMITTED BY		
COMPANY		
ADDRESS		
CITY, STATE, ZIP		
TELEPHONE		

☐ ERROR FOUND

LOCATION OF ERROR (page no.): _____

DESCRIPTION OF ERROR: _____

☐ ERROR FOUND

DESCRIPTION OF ADDITION: _____

REASON FOR ADDITION: _____

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GARNER, IA 50438-0189

ATTN: Technical Publications

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TEL: 641-923-3711
TECHNICAL SUPPORT FAX: 641-923-2424
www.imt.com

APPENDIX A
6025/6625 PLANETARY WINCH

WARNING

AVOID DEATH OR SERIOUS INJURY!
READ THE FOLLOWING WARNINGS!

1. Winches must not be used to lift, hoist, or move people. If your task involves lifting or moving people, you MUST use the proper equipment, not this winch.

2. Cable anchors on winches are not designed to hold the rated load of the winch. Keep at least five (5) wraps of cable on the drum to insure that the cable doesn't come loose.

3. Stay clear of suspended loads and of cable under tension. A broken cable or dropped load can cause death or serious injury.

4. Make sure that all equipment, including the winch and cable, is maintained properly.

5. Avoid shock loads. This type of load imposes a strain on the winch many times the actual weight of the load and can cause failure of the cable or of the winch.

6. Winch operators must be trained in the proper, safe operation of the winch.

7. Do not use EP type gear lubricant in the brake section of this winch. EP lubricant may prevent the clutch from locking up, causing a load to fall, resulting in property damage, personal injury, or death.

8. Use only high quality hydraulic oil in the hydraulic system. The oil should contain additives to prevent foaming and oxidation in the system. All winch hydraulic systems must be equipped with a return line filter capable of filtering 10 micron particles from the system.

9. Connect and anchor wire rope as shown in Figure 1. Note that the wedge will satisfy cable diameters from 7/16" to 5/8", depending on how it is installed in the cable drum.

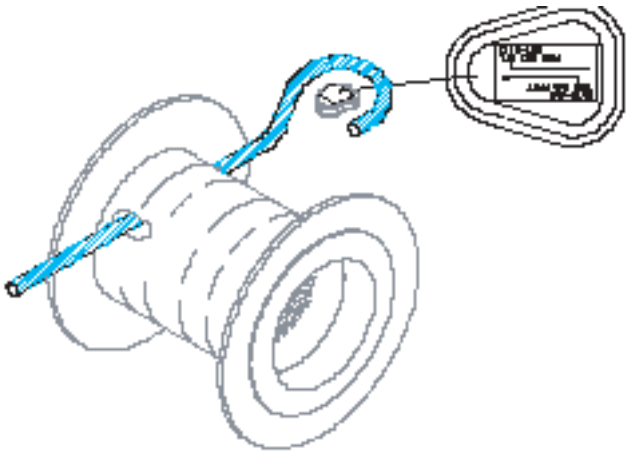
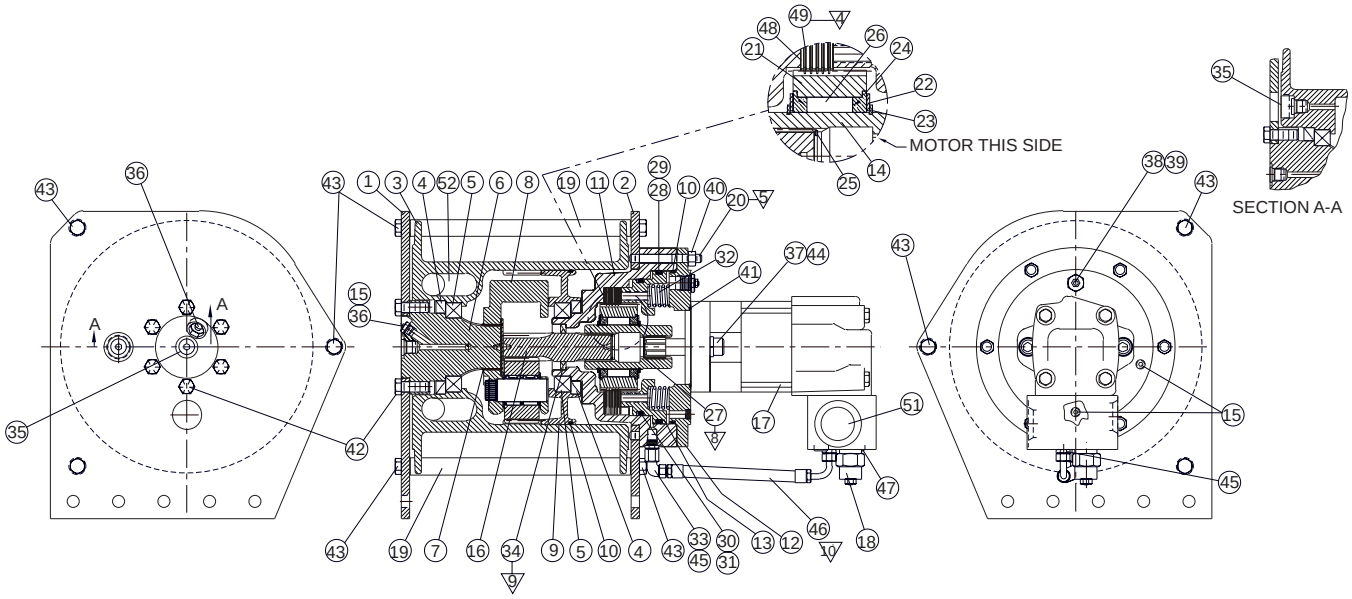


FIGURE 1: WIRE ROPE CONNECTION

FIGURE 2: WINCH PARTS BREAKDOWN



NOTES:
1. FILL GEARBOX WITH EP 90 WT. OIL.
2. FILL BRAKE END WITH AUTOMATIC TRANSMISSION FLUID.
3. BRAKE TORQUE:
   0-10 FT-LB AT 320-340 PSI
   95-115 FT-LB AT 280 PSI

4/ SOAK FRICTION DISKS (ITEM 49) BEFORE ASSY.

5/ APPLY LOCKTITE TO SHORT THREAD OF STUD (ITEM 20) BEFORE MOUNTING TO SIDE PLATE.

6. PLUG BREATHER AND BUSHING ITEM (38) WITH PIPE PLUG ITEM (39). SHIP BREATHER & BUSHING LOOSE IN BAG.
7. PLUG BREATHER ITEM (36) WITH PIPE PLUG ITEM. SHIP BREATHER LOOSE IN BAG.

8/ ITEM 27 (RETAINING RING) IS TO BE INSTALLED IN THE SECOND RING GROOVE OF ITEM 14 (DRIVER).

9/ SEAL MUST BE PRESSED DOWN TO SHOULDER AS SHOWN.

10/ ITEM 46 WILL BE REMOVED FOR INSTALLATION.

506W WINCH (70146319)

1.	43135	SIDE PLATE	1	24.	41743	BUSHING 707W 1200W	2
2.	43134	SIDE PLATE	1	25.	29043	RETAINING RING 707W 1200W	1
3.	42351	DRUM	1	26.	41759	CLUTCH 707W 1200W	1
4.	4312	SEAL KIT	1	27.	41994	RETAINING RING 2025S	1
5.	29386	BEARING	2	32.	41718	BRAKE SPRING 707W 1200W	12
6.	42356	SHAFT	1	33.	417873	SWIVEL ADAPTER 90°	1
7.	996456	RETAINING RING	1	35.	42392	O-RING PLUG	2
8.	4178	PLANETARY GEAR SET	1	36.	13050	BREATHER	2
9.	42379	CARRIER BEARING	1	37.	13529	SOCKET HEAD CAP SCREW	2
11.	43509	BRAKE HOUSING	1	38.	12208	PIPE BUSHING	1
12.	43604	BRAKE COVER	1	39.	32220	PIPE PLUG	1
13.	42358	BRAKE PISTON	1	40.	20271	NUT	6
14.	42359	BRAKE DRIVER	1	42.	42397	CAP SCREW	6
15.	21684	PIPE PLUG	3	43.	30379	CAP SCREW	6
16.	43510	SUN INPUT GEAR	1	44.	41000	LOCK WASHER HI COLLAR	2
17.	42439	HYDRAULIC MOTOR	1	45.	41838	STRAIGHT ADAPTER	2
18.	40434	COUNTER BALANCE VALVE	1	46.	42123	HOSE ASSY	1
19.	42384	SUPPORT ROD	3	47.	40557	SOCKET HEAD CAP SCREW	3
20.	72396	STUD	6	48.	42148	STATOR PLATE 2707S 707W	6
21.	41740	BRAKE DRIVER	1	49.	32765	FRICTION DISC	5
22.	41723	RACE 707W 1200W	2	51.	32058	CAPLUG	2
23.	26980	RETAINING RING	2	52.	40884	WEDGE	52

1.0 Introduction and Theory of Operation

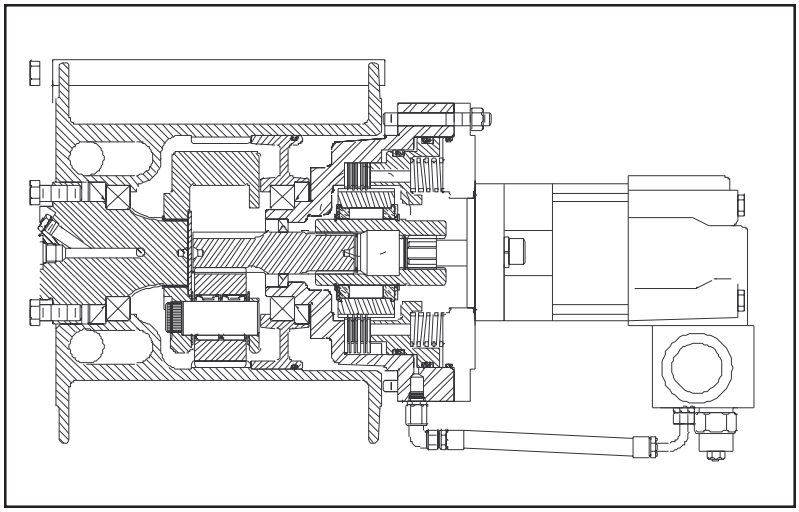


FIGURE 3: WINCH CUT-AWAY

The planetary winch design includes an input from a high torque, low speed motor or a high-speed gear or piston motor, driving through a multiple disc brake, through a planet set to the cable drum.

The multiple disc brake is spring applied and hydraulically released through a port in the brake housing. During inhaul, the brake is not released since the load is driven through the one-way cam clutch, bypassing the brake. When the load comes to a stop, the cam clutch locks up, preventing the load moving by the brake.

During payout, a brake valve prevents the load from moving than faster than desired. This brake valve partially blocks the main line from the motor back to the directional control valve, allowing only a limited amount of oil through the motor. The brake valve is modulated by sensing pressure on the main line from the directional control valve to the motor. Also, any time there is sufficient pressure to modulate the brake valve, this same pressure releases the multiple disc brake.

2.0 Winch Maintenance

2.1 Daily Maintenance

1. Inspect daily to insure that there are no oil leaks, that all mounting bolts and fasteners are tight, and that wire rope is in good condition.

2.2 Maintenance at 500 and 1000 Hours

Change oil in both the gearbox and brake section of the winch. Severity of use will determine the need for oil changes, but the oil must be checked at a minimum of every 500 operating hours, and changed every 1000 operating hours. Factors including extremely dirty conditions or widely varying temperature changes may dictate even more frequent servicing.

2.3 Complete Teardowns

Severity and frequency of use will determine how often complete teardowns must be done. Follow the maintenance instructions for component inspection and teardown in the Crane Log. If an oil change reveals significant metal particles, then a teardown and inspection must be made to determine the source of the wear.

2.4 Lubrication

The winch is shipped from the factory with SAE 90 EP gear lubricant in the gearbox and automatic transmission fluid in the brake section. This oil is usable in temperatures from -10° F to +110 ° F, ± 20 ° F. If using the winch in conditions beyond this temperature range, contact IMT for a lubrication recommendation.

2.5 Gearbox Oil Change Procedure

1) Drain the gearbox oil by removing the level plug, item 35, in the center of the output shaft, item 6.

2) Remove the drain plug by rotating the drum so that the plug is visible through the hole in the side of the mounting bracket.

3) Screw in a piece of 1” black pipe to allow the oil to drain, then remove the drain plug with a 3/8” hex wrench.

4) Examine the used oil for signs of significant metal deposits and then dispose of the oil according to local and state regulations.

5) Reinstall the drain plug, remove the pipe nipple and fill the gearbox with 1-1/2 to 2 quarts of new SAE 90EP gear lubricant through the center hole.

6) Make sure the poppet breather, item 36, is not frozen, and replace if necessary.

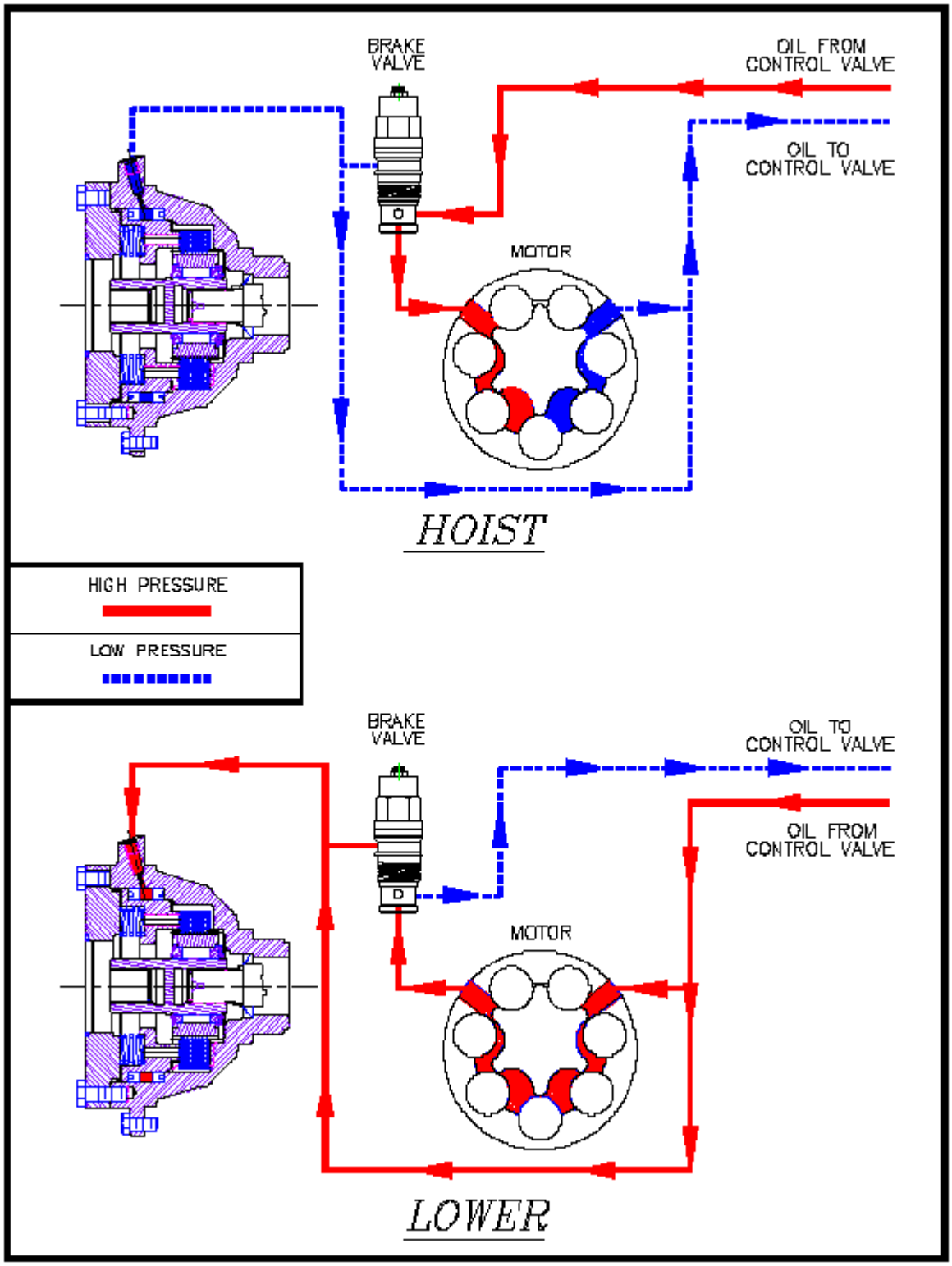
2.6 Brake Oil Change Procedure

1) Drain the brake section by removing the drain plug, item 39, under the motor and the fill plug above the motor. On this unit, the drain and fill plugs are located on the face of the motor cover.

2) Inspect the oil for signs of metallic particles and/or burning.

3) Reinstall the drain plug.

4) Fill with 1/2 to 1 pint of automatic transmission fluid.


BRAKE VALVE
OIL FROM CONTROL VALVE
OIL TO CONTROL VALVE
MOTOR
HOIST
HIGH PRESSURE
LOW PRESSURE
BRAKE VALVE
OIL TO CONTROL VALVE
OIL FROM CONTROL VALVE
MOTOR
LOWER

3.0 Disassembly and Assembly

3.1 Servicing the Motor Section

1) Drain oil from the motor and brake section per section 2.5 and 2.6.

2) Stand the winch on end with the motor pointing up.

3) Remove the brake line, item 46, from the counterbalance valve, item 18, to the brake port on the winch. Remove the counterbalance from the motor by removing the four capscrews, item 47.

4) Remove the cartridge from the brake valve and inspect the metering hole for obstructions. Inspect O-rings for cuts or flat sections. Replace if necessary.

5) Pilot pressure to operate the brake valve is obtained from inside the manifold block. Motors and cartridge valves are not serviceable in the field. Contact IMT for service on valves.

3.2 Servicing the Brake Section - Disassembly

1) Remove the five nuts, Item 40, and one capscrew holding the brake cover in place. Spring pressure will raise the cover as the nuts are loosened. Carefully remove the cover, Item 12, from the brake housing.

2) Remove the springs from the piston and check them for free height. Each spring should measure at least 1.2 inches with no force.

3) Remove the piston, Item 13, by installing two pieces of 3/8”-16NC all-thread in the bottom of two spring pockets. Using jam nuts, screw the all-thread pieces in evenly until the piston is clear of the housing. An alternate way of removing the piston is to use a portable power unit or air to pressurize the brake cavity and blow the piston out of the bore.

4) Grasp the brake drive/clutch assembly and remove it from the brake housing.

5) Remove the stator plates, Item 48, and friction discs, Item 49, from the brake housing and check them for excessive wear. Replace if necessary. Check the top stator plate for scoring caused by the removal tools and polish if necessary. Friction discs should be no thicker than .055 inches thick and stator plate should not exceed .068 inches thick.

6) Remove the seal from the brake housing if applicable.

7) Examine the journal on the sun gear where the seal runs for wear. If worn, replace the sun gear.

8) Disassemble the brake driver/clutch assembly, noting the direction of the lockup of the clutch, Item 26. The clutch assembly must be reassembled with the arrow pointing in the proper direction for the winch to function correctly. Inspect the area on the driver, Item 14, where the clutch runs. If there is pitting or spalling on the driver, then the driver and clutch must be replaced.

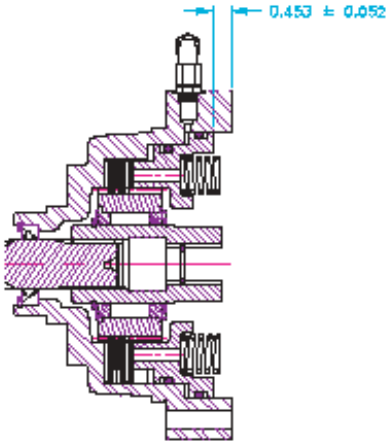


FIGURE 3: BRAKE STACK-UP TOLERANCE

3.3 Reassembly of the Brake Section

1) Reassemble the drive/clutch assembly. Make sure the clutch is installed properly.

2) Install a new seal into the brake housing. Temporarily install the sun gear. Slide the driver/clutch assembly onto the sun gear spline.

3.3 Reassembly of the Brake Section, continued

3) Install stators and friction discs into the housing, starting with stator and alternating friction discs and stator plates. There is one more stator than friction disc, so the stator will be the last item installed.

4) After installation, check the brake "stack-up" to make sure the dimensions are within the tolerance shown in Figure 3. If the measurement is greater than shown in Figure 3, either some friction discs and stator plates have been left out, or the friction discs are worn beyond acceptable tolerance. If the measurement is less than shown in Figure 3, too many plates or discs have been inserted, or they are not seated properly.

5) Install one seal set into the groove of the larger diameter step on the piston. Orient the O-ring to the disc/stator side of the groove. Place the other seal set into the groove on the smaller diameter step on the piston, making sure the O-ring is located on the motor side of the groove. Inspect each new seal set to make sure the O-ring is not twisted in the groove of the piston.

6) Install the piston into the brake housing. Gently tap it down until it is seated.

7) Install the springs into the spring pockets. If working in a horizontal position, coat the bottom of each spring with chassis lubricant to keep it in position.

8) Coat a new O-ring with light oil and install it into the groove on the brake cover, Item 12.

9) Install the cover onto the brake housing using the capscrew to compress the springs and hold alignment. Then draw it down evenly, alternating between opposite hex nuts. Make sure that the cover is positioned properly with the brake housing to orient the motor.

10) Check the brake release with a portable hydraulic pump. Full release should be obtained at 340 psi ±20 psi. Check the brake for proper operation by applying 280 psi to the brake port and adapting a torque wrench to the input shaft. The torque in the payout should be 95 to 115 ft-lb.

3.4 Servicing the Drum Section

1) Stand the winch on end with the motor pointing up.

2) Remove the brake line, Item 46, from the counterbalance valve, Item 18, to the brake port on the winch. Remove the motor and brake valve assembly from the winch. See Sections 3.1 and 3.2 for motor and brake valve disassembly.

3) Remove the brake subassembly from the winch by removing the five nuts, Items 40, and one capscrew holding the brake housing to the mounting bracket. Spring pressure will raise the brake cover as the nuts are loosened. See Section 3.2 for brake disassembly and Section 3.3 for brake assembly.

4) Using two crow's foot pry-bars, hook the bearing carrier, Item 9, from inside and pull it out of the cable drum. Remove the bearing, Item 5, and seals, Item 4, from the bearing center.

5) Remove the input sun gear, Item 16, from the planet assembly, Item 8.

6) Pull the planet section from the drum. Inspect the planet set for wear and repair as needed. See Section 3.6 for disassembly and assembly instructions for the planet assembly.

7) If it is necessary to check backlash in the gear set, this wear can be measured by placing a magnetic base dial indicator on the planet carrier and adjusting the plunger of the dial indicator at the approximate middle of one of the planet teeth. Using a screwdriver or your finger, rotate the planet gear back and forth, reading the movement on the dial indicator. If the total movement is greater than .025", then the drum should be replaced.

8) Remove the five capscrews holding the sideplate at the motor end. Remove the two capscrews, Item 43, from support rod ends at the motor end.

9) Slide the drum, Item 3, off the output shaft, Item 6.

10) Remove the bearing, Item 5, and seal, Item 4, from the drum and inspect the bearing for signs of pitting or spalling.

3.5 Drum Section Assembly

1) Thoroughly clean all parts. Inspect for wear. Replace any parts which show excessive wear.

2) After inspecting the drum for excessive wear in the gear teeth and checking both the drum and mounting bracket for structural integrity, reinstall the bearing and seal into the drum. After disassembly, always use a new seal in reassembly. Check the snap ring on the output shaft, Item 6, to see that it is seated in the groove and is not bent. Replace if necessary.

3) Slide the drum onto the output shaft, aligning the shaft with the bearing in the drum.

4) Align the teeth of the output shaft with those of the planet gear set carrier, Item 8, and slide down to rest on the snap ring.

5) Align and install sun gear, Item 16, into planet gear set.

6) Replace the O-ring, the seal, and the bearing if showing excessive wear. Install new O-ring, seal, and bearing into the bearing carrier, Item 9. Grease the O-ring on the bearing carrier and install the carrier into the drum. Install the carrier with the bearing and seal facing the motor side of the winch.

7) Reinstall the side plate and tighten the capscrews at the base and support rods to 50 to 55 ft-lb torque.

8) Install a new oil seal into the pilot end of the brake housing. Insert the brake housing into the bearing carrier, aligning the housing with the bearing in the carrier. It may be necessary to turn the brake driver/clutch assembly to align the driver, Item 14, with the sun gear, Item 16. Check the oil level and drain plugs on the cover for proper orientation.

9) Install the capscrew, Item 41, and tighten to compress the brake springs. Reinstall the cover nuts and tighten to 54 to 62 ft-lb torque.

10) Install a new O-ring on the face of the motor. Reinstall the motor/brake valve assembly and reconnect the hoses.

11) Fill the gearbox and brake housing with the recommended amount and type of lubricants. See Section 2.4 for lubricant recommendations.

3.6 Servicing the Planetary Section

1) Remove the spiral retaining ring from the planet pins.

2) Remove the pins from the carrier by carefully tapping them out.

3) Remove the planet gears, thrust washers and bearings from the carriers.

4) Inspect the pins, bearings, and gear bores for evidence of wear. Replace if necessary.

5) Before assembly, insert the round thrust plate into the carrier. To reassemble, line up the planet pins with the thrust washers and bearings. Press the knurled part of the pin into the carrier. Line up the pins properly, as the thrust washers will shatter during the pressing operation if the alignment is incorrect.

3.7 Torque Recommendations

Brake Release Payout - 95 to 115 ft-lb
Capscrews and support rods at base of drum section - 50 to 55 ft-lb
Cover nuts on drum section - 54 to 62 ft-lb

4.0 Troubleshooting

PROBLEM	SOLUTIONS
1) Winch will not hold load.	a) There is excessive back pressure in the system. Check the system for restrictions and reduce the back pressure. b) Brake discs are worn out. Replace brake discs. c) Winch clutch is slipping. Inspect the clutch and driver for wear. Replace worn parts. d) Dump valve on mast not working, or hoses improperly connected. Check valve and hose connections.
2) Winch will not raise the load properly.	a) Load being lifted may exceed the winch capacity. Reduce the load, or re-rig to increase the mechanical advantage.
3) The winch will not lower the load.	a) The brake valve was improperly connected after being disconnected. Check plumbing and connect lines properly. b) The cartridge in the brake valve may have a plugged metering hole. Remove cartridge and clean if necessary.
4) Oil leaks from the vent on the motor side of the winch.	a) The motor shaft seal may have failed. Replace this seal and reduce back pressure that may have caused the shaft seal to fail. b) Brake piston seals may have failed. Service the brake section and replace worn parts.