
Manual Part # 99903175

1015 Parts & Specifications

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WARNING

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Revisions

DATE	LOCATION	DESCRIPTION
20050803		RELEASE IN NEW FORMAT
20050913	DECAL KITS	99903723 REPLACED 95715988; 99903724 REPLACED 95716016
20051006	BOOM AND POWER STABILIZER CYLINDERS CHANGED.	ECN 9805 - UPDATED BOOM AND EXTENSION CYLINDERS AND ASSEMBLY DRAWINGS. CYLINDER 71411794 WAS 3B195010, 71411795 WAS 3B180010, AND 71411797 WAS 3B142860.
20060920	DECAL KITS	ADDED 70392982 TO DECAL PLACEMENT DRAWINGS 99903723 AND 99903724
20070410	LOWER, EXTENSION, POWER OUT CYLINDERS	ECN 10380 - 71411794 REPL. BY 3B195010; 71411795 REPL. BY 3B180010; 71411797 REPL. BY 3B142860.
20071016	3B180010, 3B195010.	ECN 10413 - ADDED LOCKING PIN TO CYLINDER; ADDED CRANE ORIENTATION DRAWING; ADDED CABLE NOTES TO HANDLE ASSEMBLIES 51713384, 51713182. UPDATED 77441101 SCHEMATIC TO 11X17 SIZE.
20071129	3B205010	ECN 10413-ADDED LOCKING PIN TO CYLINDER.
20080806	41714331	ECN 10737 - ADDED SHIM.
20090408	70057663	UPDATED 70057663 DRAWING.
20110602	41714447, 99905213.	ECN 11458 - Manual boom stop.
20110718	41714486, 99905213	ECN 11458-1 - Revisions to manual extension boom stop kits.
20111028	91715999	ECN 11588 - Update to hyd kit.
20120322	3B195010, 3B180010	ECN 11581 - Updated cylinders and removed wafer lock.
	41714447	ECN 11728 – Updated ext boom drawing.
20130606	41714447	ECN 11975 – Updated drawing and parts list items 13 &14.
20130612	Spare Parts List	Per engineering mark-up, 9D018012 to 9D081012
20130530	41710136 41714331	ECN 11994 – Snatch block changed
20140627	99903629	ECN 12237 – Updated drawing, items 6 & 7 rotated
	91714439 91714440	ECN 12237 – Added base and mast Note #3
20140714	41715987	ECN 12246 – 60030531 was 60030097
20141006	41704562	ECN 12264 – Molub-Alloy 882 was Molub-Alloy 936
	51725230 99903723 99903724	ECN 12276 – Add spacers to hook kit assembly.
20160509	CN277-1	Replaced Capacity Chart
20160615	41714447	ECN12404-REMOVED ITEM #8 FROM BOM AND DRAWING
20160629	99903723/99907324	ECN12276-REVISED SNATCH BLOCK DECALS.
20170310	41714331	CN310-1, Replaced cord reel.
20180228	99906232	CN632-ADDED LED BOOM TIP LIGHT KIT

20180618		Changed GVWR to 11,500 Added Prop65 Warning Label
20180810	51725230	CN815
20180827	77441689	CN844
20181128	99906232	CN632-2
20190717	73735157	CN933-1
20200603	99906232	CN989
20210510	99906232	CN1199

CHAPTER 1

Introduction

This volume includes specifications, installation information, and spare parts drawings applicable to your particular crane. For operating, maintenance and repair instructions, see Telescopic Crane Volume 1: OPERATION, MAINTENANCE AND REPAIR. (IMT part number 99903514.)

It is your responsibility to operate and maintain this unit in a manner that will result in the safest working conditions possible. You must be aware of existing Federal, State and Local codes and regulations governing the safe use and maintenance of this IMT crane. The crane was designed and built to meet the standards of ANSI/ASME B30.5, Mobile & Locomotive Cranes. Contact the American Society of Mechanical Engineers (www.asme.org) for more information on ANSI/ASME B30.5.

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

Throughout the manual, NOTES, CAUTIONS and WARNINGS are used to draw the attention of personnel. They 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.

For a safe work environment, treat this equipment with respect and service it regularly.

CHAPTER 2

Specifications

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General Specifications

CRANE RATING	10,500 ft-lb (1.46 ton-meters)
REACH (from centerline of rotation)	15'-0" (4.57 m)
HYDRAULIC EXTENSION	36" (91.4 cm)
MANUAL EXTENSION	48" (121.9 cm)
LIFTING HEIGHT (from base of crane)	16'-1" (4.90 m)
CRANE WEIGHT	660 lb (299 kg)
STORAGE HEIGHT (crane only)	26" (66.0 cm)
MOUNTING SPACE REQUIRED (crane base)	14-1/2" x 17" (36.8 cm x 43.2 cm)
TIE-DOWN BOLT PATTERN	11-1/2" x 14-3/4" (29.2 cm x 37.5 cm) on center
HORIZONTAL CENTER OF GRAVITY (from centerline of rotation)	15" (38.1 cm)
VERTICAL CENTER OF GRAVITY (from bottom of crane base)	13" (33.0 cm)
OPTIMUM PUMP CAPACITY (PTO)	5 GPM (18.9 liters/min.)
*OPTIMUM PUMP CAPACITY (electric two-stage)	1.5 & 3.5 GPM (5.7 & 13.2 liters/min)
OIL RESERVOIR CAPACITY (electric two-stage)	5 gallons (18.9 liters)
ROTATIONAL TORQUE	1500 ft-lb (0.2 ton-m)
DESIGN FACTORS - pins and hydraulics	4/1

* The two-stage pump delivers 1.5 GPM (5.7 liters/min) at low speed, and 3.5 GPM (11.4 liters/min) at high speed. Normally, when operating under load, the pump will be operated as a single-stage pump. The pump will be operated as a two-stage pump to save time during set up.

Performance Characteristics

	SPECIFICATION	** PTO	***POWER UNIT
ROTATION	400°	35 seconds	50 seconds
LOWER BOOM ELEVATION	-0° to +72°	6 seconds	9 seconds
EXTENSION BOOM	36" (91.4 cm)	8 seconds	12 seconds
WINCH	Single part line	25 ft/min (7.6 m/min)	12 ft/min (3.7 m/min)
WINCH	Two part line	12 ft/min (3.7 m/min)	6 ft/min (1.8 m/min)

** All times are based on 5 GPM (18.9 liters/min) PTO delivery rate.

*** All times are based on 3.5 GPM (13.2 liters/min) pump delivery rate.

1015 CYLINDERS	BORE	STROKE
LOWER BOOM CYLINDER	2-1/2" (6.4 cm)	18" (45.7 cm)
EXTENSION BOOM CYLINDER	2" (5.1 cm)	36" (91.4 cm)

POWER SOURCE

Integral mounted hydraulic pump and PTO application. Other standard power sources may be used. Minimum power required is 8 horsepower based on 5 GPM (18.9 liters/min) at 2,250 PSI (155 bar).

ELECTRIC MOTOR

Power is supplied to the electric motor by a solenoid connected to the 12-VDC truck battery. The chassis must be equipped with a 4000 watt Delco Freedom battery (or equivalent) connected in parallel to the chassis' standard heavy-duty battery. The chassis must also be equipped with a heavy-duty alternator (63 amp for GM vehicles and 60 amp for Ford vehicles).

ROTATION SYSTEM

Turntable bearing with external worm gear powered with a high-torque hydraulic motor through a self-locking worm. Total gear reduction is 63 to 1.

CYLINDER HOLDING VALVES

The base ends (extend sides) of the lower boom and extension cylinders are equipped with integral-mounted counter-balance valves to prevent sudden cylinder collapse in case of hose or other hydraulic failure. The counter-balance valve serves several functions. First, it is a holding valve. Secondly, it is designed to control the speed at which the lowering function operates, and allows that motion to be metered under load. Finally, it prevents the loss of an excess amount of oil in the event of a hose failure. Only the oil in the hose, at the time of the failure, will be lost.

EXCESSIVE LOAD LIMIT SYSTEM (ELLS)

Overloading of the crane is limited by the ELLS. This is done by disarming the crane functions which make possible the application of greater than allowable stress to the crane structure and components. Functions controlled by the ELLS are winch up, extension out and lower boom down. To relieve the situation, the operator may set the load down (winch down) or retract the extension boom (extension in).

WINCH

The winch is powered by a hydraulic motor through a 38:1 ratio worm-gear drive which also functions as a brake. Line speed is 25 ft/min (7.6m/min) at optimum oil flow for 1-part line and 12 ft/min (3.8m/min) for 2-part line. The winch is equipped with 65 ft (19.81m) of 7/32 (.56cm) 7 X 19 class aircraft cable having a lifting capacity of 1600 lb (726 kg) at 2800 PSI (193 bar) for 1-part line and 3200 lb (1452 kg) for 2-part line. A nylon sheave riding on a lubricated needle bearing is located at the tip of the extension boom. The ratio of winch drum and sheave pitch diameter to wire rope diameter is 20:1. An anti-two block device is included to prevent the lower block or hook assembly from coming in contact with the boom sheave assembly.

HYDRAULIC SYSTEM (PTO DRIVEN)

Open-centered, full-pressure system that requires 5 GPM (18.9 liters/min) optimum oil flow at 2250 PSI (155 bar). The control valve bank is a 4-spool, stack-type, 12 VDC valve bank. The hydraulic system includes a 100-mesh suction-line strainer, a return line filter and the control valve bank. An optional hydraulic reservoir is available.

ELECTRO-HYDRAULIC SYSTEM (2-SPEED / AUTO-SHIFT)

Open-centered, full-pressure system that features a 2-stage hydraulic pump, with the first stage delivering 1.5 GPM (5.7 liter/min) and the second stage delivering 3.5 GPM (13.2 liters/min) at 2250 PSI (155 bar). The operation of the circuit automatically shifts from high to low speed when the crane reaches a certain pressure or load level. The control valve bank is a 4-spool, stack type, 12VDC valve system. The system includes a 5 gallon (18.9 liter) hydraulic reservoir, 10-micron spin-on-type return filter, a hydraulic pump driven by a totally enclosed fan cooled 12VDC motor and all necessary hoses and fittings.

CONTROLS

Remote control with a 30-foot (9.14m) control cable.

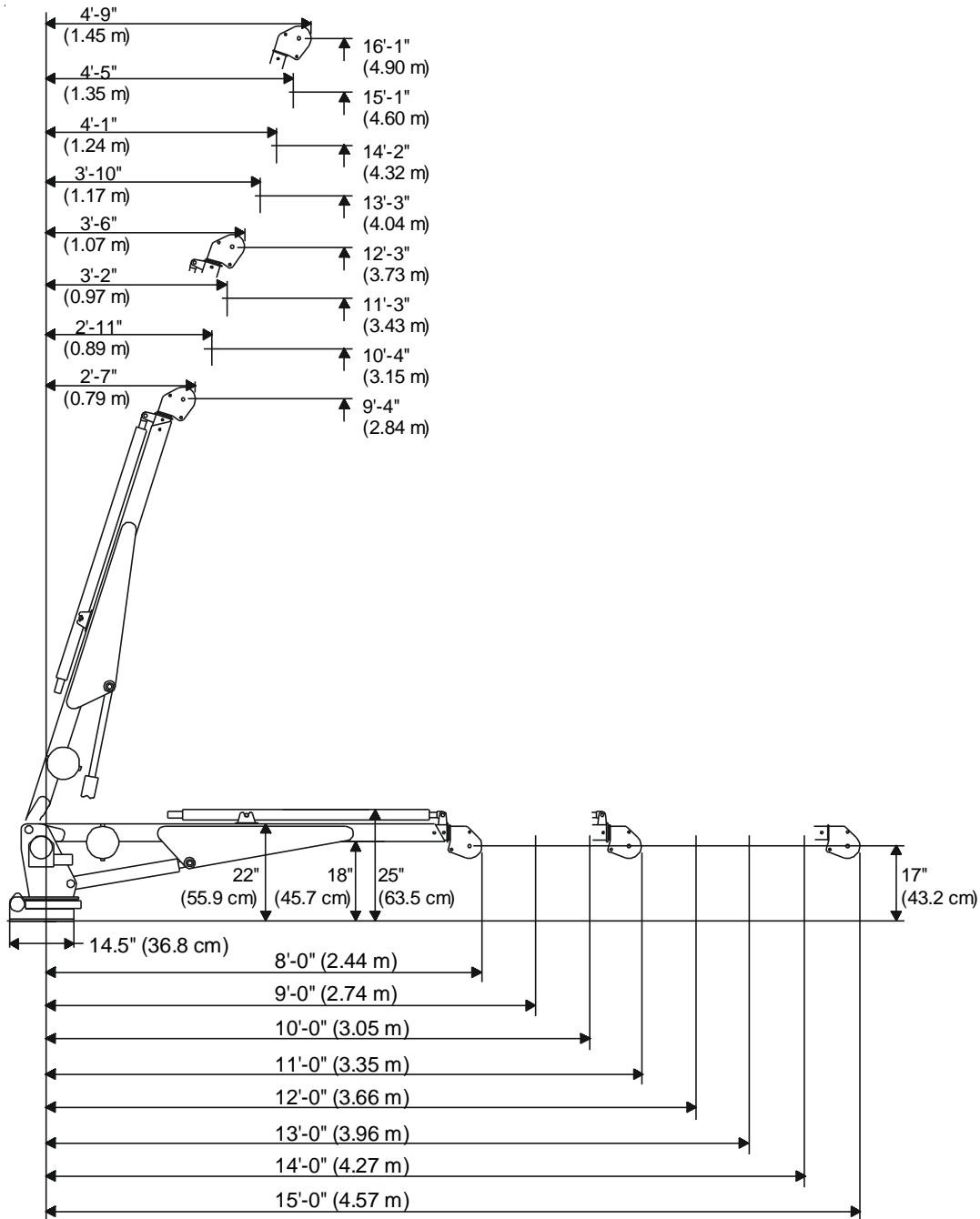
MINIMUM CHASSIS SPECIFICATIONS

BODY STYLE	Conventional Cab
WHEEL BASE	137 - 161" (348 - 409 cm)
CAB TO AXLE	60 - 84" (152 - 312 cm)
FRAME SECTION MODULUS	5.91 cubic inches (97 cc)
*RBM	212,760 in-lb (2451 kg-meter)
GVWR	11,500 (5216 kg)

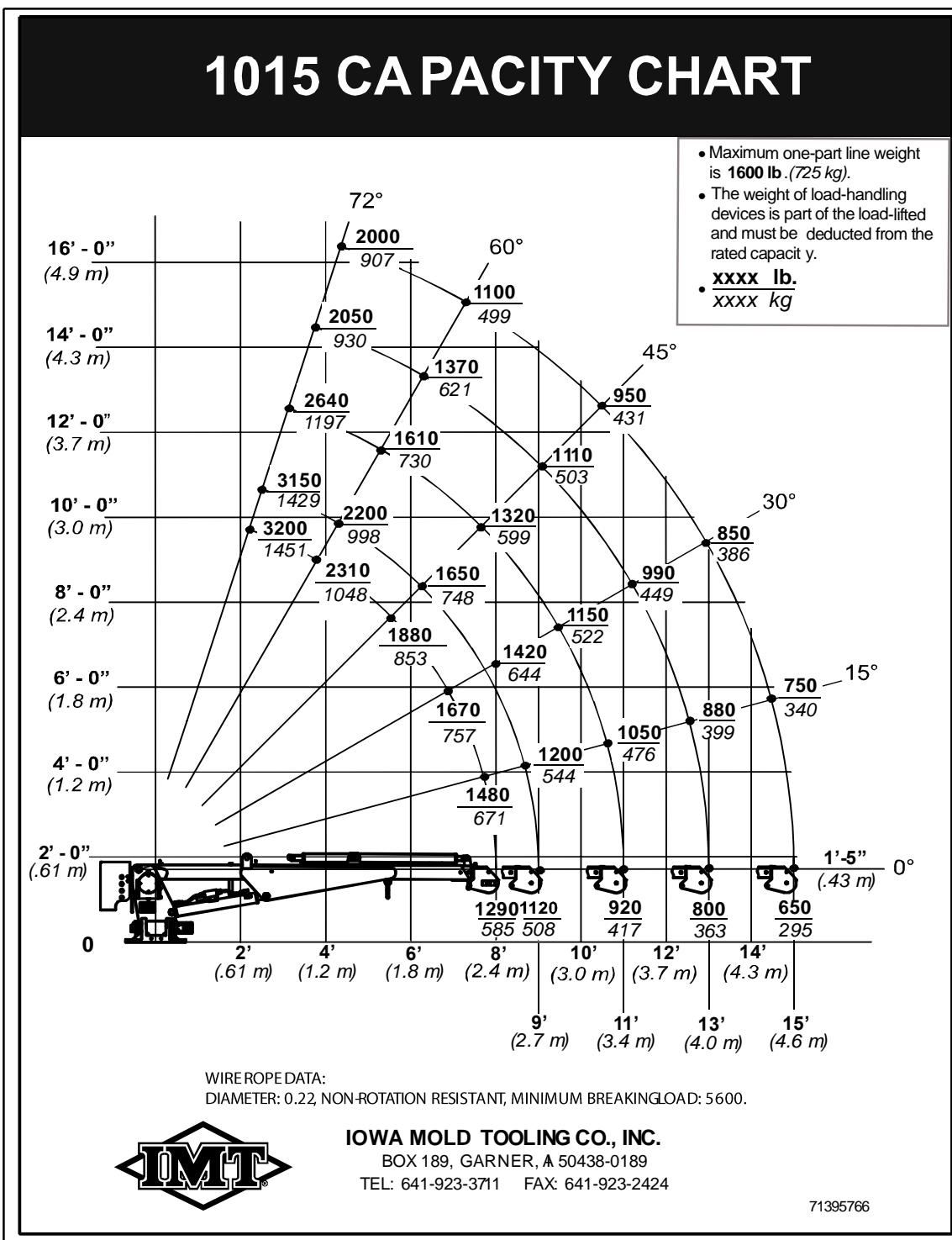
* Based on 36,000 PSI yield frame material (A-36).

In addition to these specifications, a heavy-duty battery and alternator are required. It is recommended that the vehicle have power steering and dual rear wheels.

Geometric Configuration



1015 Capacity Chart



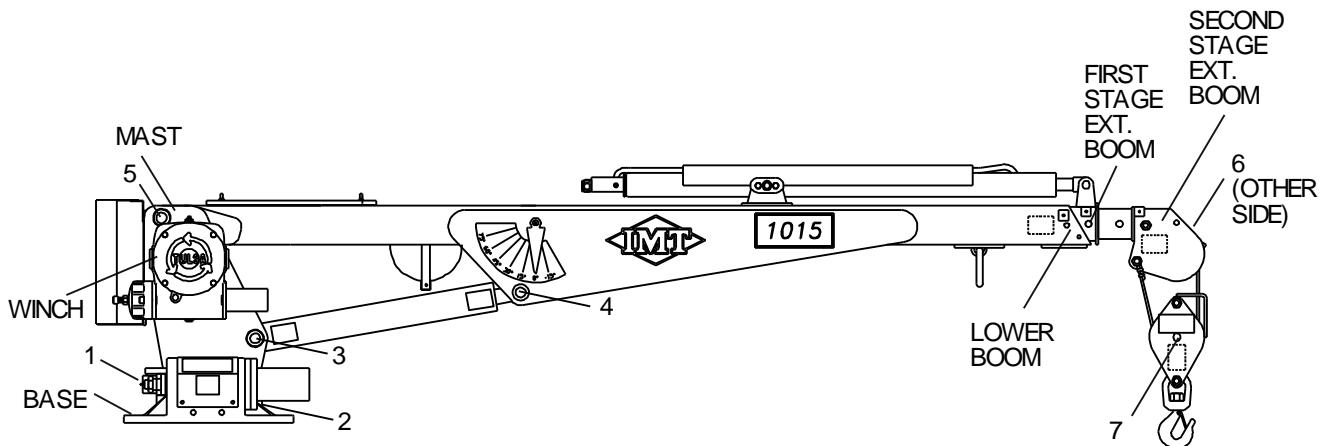
CHAPTER 3

Crane Reference

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Crane Assemblies & Grease Zerks



NOTE: Descriptions indicate major crane assemblies, and numbers indicate grease zerk locations.

ITEM	LOCATION	LUBRICANT REQUIREMENT	FREQUENCY
1	Worm Gear		
2	Turntable Bearing Grease Extension (Rotate crane while greasing.)	Shell Alvania 2EP or Shell Retinax "A"	Weekly
3	Lower Cylinder Base		
4	Lower Cylinder Rod		
5	Mast / Lower Boom Hinge Pin		
6	Sheave pin		
7	Snatch Block Pin		

NOTE: All application points must be greased weekly under normal workloads and moderate weather conditions. Under severe operating conditions, lubrication should be performed more frequently. See the IMT Manual, 99903514, Volume 1: Telescopic Crane Operation, Safety & Maintenance for additional lubrication requirements.

1015 Recommended Spare Parts List

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 (C) or Normal Wear (W) items during the first year of operations and you need to contact the distributor or manufacturer for availability.

BASE ASSEMBLY (41704562)			
60030116	THRUST BEARING	2	W
70055147	BEARING	1	W
70055148	BEARING	1	W
70046307	WORM GEAR	1	W
89086247	MOLUB	2	P
WINCH / CABLE / HOOK KIT (41714331)			
70055142	BEARING	1	W
77041291	SWITCH	1	W
CABLE & HOOK KIT (31710164)			
70055163	ROLLER BEARING	1	W
70580059	WIRE ROPE 7/32"X65'	1	W
71732760	SWIVEL HOOK 1-1/2 TON	1	W
70055162	INNER RACE	1	W
CORD REEL ASSEMBLY (51713168)			
70732193	CORD REEL	1	W
LOWER BOOM ASSEMBLY (41715987)			
60030531	WEAR PAD	1	W
LOWER BOOM CYLINDER (3B195010)			
6HD25015	HEAD	1	W
6ID25087	PISTON	1	W
9D101214	SEAL KIT	1	W
73540052	C'BAL VALVE	1	C
EXTENSION BOOM ASSEMBLY, 15' (41714447)			
60030061	SHEAVE W/BEARING	1	W
EXTENSION BOOM CYLINDER (3B180010)			
6HD20012	HEAD	1	W
6ID20075	PISTON	1	W
9D081012	SEAL KIT	1	W
73054304	C'BALANCE VALVE 10GPM	1	C
HYDRAULIC POWER UNIT (73051957)			
73540046	RELIEF CARTRIDGE	1	W
73540048	KICK DOWN CARTRIDGE	1	W
77041570	STARTER COIL	1	W

VALVEBANK-PROP'L REMOTE CONTROL (73735157)			
70145626	COIL	1	C
70145625	RELIEF VALVE	1	C
70145624	SOLENOID VALVE	4	C
VALVEBANK-RADIO REMOTE (73733931)			
70145626	COIL	1	C
70145625	RELIEF VALVE	1	C
70145624	SOLENOID VALVE	4	C
VALVEBANK - POWER UNIT (70733398)			
70145625	RELIEF VALVE	1	C
70145624	SOLENOID VALVE	4	C
VALVEBANK - NON PROPORTIONAL (70733400)			
70145625	RELIEF VALVE	1	C
70145624	SOLENOID VALVE	4	C
REMOTE HANDLE ASSEMBLY-POWER UNIT (51714700)			
77040372	TOGGLE SWITCH SPDT	4	W
77040373	TOGGLE SWITCH SPST	1	W
77040374	TOGGLE SWITCH SPDT	4	W
77041407	DIODE BOARD	1	W
REMOTE HANDLE ASSEMBLY - PTO (ON/OFF) (51713384)			
77040371	TOGGLE SWITCH SPST	2	W
77040372	TOGGLE SWITCH SPDT	4	W
77040373	TOGGLE SWITCH SPST	1	W
77040374	TOGGLE SWITCH SPDT	1	W
REMOTE HANDLE ASM-PTO-PROPL (51713182)			
77040371	TOGGLE SWITCH SPST	2	W
77040372	TOGGLE SWITCH SPDT	4	W
77040373	TOGGLE SWITCH SPST	2	W
77040374	TOGGLE SWITCH SPDT	1	W
INSTALLATION KIT-POWER UNIT (93714530)			
77041592	FUSE	1	C

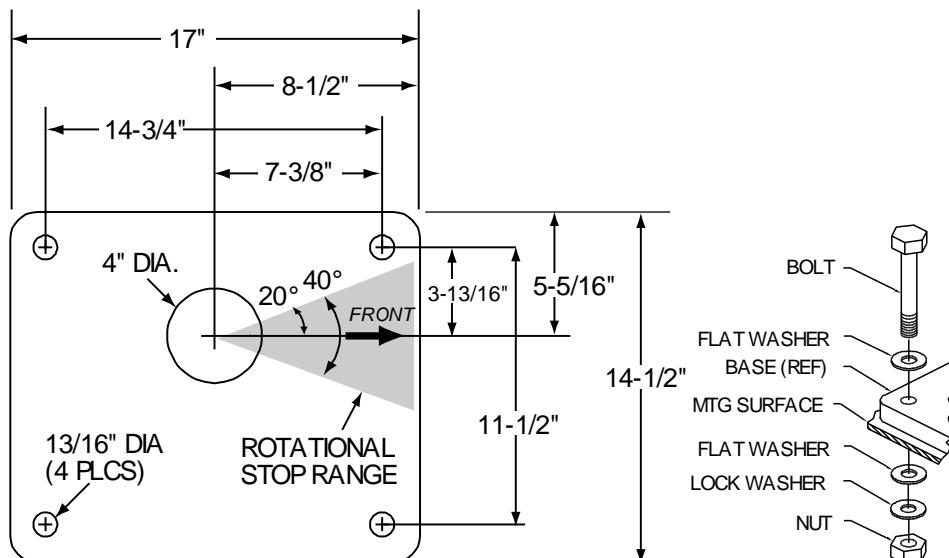
Crane Installation

This section is intended to serve as a guide in the installation of the IMT 1015 crane. Since each installation is unique, certain components may need to be modified. In the case of the IMT 1015 crane, the power unit's battery cable must be cut to the proper length.

The installation instructions are designed for use with an IMT body installed on a vehicle which meets the minimum chassis specifications as defined in the **1015 Performance Characteristics** (see "Performance Characteristics" on page 10). If this crane is being installed on a body other than an IMT Mechanics Body, check with IMT to determine the suitability of that body.

WARNING

Avoid death or serious injury! Do not use this crane on a body which cannot handle the loads imposed on it by the crane.



CRANE INSTALLATION

The crane requires a mounting space of at least 14-1/2" wide by 17" long. If necessary, the truck body can be reinforced to give sufficient strength to support the crane in its operating condition. Locate and drill the four 13/16" holes (see figure). Use a pilot drill first and then the 13/16" drill. Cut the 4" diameter hole with a saw after starting with a drill. Deburr all holes. Lift the crane into position on the body. Use a lifting device capable of supporting the crane, which weighs 650 pounds (295 kg).

Install the bolts, lockwashers, flat washers and nuts to secure the crane to the chassis (see figure). Torque the bolts to 200 ft-lb. (27.66 kg-m).

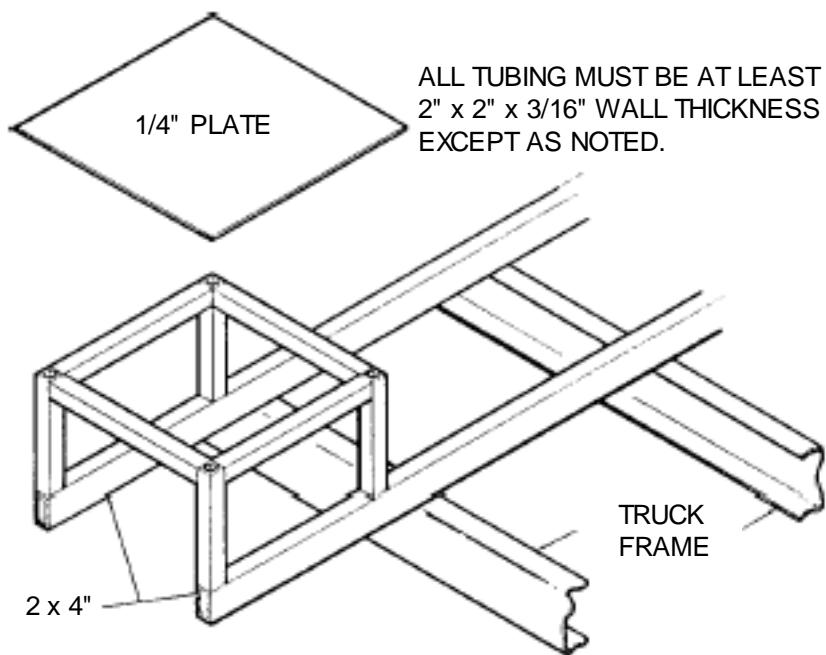
NOTE

In addition to these specifications, a heavy-duty batter and alternator are required. IMT recommends that the vehicle have power steering and dual rear wheels.

IMT recommends adherence to the upper limit of these specifications for best system performance.

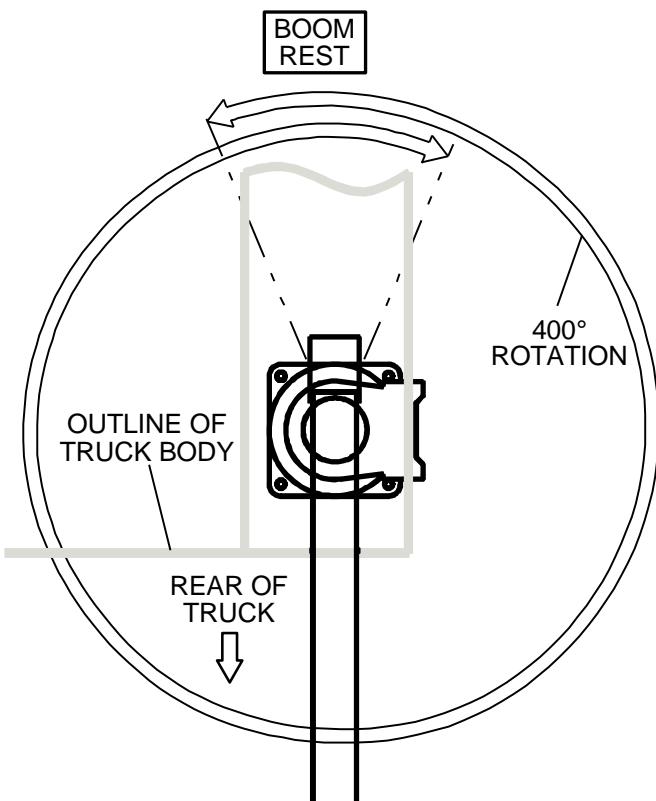
BODY REINFORCEMENT

If, after talking with the factory, it has been determined that the body will not support the crane with the full, rated load, the body can be reinforced as shown below. Use 1/4" fillet welds and an AWS qualified welder.

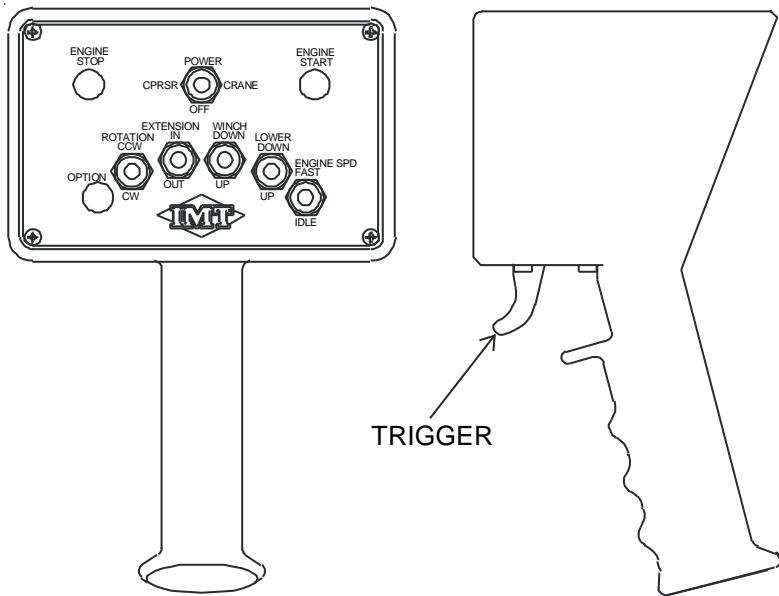


Telescopic Crane Orientation

When an IMT telescopic crane is not factory-installed on a body, the crane is packed with the boom oriented as it is built on a test stand to facilitate handling. Install the crane on the body with boom pointing backward. Once the crane is bolted down, it can be rotated 180° (3.14 radians) to the boom rest.



Electric Remote Handle Operating Instructions



- 1 Turn on the power via the on/off switch of the tethered remote handle.
- 2 Pull back on the trigger until the power unit begins to run.
- 3 Select the required function on the crane handle to move the crane as desired, making sure not to release tension on the trigger assembly.
- 4 When done with the function, continue to hold the trigger assembly in until all immediate movements of the crane have been completed.
- 5 If no further work with the crane is needed, or if all immediate movements of the crane have been completed, then release the trigger assembly to return the power unit back to a rested state.
- 6 Turn off power to the handset.

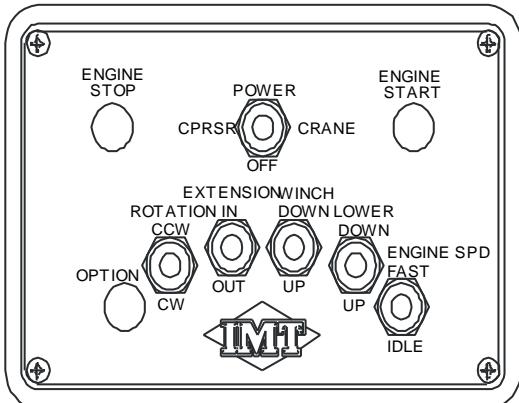
NOTE

Excessive or rapid "On/Off" cycling of the trigger assembly should be avoided, particularly if a function is engaged. This will cause premature aging or extensive damage to the power unit components.

Remote Engine Speed Control (From Crane)

Engine speed can be controlled from the remote control handle. When the engine speed switch is activated, voltage is applied at terminal 10 of relay "E". The coil of relay "E" is energized and current is allowed to flow to the signal input of the speed control currently installed. The speed of the engine will remain higher as long as the engine speed switch in the remote control handle is allowed to remain in the same position. If this switch is returned to its original position, the engine speed control coil will be de-energized through relay "E".

Compressor operation will begin when the "Compressor-OFF-Crane" switch on the handset is toggled to the "Compressor" position. At that time, the power from the handset will provide power to the pressure switch on the compressor. When the pressure switch signals a need for more air pressure, the switch will trip and provide a signal to terminal 5 of the relay board. Relay "C" energizes the coil in the relay, connecting terminal 4 to terminal "C" of the relay which is "HOT" from relay "B". Reference Figure 6 showing circuits energized (in bold) when engine speed is increased by the compressor. This will provide a "HOT" signal at terminal 4 which then provides a 12-volt signal to input of the speed control currently installed.



CHAPTER 4

Parts

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Parts Information

GENERAL

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

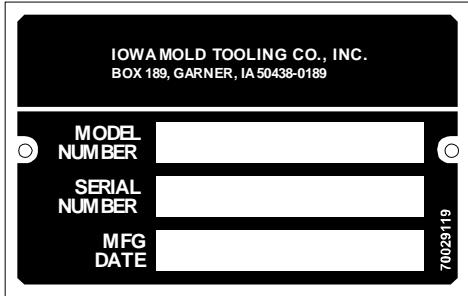
⚠ WARNING

Do not attempt to repair any component without reading the information contained in the repair section. Pay particular attention to statements marked Warning, Caution or Note in that section. Failure to comply with these instructions may result in damage to the equipment, personal injury or death.

CRANE IDENTIFICATION

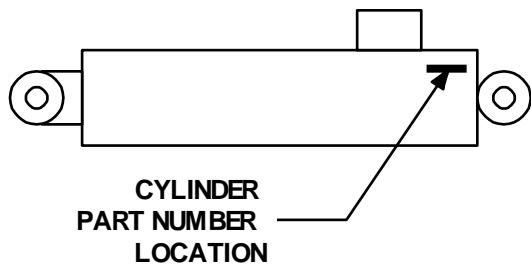
Every IMT crane has an identification placard (see figure). This placard is attached to the inner boom, mast, or crane base. When ordering parts, communicating warranty information, or referring to the unit in correspondence, always include the serial number and model numbers. Address all inquiries to your authorized IMT distributor or 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 proper replacement parts are received, it is necessary to specify the complete number/letter sequence for any part requested. Part numbers may be cross checked by comparing the stamped identification on the cylinder case (See figure below) against the information contained in the service manual. You must include the part number stamped on the cylinder case when ordering parts.



WELDMENT IDENTIFICATION

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

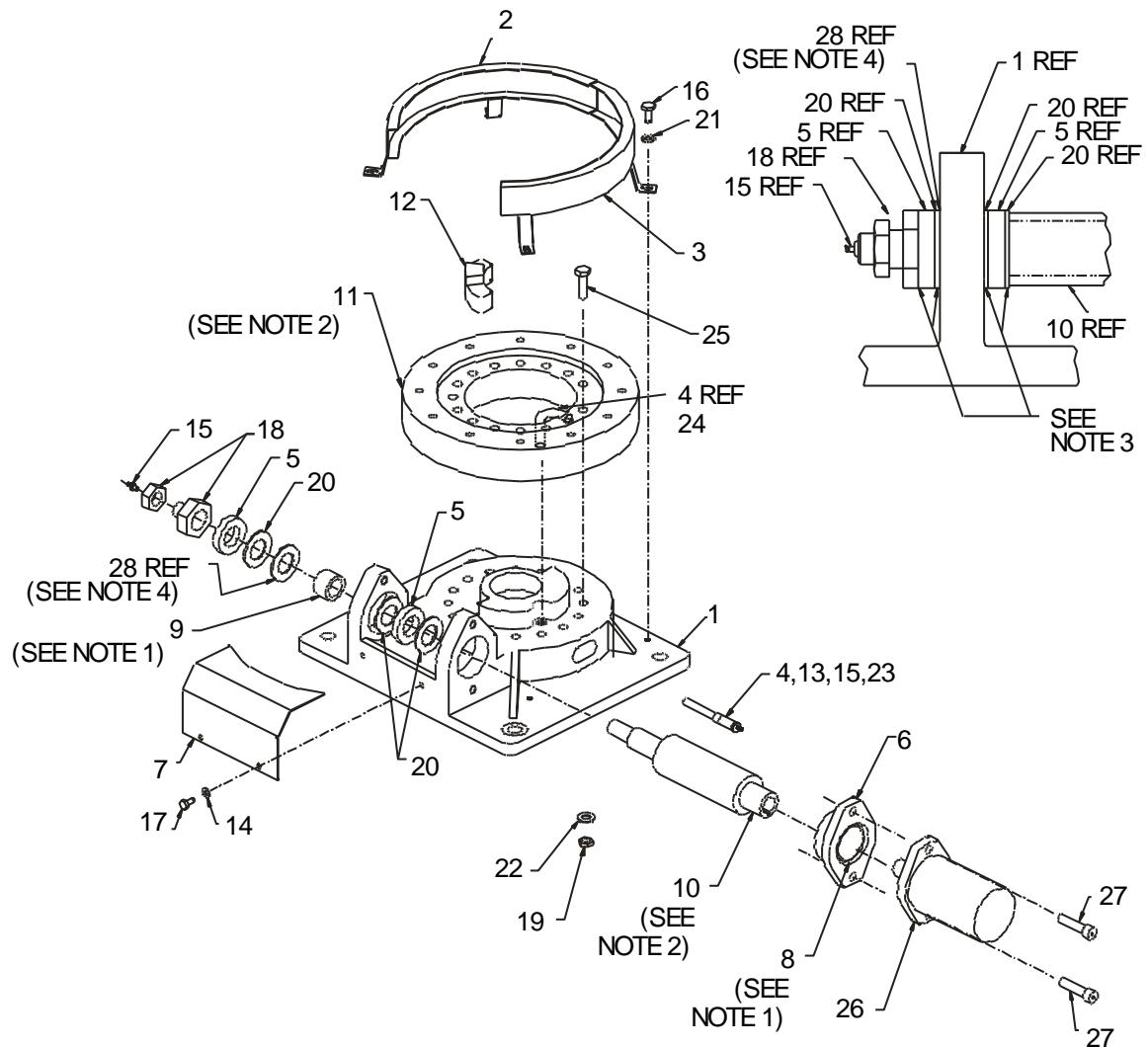
ORDERING REPAIR PARTS

When ordering replacement parts:

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

Base & Mast Assemblies

Base Assembly (41704562)



 WARNING

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

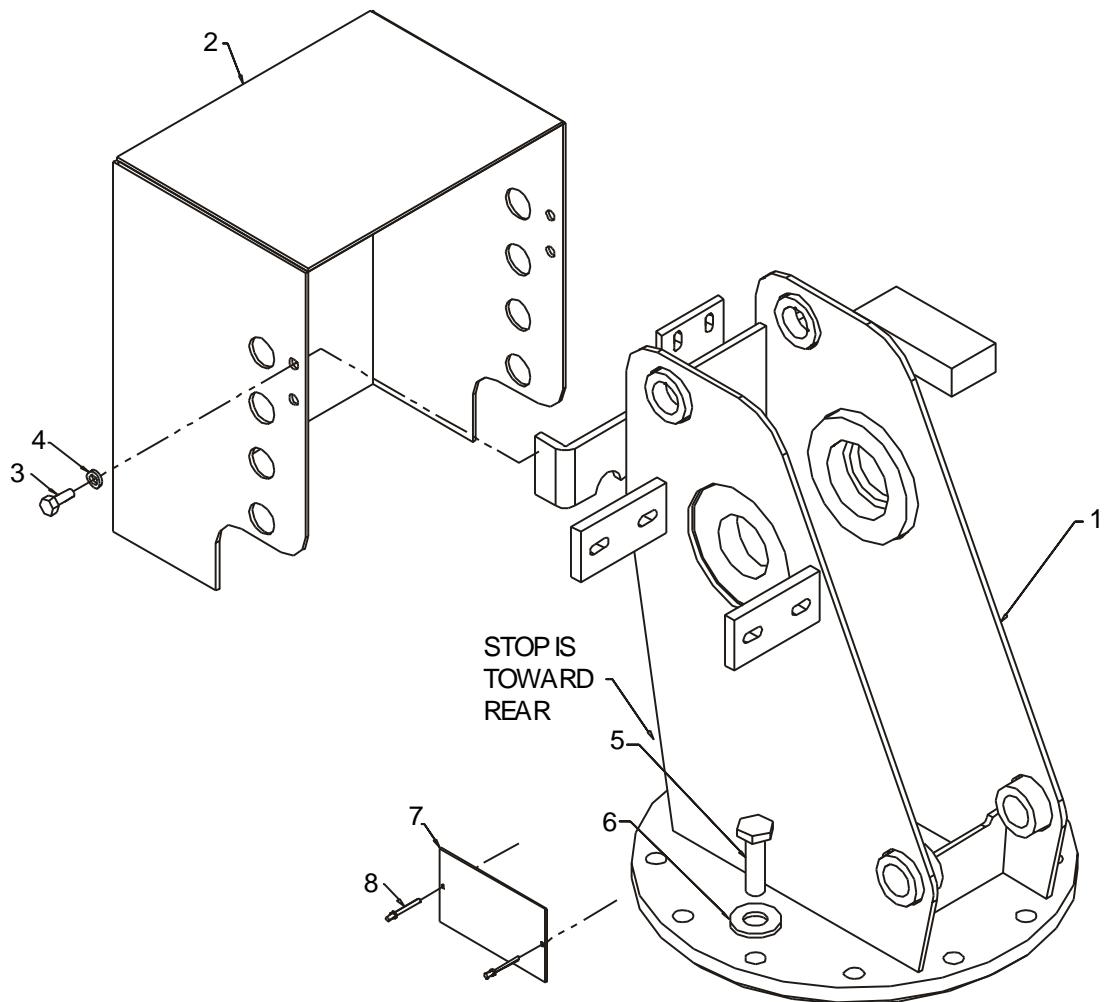
NOTES:

- 1 BEARINGS MUST BE PACKED WITH GREASE AT ASSEMBLY AND AFTER REPAIR.
- 2 APPLY "MOLUB-ALLOY 882 HEAVY" TO TURNTABLE BEARING AND WORM GEAR TEETH AT ASSEMBLY.
- 3 AT INSTALLATION, INITIALLY LUBRICATE BOTH SIDES OF THRUST BEARING, USING "SLIP PLATE", "LUBRIPLATE" OR OTHER LUBRICANTS CONTAINING GRAPHITE OR MSO2.
- 4 SHIM AS REQUIRED AS NEEDED.

BASE ASSEMBLY PARTS LIST (41704562)

ITEM	PART #	DESCRIPTION	KIT #	QUANTITY
1.	51704564	BASE		1
2.	52713752	TURNTABLE GUARD-RH		1
3.	52713753	TURNTABLE GUARD-LH		1
4.	60030086	TUBING 1/4 X 6		1
5.	60030116	THRUST BEARING		2
6.	60107543	SUPPORT PLATE		1
7.	60107617	COVER		1
8.	70055147	BEARING		1
9.	70055148	BEARING		1
10.	70056307	WORM GEAR		1
11.	71056308	TURNTABLE BEARING		1
12.	71142535	SLIDE 400°		1
13.	72053301	COUPLING 1/8NPT		1
14.	72063050	WASHER 5/16 LOCK		2
15.	72053508	ZERK 1/8NPT	#29	2
16.	72060000	CAP SCR 1/4-20X1/2 HHGR5	#29	4
17.	72060023	CAP SCR 5/16-18X3/4 HHGR5	#29	2
18.	72062251	NUT 7/8-9 LOCK 2-PC GR8	#29	1
19.	72062162	NUT 9/16-12 HEX GR8	#29	15
20.	72063161	WASHER 1-1/8 FLAT	#29	3
21.	72063049	WASHER 1/4 LOCK	#29	4
22.	72063117	WASHER 9/16 FLAT HARD GR8	#29	15
23.	72531731	ADAPTER 1/8POLY-FLO 1/4		1
24.	72531746	ELBOW 1/8MPT 1/4POLYFLO 90°		1
25.	72601313	CAP SCR 9/16-12X3-1/2 HHGR8	#29	15
26.	73051482	MOTOR		1
27.	72060796	CAP SCR 1/2-13X2.00 SH	#29	2
28.	60121433	SHIM 2.25X1.81X16GA		REF
29.	51719373	KIT – HDRW 1015 BASE & MAST		1

Mast Assembly (41714276)

**NOTE:**

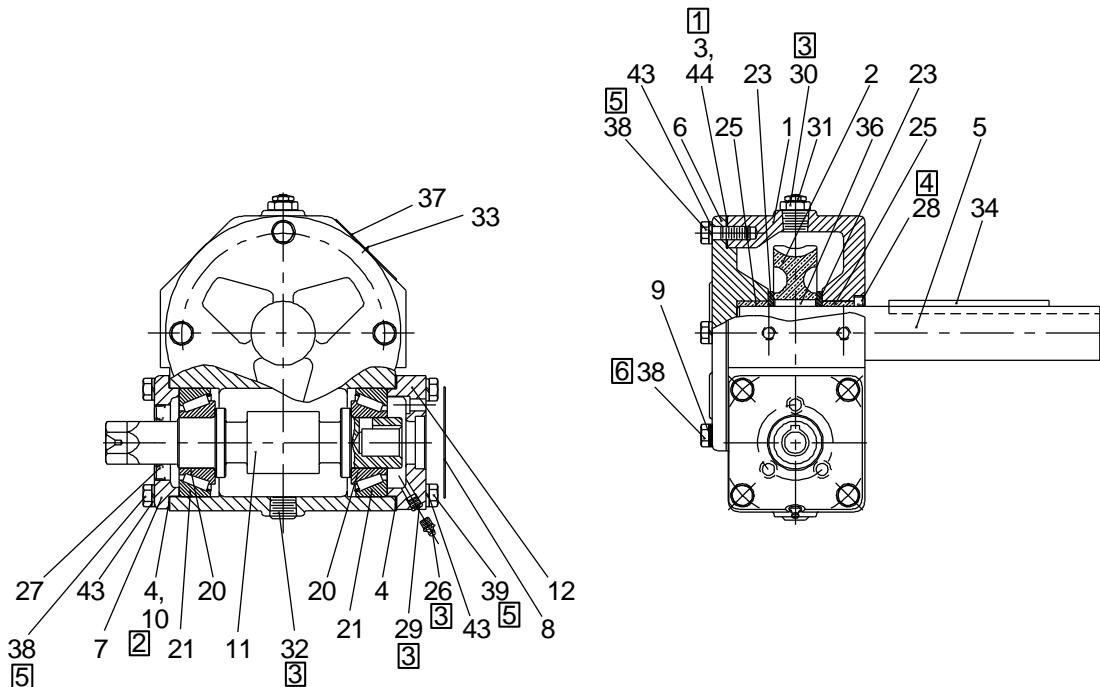
- DO NOT USE THREAD LOCKER ON ITEM #5.

⚠ WARNING

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

41714276 PARTS LIST				
ITEM	PART #	DESCRIPTION	KIT #	QUANTITY
1.	52714278	MAST		1
2.	60120189	COVER		1
3.	72060000	CAP SCR 1/4-20X3/4 HHGR5	#9	4
4.	72063049	WASHER 1/4 LOCK	#9	4
5.	72601144	CAP SCR 9/16-12X2 HHGR8	#9	12
6.	72063117	WASHER 9/16 HARD FLAT	#9	12
7.	70029119	PLACARD-SERIAL NUMBER		1
8.	72661638	POP RIVET 1/8X3/8GRIP		2
9.	51719373	KIT – HRDW 1015 BASE & MAST		1

Speed Reducer (70057663)



NOTES (SEE REFERENCE NUMBER IN BOX):

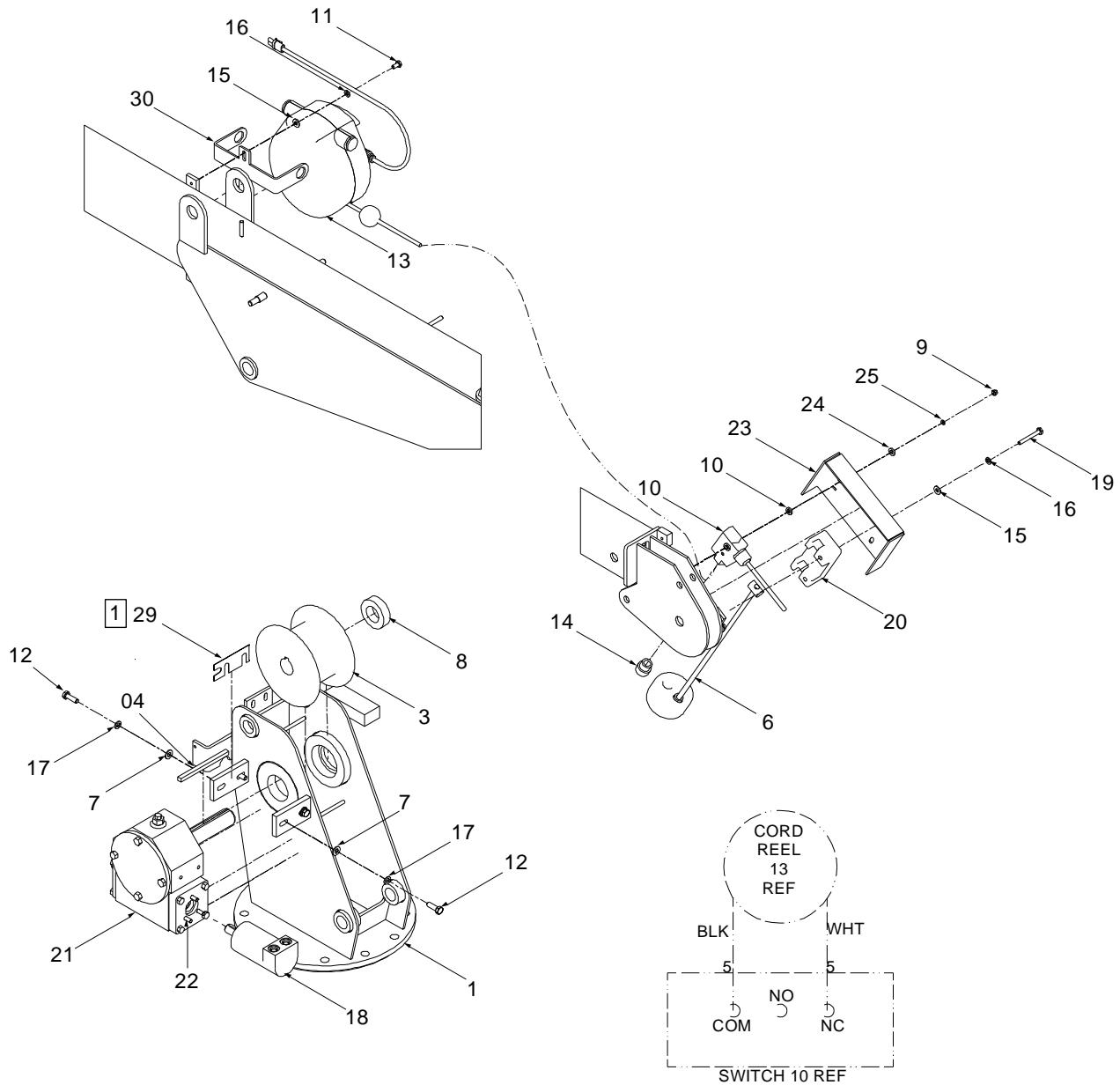
- 1 USE GASKETS TO OBTAIN .005/.015 END PLAY ON OUTPUT SHAFT.
- 2 USE GASKETS TO OBTAIN .000/.004 END PLAY ON WORM SHAFT.
- 3 INSTALL REDUCER (#30), PIPE PLUG (#32), AND SHIPPING PLUG (#29) WITH PIPE SEALANT WITH TEFLON. SHIP ZERK (#26) LOOSE.
- 4 INSTALL SEALS (#27 AND #28) WITH LOCTITE 609 ON O.D. LUBRICATE SEAL SURFACE BEFORE ASSEMBLY.
- 5 INSTALL BOLTS USING LOCTITE 242. TORQUE TO 18-21 FT-LB.
- 6 CAUTION - USED FOR OIL LEVEL. DO NOT USE LOCTITE. DO NOT OVERTIGHTEN.

70057663 PARTS LIST

ITEM	PART #	DESCRIPTION	QUANTITY
1.	70143637	HOUSING	1
2.	70056425	GEAR, WORM	1
3.	76393144	GASKET, COVER (.015")	2
4.	76392896	GASKET, BRG. RET. (.015")	3
5.	70143633	SHAFT, OUTPUT	1
6.	70143636	COVER	1
7.	70145156	RETAINER, BEARING (Effective 11/01/94)	1
9.	76393142	WASHER, 5/16 SEALING	2
10.	76393143	GASKET, BRG. RET. (.031")	1
11.	70056511	WORM (Effective 11/01/94)	1
12.	70145157	ADAPTER, MOTOR (Effective 11/01/94)	12
20.	70055192	BEARING, CONE	2

70057663 PARTS LIST			
ITEM	PART #	DESCRIPTION	QUANTITY
21.	70055193	BEARING, CUP	2
23.	70143422	WASHER,THRUST	2
25.	70143632	BUSHING, (1.25 X 1.50 X .75)	2
26.	72533438	ZERK,LINCOLN #5013 (Effective 11/01/94)	1
27.	76394070	SEAL, NAT'L #471689 (Effective 11/01/94)	1
28.	76393141	SEAL, NAT'L #471413	1
29.	72533439	PLUG,SLT HD,1/4-28 TPRD (Effective 11/01/94)	1
30.	72532844	BUSHING,RED 3/8X1/8	1
31.	72053613	VENT, 1/8 NPT, 1-5PSI	1
32.	72053242	PLUG, 3/8 NPT, SKT HD	1
33.	70142375	DRIVE SCREW	2
34.	60107226	KEY, 5/16 X5/16 X3-3/4	1
36.	81066819	KEY, 5/16X5/16X1	2
37.	70143428	LABEL PLATE, 2 7/8 X 2	1
38.	72601516	CAPSCREW, HXZD 5/16NCX.88GR5	8
39.	72060026	CAPSCREW, HXZD 5/16NC1.25GR5	4
43.	72063050	LOCKWASHER, STD 5/16 ZD	11
44.	76394071	GASKET, COVER (.031") (Effective 11/01/94)	2
45.	70143635	ADAPTER – MTR (Through 11/01/94)	1
46.	70143634	RETAINER – BEARING (Through 11/01/94)	1
47.	70056424	WORM (Through 11/01/94)	1
48.	76393140	GASKET – MOTOR	1
REV. 20090408			

Winch/Cable/Hook Kit (41714331) (Effective: 2-9- 2017)



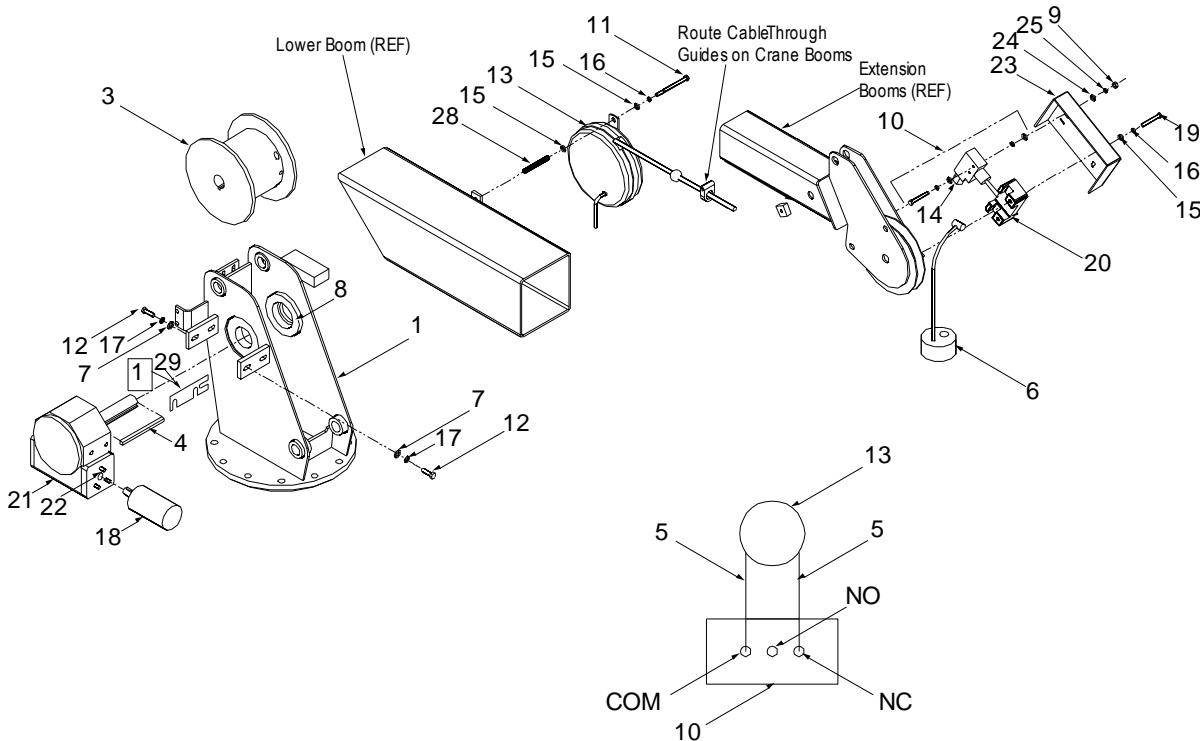
Notes:

1. Use shim as required. Cut in two pieces for single, or fold over for double thickness.

41714331 Complete Parts List

Item	Part No.	Description	Qty
01	52714278	MAST-WLDMT 1014 FAUVER	1 REF
02	51725230	SNATCH BLOCK CABLE KIT - 1015 (NOT SHOWN)	1
03	60025203	DRUM-WINCH 0814	1
04	60107226	KEY-.31 X .31 X 3.75 (PART OF 21)	1 REF
05	77040051	TERM-SPRSPADE 1 # 8STUD 16-14	2
06	52709413	CABLE-WLDMT ANTI-2 BLOCK 3016	1
07	72063002	WASHER .31 FLAT (PART OF #26)	4 REF
08	70055142	BEARING-STA35 BRB1654DC	1
09	72062207	NUT 8-32 HEX NYLOCK (PART OF #27)	2 REF
10	77041291	SWITCH-LIMIT	1
11	72060000	CAP SCR .25-20X .50 HH GR5 Z (PART OF #27)	2 REF
12	72060025	CAP SCR .31-18X 1.00 HH GR5 Z (PART OF #26)	4 REF
13	51727064	CORD REEL ASM - 4.17' - W/PACKARD CONNECTOR	1
14	77044468	CONNECTOR-.50 STR RLF .12-.25 (PART OF #27)	1 REF
15	72063001	WASHER .25 FLAT (PART OF #27)	4 REF
16	72063049	WASHER .25 LOCK (PART OF #27)	4 REF
17	72063050	WASHER .31 LOCK (PART OF #26)	4 REF
18	73051398	MOTOR-HYD EATON 129-0019-002	1
19	72060008	CAP SCR .25-20X 2.00 HH GR5 Z (PART OF #27)	2 REF
20	60113594	MTG BLOCK-COVER ANTI-2BLK 5016	1
21	70057663	SPEED REDUCER-GP 004-00010-1	1
22	72060694	CAP SCR .25-28X .75 SH PLAIN (PART OF #26)	3 REF
23	60127876	COVER-ANTI 2 BLOCK MICRO SWITCH LEFT	1
24	72063098	WASHER .16 W FLAT ANSI B27.2Z (PART OF #27)	2 REF
25	72063047	WASHER #10 LOCK (PART OF #27)	2 REF
26	51719373	KIT-HRDW 1015 BASE AND MAST (INCL:7, 12, 17, 22)	REF
27	51719375	KIT-HRDW 1015 BOOMS (INCL:9,11,14-16,19,24,25)	REF
29	60132917	SHIM-WINCH DRIVE (.035)	A/R
30	60144951	BRKT- CORD REEL MNT	1
REV. J 20170310			

Winch/Cable/Hook Kit (41714331) (Effective thru 2-8-17)


NOTE:

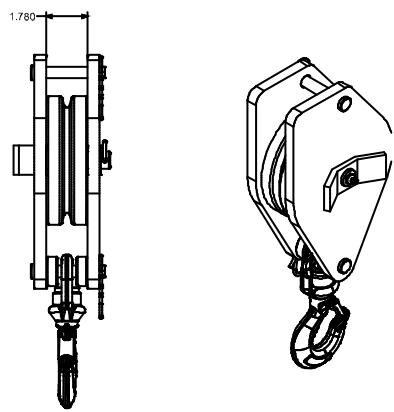
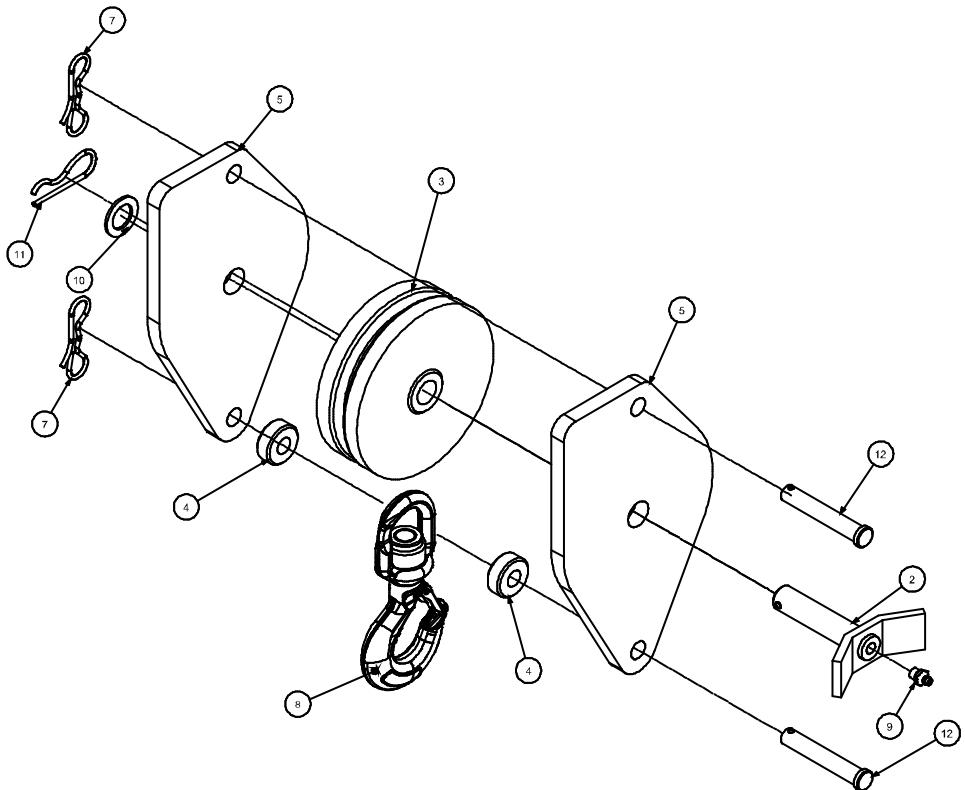
1 USE SHIM AS REQUIRED. CUT IN TWO PIECES FOR SINGLE, OR BEND FOR DOUBLE THICKNESS.

41714331 PARTS LIST

ITEM	PART #	DESCRIPTION	QUANTITY
1.	52714278	MAST	1REF
2.	51725230	SNATCH BLOCK AND CABLE KIT (SEE DWG) (Effective 05/30/13)	1
2.	31710164	CABLE & HOOK KIT (SEE DWG) (Through 05/30/13)	1
3.	60025203	WINCH DRUM	1
4.	60107226	KEY (PART OF 21)	1REF
5.	77040051	TERMINAL #8 SPRSPD 16-14GA	2
6.	52709413	CABLE WELDMENT	1
7.	72063002	WASHER 5/16 FLAT	4
8.	70055142	BEARING	1
9.	72062207	NUT #8-32 HEX NYLOC	3
10.	77041291	SWITCH	1
11.	72060014	CAP SCR 1/4-20X3.5 HHGR5 (WAS 72060000)	2
12.	72060025	CAP SCR 5/16-18X1 HHGR5	4REF
13.	51713168	CORD REEL ASM	1
14.	77044468	STRAIN RELIEF 1/2	1REF
15.	72063001	WASHER 1/4 WRT (WAS 4)	6REF
16.	72063049	WASHER 1/4 LOCK	4REF

41714331 PARTS LIST			
17.	72063050	WASHER 5/16 LOCK	4REF
18.	73051398	MOTOR	1
19.	72060008	CAP SCR 1/4-20X2 HHGR5	2REF
20.	60113594	COVER MTG BLOCK	1
21.	70057663	SPEED REDUCER	1
22.	72060694	CAP SCR 1/4-28X3/4 SH	3REF
23.	60127876	COVER (WAS 60113593)	1
24.	72063098	WASHER .16 FLAT	2REF
25.	72063047	WASHER #10 LOCK	2REF
26.	51719373	HARDWARE KIT, BASE & MAST (INCL. 7,12,17,22)	REF
27.	51719375	HARDWARE KIT, BOOMS (INCL. 9,11,14-16,19,24-25)	REF
28.	60129022	TUBE	2
29.	60132917	SHIM-WINCH DRIVE	AS REQUIRED
REV. G 20151006			

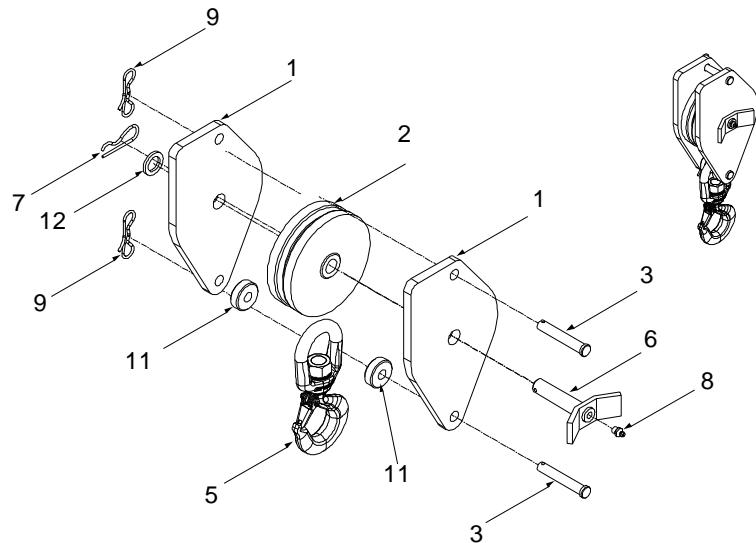
Snatch Block and Cable Kit (51725230) Effective 7/2018



ITEM NO.	PART NO.	DESCRIPTION	QTY.
1.	51725470	KIT-HRDW 1015 SNATCH BLOCK	1
2.	52704828	PIN-TYPE T .75X 3.00	1
3.	60030482	SHEAVE- 5.5 NYLATRON GSM 0.75 BORE	2
4.	60030580	SPACER-POL .52X 1.25X .50	2
5.	60141144	SHEAVE PLATE - 1015	1
6.	70580059	WIRE ROPE ASM-.22 X 7 X 19 X 65ft PGA (NOT SHOWN)	2
7.	70734805	COTTER PIN BOWTIE .50	1
8.	70735102	HOOK-SWVL POS LOCK BBRG 1.5TON	1
9.	72053508	ZERK-NPT .12	1
10.	72063028	MACHY BUSHING .75X14 GA NR	1
11.	72066145	HAIR PIN .19 ZINC	1
12.	72661711	CLEVIS PIN .50 X 3.00	2

REV. F 201808

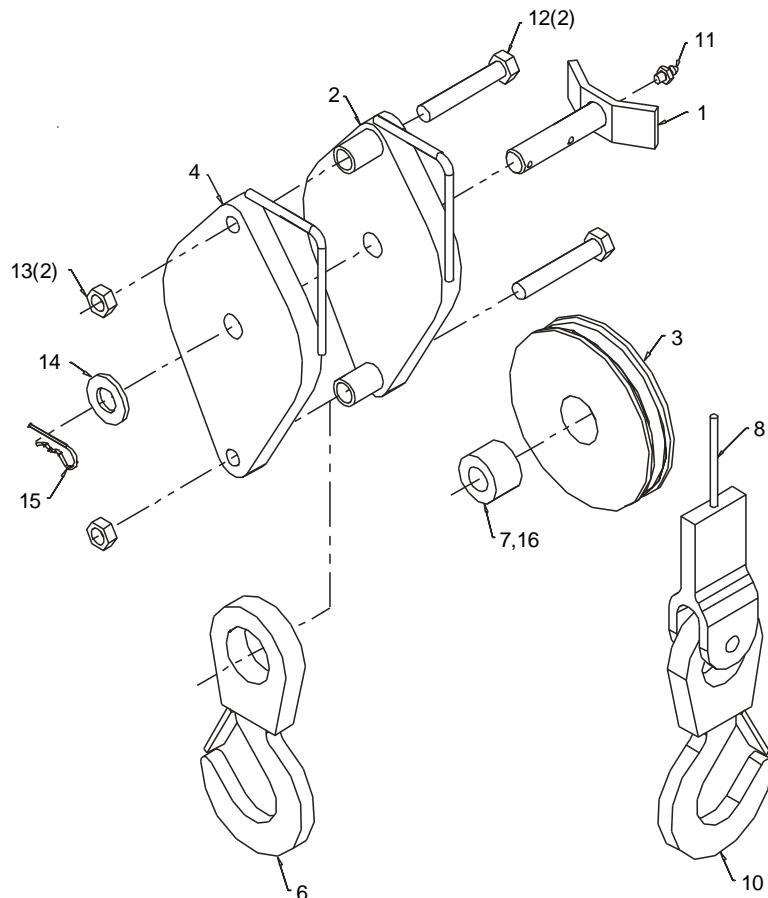
Cable & Hook Kit (51725230) (Effective 05/30/13)



51725230 PARTS LIST

ITEM	PART #	DESCRIPTION	QUANTITY
1.	60141144	SHEAVE PLATE - 1015	2
2.	60030482	SHEAVE- 5.5 NYLATRON GSM 0.75 BORE	1
3.	72661711	CLEVIS PIN .50 X 3.00	2
5.	71073921	HOOK-SWVL S-322A2T W LATCH	1
6.	52704828	PIN-TYPE T .75X 3.00	1
7.	72066145	HAIR PIN .19 ZINC	1
8..	72053508	ZERK-NPT .12	1
9.	70734805	COTTER PIN BOWTIE .50	2
10.	70580059	WIRE ROPE ASM-.22 X 7 X 19 X 65ft PGA (NOT SHOWN)	1
11.	60030243	SPACER-POL .52X 1.50X .50	1
12.	72063030	MACHY BUSHING .75X10 GA NR	1
13.	51725470	KIT-HRDW 1015 SNATCH BLOCK	REF
REV D 20151005			

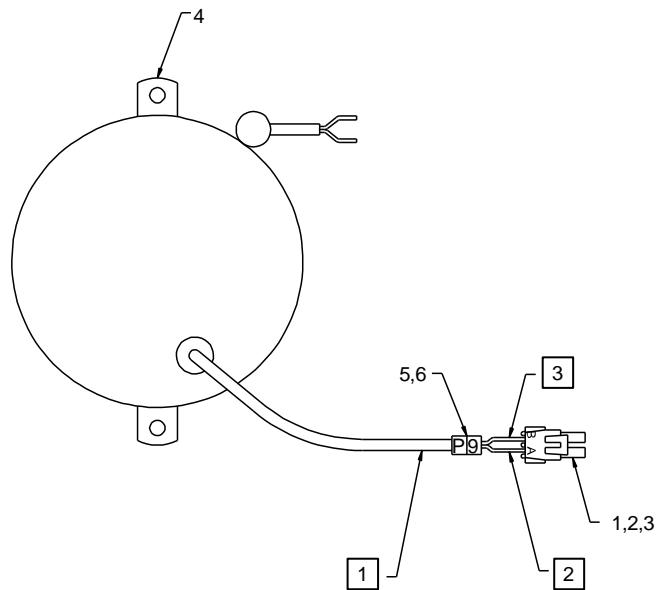
Cable & Hook Kit (31710164) (Through 05/30/13)



31710164 PARTS LIST

ITEM	PART #	DESCRIPTION	QUANTITY
1.	52704828	PIN	1
2.	52704254	SNATCH BLOCK	1
3.	60030061	SHEAVE (INCL:7,16)	1
4.	52709411	SIDE PLATE	1
5.	72060569	SET SCR 5/16-18X3/8SH (DRUM)	1
6.	71073921	HOOK 2-TON	1
7.	70055163	ROLLER BEARING (PART OF 3)	1REF
8.	70580059	WIRE ROPE ASM 7/32" X 65'	1
10.	71732760	SWIVEL HOOK 1-1/2 TON	1
11.	72053508	ZERK 1/8NPT	1
12.	72060097	CAP SCR 1/2-13X3 HHGR5	2
13.	72062080	NUT 1/2-13 LOCK	2
14.	72063030	MACH BUSHING 3/4X10GA	1
15.	72066145	HAIR PIN 3/16	1
16.	70055162	INNER RACE (PART OF 3)	1REF

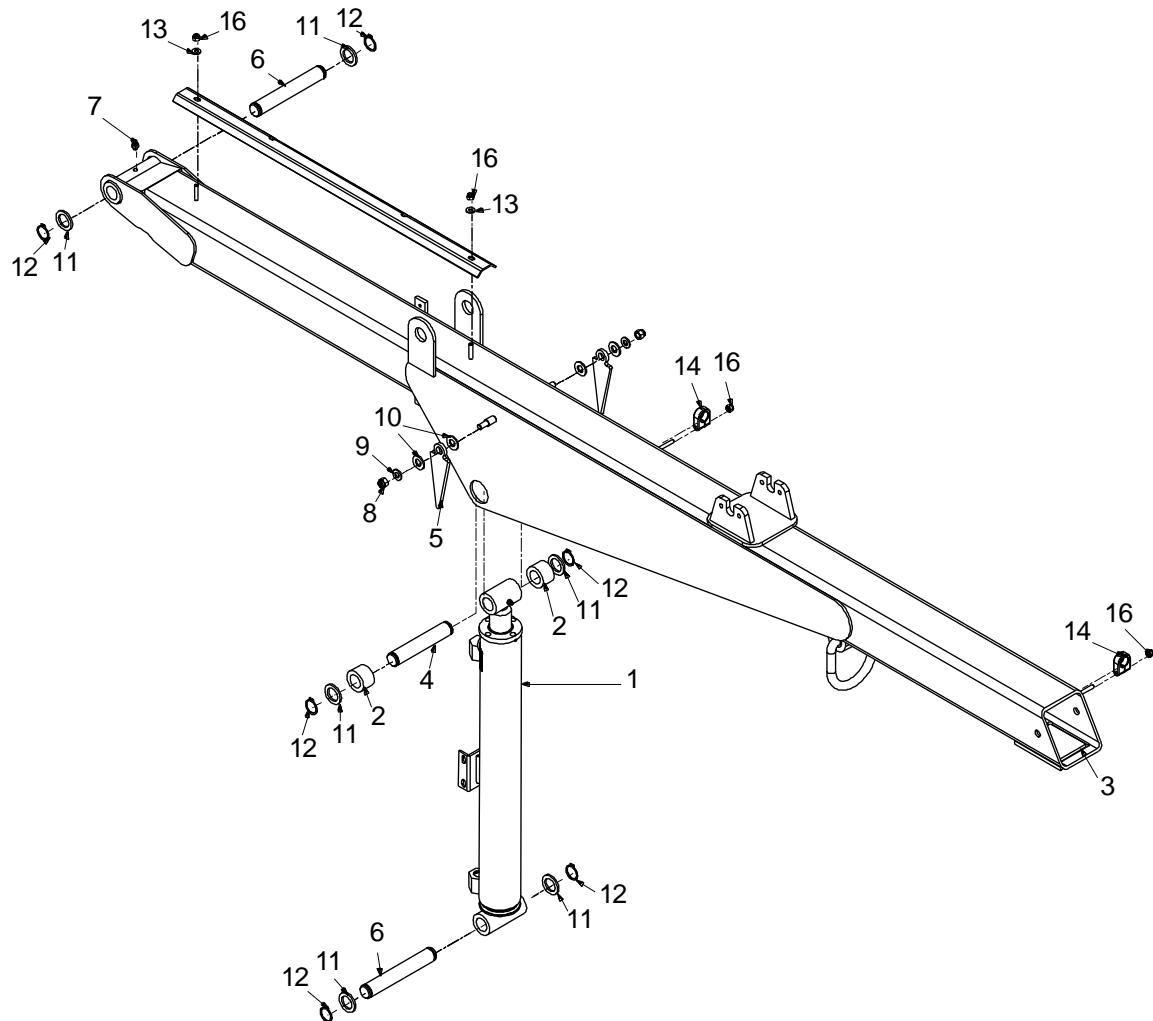
Cord Reel Assembly (51713168)

**NOTES (SEE REFERENCE NUMBER IN BOX):****1** CUT TO LENGTH.**2** WHITE**3** BLACK**51713168 PARTS LIST**

ITEM	PART #	DESCRIPTION	QUANTITY
1.	77044574	TOWER CONNECTOR	1
2.	77044552	PIN 18-20GA (Through 03/22/96)	2
2.	77044550	TERMINAL – FEM 18-20 GA (Effective 03/22/96)	2
3.	70394069	CABLE SEAL	2
4.	70732193	CORD REEL	1
5.	77041493	WIRE MARKER	1
6.	77041491	WIRE MARKER	1

Boom Assemblies & Cylinders

Lower Boom Assembly (41715987)



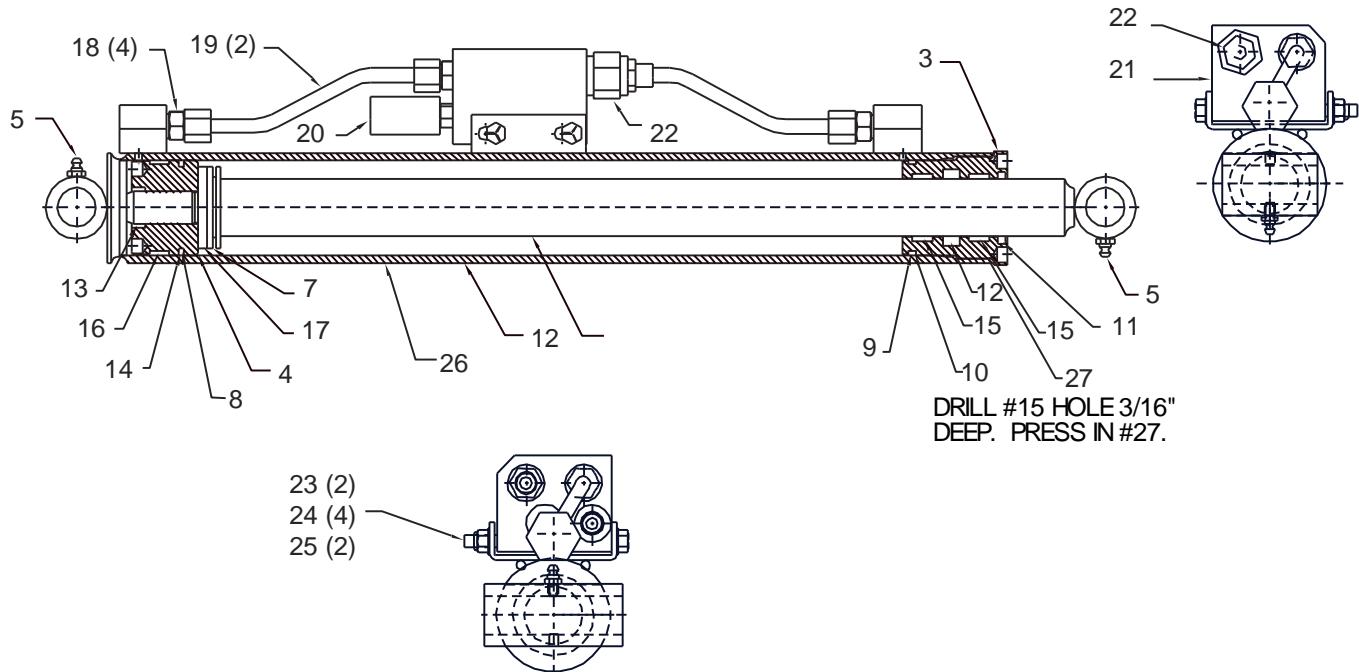
41715987 PARTS LIST

ITEM	PART #	DESCRIPTION	KIT #	QUANTITY
1.	3B195010	LOWER CYLINDER (WAS 71411794 FROM 10-05 THROUGH 2-07)		1
2.	52715986	LOWER BOOM		1
3.	60030531	WEAR PAD (WAS 60030097)		1
4.	60101906	PIN		1
5.	60105544	INDICATOR		2
6.	60106065	PIN		2
7.	72053508	ZERK 1/8NPT	#17	1

41715987 PARTS LIST

ITEM	PART #	DESCRIPTION	KIT #	QUANTITY
8.	72062103	NUT 3/8-16 LOCK	#17	2
9.	72063003	WASHER 3/8 WRT	#17	2
10.	72063005	WASHER 1/2 WRT	#17	4
11.	72063034	MACH BUSHING 1X10GA NR		6
12.	72066125	RETAING RING 1 EXT HD		6
13.	72063001	WASHER 1/4 WRT	#17	2
14.	70034381	SUPPORT		2
15.	60107595	HOSE GUARD		1
16.	72062104	NUT 1/4-20 LOCK	#17	4
17.	51719375	HARDWARE KIT		REF
REV G 20070410				

Lower Cylinder (3B195010) (Thru. 9-05, Eff. 2-07)



NOTES:

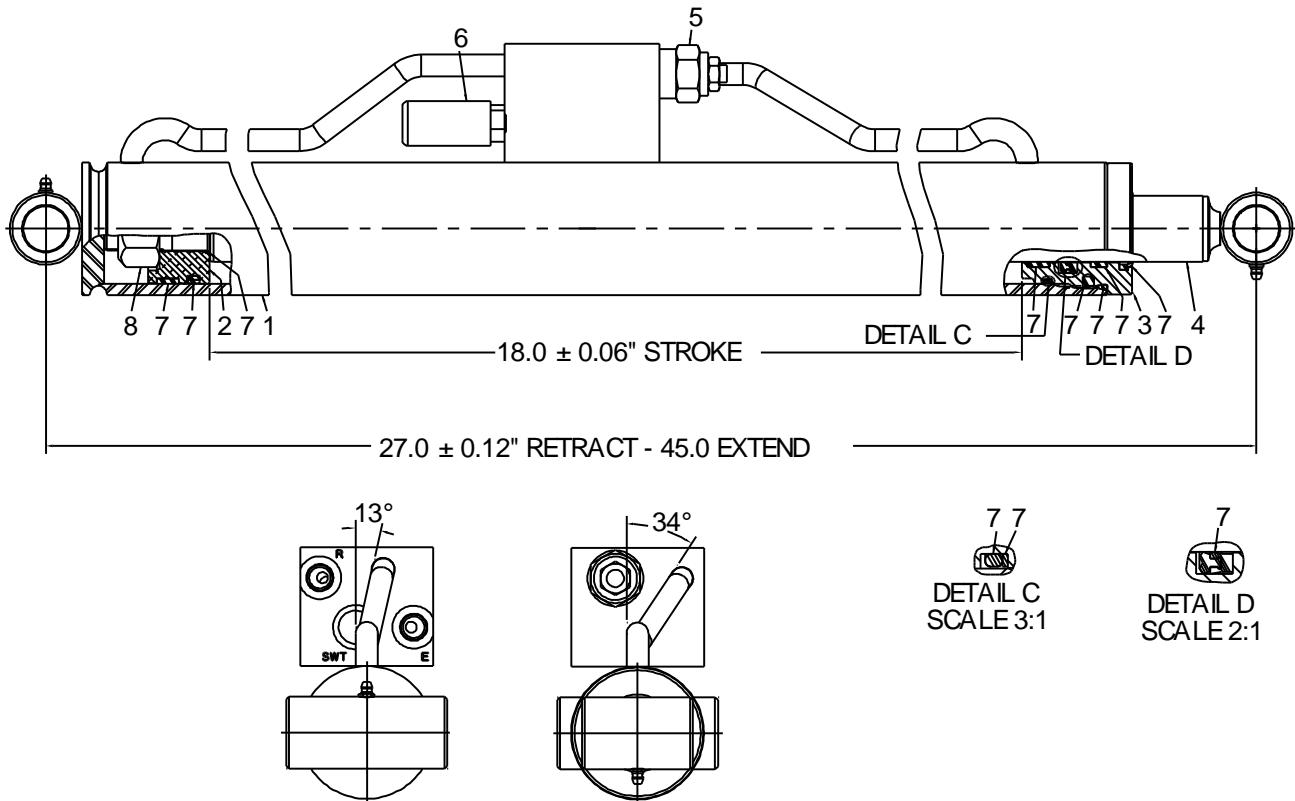
- 1 REPLACE ALL COMPONENTS OF THE SEAL KIT WHENEVER THE CYLINDER IS DISASSEMBLED. THIS WILL REDUCE FUTURE DOWNTIME.
- 2 APPLY REGULAR GRADE ANTI-SEIZE AND LUBRICATING COMPOUND TO THREADS ON CYLINDER HEAD ONLY. KEEP AWAY FROM ALL SEALS.
- 3 APPLY "LUBRIPLATE" NO. 630-2 MEDIUM HEAVY, MULTI-PURPOSE LUBRICANT, TO ALL PISTON, HEAD GLAND, AND HOLDING VALVE SEALS, NYLON LOCK RING, CAST IRON PISTON RINGS, AND ROD STINGER THREADS.
- 4 ITEM #7, STOP TUBE, REPLACES 6A025025 WAFER LOCK. USE STOP TUBE INSTEAD OF WAFER LOCK WHEN RESEALING CYLINDER.

3B195010 PARTS LIST

ITEM	PART #	DESCRIPTION	KIT#	QUANTITY
1.	4B195010	CASE ASM		1REF
2.	4G104820	ROD ASM		1REF
3.	6HD25015	HEAD		1REF
4.	6ID25087	PISTON		1REF
5.	72053507	ZERK STR THD 1/4-28		1REF
6.	9D101214	SEAL KIT		1REF
7.	60138272	STOP TUBE (WAS 6A025015)	#6	1REF
8.	7Q072137	O-RING	#6	1REF
9.	7Q072228	O-RING	#6	1REF
10.	7Q10P228	BACKUP RING	#6	1REF
11.	7R14P015	ROD WIPER	#6	1REF
12.	7R546015	U-CUP	#6	1REF

3B195010 PARTS LIST				
ITEM	PART #	DESCRIPTION	KIT#	QUANTITY
13.	7T61N087	LOCK RING	#6	1REF
14.	7T66P025	PISTON SEAL		1REF
15.	7T2NX417	WEAR RING-ROD	#6	2REF
16.	7T2N4025	WEAR RING-PISTON	#6	1REF
17.	6C025015	STOP TUBE		1REF
18.	72533186	ADPTR #6M FACE #6 M STR		4
19.	70145752	TUBE ASM		2
20.	77041552	PRESS SWITCH	#20	1REF
21.	73540057	VALVE		1
22.	73540052	C'BALANCE VALVE	#21	1REF
23.	72060037	CAP SCR 5/16-18X4		2
24.	72063002	WASHER 5/16 FLAT		4
25.	72062109	NUT 5/16 HEX NYLOC ZINC		2
26.	3B195010A	CYLINDER		1
27.	60125699	PIN-LOCKING TUBE		1
REV. D 20120322				

Lower Cylinder (71411794) (Eff. 10-05 through 1-07)



NOTES:

- 1 TO REDUCE DOWNTIME, REPLACE ALL COMPONENTS OF THE SEAL KIT WHENEVER THE CYLINDER IS DISASSEMBLED.

71411794 CYLINDER DATA

EXTENDED	4.91 IN ² , 0.38 GAL
RETRACTED	3.14 IN ² , 0.24 GAL
CASE	2.50 BORE X ø2.50
ROD	ø1.50
DRY WEIGHT	34.1 LB
TEST PRESSURE	3500 PSI
OPERATING PRESSURE	3000 PSI
PORTS	SAE #6 O-RING BOSS (9/16-18 UNF-2B)
CYLINDER TUBE BURST PRESSURE	14,995 PSI
TORQUE	TORQUE LOCKNUT, #8, TO 260-300 FT-LB. USE LOCTITE GRADE 271 OR EQUIVALENT. TORQUE HEAD GLAND, #3, TO 200-250 FT-LB. TORQUE COUNTERBALANCE VALVE, #5, TO 40-45 FT-LB. TORQUE PRESSURE SWITCH, #6, TO 17-20 FT-LB.

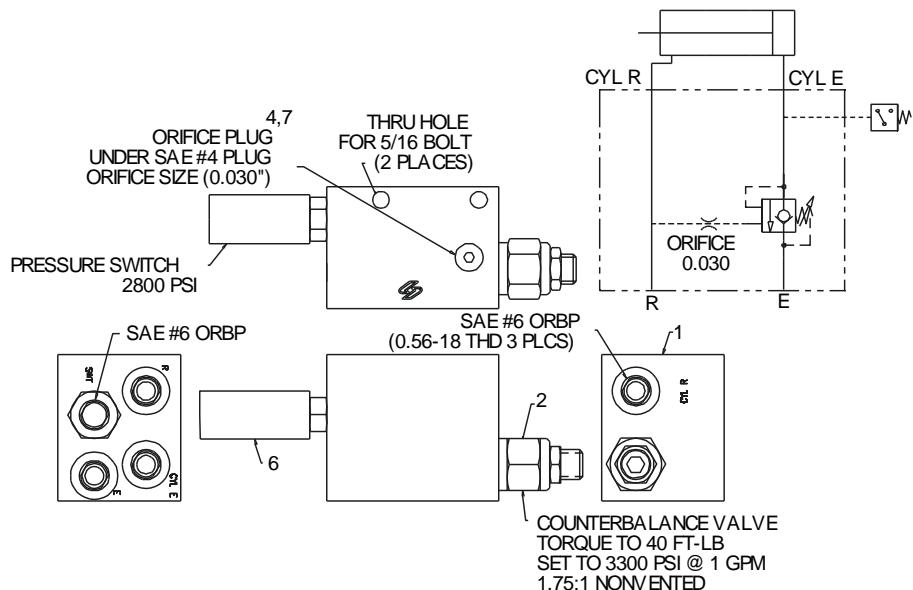
71411794 PARTS LIST

ITEM	PART #	DESCRIPTION	QUANTITY
1.	71411923	CASE WELDMENT	1
2,	71411919	PISTON	1
3.	71411918	HEAD GLAND	1
4.	71411924	ROD WELDMENT	1

71411794 PARTS LIST

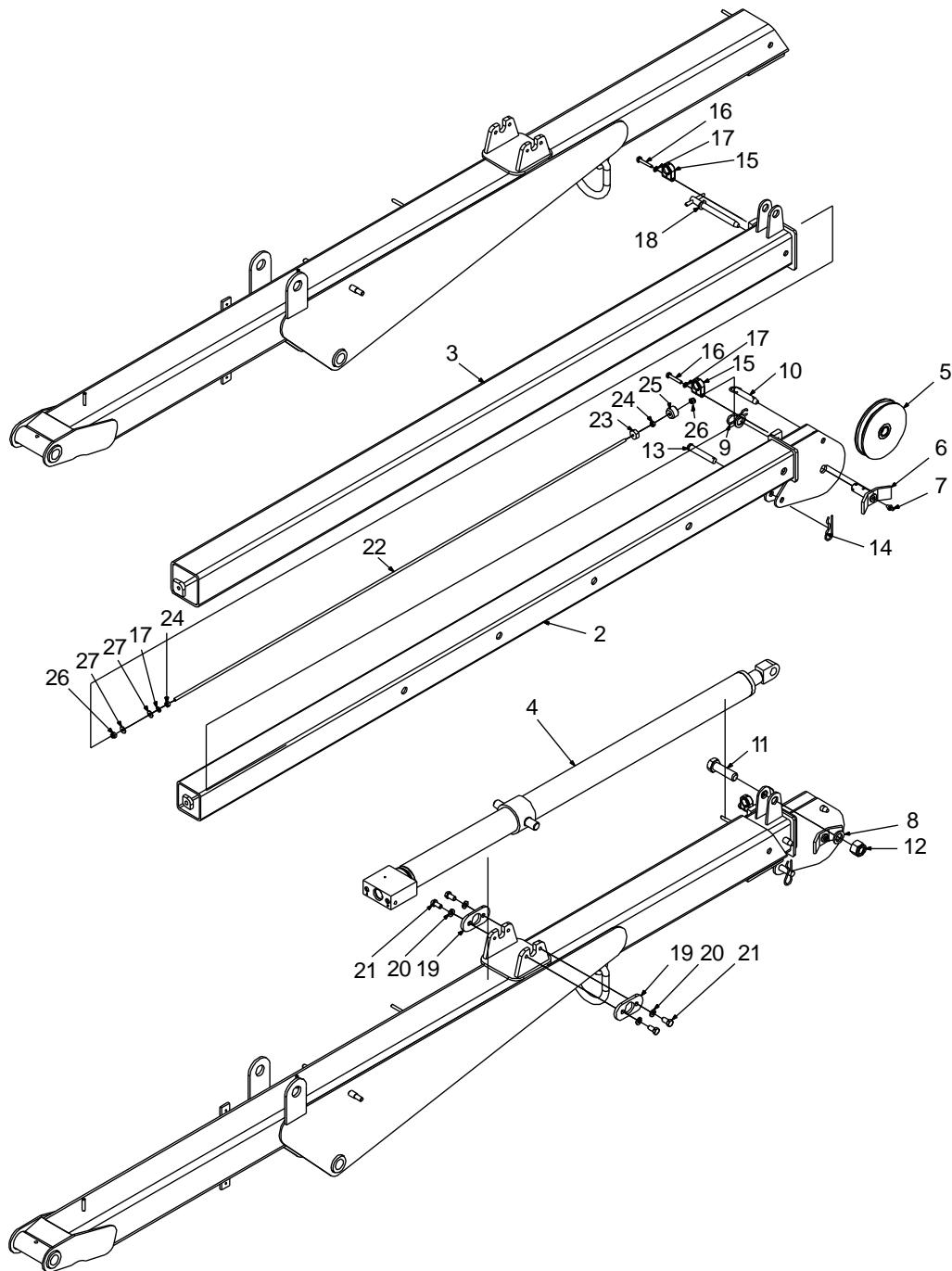
ITEM	PART #	DESCRIPTION	QUANTITY
5.	73540052	VALVE-COUNTERBALANCE	1
6.	77041552	PRESSURE SWITCH	1
7.	94396791	SEAL KIT	1
8.	REF	LOCKNUT, 1-14 UNS	1

NEW 20051010

Counterbalance Valve Assembly (73540057)**73540057 PARTS LIST**

ITEM	PART #	DESCRIPTION	QUANTITY
1.	73540051	COUNTERBALANCE VALVE (Through 11/12/08)	1
2.	73540052	COUNTERBALANCE VALVE (Effective 11/12/08)	1
4.	70145750	ORIFICE	1
6.	77041552	PRESSURE SWITCH	1
7.	72533477	PLUG 7/16STR HOLHEX	2

Extension Boom Assembly (41714447)

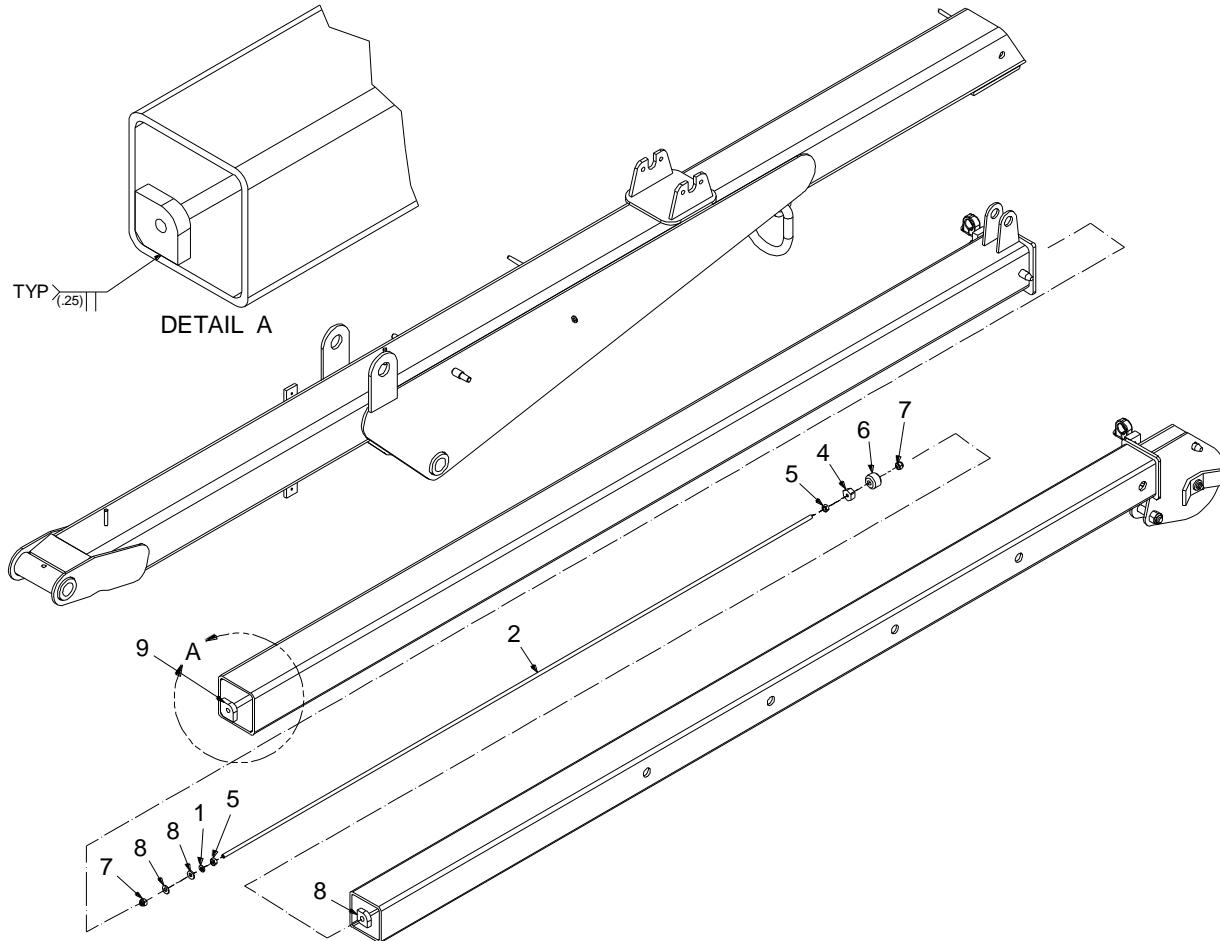


Extension Boom Assembly Parts List (41714447)				
ITEM	PART #	DESCRIPTION	KIT #	QTY
1.	51719375	KIT-HRDW 1015 BOOMS		1
2.	52704945	BOOM-EXT WLDMT 814 2ND STG		1
3.	52704946	1ST STAGE EXT. BOOM - WELDMENT		1
4.	3B180010	CYL-2.0 1.2 36.00S 32.00CC C		1
5.	60030061	SHEAVE- 5.50 NYLON W BEARING		1
6.	52704255	PIN-TYPE T .75X 1.88		1
7.	72053508	ZERK-NPT .12	#1	1
9.	72066145	HAIR PIN .19 ZINC	#1	1
10.	71731462	PIN-QUICK RLSE .50D 1.5 CRIT	#1	1
11.	72060186	CAP SCR .75-10X 2.50 HH GR5 Z	#1	1
12.	72062114	NUT .75-10 HEX NYLOCK	#1	1
13.	72661711	CLEVIS PIN .50 X 3.00		1
14.	72066143	HAIR PIN .12		1
15.	70034381	SUPPORT-GP STAUFF LN-4190-PA		2
16.	72060006	CAP SCR .25-20X 1.50 HH GR5 Z	#1	2
17.	72063049	WASHER .25 LOCK	#1	3
18.	71731461	PIN-T QUICK RLSE .50D 4.0 CRIT	#1	1
19.	60107922	LOCK PLATE-EXT CYL 2115		2
20.	72063051	WASHER .38 LOCK	#1	4
21.	72060044	CAP SCR .38-16X .75 HH GR5 Z	#1	4
22.	60137706	ROD .25 DIA X 57.00 LG 1 4-20 X 2.00 THREAD BOTH ENDS		1
23.	60133850	NUT-0.25X .38 CUSTOM		1
24.	72062000	NUT .25-20 HEX	#1	2
25.	60030389	WEAR PAD-RND UHMW BOOM STOP		1
26.	72062104	NUT .25-20 HEX NYLOCK	#1	2
27.	72063001	WASHER .25 FLAT	#1	2

REV N 20150323

Rev K with boom stop effective S/N 1015111060.

Installation - Manual Extension Boom Stop (99905213)

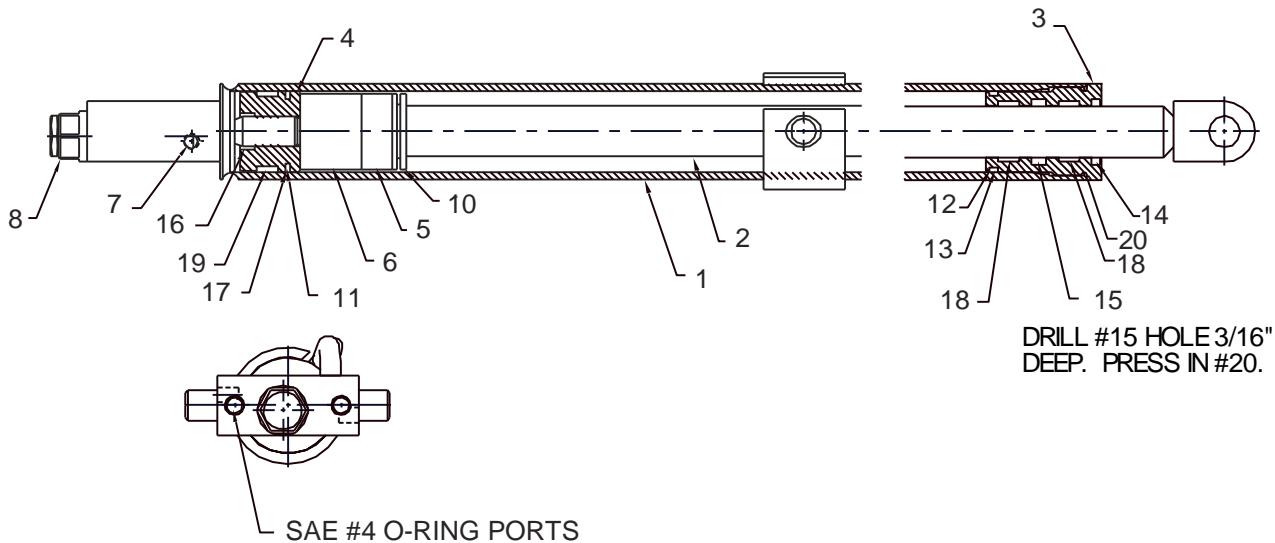


99905213 PARTS LIST

ITEM	PART #	DESCRIPTION	DETAILS	QUANTITY
1.	72063049	WASHER	.25 LOCK	1
2.	60137706	ROD	.25 DIA X 57.00 LG 1/4-20 X 2.00	1
4.	60133850	NUT	0.25X .38 CUSTOM	1
5.	72062000	NUT	.25-20 HEX	2
6.	60030389	WEAR PAD-RND UHMW BOOM STOP		1
7.	72062104	NUT	.25-20 HEX NYLOCK	2
8.	72063001	WASHER	.25 FLAT	2
9.	60133847	STOP PLATE	1.25 X 1.25 X .38	1
10.	60133848	STOP PLATE	1.00 X 1.00 X .38	1
11.	72063001	.25" FLATWASHER		3

REV A 20110718

Extension Cylinder (3B180010) (Thru. 9-05, Eff. 2-07)



NOTES:

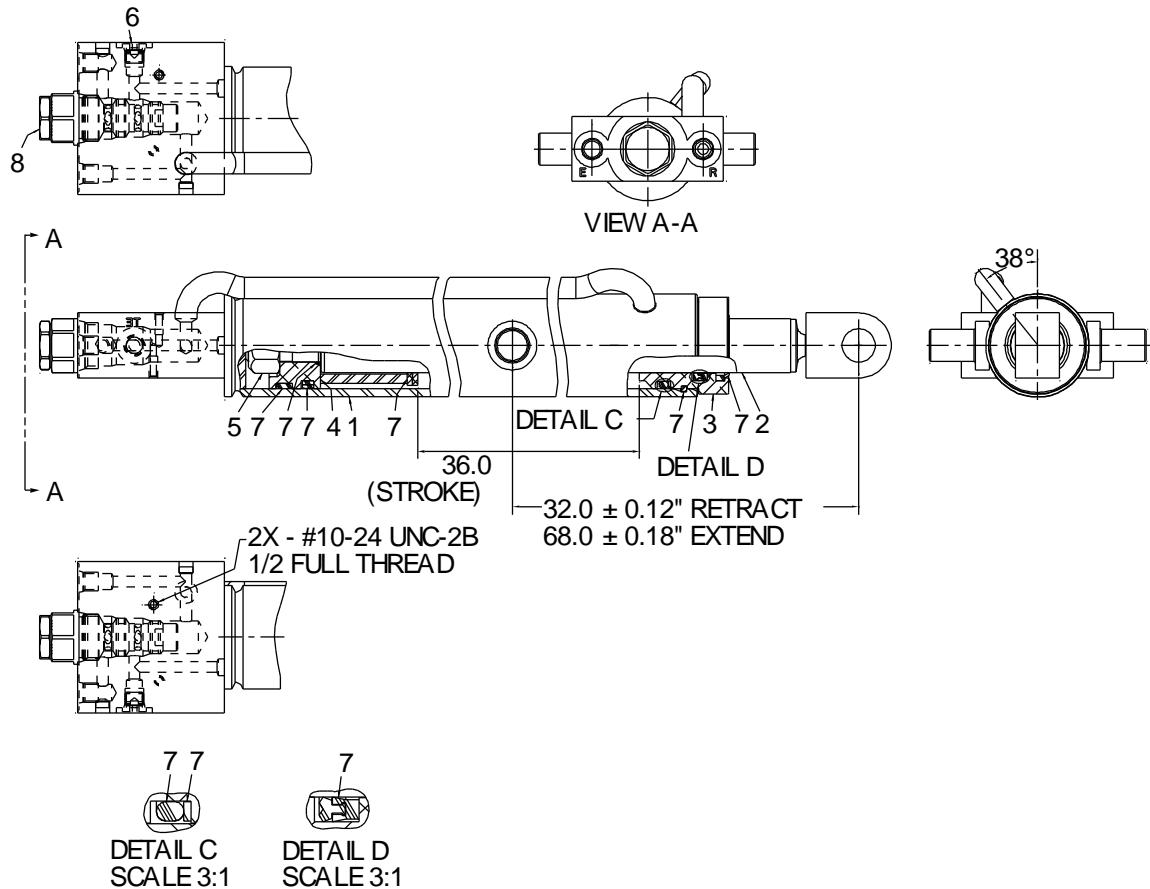
- 1 REPLACE ALL COMPONENTS OF THE SEAL KIT WHENEVER THE CYLINDER IS DISASSEMBLED. THIS WILL REDUCE FUTURE DOWNTIME.
- 2 APPLY REGULAR GRADE ANTI-SEIZE AND LUBRICATING COMPOUND TO THREADS ON CYLINDER HEAD ONLY. KEEP AWAY FROM ALL SEALS.
- 3 APPLY "LUBRIPLATE" NO. 630-2 MEDIUM HEAVY, MULTI-PURPOSE LUBRICANT, TO ALL PISTON, HEAD GLAND, AND HOLDING VALVE SEALS, NYLON LOCK RING, CAST IRON PISTON RINGS, AND ROD STINGER THREADS.
- 4 ITEM #10, STOP TUBE, REPLACES 6A025025 WAFER LOCK. USE STOP TUBE INSTEAD OF WAFER LOCK WHEN RESEALING CYLINDER.

3B180010 PARTS LIST

ITEM	PART #	DESCRIPTION	KIT#	QUANTITY
1.	4B180010	CASE ASM		1
2.	4G108830	ROD		1
3.	6HD20012	HEAD		1
4.	6ID20075	PISTON		1
5.	6C150012	STOP TUBE		1
6.	6C075012	STOP TUBE		1
7.	7PNPXT02	PLUG	#1	3REF
8.	73054304	C'BALANCE VALVE 10GPM		1
9.	9D081012	SEAL KIT (INCL:10-19)		1
10.	60138271	STOP TUBE (PART OF 9) (WAS 6A025012)	#9	1REF
11.	7Q072129	O-RING (PART OF 9)	#9	1REF
12.	7Q072224	O-RING (PART OF 9)	#9	1REF
13.	7Q10P224	BACK RING (PART OF 9)	#9	1REF
14.	7R14P012	ROD WIPER (PART OF 9)	#9	1REF
15.	7R546012	U-CUP (PART OF 9)	#9	1REF
16.	7T61N075	LOCK RING SEAL (PART OF 9)	#9	1REF
17.	7T66P020	PISTON SEAL (PART OF 9)	#9	1REF

3B180010 PARTS LIST				
ITEM	PART #	DESCRIPTION	KIT#	QUANTITY
18.	7T2NX415	WEAR RING (PART OF 9)	#9	2REF
19.	7T2N4020	WEAR RING (PART OF 9)	#9	1REF
20.	60125699	PIN-LOCKING TUBE		1
REV. E 20120322				

Extension Cylinder (71411795) (Eff. 10-05 through 1-07)



NOTES:

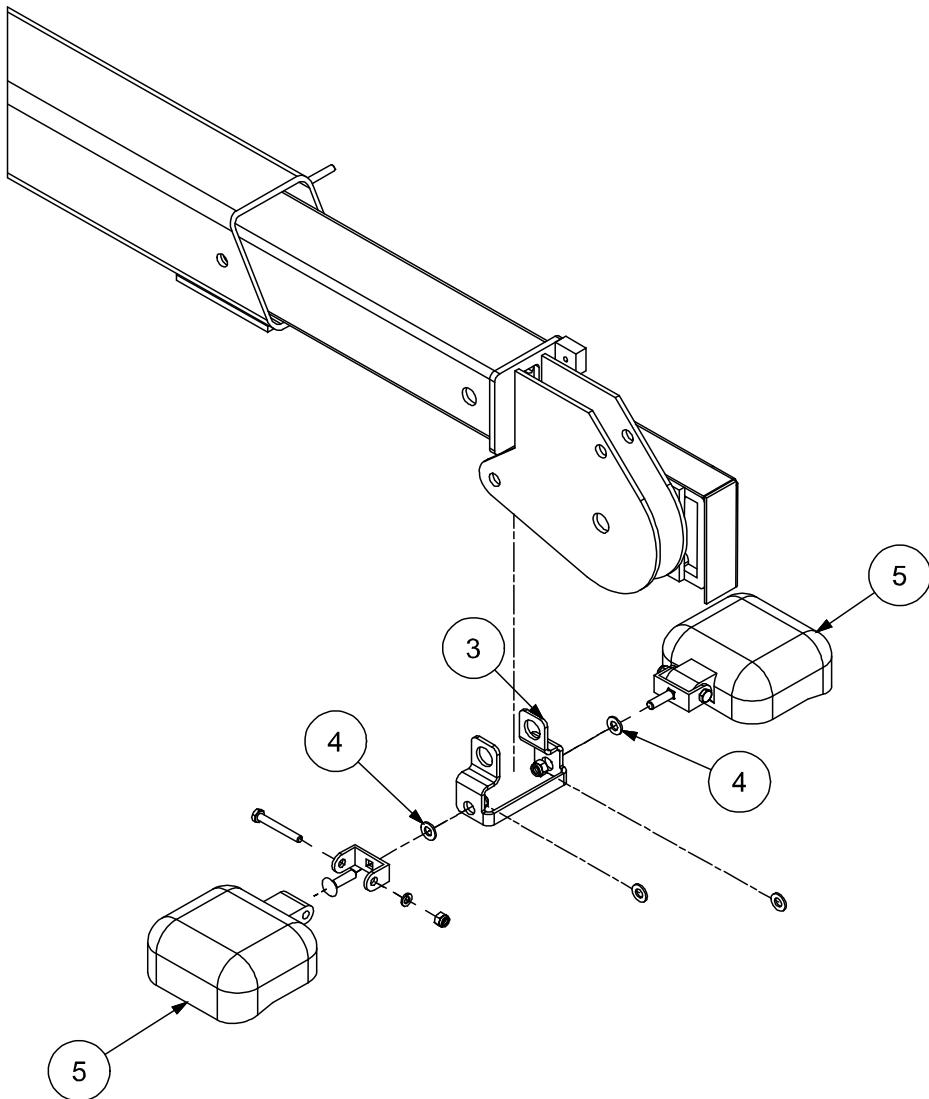
- 1 TO REDUCE DOWNTIME, REPLACE ALL COMPONENTS OF THE SEAL KIT WHENEVER THE CYLINDER IS DISASSEMBLED.

71411795 CYLINDER DATA	
EXTENDED	3.17 IN ² , 0.49 GAL
RETRACTED	1.95 IN ² , 0.30 GAL
CASE	2.00 BORE X Ø2.38
ROD	Ø1.25
DRY WEIGHT	35.4 LB
TEST PRESSURE	3500 PSI
OPERATING PRESSURE	3000 PSI
PORTS	SAE #4 O-RING BOSS (7/16-20 UNF-2B)
CYLINDER TUBE BURST PRESSURE	14,270 PSI
TORQUES	TORQUE LOCKNUT, #5, TO 100-110 FT-LB. USE THREADLOCK COMPOUND LOCTITE 271 OR EQUIVALENT. TORQUE COUNTERBALANCE VALVE, #8, TO 30-35 FT-LB. TORQUE O-RING BOSS PLUG, #6, TO 10-12 FT-LB. USE THREADLOCK COMPOUND LOCTITE GRADE 243 OR EQUIVALENT.

71411795 PARTS LIST			
ITEM	PART #	DESCRIPTION	QUANTITY
1.	71411925	CASE WELDMENT	1
2.	71411926	ROD WELDMENT	1
3.	71411927	HEAD GLAND	1
4.	71411928	PISTON	1
5.	REF	LOCKNUT, 3/4-16 UNF	1
6.	REF	PLUG, #4 SAE STEEL HOL HEX	1
7.	94396792	SEAL KIT	1
8.	73054304	VALVE, COUNTERBALANCE	1

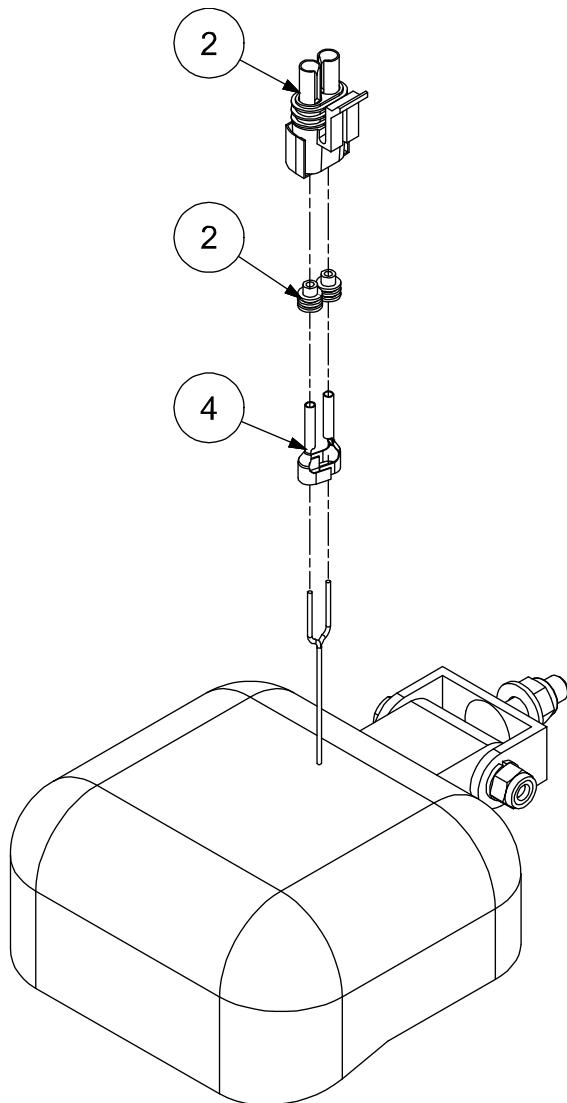
NEW 20051011

LED Boom Tip Light (99906232) EFFECTIVE: 04/2021

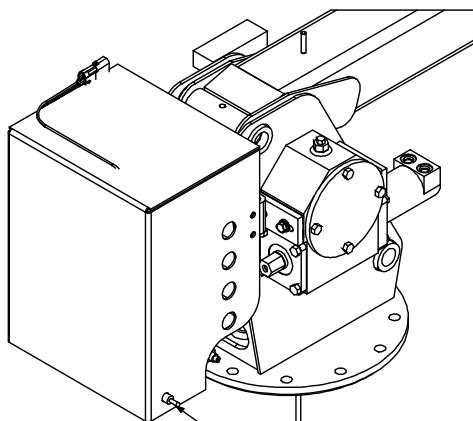
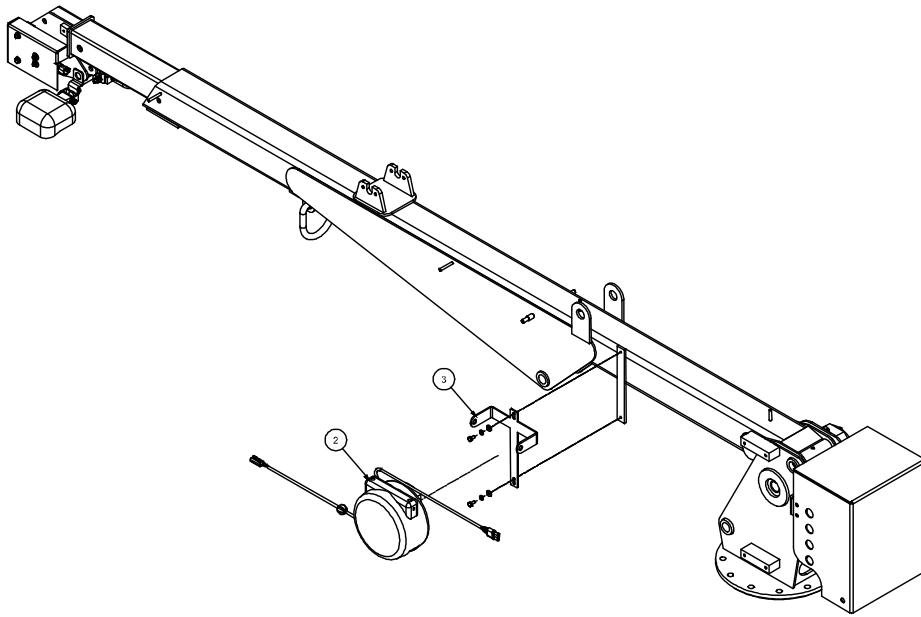


ITEM NO.	PART NO.	DESCRIPTION	KIT NO.	QTY.
1.	51727277	ELECT KIT-BOOM FLOOD LIGHTS 2020		1
2.	51727569	ELECT KIT-BOOM FLOOD LIGHTS 1015		1
3.	60145851	BRACKET-LIGHT 1015	2	1
3.	60145151	BRACKET-LIGHT 2020	1	1
4.	72063002	WASHER .31 FLAT	1 & 2	2
5.	77040581	FLOODLIGHT-LED 12-36VDC	1 & 2	2

REV. F 20210510

99906232-1

ITEM NO.	PART NO.	DESCRIPTION	QTY.
1.	51727277	ELECT KIT-BOOM FLOOD LIGHTS 2020	1
2.	77044574	CONN-PKRD WEATHERPACK 2 CAV FEMALE/TOWER	4
3.	77044927	CABLE SEAL-PKRD WP/MP 14 GA GREY	2
4.	77045888	TERM-PKRD WEATHERPACK 14-16GA FEMALE	2
REV. F 20210510			

99906232-2

INSTALL TOGGLE SWITCH IN VALVE BANK COVER
TO "UP" AS ON, AND "DOWN" AS OFF

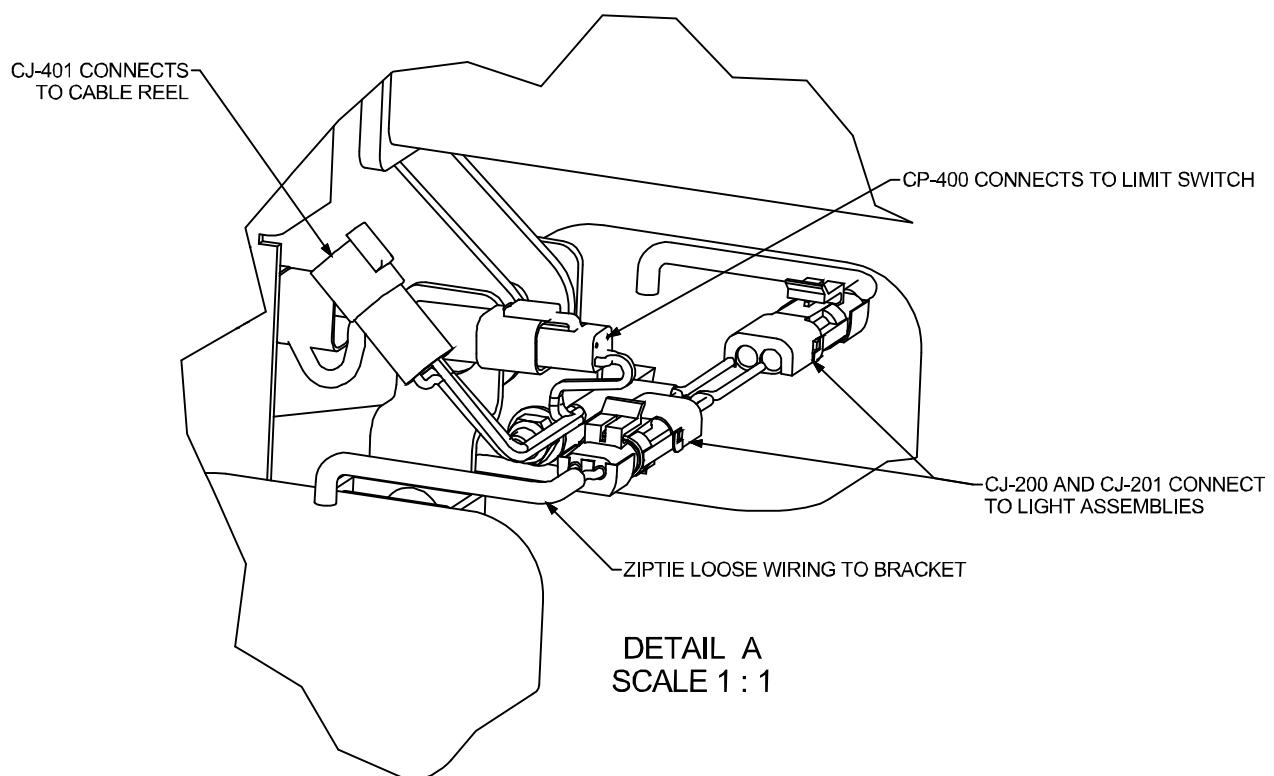
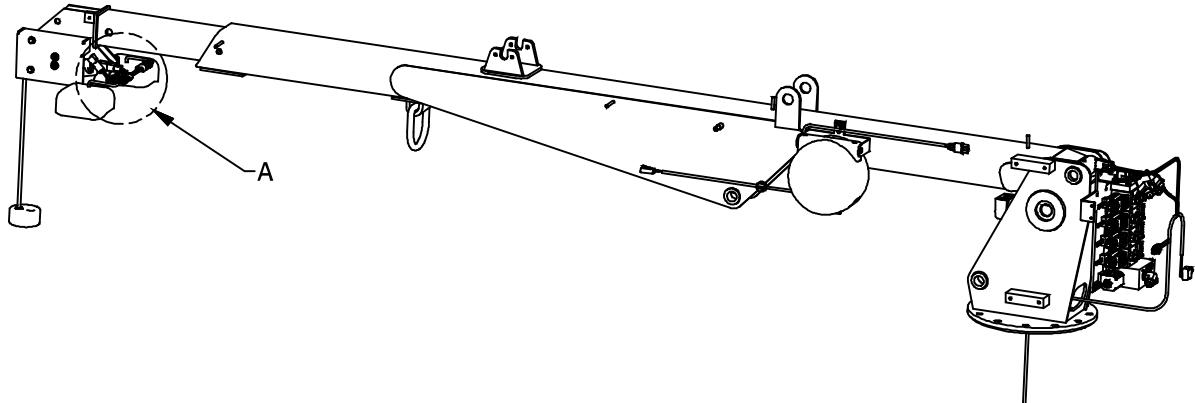
NOTE: TOGGLE SWITCH 77041345
IS PART OF HARNESS 77441674

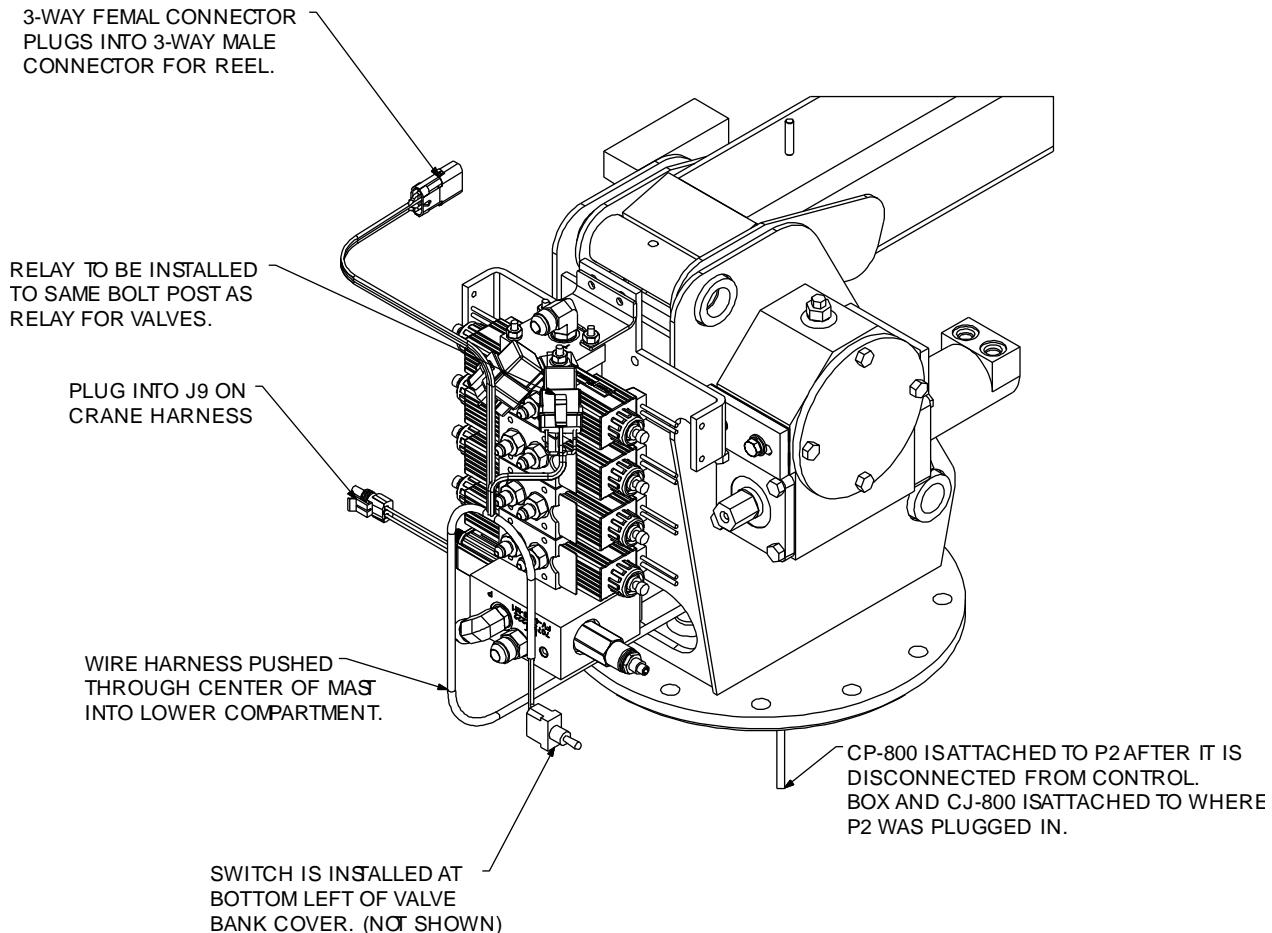
ITEM NO.	PART NO.	DESCRIPTION	KIT NO.	QTY.
1.	51727277	ELECT KIT-BOOM FLOOD LIGHTS 2020		1
2.	51727416	CORD REEL ASM 4.75' W/PACKARD CONN 3-WIR	1	1
3.	60145335	BRKT- CORD REEL MNT	1	1

REV. F 20210510

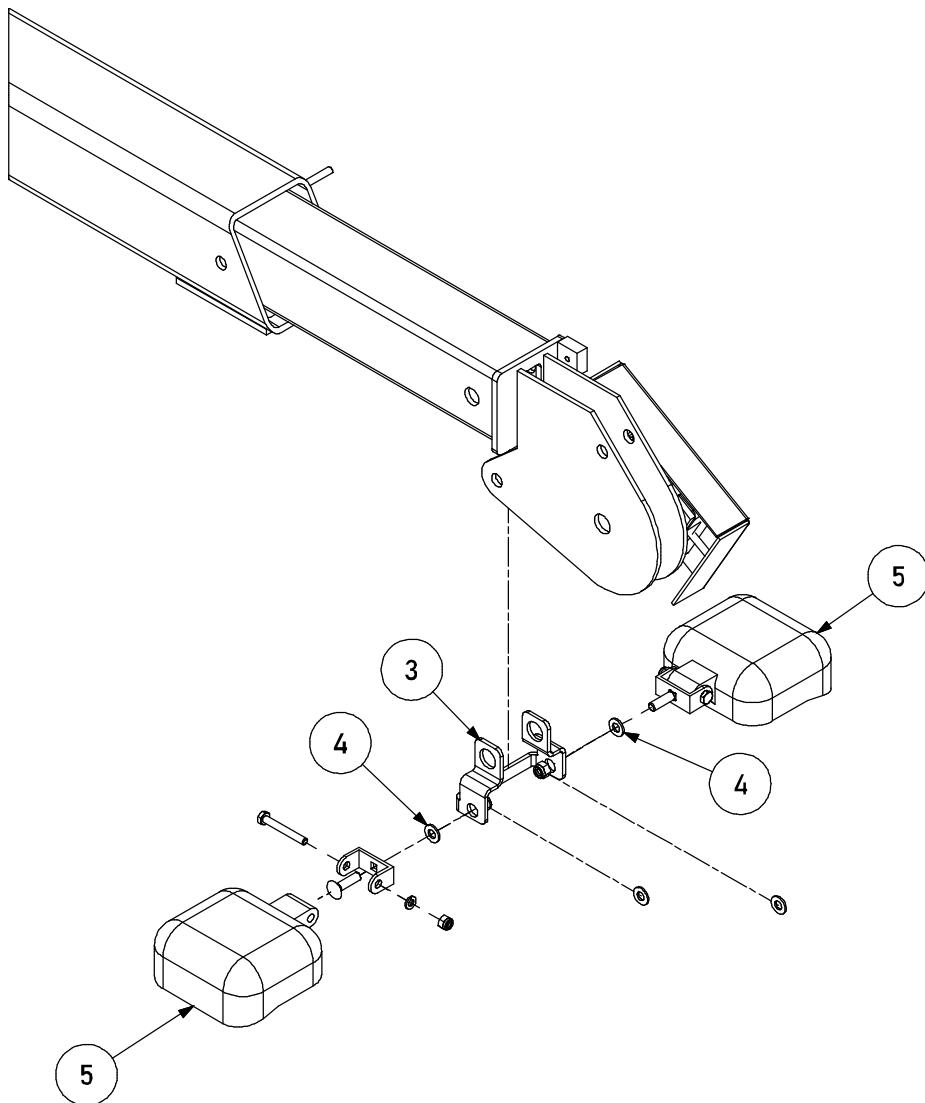
99906232-3

BOOM TIP LIGHT WIRING DETAIL



99906232-4**BOOM TIP LIGHT WIRING DETAIL**

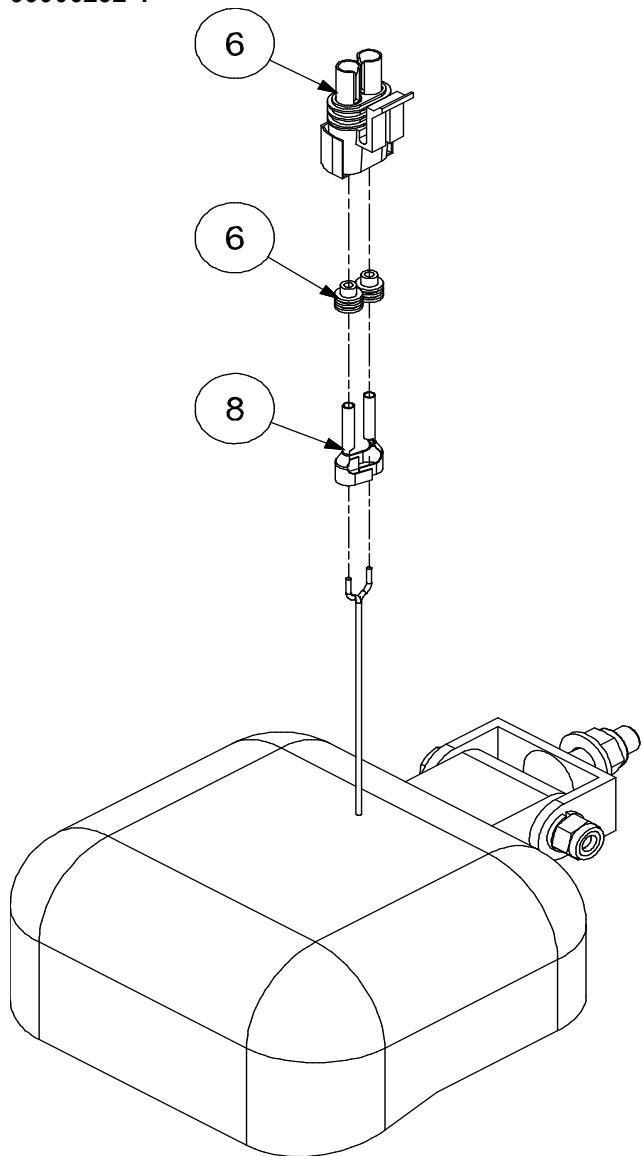
LED Boom Tip Light (99906232)



Item No.	Part No.	Description	Kit No.	Qty.
2.	51727569	ELECT KIT-BOOM FLOOD LIGHTS 1015		1
3.	60145851	BRACKET-LIGHT 1015	2	1
4.	72063002	WASHER .31 FLAT	1 / 2	2
5.	77040581	FLOODLIGHT-LED 12-36VDC	1 / 2	2

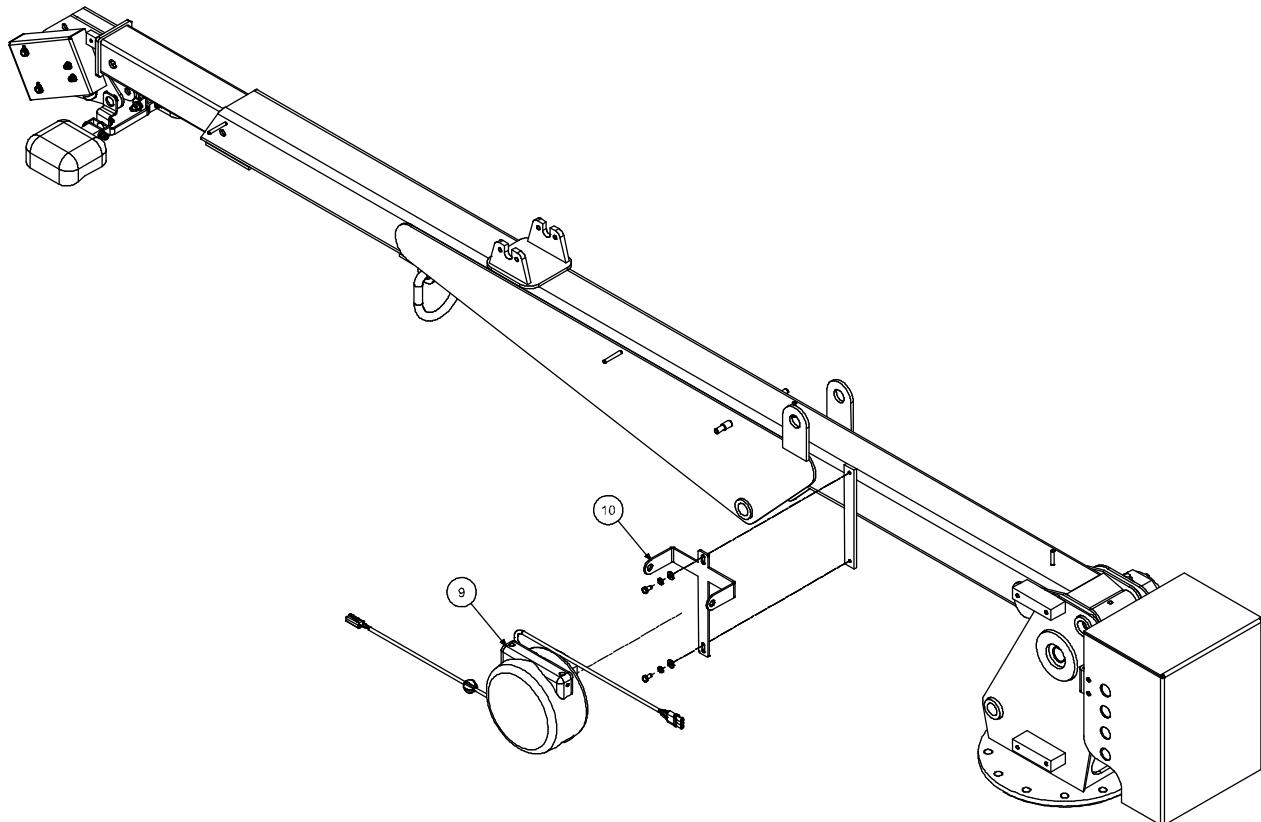
REV. E 20200603

99906232-1



Item No.	Part No.	Description	Qty.
6.	77044574	CONN-PKRD WEATHERPACK 2 CAV FEMALE/TOWER	4
7.	77044927	CABLE SEAL-PKRD WP/MP 14 GA GREY	2
8.	77045888	TERM-PKRD WEATHERPACK 14-16GA FEMALE	2

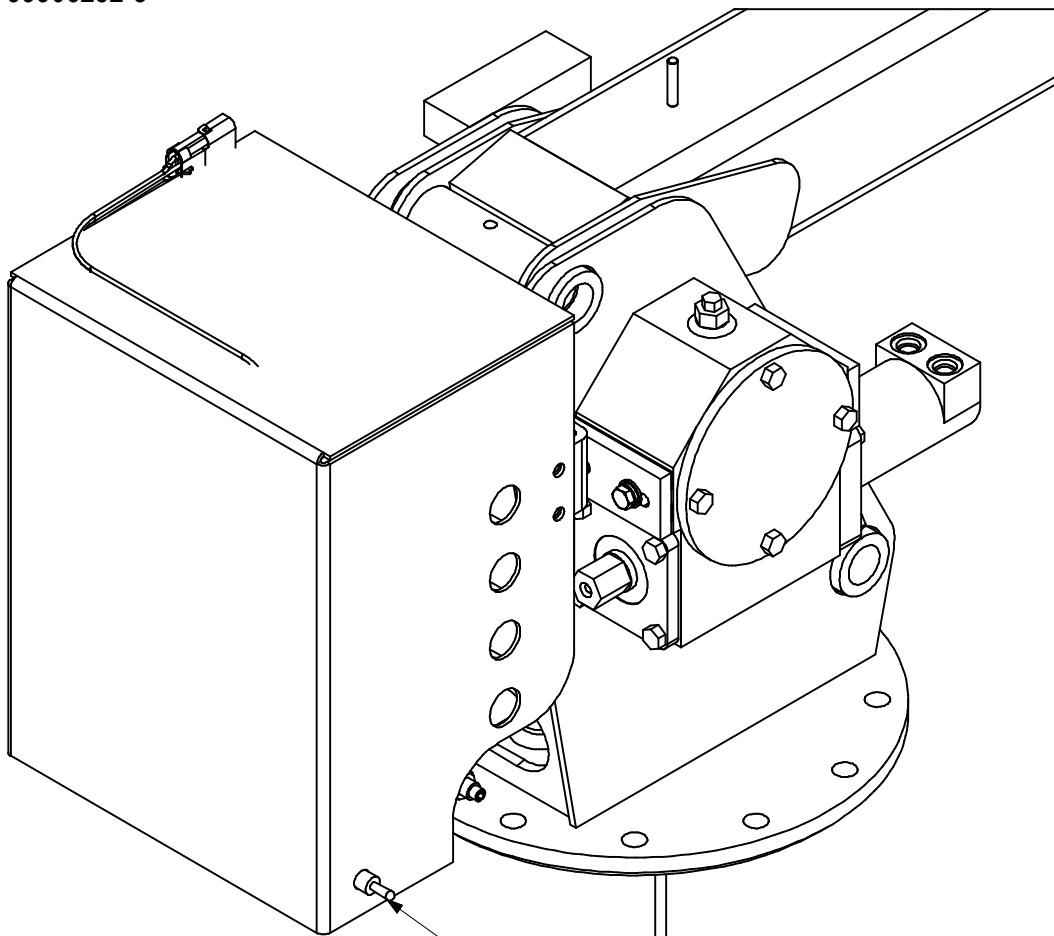
REV. E 20200603

99906232-2

Item No.	Part No.	Description	Kit No.	Qty.
9.	51727416	CORD REEL ASM 4.75' W/PACKARD CONN 3-WIR	1	1
10.	60145335	BRKT- CORD REEL MNT	1	1

REV. E 20200603

99906232-3

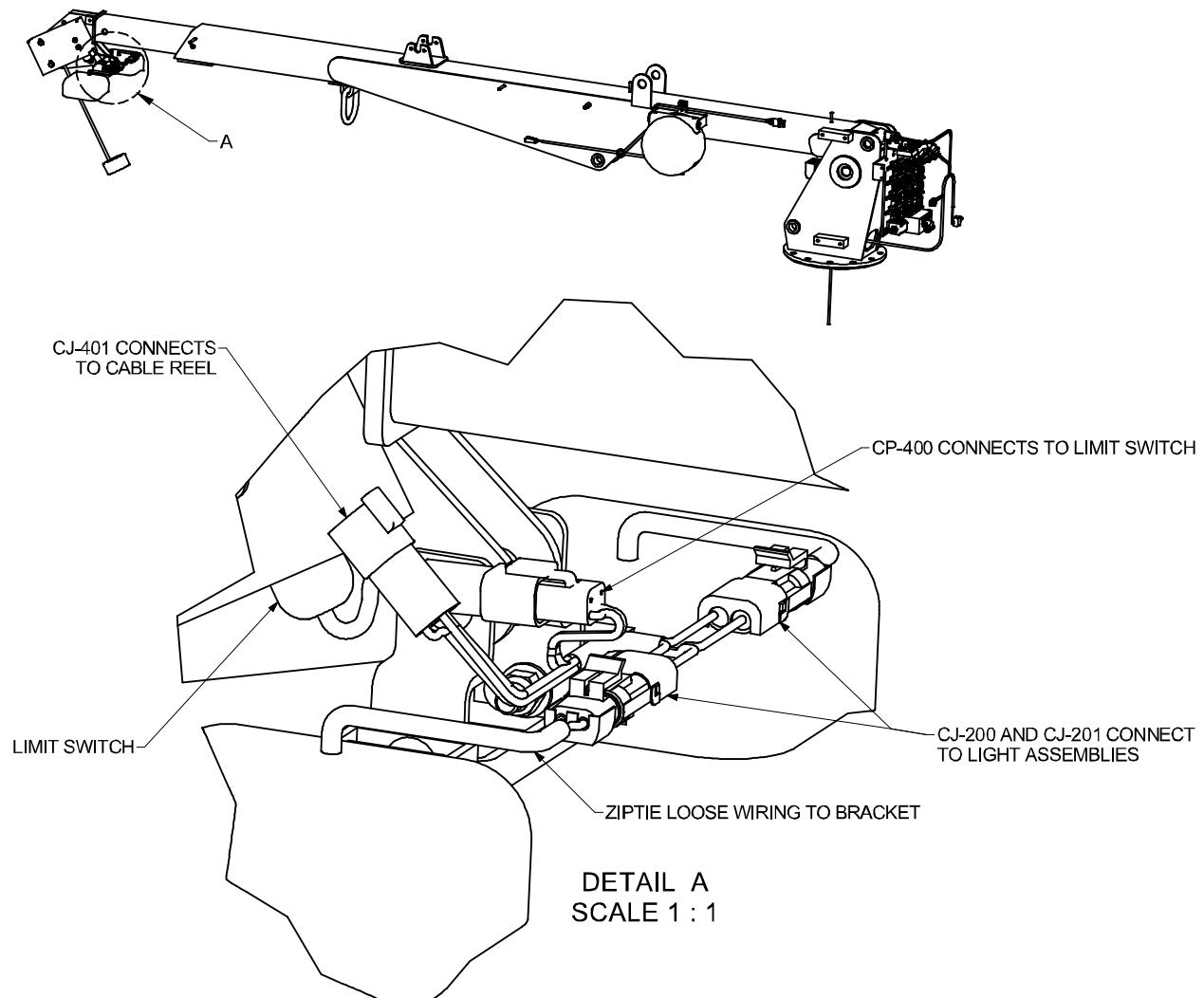


INSTALL TOGGLE SWITCH IN VALVE BANK COVER
TO "UP" AS ON, AND "DOWN" AS OFF

NOTE: TOGGLE SWITCH 77041345
IS PART OF HARNESS 77441674

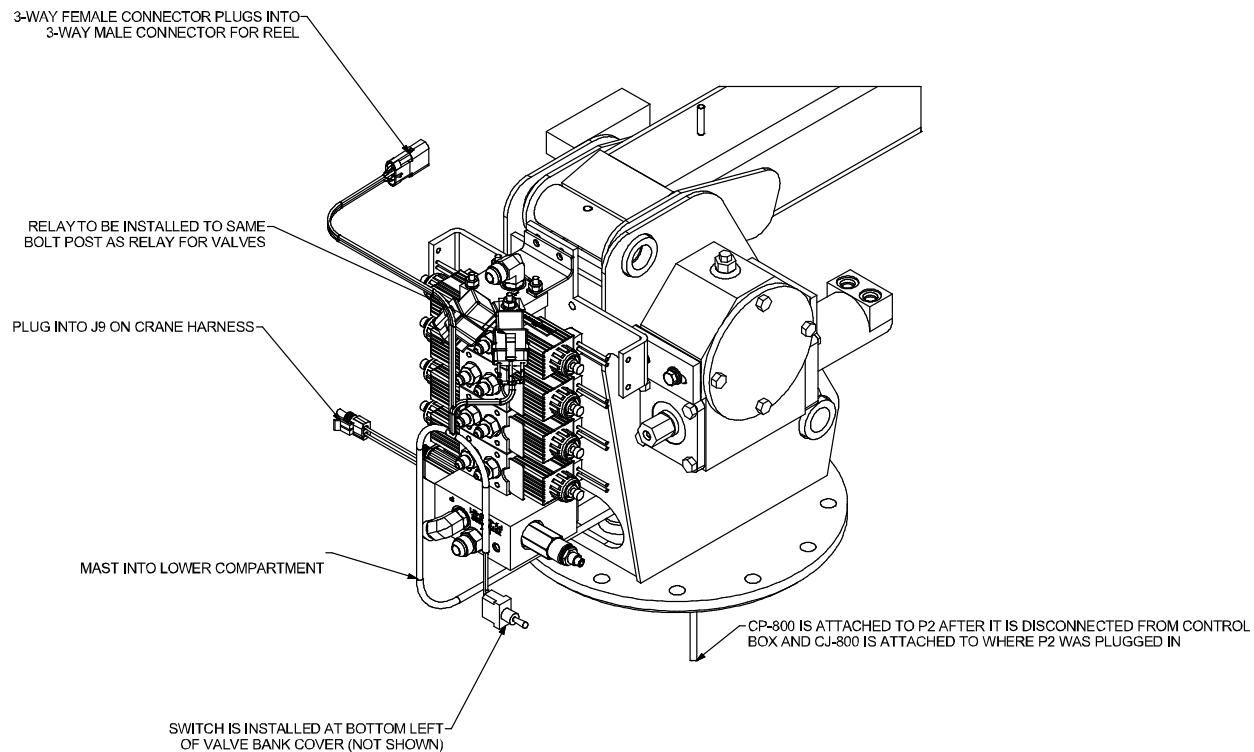
99906232-4

BOOM TIP LIGHT WIRING DETAIL



99906232-5

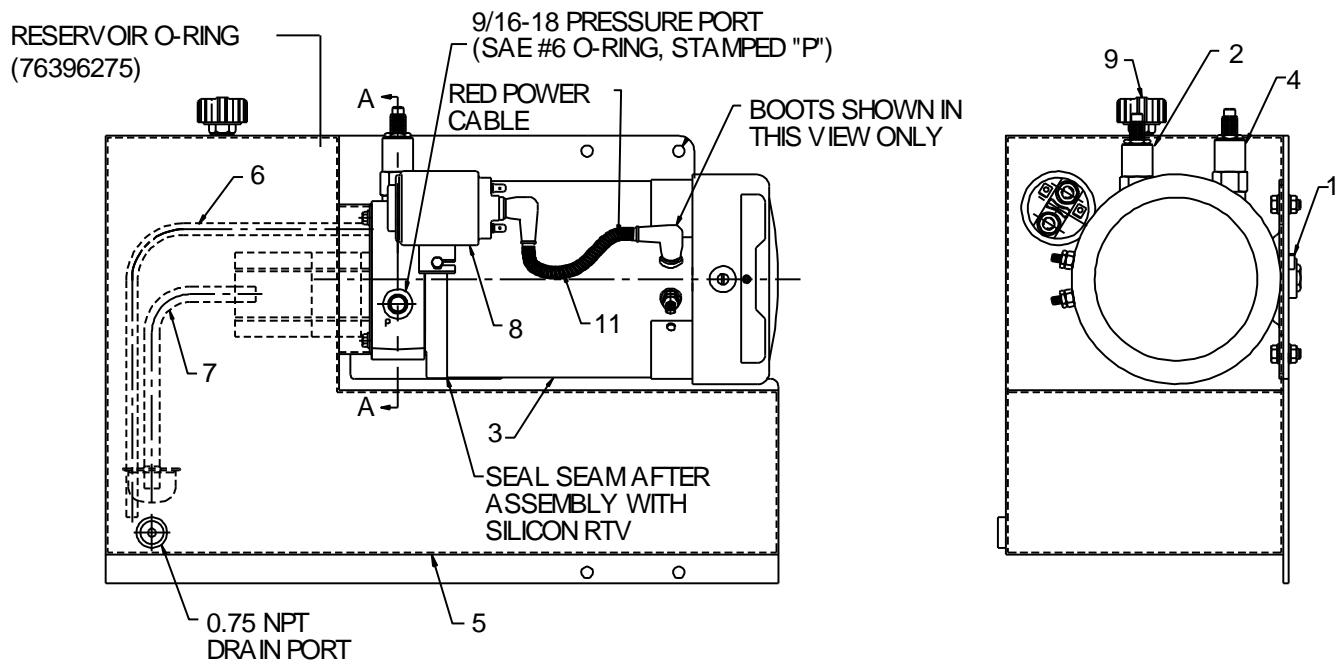
BOOM TIP LIGHT WIRING DETAIL

**99906232 COMPLETE PARTS LIST**

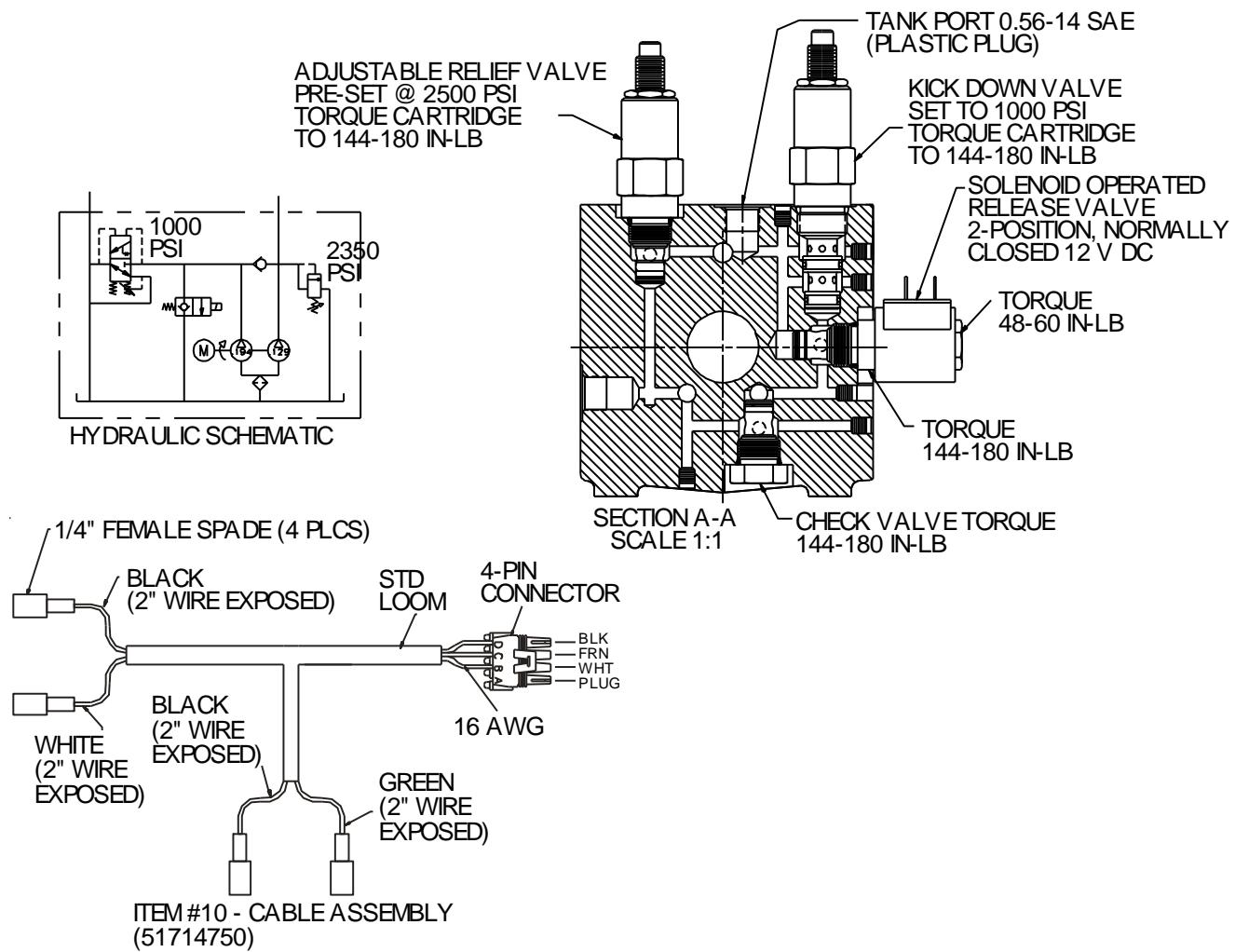
Item No.	Part No.	Description	Qty.	Kit No.
1.	51727277	ELECT KIT-BOOM FLOOD LIGHTS 2020	1	
2.	51727569	ELECT KIT-BOOM FLOOD LIGHTS 1015	1	
3.	60145851	BRACKET-LIGHT 1015	1	2
3.	60145151	BRACKET-LIGHT 2020	1	1
4.	72063002	WASHER .31 FLAT	2	1 / 2
5.	77040581	FLOODLIGHT-LED 12-36VDC	2	1 / 2
REV. E 20200630				

Controls & Hydraulics, Power Unit

Hydraulic Power Unit - DC (73051957)



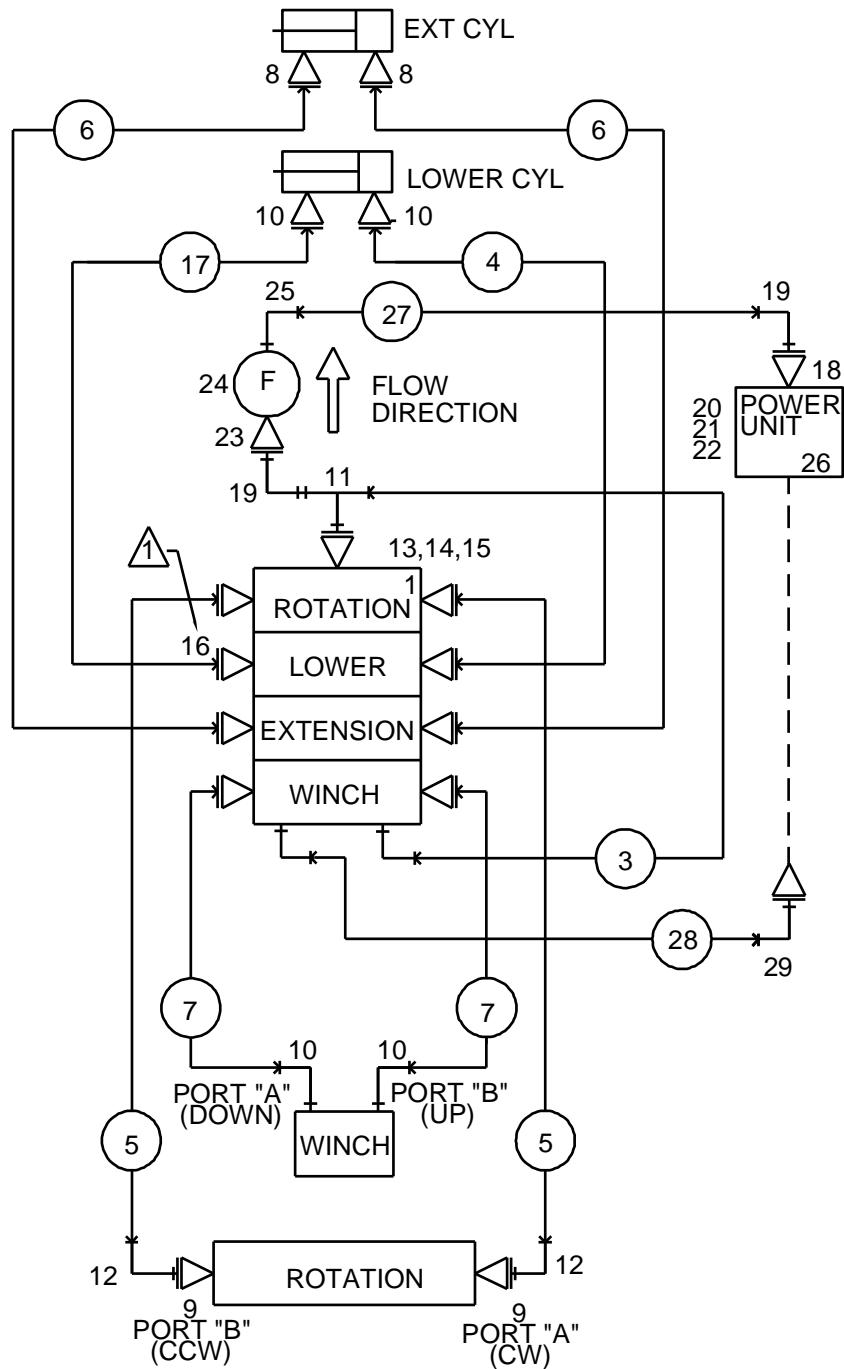
73051957 DRAWING



73051957 PARTS LIST

ITEM	PART #	DESCRIPTION	QUANTITY
1.	73540045	DUMP VALVE	1
2.	73540098	RELIEF CARTRIDGE	1
3.	73540047	MOTOR/VALVE/PUMP	1
4.	73540048	KICK DOWN CARTRIDGE	1
5.	70145918	RESERVOIR	1
6.	70145919	TUBE-TANK LINE	1
7.	70145920	TUBE-SUCTION	1
8.	77041570	STARTER COIL	1
9.	70048210	BREATHER	1
10.	51714750	CABLE ASM (SEE DWG)	1
11.	77044839	CABLE-STARTER COIL	1

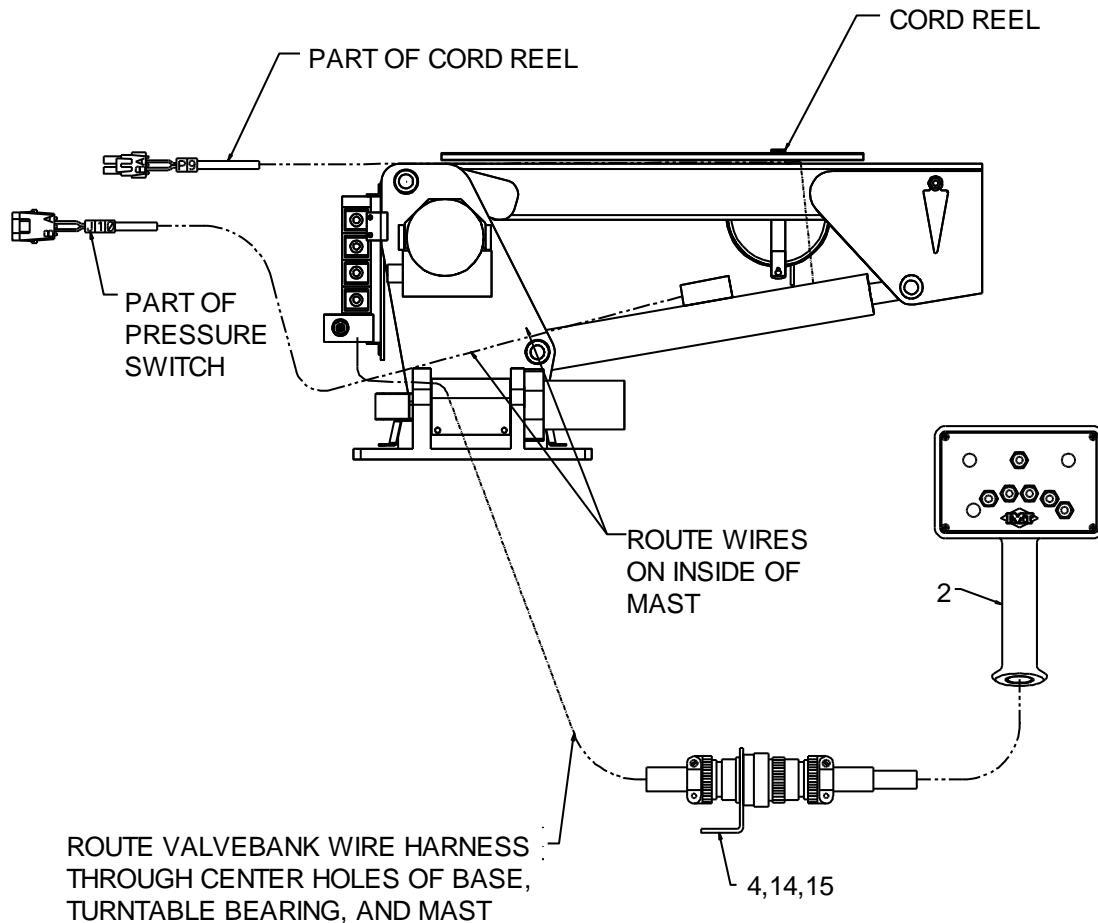
Hydraulic Kit-Power Unit (91715999)


NOTE:

- 1 REMOVE EXISTING FITTING FROM VALVE AND ADD ITEM #16 (70145928).

91715999 PARTS LIST			
ITEM	PART #	DESCRIPTION	QUANTITY
1.	70733398	VALVEBANK 4-SECT	1
2.	51716000	HOSE KIT (INCL:3-7,17,27,28)	1
3.	51394949	HOSE-FJ .50X11.5 #8#8	1REF
4.	51393953	HOSE-FJ .25X34 #4#4	1REF
5.	51394953	HOSE-FJ .25X39 #4#4	2REF
6.	51395763	HOSE-FJ .25X67 #4#4	2REF
7.	51395226	HOSE-FJ .25X24 #4#4	2REF
8.	72532351	ADAPTER #4MSTR #4MJIC	2
9.	72532722	ADAPTER #10MSTR #6FSTR	2
10.	72532353	ADAPTER #6MSTR #4MJIC	4
11.	72532671	TEE #8JIC SWVLNUTRUN	1
12.	72532985	ELBOW #6MSTR #4MJIC 45°	2
13.	72060002	CAP SCR 1/4-20X3/4 HHGR5	4
14.	72063001	WASHER 1/4 WRT	4
15.	72062104	NUT 1/4-20 LOCK	4
16.	70145928	FLOW LIMITER	1
17.	51395535	HOSE-FJ 25X34 #4#6	1REF
18.	72532357	ADAPTER #6MSTR #8MJIC	1
19.	72532658	ELBOW #8MJIC #8FJIC SWVL	2
20.	72063050	WASHER 5/16 LOCK	4
21.	72063002	WASHER 5/16 WRT	4
22.	72060025	CAP SCR 5/16-18X1 HHGR5	4
23.	72533622	ADAPTER 3/8MPT #8FJIC	1
24.	73052093	FILTER-RETURN 10MIC 3/4FPT	1
25.	72531420	ELBOW 3/8MPT #8MJIC	1
26.	73051957	POWER UNIT 12V	1
27.	51395305	HOSE-FJ 50X23.5 #8 #8	1REF
28.	51394945	HOSE-FJ 38 X 28 #8#8	1REF
29.	72532779	ELBOW-#6MSTR/90/#8MJIC XLG	1
REV A 20111028			

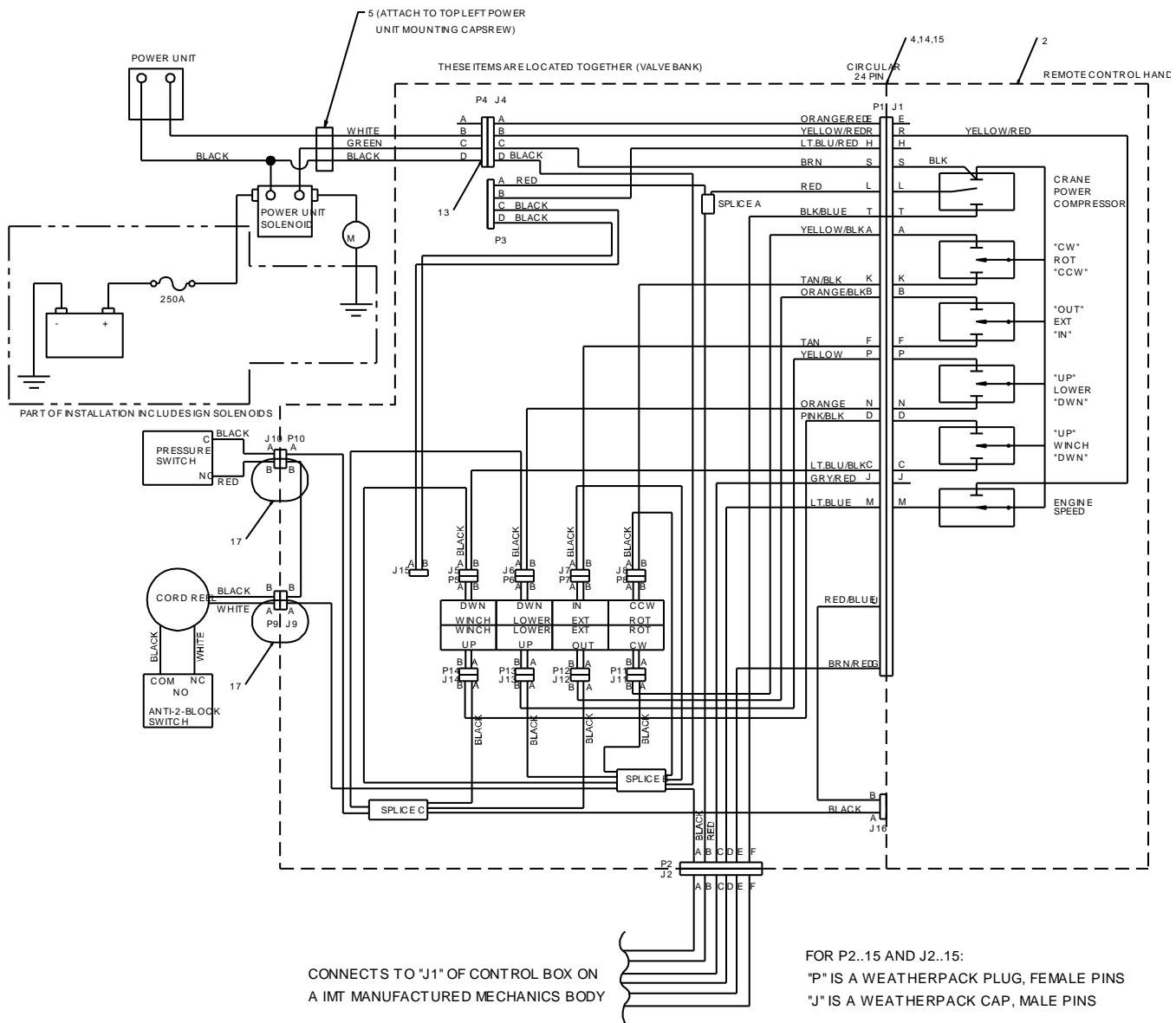
Control Kit-Power Unit (91714438)



NOTES:

- 1 SHIP PARTS 14, 15 LOOSE IN BAG.
- 2 SEE 99901049 FOR WIRE CONNECTIONS AND ELECTRICAL SCHEMATIC.

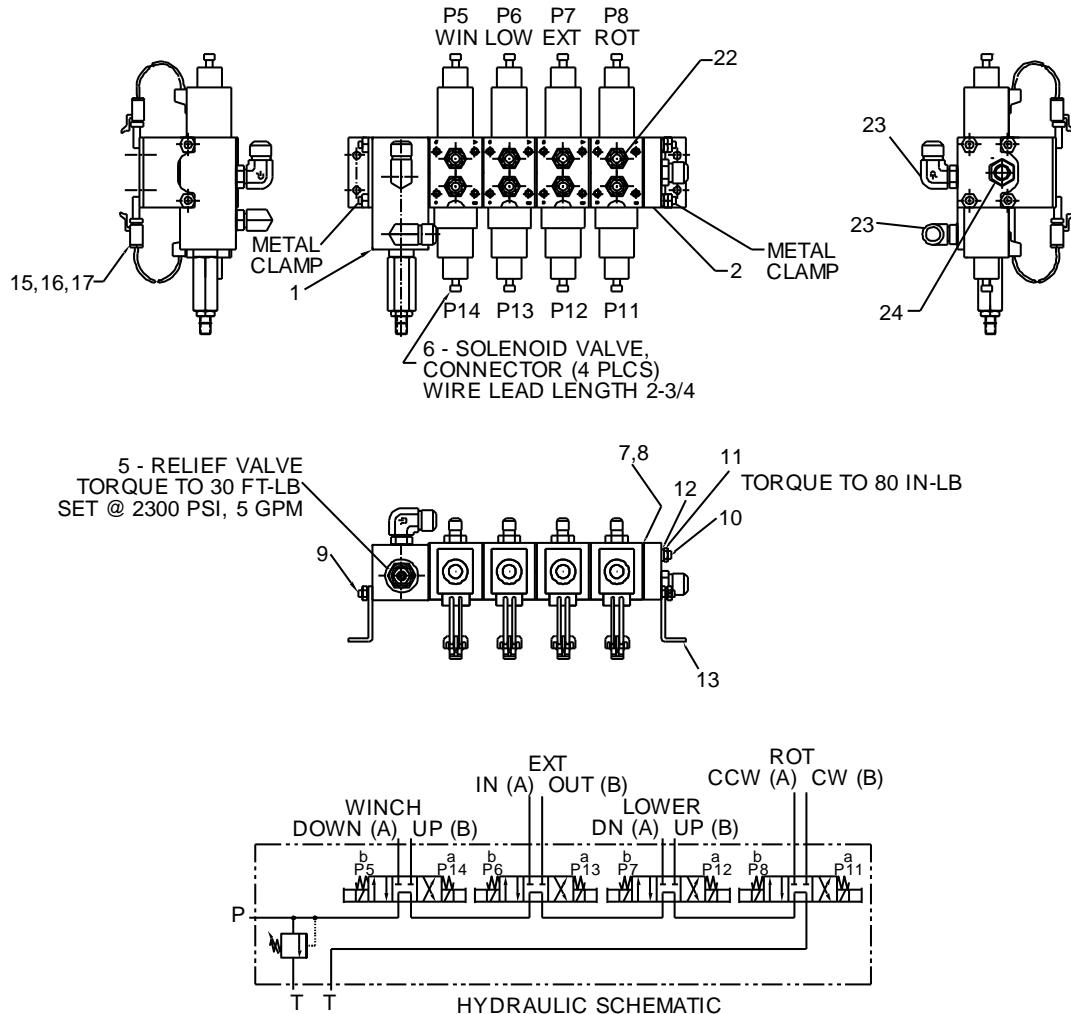
Schematic, Power Unit (99901153)



99901153 PARTS LIST

ITEM	PART #	DESCRIPTION	QUANTITY
2.	51716404	HANDLE ASSEMBLY, RC ELECTRIC	1
4.	60119299	BRACKET, MOUNTING	1
5.	72661312	CLAMP	1
13.	51714750	CABLE ASSEMBLY	1REF
14.	77044645	NUT-DEUTSCH 24 SHELL	1
15.	77044646	WASHER-LOCK DEUTSCH	1
17.	70034439	LOCK WIRE LEAD SEAL 8"	2

Valvebank, Power Unit (70733398)



70733398 PARTS LIST

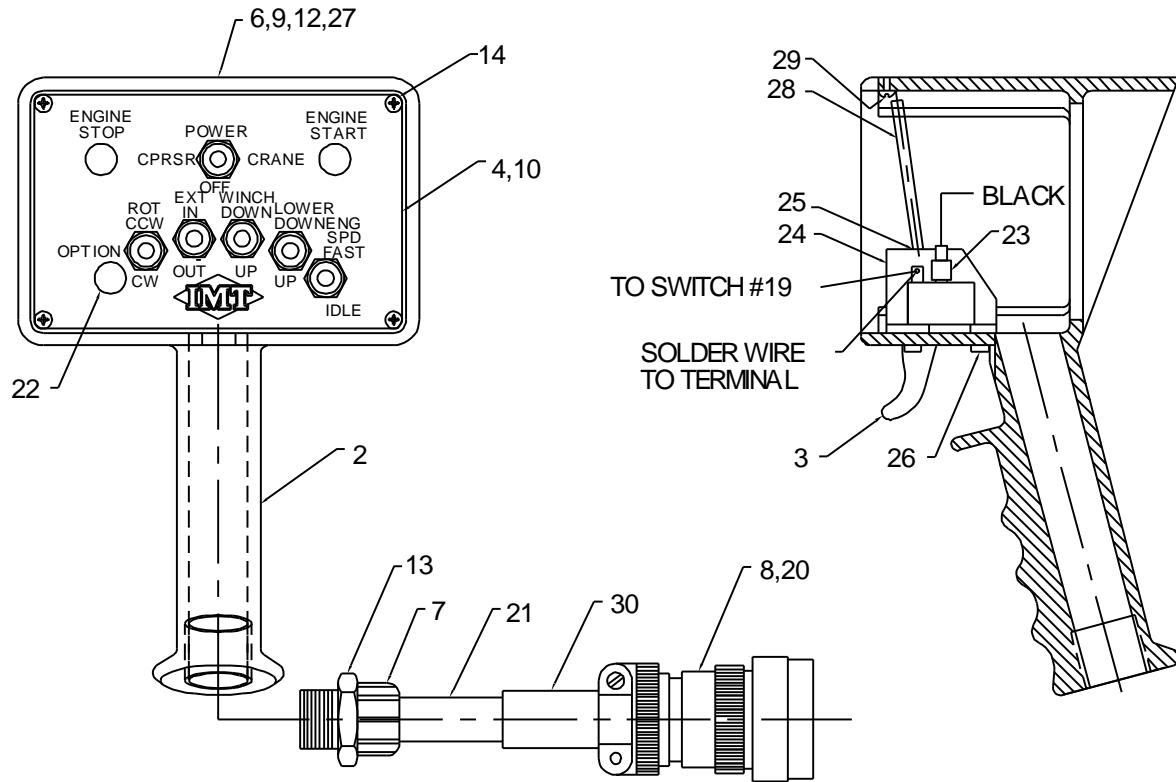
ITEM	PART #	DESCRIPTION	QUANTITY
1.	70145879	INLET BODY	1
2.	70145628	OUTLET BODY	1
5.	70145625	RELIEF VALVE (2250 PSI)	1
6.	70145624	SOLENOID VALVE	4
7.	70143337	O-RING PLATE	5
8.	70145623	O-RING	10
9.	70145622	THREADED ROD GR8	2
10.	70145621	THREADED ROD GR8	2
11.	72062000	NUT 1/4-20	6
12.	72063047	WASHER 1/4 LOCK	6
13.	70145738	MOUNTING FOOT	2
14.	70145620	NAME TAG	1

70733398 PARTS LIST

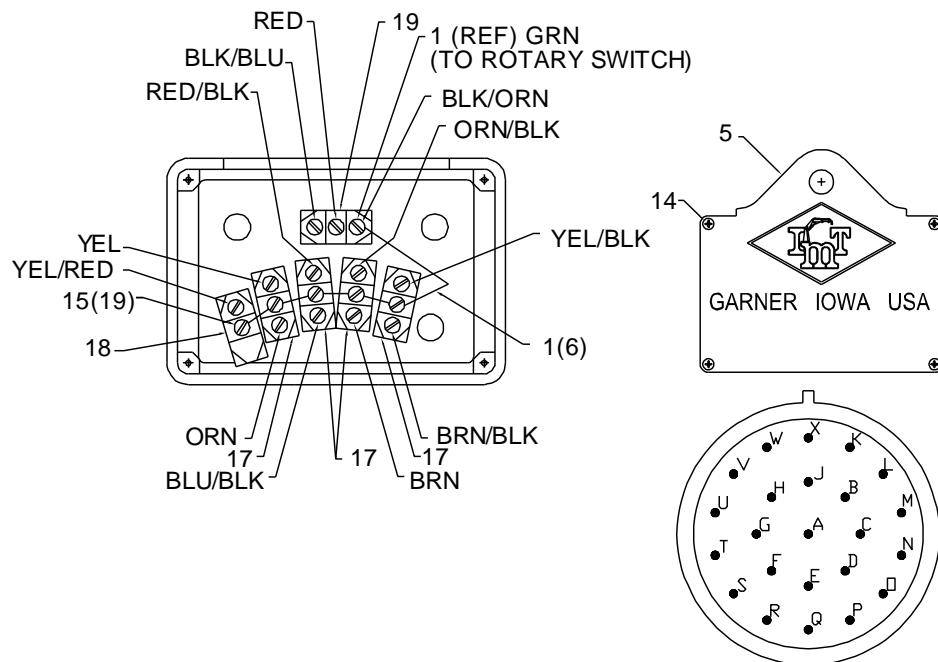
ITEM	PART #	DESCRIPTION	QUANTITY
15.	77044574	CONNECTOR TOWER	9
16.	77044577	CONNECTOR TERMINAL	16
17.	77044578	CABLE SEAL	16
18.	77044624	CONN SHROUD	1
20.	77044676	CABLE PLUG	6
21.	70733394	WIRING HARNESS (SEE DWG)	1
22.	72532353	ADAPTER #6MSTR #4MJIC	8
23.	72053762	ELBOW #6MSTR #8MJIC 90°	2
24.	72532357	ADAPTER #6MSTR #8MJIC	1

REV. A 20050802

Handle Assembly, Remote, Power Unit (51716404)



Remote Handle Assembly, Power Unit (51716404)



WIRE FUNCTIONS

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	-
H BLU/RED	-
J BLK/RED	-
K BRN/BLK	ROT CCW
L RED	POWER
M BLU	-
N ORN	LOWER DN
O BLK/ORN	SOL POWER
P YEL	LOWER UP
Q BRN/BLU	-
R YEL/RED	PUMP SPD
S BLK	CRANE
T BLK/BLU	CPRSR
U RED/BLU	-
V BLU/ORN	-
W ORN/BLU	-
X YEL/BLU	-
- RED/RON	-

51716404 PARTS LIST

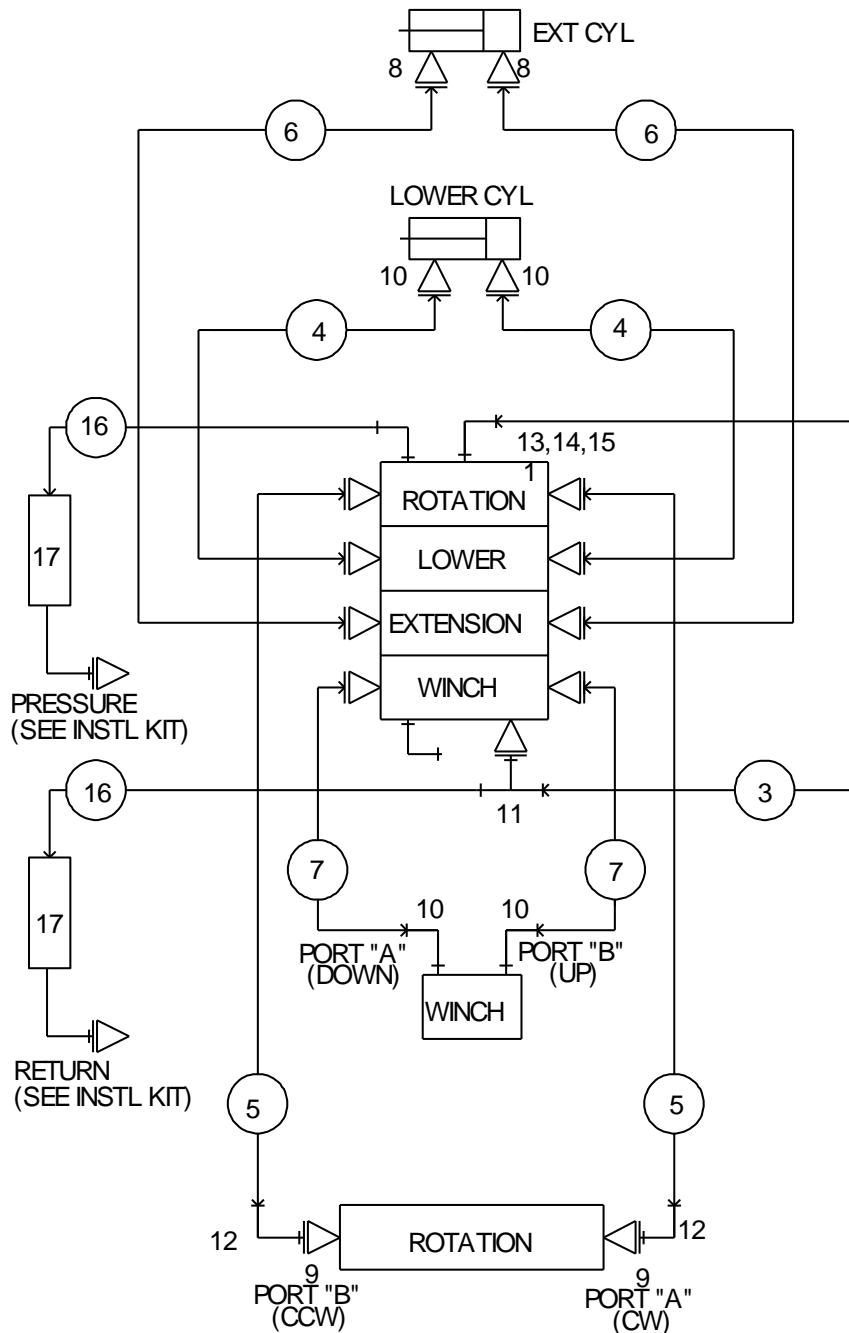
ITEM	PART #	DESCRIPTION	QUANTITY
1.	60045031	WIRE 18GA X 4 GRN	6
2.	60119335	CONTROL HANDLE	1
3.	60111141	TRIGGER (PART OF 25)	1REF
4.	60119277	COVER	1
5.	70034306	BACK COVER	1
6.	70029119	PLACARD, SERIAL NUMBER	1
7.	77044196	CORD GRIP, LOCTITE	1
8.	77044621	PIN	23
9.	70394447	DECAL-DGR RC ELECTRO SM	1
10.	70394142	DECAL-CTRL	1
11.	77044969	SWITCH, ROTARY ELEC (PART OF 25)	1REF
12.	72066340	POP RIVET	2
13.	72531833	BUSHING, RED STL 3/4 X 1/2	1
14.	72061009	SHT MTL SCR #6X3/4 PH	8
15.	77040051	TERM-SPRSPD #8 16-14GA	19
17.	77040372	TOGGLE SWITCH SPDT	4
18.	77040373	TOGGLE SWITCH SPST	1
19.	77040374	TOGGLE SWITCH SPDT	1
20.	77044579	CONNECTOR	1
21.	89044100	CABLE 18GA 24WIRE	30 FT
22.	70392785	PLUG, 1/2	1

51716404 PARTS LIST			
23.	77044695	TERMINAL, FSLPON	1
24.	70733518	BRACKET, TRIGGER (PART OF 25)	1REF
25.	51716499	TRIGGER ASSEMBLY (INCL 3,11,24,26,28-29)	1
26.	72601346	SCR-MACH #8-32 PAN HEAD (PART OF 25)	4REF
27.	70395995	DECAL-CAUTION RC HANDLE ELEC PWR UNIT	1
28.	70143223	SPRING, TENSION (PART OF 25)	1REF
29.	72061000	SCR-SHT METAL #6X1/2 PH (PART OF 25)	1REF
30.	70145495	HEAT SHRINK	0.33 FT
REV. A 20050602			

NOTE: KIT # 51717816, TETHERED CABLE - 30 FEET, INCLUDES ITEMS 8, 15 (QTY 24), 20, 21, AND 30.
ORDER 51717816 TO REPLACE THE CABLE ASSEMBLY.

Controls & Hydraulics, PTO

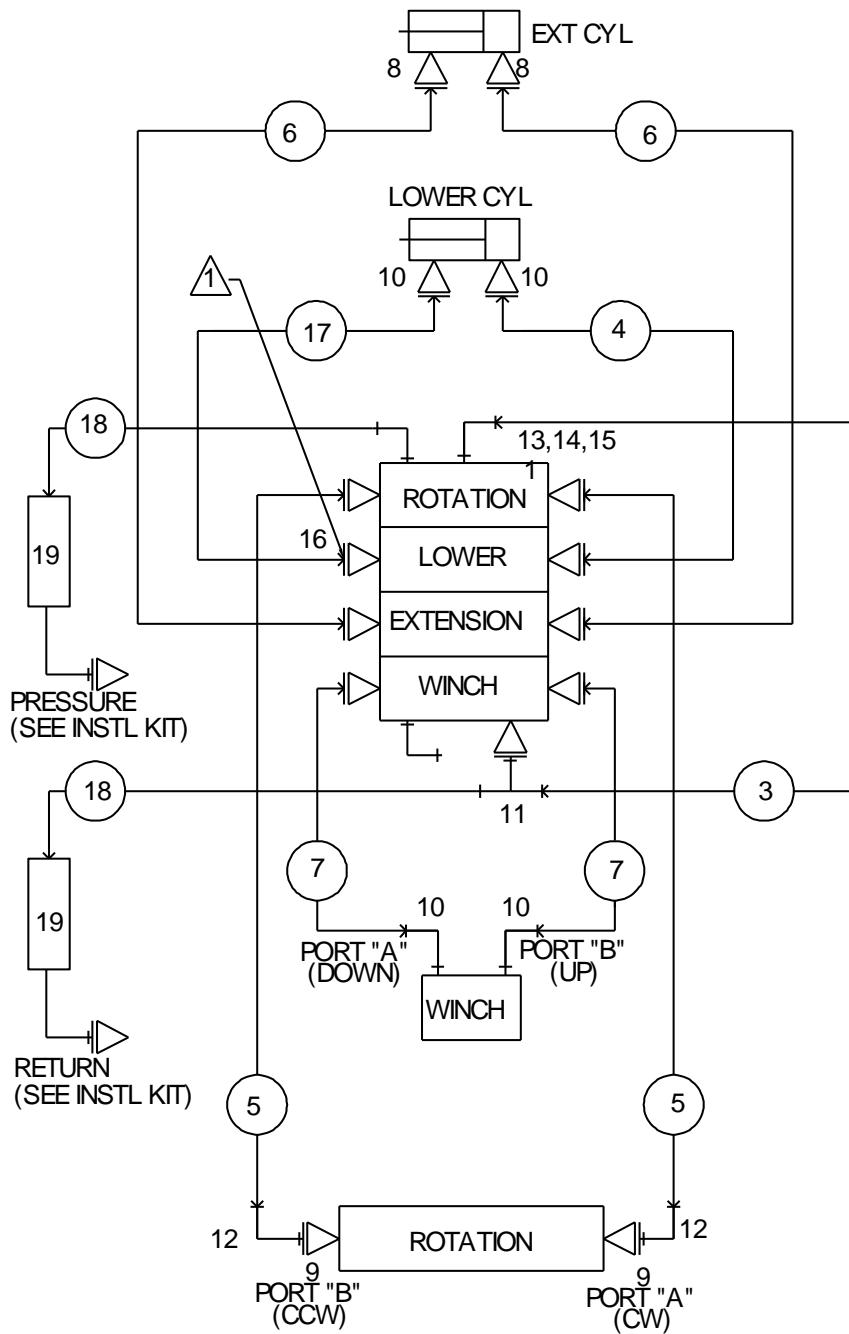
Hydraulic Kit, Proportional PTO (91716001)



91716001 PARTS LIST			
ITEM	PART #	DESCRIPTION	QUANTITY
1.	73735157	VALVE BANK-4SEC 4R PROPN 2000 DRVR	1
2.	51716002	HOSE KIT (INCL:3-7)	1
3.	51394950	HOSE-FI 50X11.5 #8 #8	1REF
4.	51393953	HOSE-FJ 25X34 #4 #4	2REF
5.	51394953	HOSE-FJ 25X39 #4 #4	2REF
6.	51395763	HOSE-FJ 25X67 #4 #4	2REF
7.	51395226	HOSE-FJ 25X24 #4 #4	2REF
8.	72532351	ADAPTER #4MSTR #4MJIC	2
9.	72532722	ADAPTER #10MSTR #6FSTR	2
10.	72532353	ADAPTER #6MSTR #4MJIC	4
11.	72532671	TEE #8JIC SWVL NUT BRANCH	1
12.	72532985	ELBOW #6MSTR #4MJIC 45°	2
13.	72060002	CAP SCR 1/4-20X3/4 HHGR5	4
14.	72063001	WASHER 1/4 WRT	4
15.	72062104	NUT 1/4-20 LOCK	4
16.	51395403	HOSE-FF 1/2X28 OAL (PART OF 2)	2REF
17.	72533648	SWIVEL #8MJIC #8MJIC 90° (PART OF 2)	2REF

REV. A. 20050714

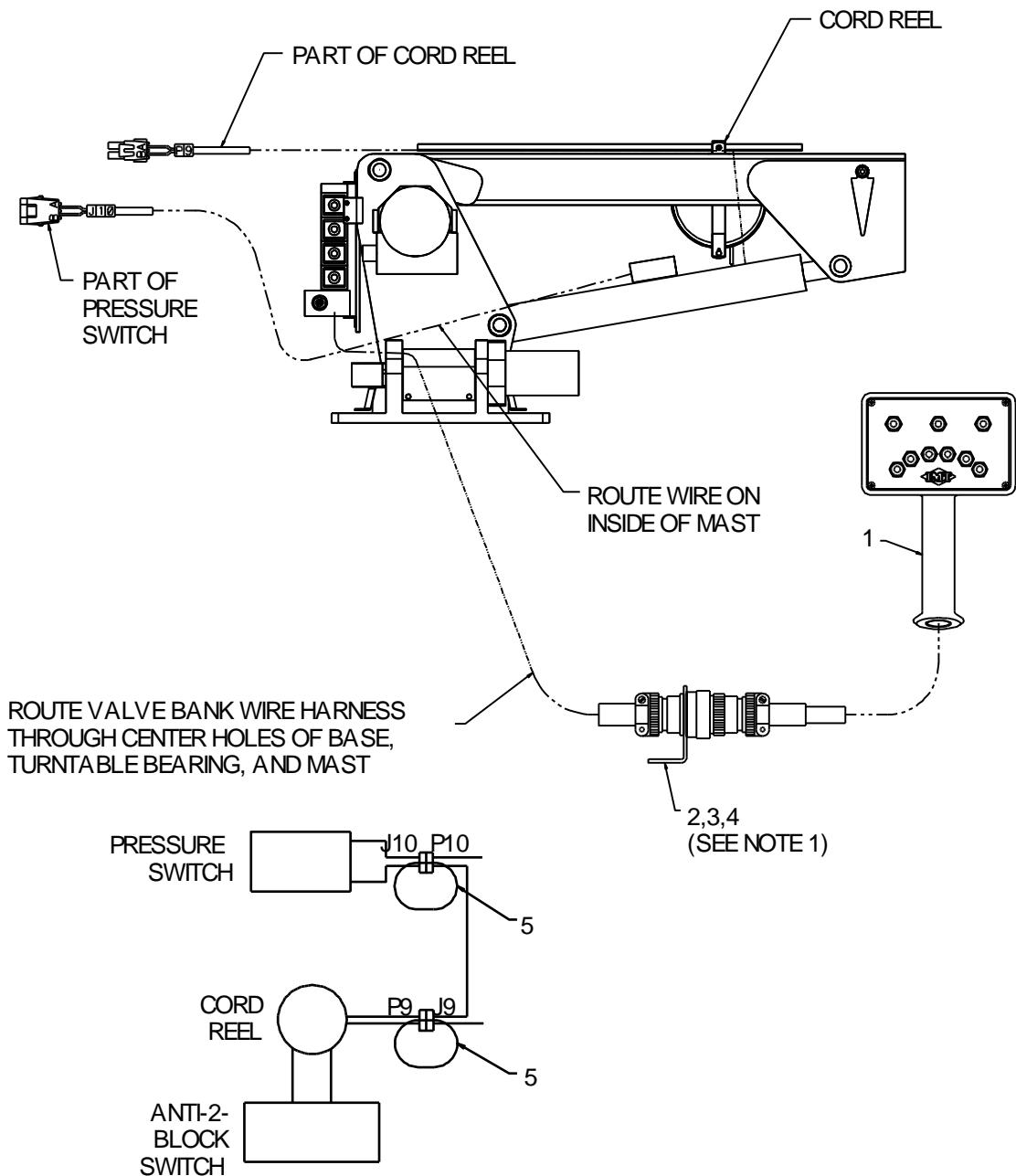
Hydraulic Kit, Non-Proportional PTO (91715997)


NOTE:

- 1 REMOVE EXISTING FITTING FROM VALVE AND ADD ITEM #16 (70145928).

91715997 PARTS LIST			
ITEM	PART #	DESCRIPTION	QUANTITY
1.	70733400	VALVEBANK 4-SECT	1
2.	51715998	HOSE KIT (INCL:3-7, 17)	1
3.	51394950	HOSE-FI 50X11 5 #8#8	1REF
4.	51393953	HOSE-FJ 25X34 #4#4	1REF
5.	51394953	HOSE-FJ 25X39 #4#4	2REF
6.	51395763	HOSE-FJ 25X67 #4#4	2REF
7.	51395226	HOSE-FJ 25X24 #4#4	2REF
8.	72532351	ADAPTER #4MSTR #4MJIC	2
9.	72532722	ADAPTER #10MSTR #6FSTR	2
10.	72532353	ADAPTER #6MSTR #4MJIC	4
11.	72532671	TEE #8JIC SWVL NUT BRANCH	1
12.	72532985	ELBOW #6MSTR #4MJIC 45°	2
13.	72060002	CAP SCR 1/4-20X3/4 HHGR5	4
14.	72063001	WASHER 1/4 WRT	4
15.	72062104	NUT 1/4-20 LOCK	4
16.	70145928	FLOW LIMITER	1
17.	51395535	HOSE-FJ 25X34 #4#6	1REF
18.	51395403	HOSE-FF 1/2X28 OAL (PART OF 2)	2REF
19.	72533648	SWIVEL #8MJIC #8MJIC 90° (PART OF 2)	2REF

Control Kit, Proportional PTO (91714440)



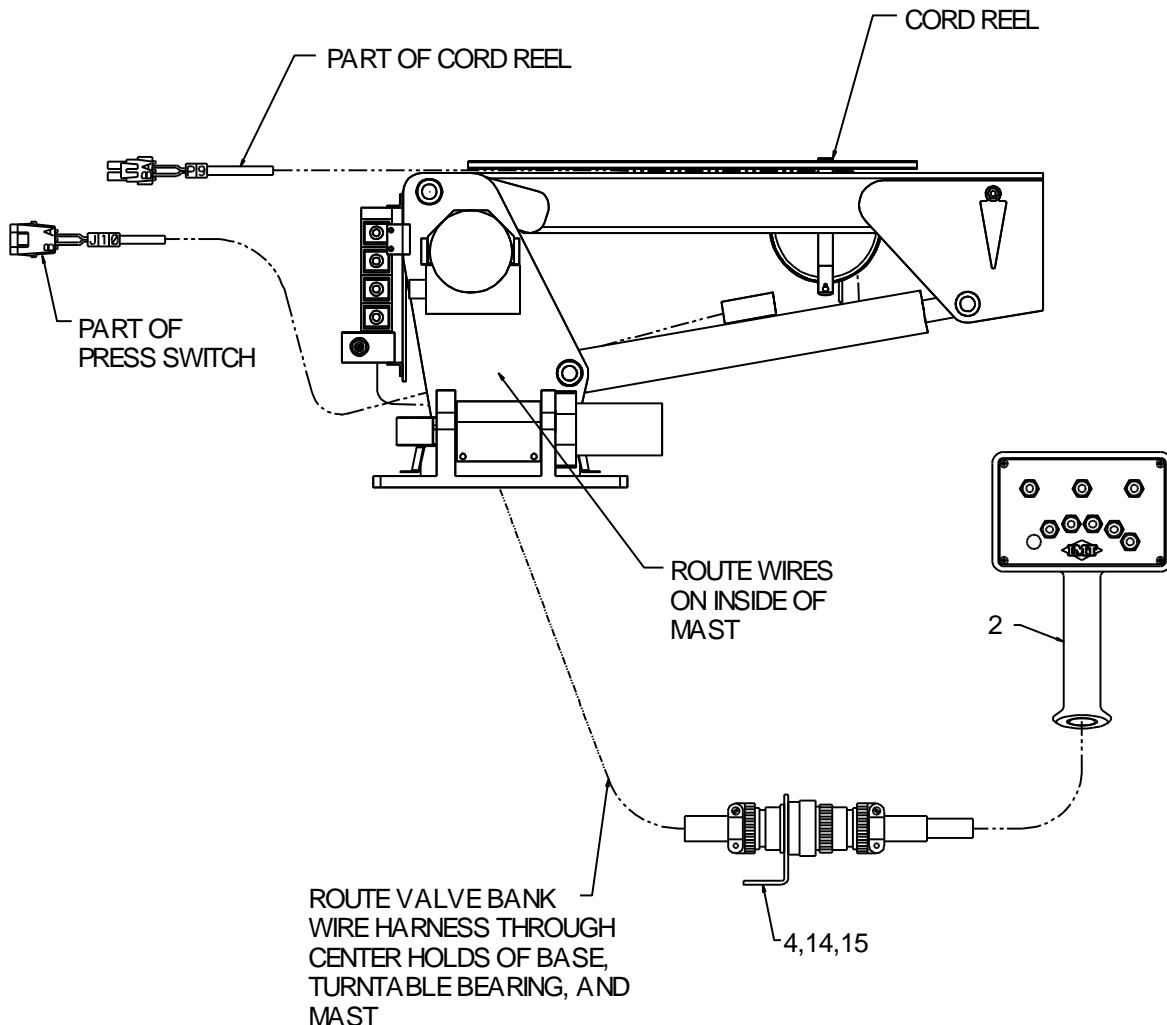
NOTES:

- 1 ITEMS 3 AND 4 ARE SHIPPED LOOSE IN BAG.
- 2 SEE 99903263 FOR WIRE CONNECTIONS AND ELECTRICAL SCHEMATIC.
- 3 BASE AND MAST ASSEMBLY SHOWN AS MOUNTED ON TRUCK.

91714440 PARTS LIST			
ITEM	PART #	DESCRIPTION	QUANTITY
1.	51713182	HANDLE ASSEMBLY W/ENGINE START	1
2.	60119299	BRACKET	1
3.	77044645	NUT-DEUTSCH 24 SHELL	1
4.	77044646	WASHER-LOCK DEUTSCH	1
5.	70034439	LOCK WIRE LEAD SEAL	2
6.	99903283	ELECTRICAL SCHEMATIC	1
7.	99900339	MANUAL, PROP RMT CONTROL	1

REV. F 20140617

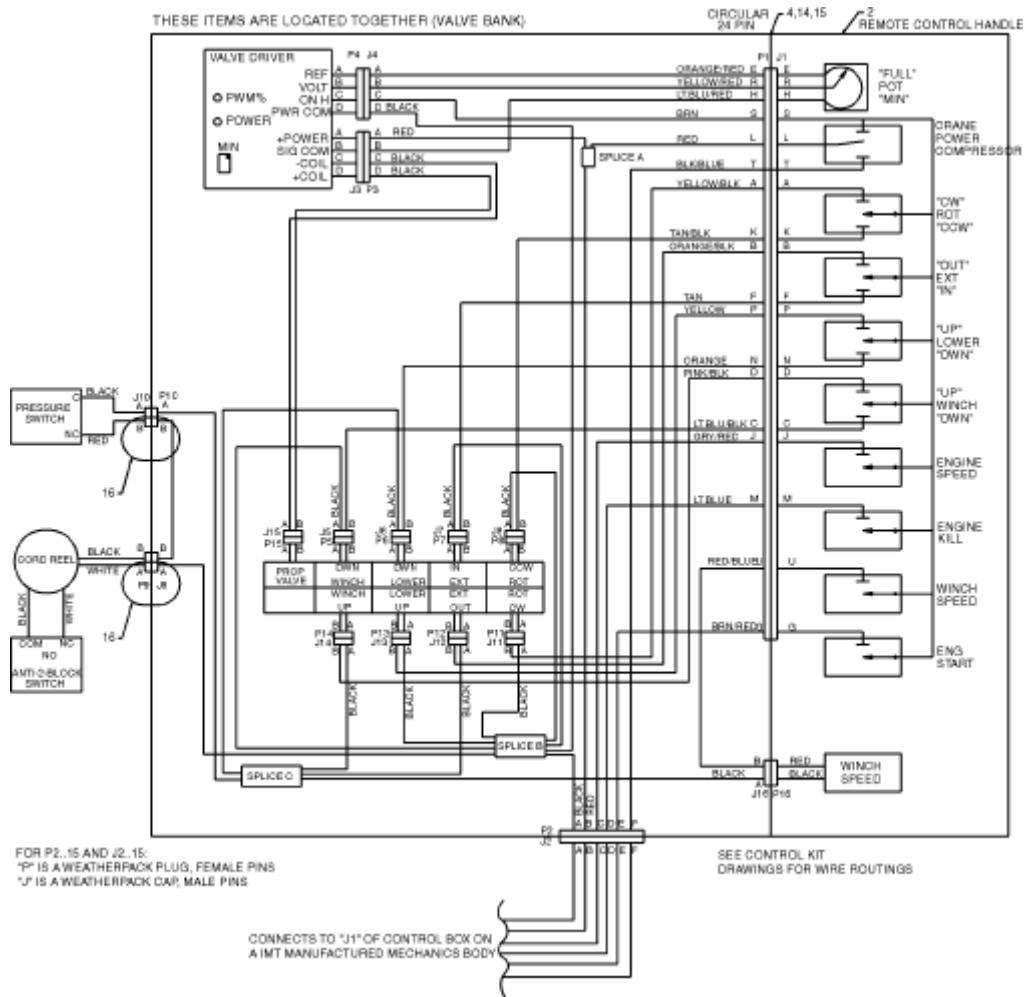
Control Kit, Non-Proportional PTO (91714439)



NOTES:

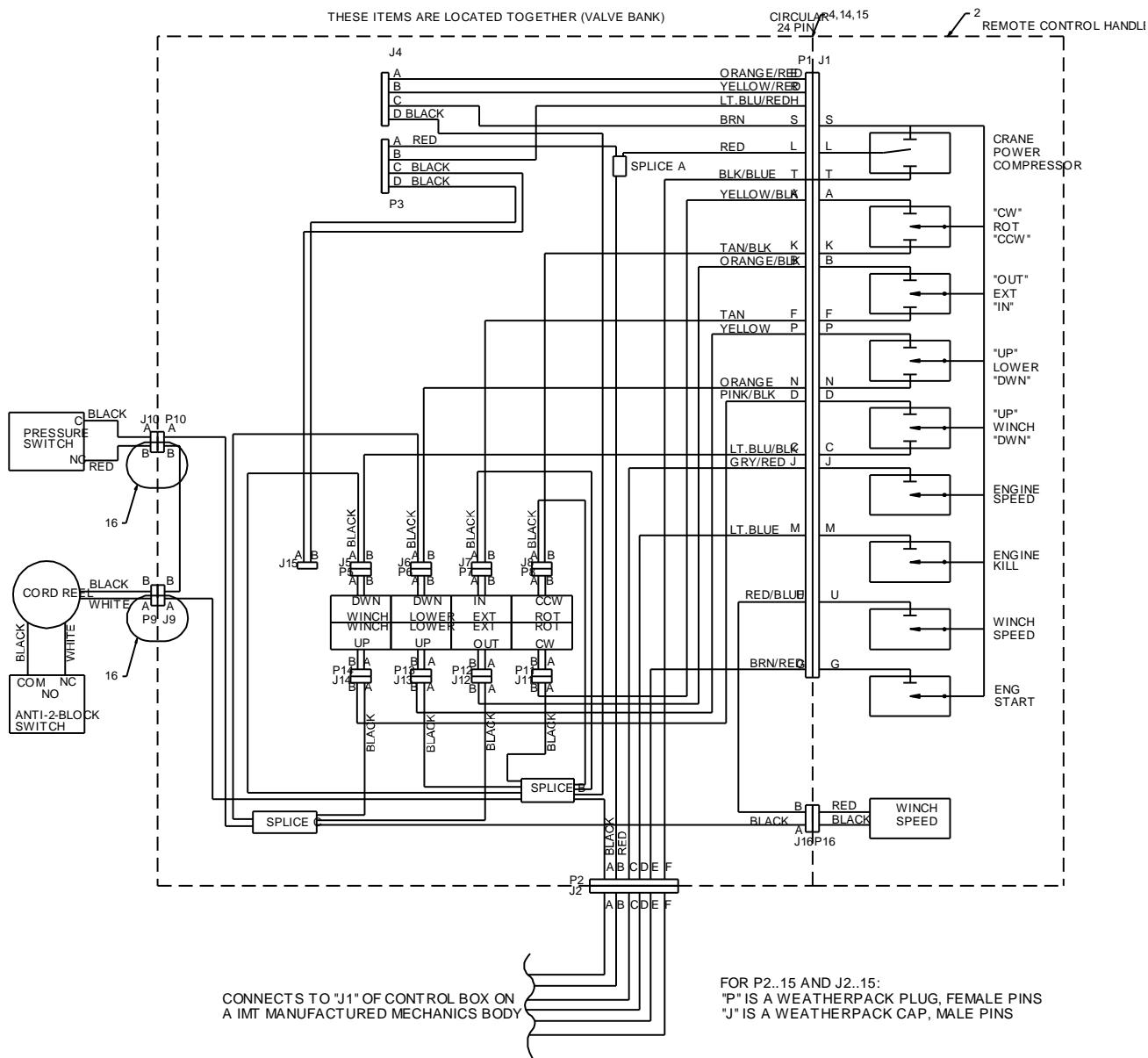
- 1 SHIP PARTS 14, 15 LOOSE IN BAG.
- 2 SEE DRAWING 99901049 FOR WIRE CONNECTIONS AND ELECTRICAL SCHEMATIC.
- 3 BASE AND MAST ASSEMBLY SHOWN AS MOUNTED ON TRUCK.

Schematic, Proportional Remote Control (99900990)



99900990 Parts List			
ITEM	PART #	DESCRIPTION	QUANTITY
2.	51713384	HANDLE ASM (ON-OFF PTO)	1
	51713182	HANDLE ASM (PROP'L PTO)	1
4.	60119299	MTG BRACKET	1
14.	77044645	NUT	1
15.	77044646	WASHER-LOCK	1
16.	70034439	LOCK WIRE LEAD SEAL	2

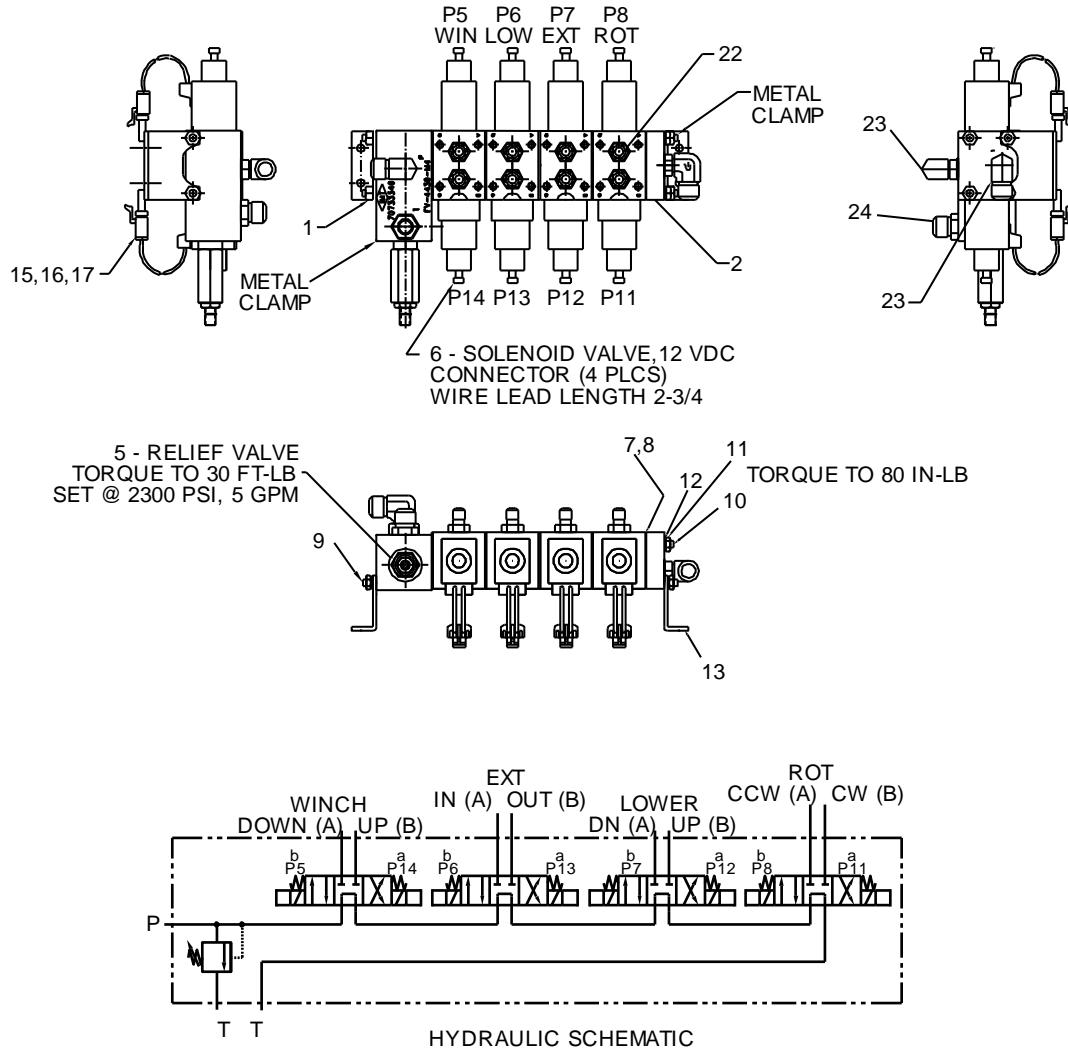
Schematic, Non-Prop Remote Control (99901049)



99901049 PARTS LIST

ITEM	PART #	DESCRIPTION	QUANTITY
2.	51713384	HANDLE ASSEMBLY, RC ON-OFF PTO	1
4.	60119299	BRACKET, MOUNTING	1
14.	77044645	NUT-DEUTSCH 24 SHELL	1
15.	77044646	WASHER-LOCK DEUTSCH	1
17.	70034439	LOCK WIRE LEAD SEAL 8"	2

Valvebank, Non-Prop Remote Control (70733400)


NOTE:

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

70733400 PARTS LIST

ITEM	PART #	DESCRIPTION	QUANTITY
1.	70145879	INLET BODY	1
2.	70145628	OUTLET BODY	1
5.	70145625	RELIEF VALVE (2250 PSI)	1
6.	70145624	SOLENOID VALVE	4
7.	70143337	O-RING PLATE	5
8.	70145623	O-RING	10
9.	70145622	THREADED ROD GR8	2
10.	70145621	THREADED ROD GR8	2

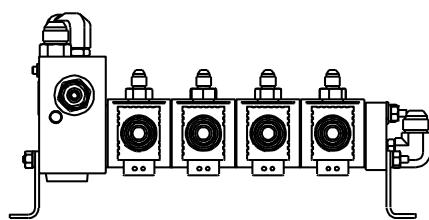
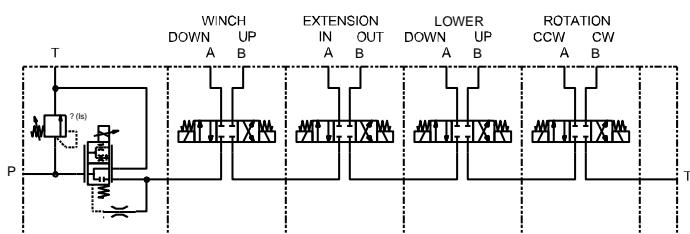
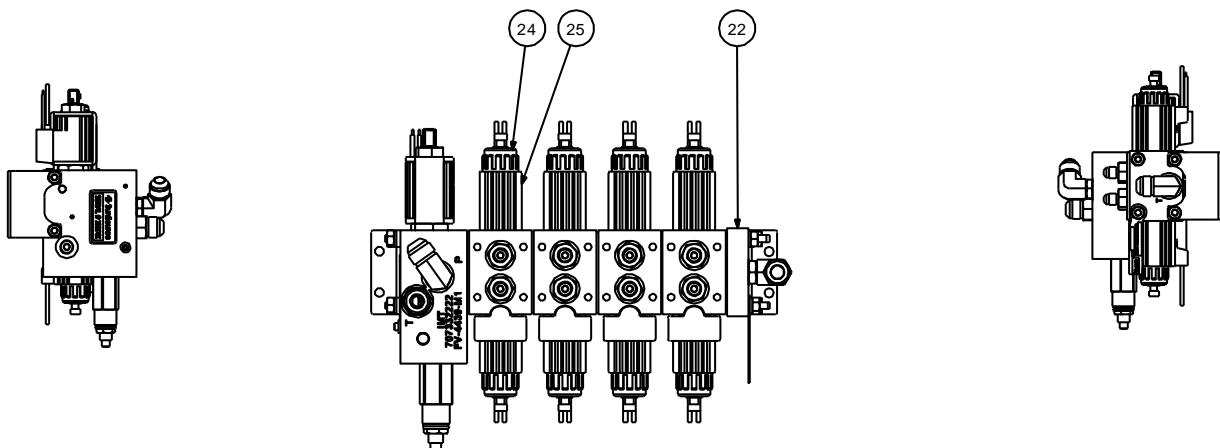
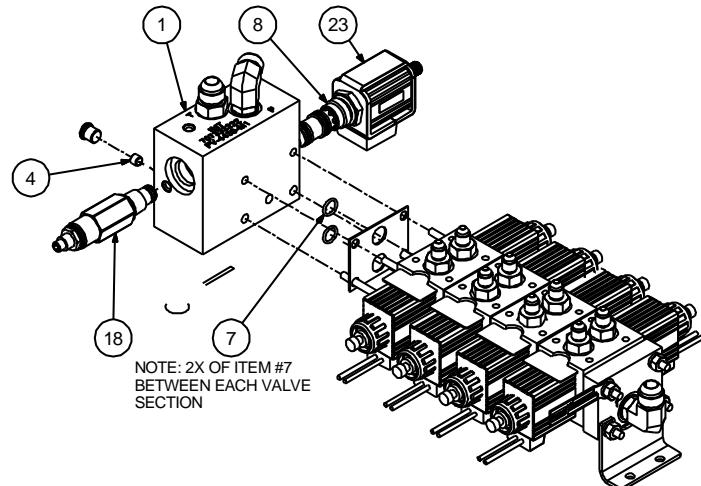
70733400 PARTS LIST

11.	72062000	NUT 1/4-20	6
12.	72063047	WASHER 1/4 LOCK	6
13.	70145738	MOUNTING FOOT	2
14.	70145620	NAME TAG	1
15.	77044574	CONNECTOR TOWER	9
16.	77044577	CONNECTOR TERMINAL	16
17.	77044578	CABLE SEAL	16
20.	77044676	CABLE PLUG	6
21.	70733394	WIRING HARNESS (SEE DWG)	1
22.	72532353	ADAPTER #6MSTR #4MJIC	8
23.	72053762	ELBOW #6MSTR #8MJIC 90°	2
24.	72532357	ADAPTER #6MSTR #8MJIC	1

REV. B 20050802

Valve Bank, 4 Sec 4R PROPN 2000 DRVR (73735157)

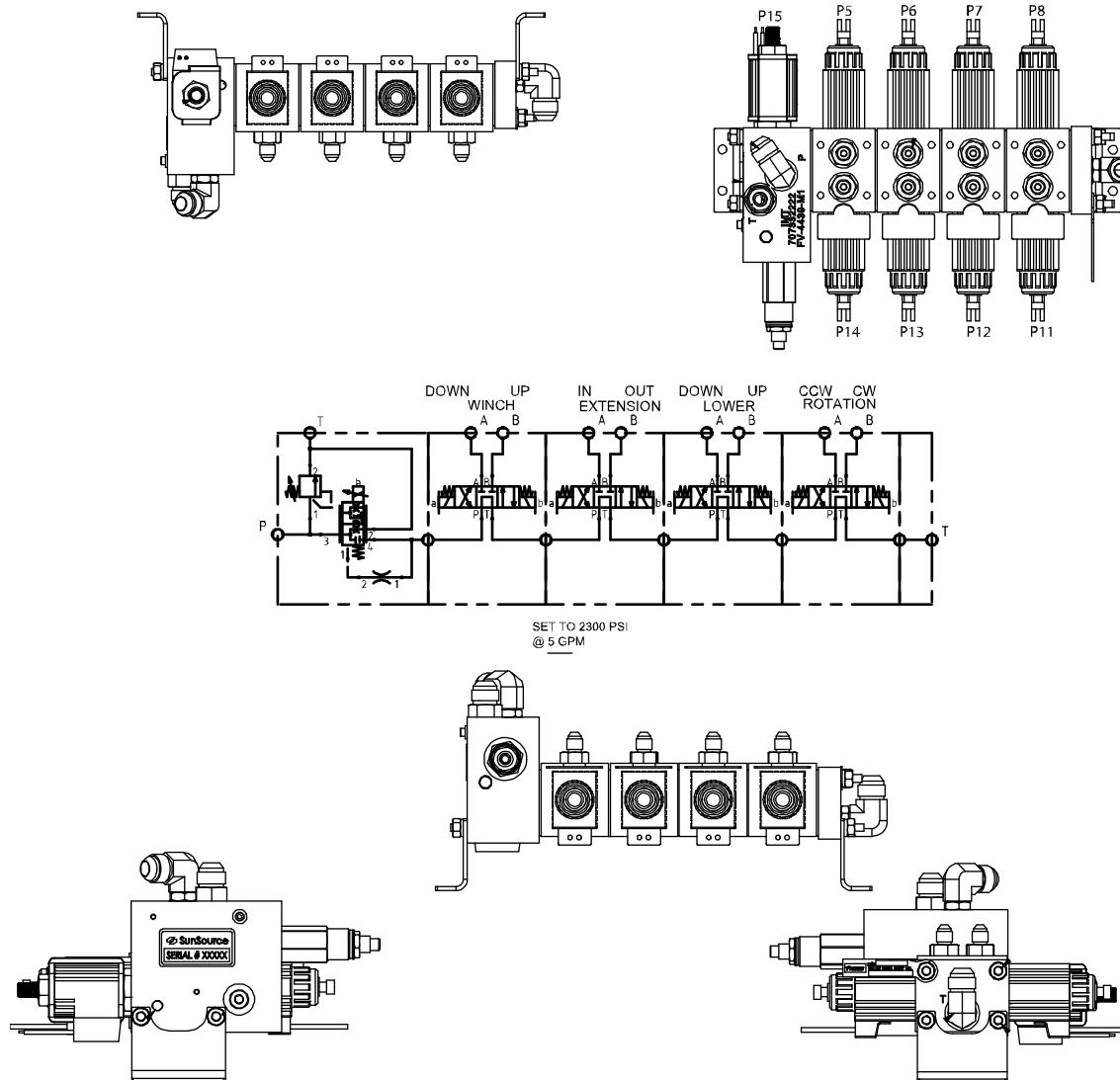
Effective 07/2019, this replaces 70733399



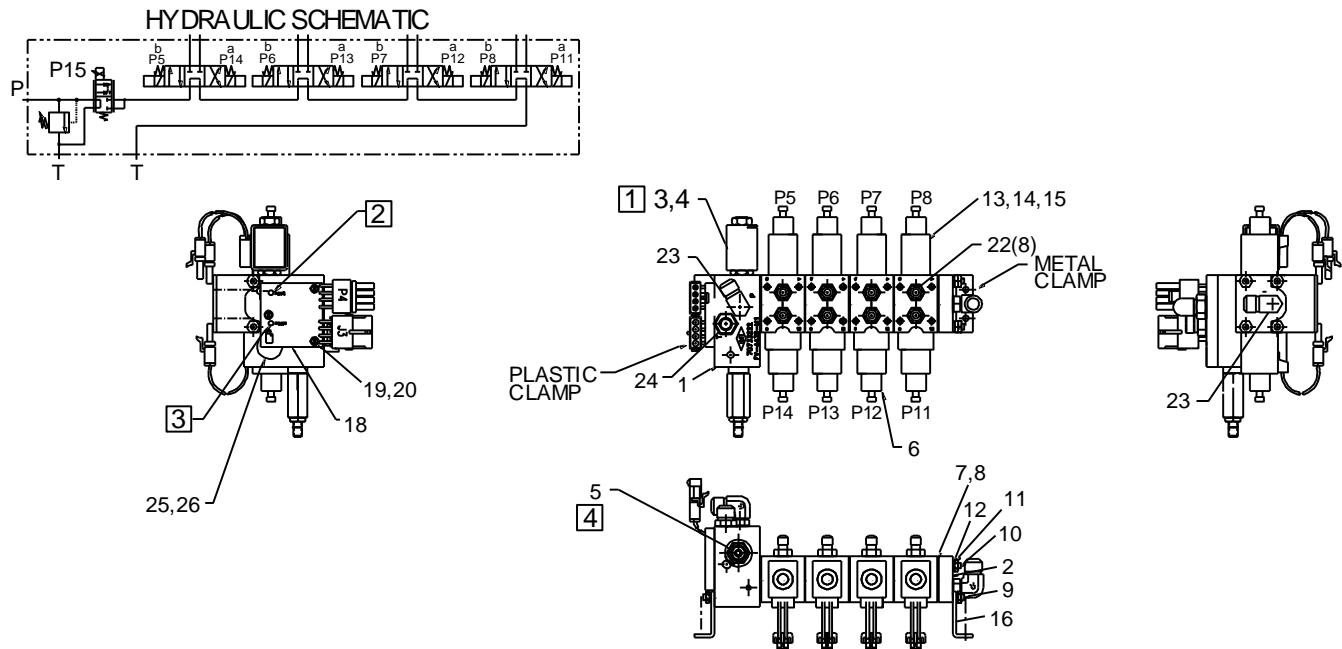
ITEM NO.	PART NO.	DESCRIPTION	QTY.
1.	73540640	INLET BODY	1
4.	73540642	ORIFICE	1
7.	76396911	-013 O-RING	10
8.	73540645	PROPORTIONAL INLET VALVE	1
18.	73540647	RELIEF VALVE	1
22.	70145628	OUTLET BODY	1
23.	73540646	COIL-12VDC LEADWIRE	1
24.	73540641	VALVE SECTION	4
25.	73540643	COIL-12VDC	8
26.	70733394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

Valve Bank, Tethered Remote (73735157)

Effective: 2/15/2019



Valve Bank, Tethered Remote (70733399)



NOTES (SEE REFERENCE NUMBER IN BOX):

- 1 PROPORTIONAL PRIORITY FLOW REGULATOR. 12V DC.
- 2 PERCENT OF SIGNAL INDICATOR COLOR CHANGING LED:
 - a) RED = OFF, ZERO % TRIGGER
 - b) GREEN = FULL ON, 100% TRIGGER.
 - c) SHORTED COIL OR OTHER WILL SHOW AS RED WITH 100% TRIGGER.
- 3 POWER INDICATOR LED.
 - a) OFF - BLANK
 - b) ON - RED LIGHT
- 4 RELIEF VALVE. 2300 PSI, 5 GPM.
- 5 CONNECT P109 AND J9 TOGETHER.
- 6 ADD DUST CAP TO J16.

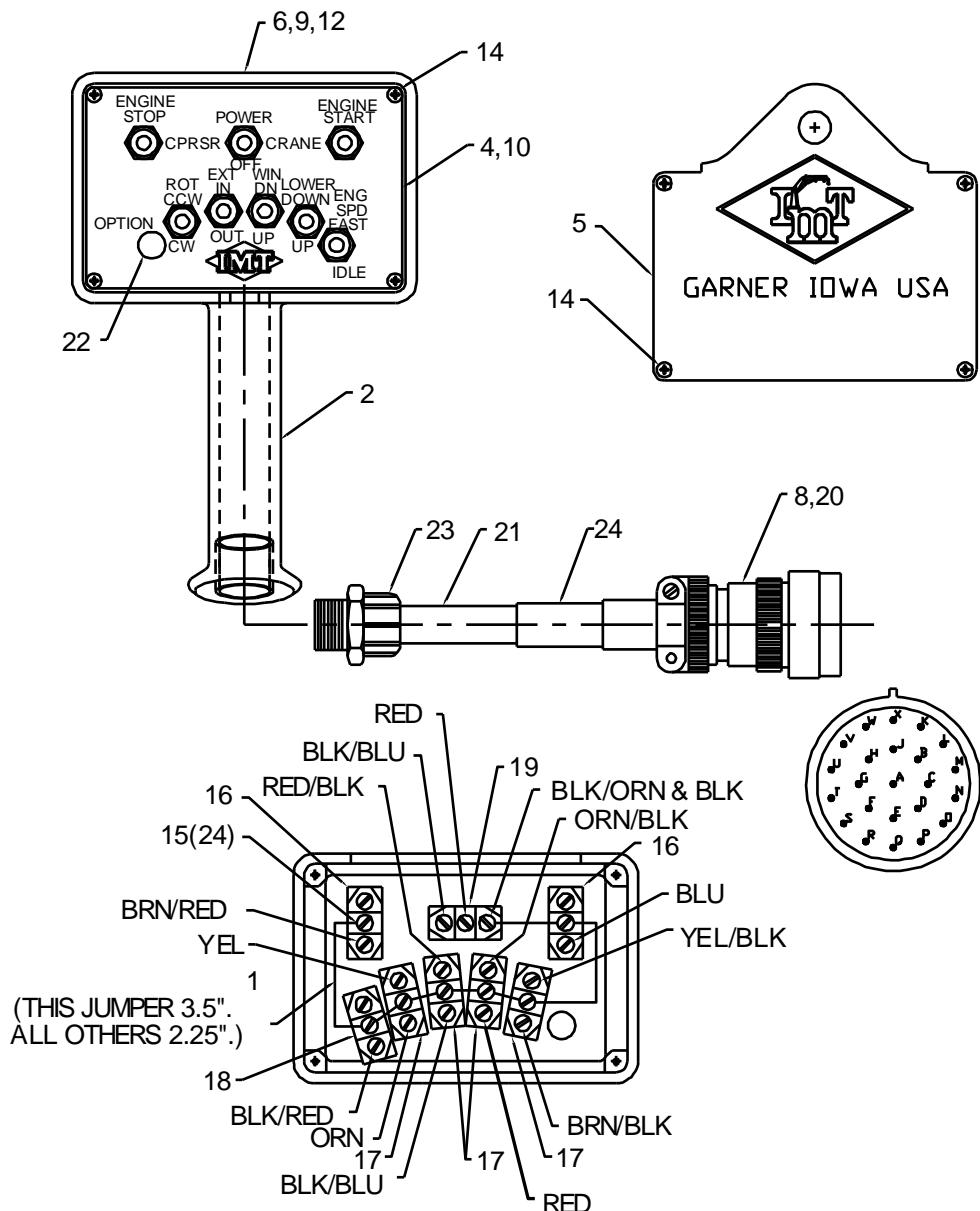
70733399 PARTS LIST

ITEM	PART #	DESCRIPTION	QUANTITY
1.	70145629	INLET BODY	1
2.	70145628	OUTLET BODY	1
3.	70145627	FLOW REG	1
4.	70145626	COIL	1
5.	70145625	RELIEF VALVE	1
6.	70145624	SOLENOID VALVE	4

70733399 PARTS LIST			
7.	70143337	O-RING PLATE	5
8.	70145623	O-RING	10
9.	70145622	THREADED ROD GR8	2
10.	70145621	THREADED ROD GR8	2
11.	72062000	NUT 1/4-20	6
12.	72063047	WASHER 1/4 LOCK	6
13.	77044574	CONNECTOR TOWER	9
14.	77044577	CONNECTOR TERMINAL	18
15.	77044578	CABLE SEAL	18
16.	70145738	MOUNTING FOOT	2
17.	70145620	NAME TAG	1
18.	77044826	VALVE DRIVER	1
19.	72601704	MACH SCR (USE LOCTITE 242)	3
20.	72601705	WASHER #6 FLAT	3
21.	70733394	WIRING HARNESS (SEE DWG)	1
22.	72532353	ADAPTER #6MSTR #4MJIC	8
23.	72053762	ELBOW #6MSTR #8MJIC 90°	2
24.	72532357	ADAPTER #6MSTR #8MJIC	1
25.	70145884	PLUG	1
26.	70145885	ORIFICE PLUG	1

REV. C 20031027

Handle Assembly, Remote, PTO On/Off (51713384)



WIRE FUNCTIONS

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	-

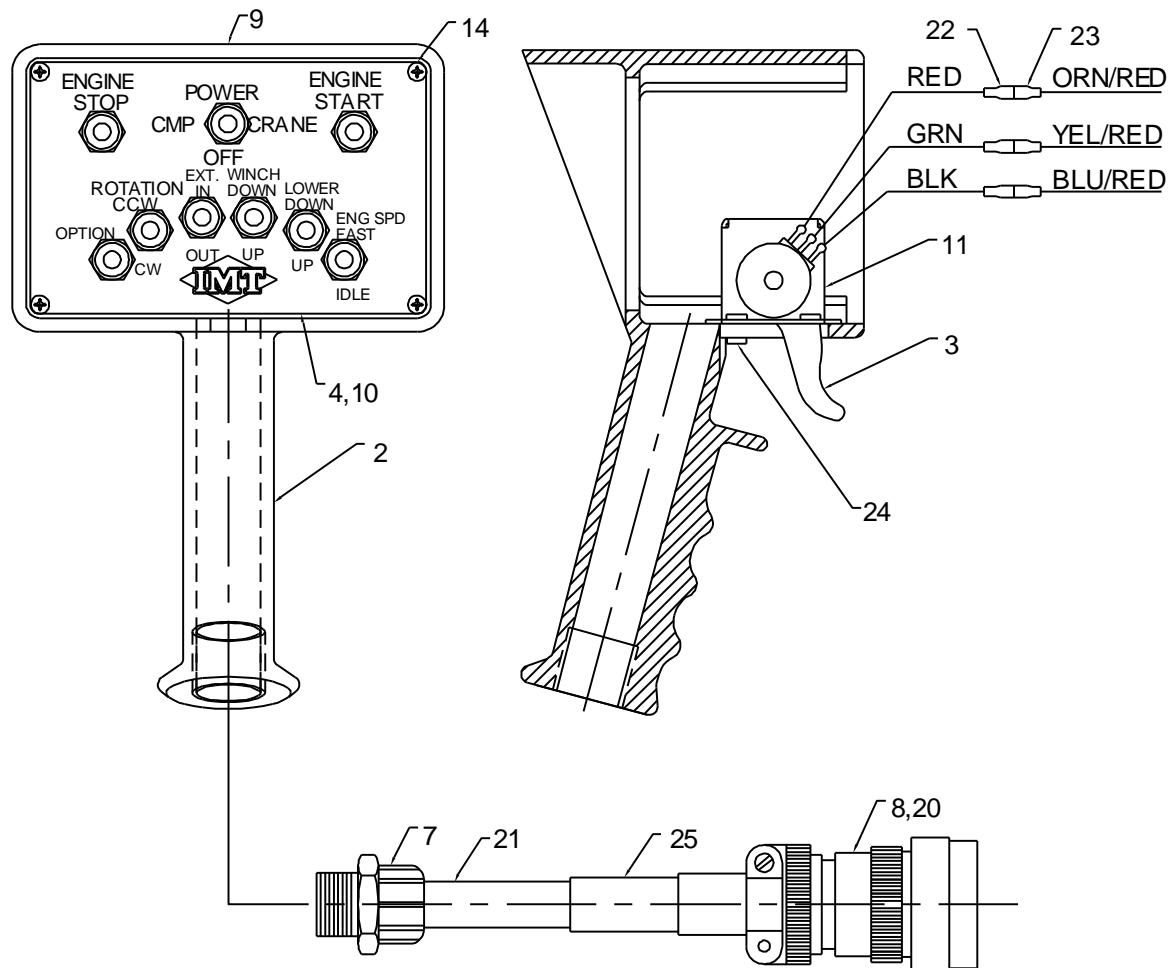
J	BLK/RED	ENG SPD
K	BRN/BLK	ROT CCW
L	RED	POWER
M	BLU	ENG STOP
N	ORN	LOWER DN
O	BLK/ORN	SOL POWER
P	YEL	LOWER UP
Q	BRN/BLU	-
R	YEL/RED	-
S	BLK	RELAY 1
T	BLK/BLU	CPRSR
U	RED/BLU	-
V	BLU/ORN	-
W	ORN/BLU	-
X	YEL/BLU	-
-	RED/RON	-

51713384 PARTS LIST

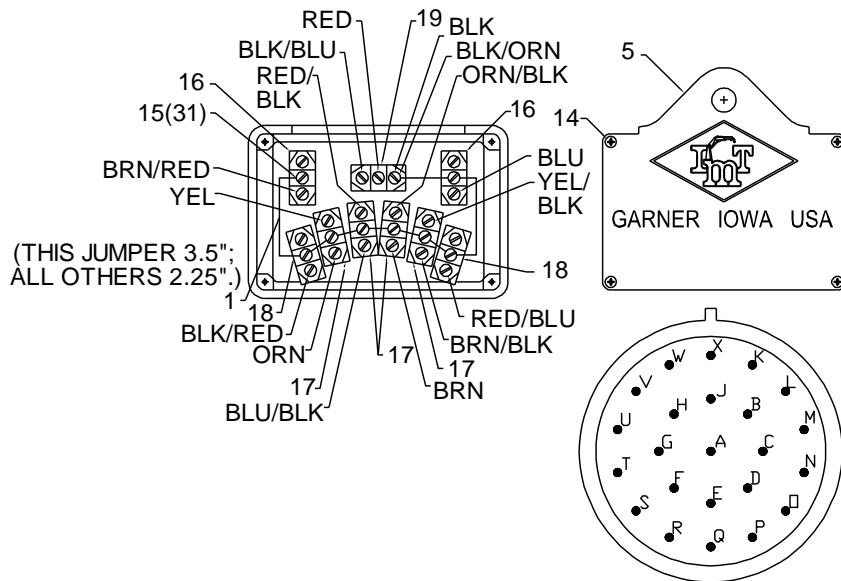
ITEM	PART #	DESCRIPTION	QUANTITY
1.	89044214	WIRE 18GA (6 @ 2.25", 1 @ 3.5")	1.42'
2.	60119335	CONTROL HANDLE	1
4.	60119277	COVER	1
5.	70034306	BACK COVER	1
8.	77044621	PIN	23
9.	70394447	DECAL-DGR RC ELECTRO SM	1
10.	70394142	DECAL-CTRL	1
14.	72061009	SHT MTL SCR #6X3/4 PH	8
15.	77040051	TERM-SPRSPD #8 16-14GA	24
16.	77040371	TOGGLE SWITCH SPST	2
17.	77040372	TOGGLE SWITCH SPDT	4
18.	77040373	TOGGLE SWITCH SPST	1
19.	77040374	TOGGLE SWITCH SPDT	1
20.	77044579	CONNECTOR	1
21.	89044100	CABLE 18GA 24WIRE (NOTE: MUST ORDER 30-FEET)	30 FT
22.	70392785	PLUG, 1/2	1
23.	77044196	CONNECTOR 3/4 STRAIN RELIEF	1
24.	70145495	HEAT SHRINK	0.50 FT
REV. G 20050802			

NOTE: 51717816, 30-FOOT TETHERED CABLE ASSEMBLY, INCLUDES #8, 15, 20, 21, AND 24. ORDER 51717816 FOR SERVICE.

Handle Assembly, Tethered Remote (51713182)



Handle Assembly, Tethered Remote Kit (51713182)



Handle Assembly, Tethered Remote Kit (51713182)

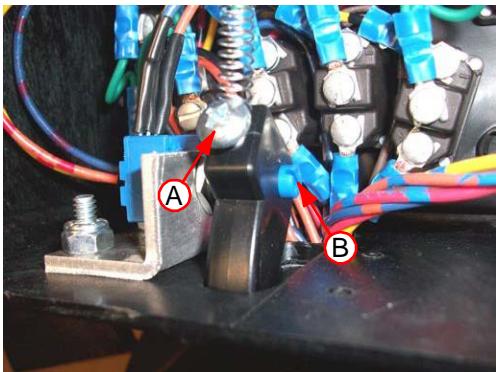
WIRE FUNCTIONS	
SOLID/STRIPE	FUNCTION
A YEL/BLK	ROT CW
B ORN/BLK	EXT OUT
C BLU/BLK	WINCH DN
D RED/BLK	WINCH UP
E ORN/RED	-
F BRN	EXT IN
G BRN/RED	ENG START
H BLU/RED	-
J BLK/RED	ENG SPEED
K BRN/BLK	ROT CCW
L RED	POWER
M BLU	ENG STOP
N ORN	LOWER DN
O BLK/ORN	SOL POWER
P YEL	LOWER UP
Q BRN/BLU	-
R YEL/RED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

51713182 PARTS LIST

ITEM	PART #	DESCRIPTION	QUANTITY
1.	89044214	WIRE 18GA GRN	1.61 FT
2.	60119335	CONTROL HANDLE	1
3.	60111141	TRIGGER (PART OF 11)	1REF
4.	60119277	COVER	1
5.	70034306	BACK COVER	1
7.	77044196	STRAIN RELIEF 3/4	1
8.	77044621	PIN	23
9.	70394447	DECAL-DGR RC ELECTRO SM	1
10.	70394142	DECAL-CTRL	1
11.	70394183	TRIGGER ASM (INCL 3)	1
14.	72061009	SHT MTL SCR #6X3/4 PH	8
15.	77040051	TERM-SPRSPD #8 16-14GA	31
16.	77040371	TOGGLE SWITCH SPST	2
17.	77040372	TOGGLE SWITCH SPDT	4
18.	77040373	TOGGLE SWITCH SPST	2
19.	77040374	TOGGLE SWITCH SPDT	1
20.	77044579	CONNECTOR	1
21.	89044100	CABLE 18GA 24WIRE (NOTE: MUST ORDER 30-FEET.)	30 FT
22.	77040147	TERM-FSLPON 1/4TAB 22-18	3
23.	77040047	TERM-MSLPON 1/4TAB 16-14	3
24.	72060602	MACH SCR #6-32X3/8 RDHD	4
25.	70145495	TUBING-HEAT SHRINK	.5 FT
REV. H 20071016			

NOTE: KIT # 51717816, TETHERED CABLE - 30 FEET, INCLUDES ITEMS 8, 15 (QTY 24), 20, 21, AND 25.
ORDER 51717816 TO REPLACE THE CABLE ASSEMBLY.

Setting Remote Handle Assembly Low-End Output



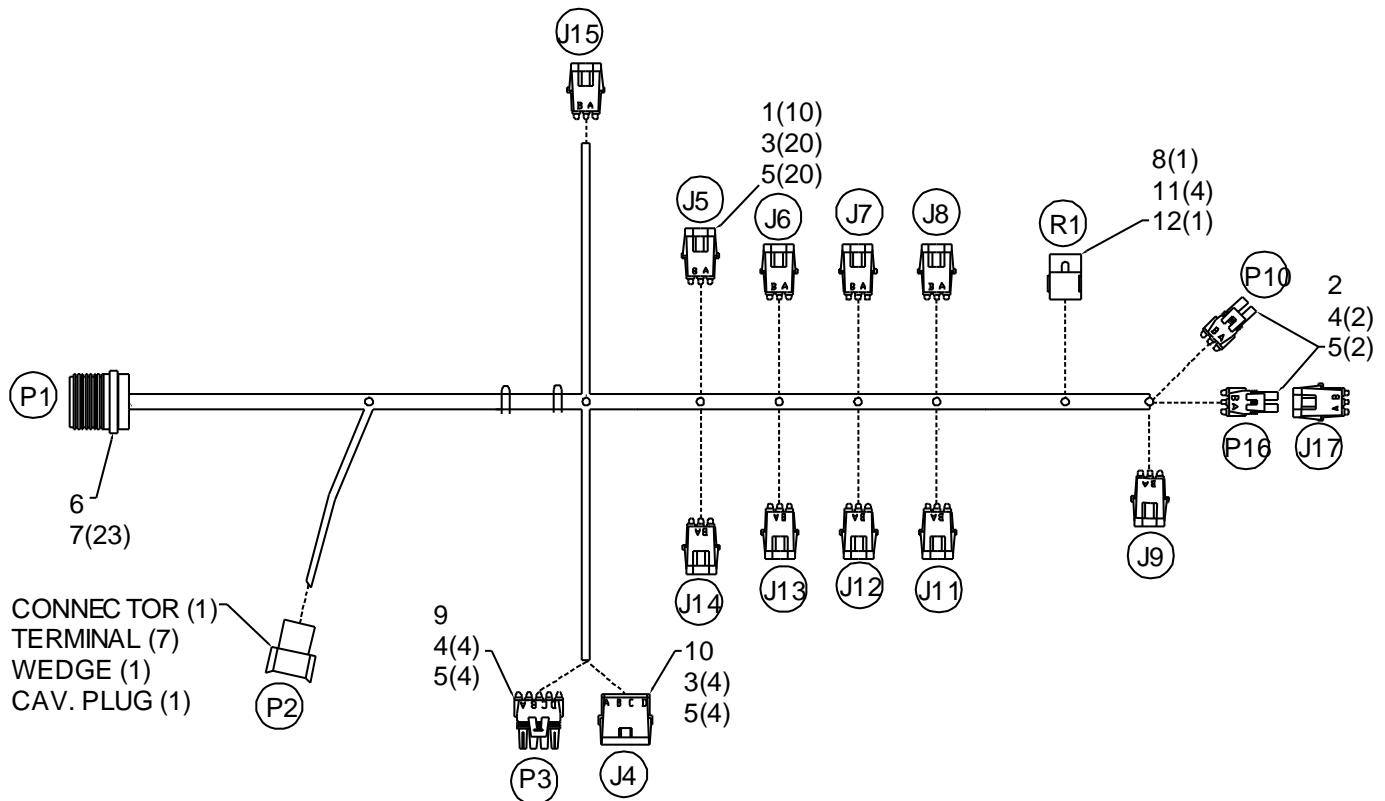
NOTE

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

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

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

Cable Assembly, Tethered Remote (70733394)



70733394 PARTS LIST

ITEM	PART #	DESCRIPTION	QUANTITY
1.	77044573	SHROUD CONN 2-CONTACT	10REF
2.	77044574	TOWER CONN	2REF
3.	77044576	TERMINAL-M	24REF
4.	77044577	TERMINAL-F	8REF
5.	77044578	CABLE SEAL	32REF
6.	77044620	CONN RCPT	1REF
7.	77044580	SOCKET	23REF
8.		SOCKET, RELAY	1REF
9.	77044623	TOWER CONN 4-CONTACT	1REF
10.	77044624	SHROUD CONN 4-CONTACT	1REF
11.		TERMINAL	4REF
12.		RELAY	1REF

WIRING CHART (70733394)

LOCATOR CODE: P1			DEUTSCH: HDP34-24-23SN059			
TERM: 0462-201-16141			SEAL: - CAVITY PLUG: 114017			
CAVITY	COLOR	GA.	PRINT LABEL	TO	CON-SPLC	CAVITY
A	WHT	18	ROT J11B	TO	J11	B
B	WHT	18	EXT J13B	TO	J13	B
C	WHT	18	WIN J5B	TO	J5	B
D	WHT	18	WIN J14B	TO	J14	B
E	WHT	18	J4A REF	TO	J4	A
F	WHT	18	EXT J6B	TO	J6	B
G	WHT	16	P2 6 ENG START	TO	P2	6
H	WHT	18	P3B SIG COMM	TO	P3	B
I	-	-	-	TO	-	-
J	WHT	18	P2 4 SPD RLA	TO	P2	4
K	WHT	18	ROT J8B	TO	J8	B
L	WHT	16	PENDANT PWR(+)	TO	SPL A	-
M	WHT	18	P2 2 KILL RLA	TO	P2	2
N	WHT	18	LOWER J7B	TO	J7	B
O	WHT	16	P1 O SOL WPR	TO	P2	1
P	WHT	18	LOWER J12B	TO	J12	B
Q	-	-	-	TO	-	-
R	WHT	18	J4B VOLTAGE	TO	J4	B
S	WHT	18	P1S ON H	TO	SPL D	-
T	WHT	16	P2 5 COMPR	TO	P2	5
U	WHT	16	WNSPD P16B	TO	P16	B
V	-	-	-	-	-	-
W	-	-	-	-	-	-

LOCATOR CODE: P2			DEUTSCH: DT04-8PA			
TERM: 1060-16-0122		WEDGE: W8P	CAVITY PLUG: 114017			
CAVITY	COLOR	GA.	PRINT LABEL	TO	CON-SPLC	CAVITY
1	WHT	16	P1 SOL PWR	TO	P1	-
2	WHT	18	P2 2 KILL RLA	TO	P1	M
3	WHT	16	P2 3 BAT (-)	TO	SPL B	-
4	WHT	18	P2 4 SPD RLA	TO	P1	J
5	WHT	16	P2 5 COMPRESSOR	TO	P1	T
6	WHT	16	P2 6 ENG START	TO	P1	G
7	WHT	16	P2 7 IGN SOL	TO	SPL A	-
8	-	-	-	TO	-	-

LOCATOR CODE: P3			PACKARD: 12015797			
TERM: 12089188			SEAL: 12015323			
CAVITY	COLOR	GA.	PRINT LABEL	TO	CON-SPLC	CAVITY
A	WHT	16	P3A POWER (+)	TO	SPL A	-
B	WHT	18	P3B SIG COMM	TO	P1	H

WIRING CHART (70733394)

C	WHT	16	PRPVLV (-)	TO	J15	A
D	WHT	16	PRPVLV (+)	TO	J15	B

LOCATOR CODE: J4		PACKARD: 12010974				
TERM: 12089040		SEAL: 12015323				
CAVITY	COLOR	GA.	PRINT LABEL	TO	CON-SPLC	CAVITY
A	WHT	18	J4A REF	TO	J1	E
B	WHT	18	J4B VOLTAGE	TO	J1	R
C	WHT	18	J4C ON H	TO	SPL D	-
D	WHT	16	J4D PWR COM	TO	SPL B	-

LOCATOR CODE: J5		PACKARD: 12010973				
TERM: 12089040		SEAL: 12015323				
CAVITY	COLOR	GA.	PRINT LABEL	TO	CON-SPLC	CAVITY
A	WHT	16	J5A WINCH	TO	SPL B	-
B	WHT	18	J5B WINCH	TO	P1	C

LOCATOR CODE: J6		PACKARD: 12010973				
TERM: 12089040		SEAL: 12015323				
CAVITY	COLOR	GA.	PRINT LABEL	TO	CON-SPLC	CAVITY
A	WHT	16	EXT J6A	TO	SPL B	-
B	WHT	18	EXT J6B	TO	P1	F

LOCATOR CODE: J7		PACKARD: 12010973				
TERM: 12089040		SEAL: 12015323				
CAVITY	COLOR	GA.	PRINT LABEL	TO	CON-SPLC	CAVITY
A	WHT	16	LOWER J7A	TO	SPL C	-
B	WHT	18	LOWER J7B	TO	P1	N

LOCATOR CODE: J8		PACKARD: 12010973				
TERM: 12089040		SEAL: 12015323				
CAVITY	COLOR	GA.	PRINT LABEL	TO	CON-SPLC	CAVITY
A	WHT	16	ROT J8A	TO	SPL B	-
B	WHT	18	ROT J8B	TO	P1	K

LOCATOR CODE: J9		PACKARD: 12010973				
TERM: 12089040		SEAL: 12015323				
CAVITY	COLOR	GA.	PRINT LABEL	TO	CON-SPLC	CAVITY
A	WHT	16	J9A ANTI-TWO	TO	SPL B	-
B	WHT	16	P10B & P9B	TO	P10	B

LOCATOR CODE: P10		PACKARD: 12015792				
TERM: 12089188		SEAL: 12015323				
CAVITY	COLOR	GA.	PRINT LABEL	TO	CON-SPLC	CAVITY
A	WHT	16	OPSI P10A	TO	R1	85

WIRING CHART (70733394)

B	WHT	16	P10B & J9B	TO	J9	B
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LOCATOR CODE: J11		PACKARD: 12010973				
TERM: 12089040				SEAL: 12015323		
CAVITY	COLOR	GA.	PRINT LABEL	TO	CON-SPLC	CAVITY
A	WHT	16	J11A ROT	TO	SPL B	-
B	WHT	18	J11B ROT	TO	P1	-

LOCATOR CODE: J12		PACKARD: 12010973				
TERM: 12089040				SEAL: 12015323		
CAVITY	COLOR	GA.	PRINT LABEL	TO	CON-SPLC	CAVITY
A	WHT	16	J12A LOWER	TO	SPL B	-
B	WHT	18	J12B LOWER	TO	P1	P

LOCATOR CODE: J13		PACKARD: 12010973				
TERM: 12089040				SEAL: 12015323		
CAVITY	COLOR	GA.	PRINT LABEL	TO	CON-SPLC	CAVITY
A	WHT	16	J13A EXT	TO	SPL C	-
B	WHT	18	J13B EXT	TO	P1	B

LOCATOR CODE: J14		PACKARD: 12010973				
TERM: 12089040				SEAL: 12015323		
CAVITY	COLOR	GA.	PRINT LABEL	TO	CON-SPLC	CAVITY
A	WHT	16	J14A WINCH	TO	SPL C	-
B	WHT	18	J14B WINCH	TO	P1	D

LOCATOR CODE: J15		PACKARD: 12010973				
TERM: 12089040				SEAL: 12015323		
CAVITY	COLOR	GA.	PRINT LABEL	TO	CON-SPLC	CAVITY
A	WHT	16	PRPVLV (-)	TO	P3	C
B	WHT	16	PRPVLV (+)	TO	P3	D

LOCATOR CODE: P16		PACKARD: 12015792				
TERM: 12089188				SEAL: 12015323		
CAVITY	COLOR	GA.	PRINT LABEL	TO	CON-SPLC	CAVITY
A	WHT	16	P16A WNSPD	TO	SPL C	-
B	WHT	16	WNSPD P16B	TO	P1	U

LOCATOR CODE: -		SPLICER A				
CAVITY	COLOR	GA.	PRINT LABEL	TO	CON-SPLC	CAVITY
-	WHT	16	PENDANT PWR (+)	TO	P1	L
-	WHT	16	P2 7 IGN SOL	TO	P2	7
-	WHT	16	P3A POWER (+)	TO	P3	A

LOCATOR CODE: -		SPLICER B				
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WIRING CHART (70733394)						
CAVITY	COLOR	GA.	PRINT LABEL	TO	CON-SPLC	CAVITY
-	WHT	16	WINCH J5A	TO	J5	A
-	WHT	16	RELAY GND	TO	R1	87
-	WHT	16	P2 3 BAT (-)	TO	P2	3
-	WHT	16	J4D PWR COM	TO	J4	D
-	WHT	16	ROT J11A	TO	J11	A
-	WHT	16	LOWER J12A	TO	J12	A
-	WHT	16	EXT J6A	TO	J6	A
-	WHT	16	ROT J8A	TO	J8	A
-	WHT	16	ATB J9A	TO	J9	A

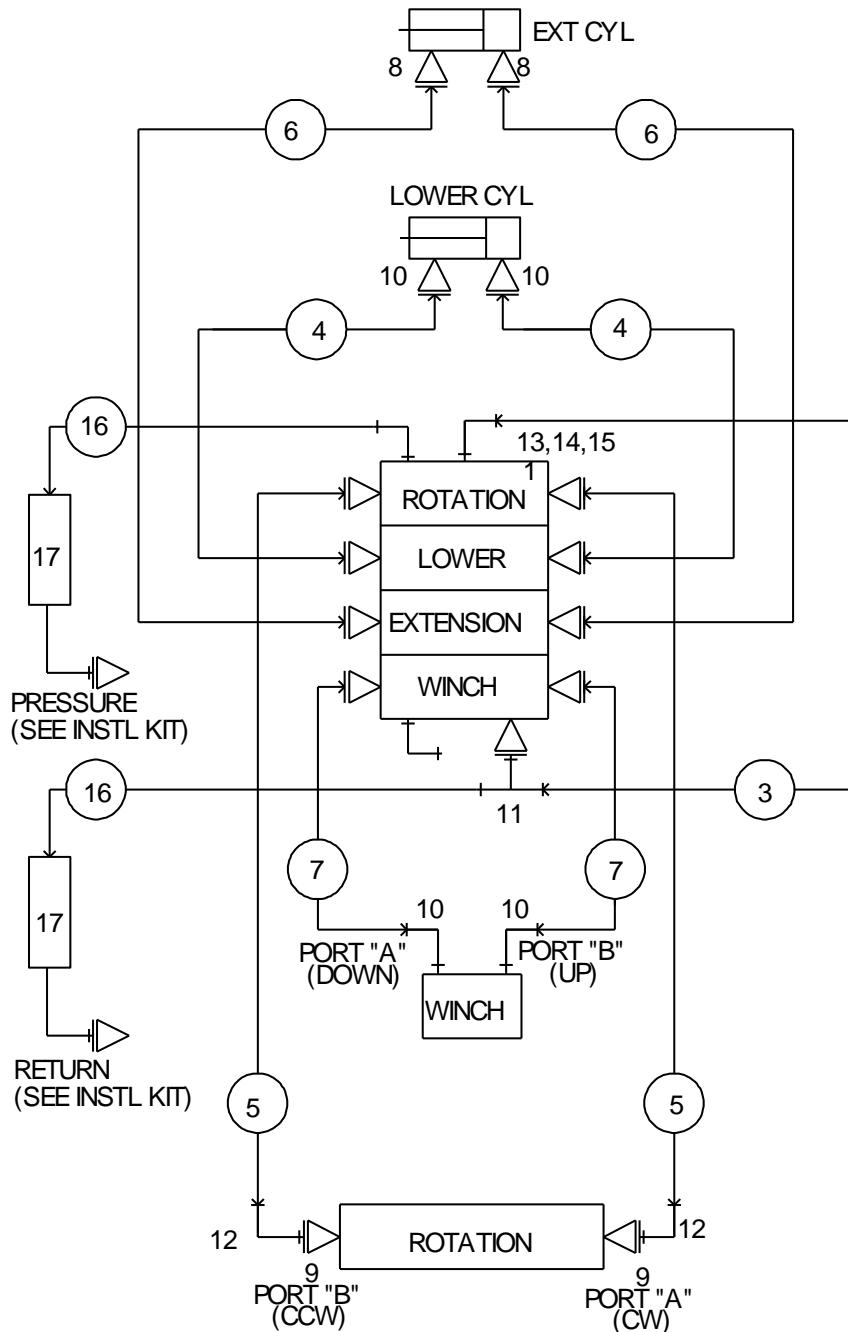
LOCATOR CODE: R1						
RELAY SOCKET: PACKARD 12065685, 12052834						
TERM: 12066614	RELAY: HELLA 87411 (SEALED)					
CAVITY	COLOR	GA.	PRINT LABEL	TO	CON-SPLC	CAVITY
30	WHT	16	ATB & OPRES GRD	TO	SPL C	-
87	WHT	16	RELAY GRD	TO	SPL B	-
87A	-	-	-	TO	-	-
86	WHT	16	RELAY PWR (+)	TO	SPL D	-
85	WHT	16	OPSI P10A	TO	P10	A

LOCATOR CODE: -		SPLICER C				
CAVITY	COLOR	GA.	PRINT LABEL	TO	CON-SPLC	CAVITY
-	WHT	16	J7A LOWER	TO	J7	A
-	WHT	16	ATB & OPRES GND	TO	R1	30
-	WHT	16	EXT J13A	TO	J13	A
-	WHT	16	WINCH J14A	TO	J14	A
-	WHT	16	WNSPD P16A	TO	P16	A

LOCATOR CODE: -		SPLICER D				
CAVITY	COLOR	GA.	PRINT LABEL	TO	CON-SPLC	CAVITY
-	WHT	18	P1S ON H	TO	P1	S
-	WHT	16	RELAY PWR (+)	TO	R1	86
-	WHT	18	J4C ON H	TO	J4	C

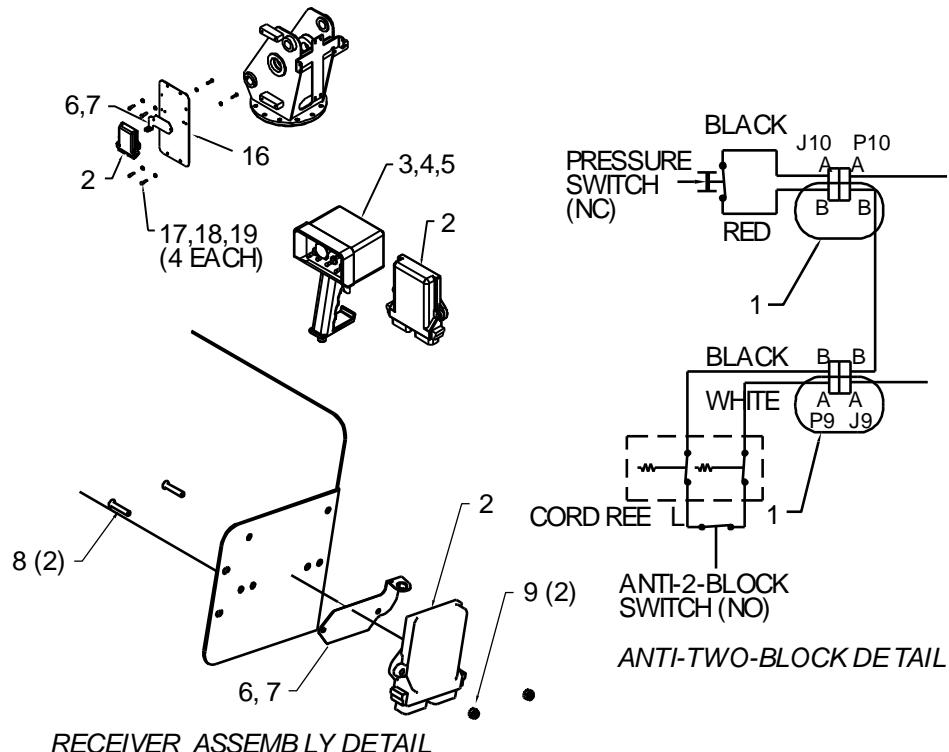
Controls & Hydraulics, Radio Remote

Hydraulic Kit, Radio Remote (91716003)



911716003 PARTS LIST			
ITEM	PART #	DESCRIPTION	QUANTITY
1.	73733931	VALVEBANK 4-SECT	1
2.	51716002	HOSE KIT (INCL:3-7)	1
3.	51394950	HOSE-FI 50X11.5 #8#8	1REF
4.	51393953	HOSE-FJ 25X34 #4#4	2REF
5.	51394953	HOSE-FJ 25X39 #4#4	2REF
6.	51395763	HOSE-FJ 25X67 #4#4	2REF
7.	51395226	HOSE-FJ 25X24 #4#4	2REF
8.	72532351	ADAPTER #4MSTR #4MJIC	2
9.	72532722	ADAPTER #10MSTR #6FSTR	2
10.	72532353	ADAPTER #6MSTR #4MJIC	4
11.	72532671	TEE #8JIC SWVL NUT BRANCH	1
12.	72532985	ELBOW #6MSTR #4MJIC 45°	2
13.	72060002	CAP SCR 1/4-20X3/4 HHGR5	4
14.	72063001	WASHER 1/4 WRT	4
15.	72062104	NUT 1/4-20 LOCK	4
16.	51395403	HOSE-FF 1/2X28 OAL (PART OF 2)	2REF
17.	72533648	SWIVEL #8MJIC #8MJIC 90° (PART OF 2)	2REF

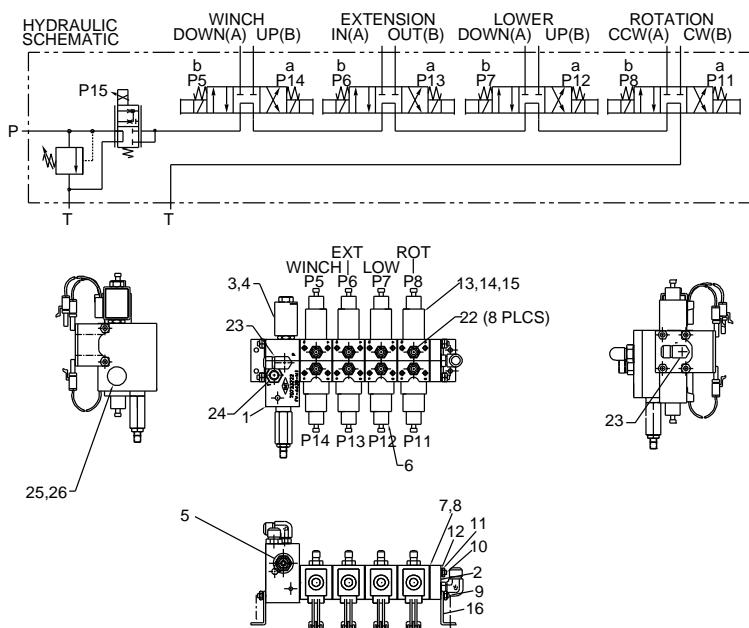
Control Kit, Radio Remote (90718830) (REF 99903629)



90718830 PARTS LIST

ITEM	PART #	DESCRIPTION	QUANTITY
1.	70034439	LOCKWIRE LEAD SEAL, 8"	2
2.	70733921	RECEIVER, RADIO REMOTE	1
4.	70733883	TRANSMITTER, RADIO REMOTE	1
6.	60125959	BRACKET, TETHER CONNECTOR	1
7.	72066340	RIVET, POP, 1/8 X 3/8 GRIP	1
8.	72601846	CAP SCREW-22 1/4-20X1-1/4 HEX HEAD	2
9.	72062194	NUT-STAINLESS STEEL 1/4-20 NYLOC	2
10.	99903628	INSTRUCTIONS, RADIO REMOTE	1
13.	99903629	INSTALLATION DRAWING, RADIO REMOTE	1
16.	60121960	BRACKET, RADIO REMOTE RECEIVER	1
17.	72062167	NUT-STAINLESS STEEL 0.31-18 HEX NYLOC	4
18.	72601829	CAP SCREW-STAINLESS STEEL 0.31-18X.75 HEX HEAD	4
19.	72063151	WASHER-STAINLESS STEEL 0.31 LOCK TYPE 304	4

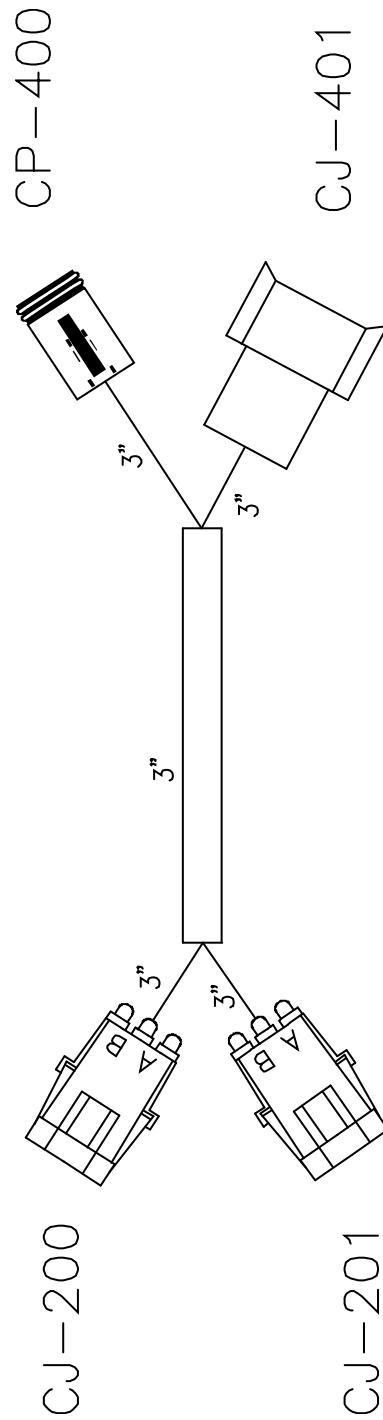
Valvebank, Radio Remote (73733931)

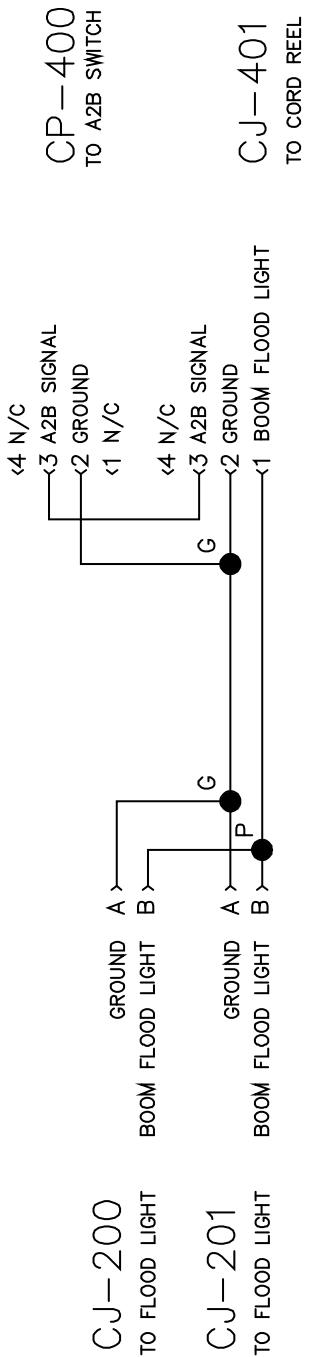


73733931 PARTS LIST

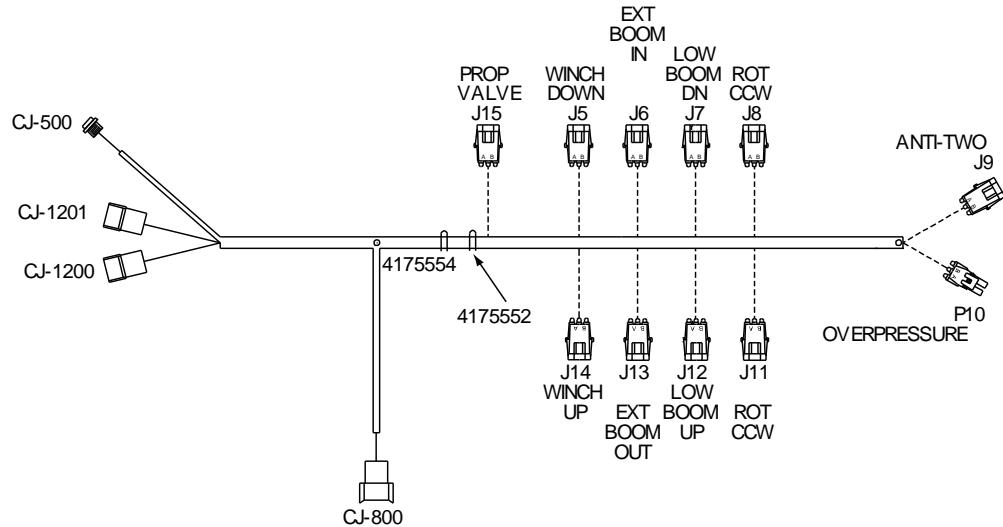
ITEM	PART #	DESCRIPTION	QUANTITY
1.	70145629	INLET BODY	1
2.	70145628	OUTLET BODY	1
3.	70145627	PROPORTIONAL FLOW REGULATOR	1
4.	70145626	COIL 12VDC	1
5.	70145625	RELIEF VALVE SET AT 2300PSI	1
6.	70145624	SOLENOID VALVE	4
7.	70143337	O-RING PLATE	5
8.	70145623	O-RING	10
9.	70145622	ROD 1/4-20X11.5 GR8	2
10.	70145621	ROD 1/4-20X9.5 GR8	2
11.	72062000	NUT 1/4-20	6
12.	72063047	WASHER 1/4 LOCK	6
13.	77044574	CONNECTOR TOWER	9
14.	77044577	CONNECTOR TERMINAL	18
15.	77044578	CABLE SEAL	18
16.	70145738	MOUNTING FOOT	2
17.	70145620	NAME TAG	1
21.	77441101	HARNESS (NOT SHOWN)	1
22.	72532353	ADAPTER #6MSTR #4MJIC	8
23.	72053762	ELBOW #6MSTR #8MJIC 90°	2
24.	72532357	ADAPTER #6MSTR #8MJIC	1
25.	70145884	PLUG HEX SOCHD	1
26.	70145885	ORIFICE PLUG	1

Harness, Boom Tip Light Jumper (77441689)

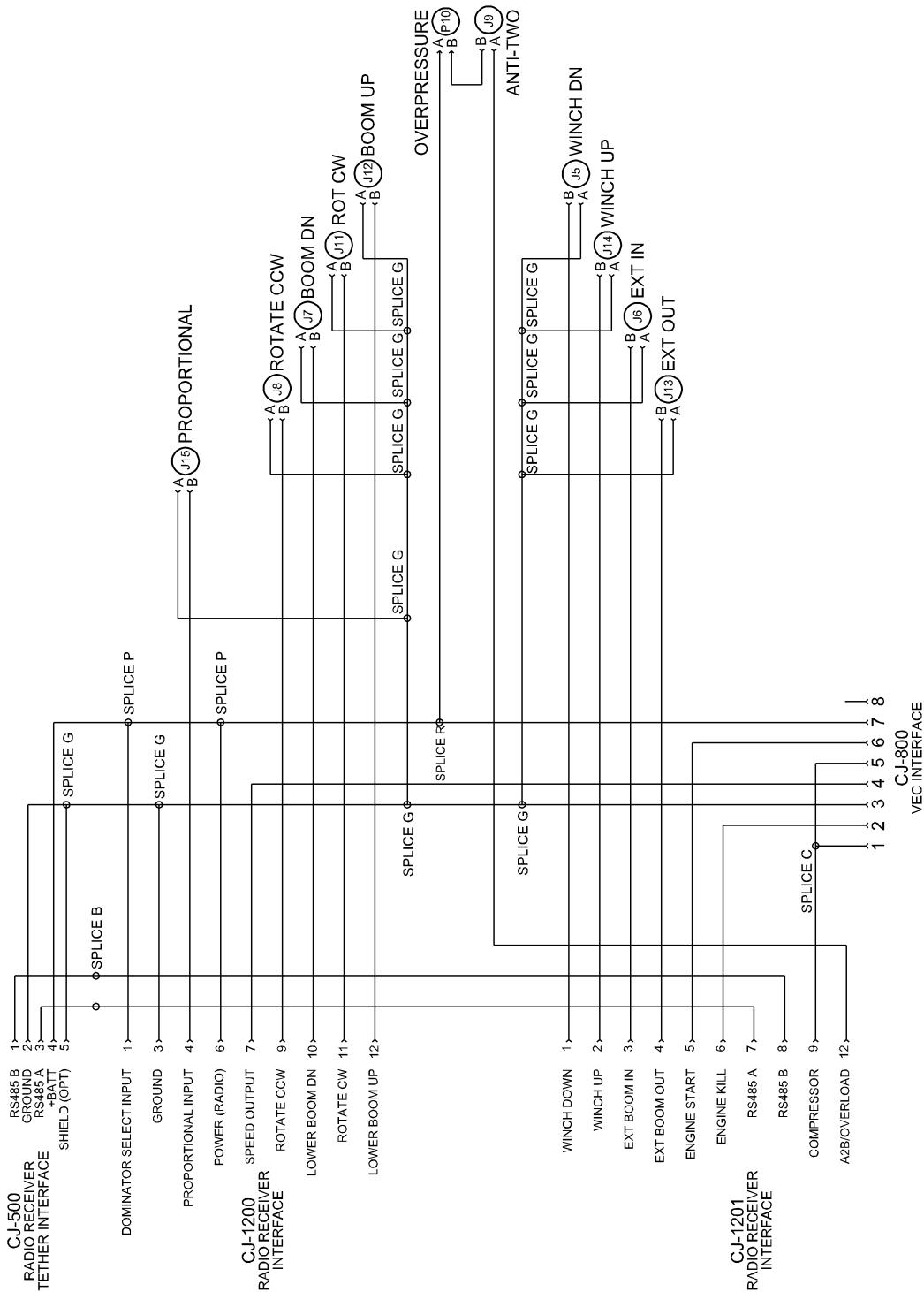


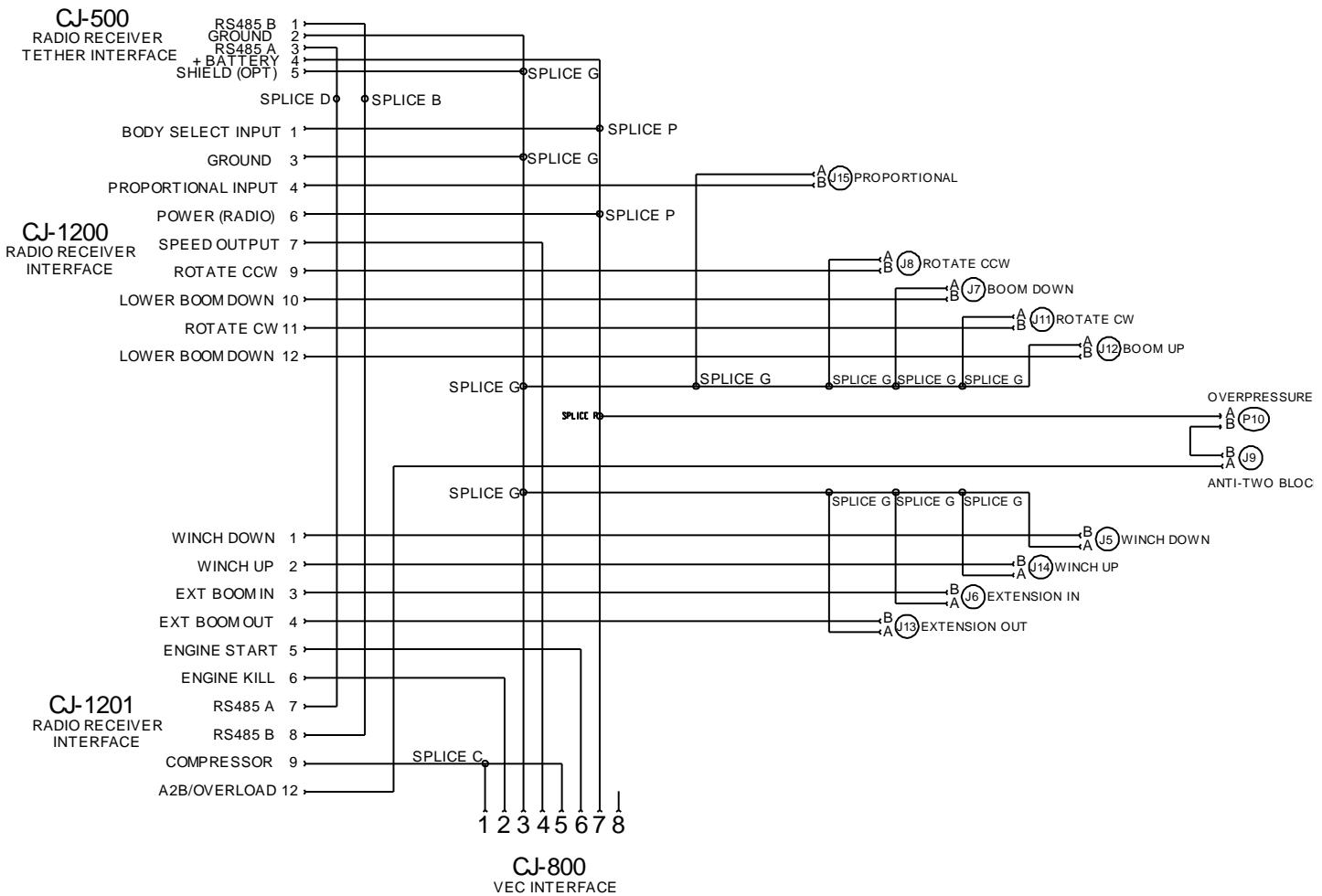
77441689-1

Cable Assembly, Radio Remote (77441101)



Electrical Schematic, Radio Remote (77441101)



**77441101 WIRING CHART**

LOCATOR CODE: CJ-500			BRAD/HARRIS: 8R5A00A18A120		
CAVITY			CAP: 80012 (TIE TO HARNESS)		
CAVITY	COLOR	GA.	PRINT LABEL	TO	CON-SPLC
1	BRWN	22	RS485B	TO	SPL B
2	BLACK	22	GROUND	TO	SPL G
3	BLUE	22	RS485A	TO	SPL D
4	WHT	22	+ BATT	TO	SPL P
5	GREY	22	SHIELD (OPT)	TO	SPL G

LOCATOR CODE: CJ-800

LOCATOR CODE: CJ-800			DUETSCH DT04-8PA		
TERM: 1060-16-0122			WEDGE: W8P		
CAVITY	COLOR	GA.	PRINT LABEL	TO	CON-SPLC
1	WHT	16	COMP PWR	TO	SPL C
2	WHT	16	ENG KILL	TO	CJ-1201
3	WHT	16	GROUND	TO	SPL G
4	WHT	16	SPEED OUTPUT	TO	CJ-1200

77441101 WIRING CHART

5	WHT	16	COMP PWR	TO	SPL C	-
6	WHT	16	ENG START	TO	CJ-1201	5
7	WHT	16	POWER	TO	SPL P	-
8	-	-	-	TO	-	-

LOCATOR CODE: CJ-1200			DEUTSCH: DTM06-12SA			
TERM: 1062-20-0122		WEDGE: WM12S	CAVITY PLUG: 0413-204-2005			
CAVITY	COLOR	GA	PRINT LABEL	TO	CON-SPLC	CAVITY
1	WHT	16	DOM SEL INPUT	TO	SPL P	-
2	-	-	-	TO	-	-
3	WHT	16	GROUND	TO	SPL G	-
4	WHT	16	PROP VLV PWR	TO	J15	B
5	-	-	-	TO	-	-
6	WHT	16	POWER (RADIO)	TO	SPL P	-
7	WHT	16	SPEED OUTPUT	TO	CJ-800	4
8	-	-	-	TO	-	-
9	WHT	16	ROT CCW	TO	J8	B
10	WHT	16	BOOM DOWN	TO	J7	B
11	WHT	16	ROT CCW	TO	J11	B
12	WHT	16	BOOM UP	TO	J12	B

LOCATOR CODE: CJ-1201			DEUTSCH: DTM06-12SB			
TERM: 1062-20-0122		WEDGE: WM12S	CAVITY PLUG: 0413-204-2005			
CAVITY	COLOR	GA	PRINT LABEL	TO	CON-SPLC	CAVITY
1	WHT	16	WINCH DOWN	TO	J5	B
2	WHT	16	WINCH UP	TO	J14	B
3	WHT	16	EXT IN	TO	J6	B
4	WHT	16	EXT OUT	TO	J13	B
5	WHT	16	ENGINE START	TO	CJ-800	6
6	WHT	16	ENGINE KILL	TO	CJ-800	2
7	WHT	16	RS485A	TO	SPL D	-
8	WHT	16	RS485B	TO	SPL B	-
9	WHT	16	COMP PWR	TO	SPL C	-
10	-	-	-	TO	-	-
11	-	-	-	TO	-	-
12	WHT	16	A2B/OVERLOAD	TO	J9	A

LOCATOR CODE: J5			PACKARD: 12010973			
TERM: 12124582			SEAL: 12015359			
CAVITY	COLOR	GA.	PRINT LABEL	TO	CON-SPLC	CAVITY
A	WHT	16	WINCH DN GRD	TO	SPL G	-
B	WHT	16	WINCH DN	TO	CJ-1201	1

LOCATOR CODE: J6			PACKARD: 12010973			
TERM: 12124582			SEAL: 12015359			

77441101 WIRING CHART

CAVITY	COLOR	GA.	PRINT LABEL	TO	CON-SPLC	CAVITY
A	WHT	16	EXT IN GROUND	TO	SPL G	-
B	WHT	16	EXT IN	TO	CJ-1201	1

LOCATOR CODE: J7			PACKARD: 12010973		
TERM: 12124582			SEAL: 12015359		
CAVITY	COLOR	GA.	PRINT LABEL	TO	
A	WHT	16	BOOM DN GRD	TO SPL C	-
B	WHT	16	BOOM DN	TO CJ-1200	10

LOCATOR CODE: J8			PACKARD: 12010973		
TERM: 12124582			SEAL: 12015359		
CAVITY	COLOR	GA.	PRINT LABEL	TO	
A	WHT	16	ROT CCW GRD	TO SPL G	-
B	WHT	16	ROT CCW	TO CJ-1200	9

LOCATOR CODE: J9			PACKARD: 12010973		
TERM: 12124582			SEAL: 12015359		
CAVITY	COLOR	GA.	PRINT LABEL	TO	
A	WHT	16	ANTI-TWO/OVERLOAD	TO CJ-1201	12
B	WHT	16	P10B TO J9B	TO P10	B

LOCATOR CODE: P10			PACKARD: 12015792		
TERM: 12124580			SEAL: 12015359		
CAVITY	COLOR	GA.	PRINT LABEL	TO	
A	WHT	16	OVR PRESS SW	TO SPL P	-
B	WHT	16	P10B TO J9B	TO J9	B

LOCATOR CODE: J11			PACKARD: 12010973		
TERM: 12124582			SEAL: 12015359		
CAVITY	COLOR	GA.	PRINT LABEL	TO	
A	WHT	16	ROT CW GRND	TO SPL G	-
B	WHT	16	ROTATE CW	TO CJ-1200	11

LOCATOR CODE: J12			PACKARD: 12010973		
TERM: 12124582			SEAL: 12015359		
CAVITY	COLOR	GA.	PRINT LABEL	TO	
A	WHT	16	BOOM UP GRND	TO SPL G	-
B	WHT	16	BOOM UP	TO CJ-1200	12

LOCATOR CODE: J13			PACKARD: 12010973		
TERM: 12124582			SEAL: 12015359		
CAVITY	COLOR	GA.	PRINT LABEL	TO	
A	WHT	16	EXT OUT GRND	TO SPL G	-
B	WHT	16	EXT OUT	TO CJ-1201	4

77441101 WIRING CHART

LOCATOR CODE: J14			PACKARD: 12010973		
TERM: 12124582			SEAL: 12015359		
CAVITY	COLOR	GA.	PRINT LABEL	TO	CON-SPLC
A	WHT	16	WINCH UP GRND	TO	SPL G
B	WHT	16	WINCH UP	TO	CJ-1201
					2

LOCATOR CODE: J15			PACKARD: 12010973		
TERM: 12124582			SEAL: 12015359		
CAVITY	COLOR	GA.	PRINT LABEL	TO	CON-SPLC
A	WHT	16	PROP VLV GRND	TO	SPL G
B	WHT	16	PROP VLV PWR	TO	CJ-1200
					4

LOCATOR CODE: -			SPLICE B		
CAVITY	COLOR	GA.	PRINT LABEL	TO	CON-SPLC
-	BROWN	22	RS485B	TO	CJ-500
-	WHT	16	RS485B	TO	CJ-1201
					8

LOCATOR CODE: -			SPLICE C		
CAVITY	COLOR	GA.	PRINT LABEL	TO	CON-SPLC
-	WHT	16	COMP PWR	TO	CJ-1201
-	WHT	16	COMP PWR	TO	CJ-800
-	WHT	16	COMP PWR	TO	CJ-800
					5

LOCATOR CODE: -			SPLICE D		
CAVITY	COLOR	GA.	PRINT LABEL	TO	CON-SPLC
-	BLUE	22	RS485 A	TO	CJ-500
-	WHT	16	RS485 A	TO	CJ-1201
					7

LOCATOR CODE: -			SPLICE G		
CAVITY	COLOR	GA.	PRINT LABEL	TO	CON-SPLC
-	WHT	16	WINCH DN GRND	TO	J5
-	WHT	16	EXT IN GRND	TO	J6
-	WHT	16	BOOM DN GRND	TO	J7
-	WHT	16	ROT CCW GRND	TO	J8
-	WHT	16	ROT CW GRND	TO	J11
-	WHT	16	BOOM UP GRND	TO	J12
-	WHT	16	EXT OUT GRND	TO	J13
-	WHT	16	WINCH UP GRND	TO	J14
-	WHT	16	PROP VLV GRND	TO	J15
-	WHT	16	GROUND	TO	CJ-500
-	WHT	22	SHIELD (OPT)	TO	CJ-500
-	WHT	16	GROUND	TO	CJ-800
-	WHT	16	GROUND	TO	CJ-1200
					3

LOCATOR CODE: -			SPLICE P			
CAVITY	COLOR	GA.	PRINT LABEL	TO	CON-SPLC	CAVITY
-	WHT	16	POWER	TO	CJ-800	7
-	WHT	16	POWER (RADIO)	TO	CJ-1200	6
-	WHT	16	DOM SEL INPUT	TO	CJ-1200	1
-	WHT	22	+ BATT	TO	CJ-500	4
-	WHT	16	OVR PRESS SW	TO	P10	A

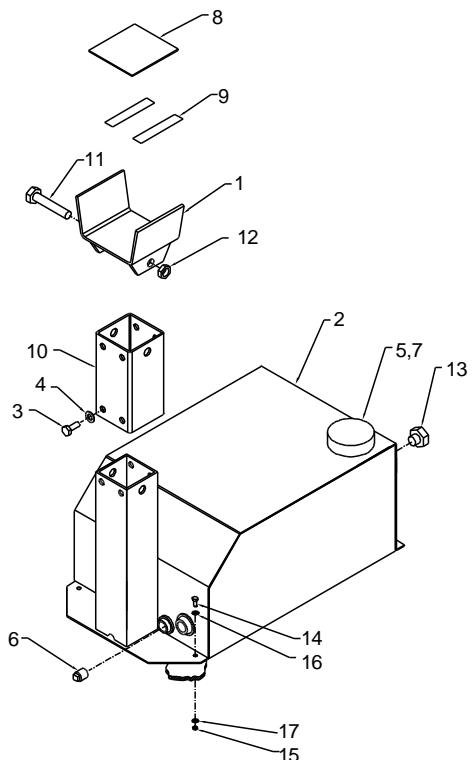
REV D 20040816

Stabilizers

(Reference 99905457 Aux Stabilizer Manual)

Miscellaneous

Reservoir Assembly (51706910)



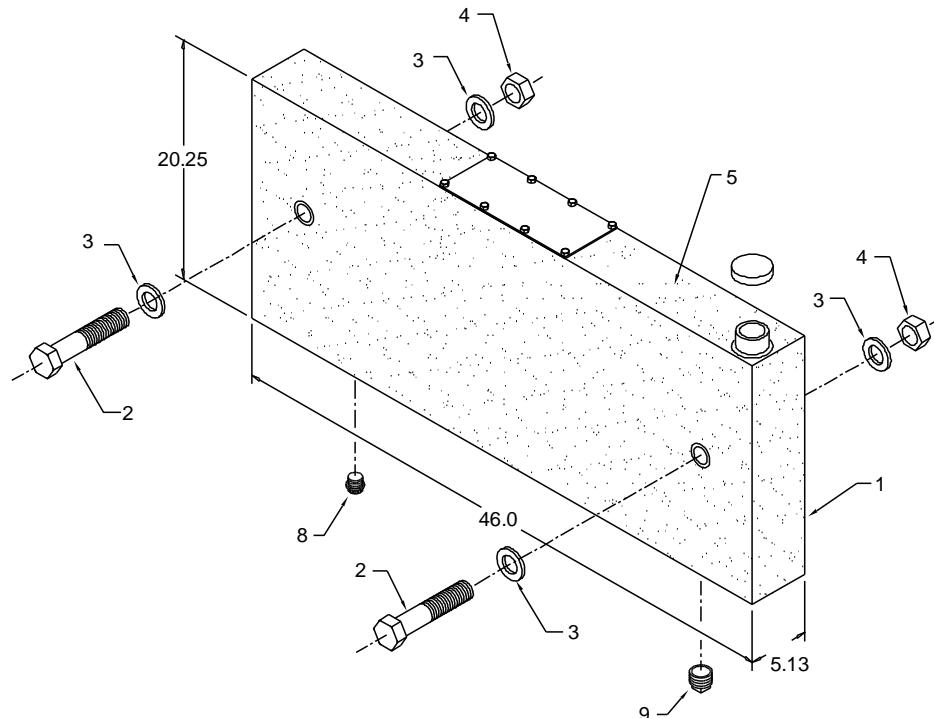
51706910 PARTS LIST

ITEM	PART #	DESCRIPTION	QUANTITY
1.	52705061	SADDLE	1
2.	52706909	RESERVOIR, 20 GAL.	1
3.	72060092	CAP SCREW, 1/2 X 1 1/4 GRADE 5	4
4.	72063053	WASHER, LOCK, 1/2	4
5.	73014671	CAP, FILL	1
6.	73052001	PLUG, MAGNETIC, 3/4 NPT	1
7.	73141276	SCREEN, FILL NECK	1
8.	60030162	PAD, WEAR	1
9.	70086054	TAPE	12"
10.	60109252	TUBE, SADDLE	1
11.	72060195	CAP SCREW, 3/4 X 7 GRADE 5	1
12.	72062114	NUT, SELF LOCKING, 3/4	1
13.	72532261	PLUG, SIGHT GAUGE, 3/4	1
14.	72060046	CAP SCREW, 3/8 X 1 GRADE 5	4
15.	72062103	NUT, SELF LOCKING, 3/8	4
16.	72063003	WASHER, FLAT, 3/8	4

51706910 PARTS LIST

17.	76392821	SEAL, THREAD, 3/8	4
18.	73052012	SUCTION FILTER	1
19.	72053211	PIPE NIPPLE	1
20.	70394189	PLACARD-MOBILIOIL	1

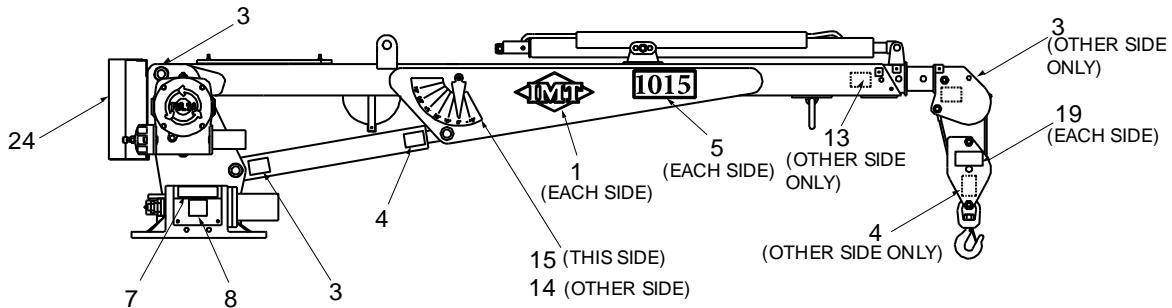
REV. C 20050519

Reservoir (51707798)**51707798 PARTS LIST**

ITEM	PART #	DESCRIPTION	QUANTITY
1.	52711432	RESERVOIR WELDMENT	1
2.	72060104	CAP SCR 1/2-13X6-1/2 HHGR5	2
3.	72063005	WASHER 1/2 WRT	8
4.	72062080	NUT 1/2-13 LOCK	2
5.	70394189	DECAL-OIL RECOMMENDED	1
8.	70393233	PLUG 3/4NPT	1
9.	72601004	PLUG 1-1/4NPT SQUARE HEAD	1

REV. H 20051213

Decal Placement, 1015 PTO (99903723) Effective 10-6-14



DECAL PLACEMENT

ITEM NO.	LOCATION
9, 12, 25	AT OR NEAR RMT CTRL STORAGE POINT.
2	ONE ON EACH OUTRIGGER.
22, 18	ONE ON EACH SIDE OF CARRIER VEHICLE.
23	NEAR CONNECTOR.
20	AT OR NEAR THE DRIVELINE.
17	ON OR NEAR THE HYDRAULIC RESERVOIR.
16	AT OR NEAR CRANE SERIAL NUMBER PLACARD.

REV. C 20160629

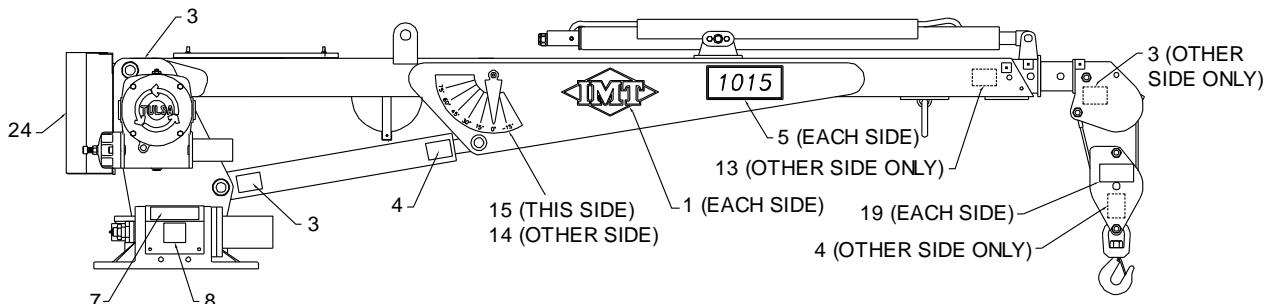
99903723 PARTS LIST Effective 10-6-14

ITEM	PART NO.	DESCRIPTION	QTY
1	70392887	DECAL-DIAMOND IMT 5.00 X 10.00 (PART OF #11)	2
2	70391598	DECAL-WARNING 315A OUTRIGGER (PART OF #10)	2
3	70391612	DECAL-GREASE WEEKLY (LEFT) (PART OF #9)	3
4	70391613	DECAL-GREASE WEEKLY (RIGHT) (PART OF #9)	2
5	70395765	DECAL-1015 IDENTIFICATION (PART OF #11)	2
6	70392213	DECA-CAUTION DON'T WASH / WAX (PART OF #9)	1
7	70392399	DECAL-LUBRICATE WORM (PART OF #9)	1
8	70392524	DECAL-ROTATE CRANE WHILE GREASE (PART OF #9)	1
9	95719347	DECAL KIT-TELE COMMON (SHEET)	1
10	95719348	DECAL KIT-BODY COMMON (BAG)	1
11	95719349	DECAL SHEET-TELE CRANE MODEL 1015	1
12	70396613	DECAL-CRANE SAFETY & OPER (PART OF #10)	1
13	70394443	DECAL-DANGER FREEFALLING BOOMS (PART OF #9)	1
14	71391522	DECAL-ANGLE INDICATOR RH (PART OF #9)	1
15	71391523	DECAL-ANGLE INDICATOR LH (PART OF #9)	1
16	70395324	DECAL-ASME / ANSI B30.5-TELESCOP (PART OF #9)	1
17	70394189	PLACARD-MOBILEOIL RESERVOIR (PART OF #10)	1
18	70392868	DECAL-DANGER CR LOADLINE (TRK) (PART OF #10)	4
19	71394083	DECAL-LOAD BLOCK RATING 2.0 TON (PART OF #11)	2
20	70392891	DECAL-DANGR DRIVELINE (PART OF #10)	1

99903723 PARTS LIST Effective 10-6-14

ITEM	PART NO.	DESCRIPTION	QTY
21	70392864	DECAL-DANGER OUTRG STAND CLEAR (Part of #10)	4
22	70394445	DECAL-DANGER ELEC HZD LG TELES (PART OF #10)	4
23	71392095	DECAL-CAUTION AMPHENOL CONN (PART OF #11)	1
24	71395766	PLACARD-CAPACITY 1015 (PART OF #11)	2
25	70392982	DECAL-SERVICE & REPAIR (GARNER) Part of #10	1

REV. C 20160629

Decal Placement, 1015 PTO (99903723)**DECAL PLACEMENT**

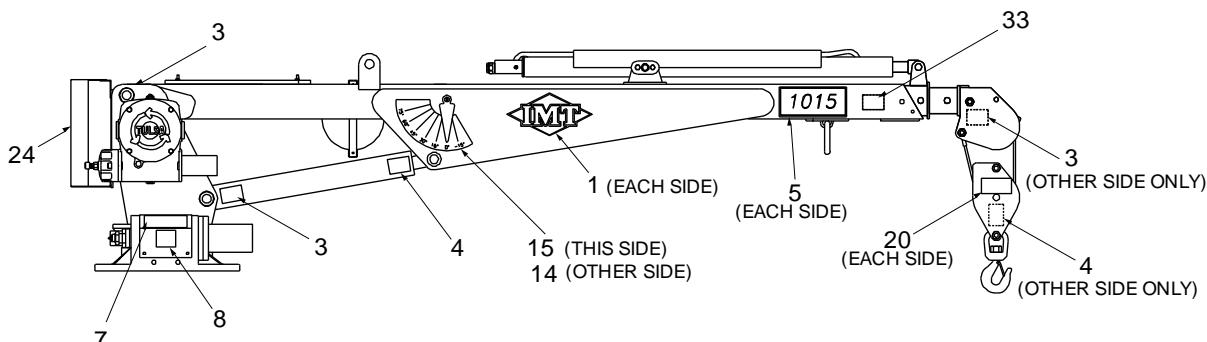
ITEM NO.	LOCATION
6,12,25	AT OR NEAR REMOTE CONTROL STORAGE POINT
2	ONE ON EACH STABILIZER
18,22	ONE ON EACH SIDE OF CARRIER VEHICLE
16	AT OR NEAR CRANE SERIAL NUMBER PLACARD
17	AT OR NEAR HYDRAULIC RESERVOIR
20	AT OR NEAR DRIVELINE
23	NEAR CONNECTOR

99903723 PARTS LIST

ITEM	PART #	DESCRIPTION	QUANTITY	
1.	70392887	DECAL-IMT DIAMOND	2	PART OF #11
2.	70391598	DECAL-WARNING STABILIZER	2	PART OF #10
3.	70391612	DECAL-GREASE WKLY LH	3	PART OF #9
4.	70391613	DECAL-GREASE WKLY RH	2	PART OF #9
5.	70395765	DECAL-1015 ID	2	PART OF #11
6.	70392213	DECAL-CAUTION DON'T WASH/WAX	1	PART OF #9
7.	70392399	DECAL-LUBRICATE WORM	1	PART OF #9
8.	70392524	DECAL-ROTATE CRANE WHILE GREAS	1	PART OF #9
9.	95719347	DECAL KIT (TELE-COMMON)	1	
10.	95719348	DECAL KIT (BODY-COMMON)	1	
11.	95719349	DECAL KIT - 1015 SPECIFIC	1	
12.	70396613	DECAL-CRANE SAFETY/OPERATION	1	PART OF #10
13.	70394443	DECAL-DANGER FREEFALL BOOMS	1	PART OF #9
14.	71391522	DECAL-ANGLE INDICATOR RH	1	PART OF #9
15.	71391523	DECAL-ANGLE INDICATOR LH	1	PART OF #9

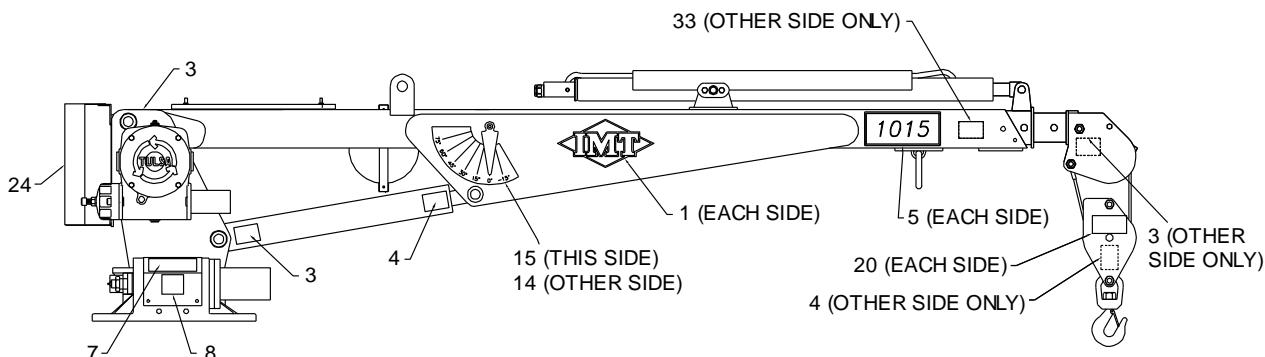
99903723 PARTS LIST

16.	70395324	DECAL-ASME/ANSI B30.5	1	PART OF #9
17.	70394189	PLACARD-MOBILOIL RESERVOIR	1	PART OF #10
18.	70392868	DECAL-DANGER CR LOADLINE	4	PART OF #10
19.	71394083	DECAL-LOAD BLOCK RATING 2.0 TON	2	PART OF #11
20.	70392891	DECAL-DANGER DRIVELINE	1	PART OF #10
21.	70392864	DECAL-DANGER STABILIZER STAND CLR	4	PART OF #10
22.	70394445	DECAL-DANGER ELEC HZD TELE	4	PART OF #10
23.	71392095	DECAL-CAUTION AMPHENOL CONN	1	PART OF #12
24.	71395766	PLACARD-CAPACITY 1015	2	PART OF #12
25.	70392982	DECAL-SERVICE & REPAIR	1	PART OF #10

Decal Placement, 1015 Pump (99903724) Effective 10-6-14

99903724 PARTS LIST Effective 10-6-14

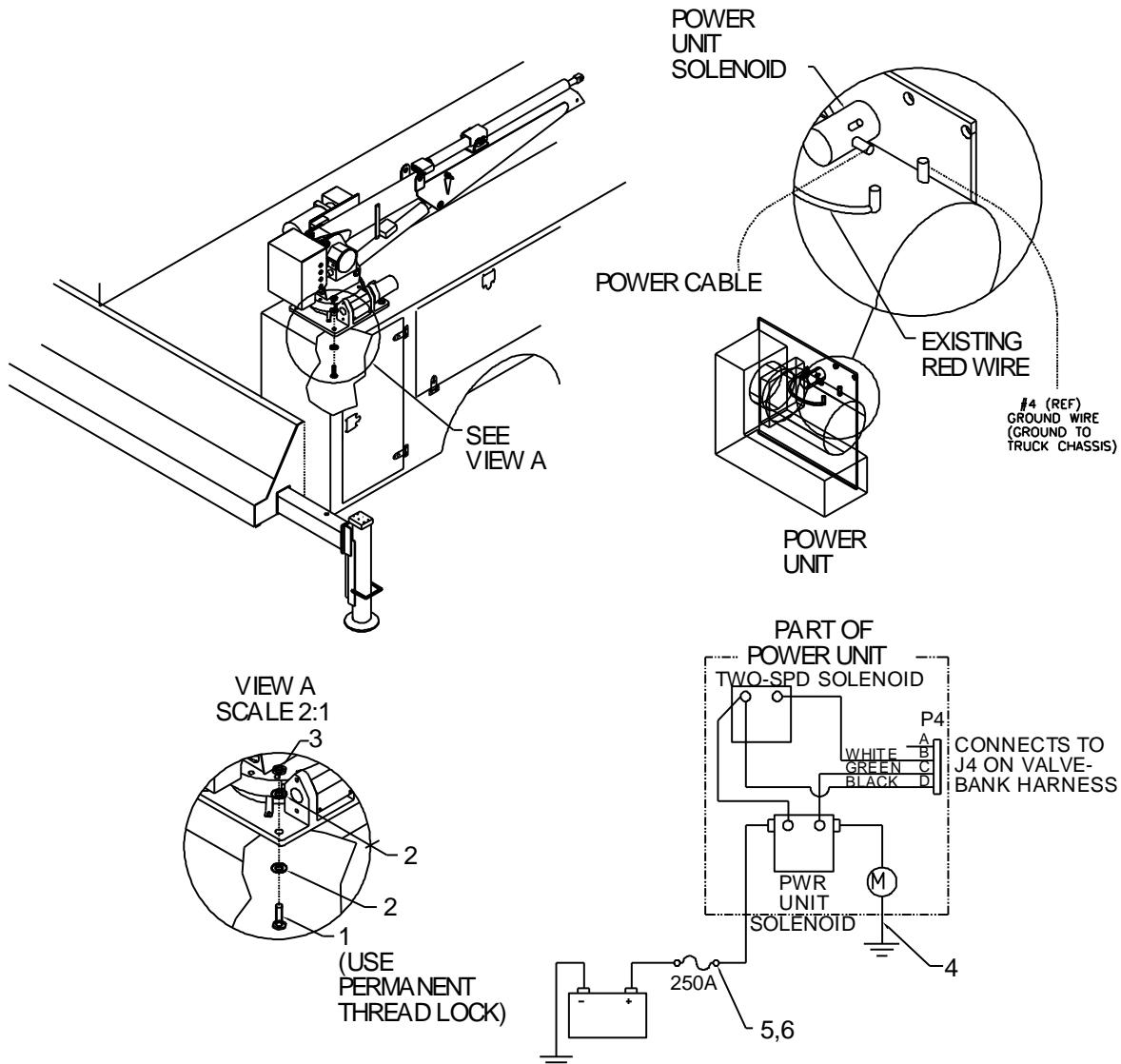
ITEM	PART NO.	DESCRIPTION	QTY
10	95719348	DECAL KIT-BODY COMMON (BAG)	1
11	95719349	DECAL SHEET-TELE CRANE MODEL 1015	1
12	70396613	DECAL-CRANE SAFETY & OPER (PART OF #10)	1
13	70394443	DECAL-DANGER FREEFALLING BOOMS (PART OF #9)	1
14	71391522	DECAL-ANGLE INDICATOR RH (PART OF #9)	1
15	71391523	DECAL-ANGLE INDICATOR LH (PART OF #9)	1
16	71039134	DECAL CAUTION OIL LEVEL (PART OF #10)	1
17	70395324	DECAL-ASME / ANSI B30.5-TELESCOP (PART OF #9)	1
18	70392868	DECAL-DANGER OR LOADLINE	4
19	70394189	PLACARD-MOBILEOIL RESERVOIR (PART OF #10)	1
20	71394083	DECAL-LOAD BLOCK RATING 2.0 TON (PART OF #11)	2
21	70392864	DECAL-DANGER OUTRG STAND CLEAR (Part of #10)	4
22	70394445	DECAL-DANGER ELEC HAZD LG TELES (PART OF #10)	4
23	71392095	DECAL-CAUTION AMPHENOL CONN (PART OF#11)	1
24	71395766	PLACARD-CAPACITY 1015 (PART OF #11)	2
25	70392981	DECAL-DANGER DRIVELINE (PART OF #10)	1
26	70392982	DECAL-SERVICE & REPAIR (GARNER) (Part of #10)	
REV. C 20160629			

Decal Placement, 1015 Pump (99903724)

DECAL PLACEMENT	
ITEM NO.	LOCATION
6,16,26	AT OR NEAR REMOTE CONTROL STORAGE POINT
2,21	ONE ON EACH STABILIZER
18,22	ONE ON EACH SIDE OF CARRIER VEHICLE
21	2 ON FRONT SIDEPACKS, 2 ON REAR STABILIZERS
17	AT OR NEAR CRANE SERIAL NUMBER PLACARD
19	AT OR NEAR HYDRAULIC RESERVOIR
25	AT OR NEAR DRIVELINE
23	NEAR CONNECTOR

99903724 PARTS LIST				
ITEM	PART #	DESCRIPTION	QUANTITY	
1.	70392887	DECAL-IMT DIAMOND	2	PART OF #11
2.	70391598	DECAL-WARNING STABILIZER	2	PART OF # 10
3.	70391612	DECAL-GREASE WKLY LH	4	PART OF # 9
4.	70391613	DECAL-GREASE WKLY RH	2	PART OF # 9
5.	70395765	DECAL-1015 ID	2	PART OF #11
6.	70392213	DECAL-CAUTION DON'T WASH/WAX	1	PART OF #9
7.	70392399	DECAL-LUBRICATE WORM	1	PART OF #9
8.	70392524	DECAL-ROTATE CRANE WHILE GREAS	1	PART OF #9
9.	95719347	DECAL KIT (TELE-COMMON)	1	
10.	95719348	DECAL KIT (BODY-COMMON)	1	
11.	95719349	DECAL KIT - 1015 SPECIFIC	1	
12.	70396613	DECAL-CRANE SAFETY/OPERATION	1	PART OF # 10
13.	70394443	DECAL-DANGER FREEFALL BOOMS	1	PART OF #9
14.	71391522	DECAL-ANGLE INDICATOR RH	1	PART OF #9
15.	71391523	DECAL-ANGLE INDICATOR LH	1	PART OF #9
16.	71039134	DECAL-CAUTION OIL LEVEL	1	PART OF #10
17.	70395324	DECAL-ASME/ANSI B30.5	1	PART OF #9
18.	70392868	DECAL-DANGER CR LOADLINE	4	PART OF #10
19.	70394189	PLACARD-MOBIL OIL RESERVOIR	1	PART OF #10
20.	71394083	DECAL-LOAD BLOCK RATING 2.0 TON	2	PART OF #11
21.	70392864	DECAL-DANGER STABILIZER STAND CLR	4	PART OF # 10
22.	70394445	DECAL-DANGER ELEC HZD TELE	4	PART OF #10
23.	71392095	DECAL-CAUTION AMPHENOL CONN	1	PART OF #11
24.	71395766	PLACARD-CAPACITY 1015	2	PART OF #11
25.	70392891	DECAL-DANGER DRIVELINE	1	PART OF #10
26.	70392982	DECAL-SERVICE & REPAIR	1	PART OF #10

Installation Kit, Power Unit (93714530)

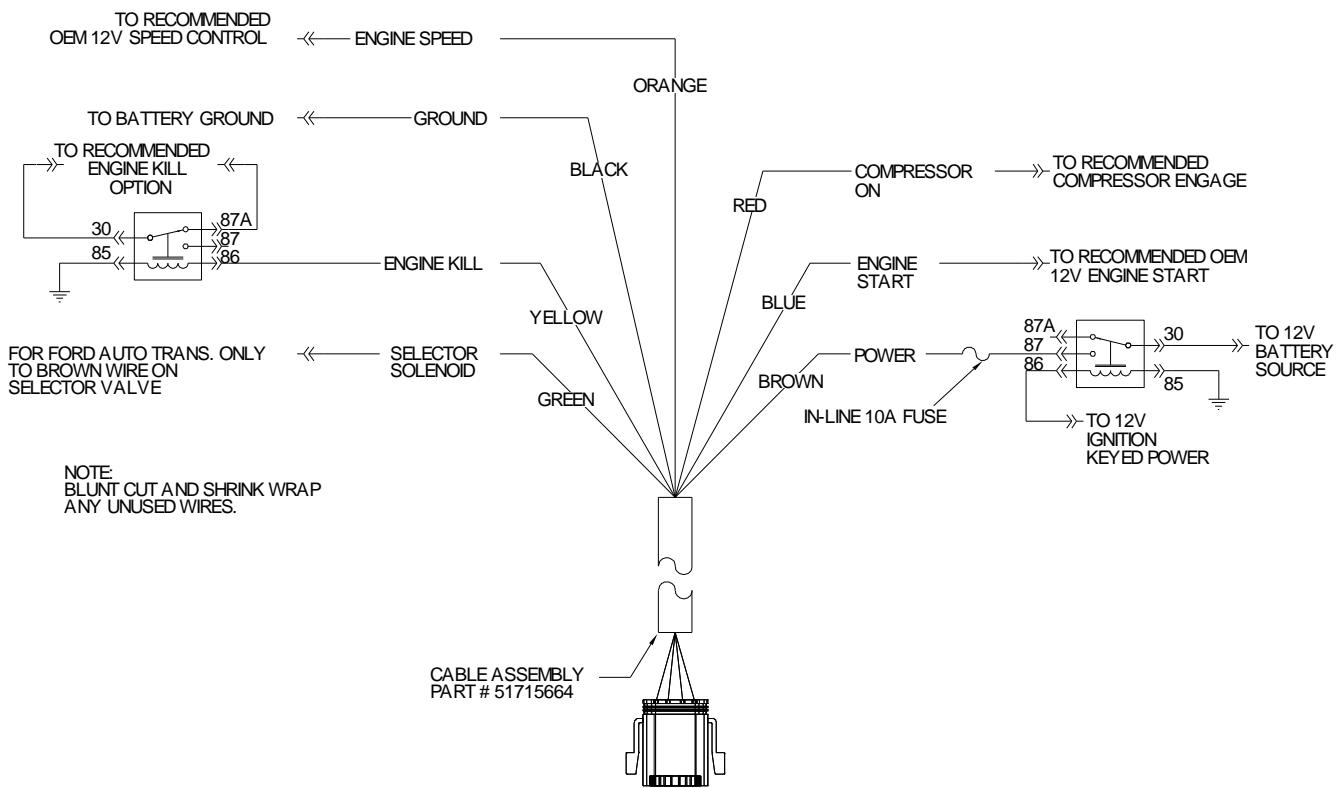


93714530 PARTS LIST

ITEM	PART #	DESCRIPTION	QUANTITY
1.	72602147	CAP SCR .75-10X 2.75 HH GR5 Z	4
2.	72063008	WASHER 3/4	8
3.	72062140	NUT 3/4-10 HEX STL-INSERT	4
4.	51705925	CABLE ASM #1WIRE X 96	1
5.	77041592	FUSE	1
6.	77041593	FUSEHOLDER	1

REV. D CN628

Chassis Wiring Harness (99903340)



Note: Used on all ship-out IMT telescopic cranes.

CHAPTER 5

General Reference

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Inspection Checklist

NOTICE:

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

OWNER/COMPANY:	TYPE OF INSPECTION (circle one):			
CONTACT PERSON:	DAILY	MONTHLY	QUARTERLY	ANNUAL
CRANE MAKE & MODEL:	DATE INSPECTED:			
CRANE SERIAL NUMBER:	HOURMETER 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 "competent person", who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

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

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

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

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

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

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

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

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

INSPECTION CHECKLIST STATUS KEY:

S = Satisfactory	X = Deficient
R = Recommendation (Should be considered for corrective action)	(NOTE: If a deficiency is found, an immediate determination must be made as to whether the deficiency constitutes a safety hazard and must be corrected prior to operation.)
NA = Not Applicable	

FREQUENCY	ITEM	KEY	INSPECTION DESCRIPTION	STATUS (S,R,X,NA)
D	1	Labels	All load charts, safety & warning labels, and control labels are present and legible.	
D	2	Crane	Check all safety devices for proper operation.	
D	3	Controls	Control mechanisms for proper operation of all functions, leaks and cracks.	
D	4	Station	Control and operator's station for dirt, contamination by lubricants, and foreign material.	
D	5	Hydraulic System	Hydraulic system (hoses, tubes, fittings) for leakage and proper oil level.	
D	6	Hook	Presence and proper operation of hook safety latches.	

FREQUENCY	ITEM	KEY	INSPECTION DESCRIPTION	STATUS (S,R,X,NA)
D	7	Wire Rope	Inspect for apparent deficiencies per applicable requirements and manufacturer's specifications.	
D	8	Pins	Proper engagement of all connecting pins and pin retaining devices.	
D	9	General	Overall observation of crane for damaged or missing parts, cracked welds, and 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 and determine cause and severity of hazard.	
D	11	Remote Ctrl	Operate remote control devices to check for proper operation.	
D	12	Electrical	Operate all lights, alarms, etc. to check for proper operation.	
D	13	Anti-Two-Block or Two-Block Damage Prevention	Operate anti two-block or two-block damage prevention device to check for proper operation.	
D	14	Tires	Check tires (when in use) for proper inflation and condition.	
D	15	Ground Conditions	Check ground conditions around the equipment for proper support, watching for ground settling under and around stabilizers and supporting foundations, ground water accumulation, or similar conditions.	
D	16	Level	Check the equipment for level position within the tolerances specified by the equipment manufacturer's recommendations, both before each shift and after each move and setup.	
D	17	Operator cab windows	Check windows for cracks, breaks, or other deficiencies which would hamper the operator's view.	
D	18	Rails, rail stops, rail clamps and supporting surfaces	Check rails, rail stops, rail clamps and supporting surfaces when the equipment has rail traveling.	
D	19	Safety devices	Check safety devices and operational aids for proper operation.	
D	20	Electrical	Check electrical apparatus for malfunctioning, signs of apparent excessive deterioration, dirt or moisture accumulation.	
D	21	Other		
D	22	Other		
M	23	Daily	All daily inspection items.	
M	24	Cylinders	Visual inspection of cylinders for leakage at rod, fittings, and welds. Damage to rod and case.	
M	25	Valves	Holding valves for proper operation.	
M	26	Valves	Control valves for leaks at fittings and between stations.	
M	27	Valves	Control valve linkages for wear, smoothness of operation, and tightness of fasteners. Relief valve for proper pressure settings.	
M	28	General	Bent, broken, or significantly rusted/corroded parts.	
M	29	Electrical	Electrical apparatus for malfunctioning, signs of apparent excessive deterioration, dirt or moisture accumulation. Electrical systems for presence of dirt, moisture, and frayed wires.	
M	30	Structure	All structural members for damage.	
M	31	Welds	All welds for breaks and cracks.	
M	32	Pins	All pins for proper installation and condition.	

FREQUENCY	ITEM	KEY	INSPECTION DESCRIPTION	STATUS (S,R,X,NA)
M	33	Hardware	All bolts, fasteners and retaining rings for tightness, wear and corrosion.	
M	34	Wear Pads	Presence of wear pads.	
M	35	Pump & Motor	Hydraulic pumps and motors for leakage at fittings, seals, and between sections. Check tightness of mounting bolts.	
M	36	PTO	Transmission/PTO for leakage, abnormal vibration & noise, alignment, and mounting bolt torque.	
M	37	Hyd Fluid	Quality of hydraulic fluid and presence of water.	
M	38	Hyd Lines	Hoses & tubes for leakage, abrasion damage, blistering, cracking, deterioration, fitting leakage, and secured properly.	
M	39	Hook	Load hook for abnormal throat distance, twist, wear, and cracks.	
M	40	Wire Rope	Condition of load line.	
M	41	Manual	Presence of operator's manual with unit.	
M	42		Other	
M	43		Other	
Q	44	Daily	All daily inspection items.	
Q	45	Monthly	All monthly inspection items.	
Q	46	Rotation Sys	Rotation bearing for proper torque of all mounting bolts.	
Q	47	Hardware	Base mounting bolts for proper torque.	
Q	48	Structure	All structural members for deformation, cracks and corrosion.	
	49		• Base	
	50		• Stabilizer beams and legs	
	51		• Mast	
	52		• Inner Boom	
	53		• Outer Boom	
	54		• Extension(s)	
	55		• Jib boom	
	56		• Jib extension(s)	
	57		• Other	
Q	58	Hardware	Pins, bearing, shafts, gears, rollers, and locking devices for wear, cracks, corrosion and distortion.	
	59		• Rotation bearing(s)	
	60		• Inner boom pivot pin(s) and retainer(s)	
	61		• Outer boom pivot pin(s) and retainer(s)	
	62		• Inner boom cylinder pin(s) and retainer(s)	
	63		• Outer boom cylinder pin(s) and retainer(s)	
	64		• Extension cylinder pin(s) and retainer(s)	
	65		• Jib boom pin(s) and retainer(s)	
	66		• Jib cylinder pin(s) and retainer(s)	
	67		• Jib extension cylinder pin(s) and retainer(s)	
	68		• Boom tip attachment	
	69		• Other	
Q	70	Hyd Lines	Hoses, fittings and tubing for proper routing, leakage, blistering, deformation and excessive abrasion.	
	71		• Pressure line(s) from pump to control valve	
	72		• Return line(s) from control valve to reservoir	
	73		• Suction line(s) from reservoir to pump	
	74		• Pressure line(s) from control valve to each function	
	75		• Load holding valve pipe(s) and hose(s)	
	76		• Other	

FREQUENCY	ITEM	KEY	INSPECTION DESCRIPTION	STATUS (S,R,X,NA)
Q	77	Pumps & Motors	Pumps and Motors for loose bolts/fasteners, leaks, noise, vibration, loss of performance, heating & excess pressure.	
	78		• Winch motor(s)	
	79		• Rotation motor(s)	
	80		• Other	
Q	81	Valves	Hydraulic valves for cracks, spool return to neutral, sticking spools, proper relief valve setting, relief valve failure.	
	82		• Main control valve	
	83		• Load holding valve(s)	
	84		• Stabilizer or auxiliary control valve(s)	
	85		• Other	
	86		• Other	
Q	87	Cylinders	Hydraulic cylinders for drifting, rod seal leakage and leakage at welds. Rods for nicks, scores and dents. Case for damage. Case and rod ends for damage and abnormal wear.	
	88		• Stabilizer cylinder(s)	
	89		• Inner boom cylinder(s)	
	90		• Outer boom cylinder(s)	
	91		• Extension cylinder(s)	
	92		• Rotation cylinder(s)	
	93		• Jib lift cylinder(s)	
	94		• Jib extension cylinder(s)	
	95		• Other	
Q	96	Winch	Winch, sheaves and drums for damage, abnormal wear, abrasions and other irregularities.	
Q	97	Hyd Filters	Hydraulic filters for replacement per maintenance schedule.	
A	98	Daily	All daily inspection items.	
A	99	Monthly	All monthly inspection items.	
A	100	Quarterly	All quarterly inspection items.	
A	101	Hyd Sys	Hydraulic fluid change per maintenance schedule.	
A	102	Controls	Control valve calibration for correct pressure & relief valve settings.	
A	103	Valves	Safety valve calibration for correct pressure & relief valve settings.	
A	104	Valves	Valves for failure to maintain correct settings.	
A	105	Rotation Sys	Rotation drive system for proper backlash clearance & abnormal wear, deformation and cracks.	
A	106	Lubrication	Gear oil change in rotation drive system per maintenance schedule.	
A	107	Hardware	Check tightness of all fasteners and bolts, using torque specifications on component drawings or torque chart.	
A	108	Wear Pads	Wear pads for excessive wear.	
A	109	Loadline	Loadline for proper attachment to drum.	

Deficiency / Recommendation / Corrective Action Report

DATE:	OWNER:	UNIT I.D. NUMBER:
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GUIDELINES

- a** A deficiency (X) may constitute a hazard. Deficiency 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.

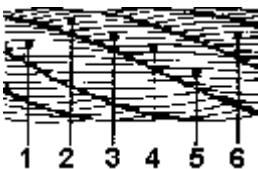
NOTE: Deficiencies (X) listed must be followed by the corresponding corrective action taken (CA).

X = DEFICIENCY R = RECOMMENDATION CA = CORRECTIVE ACTION TAKEN

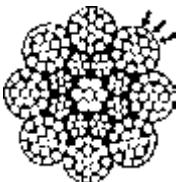
Wire Rope Inspection & Replacement

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

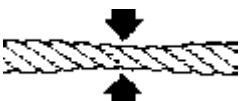
- a Corrosion can be cause for replacement. Any development of corrosion must be noted and monitored closely.
- b When there are either three broken wires in one strand or a total of six broken wires in all strands in any one rope lay.



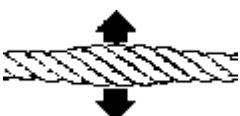
- c When flat spots on the outer wires appear and those outside wires are less than 2/3 the thickness of the unworn outer wire.



- 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" (0.8 mm) 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).

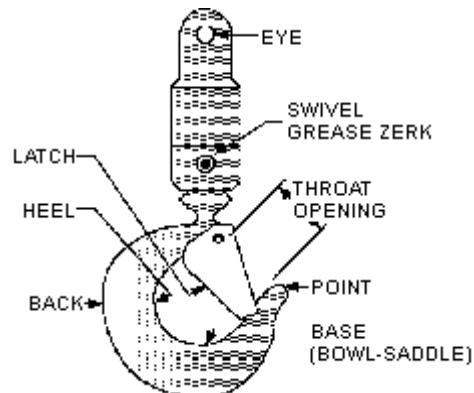
d LATCH

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 wired closed (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-Block Device Inspection

(See the operation, maintenance, and repair manual for this crane 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.
- 4 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.
- 5 If the anti-two-block function appears to be functioning normally, winch the cable down until the sensing weight swings free.

Thread Torque Chart (English)

FINE THREAD BOLTS (ENGLISH)					
SIZE	BOLT DIA.	GRADE 5	GRADE 8		
(DIA-TPI)	(INCHES)	PLAIN	PLATED	PLAIN	PLATED
		(FT-LB)	(FT-LB)	(FT-LB)	(FT-LB)
5/16-24	0.3125	19	14	27	20
3/8-24	0.375	35	26	49	35
7/16-20	0.4375	55	41	78	58
1/2-20	0.5	90	64	120	90
9/16-18	0.5625	120	90	170	130
5/8-18	0.625	170	130	240	180
3/4-16	0.75	300	225	420	315
7/8-11	0.875	445	325	670	500
1-12	1	645	485	995	745
1 1/8-12	1.125	890	670	1445	1085
1 1/4-12	1.25	1240	930	2010	1510
1 3/8-12	1.375	1675	1255	2710	2035
1 1/2-12	1.5	2195	1645	3560	2670

COARSE THREAD BOLTS (ENGLISH)					
SIZE	BOLT DIA.	GRADE 5	GRADE 8		
(DIA-TPI)	(INCHES)	PLAIN	PLATED	PLAIN	PLATED
		(FT-LB)	(FT-LB)	(FT-LB)	(FT-LB)
5/16-18	0.3125	17	13	25	18
3/8-16	0.375	31	23	44	33
7/16-14	0.4375	49	37	70	52
1/2-13	0.5	75	57	105	80
9/16-12	0.5625	110	82	155	115
5/8-11	0.625	150	115	220	160
3/4-10	0.75	265	200	375	280
7/8-9	0.875	395	295	605	455
1-8	1	590	445	910	680
1 1/8-7	1.125	795	595	1290	965
1 1/4-7	1.25	1120	840	1815	1360
1 3/8-6	1.375	1470	1100	2380	1780
1 1/2-6	1.5	1950	1460	3160	2370

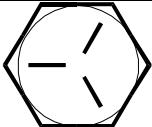
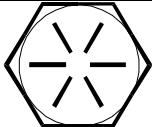
NOTES

- 1 Tightening torques provided are midrange.
- 2 Consult bolt manufacturer's particular specifications, when provided.
- 3 Use flat washers of equal strength.
- 4 All torque measurements are given in foot-pounds.
- 5 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 disulphide, colloidal copper or white lead are applied, multiply the torque values in the charts by the factor .90. The use of Loctite does not affect the torque values listed above.

WARNING

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

Thread Torque Chart (Metric)

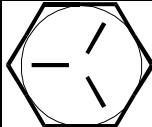
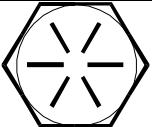
FINE THREAD TORQUE CHART (METRIC)					
TIGHTENING TORQUE					
SIZE (DIA-TPI)	BOLT DIA. (INCHES)				
		PLAIN (KG-M)	PLATED (KG-M)	PLAIN (KG-M)	PLATED (KG-M)
5/16-24	0.3125	3	2	4	3
3/8-24	0.375	5	4	7	5
7/16-20	0.4375	8	6	11	8
1/2-20	0.5	12	9	17	12
9/16-18	0.5625	17	12	24	18
5/8-18	0.625	24	18	33	25
3/4-16	0.75	41	31	58	44
7/8-11	0.875	62	45	93	69
1-12	1	89	67	138	103
1 1/8-12	1.125	123	93	200	150
1 1/4-12	1.25	171	129	278	209
1 3/8-12	1.375	232	174	375	281
1 1/2-12	1.5	304	228	492	369

NOTES

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

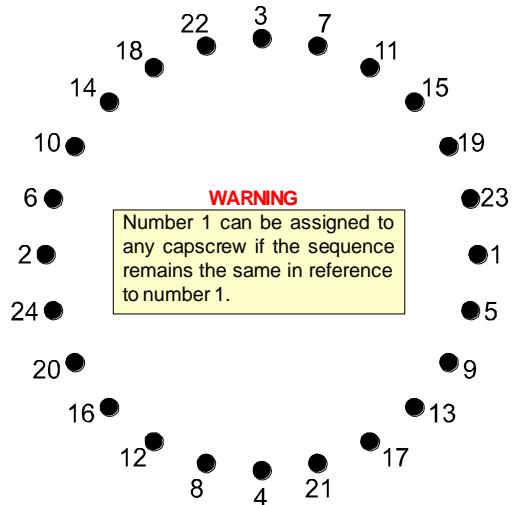
WARNING

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

COARSE THREAD TORQUE CHART (METRIC)					
TIGHTENING TORQUE					
SIZE (DIA-TPI)	BOLT DIA (INCHES)				
		PLAIN (KG-M)	PLATED (KG-M)	PLAIN (KG-M)	PLATED (KG-M)
5/16-18	0.3125	2	2	3	2
3/8-16	0.375	4	3	6	5
7/16-14	0.4375	7	5	10	7
1/2-13	0.5	10	8	15	11
9/16-12	0.5625	15	11	21	16
5/8-11	0.625	21	16	30	22
3/4-10	0.75	37	28	52	39
7/8-9	0.875	55	41	84	63
1-8	1	82	62	126	94
1 1/8-7	1.125	110	82	178	133
1 1/4-7	1.25	155	116	251	188
1 3/8-6	1.375	203	152	329	246
1 1/2-6	1.5	270	210	438	328

Turntable Bearing Thread Tightening Sequence

Refer to the turntable bearing thread tightening 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-LB = 106 FT-LB)
(EXAMPLE-METRIC: .40 x 36 KG-M = 14.4 KG-M)
- 4 Repeat Step 3, but torquing all capscrews to 75% of the specified torque value. Continue to follow the tightening sequence.
(EXAMPLE: .75 x 265 FT-LB = 199 FT-LB)
(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

Turntable bearings may experience wear. One of the following conditions may indicate turntable bearing wear:

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

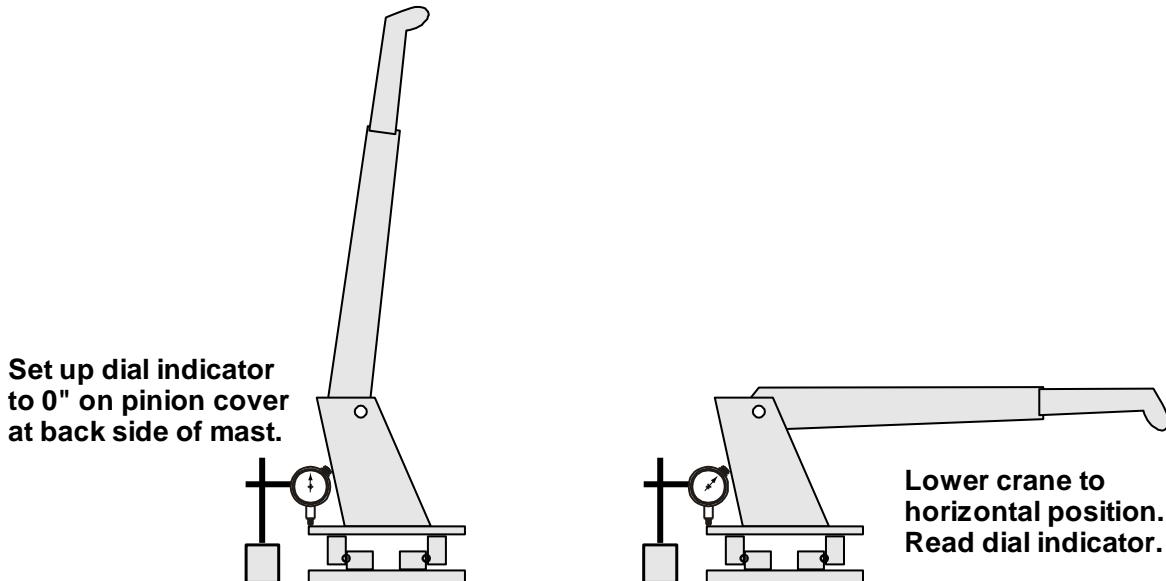
If one or more of the above conditions exists, further inspection may be required. Limits are measured in "TILT" which is dependent on the internal clearances of the bearing. TILT is the most practical determination of a bearings' internal clearance once mounted on a crane. You can measure the tilt using the ***Turntable Bearing Tilt Test***. (see "Turntable Bearing Tilt Test" on page 142)

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.

Turntable Bearing Tilt Test

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

5 Return the crane to the vertical position. The dial indicator should return to 0.



COMPARISON CHART – MEASURED TILT DIMENSION PER CRANE MODEL

NOTE: The tilt dimensions 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.

IMT Crane, Loader or Tirehand Model	1007 1014/1014A 1015 2015/2020 2109 2820 3000 3016/3020 3203i 3816/3820 4004i 421/425 4300 5005i 5016/5020 6006i 6016/6020 6022 5525 / 6025 / 6625 EZ Hauler I, II EZ Hauler 3000 / 5500	5200 5200R 5217 5800 7020 7025 7200 7415 8025 9000	16000-I, II, III 32018 32027 32030 T30 T40	23516 14K160TH COMMANDER IV	1221R 1225R 8000L 9800 12916 13031 13034 14000 15000 18000 20017 8000L H1200 H1200RR T50
Ball Dia. (Ref)	.875" (22 mm)	1.00" (25 mm)	1.18 - 1.25" (30-32 mm)	1.5" (38 mm)	1.75" (44 mm)
Tilt Dim.	.060" (1.524 mm)	.070" (1.778 mm)	.075" (1.905 mm)	.085" (2.159 mm)	.090" (2.286 mm)