
Manual # 99904380

IMT 3203i Technical Specifications & Parts

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IOWA MOLD TOOLING CO., INC.

PO Box 189

Garner, IA 50438

Tel: 641-923-3711 FAX: 641-923-2424

Website: <http://www.imt.com>

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Revisions

DATE	LOCATION	DESCRIPTION
20080528	VARIOUS	ECN 10747- PRE-PRODUCTION CHANGES
20080702	77441270	ECN 10803 - PROP VALVE CHANGE TO HARNESS
20080908	95721267	ADDED PRESSURE SWITCH, COUNTERBALANCE VALVE
20081107	99904315, 99904317, 99904377, 99904389, 99904394, 73734304	ECN 10865 - MOVED INSTALLATION LOCATION OF POWER AND GROUND CABLES, CHANGED VALVE BANK COIL ORIENTATION, ADDED SWITCH MOUNTING BRACKET TO INSTALLATION KIT; ECN 10868 - HYDRAULIC INSTALLATION KIT CHANGES; ECN 10868-1 - REPLACED COUNTERBALANCE VALVES IN LOWER CYLINDERS
20090210	99904315- 99904316, 99904389, 99904578, 51722111	ECN 10945 - NEW CONTACTOR SWITCH; ECN 10923 - NEW EXTENSION CYLINDER.
20090305		ADDED SHEAVE & HOOK LATCH KIT SPARE PART NUMBERS.
	99904593 – 99904595	ECN 10987 – ADDED REFERENCE DRAWINGS FOR CONTROL MODULE INSTALLATION.
20090311	99904315, 99904317, 99904361, 99904389	ECN 10977, 10991 - CHANGED WINCH PART NUMBER, CHANGED PROPORTIONAL VALVE PORT ID.
20090515	99904389, 99904361, 99904316, 99904317, 99904593	ECN 11033 - PRODUCTION AUDIT COMPONENT CHANGES
20091023	99904361,99904 316	ECN 11099, 11116 - HYDRAULIC SYSTEM CHANGES
20091216	99904317, 99904361	ECN 11153- ADDED DOWNHAUL WEIGHT; ECN 11146 - HOSE CORRECTIONS.
20100311	99904361	ECN 11182 - ADDED PRESSURE PORT TO ELBOW IN HYD KIT.
20100427	99904884	ADDED 99904884 AND EDITED ELECTRIC CRANE 99904394 STEP 5; CORRECTED 99904317 TYPO.
20100615	99904394	ADDED DUAL BATTERY WIRING INFORMATION
20100923	71570922	UPDATED WINCH SPARE PARTS
20101203	99904316	ECN 10713-3 - MODIFIED WEAR PADS FOR THICKNESS
20110614	99904316, 99904317	ECN 11432 - UPDATED LOWER BOOM
20111121		ECN 11628 - UPDATED STABILIZER WORDING.
20120326	51721267, 51722111	ECN 11581 - CYLINDER UPDATES. ADDED PROP INSTRUCTIONS FOR REMOTE.
20120103	51721267	ECN 11872 – MAIN CYLINDER BOM CHANGE
20120512	99904315 99904317	ECN 11835-2 – PIN REPLACEMENT
20121011	99904315 41721489	ECN 11829 – POWER UNIT CHANGED
20121114	99904317 99904316	ECN 11835 – SNATCH BLOCK, CORD REEL, AND WIRE ROPE CHANGED
20130121	99904317	ECN 11835-4 – BRIDLE RING REMOVED
20130129	99904457	ECN 11829-1 – POWER CABLE CHANGE
20130327	99904389	ECN11829-2 – POWER CABLE LENGTH CHANGED

20130328	99904317 99904316 99904361	ECN 11835-1 – EXTENSION CYLINDER PIN REMOVED
20130401	99904315 99904316 99904317	ECN 11835-3 – GEAR GUARD CHANGE AND SINGLE STINGER CHANGE
20130509	99904316 99904317 99904389	ECN 11835-7 – WINCH CONNECTOR AND BRACKET CHANGE
20130522	99904315 99904317 99904327 99904361	ENC 11835-8 – 225A CONTACTOR, CABLE REDUCTION, VALVE BANK BRACKET CHANGE
20130613	99904315	ENC 11835-6 – BASE WELDMENT CHANGE
20130620	99904315 99904389	ECN 12007 – VALVE BANK HARDWARE CHANGE
20131113	70734746	REMOVED TETHERED PROPOTIONAL REMOTE POTENTIOMETER ADJUSTMENT PROCEDURE.
20131120	99904316-2 99904316-3 99904316-4 99904316 77441270 77441269 99904315 99904361	ECN 12045 – 72066143 to 70734805 ECN 12045 – 72066143 to 70734805 ECN 12045 – 72066143 to 70734805 ECN 12045 – 72066143 to 70734805 ECN 12063 – updated schematic and harness ECN 12063 – updated schematic and harness ECN 12084 – hydraulic kit ECN12084 – added second item 5 & 18
20140925	Greasing Instructions 99904315	ECN 12264 – Molub-Alloy 882 was Molub-Alloy 936. ECN 12283 – 76039295 was REF, now quantity 1
20151117	99904315	ECN 12007-changed qty of p/n 72063001to three.
20151202		Changed Glevis to Clevis!
20160212	Tech Specs	Changed cold cranking information.
20160510	72601938	Replaced the I-bolt size from.75 to 1.125
20160608	99904315	ECN12369-1-MOVE 72531130 FROM 51721319 TO 51725663
20160620	99904389 77441269 77441270 51726427	ECN12331-Multiple corrections to drawing.
20160628	99904595	CN378-1-BOM CHANGES
20160215	70735052 51727064	CN310-updated cord reel assemblies.
20171030	70034573	CN696-Added Protective Sleeve Installation instructions.
20171215	99904317	CN161-1-ADDED HOOK INFORMATION

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CHAPTER 1

Electric Crane Introduction

This volume deals with information applicable to your particular crane. For operating, maintenance and repair instructions, refer to IMT Electric Cranes Operation & Safety (IMT part number 99904381.)

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

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

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

Warranty of this unit will be void on any part of the unit subjected to misuse due to overloading, abuse, lack of maintenance and unauthorized modifications. No warranty - verbal, written or implied - other than the official, published IMT new machinery and equipment warranty will be valid with this unit. In addition, it is also the user's responsibility to be aware of existing Federal, State and Local codes and regulations governing the safe use and maintenance of this unit. This 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.

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

Technical Specifications

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3203i Technical Data

GENERAL SPECIFICATIONS

CRANE RATING	12,000 ft-lb at 7'-6" (1.6 tm at 2.3 m)
MAXIMUM HORIZONTAL REACH (from centerline of rotation)	15'-0" (4.6 m)
HYDRAULIC EXTENSION (1)	48" (122 cm)
MANUAL EXTENSION (1)	48" (122 cm)
LIFTING HEIGHT (from base of crane to centerline of sheave)	16'-2" (4.9 m)
CRANE WEIGHT (1H1M)	635 lb (288 kg)
CRANE STORAGE HEIGHT	29" (73.7 cm)
MOUNTING SPACE REQUIRED (crane base)	14" x 18" (35.5 cm x 45.7 cm)
HYDRAULIC SYSTEM OPERATING PRESSURE	2500 psi (172 bar)
MAXIMUM HYDRAULIC FLOW	1.6 gpm (6 lpm)
OIL RESERVOIR CAPACITY	1.5 gallons (5.7 l)
OIL TYPE	ISO VG32, low pour, anti-wear hydraulic oil
ELECTRICAL SYSTEM REQUIREMENTS	12VDC with two 1000 amp batteries* and 100 amp alternator min.
CENTER OF GRAVITY	
- HORIZONTAL FROM CENTERLINE OF ROTATION (BOOMS RETRACTED)	22.88" (58.1 cm)
- HORIZONTAL FROM CENTERLINE OF ROTATION (BOOMS EXTENDED)	43.00" (109.2 cm)
- VERTICAL FROM BOTTOM OF CRANE BASE	12.75" (32.4 cm)
TIE-DOWN BOLT PATTERN (on center)	12" x 12" (30.5 cm x 30.5 cm) or 11.5" x 14.75" (29.2 cm x 37.5 cm)
ROTATION TORQUE	2500 ft-lb
MINIMUM CHASSIS REQUIREMENT	10,500 lb (4763 kg) GVWR

* The two batteries must be identical with minimum cold-crank amp rating of 850 CCA.

CYLINDER SPECIFICATIONS

LOWER BOOM CYLINDER	2.75" bore; 16" stroke (7 cm bore; 40.6 cm stroke)
EXTENSION BOOM CYLINDER	1.5" bore; 48" stroke (3.8 cm bore; 122.0 cm stroke)

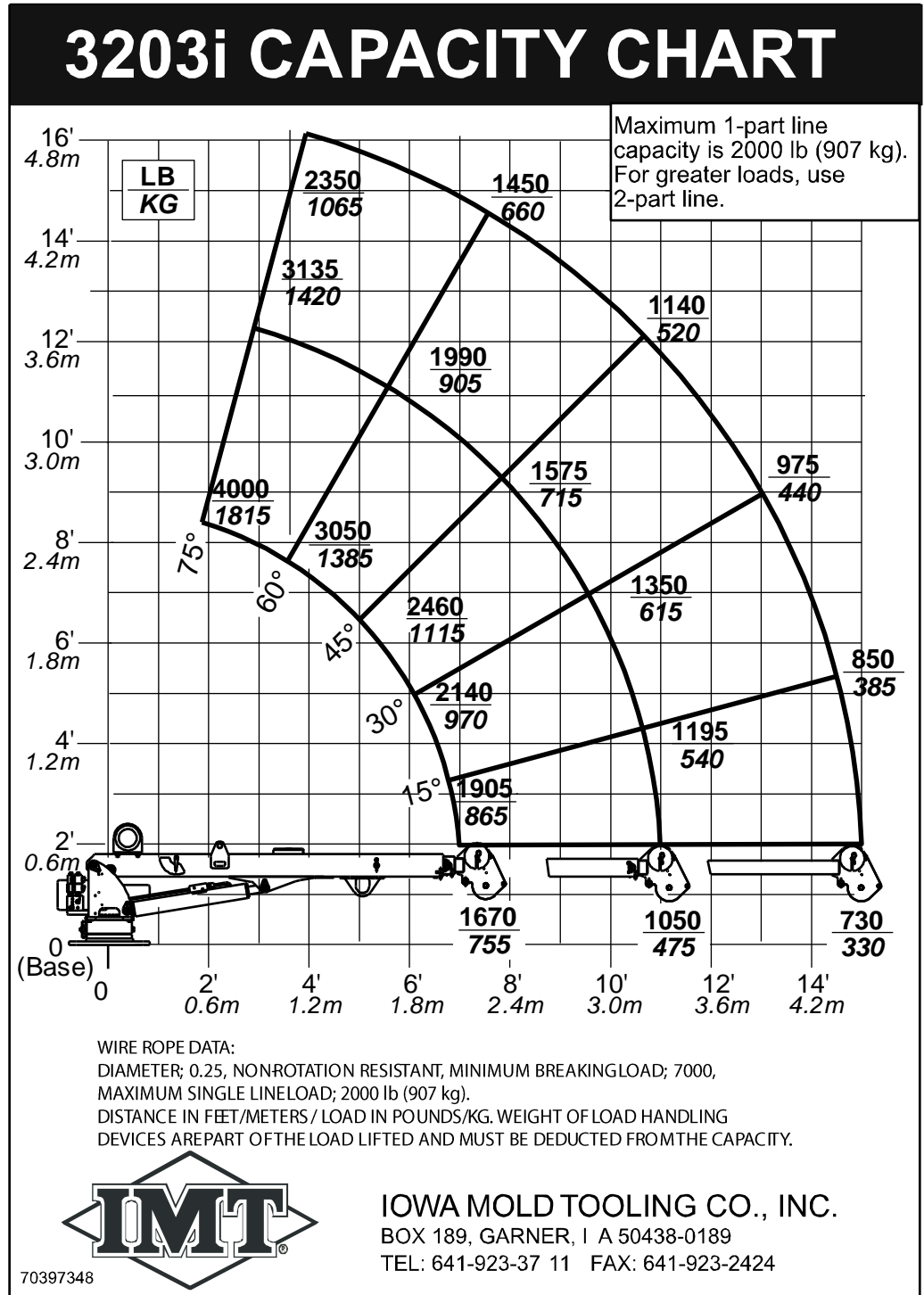
WINCH SPECIFICATIONS

WINCH PULL LINE	2000 lb (907 kg)
PULL LINE SPEED WITHOUT LOAD	23 ft/min (7 m/min)
ROPE DIAMETER	7/32" (5.56 mm)
WIRE ROPE LENGTH	65' (19.81 m)
CABLE NOMINAL STRENGTH	5600 lb (2540 kg)

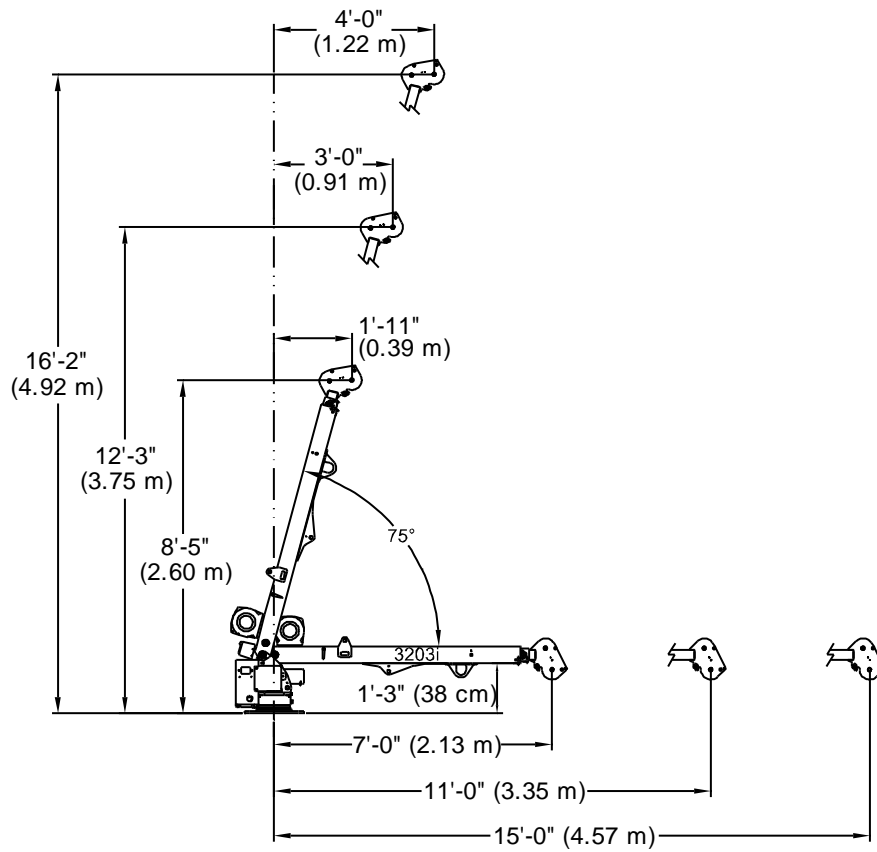
PERFORMANCE CHARACTERISTICS

	SPECIFICATION	SPEED
ROTATION	Continuous 360° (6.28 rad)	44 seconds
LOWER BOOM ELEVATION	-5° to +75° (-0.1 to +1.3 rad)	10 seconds
EXTENSION CYLINDER	48" (122.0 cm)	10 seconds total

3203i Capacity Chart

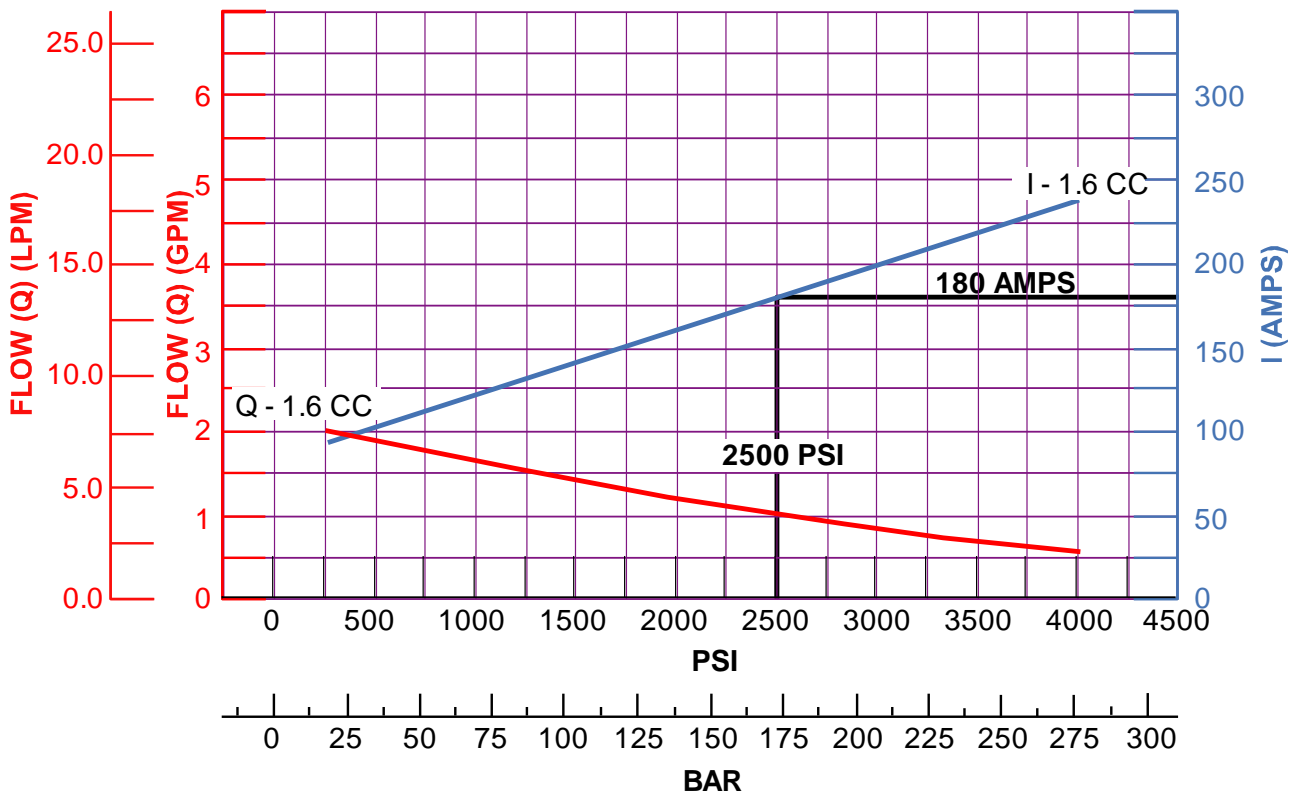


3203i Geometric Configuration

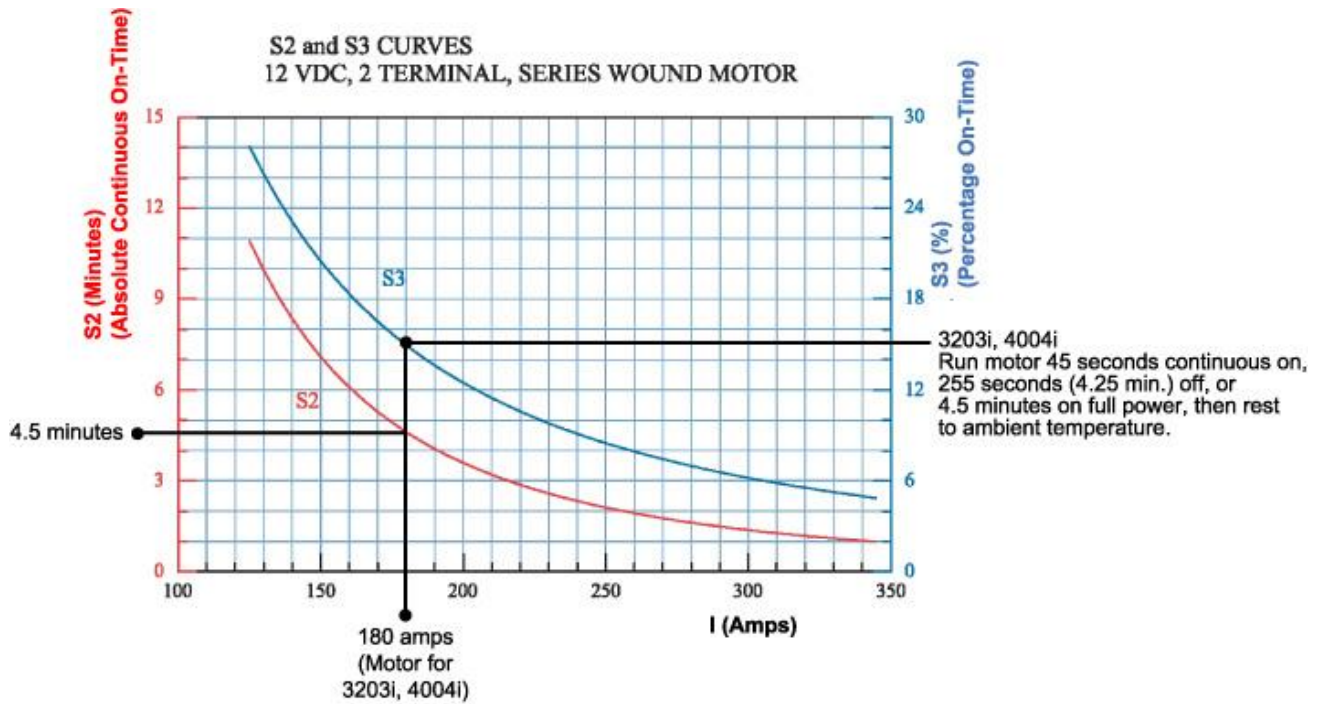


Pump & Motor Performance

The Powerpack Motor for the 3203i and 4004i crane cannot be run continuously without serious motor damage. The 3203i and 4004i pump has a **maximum** duty cycle of 4.5 minutes which must be followed by cool-down to ambient temperature. It can be run intermittently according to the following charts.



⚠ CAUTION
 Avoid motor damage! Operate within performance curves shown.



The five minute duty cycle must be adhered to. Operators have a choice of running the crane intermittently all day, using the duty cycles per the S2 and S3 curves, or at full power for 4.5 minutes, which MUST be followed by a complete cool-down to ambient.

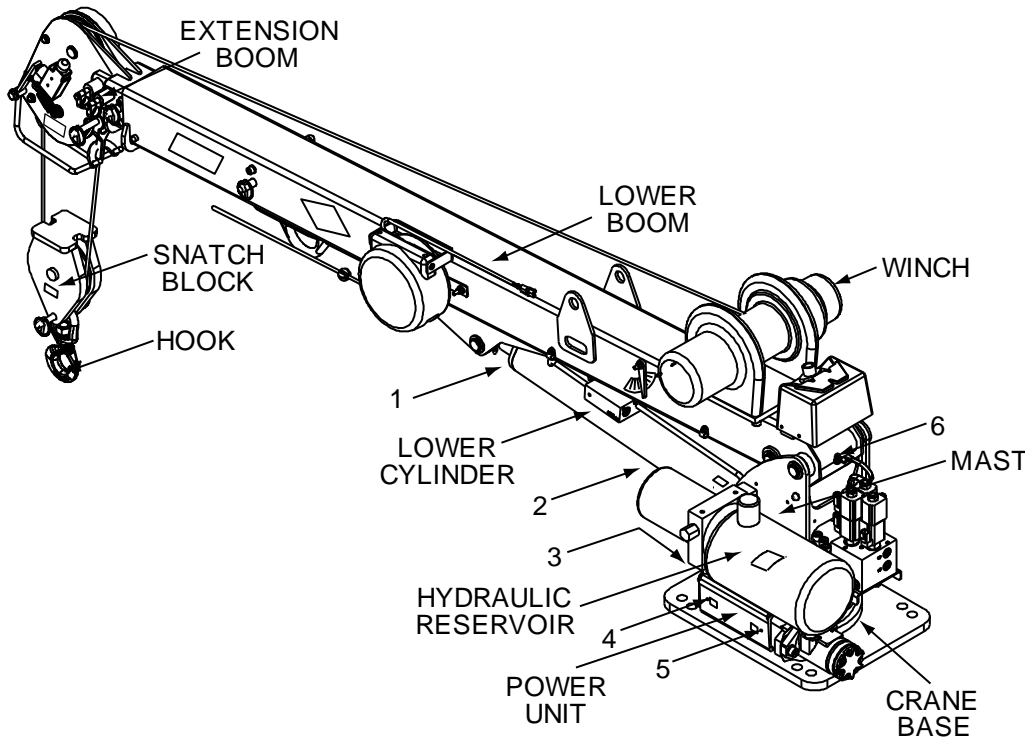
CHAPTER 3

Crane Reference

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Assemblies & Grease Zerk Locations



ITEM	LOCATION DESCRIPTION	LUBRICANT	FREQUENCY
1.	Lower Cylinder Rod	Shell Alvania 2EP or Shell Retinax "A"	Weekly
2.	Lower Cylinder Base		
3.	Gear Rotator Grease Extension *Rotate crane while greasing.		
4.	Power Unit		
5.	Power Unit		
6.	Lower Boom Pin		

NOTE: All application points must be greased weekly under normal workloads and moderate weather conditions. Under severe operating conditions, lubricate more frequently. See the IMT Electric Crane Operation & Safety manual for additional lubrication requirements.
 NOTE: Image may be different depending on production date. Grease points should be identical.

3203i Recommended Spare Parts List

(See Parts List for Effectivity Dates)

Part Number	Description	Quantity	Effective Through
51721267 Lower Cylinder			
51744137	SEAL KIT-IMT 2.75B 1.75R 1.50 S	1	
60127432	PISTON-2.75 BORE X 1.75 ROD 1.63 STGR	1	
60127434	HEAD-2.75 BORE X 1.75 ROD	1	
73054999	VALVE-COUNTERBALANCE	1	
77041786	SWITCH-PRESS 2750 PSI	1	
51722111 Extension Cylinder			
94397290	SEAL KIT-IMT 1.50 BORE 1.00 ROD .75	1	
60135105	HEAD-1.50 BORE X 1.00 ROD	1	02/23/2010
60135106	PISTON-1.50 BORE X .75 STGR	1	02/23/2010
73054999	VALVE-COUNTERBALANCE SUN01 CBBC-LHN	1	
99904315 Base & Mast Assembly			
60118032	CABLE CONNECTOR MODIFICATION	1	
72601931	CAP SCREW .44-14X 3.00 HH 156 KSI PROOF L	16	
73511156	MOTOR-HYDRAULIC 101 1035 009	1	
76039295	GASKET-GEAR	1	
77441534	SWITCH- 225A CONTACTOR (12 or 24V)	1	04/25/2013
77441281	CABLE CONNECTOR-FEMALE	1	
77441285	TERMINAL RING, INSULATED 3/8 STUD		
73734304 Valve Bank (12V)			
73540327	COIL (VALVE BANK) (12V)	3	
73540326	VALVE ASSEMBLY (VALVE & COIL) (12V)	6	
73734375 Valve Bank (24V)			
77040527	COIL (VALVE BANK) (24V)	3	
73540336	VALVE ASSEMBLY (VALVE & COIL) (24V)	6	
73511283 Power Unit (12V)			
			10/12/2012
70733826	FILL CAP ELECTRIC CRANES	1	
73511171	PUMP-GEAR ELECTRIC CRANE	1	
73540323	VALVE-RELIEF ELECTRIC CRANE	1	
73734332	KIT-TUBE POWER UNIT ELECTRIC CRANE	1	
74397392	RESERVOIR TANK ELECTRIC CRANE	1	
77043060	MOTOR-POWER UNIT ELECTRIC CRANE	1	
73511305 Power Unit (24V)			
77043066	MOTOR (24V)	1	
73511306	PUMP	1	
73540517	RELIEF VALVE ASSEMBLY	1	
74399495	RESERVOIR	1	
70734788	BREATHER CAP	1	
73734791	TUBE-SUCTION	1	
70734792	STRAINER	1	

Part Number	Description	Quantity	Effective Through
99904316 Boom Assembly			
60030373	WEAR PAD- EXT CYLINDER	1	
60030374	WEAR PAD-ROUND 1.00 DIA X .50 DIA X .75L	6	
60030375	WEAR PAD-ROUND 3.00 DIA X 1.00 DIA X .55L	1	
60030376	WEAR PAD-ROUND 3.50 X 1.00 DIA X .615 LG	2	
60132302	STOP SCREW 3/8-24 X .50	4	
71734311	PIN-QUICK RELEASE.62D/4.5 CRIT	1	
71734314	PIN-QUICK RELEASE.62D/6.5 CRIT	1	
72661543	PIN-QUICK 316-10QP	2	
60030372	SHEAVE- 5.5 NYLATRON	2	
60133938	WEAR PAD-ROUND 0.25 X 1.00 X 0.50 X 0.50	2	
60030369	WEAR PAD-ROUND 0.19 X 2.00 X 1.00 X 0.50	1	
72661711	CLEVIS PIN 0.5 x 3.00	1	
60030483	SHEAVE-8.0 NYLATRON	1	
99904317 Crane & Winch Assembly			
51721494	CORD REEL ASSEMBLY- 5ft PACKARD CONNECTOR	1	11/14/2012
70580059	WIRE ROPE ASM-.22(7X19)X65FT PGA	1	
71413185	SPRING-.105WIRE 0.75OD 2.875 LG	1	
70735101	HOOK-SWVL POS LOCK BBRG 2TON (Effective 1/1/2018)	1	
72601798	WASHER-LOCK 12MM	4	
72601935	CAP SCREW M12-1.75X 40 SH PLAIN	4	
72601938	BOLT-EYE # 8-32X 1.125	1	
77041459	SWITCH-LIMIT ZE-N-2S	1	
77441096	CONNECTOR- .50 STR RLF .25-.38	1	
71570922 WINCH (12V)			
77041801	CONTACTOR (12 OR 24V)	1	10/11/2012
77566638	BRAKE ASSEMBLY	1	
77744175	BRUSH KIT	1	
71570922 WINCH (24V)			
77041928	CONTACTOR (12 OR 24V)	1	
77566638	BRAKE ASSEMBLY	1	
77744175	BRUSH KIT	1	
99904394 Electrical Installation			
77441116	FUSEHOLDER, HIGH AMP	1	
77441219	FUSE-225 AMP	1	

Crane Installation (99904394)

In addition to meeting the minimum chassis specifications noted in the Technical Data section of this manual, make sure there is sufficient room for mounting the crane and the platform is strong enough to support the crane and rated load. Install the crane only on an IMT designed and approved truck body. The body must be designed to sustain the forces imposed by the crane when lifting the full rated load. Install the body on the chassis before installing the crane. Refer to the following table for parts referenced in the following crane installation drawings.

CRANE INSTALLATION PARTS LIST				
ITEM	PART #	DESCRIPTION	KIT #	QUANTITY
1.	51721572	ELECTRIC CRANE BODY INSTALLATION		1
2.	91721647	HARDWARE KIT- 3203i/4004i ELEC CRANE BODY INSTALLATION		1
3.	91721751	HARDWARE KIT- 5005i ELEC CRANE BODY INSTALLATION		1
5.	51725572	DRAWING-CRANE & WINCH ASSEMBLY 3203I		REF
6.	60251272	BRACKET-SWITCH 300 AMP ELEC CRANE	#1 & #4	1
7.	70734331	SWITCH-300A KEYED BATTERY DISCONNECT	#1 & #4	1
8.	72042097	LEVEL INDICATOR LEVEL	#1 & #4	1
9.	77040209	TERMINAL-RING NI .38 STUD 1 WIRE	#1 & #4	1
10.	77040529	TERMINAL-RING NI .31 STUD 1-2 WIRE	#4	9
11.	77441116	FUSEHOLDER-HIGH AMP2 BOLT WITH COVER	#4	2
12.	77441219	FUSE-225 AMP	#4	2
13.	89044276	CABLE-#1 WELDING	#1 & #4	35 FT
14.	89392333	TUBE-HEAT SHRINK AMP	#1 & #4	0.50 FT
15.	72060208	CAP SCREW .75-10X 2.50 HH GR8 Z	#2	4
16.	72601862	NUT .75-10 HEX NYLOC GR8Z	#2	4
17.	72063116	WASHER .75 N FLAT H ASTM F436Z	#2	8
18.	72060002	CAP SCREW .25-20X .75 HH GR5 Z	#2 & #3	4
19.	72060634	SCREW-MACHINERY #10-24X .50 RDH	#2 & #3	4
20.	72062000	NUT .25-20 HEX	#2 & #3	4
21.	72062106	NUT 10-24 HEX NYLOCK	#2 & #3	4
22.	72063001	WASHER .25 FLAT	#2 & #3	8
REV. E 20120918				

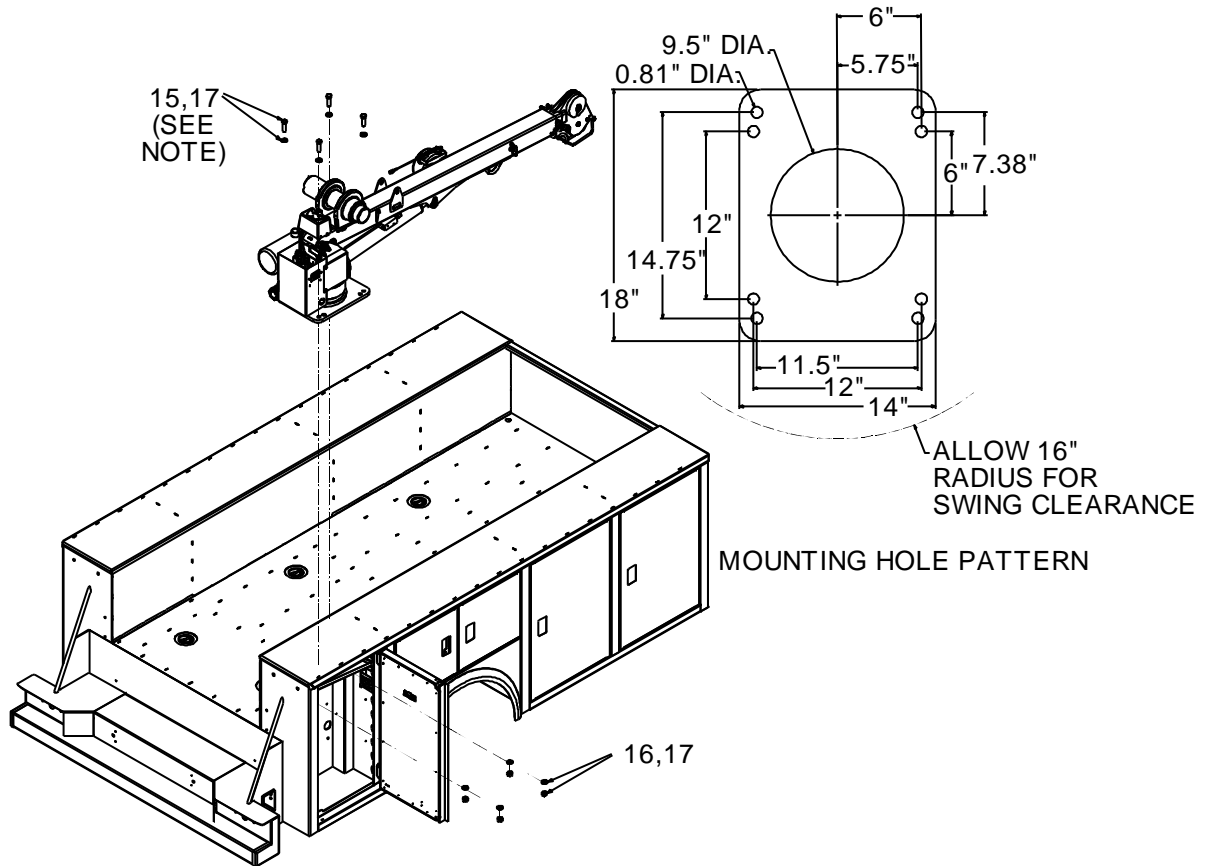
To install the crane:

- 1 Use a lifting device capable of lifting the weight of the crane as indicated in the Technical Data section of this manual. Attach fabric slings to the crane lower boom, centered approximately 18 inches (46 cm) from the mast hinge. Make certain the crane is well balanced on the slings by slowly lifting approximately 6" (15 cm) off the ground. Lift the crane and apply a bead of waterproof compound, such as silicon based caulk, to the bottom of the base. Move the chassis under the crane and lower the crane into the desired position.

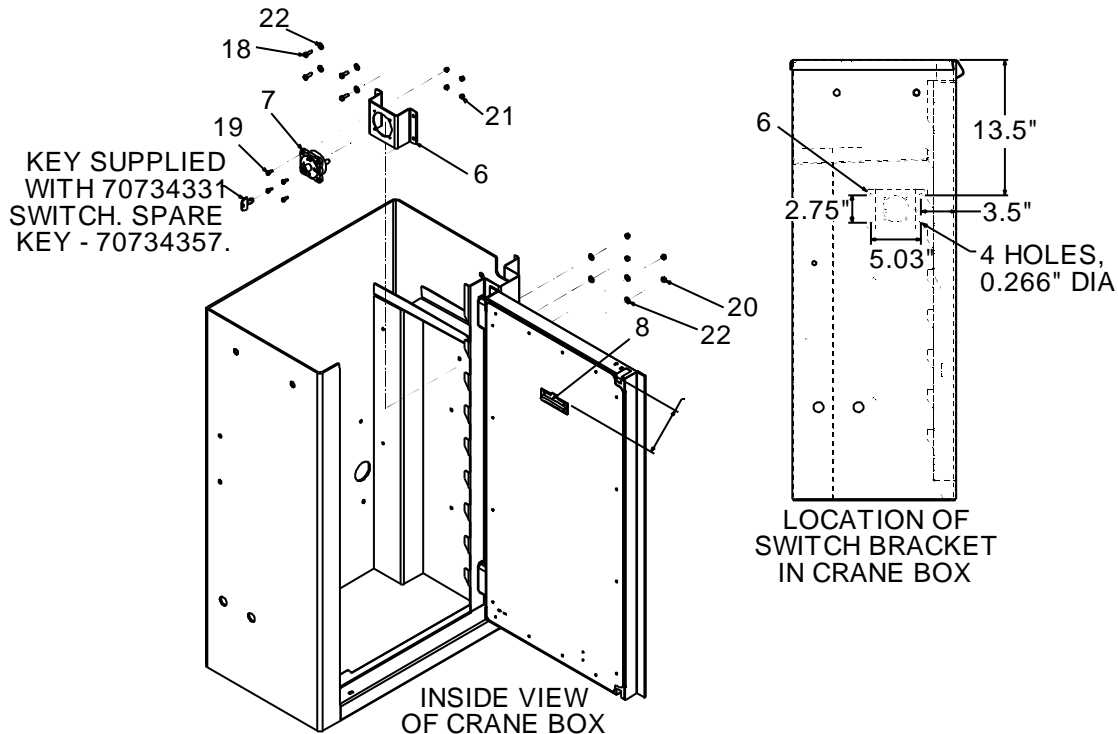
Install the 3/4-10x2.5" mounting cap screws (item # 15) and 3/4" washers (item #16) to secure the crane base to the truck body (see figure). Torque the cap screws to 280 ft-lb.

NOTE:

The 3/4-10 x 2.5" grade 8 zinc coated capscrews are designed for a crane box thickness of 1/2" only. A different crane box may require different capscrews. All mounting capscrews must be grade 8 zinc coated with a minimum thread engagement of 1.25" (3.175 cm).



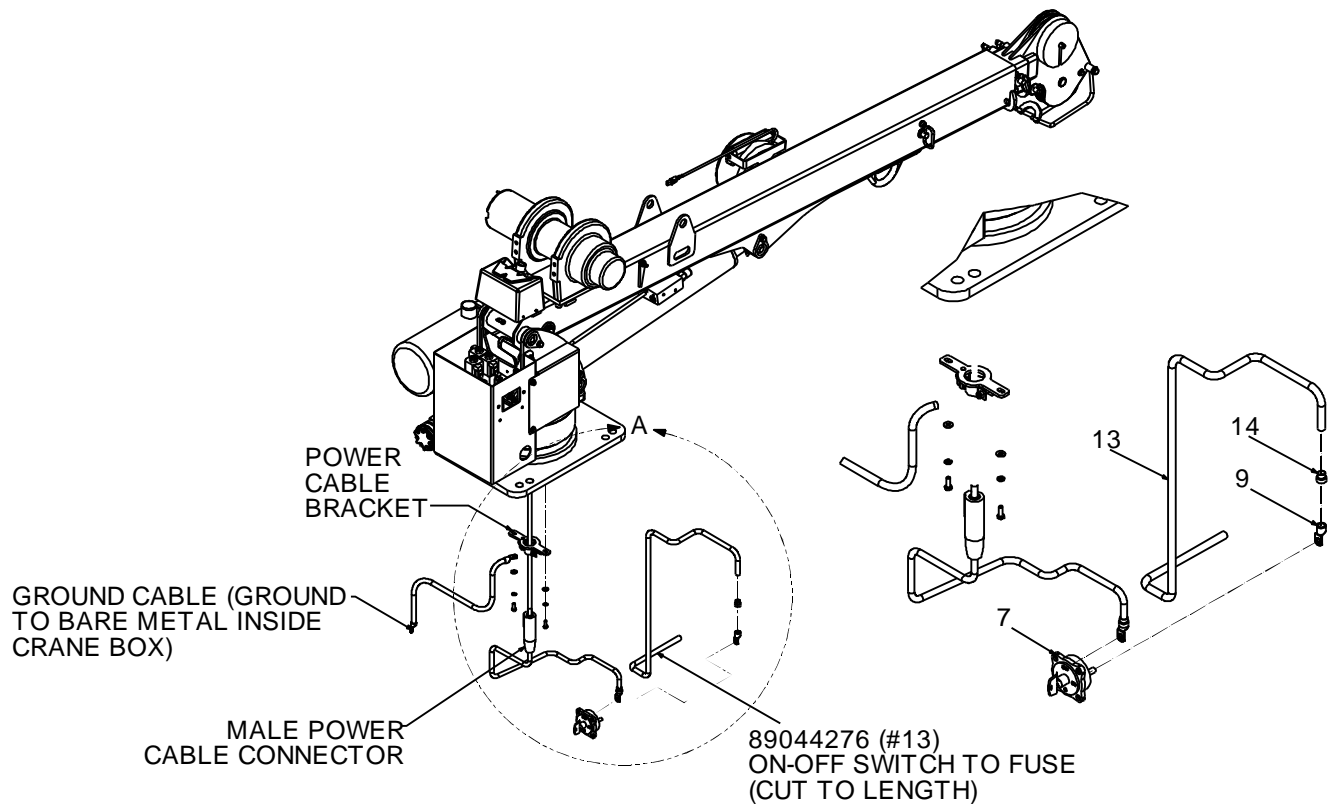
- 2 The electrical power switch (item #7) provides power for the crane. Install the switch onto the power unit cover.



- 3 Install the vehicle level indicator (item #8) parallel to the door reinforcements.
- 4 After mounting your crane, wire the crane to the vehicle's 12VDC electrical system using the following steps. Use the parts list above to identify parts. Your crane installation kit, 51721572, includes a 10.7 m (35') long cable, IMT # 89044276 (item #13 in the parts list). Approximately 7.6 m (25') of this cable is required to connect the crane power switch to the vehicle battery, and the rest of the cable is used for ground connections between the crane, vehicle battery, auxiliary battery, and chassis ground. Cut the cable to length after determining the lengths required.
- 5 Ground the crane by connecting the crane ground cable to bare metal inside the crane box.
- 6 Connect the crane power cable from the male power cable connector to the power switch. Connect cable (item #13 - 89044276), cut to length, from the crane power switch (item #7) to the fuse. Use 3/8" (0.95 cm) ring terminals (item #9 - 77040209) for each connection. Heat shrink the connections (item #14 - 89392333).

⚠ WARNING

Protect the power cable from damage by fastening it inside the frame channel and covering it with protective covering including loom, conduit, etc. Be sure to use rubber grommets or other protection when running the power cable through steel bulkheads.

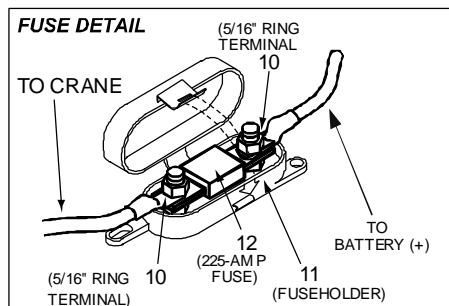
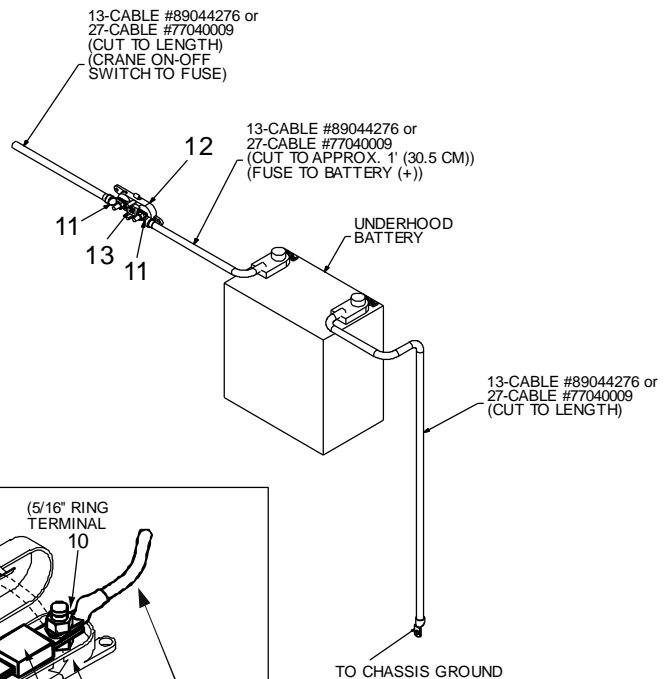
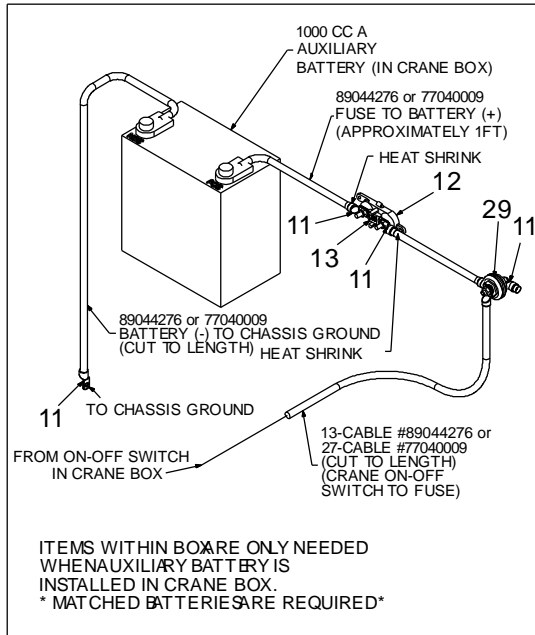


- 7 Use approximately 4' (1.2 m) of the cable (item #13) to ground both the vehicle battery and auxiliary battery. Connect one end of the ground cable to the negative terminal on the vehicle battery, and the other end to bare metal on the truck body. Use a 5/16" (0.79 cm) ring terminal (item #10 - 77040529) to connect to the truck body.

⚠ WARNING

Install the ground cable to the negative terminal of the batteries! The crane electrical ground completes the electrical circuit through the structure of the crane to the vehicle frame. The vehicle factory ground is NOT sufficient to carry the current required by the crane. Without this extra ground cable, your crane may not operate at rated capacity, and motor, contactor, or electrical damage may occur.

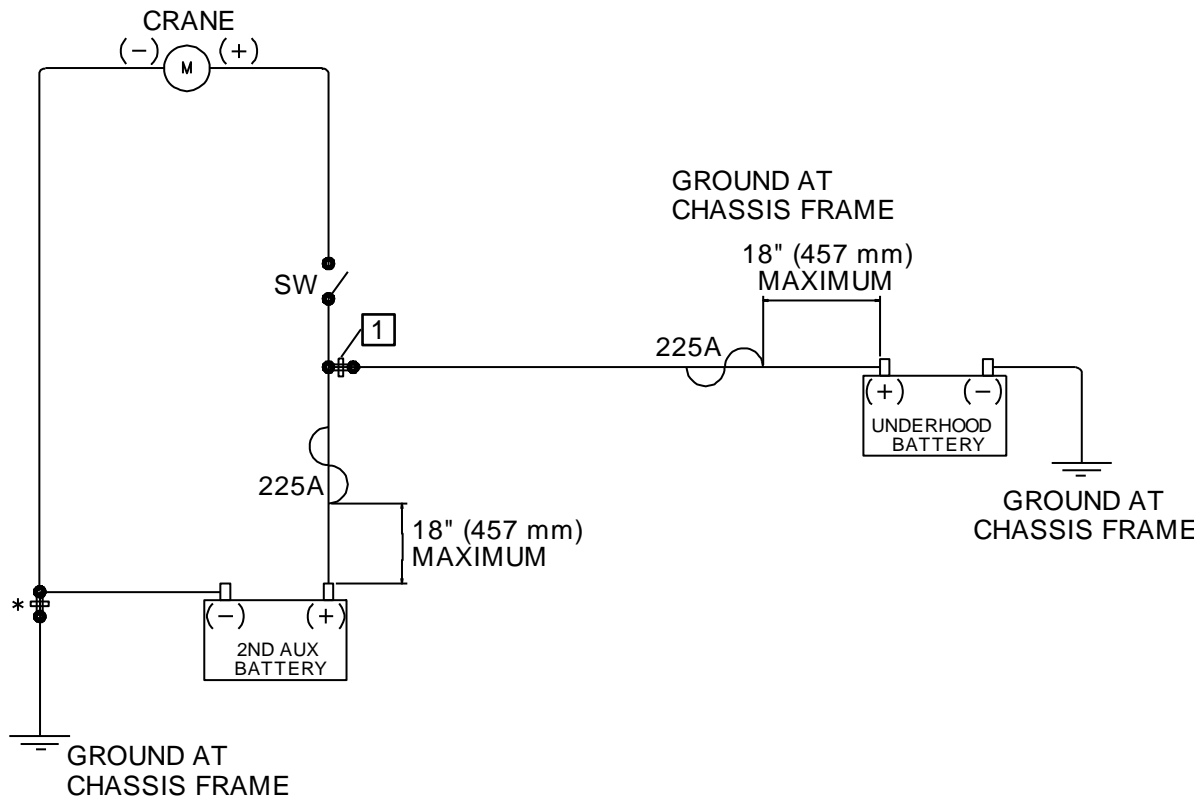
- 8 Mount the 225-amp fuse holder (item #11) close to the vehicle battery in a location which can be easily accessed if the fuse needs to be replaced. Repeat with the auxiliary battery. Use approximately one foot (30.5 cm) of cable (item #13) to connect the positive terminal on the vehicle batteries to the fuse holders. Connect the other end of each fuse holder to the bulkhead pass-through connector from step #6, which is then connected to the crane power switch. Cables connect to the fuse holders using 5/16" (0.79 cm) ring terminals (item #10 - 77040529). Heat shrink connections.



NOTES:

1. Use the highest rating cold-cranking amp battery available up to 1,000 CCA. Underhood and auxiliary batteries must be identical.
2. Use bulkhead pass-through connectors when power or ground passes through a compartment wall.
3. Reference drawing 99904884 for wiring diagram.

Electric Crane Battery Circuit (99904884)

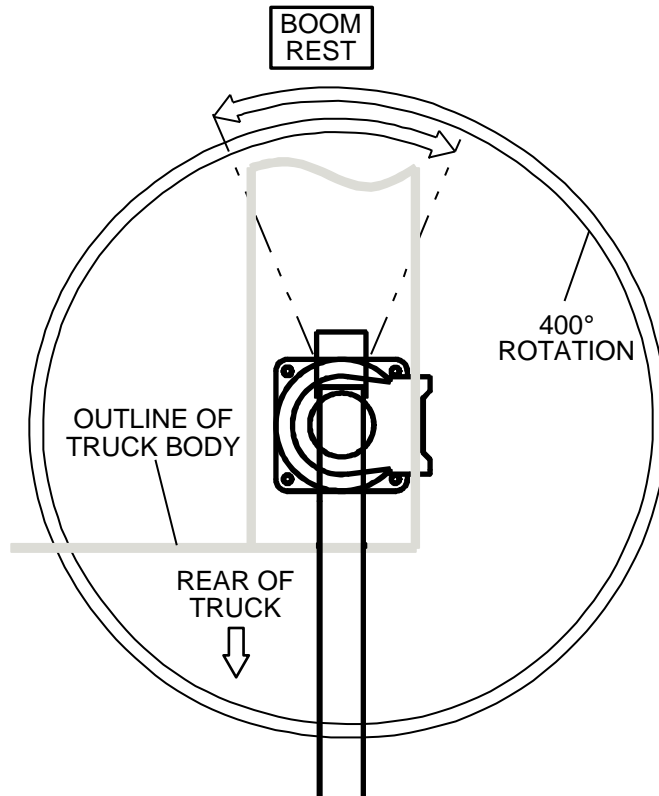


NOTE:

- 1 ELECTRIC BULKHEAD PASS-THRU CONNECTOR. USE WHENEVER POWER OR GROUND PASSES THROUGH A COMPARTMENT WALL.

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 Crane Control

IMT's electric cranes are controlled by radio or tethered remote controls. This telescopic crane includes a tethered remote control with a radio remote control option. For complete details on operating your telescopic crane, refer to the IMT Electric Cranes Operation & Safety (part number 99904381).

CHAPTER 4


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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:

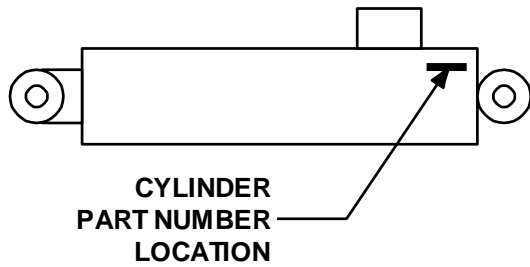
Iowa Mold Tooling Co., Inc.
Box 189, Garner, IA 50438-0189
Telephone: 641-923-3711
Technical Support Fax: 641-923-2424

IOWA MOLD TOOLING CO., INC. BOX 189, GARNER, IA 50438-0189	
MODEL NUMBER	<input type="text"/>
SERIAL NUMBER	<input type="text"/>
MFG DATE	<input type="text"/>

70029119

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.

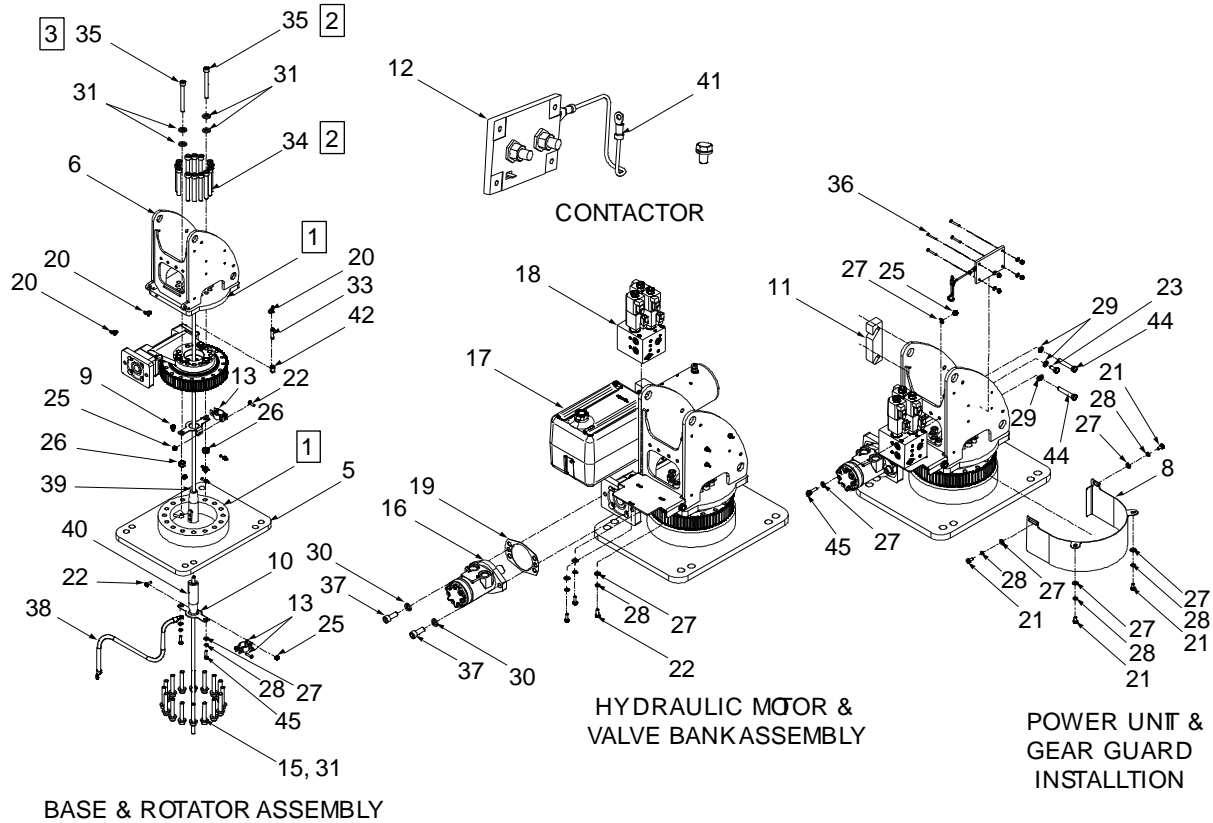
Electric Crane Power Safety

Your electric crane runs using power from the vehicle battery. Before beginning major maintenance or repairs, disconnect the power to the crane.

 DANGER	<p>POWER SWITCH TURNED TO OFF POSITION.</p> 
<p>AVOID DEATH OR SERIOUS INJURY!</p> <p>Before beginning any work on crane,</p> <ul style="list-style-type: none">▪ Turn OFF crane power supply in crane cabinet.▪ Remove crane power disconnect cable from vehicle battery.	

- 1 Make sure the power switch located inside the crane cabinet is turned to the OFF position.
- 2 Make sure the crane power disconnect cable is disconnected from the vehicle battery.

Base & Mast Assembly (99904315) Effective 2-25-2015



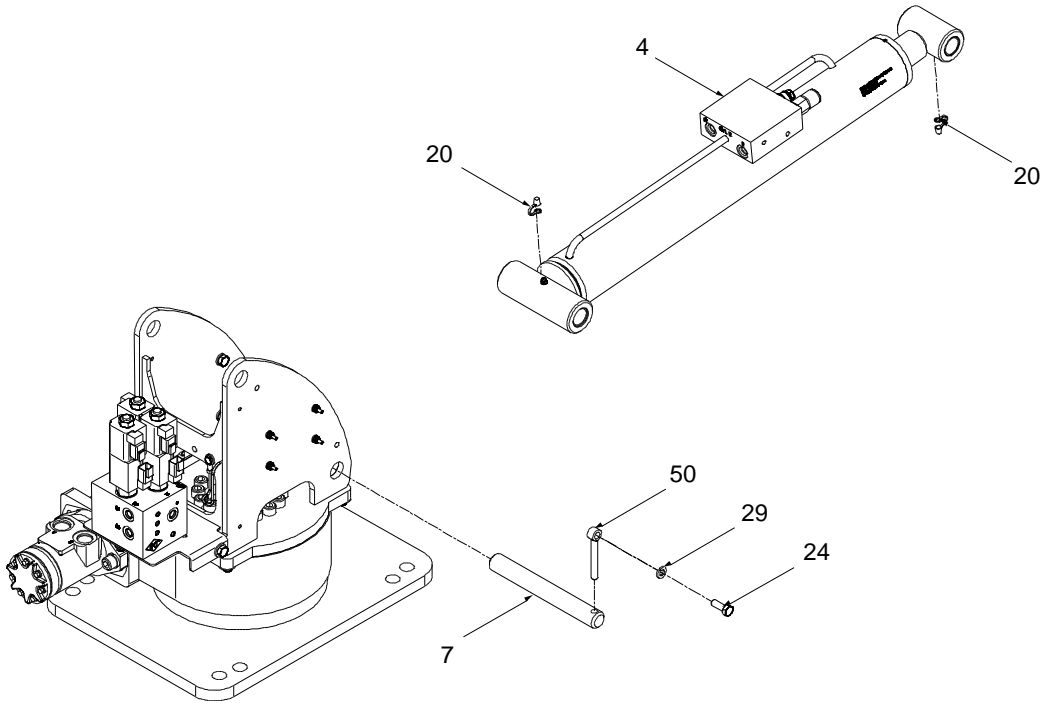
NOTES:

1. Apply rust preventative
2. Torque to 105 Ft-lbs.
3. Bolt connects to pin 52721306

Do not connect electrical power to crane until all connections have been tested. Sever injury could result. Attach electrical wires and grounds to components before connecting to mast.

Apply black "Molub – Alloy 936 SF" heavy gear grease to turntable gear.

99904315-1 (Effective 2-25-15)



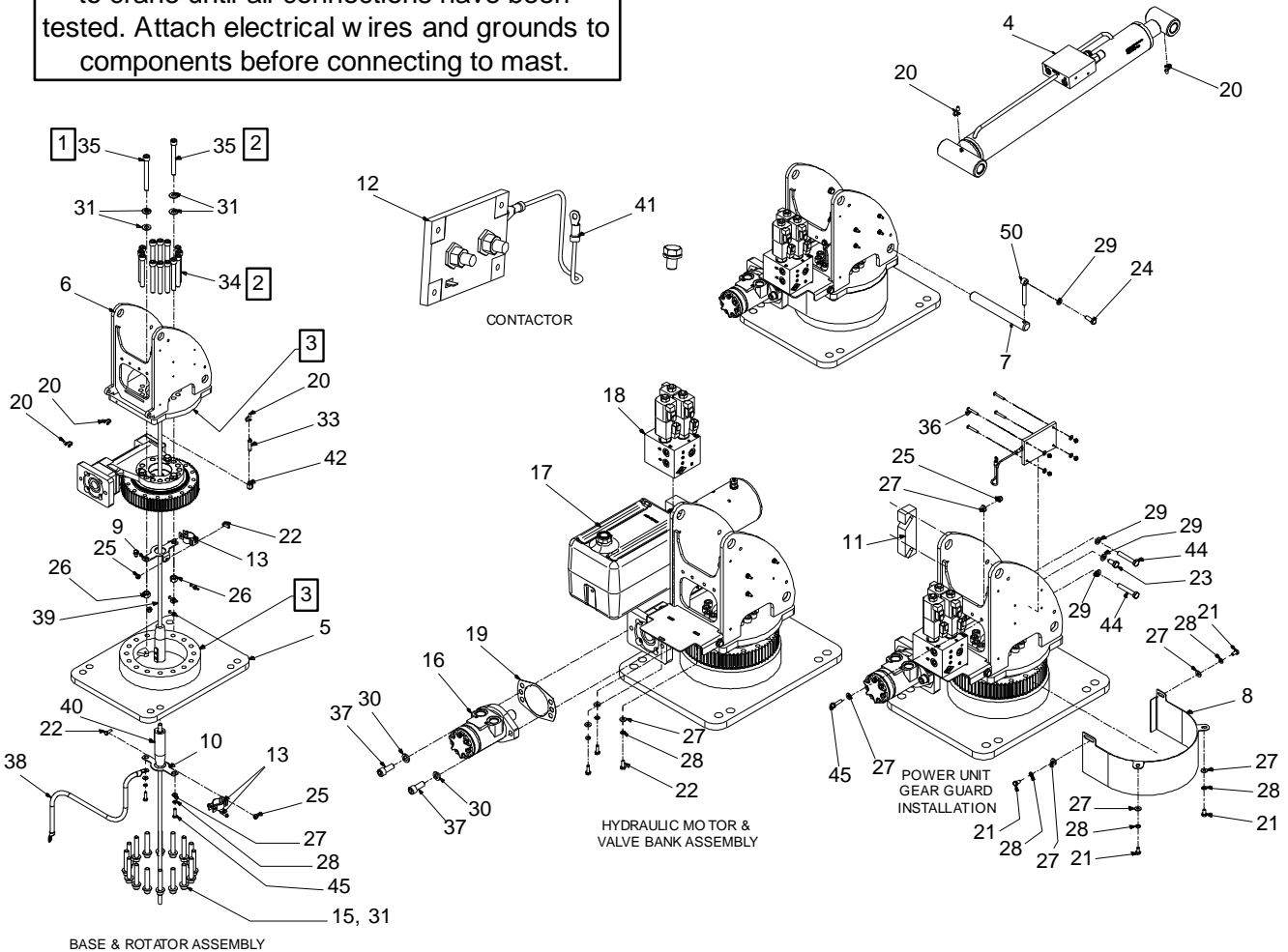
99904315 COMPLETE PARTS LIST EFFECTIVE 2-25-15				
ITEM	PART NO.	DESCRIPTION	KIT NO.	QTY
1	51721319	KIT-HRDW 3203 BASE & MAST ASY		1
2	91722219	KIT- 3203I ELECTRICAL INSTALLATION		1
3	51725663	KIT-HYD 3203I		1
4	51721267	CYL- 2.75B X 1.75R X 16.06S 46.50 CC C		1
5	52725036	WLDMT-BASE 3203I		1
6	52725030	MAST WELDMENT-3203I		1
7	60140618	PIN-TYPE NN 1.00 X 8.25		1
8	60140637	SHROUD- TURNTABLE GEAR 3203I		1
9	60141129	PLATE-ELEC ROTATOR BRKT TOP		1
10	60141128	PLATE-ELEC ROTATOR BRKT BOTTOM		1
11	60132385	SPACER- POWER UNIT		1
12	77441534	SWITCH-225A CONTACTOR 12V OR 24V		1
13	70580194	CLAMP-1" CONDUIT HANGER W/BOLT		2
14	71056678	GEAR-TRNTBL BRG S7C-73HA-25.4ML-DC104		1
15	72602081	CAP SCR .50-13X 3.00 SH ZINC	#1	16
16	73511156	MOTOR-HYD 101 1035 009		1
17	73511283	POWER UNIT- 1.19CC 12VDC		1
18	73734304	VALVE BANK-3 SEC SERIES 3GPM @ 500PSI 12V		1
18	73734375	VALVE BANK- 3 SEC SERIES3GPM 3000PSI 24V		1

99904315 COMPLETE PARTS LIST EFFECTIVE 2-25-15				
ITEM	PART NO.	DESCRIPTION	KIT NO.	QTY
19	76039295	GASKET-GEA19 008-10056-1		1
20	70034382	CAP-GREASE PRO20 GC-RED	#1	5
21	72060000	CAP SCR .25-20X .50 HH GR5 Z	#1	4
22	72060002	CAP SCR .25-20X .75 HH GR5 Z	#1	5
23	72060044	CAP SCR .38-16X .75 HH GR5 Z	#1	1
24	72060046	CAP SCR .38-16X 1.00 HH GR5 Z	#1	1
25	72062104	NUT .25-20 HEX NYLOCK	#1	3
26	72062107	NUT .50-13 HEX CENTER LOCK Z	#1	2
27	72063001	WASHER .25 FLAT	#1	11
28	72063049	WASHER .25 LOCK	#1	9
29	72063051	WASHER .38 LOCK	#1	4
30	72063053	WASHER .50 LOCK	#1	2
31	72063132	WASHER .50 FLAT ASTM F436	#1	20
32	72063271	WASHER # 8 W FLAT ANSI B27.2Z	#1	4
33	72534418	ZERK-NPT .12 X 1.75 LG	#1	1
34	72601932	CAP SCR .50-13X 4.00 SH ZC	#1	13
35	72601939	CAP SCR .50-13X 4.50 SH ZC	#1	2
36	72602009	SCR-MACH # 8-32X 1.25 BTNHD SS	#1	4
37	72601949	CAP SCR .50-13X 1.25 SH ZC	#1	2
38	51721664	CABLE ASM- 1GA-5/16RNGX 1/4RNGX 48.00LG	#2	1
39	51721943	CABLE ASM- 1GA-3/8RNGX SWVL FX 11.00LG	#2	1
40	51721944	CABLE ASM- 1GA-3/8RNGX SWVL MX 60.00LG	#2	1
41	77441312	CABLE ASM-10GA-#10RNGX 1/4RNGX 6.00LG	#2	1
42	72531130	ELBOW-STREET STL .12 X 90 DEG	#3	1
43	72062207	NUT 8-32 HEX NYLOCK	#1	4
44	72060051	CAP SCR .38-16X 2.25 HH GR5 Z		2
45	72060004	CAP SCR .25-20X 1.00 HH GR5 Z	#1	3
48	72060048	CAP SCR .38-16X 1.50 HH GR5 Z	#1	2
49	72063003	WASHER .38 FLAT	#1	4
50	71415014	KEEPER-PIN .38		1
51	60140642	BRKT-3203-4004 VLV MNT		1
52	72062103	NUT .38-16 HEX NYLOCK	#1	2
53	72060021	CAP SCR .31-18X .50 HH GR5 Z	#1	1
54	72063050	WASHER .31 LOCK	#1	1

REV. T 20160608

Base & Mast Assembly (99904315) (See Parts List for Effectivity Dates)

⚠ WARNING
 Avoid injury! Do NOT connect electrical power to crane until all connections have been tested. Attach electrical wires and grounds to components before connecting to mast.



NOTES (SEE REFERENCE NUMBER IN BOX):

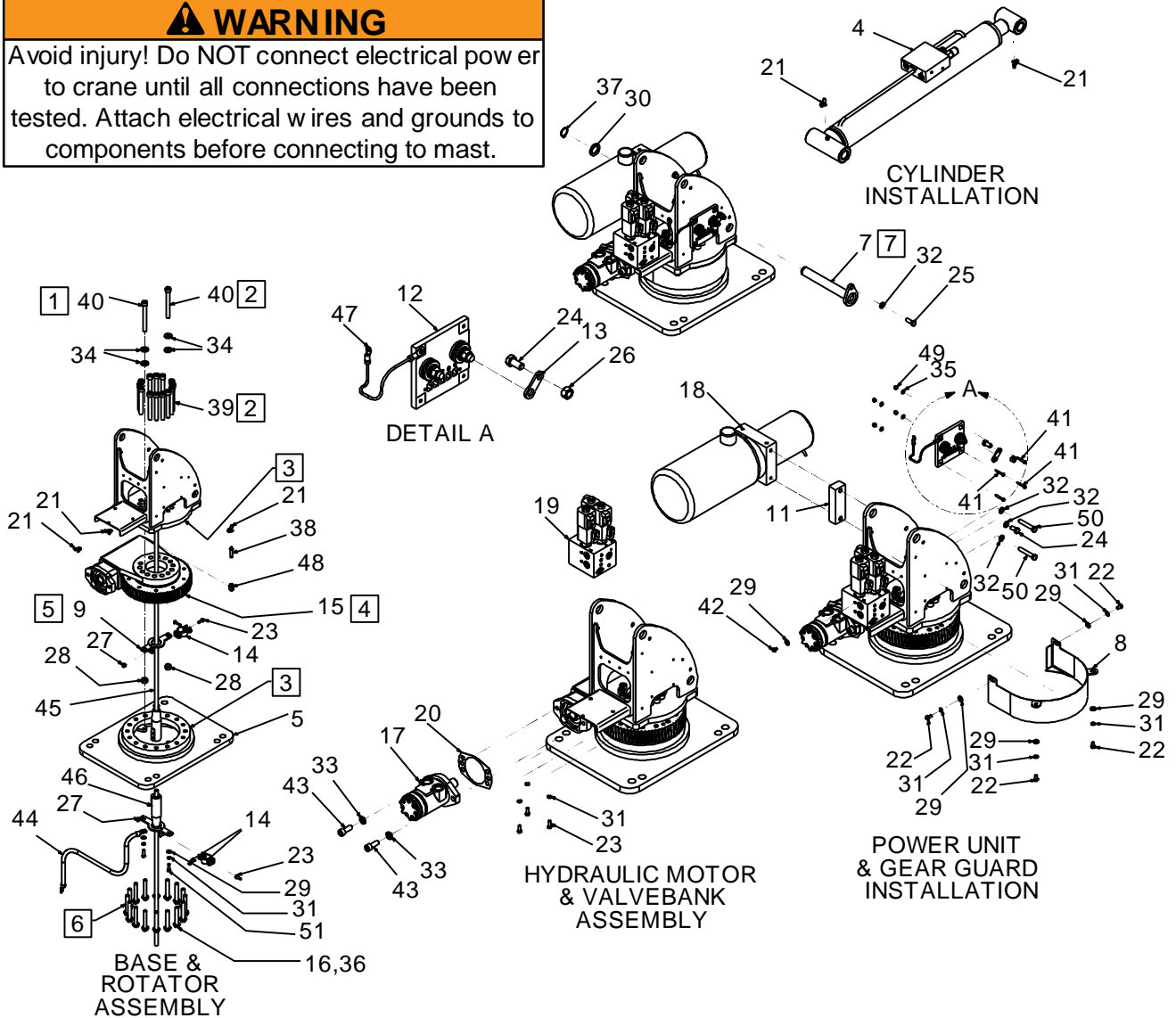
- 1 BOLTS CONNECT WITH PART NUMBER 52721306.
- 2 TORQUE TO 142 N-m (105 FT-LB).
- 3 APPLY RUST PREVENTATIVE
- 4 APPLY BLACK "MOLUB-ALLOY 882 HEAVY" GEAR GREASE TO TURNTABLE GEAR.

99904315 PARTS LIST				
ITEM	PART #	DESCRIPTION	KIT #	QTY
1.	51721319	HARDWARE KIT-BASE & MAST ASSEMBLY		1
2.	91722219	ELEC. INSTALLATION KIT- 3203I		1
3.	51725663	HYDRAULIC KIT (effective from 09/06/13)		1
4.	51721267	CYLINDER- 2.75B X 1.75R X 16.06S 46.50 CC C		1
5.	52725036	BASE WELDMENT- 3203I (effective from 06/12/13)		1
6.	52725030	MAST WELDMENT-3203I (effective from 04/25/13)		1
7.	60140618	PIN TYPE NN 1.00 X 8.25 (effective from 12/05/12)		1
8.	60140637	SHROUD-TURN TABLE GEAR 3203i (effective from 12/26/12)		1
9.	60141129	ELECTRIC ROTATOR BRACKET TOP (effective from 05/13/13)		1
10.	60141128	ELECTRIC ROTATOR BRACKET BOTTOM (effective from 05/10/13)		1
11.	60132385	SPACER- POWER UNIT		1
12.	77441534	SWITCH- 225A CONTACTOR 12 OR 24V (effective from 04/25/13)		1
13.	70580194	CLAMP-1" CONDUIT HANGER W/BOLT		2
14.	71056678	GEAR-TURNTABLE BEARING (effective from 06/12/13)		1
15.	72602081	CAP SCREW (effective from 06/12/13)		16
16.	73511156	MOTOR-HYDRAULIC 101 1035 009		1
17.	73511283	POWER UNIT- 1.19CC 12VDC (effective from 10/11/12)		1
18.	73734304	VALVE BANK-3 SEC SERIES 3GPM @ 500PSI		1
18.	73734375	VALVE BANK-3 SEC SERIES 3GPM @ 500PSI (24V) (effective from 04/25/13)		1
19.	76039295	GASKET		1
20.	70034382	CAP-GREASE	#1	5
21.	72060000	CAP SCREW .25-20X .50 HH GR5 Z	#1	4
22.	72060002	CAP SCREW .25-20X .75 HH GR5 Z	#1	5
23.	72060044	CAP SCREW .38-16X .75 HH GR5 Z (effective from 11/17/08)	#1	1
24.	72060046	CAP SCREW .38-16X 1.00 HH GR5 Z	#1	1
25.	72062104	NUT .25-20 HEX NYLOCK (effective from 04/25/13)	#1	3
26.	72062107	NUT .50-13 HEX CENTER LOCK Z	#1	2
27.	72063001	WASHER .25 FLAT (effective from 06/21/13)	#1	3
28.	72063049	WASHER .25 LOCK	#1	9
29.	72063051	WASHER .38 LOCK	#1	4
30.	72063053	WASHER .50 LOCK	#1	2
31.	72063132	WASHER .50 FLAT ASTM F436 (effective from 06/12/13)	#1	20
32.	72063271	WASHER # 8 W FLAT ANSI B27.2Z	#1	4
33.	72534418	ZERK-NPT .12 X 1.75 LG	#1	1
34.	72601932	CAP SCREW .50-13X 4.00 SH ZC	#1	13
35.	72601939	CAP SCREW .50-13X 4.50 SH ZC	#1	2
36.	72602009	SCR-MACH # 8-32X 1.25 BTNHD SS	#1	4
37.	72601949	CAP SCREW .50-13X 1.25 SH ZC	#1	2
38.	51721664	CABLE ASM- 1GA-5/16RNGX 1/4RNGX 48.00LG	#2	1
39.	51721943	CABLE ASM- 1GA-3/8RNGX SWVL FX 11.00LG	#2	1
40.	51721944	CABLE ASM- 1GA-3/8RNGX SWVL MX 60.00LG	#2	1
41.	77441312	CABLE ASM-10GA-#10RNGX 1/4RNGX 6.00LG	#2	1
42.	72534875	ELBOW-STREET STL M6 x 90 DEG (effective to 9/6/13)		1
42.	72531130	ELBOW-STREET STL .12 X 90 DEG (effective from 2/10/15)		1
43.	72062207	NUT 8-32 HEX NYLOCK	#1	4

99904315 PARTS LIST				
ITEM	PART #	DESCRIPTION	KIT #	QTY
44.	72060051	CAP SCR .38-16X 2.25 HH GR5 Z		2
45.	72060004	CAP SCR .25-20X 1.00 HH GR5 Z (effective from 04/25/13)		2
48.	72060048	CAP SCR .38-16X 1.50 HH GR5 Z	#1	2
49.	72063003	WASHER .38 FLAT	#1	4
50.	71415014	KEEPER PIN 0.38 (effective from 12/05/12)		1
51.	60140642	BRKT 3203-4004 VALVE MNT (effective from 04/25/13)		1
52.	72062103	NUT 0.38-16 HEX NYLOCK (effective from 04/25/13)	#1	2
53.	72060021	CAP SCR 0.31-18 X 0.5 HH GR5 Z (effective from 10/11/12)	#1	1
54.	72063050	WASHER-LOCK 0.31 ZINC (effective from 10/11/12)	#1	1
REV. R 20140916				

Base & Mast Assembly (99904315) (See Parts List for Effectivity Dates)

WARNING
 Avoid injury! Do NOT connect electrical power to crane until all connections have been tested. Attach electrical wires and grounds to components before connecting to mast.



NOTES (SEE REFERENCE NUMBER IN BOX):

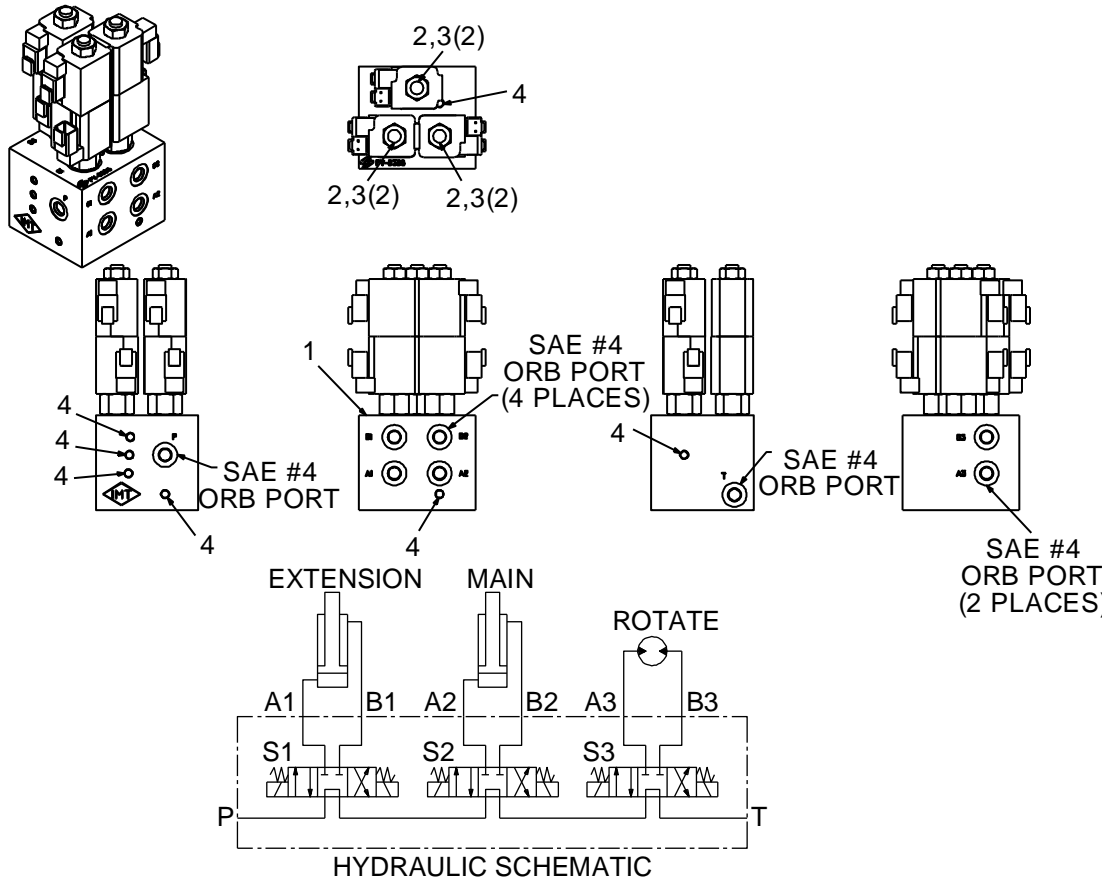
- 1 BOLTS CONNECT WITH PART NUMBER 52721306.
- 2 TORQUE TO 142 N-m (105 FT-LB).
- 3 APPLY RUST PREVENTATIVE
- 4 APPLY BLACK "MOLUB-ALLOY 882 HEAVY" GEAR GREASE TO TURNTABLE GEAR.
- 5 ALIGN WITH 72601939 CAP SCREWS.
- 6 TORQUE TO 133 N-m (98 FT-LB).
- 7 USE NEVER-SEEZ ON PIN.

99904315 PARTS LIST

ITEM	PART #	DESCRIPTION	KIT #	QTY
1.	51721319	HARDWARE KIT-BASE & MAST ASSEMBLY		1
2.	91722219	ELEC. INSTALLATION KIT- 3203I		1
3.	51721322	HYDRAULIC KIT (effective through 09/06/13)		1
4.	51721267	CYLINDER- 2.75B X 1.75R X 16.06S 46.50 CC C		1
5.	52721258	BASE WELDMENT- 3203I (effective through 06/12/13)		1
6.	52722160	MAST WELDMENT-3203I (effective through 04/25/13)		1
7.	52721265	PIN (effective through 12/05/12)		1
8.	52721301	WELDMENT-GEAR SHROUD (effective through 12/26/12)		1
	60140637	(effective 12-17-12)		
9.	52721306	WELDMENT-ELECTRIC ROTATOR BRACKET TOP (effective through 05/10/13)		1
10.	52721307	WELDMENT- ELECTRIC ROTATOR BRACKET BOTTOM (effective through 05/10/13)		1
11.	60132385	SPACER- POWER UNIT		1
12.	77441336	SWITCH- 275A CONTACTOR (effective through 04/25/13)		1
13.	60133635	CONTACT JUNCTION (effective through 04/25/13)		1
14.	70580194	CLAMP-1" CONDUIT HANGER W/BOLT		2
15.	71056634	GEAR-TURNABLE BEARING (effective through 06/12/13)		1
16.	72601931	CAP SCREW .44-14X 3.00 HH 156 KSI PROOF LOAD (effective through 06/12/13)		16
17.	73511156	MOTOR-HYDRAULIC 101 1035 009		1
18.	73511169	POWER UNIT- 1.59CC 12VDC GC (effective through 10/11/12)		1
19.	73734304	VALVE BANK-3 SEC SERIES 3GPM @ 500PSI		1
20.	76039295	GASKET		REF
21.	70034382	CAP-GREASE	#1	5
22.	72060000	CAP SCREW .25-20X .50 HH GR5 Z	#1	4
23.	72060002	CAP SCREW .25-20X .75 HH GR5 Z	#1	5
24.	72060044	CAP SCREW .38-16X .75 HH GR5 Z (effective through 11/17/08)	#1	2
25.	72060046	CAP SCREW .38-16X 1.00 HH GR5 Z	#1	1
26.	72062002	NUT .38-16 HEX	#1	1
27.	72062104	NUT .25-20 HEX NYLOCK (effective through 04/25/13)	#1	2
28.	72062107	NUT .50-13 HEX CENTER LOCK Z	#1	2
29.	72063001	WASHER .25 FLAT (effective through 06/21/13)	#1	7
30.	72063034	MACHINERY BUSHING 1.00X10 GA NR (effective through 12/05/12)	#1	1
31.	72063049	WASHER .25 LOCK	#1	9
32.	72063051	WASHER .38 LOCK	#1	4
33.	72063053	WASHER .50 LOCK	#1	2
34.	72063132	WASHER .50 FLAT ASTM F436 (effective through 06/12/13)	#1	4
35.	72063271	WASHER # 8 W FLAT ANSI B27.2Z	#1	4
36.	72063269	WASHER .44 N FLAT H ASTM F436 (effective through 06/12/13)	#1	16
37.	72066125	RETAINING RING-EXT 1.00 HD (effective through 12/05/12)	#1	1
38.	72534418	ZERK-NPT .12 X 1.75 LG	#1	1
39.	72601932	CAP SCREW .50-13X 4.00 SH ZC	#1	13
40.	72601939	CAP SCREW .50-13X 4.50 SH ZC	#1	2
41.	72602009	SCR-MACH # 8-32X 1.25 BTNHD SS	#1	4
42.	72601941	SCR-MACH .25-20X .38 BTNHD ZC (effective through 04/25/13)	#1	1
43.	72601949	CAP SCREW .50-13X 1.25 SH ZC	#1	2

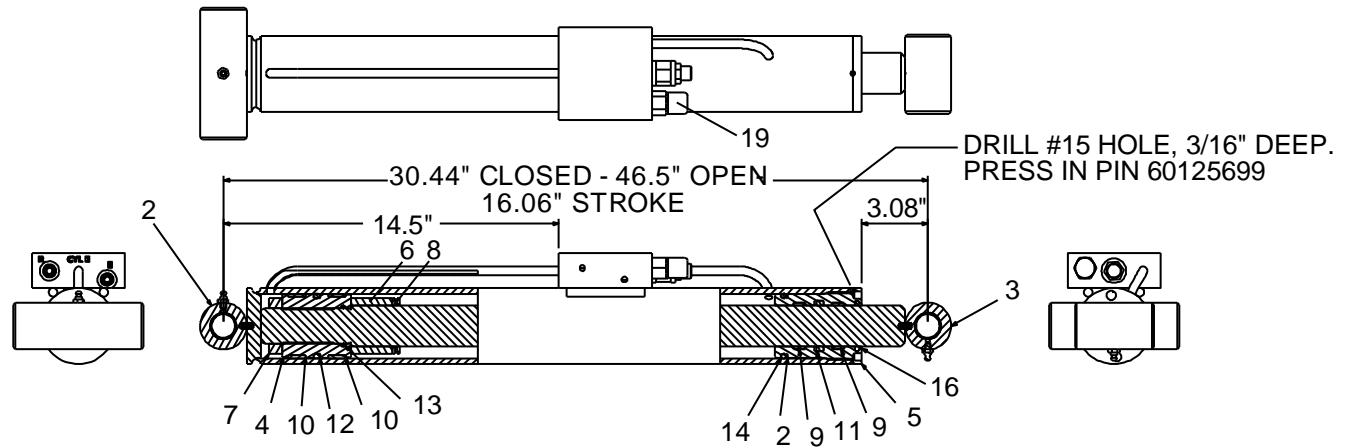
99904315 PARTS LIST				
ITEM	PART #	DESCRIPTION	KIT #	QTY
44.	51721664	CABLE ASM- 1GA-5/16RNGX 1/4RNGX 48.00LG	#2	1
45.	51721943	CABLE ASM- 1GA-3/8RNGX SWVL FX 11.00LG	#2	1
46.	51721944	CABLE ASM- 1GA-3/8RNGX SWVL MX 60.00LG	#2	1
47.	77441312	CABLE ASM-10GA-#10RNGX 1/4RNGX 6.00LG	#2	1
48.	72531130	ELBOW-STREET STL .12 X 90 DEG (effective through 09/06/13)	#3	1
49.	72062207	NUT 8-32 HEX NYLOCK	#1	4
50.	72060051	CAP SCR .38-16X 2.25 HH GR5 Z		2
51.	72060004	CAP SCR .25-20X 1.00 HH GR5 Z (effective through 04/25/13)		2
REV. G 20090518				

Valve Bank (73734304)



73734304 PARTS LIST (12V)			
ITEM	PART #	DESCRIPTION	QUANTITY
1.		MANIFOLD VALVE BODY	1
2.	73540326	SOLENOID VALVE 12V (INCLUDES COIL)	3
3.	73540327	COIL, 12V	6
4.		PLUG, EXPANDER, 7MM	7
REV A 20081028			
73734375 PARTS LIST (24V)			
ITEM	PART #	DESCRIPTION	QUANTITY
1.		MANIFOLD VALVE BODY	1
2.	73540336	SOLENOID VALVE 24V (INCLUDES COIL)	3
3.	73540527	COIL, 24V	6
4.		PLUG, EXPANDER, 7MM	7
REV A 20081028			

Cylinder, Lower (51721267)



NOTES:

- 1 TO REDUCE DOWNTIME, REPLACE ALL COMPONENTS OF THE SEAL KIT WHENEVER THE CYLINDER IS DISASSEMBLED.
- 2 APPLY 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 #8, STOP TUBE, REPLACES 6A025017 WAFER LOCK. USE STOP TUBE INSTEAD OF WAFER LOCK WHEN RESEALING CYLINDER.

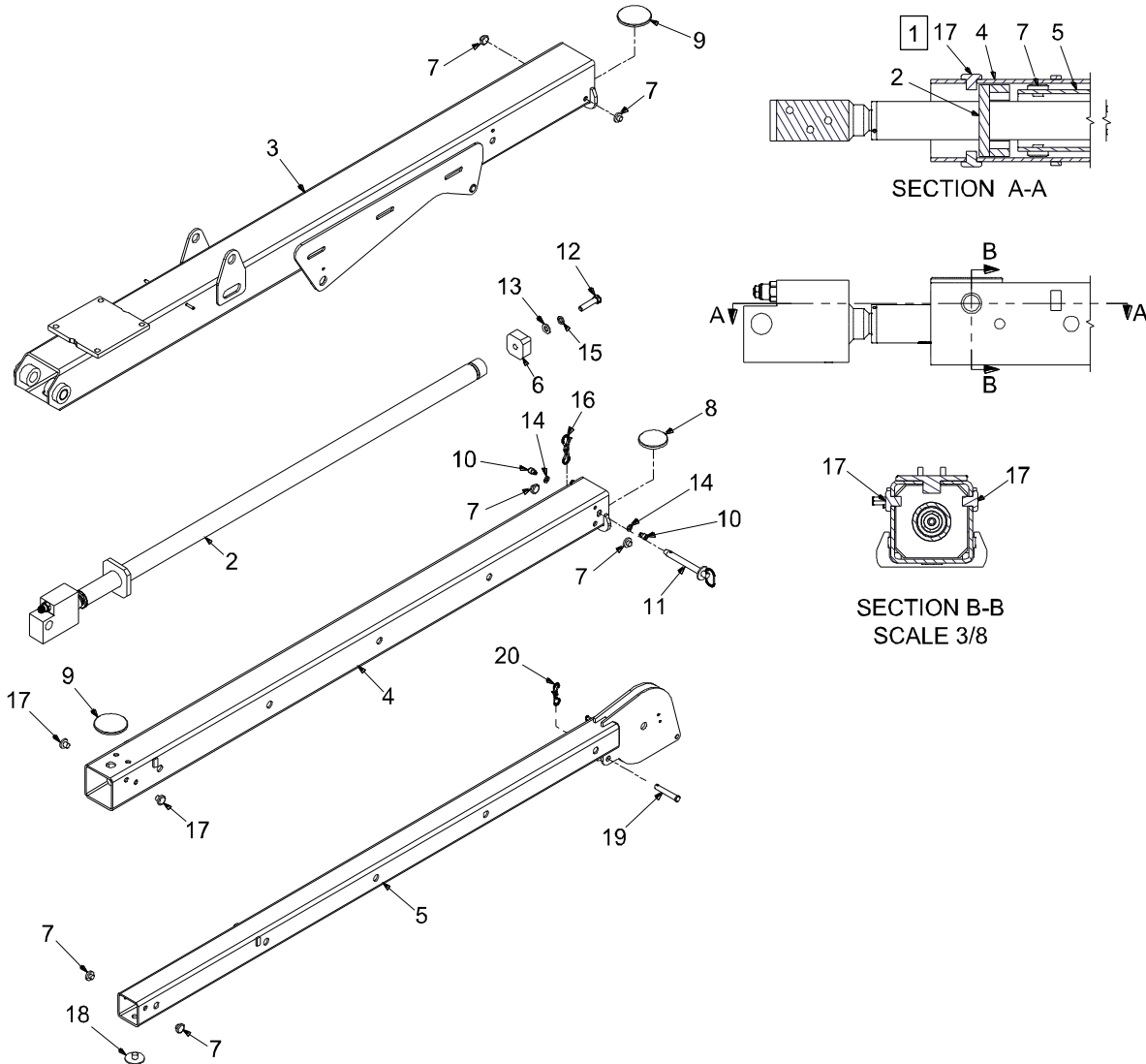
51721267 CYLINDER DATA	
CASE	ø8.3 cm (3.25") OUTSIDE DIAMETER X ø7.0 cm (2.75") BORE X 69.0 cm (27.19") LENGTH
ROD	ø4.4 cm (1.75") X 73.2 cm (28.81") LONG
STROKE	40.8 cm (16.06")
DRY WEIGHT	26.3 kg (57.94 LB)
TEST PRESSURE	207 N-m (3000 PSI)
OPERATING PRESSURE	172 bar (2500 PSI)
TORQUES	PISTON 82-85 KG-M (710-740 PSI)
	HEAD 38 KG-M (275 FT-LB)
	CARTRIDGE 4-4.8 KG-M (30-35 FT-LB)
	CAP SCREW 2.2 KG-M (16 FT-LB)

51721267 PARTS LIST				
ITEM	PART #	DESCRIPTION	KIT #	QUANTITY
1.	51744137	SEAL KIT	#20	1
2.	52721303	CASE ASSEMBLY	#20	1
3.	52721304	ROD ASSEMBLY	#20	1
4.	60127432	PISTON	#20	1
5.	60127434	HEAD	#20	1

51721267 PARTS LIST				
ITEM	PART #	DESCRIPTION	KIT #	QUANTITY
6.	6C175017	STOP TUBE	#20	1
7.	72062305	COLLAR-LOCK	#20	1
8.	60138273	STOP TUBE (WAS 6A025017)	#20	1
9.	7T2NX420	WEAR RING-ROD	#1	2
10.	76396596	WEAR RING-PISTON	#1	2
11.	76396597	SEAL- ROD	#1	1
12.	76396598	PISTON SEAL-DYNAMIC	#1	1
13.	7Q072222	O RING	#1	1
14.	7Q072332	O RING	#1	1
15.	7Q10P332	BACKUP RING	#1	1
16.	7R14P017	ROD WIPER -	#1	1
17.	60125699	PIN - LOCK TUBE	#1	1
19.	77041786	PRESSURE SWITCH, 2750 PSI		1
20.	51721267A	CYLINDER		1
21.	73054999	VALVE, COUNTERBALANCE	#2	1
REV. D 20120326				

Boom Assembly (99904316) (See Parts List for Effectivity Dates)

Boom Assembly - 1 Hydraulic & 1 Manual Extension



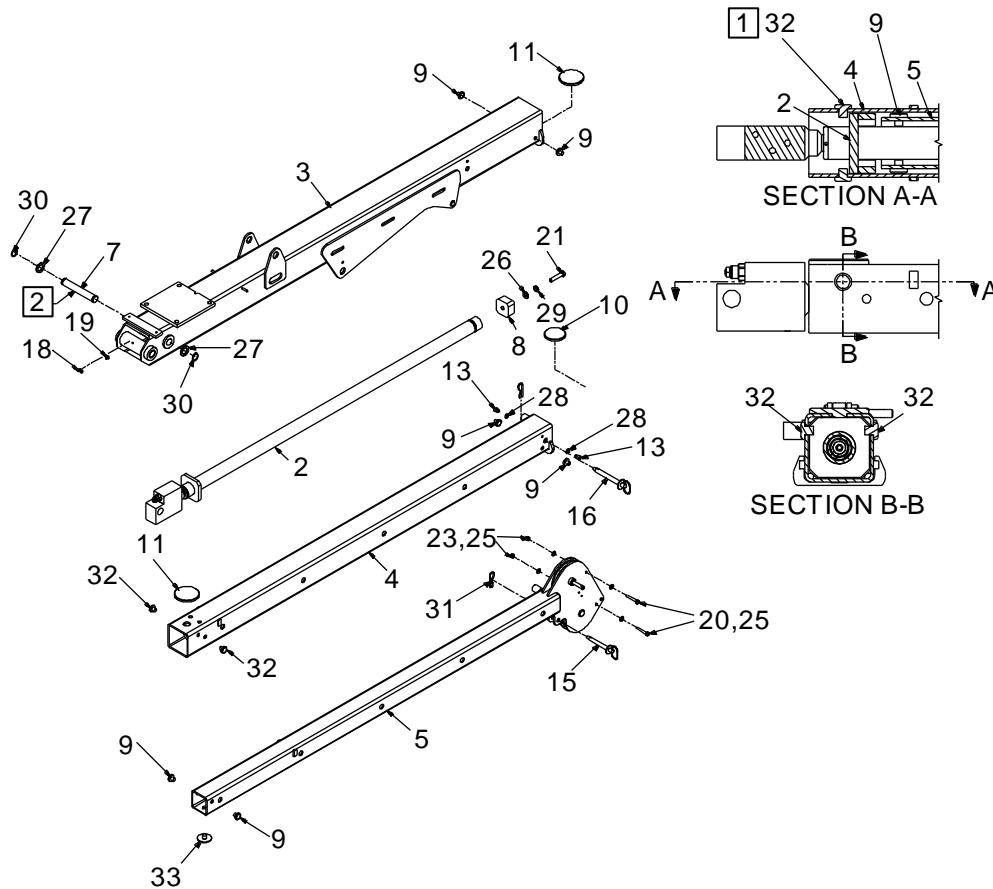
NOTES (SEE REFERENCE NUMBER IN BOX):

5 INSTALL WEAR PADS AFTER INSTALLING CYLINDER.

99904316-2 PARTS LIST				
ITEM	PART #	DESCRIPTION	KIT #	QTY
1.	51721320	KIT-HRDW 3203 HYD BOOM ASY		1
2.	51725007	CYLINDER (WAS 51721291 THRU 12-29-08) (effective from 01/09/13)		1
3.	52724108	LOWER BOOM WELDED COMPONENT – 3203i (WAS 52721260 THRU 12-29-08, 52722118 THRU 5-1-11)		1

99904316-2 PARTS LIST				
ITEM	PART #	DESCRIPTION	KIT #	QTY
4.	52721261	WELDED COMPONENT- EXTENSION 1ST STAGE 3203i		1
5.	52725021	WELDED COMPONENT- 2ND STAGE EXTENSION 3203i (effective from 01/09/13)		1
6.	60030373	WEAR PAD- EXT CYLINDER		1
7.	60030374	WEAR PAD-RND 0.25X 1.00X .50X .31		6
8.	60030375	WEAR PAD-RND 0.30X 3.00X 1.00X .25		1
9.	60030376	WEAR PAD-RND 0.30X 3.50X 1.00X 0.615		2
10.	60132302	STOP SCREW 3/8-24 X .50		4
11.	71734311	PIN-QUICK RLSE .62D/4.5 CRIT		1
12.	72060928	CAP SCR .50-13X 2.25 HH GR5 Z	#1	1
13.	72063005	WASHER .50 FLAT	#1	1
14.	72063051	WASHER .38 LOCK	#1	4
15.	72063053	WASHER .50 LOCK	#1	1
16.	70734912	COTTER PIN BOWTIE .63		REF
17.	60133938	WEAR PAD-RND 0.25X 1.00X .50X .50 STL		2
18.	60030369	WEAR PAD-RND 0.19X 2.00X 0.60X .50		1
19.	72661711	CLEVIS PIN .50 X 3.00		REF
20.	70734805	COTTER PIN BOWTIE .50		REF
REV. P 20150313				

Boom Assembly - 1 Hydraulic & 1 Manual Extension



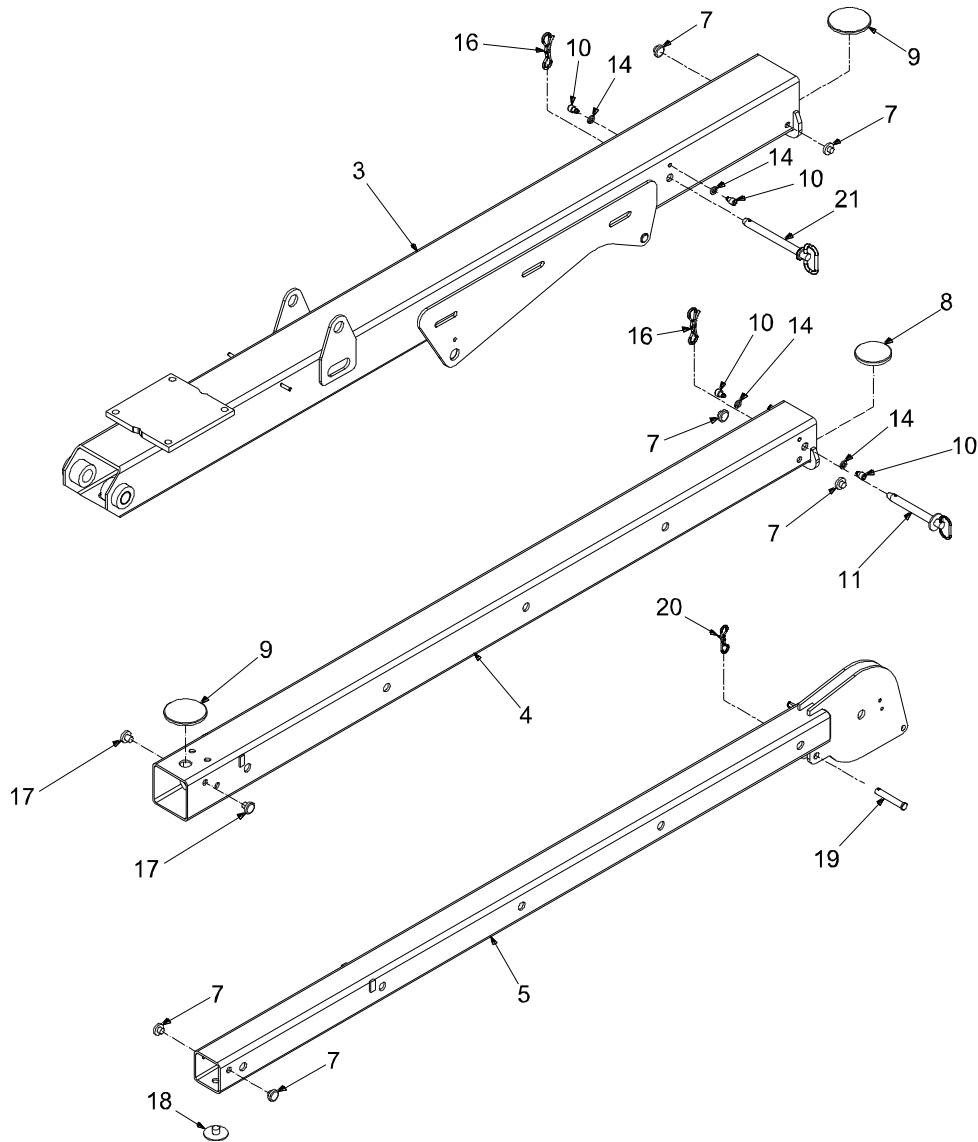
NOTES (SEE REFERENCE NUMBER IN BOX):

- 1 INSTALL WEAR PADS AFTER INSTALLING CYLINDER.
- 2 APPLY ANTI-SEEZ.

99904316-2 PARTS LIST				
ITEM	PART #	DESCRIPTION	KIT #	QUANTITY
1.	51721320	HARDWARE KIT-BOOM ASSEMBLY		1
2.	51722111	CYLINDER (WAS 51721291 THRU 12-29-08) (effective through 01/09/13)		1
3.	52724108	LOWER BOOM WELDED COMPONENT - 3203I (WAS 52721260 THRU 12-29-08, 52722118 THRU 5-1-11)		1
4.	52721261	WELDED ASSEMBLY- EXTENSION 1ST STAGE 3203I		1
5.	52721262	WELDED ASSEMBLY- 2ND STAGE EXTENSION 3203I		1
7.	60010469	PIN (effective through 01/09/13)		1
8.	60030373	WEAR PAD- EXTENSION CYLINDER		1
9.	60030374	WEAR PAD-ROUND		6
10.	60030375	WEAR PAD-ROUND		1
11.	60030376	WEAR PAD-ROUND		2
13.	60132302	STOP SCREW 3/8-24 X .50		4
15.	71734310	PIN-QUICK RELEASE (effective through 11/14/12)		1
16.	71734311	PIN-QUICK RELEASE		1

99904316-2 PARTS LIST				
ITEM	PART #	DESCRIPTION	KIT #	QUANTITY
18.	70034382	CAP-GREASE (effective through 01/09/13)	#1	1
19.	72053507	ZERK-STR THD .25-28 (effective through 01/09/13)	#1	1
20.	72060029	CAP SCREW .31-18X 2.00 HH GR5 Z (effective through 01/09/13)	#1	2
21.	72060928	CAP SCREW .50-13X 2.25 HH GR5 Z	#1	1
23.	72062109	NUT .31-18 HEX NYLOCK (effective through 01/09/13)	#1	2
25.	72063002	WASHER .31 FLAT (effective through 016/09/13)	#1	4
26.	72063005	WASHER .50 FLAT	#1	1
27.	72063034	MACHINERY BUSHING 1.00X10 GA NR (effective through 01/09/13)	#1	2
28.	72063051	WASHER .38 LOCK	#1	4
29.	72063053	WASHER .50 LOCK	#1	1
30.	72066125	RETAINING RING-EXT 1.00 HD (effective through 01/09/13)	#1	2
31.	72066144	HAIR PIN .16 ZINC		REF
32.	60133938	WEAR PAD-ROUND		2
33.	60030369	WEAR PAD-ROUND 2" DIA X .60 DIA X 1 LONG		1
REV. H 20110610				

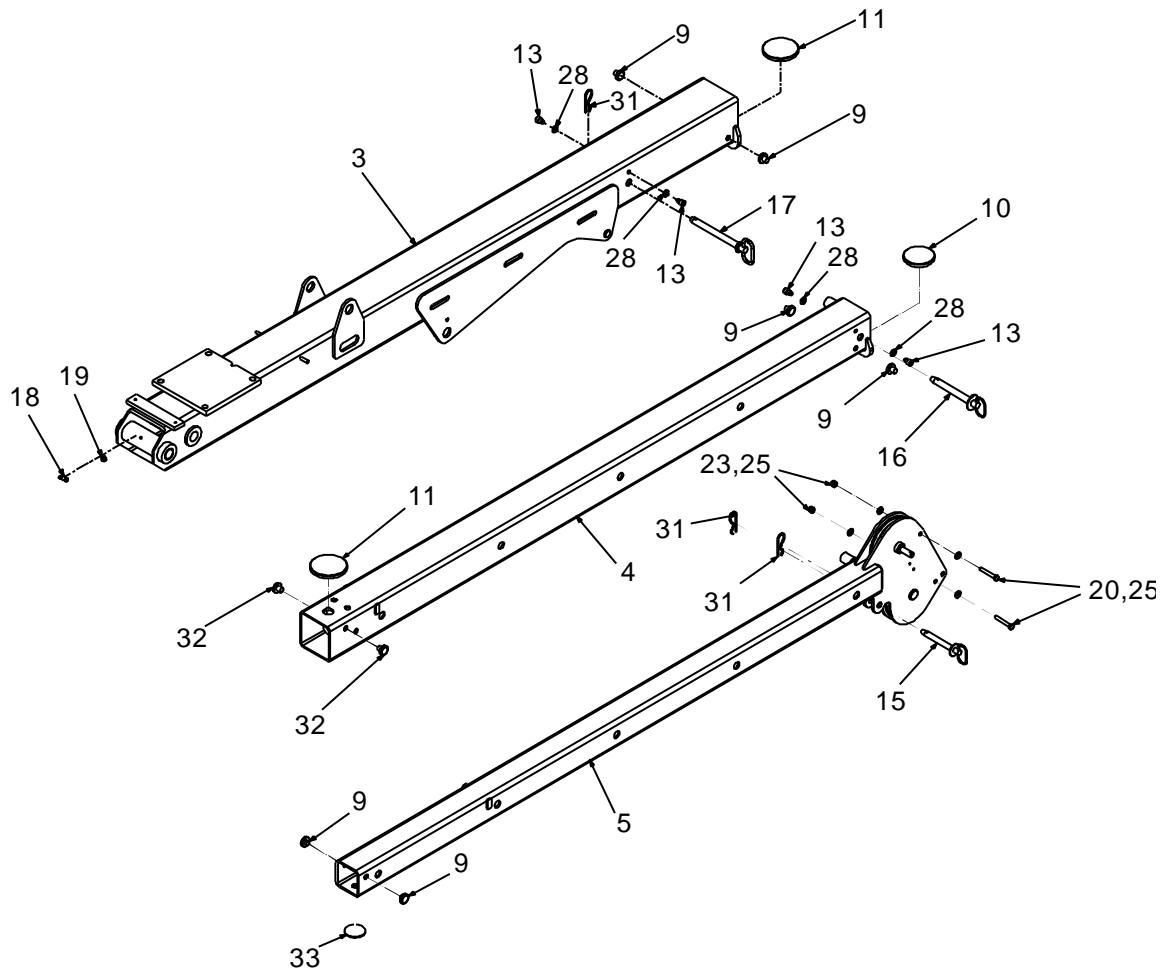
Boom Assembly - 2 Manual Extensions (See Parts List for Effectivity Dates)



99904316-3 PARTS LIST				
ITEM	PART #	DESCRIPTION	KIT #	QTY
1.	51721320	HARDWARE KIT-3203i HYDRAULIC BOOM ASSEMBLY		1
3.	52724108	WELDED ASSEMBLY-LOWER BOOM 3203i (WAS 52722118)		1
4.	52721261	WELDED ASSEMBLY- EXTENSION 1ST STAGE 3203i		1
5.	52725021	WELDED ASSEMBLY- 2ND STAGE EXTENSION 3203i (effective from 01/09/13)		1
7.	60030374	WEAR PAD-ROUND		6
8.	60030375	WEAR PAD-ROUND		1
9.	60030376	WEAR PAD-ROUND		2

99904316-3 PARTS LIST				
ITEM	PART #	DESCRIPTION	KIT #	QTY
10.	60132302	STOP SCREW 3/8-24 X .50		4
11.	71734311	PIN-QUICK RELEASE		1
14.	72063051	WASHER .38 LOCK	#1	4
16.	70734912	COTTER PIN BOWTIE .63		REF
17.	60133938	WEAR PAD-ROUND		2
18.	60030369	WEAR PAD-ROUND		1
19.	72661711	CLEVIS PIN 0.5 X 3.00		REF
20.	70734805	BOWTIE COTTER PIN		REF
21.	71734314	PIN-QUICK RELEASE		1
REV. P 20150313				

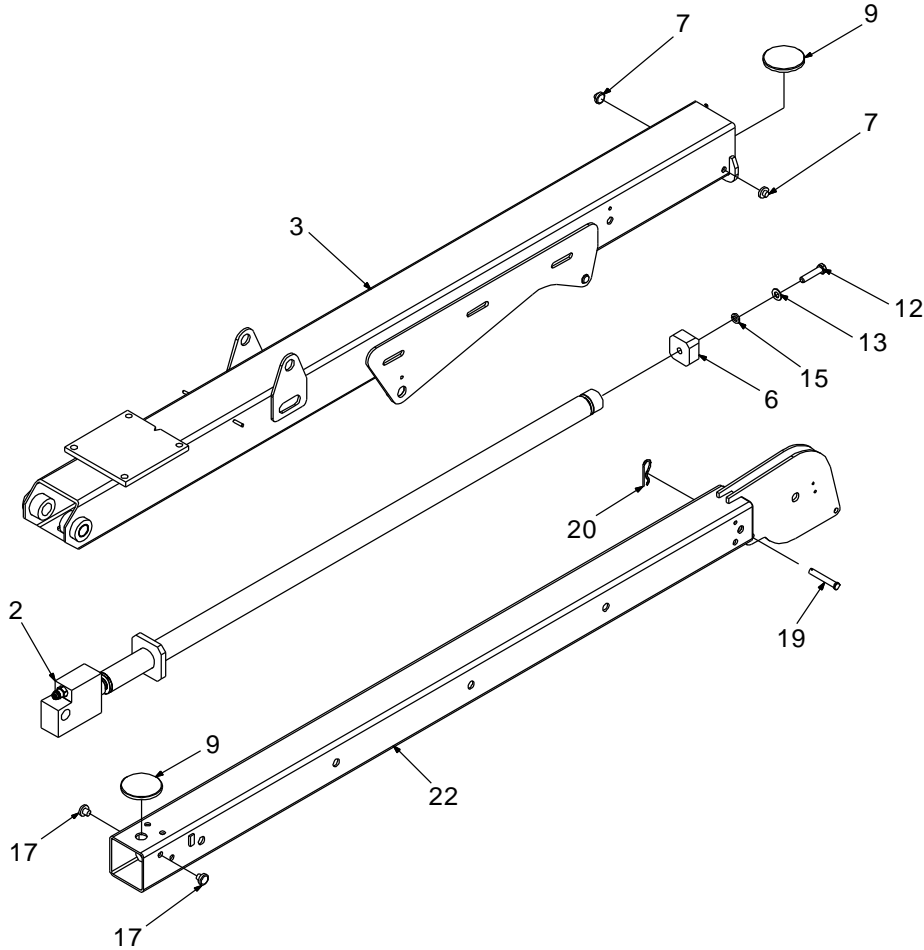
Boom Assembly - 2 Manual Extensions (See Parts List for Effectivity Dates)



99904316-3 PARTS LIST				
ITEM	PART #	DESCRIPTION	KIT #	QUANTITY
1.	51721320	HARDWARE KIT-3203i HYDRAULIC BOOM ASSEMBLY		1
3.	52724108	WELDED ASSEMBLY-LOWER BOOM 3203I (WAS 52722118)		1
4.	52721261	WELDED ASSEMBLY- EXTENSION 1ST STAGE 3203I		1
5.	52721262	WELDED ASSEMBLY- 2ND STAGE EXTENSION 3203I (effective through 01/09/13)		1
9.	60030374	WEAR PAD-ROUND		6
10.	60030375	WEAR PAD-ROUND		1
11.	60030376	WEAR PAD-ROUND		2
13.	60132302	STOP SCREW 3/8-24 X .50		4
15.	71734310	PIN-QUICK RELEASE (effective through 11/14/12)		1
16.	71734311	PIN-QUICK RELEASE		1
17.	71734314	PIN-QUICK RELEASE		1
18.	70034382	CAP-GREASE (effective through 01/09/13)	#1	1
19.	72053507	ZERK-STR THD .25-28 (effective through 01/09/13)	#1	1
20.	72060029	CAP SCREW .31-18X 2.00 HH GR5 Z (effective to 01/09/13)	#1	2

99904316-3 PARTS LIST				
ITEM	PART #	DESCRIPTION	KIT #	QUANTITY
REV. H 20110610				

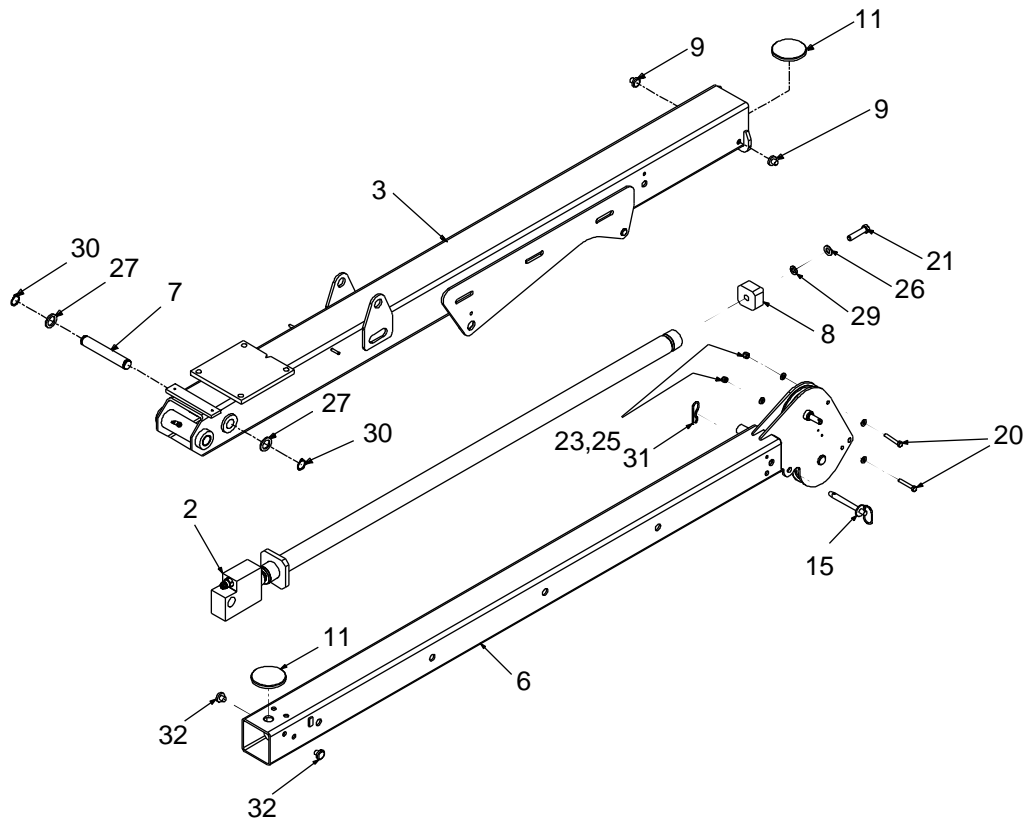
Boom Assembly - 1 Hydraulic Extension (See Parts List for Effectivity Dates)



99904316-4 PARTS LIST				
ITEM	PART #	DESCRIPTION	KIT #	QTY
1.	51721320	HARDWARE KIT		1
2.	51725007	CYLINDER (WAS 51721291 THRU 12-29-08) (effective from 01/09/13)		1
3.	52724108	LOWER BOOM WELDED COMPONENT - 3203I (WAS 52721260 THRU 12-29-08, 52722118 THRU 5-1-11)		1
6.	60030373	WEAR PAD- EXTENSION CYLINDER		1
7.	60030374	WEAR PAD-ROUND		2
9.	60030376	WEAR PAD-ROUND		2
13.	72063005	WASHER .50 FLAT	#1	1
15.	72063053	WASHER .50 LOCK	#1	1
17.	60133938	WEAR PAD-ROUND		2
19.	72661711	CLEVIS PIN 0.50 X 3.00		REF
20.	70734912	COTTER PIN BOWTIE .63		REF

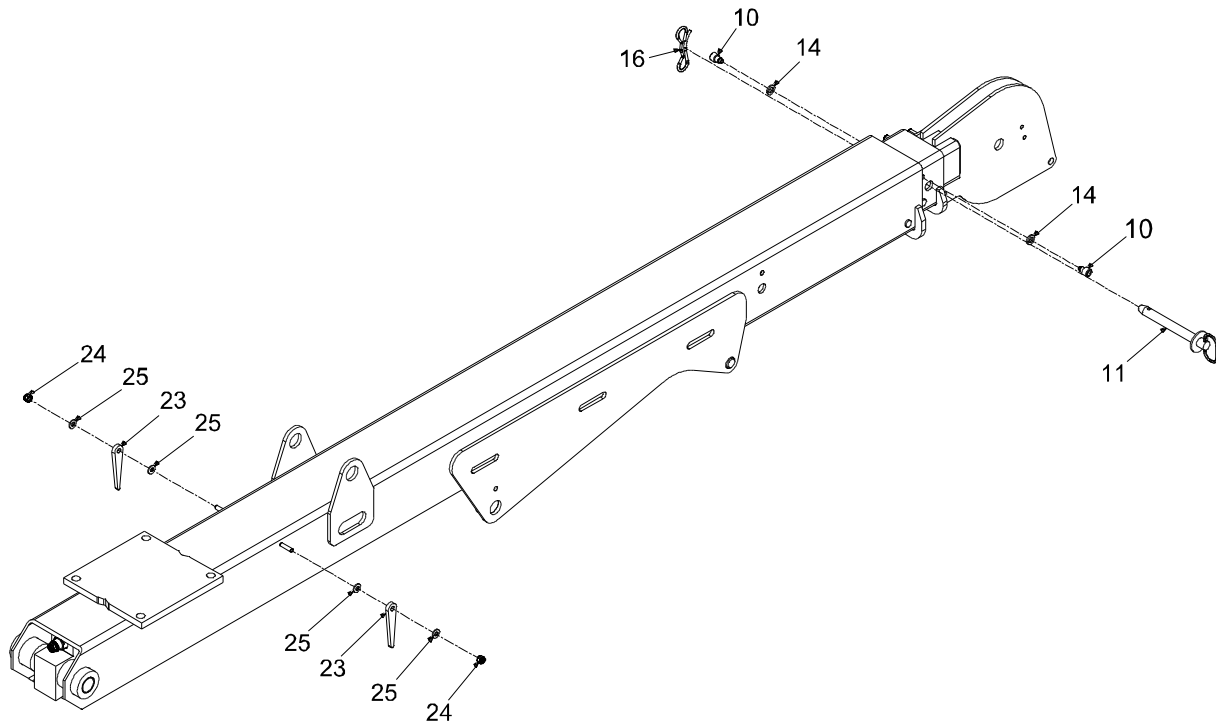
99904316-4 PARTS LIST				
ITEM	PART #	DESCRIPTION	KIT #	QTY
22.	52725022	WELDED COMPONENT- 2ND STAGE MANUAL EXTENSION 3203I (effective from 01/09/13)		1
REV. P 20150313				

Boom Assembly - 1 Hydraulic Extension (See Parts List for Effectivity Dates)



99904316-4 PARTS LIST				
ITEM	PART #	DESCRIPTION	KIT #	QUANTITY
1.	51721320	HARDWARE KIT		1
2.	51722111	CYLINDER (WAS 51721291 THRU 12-29-08) (effective through 01/09/13)		1
3.	52724108	LOWER BOOM WELDED COMPONENT - 3203I (WAS 52721260 THRU 12-29-08, 52722118 THRU 5-1-11)		1
6.	52721263	WELDED COMPONENT- 2ND STAGE MANUAL EXTENSION 3203I (effective through 01/09/13)		1
	52725022	(effective 12-17-12)		
7.	60010469	PIN (effective through 01/09/13)		1
8.	60030373	WEAR PAD- EXTENSION CYLINDER		1
9.	60030374	WEAR PAD-ROUND		2
11.	60030376	WEAR PAD-ROUND		2
15.	71734310	PIN-QUICK RELEASE (effective through 11/14/12)		1
18.	70034382	CAP-GREASE (effective through 01/09/13)	#1	1

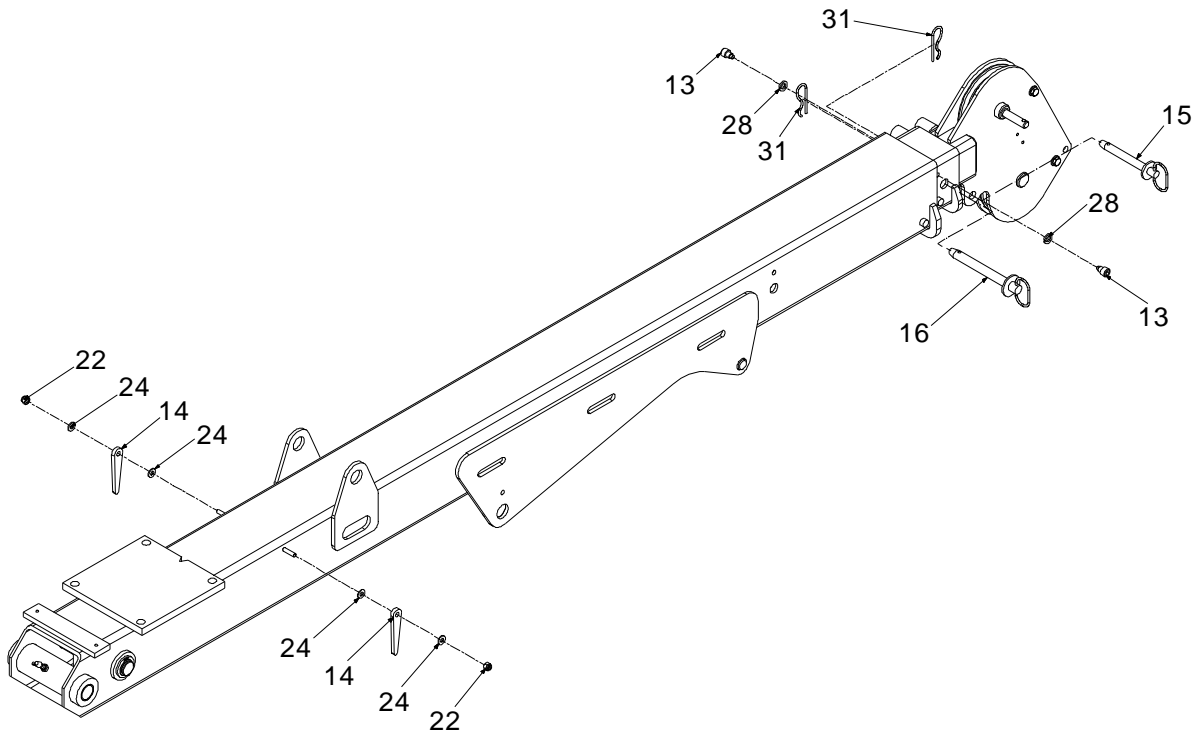
99904316-4 PARTS LIST				
ITEM	PART #	DESCRIPTION	KIT #	QUANTITY
19.	72053507	GREASE POINT-STR THD .25-28 (effective through 01/09/13)	#1	1
20.	72060029	CAP SCREW .31-18X 2.00 HEX HEAD GRADE 5 ZINC (effective through 01/09/13)	#1	2
21.	72060928	CAP SCREW .50-13X 2.25 HEX HEAD GRADE 5 ZINC	#1	1
23.	72062109	NUT .31-18 HEX NYLOC (effective through 01/09/13)	#1	2
25.	72063002	WASHER .31 FLAT (effective through 01/09/13)	#1	4
26.	72063005	WASHER .50 FLAT	#1	1
27.	72063034	MACHINERY BUSHING 1.00X10 GA NR (effective through 01/09/13)	#1	2
29.	72063053	WASHER .50 LOCK	#1	1
30.	72066125	RETAINING RING-EXT 1.00 HD (effective through 01/09/13)	#1	2
31.	72066144	HAIR PIN .16 ZINC		1
32.	60133938	WEAR PAD-ROUND		2
REV. H 20110610				

Boom Assembly - 1 Hydraulic Extension & 1 Manual Extension (See Parts List for Effectivity Dates)**99904316-5 PARTS LIST**

ITEM	PART #	DESCRIPTION	KIT #	QTY
1.	51721320	KIT-HRDW 3203 HYD BOOM ASY		1
10.	60132302	STOP SCREW 3/8-24 X .50		4
11.	71734311	PIN-QUICK RLSE .62D/4.5 CRIT		1
14.	72063051	WASHER .38 LOCK	#1	4
16.	70734912	COTTER PIN BOWTIE .63		REF
23.	70034490	PLATE-ANGLE PLASTIC 3.50"		2
24.	72062104	NUT .25-20 HEX NYLOCK	#1	2
25.	72063001	WASHER .25 FLAT	#1	4

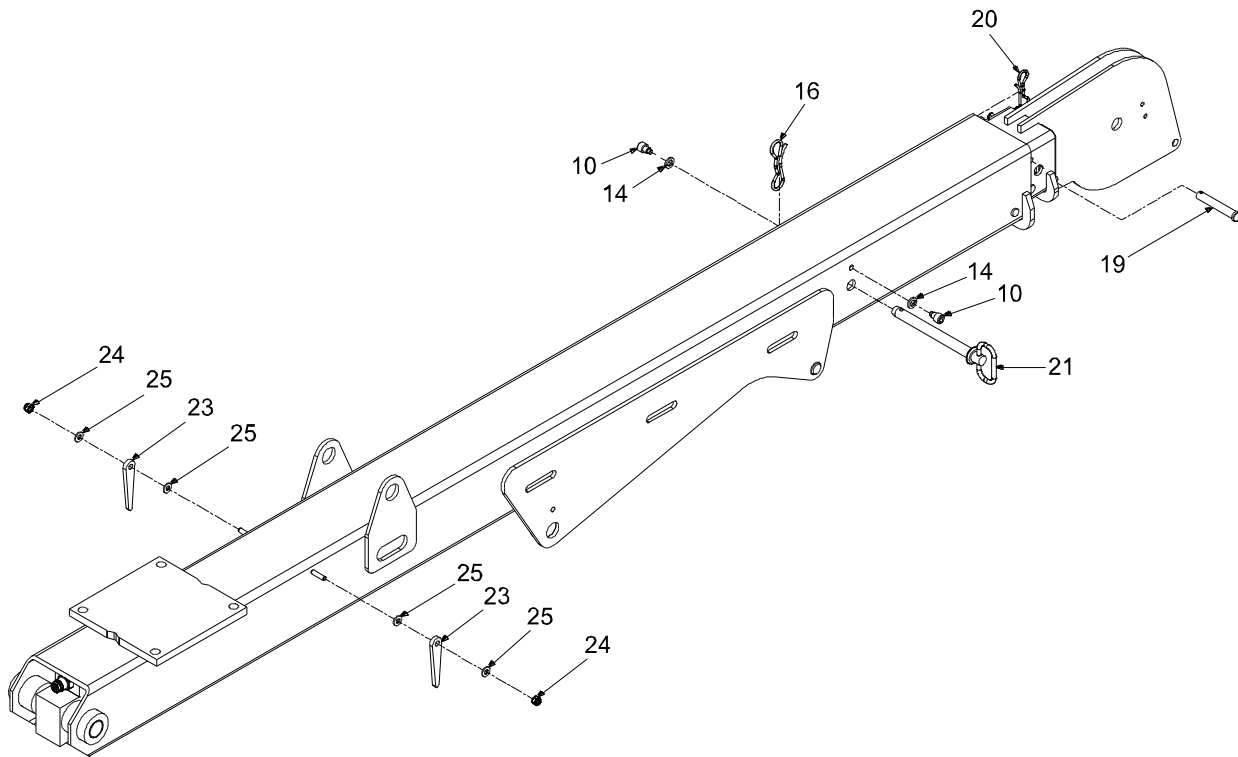
REV. P 20150313

Boom Assembly - 1 Hydraulic Extension & 1 Manual Extension (See Parts List for Effectivity Dates)



99904316-5 PARTS LIST				
ITEM	PART #	DESCRIPTION	KIT #	QUANTITY
1.	51721320	HARDWARE KIT-BOOM ASSEMBLY		1
13.	60132302	STOP SCREW 3/8-24 X .50		2
14.	70034490	PLATE-ANGLE PLASTIC 3.50"		2
15.	71734310	PIN-QUICK RELEASE (effective through 11/24/12)		1
16.	71734311	PIN-QUICK RELEASE		1
18.	70034382	CAP-GREASE (effective through 01/09/13)	#1	1
22.	72062104	NUT .25-20 HEX NYLOCK	#1	2
24.	72063001	WASHER .25 FLAT	#1	4
28.	72063051	WASHER .38 LOCK	#1	4
31.	72066144	HAIR PIN .16 ZINC		REF
REV. H 20110610				

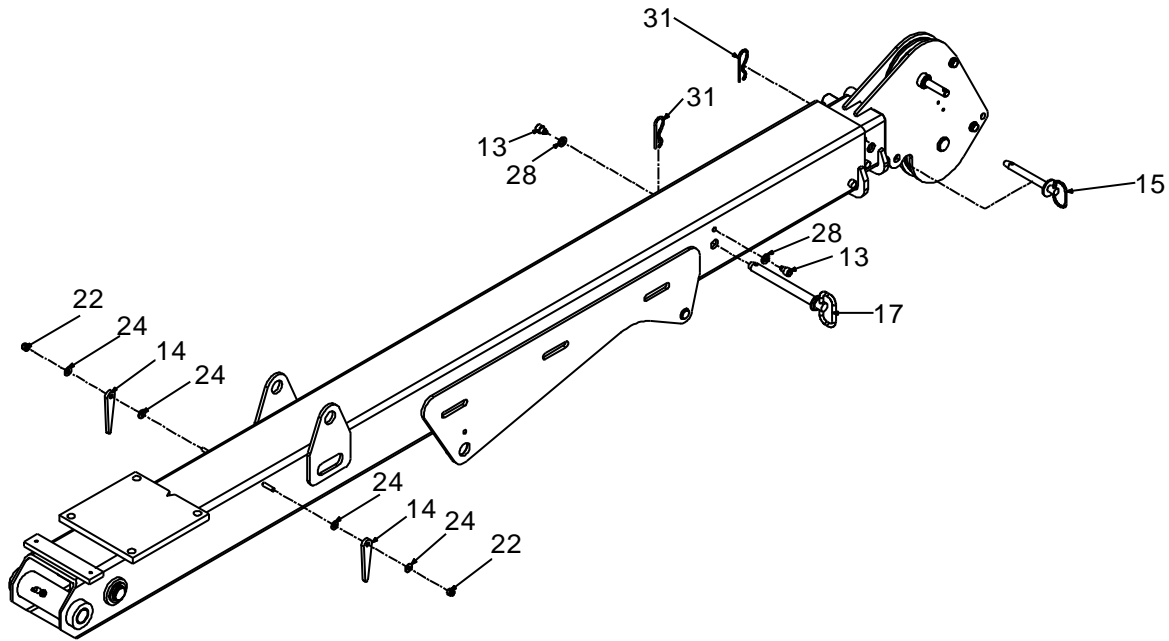
Boom Assembly - 1 Manual Extension (See Parts List for Effectivity Dates)



99904316-6 PARTS LIST				
ITEM	PART #	DESCRIPTION	KIT #	QTY
1.	51721320	KIT-HRDW 3203 HYD BOOM ASY		1
10.	60132302	STOP SCREW 3/8-24 X .50		4
14.	72063051	WASHER .38 LOCK	#1	4
16.	70734912	COTTER PIN BOWTIE .63		REF
19.	72661711	CLEVIS PIN .50 X 3.00		REF
20.	70734805	COTTER PIN BOWTIE .50		REF
21.	71734314	PIN-QUICK RLSE .62D/5.75 CRIT		1
23.	70034490	PLATE-ANGLE PLASTIC 3.50"		2
24.	72062104	NUT .25-20 HEX NYLOCK	#1	2
25.	72063001	WASHER .25 FLAT	#1	4

REV. P 20150313

Boom Assembly - 1 Manual Extension (See Parts List for Effectivity Dates)

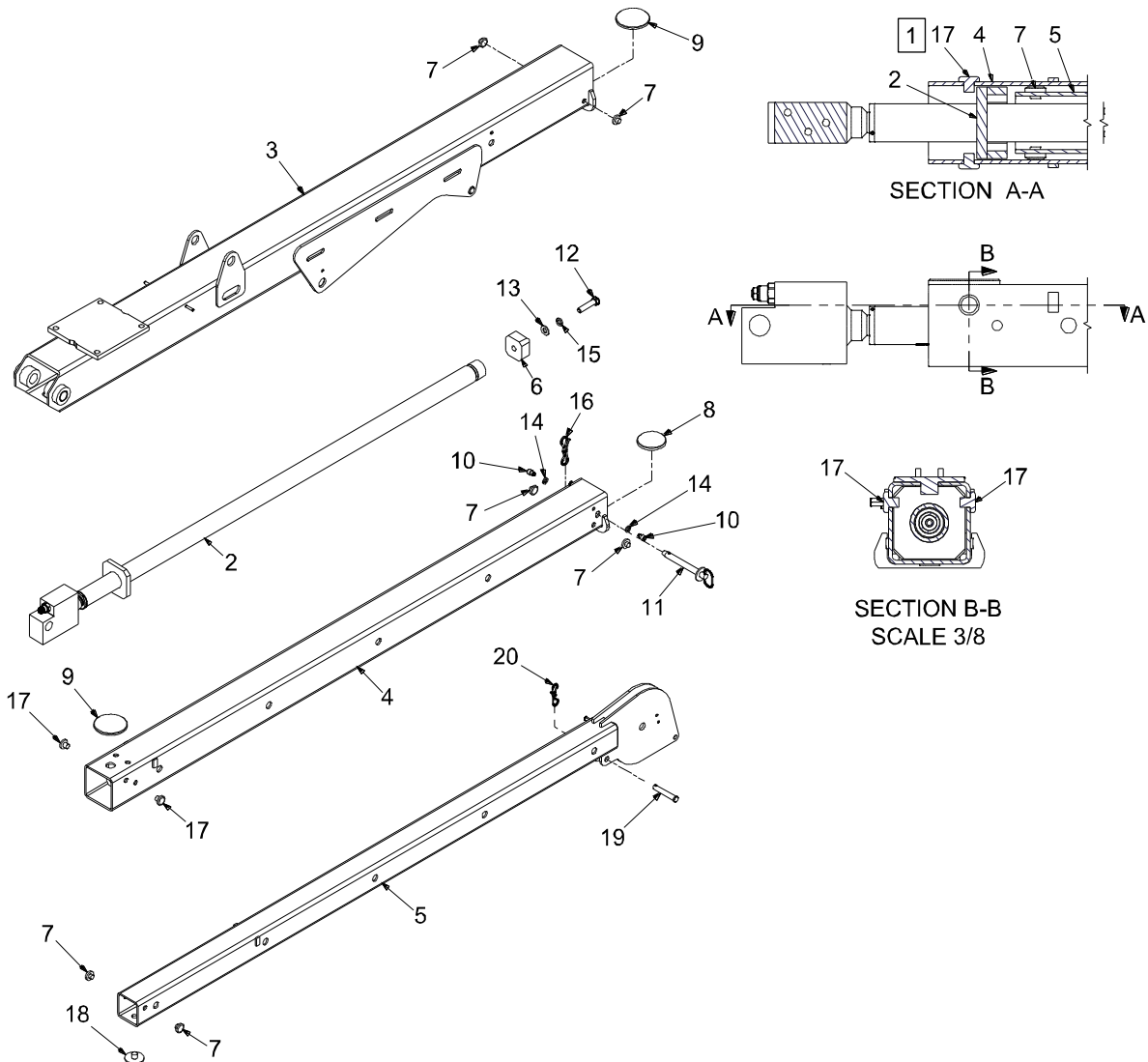


99904316-6 PARTS LIST

ITEM	PART #	DESCRIPTION	KIT #	QUANTITY
1.	51721320	HARDWARE KIT-BOOM ASSEMBLY		1
13.	60132302	STOP SCREW 3/8-24 X .50		4
14.	70034490	PLATE-ANGLE PLASTIC 3.50"		2
15.	71734310	PIN-QUICK RELEASE (effective through 11/24/12)		1
17.	71734314	PIN-QUICK RELEASE		1
18.	70034382	CAP-GREASE (effective through 01/09/13)	#1	1
22.	72062104	NUT .25-20 HEX NYLOCK	#1	2
24.	72063001	WASHER .25 FLAT	#1	4
28.	72063051	WASHER .38 LOCK	#1	2
31.	72066144	HAIR PIN .16 ZINC		REF

REV. H 20110610

Boom Assembly - 1 Hydraulic & 1 Manual Extension



NOTES (SEE REFERENCE NUMBER IN BOX):

1 INSTALL WEAR PADS AFTER INSTALLING CYLINDER.

99904316-2 PARTS LIST				
ITEM	PART #	DESCRIPTION	KIT #	QTY
1.	51721320	KIT-HRDW 3203 HYD BOOM ASY		1
2.	51725007	CYLINDER (WAS 51721291 THRU 12-29-08) (effective from 01/09/13)		1
3.	52724108	LOWER BOOM WELDED COMPONENT – 3203i (WAS 52721260 THRU 12-29-08, 52722118 THRU 5-1-11)		1
4.	52721261	WELDED COMPONENT- EXTENSION 1ST STAGE 3203i		1
5.	52725021	WELDED COMPONENT- 2ND STAGE EXTENSION 3203i (effective from 01/09/13)		1
6.	60030373	WEAR PAD- EXT CYLINDER		1
7.	60030374	WEAR PAD-RND 0.25X 1.00X .50X .31		6
8.	60030375	WEAR PAD-RND 0.30X 3.00X 1.00X .25		1

99904316-2 PARTS LIST				
ITEM	PART #	DESCRIPTION	KIT #	QTY
9.	60030376	WEAR PAD-RND 0.30X 3.50X 1.00X 0.615		2
10.	60132302	STOP SCREW 3/8-24 X .50		4
11.	71734311	PIN-QUICK RLSE .62D/4.5 CRIT		1
12.	72060928	CAP SCR .50-13X 2.25 HH GR5 Z	#1	1
13.	72063005	WASHER .50 FLAT	#1	1
14.	72063051	WASHER .38 LOCK	#1	4
15.	72063053	WASHER .50 LOCK	#1	1
16.	70734912	COTTER PIN BOWTIE .63		REF
17.	60133938	WEAR PAD-RND 0.25X 1.00X .50X .50 STL		2
18.	60030369	WEAR PAD-RND 0.19X 2.00X 0.60X .50		1
19.	72661711	CLEVIS PIN .50 X 3.00		REF
20.	70734805	COTTER PIN BOWTIE .50		REF
REV. P 20150313				

99904316 Parts List, Complete (See Parts List for Effectivity Dates)

99904316 PARTS LIST				
ITEM	PART #	DESCRIPTION	KIT #	QTY
1.	51721320	KIT-HRDW 3203 HYD BOOM ASY		1
2.	51725007	CYLINDER (WAS 51721291 THRU 12-29-08) (effective from 01/09/13)		1
3.	52724108	LOWER BOOM WELDED COMPONENT – 3203i (WAS 52721260 THRU 12-29-08, 52722118 THRU 5-1-11)		1
4.	52721261	WELDED COMPONENT- EXTENSION 1ST STAGE 3203i		1
5.	52725021	WELDED COMPONENT- 2ND STAGE EXTENSION 3203i (effective from 01/09/13)		1
6.	60030373	WEAR PAD- EXT CYLINDER		1
7.	60030374	WEAR PAD-RND 0.25X 1.00X .50X .31		6
8.	60030375	WEAR PAD-RND 0.30X 3.00X 1.00X .25		1
9.	60030376	WEAR PAD-RND 0.30X 3.50X 1.00X 0.615		2
10.	60132302	STOP SCREW 3/8-24 X .50		4
11.	71734311	PIN-QUICK RLSE .62D/4.5 CRIT		1
12.	72060928	CAP SCR .50-13X 2.25 HH GR5 Z	#1	1
13.	72063005	WASHER .50 FLAT	#1	1
14.	72063051	WASHER .38 LOCK	#1	4
15.	72063053	WASHER .50 LOCK	#1	1
16.	70734912	COTTER PIN BOWTIE .63		REF
17.	60133938	WEAR PAD-RND 0.25X 1.00X .50X .50 STL		2
18.	60030369	WEAR PAD-RND 0.19X 2.00X 0.60X .50		1
19.	72661711	CLEVIS PIN .50 X 3.00		REF
20.	70734805	COTTER PIN BOWTIE .50		REF
21.	71734314	PIN-QUICK RLSE .62D/5.75 CRIT		1
22.	52725022	WLDMT- 2ND STAGE MANUAL EXT 3203I		1
23.	70034490	PLATE-ANGLE PLASTIC 3.50"		2
24.	72062104	NUT .25-20 HEX NYLOCK	#1	2
25.	72063001	WASHER .25 FLAT	#1	4
REV. P 20150313				

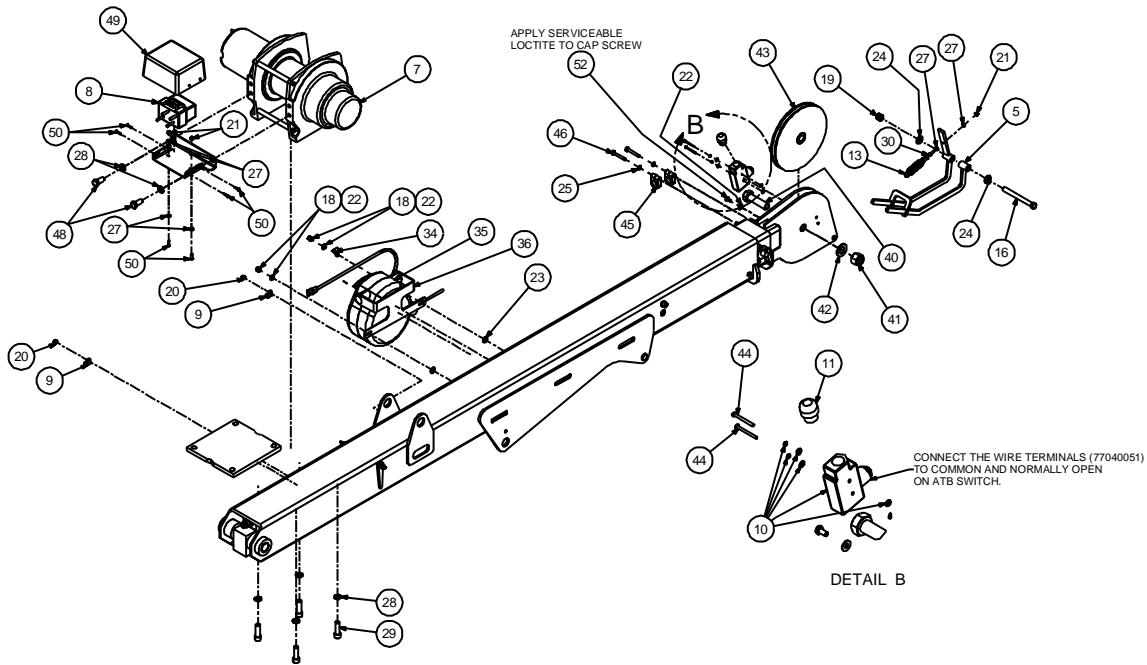
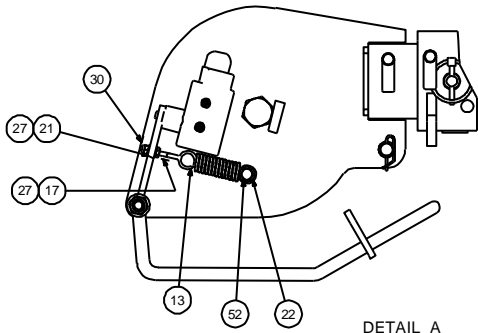
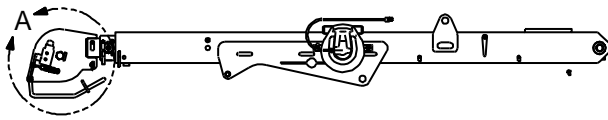
99904316 Parts List, Complete (See Parts List for Effectivity Dates)

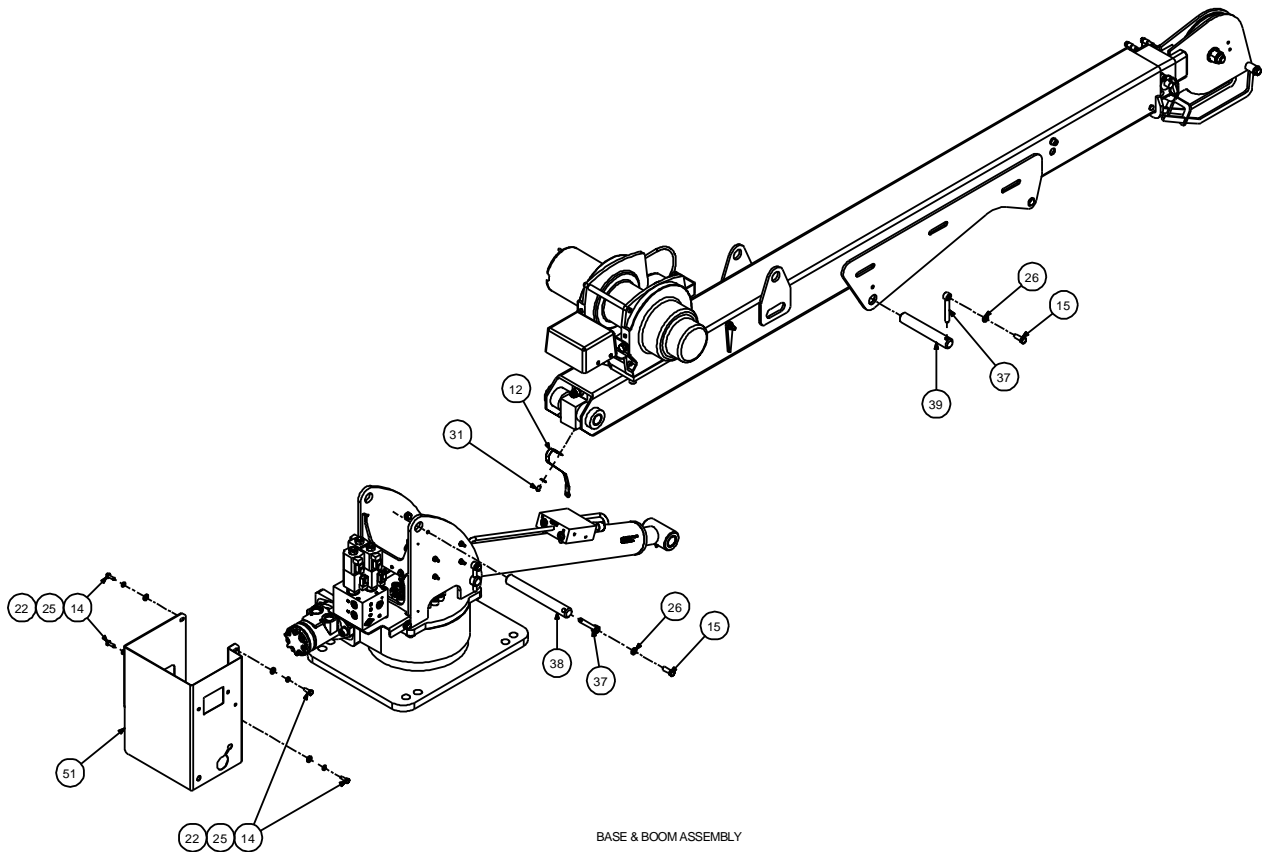
99904316 PARTS LIST				
ITEM	PART #	DESCRIPTION	KIT #	QUANTITY
1.	51721320	HARDWARE KIT		1
2.	51722211	CYLINDER (WAS 51721291 THRU 12-29-08) (effective through 01/09/13)		1
3.	52724108	LOWER BOOM WELDED COMPONENT - 3203I (WAS 52721260 THRU 12-29-08, 52722118 THRU 5-1-11)		1
4.	52721261	WELDED COMPONENT- EXTENSION 1ST STAGE 3203I		1
5.	52721262	WELDED COMPONENT- 2ND STAGE EXTENSION 3203i (effective through 01/09/13)		1
6.	52721263	WELDED COMPONENT-2ND STAGE MANUAL EXTENSION 3203i (effective through 01/09/13)		1
	52725023	(effective 12-17-12)		
	60030372	SHEAVE- 5.5 NYLATRON (PART OF 5 & 6)		2REF
7.	60010469	PIN (effective through 01/09/13)		1
8.	60030373	WEAR PAD- EXTENSION CYLINDER		1
9.	60030374	WEAR PAD-ROUND (WAS 6)		6
10.	60030375	WEAR PAD-ROUND		1
11.	60030376	WEAR PAD-ROUND		2
13.	60132302	STOP SCREW 3/8-24 X .50		4
14.	70034490	PLATE-ANGLE PLASTIC		2
15.	71734310	HITCH PIN WITH CLIP (effective through 01/09/13)		1
16.	71734311	HITCH PIN WITH CLIP		1
17.	71734314	HITCH PIN WITH CLIP		1
18.	70034382	CAP (effective through 01/09/13)	#1	1
19.	72053507	GREASE POINT (effective through 01/09/13)	#1	1
20.	72060029	CAP SCREW .31-18X 2.00 HEX HEAD GRADE 5 ZINC (effective through 01/09/13)	#1	2
21.	72060928	CAP SCREW .50-13X 2.25 HEX HEAD GRADE 5 ZINC	#1	1
22.	72062104	NUT .25-20 HEX NYLOC	#1	2
23.	72062109	NUT .31-18 HEX NYLOC (effective through 01/09/13)	#1	2
24.	72063001	WASHER .25 FLAT	#1	4
25.	72063002	WASHER .31 FLAT (effective through 01/09/13)	#1	4
26.	72063005	WASHER .50 FLAT	#1	1
27.	72063034	MACHINERY BUSHING 1.00X10 GA NR (effective through 01/09/13)	#1	2
28.	72063051	WASHER .38 LOCK	#1	4
29.	72063053	WASHER .50 LOCK	#1	1
30.	72066125	RETAINING RING-EXT 1.00 HD (effective through 01/09/13)	#1	2
31.	72066144	HAIR PIN .16 ZINC		REF
32.	60133938	WEAR PAD-ROUND 1" DIA. X 1/2" DIA. X 3/4L		2
33.	60030369	WEAR PAD-ROUND 2" DIA X .60 DIA X 1L		1

99904316 PARTS LIST

2018 Crane & Winch Assembly (99904317)

ITEM	PART #	DESCRIPTION	KIT #	QUANTITY
REV H 20110610				

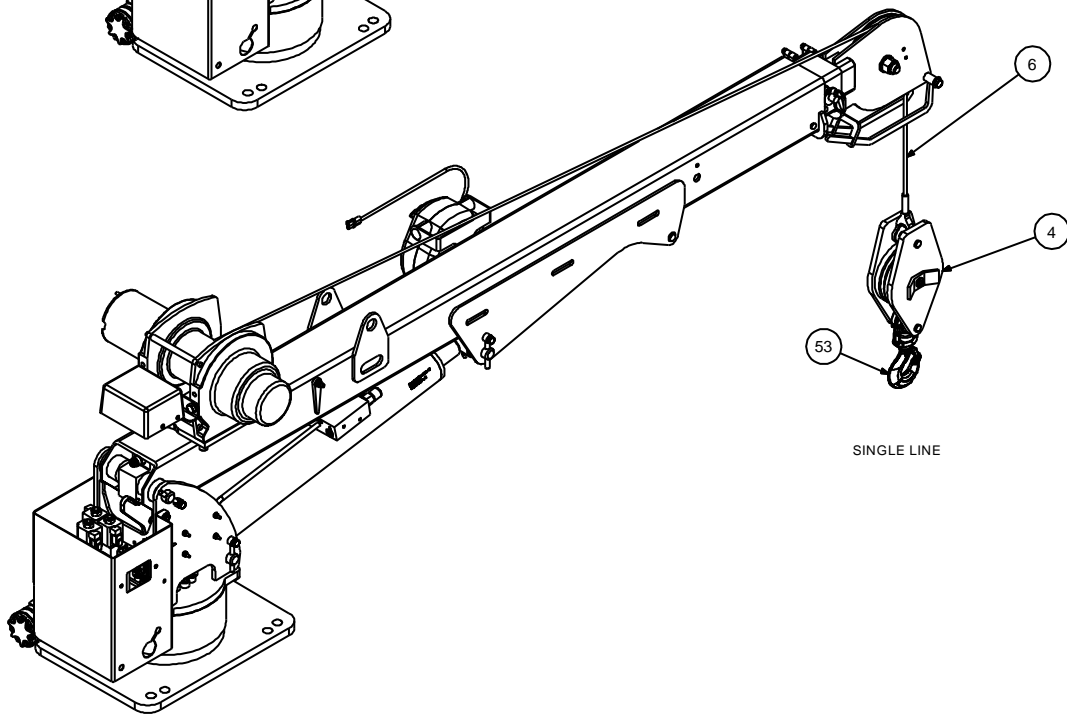
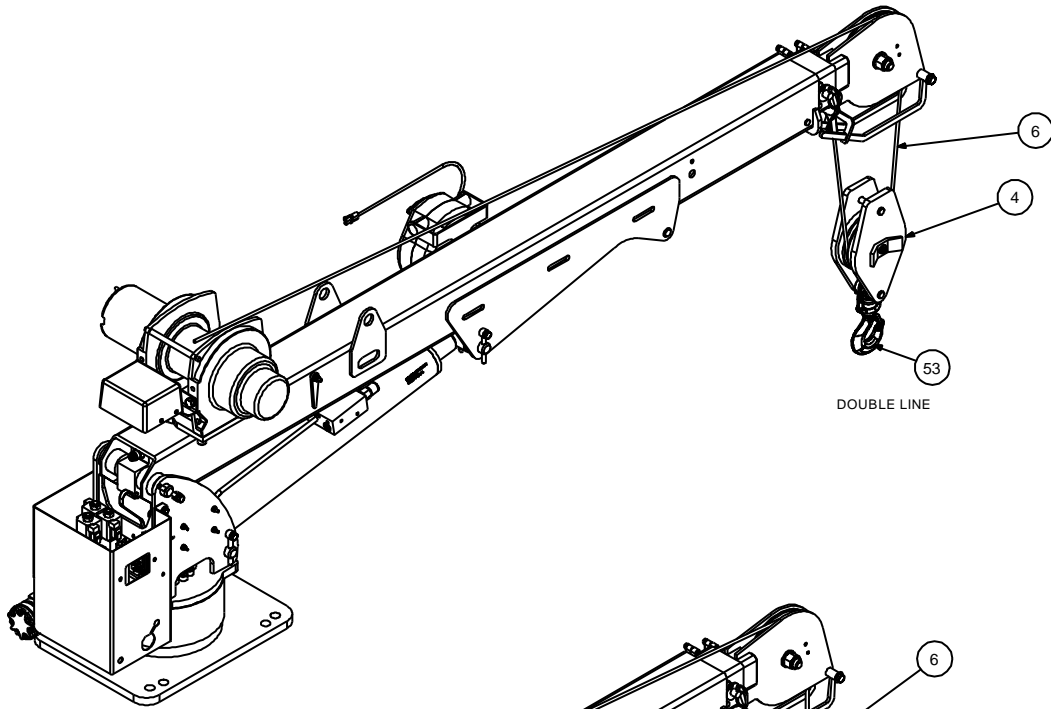




BASE & BOOM ASSEMBLY

- NOTES:
1. USE ANTI-SEEZ ON PINS.
 2. ALL ELECTRICAL GROUNDS MUST BE FREE OF PAINT, GREASE, AND OIL.
 3. IF REQUIRED USE (72063033) MACHNY BUSHINGS BETWEEN MAST AND BOOM WHEN INSTALLING PIN, 52721265.

99904317-2



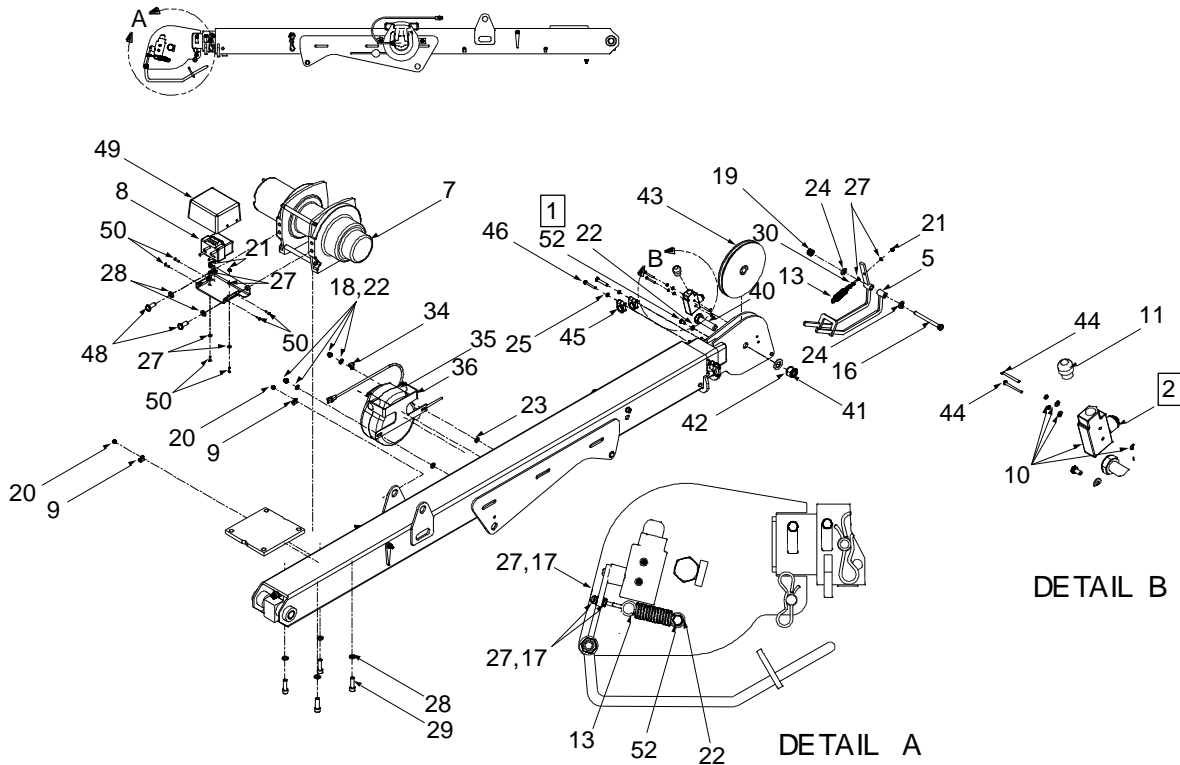
99904317 Complete Parts List

ITEM NO.	PART NO.	DESCRIPTION	KIT NO.	QTY.
1.	99904315	DWG-BASE AND MAST ASM 3203		REF
2.	99904316	DWG-BOOM ASM 3203I		REF
3.	51721321	KIT-HRDW 3203 CRANE & WINCH		1
4.	51724950	SNATCH BLOCK- 3203I-4004I		1
5.	52725018	WLDMT-ATB TRIP MECHANISM		1
6.	70580059	WIRE ROPE ASM-.22 X 7 X 19 X 65ft PGA		1
7.	71570922	WINCH-DC2000 12VDC		1
8.	77041932	CONTACTOR-WINCH 12V DC2000		1
9.	72034485	CLAMP-PLASTIC 1/4" CABLE		2
10.	77041459	SWITCH-LIMIT		1
11.	77441096	CONNECTOR- .50 STR RLF .25-.38		1
12.	77441278	GROUND STRAP- 8IN		1
13.	71413185	SPRING-.105WIRE 0.75OD 2.875 LG	#3	1
14.	72060002	CAP SCR .25-20X .75 HH GR5 Z	#3	4
15.	72060046	CAP SCR .38-16X 1.00 HH GR5 Z	#3	2
16.	72060073	CAP SCR .44-14X 4.50 HH GR5 Z	#3	1
17.	72062093	NUT # 8-32 HEX ZINC	#3	1
18.	72062104	NUT .25-20 HEX NYLOCK	#3	2
19.	72062105	NUT .44-14 HEX NYLOCK	#3	1
20.	72062106	NUT 10-24 HEX NYLOCK	#3	2
21.	72062207	NUT 8-32 HEX NYLOCK	#3	3
22.	72063001	WASHER .25 FLAT	#3	8
23.	72063002	WASHER .31 FLAT	#3	2
24.	72063004	WASHER .44 FLAT	#3	2
25.	72063049	WASHER .25 LOCK	#3	6
26.	72063051	WASHER .38 LOCK	#3	2
27.	72063271	WASHER # 8 W FLAT ANSI B27.2Z	#3	6
28.	72601798	WASHER-LOCK 12MM	#3	6
29.	72601935	CAP SCR M12-1.75X 40 SH ZC	#3	4
30.	72601938	BOLT-EYE # 8/32X .75	#3	1
31.	72601941	SCR-MACH .25-20X .38 BTNHD ZC	#3	1
32.	77040051	TERM-SPRSPADE 1 #8 STUD 16-14	#3	2
34.	72066535	CLAMP-LOOP .38 VINYL COVERED		1
35.	51727064	CORD REEL ASM - 4.17' - W/PACKARD CONNECTOR		1
36.	60144651	BRKT- CORD REEL MNT		1
37.	71415014	KEEPER-PIN .38		2
38.	60140618	PIN-TYPE NN 1.00 X 8.25		1

ITEM NO.	PART NO.	DESCRIPTION	KIT NO.	QTY.
39.	60140617	PIN-TYPE NN 1.00 X 6.50		1
40.	72060209	CAP SCR .75-10X 2.75 HH GR8 Z	#3	1
41.	72062114	NUT .75-10 HEX NYLOCK	#3	1
42.	72063008	WASHER .75 FLAT	#3	1
43.	60030483	SHEAVE- 8.0 NYLATRON GSM		1
44.	72601942	SCR-MACH # 6-32X 1.50 RND PHLPS	#3	2
45.	70034381	SUPPORT-GP STAUFF LN-4190-PA		2
46.	72060007	CAP SCR .25-20X 1.75 HH GR5 Z	#3	2
47.	52725097	WLDMT- WINCH CONTACTOR BRKT		1
48.	72601805	CAP SCR M12-1.75X 25 HHZ	#3	2
49.	70034503	COVER-ELEC CONTACTOR		1
50.	72602011	SCR-MACH # 8-32X .62 BTNHD ZC	#3	6
51.	60140653	COVER- VALVE BANK 3203I		1
52.	72060000	CAP SCR .25-20X .50 HH GR5 Z	#3	1
53.	70735101	HOOK-SWVL POS LOCK BBRG 2TON		1
REV. W				
EFFECTIVE: 01/01/2018				

Crane & Winch Assembly (99904317)

Effective: 02/09/2017



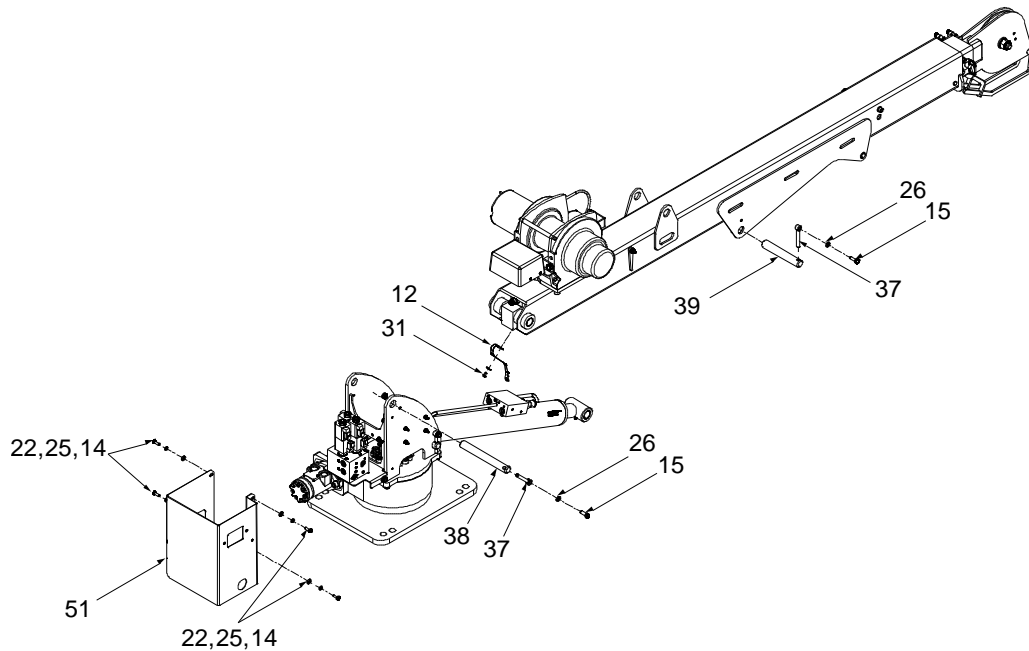
Notes:

1. Apply serviceable Loctite to cap screw.
2. Connect the wire terminals (77040051) to common and normally open on ATB switch.

99904317 Parts List		Effective: 2-9-2017		
Item	Part No.	Description	Kit No.	Qty
5	52725018	WLDMT-ATB TRIP MECHANISM		1
8	77041932	CONTACTOR-WINCH 12V DC2000		1
9	72034485	CLAMP-PLASTIC 1/4" CABLE		2
10	77041459	SWITCH-LIMIT		1
11	77441096	CONNECTOR- .50 STR RLF .25-.38		1
13	71413185	SPRING-.105WIRE 0.75OD 2.875 LG	#3	1
16	72060073	CAP SCR .44-14X 4.50 HH GR5 Z	#3	1
17	72062093	NUT # 8-32 HEX ZINC	#3	1
18	72062104	NUT .25-20 HEX NYLOCK	#3	2

99904317 Parts List Effective: 2-9-2017				
Item	Part No.	Description	Kit No.	Qty
19	72062105	NUT .44-14 HEX NYLOCK	#3	1
20	72062106	NUT 10-24 HEX NYLOCK	#3	2
21	72062207	NUT 8-32 HEX NYLOCK	#3	3
22	72063001	WASHER .25 FLAT	#3	8
23	72063002	WASHER .31 FLAT	#3	2
24	72063004	WASHER .44 FLAT	#3	2
25	72063049	WASHER .25 LOCK	#3	6
27	72063271	WASHER # 8 W FLAT ANSI B27.2Z	#3	6
28	72601798	WASHER-LOCK 12MM	#3	6
30	72601938	BOLT-EYE # 8/32X .75	#3	1
34	72066535	CLAMP-LOOP .38 VINYL COVERED		1
35	51727064	CORD REEL ASM - 4.17' - W/PACKARD CONNECTOR		1
36	60144651	BRKT- CORD REEL MNT		1
40	72060209	CAP SCR .75-10X 2.75 HH GR8 Z	#3	1
41	72062114	NUT .75-10 HEX NYLOCK	#3	1
42	72063008	WASHER .75 FLAT	#3	1
43	60030483	SHEAVE- 8.0 NYLATRON GSM		1
44	72601942	SCR-MACH # 6-32X 1.50 RND PHLPS	#3	2
45	70034381	SUPPORT-GP STAUFF LN-4190-PA		2
46	72060007	CAP SCR .25-20X 1.75 HH GR5 Z	#3	2
49	70034503	COVER-ELEC CONTACTOR		1
50	72602011	SCR-MACH # 8-32X .62 BTNHD ZC	#3	6
52	72060000	CAP SCR .25-20X .50 HH GR5 Z	#3	1
REV. V 20170215				

99904317-1



BASE & BOOM ASSEMBLY

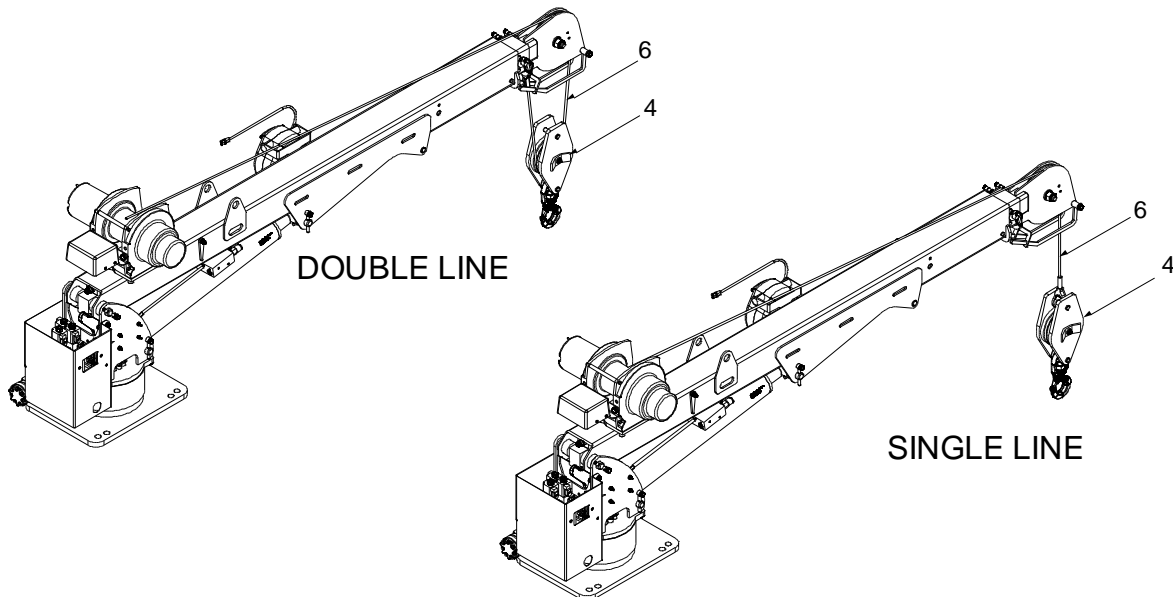
Notes:

1. Use anti-seez on pins.
2. All electrical grounds must be free of paint, grease, and oil
3. If required, use (72063033) Machny bushings between mast and boom when installing pin, 52721265.

99904317-1 Parts List Effective: 2-9-2017

Item	Part No.	Description	Kit No.	Qty.
12	77441278	GROUND STRAP- 8IN		1
14	72060002	CAP SCR .25-20X .75 HH GR5 Z	#3	4
15	72060046	CAP SCR .38-16X 1.00 HH GR5 Z	#3	2
22	72063001	WASHER .25 FLAT	#3	8
25	72063049	WASHER .25 LOCK	#3	6
26	72063051	WASHER .38 LOCK	#3	2
31	72601941	SCR-MACH .25-20X .38 BTNHD ZC	#3	1
37	71415014	KEEPER-PIN .38		2
38	60140618	PIN-TYPE NN 1.00 X 8.25		1
39	60140617	PIN-TYPE NN 1.00 X 6.50		1
51	60140653	COVER- VALVE BANK 3203I		1
REV. V 20170215				

99904317-2



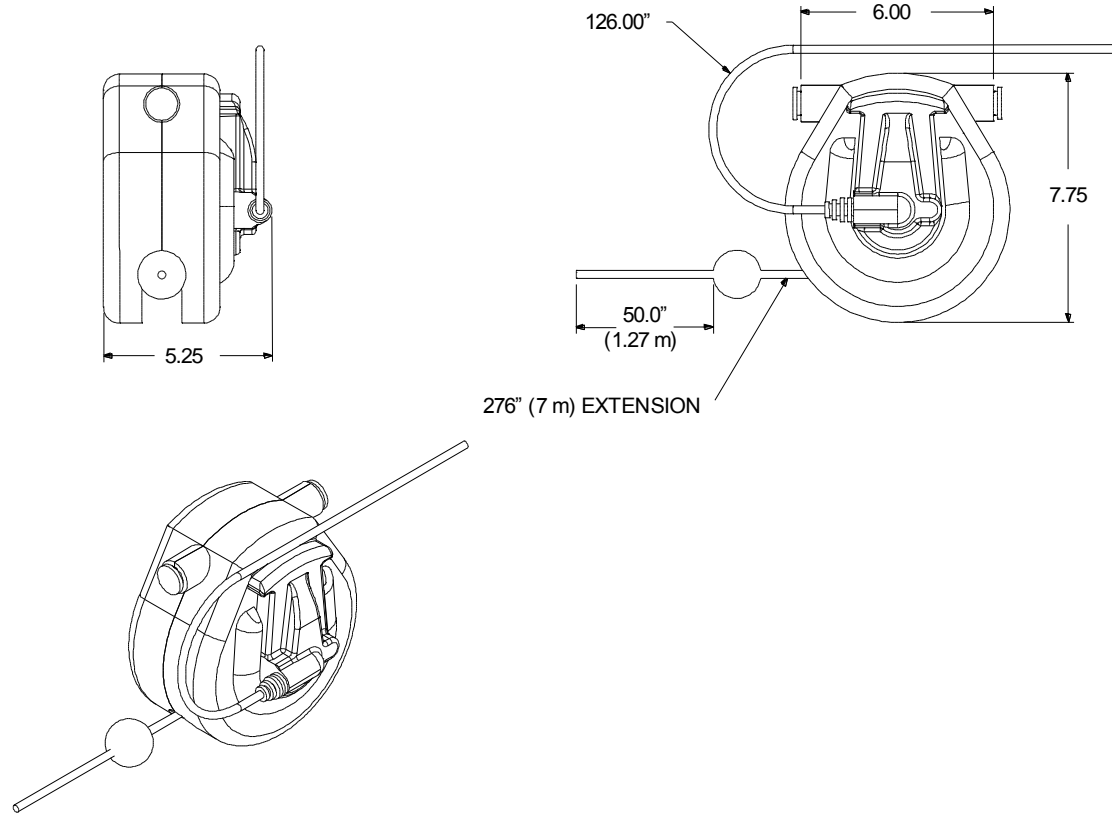
99904317-2 Parts List Effective: 2-9-2017				
Item	Part No.	Description	Kit No.	Qty
4	51724950	SNATCH BLOCK- 3203I-4004I		1
6	70580059	WIRE ROPE ASM-.22 X 7 X 19 X 65ft PGA		1
Rev V 20170215				

99904317 Complete Parts List

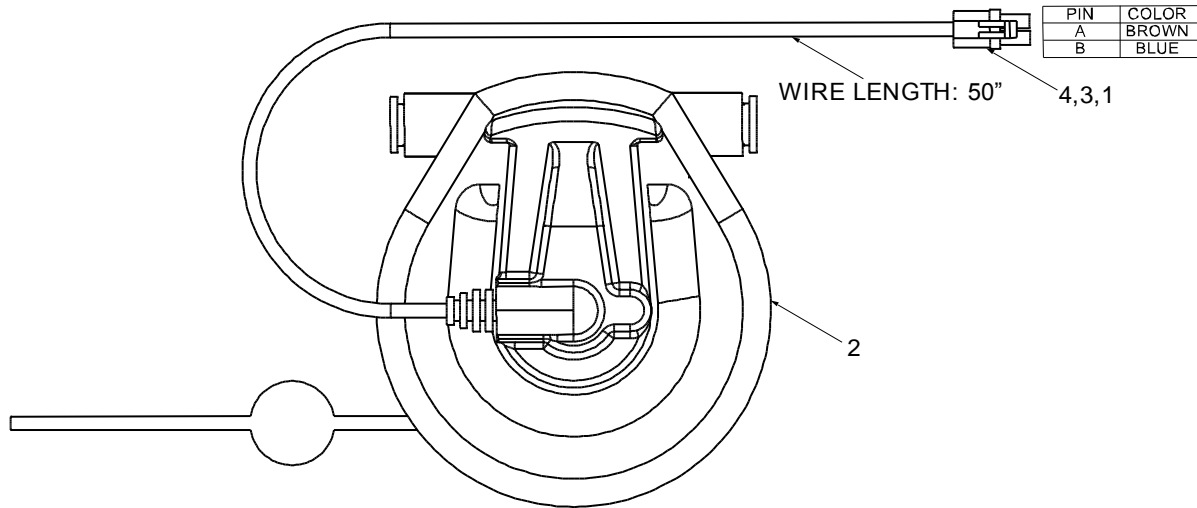
Effective: 2-9-2017				
Item	Part No	Description	Kit No.	Qty
1	99904315	DWG-BASE AND MAST ASM 3203		REF
2	99904316	DWG-BOOM ASM 3203I		REF
3	51721321	KIT-HRDW 3203 CRANE & WINCH		1
4	51724950	SNATCH BLOCK- 3203I-4004I		1
5	52725018	WLDMT-ATB TRIP MECHANISM		1
6	70580059	WIRE ROPE ASM-.22 X 7 X 19 X 65ft PGA		1
7	71570922	WINCH-DC2000 12VDC		1
8	77041932	CONTACTOR-WINCH 12V DC2000		1
9	72034485	CLAMP-PLASTIC 1/4" CABLE		2
10	77041459	SWITCH-LIMIT		1
11	77441096	CONNECTOR- .50 STR RLF .25-.38		1
12	77441278	GROUND STRAP- 8IN		1
13	71413185	SPRING-.105WIRE 0.75OD 2.875 LG	#3	1
14	72060002	CAP SCR .25-20X .75 HH GR5 Z	#3	4
15	72060046	CAP SCR .38-16X 1.00 HH GR5 Z	#3	2
16	72060073	CAP SCR .44-14X 4.50 HH GR5 Z	#3	1
17	72062093	NUT # 8-32 HEX ZINC	#3	1
18	72062104	NUT .25-20 HEX NYLOCK	#3	2
19	72062105	NUT .44-14 HEX NYLOCK	#3	1
20	72062106	NUT 10-24 HEX NYLOCK	#3	2
21	72062207	NUT 8-32 HEX NYLOCK	#3	3
22	72063001	WASHER .25 FLAT	#3	8
23	72063002	WASHER .31 FLAT	#3	2
24	72063004	WASHER .44 FLAT	#3	2
25	72063049	WASHER .25 LOCK	#3	6
26	72063051	WASHER .38 LOCK	#3	2
27	72063271	WASHER # 8 W FLAT ANSI B27.2Z	#3	6
28	72601798	WASHER-LOCK 12MM	#3	6
29	72601935	CAP SCR M12-1.75X 40 SH ZC	#3	4
30	72601938	BOLT-EYE # 8/32X .75	#3	1
31	72601941	SCR-MACH .25-20X .38 BTNHD ZC	#3	1
32	77040051	TERM-SPRSPADE 1 #8 STUD 16-14	#3	2
34	72066535	CLAMP-LOOP .38 VINYL COVERED		1
35	51727064	CORD REEL ASM - 4.17' - W/PACKARD CONNECTOR		1
36	60144651	BRKT- CORD REEL MNT		1
37	71415014	KEEPER-PIN .38		2

Effective: 2-9-2017				
Item	Part No	Description	Kit No.	Qty
38	60140618	PIN-TYPE NN 1.00 X 8.25		1
39	60140617	PIN-TYPE NN 1.00 X 6.50		1
40	72060209	CAP SCR .75-10X 2.75 HH GR8 Z	#3	1
41	72062114	NUT .75-10 HEX NYLOCK	#3	1
42	72063008	WASHER .75 FLAT	#3	1
43	60030483	SHEAVE- 8.0 NYLATRON GSM		1
44	72601942	SCR-MACH # 6-32X 1.50 RND PHLPS	#3	2
45	70034381	SUPPORT-GP STAUFF LN-4190-PA		2
46	72060007	CAP SCR .25-20X 1.75 HH GR5 Z	#3	2
47	52725097	WLDMT- WINCH CONTACTOR BRKT		1
48	72601805	CAP SCR M12-1.75X 25 HHZ	#3	2
49	70034503	COVER-ELEC CONTACTOR		1
50	72602011	SCR-MACH # 8-32X .62 BTNHD ZC	#3	6
51	60140653	COVER- VALVE BANK 3203I		1
52	72060000	CAP SCR .25-20X .50 HH GR5 Z	#3	1
Rev. V 20170215				

Cord Reel – 6.7m, Electric 2 – Wire (70735052) Effective: 2-9-2017



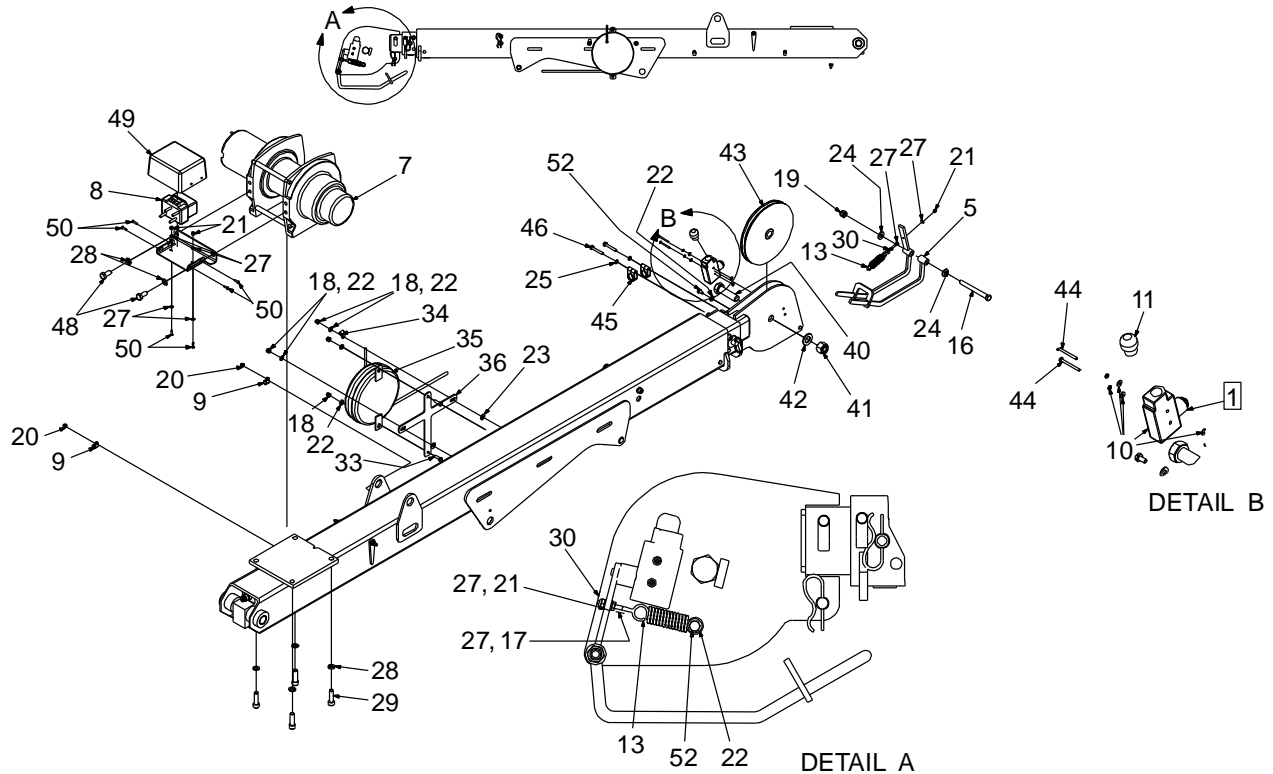
Cord Reel Assembly, 4.17' W/Packard Connector (51727064) Effective: 2-9-2017



51727064 Parts List Effective: 2-9-2017				
Item	Part No.	Description	Kit No.	Qty
1	99904315	DWG-BASE AND MAST ASM 3203		REF
2	99904316	DWG-BOOM ASM 3203I		REF
3	51721321	KIT-HRDW 3203 CRANE & WINCH		1
4	51724950	SNATCH BLOCK- 3203I-4004I		1
Rev. A 20170209				

Crane & Winch Assembly (99904317) (See Parts List for Effectivity Dates)

BOOM ASSEMBLY (99904317-2)



NOTES (SEE REFERENCE NUMBER IN BOX):

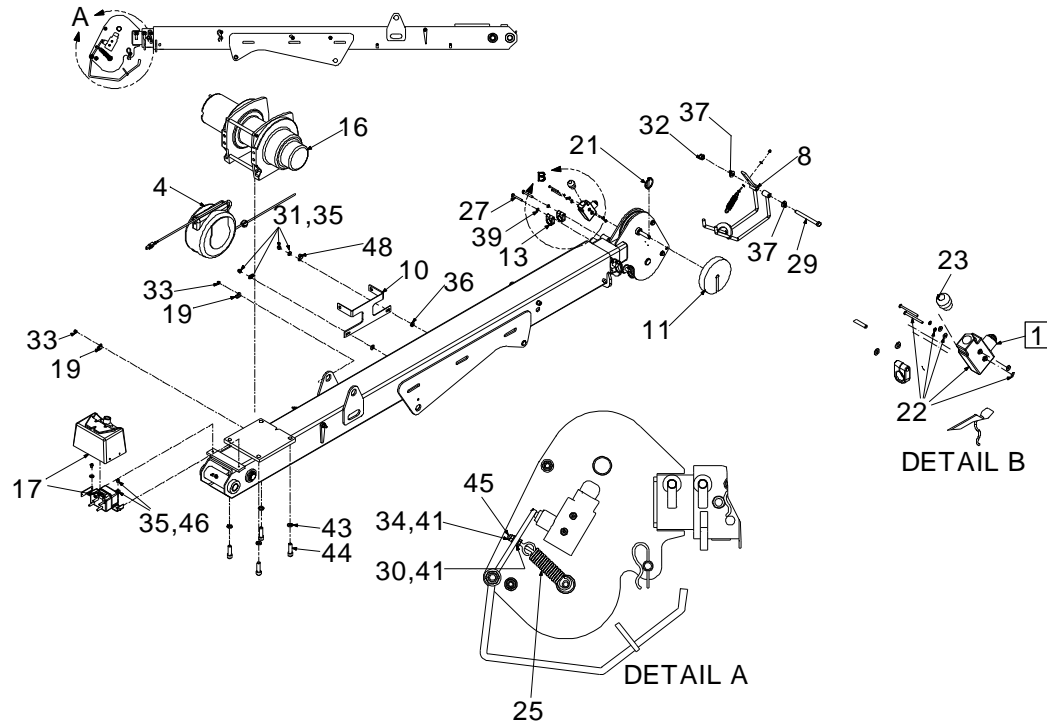
- 1 CONNECT THE WIRE TERMINALS (77040051) TO COMMON AND NORMALLY OPEN ON ANTI-TWO-BLOCK SWITCH.

99904317-2 PARTS LIST				
ITEM	PART #	DESCRIPTION	KIT #	QUANTITY
1.	99904315	DRAWING-BASE AND MAST ASSEMBLY 3203		1
3.	51721321	KIT-HRDW 3203 CRANE AND WINCH ASSY.		1
5.	52725018	ANTI-TWO-BLOCK TRIP MECHANISM WELDED COMPONENT (effective from 01/09/13)		1
7.	71570922	WINCH- DC2000		1
8.	77041932	WINCH- DC2000 SWITCH (PART OF WINCH) (effective from 05/09/13)		1
9.	72034485	CLAMP-PLASTIC 1/4" CABLE		3
10.	77041459	SWITCH-LIMIT		1
11.	77441096	CONNECTOR- .50 STRAIN RELIEF		1
13.	71413185	SPRING	#3	1
16.	72060073	CAP SCREW .44-14X 4.50 HEX HEAD GRADE 5 ZINC	#3	1

99904317-2 PARTS LIST				
ITEM	PART #	DESCRIPTION	KIT #	QUANTITY
17.	72062093	NUT #8-32 HEX ZINC	#3	1
18.	72062104	NUT .25-20 HEX NYLOCK	#3	4
19.	72062105	NUT .44-14 HEX NYLOCK	#3	1
20.	72062106	NUT 10-24 HEX NYLOCK	#3	2
21.	72062207	NUT 8-32 HEX NYLOCK	#3	3
22.	72063001	WASHER .25 FLAT	#3	3
23.	72063002	WASHER .31 FLAT	#3	4
24.	72063004	WASHER .44 FLAT	#3	2
25.	72063049	WASHER .25 LOCK	#3	6
27.	72063271	WASHER #8 FLAT	#3	6
28.	72601798	WASHER-LOCK 12MM	#3	6
29.	72601935	CAP SCREW M12-1.75 X 40 SOCKET HEAD CAP SCREW	#3	4
30.	72601938	BOLT-EYE # 8/32X 1.125	#3	1
31.	72601941	CAP SCREW .25-20 X .38 BUTTON-HEAD, ZINC	#3	1
33.	72060003	CAP SCREW 0.25-20 X 0.88 HH GR5 Z		
34.	72066535	CLAMP-LOOP .38 VINYL COVERED		1
35.	51713168	CORD REEL ASSEMBLY (effective from 01/14/12)		1
36.	60140565	BRACKET- CORD REEL MOUNT (effective from 01/14/12)		1
40.	72060209	CAP SCREW 0.75-10 X 2.75 HH GR8 Z (effective from 01/09/13)	#3	1
41.	72062114	NUT 0.75-10 HEX NYLOCK (effective from 01/09/13)	#3	2
42.	72063008	WASHER 0.75 FLAT (effective from 01/09/13)	#3	1
43.	60030483	SHEAVE-8.0 NYLATRON GSM (effective from 01/09/13)		1
44.	72061942	SCREW MACHINE #6-32 X 1.5 (effective from 01/09/13)	#3	2
45.	70034381	SUPPORT		2
	72661694	(effective 12-17-12)		
46.	72060007	CAP SCREW .25-20X 1.75 HEX HEAD GRADE 5 ZINC	#3	2
47.	52725097	WLDMT WINCH CONTACTOR BRACKET (effective from 05/09/13)		1
48.	72601805	CAP SCREW M12-1.75 X 2.5 HH Z	#3	2
49.	70034503	COVER – ELEC CONTACTOR (effective from 0/09/13)		1
50.	72602011	SCREW-MACHINE #8-32 X 0.62 (effective from 04/22/13)	#3	6
52.	72060000	CAP SCREW 0.25-20 X 0.5 HH GR5 Z (effective from 06/20/13)		1
REV. S 20130614				

Crane & Winch Assembly (99904317) (See Parts List for Effectivity Dates)

BOOM ASSEMBLY (99904317-2)

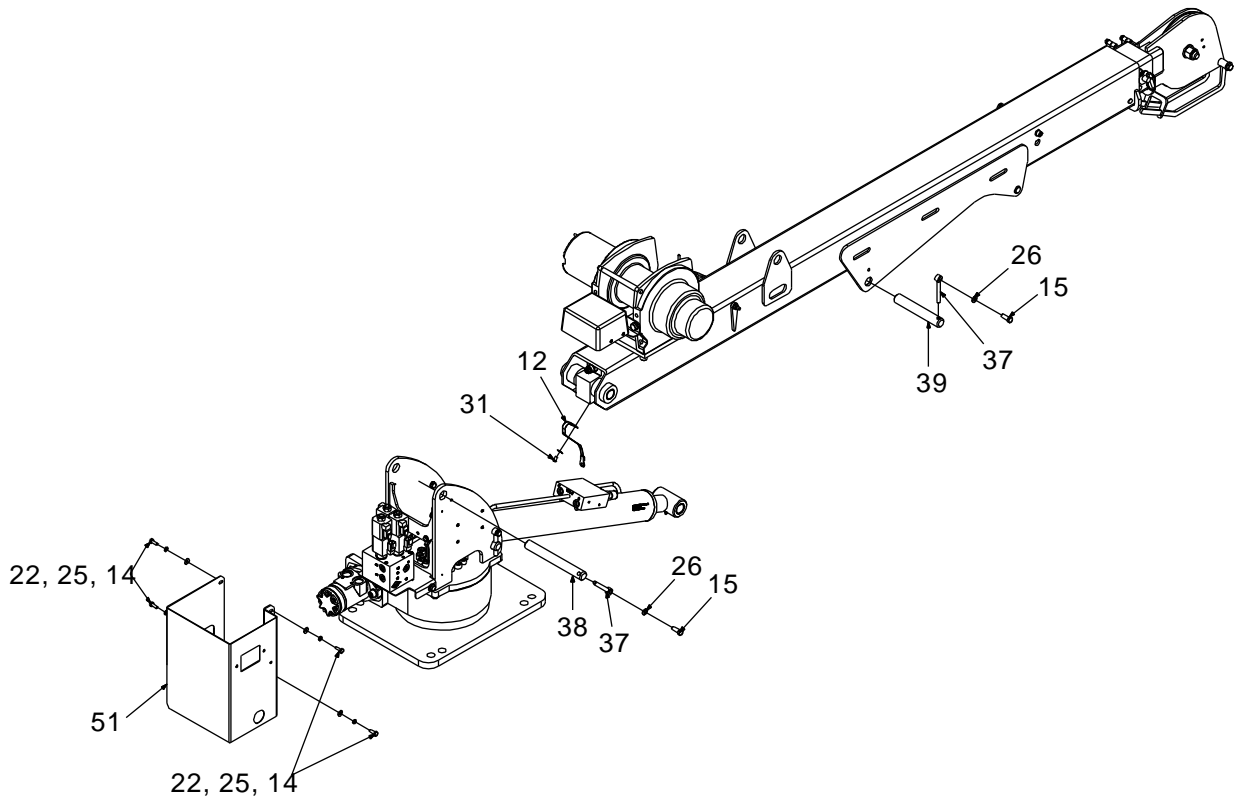


NOTES (SEE REFERENCE NUMBER IN BOX):

- 1 CONNECT THE WIRE TERMINALS (77040051) TO *COMMON* AND *NORMALLY OPEN* ON ANTI-TWO-BLOCK SWITCH.

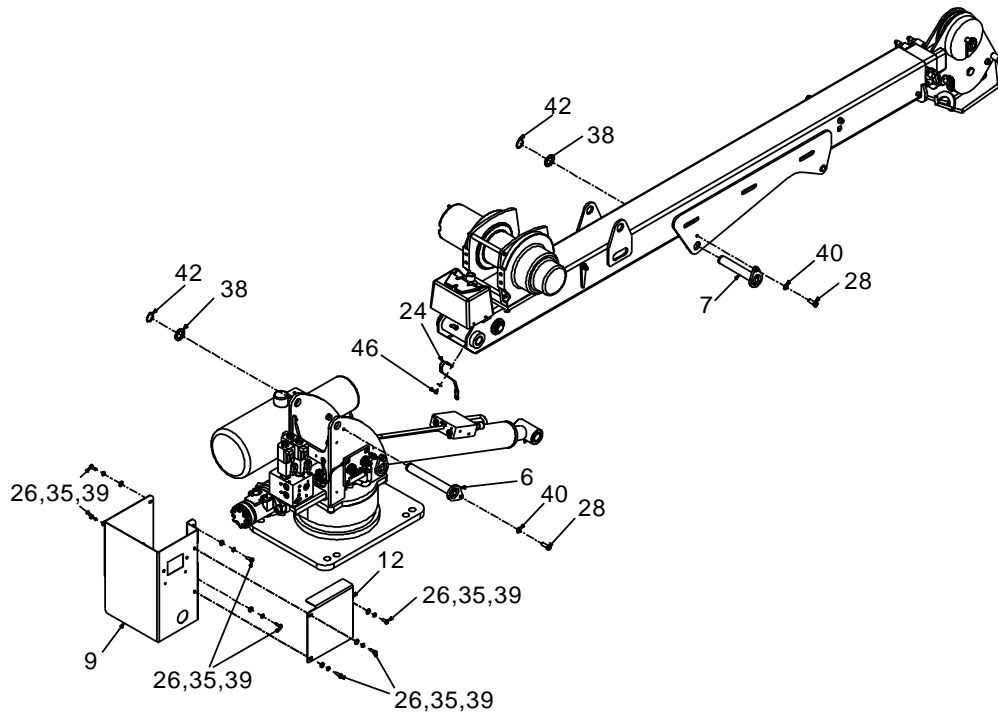
99904317-2 PARTS LIST				
ITEM	PART #	DESCRIPTION	KIT #	QUANTITY
1.	99904315	DRAWING-BASE AND MAST ASSEMBLY 3203		1
3.	51721321	KIT-HDRW 3203 CRANE AND WINCH ASSY		1
4.	51721494	CORD REEL ASSEMBLY (effective through 11/14/12)		1
8.	52721275	ANTI-TWO-BLOCK TRIP MECHANISM WELDED COMPONENT (effective through 01/09/13)		1
	52725018	(effective 12-17-12)		
10.	60132111	BRACKET- CORD REEL MOUNT (effective through 11/14/12)		1
11.	60132216	DOWNHAUL WEIGHT (effective through 11/14/12)		1
13.	70034381	SUPPORT		2
	72661694	(effective 12-17-12)		
16.	71570922	WINCH- DC2000		1
17.	77041801	WINCH- DC2000 SWITCH (PART OF WINCH) (effective through 05/09/13)		1

99904317-2 PARTS LIST				
ITEM	PART #	DESCRIPTION	KIT #	QUANTITY
19.	72034485	CLAMP-PLASTIC 1/4" CABLE		2
21.	72661543	PIN-QUICK (effective through 11/14/12)		1
22.	77041459	SWITCH-LIMIT		1
23.	77441096	CONNECTOR- .50 STRAIN RELIEF		1
25.	71413185	SPRING	#3	1
27.	72060007	CAP SCREW .25-20X 1.75 HEX HEAD GRADE 5 ZINC	#3	2
29.	72060073	CAP SCREW .44-14X 4.50 HEX HEAD GRADE 5 ZINC	#3	1
30.	72062093	NUT #8-32 HEX ZINC	#3	1
31.	72062104	NUT .25-20 HEX NYLOCK (effective through 11/14/12)	#3	2
32.	72062105	NUT .44-14 HEX NYLOCK	#3	1
33.	72062106	NUT 10-24 HEX NYLOCK	#3	2
34.	72062207	NUT 8-32 HEX NYLOCK (effective through 04/22/13)	#3	1
35.	72063001	WASHER .25 FLAT (effective through 04/25/13)	#3	12
36.	72063002	WASHER .31 FLAT (effective through 01/09/13)	#3	4
37.	72063004	WASHER .44 FLAT	#3	2
39.	72063049	WASHER .25 LOCK (effective through 04/25/13)	#3	9
41.	72063271	WASHER #8 FLAT (effective through 04/22/13)	#3	2
43.	72601798	WASHER-LOCK 12MM (effective through 04/22/13)	#3	4
44.	72601935	CAP SCREW M12-1.75 X 40 SOCKET HEAD CAP SCREW	#3	4
45.	72601938	BOLT-EYE # 8/32 X 1.125	#3	1
46.	72601941	CAP SCREW .25-20 X .38 BUTTON-HEAD, ZINC (effective through 04/22/13)	#3	3
48.	72066535	CLAMP-LOOP .38 VINYL COVERED		1
REV. J 20110614				

MAST & BOOM ASSEMBLY (99904317-3) (See Parts List for Effectivity Dates)**NOTES:**

- 1 USE LUBRICATION COMPOUND ON PINS.
- 2 KEEP ELECTRICAL GROUNDS FREE OF PAINT, GREASE AND OIL.
- 3 IF REQUIRED, USE MACHINERY BUSHINGS (# 70603033) BETWEEN MAST AND BOOM WHEN INSTALLING PIN # 52721265.

99904317-3 PARTS LIST				
ITEM	PART #	DESCRIPTION	KIT #	QTY
3.	51721321	KIT-HRDW 3203 CRANE AND WINCH ASSY.		1
38.	60140618	PIN (effective from 12/05/12)		1
39.	60140617	PIN (WAS 52721266) (effective from 12/05/12)		1
51.	60140653	WELDED COMPONENT, VALVE BANK COVER (effective from 12/05/12)		1
12.	77441278	GROUND STRAP		1
14.	72060002	CAP SCREW .25-20X .75 HEX HEAD GRADE 5 ZINC (effective from 04/25/13)	#3	7
15.	72060046	CAP SCREW .38-16X 1.00 HEX HEAD GRADE 5 ZINC	#3	2
22.	72063001	WASHER .25 FLAT (effective from 04/25/13)	#3	12
25.	72063049	WASHER .25 LOCK (effective from 04/25/13)	#3	9
26.	72063051	WASHER .38 LOCK	#3	2
31.	72601941	CAP SCREW .25-20 X .38 BUTTON-HEAD, ZINC (effective from 04/22/13)	#3	3
37.	71415014	KEEPER PIN 0.38		2
REV. J 20110614				

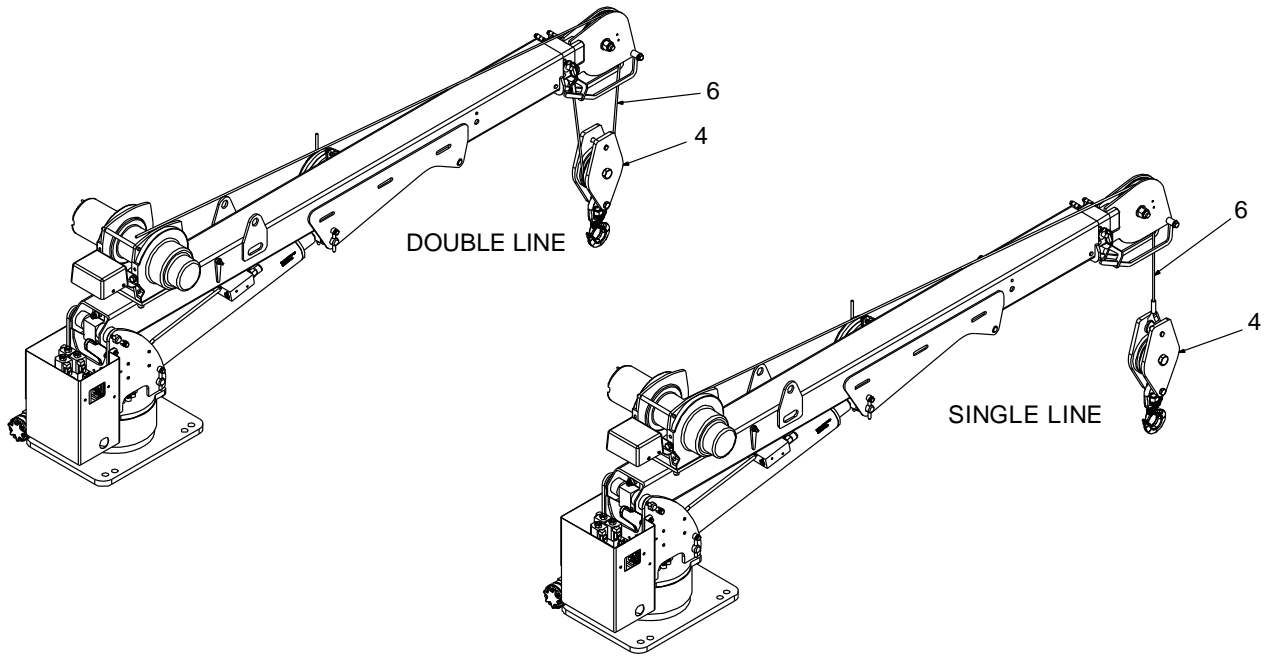
MAST & BOOM ASSEMBLY (99904317-3) (See Parts List for Effectivity Dates)**NOTES:**

- 1 USE LUBRICATION COMPOUND ON PINS.
- 2 KEEP ELECTRICAL GROUNDS FREE OF PAINT, GREASE AND OIL.
- 3 IF REQUIRED, USE MACHINERY BUSHINGS (# 70603033) BETWEEN MAST AND BOOM WHEN INSTALLING PIN # 52721265.

99904317-3 PARTS LIST

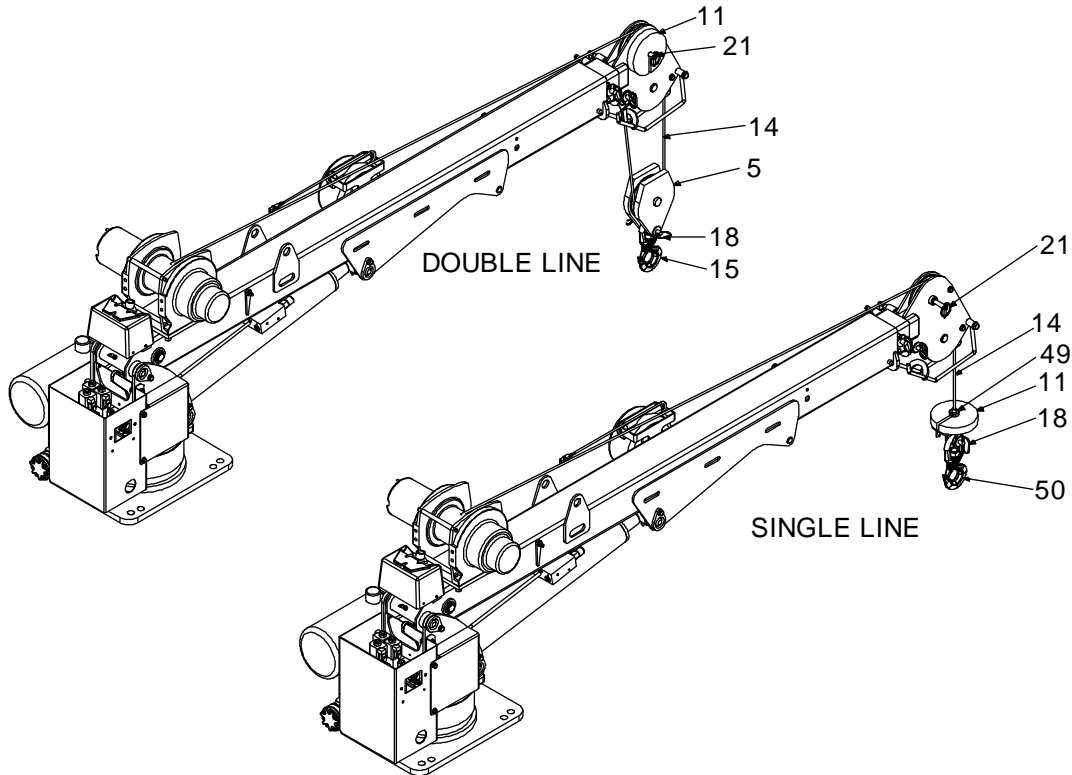
ITEM	PART #	DESCRIPTION	KIT #	QUANTITY
6.	52721265	PIN (effective through 12/05/12)		1
7.	52724112	PIN (WAS 52721266) (effective through 12/05/12)		1
9.	52721982	WELDED COMPONENT, VALVE BANK COVER (effective through 04/25/13)		1
12.	60133631	COVER – CONTACTOR (effective through 04/25/13)		1
24.	77441278	GROUND STRAP		1
26.	72060002	CAP SCREW .25-20X .75 HEX HEAD GRADE 5 ZINC (effective through 04/25/13)	#3	7
28.	72060046	CAP SCREW .38-16X 1.00 HEX HEAD GRADE 5 ZINC	#3	2
35.	72063001	WASHER .25 FLAT (effective through 04/25/13)	#3	12
37.	72063004	WASHER .44 FLAT	#3	2
38.	72063034	MACHINERY BUSHING 1 X 10 GA NR (effective through 12/05/12)	#3	2
39.	72063049	WASHER .25 LOCK (effective through 04/25/13)	#3	9
40.	72063051	WASHER .38 LOCK	#3	2
42.	72066125	RETAINING RING-EXT 1.00 HD (effective through 12/05/12)	#3	2
46.	72601941	CAP SCREW .25-20 X .38 BUTTON-HEAD, ZINC (effective through 04/22/13)	#3	3
REV. J 20110614				

SINGLE & DOUBLE PART LINE (99904317-4) (Effective from 11/14/12)



99904317-4 PARTS LIST			
ITEM	PART #	DESCRIPTION	QUANTITY
4.	51724950	SNATCH BLOCK	1
6.	70580059	WIRE ROPE ASSEMBLY	1
REV. S 20130614			

SINGLE & DOUBLE PART LINE (99904317-4) (Effective Through 11/14/12)



99904317-4 PARTS LIST			
ITEM	PART #	DESCRIPTION	QUANTITY
5.	52721264	SNATCH BLOCK WELDED COMPONENT	1
11.	60132216	DOWNHAUL WEIGHT	1
14.	70580197	WIRE ROPE ASSEMBLY	1
15.	71073921	HOOK- 2 TON SWIVEL	1
	51715352	LATCH KIT-1.5 - 2 TON (PART OF 71073921)	
18.	71734310	PIN-QUICK RELEASE	1
21.	72661543	PIN-QUICK	1
49.	71413869	COLLAR-SHAFT 2 PIECE 1/2"	1
REV. J 20110614			

99904317 Parts List, Complete (See Parts List for Effectivity Dates)

99904317 PARTS LIST				
ITEM	PART #	DESCRIPTION	KIT #	QUANTITY
1.	99904315	DRAWING-BASE AND MAST ASSEMBLY 3203		REF
2.	99904316	DRAWING-BOOM ASSEMBLY 3203I		REF
3.	51721321	HARDWARE KIT-CRANE & WINCH		1
4.	51724950	SNATCH BLOCK WELDED COMPONENT (effective from 11/14/12)		1
5.	52725018	ANTI-TWO-BLOCK TRIP MECHANISM WELDED COMPONENT (effective from 01/08/13)		1
6.	70580059	WIRE ROPE ASSEMBLY (effective from 11/14/12)		1
7.	71570922	WINCH- DC2000		1
8.	77041932	CONTACTOR, WINCH 12V DC2000 (effective from 05/09/13)		1
9.	72034485	CLAMP-PLASTIC 1/4" CABLE		2
10.	77041459	SWITCH-LIMIT		1
11.	77441096	CONNECTOR- .50 STRAIN RELIEF		1
12.	77441278	GROUND STRAP		1
13.	71413185	SPRING	#3	1
14.	72060002	CAP SCREW .25-20X .75 HEX HEAD GRADE 5 ZINC (effective from 04/25/13)	#3	4
15.	72060046	CAP SCREW .38-16X 1.00 HEX HEAD GRADE 5 ZINC	#3	2
16.	72060073	CAP SCREW .44-14X 4.50 HEX HEAD GRADE 5 ZINC	#3	1
17.	72062093	NUT #8-32 HEX ZINC	#3	1
18.	72062104	NUT .25-20 HEX NYLOCK	#3	4
19.	72062105	NUT .44-14 HEX NYLOCK	#3	1
20.	72062106	NUT 10-24 HEX NYLOCK	#3	2
21.	72062207	NUT 8-32 HEX NYLOCK (effective from 04/22/13)	#3	3
22.	72063001	WASHER .25 FLAT (WAS 13) (effective from 04/25/13)	#3	13
23.	72063002	WASHER .31 FLAT (effective from 01/09/13)	#3	4
25.	72063049	WASHER .25 LOCK (effective from 04/25/13)	#3	6
26.	72063051	WASHER .38 LOCK	#3	2
27.	72063271	WASHER #8 FLAT (effective from 04/22/13)	#3	6
28.	72601798	WASHER-LOCK 12MM	#3	6
29.	72601935	CAP SCREW M12-1.75 X 40 SOCKET HEAD CAP SCREW	#3	4
30.	72601938	BOLT-EYE # 8/32X 1.125	#3	1
31.	72601941	CAP SCREW .25-20 X .38 BUTTON-HEAD, ZINC (WAS 4) (effective from 04/22/13)	#3	1
32.	77040051	TERMINAL	#3	2
33.	72060003	CAP SCREW .25-20 X 0.88 HH GR5 Z	#3	2
34.	72066535	CLAMP-LOOP 0.38 VINYL COVERED		1
35.	51713168	CORD REEL ASSEMBLY (effective from 11/14/12)		1
36.	60140565	BRACKET- CORD REEL MOUNT (effective from 11/14/12)		1
37.	71415014	KEEPER PIN 0.38 (effective from 12/05/12)		2

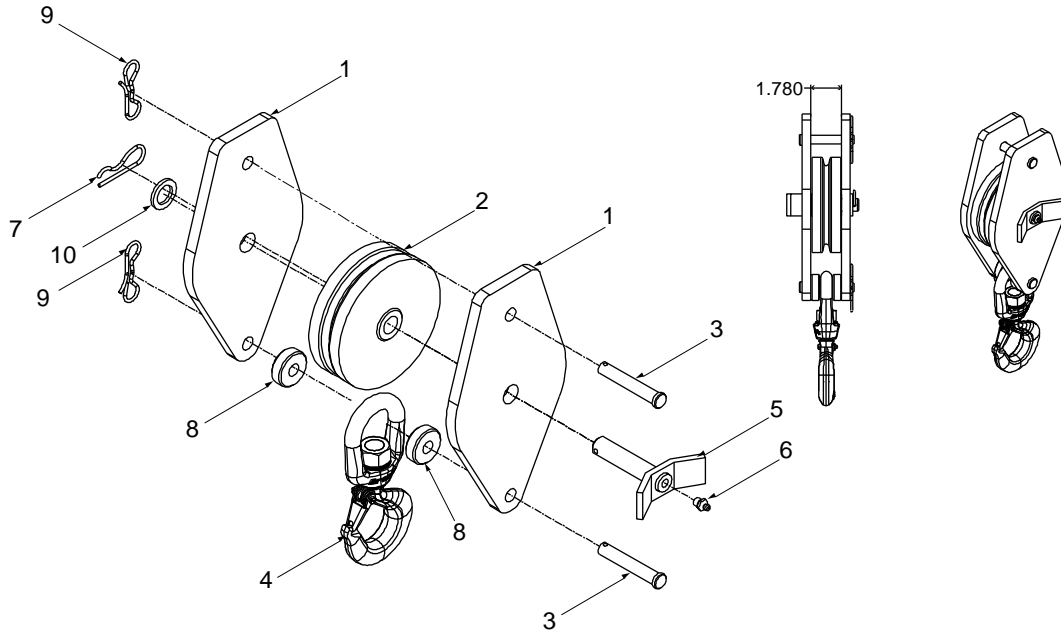
99904317 PARTS LIST				
ITEM	PART #	DESCRIPTION	KIT #	QUANTITY
38.	60140618	PIN (effective from 12/5/12)		1
39.	60140617	PIN (WAS 52721266) (effective from 12/5/12)		1
40.	72060209	CAP SCREW 0.75-10 X 2.75 HH GR8 Z (effective from 01/09/13)	#3	1
41.	72062114	NUT 0.75-10 HEX NYLOCK (effective from 01/09/13)	#3	1
42.	72063008	WASHER 0.75 FLAT (effective from 01/09/13)		
43.	60030483	SHEAVE 8.0 NYLATRON GSM (effective from 01/09/13)		1
44.	72061942	SCREW MACHINE #6-32 X 1.5 (effective from 01/09/13)	#3	2
46.	72060007	CAP SCREW .25-20X 1.75 HEX HEAD GRADE 5 ZINC	#3	2
47.	52725097	WLDMT WINCH CONTACTOR BRKT (effective from 05/09/13)		1
48.	72601805	CAP SCREW M12-1.75 X 25 HHZ (effective from 04/22/13)	#3	2
49.	70034503	COVER ELECTRIC CONTACTOR (effective from 05/09/13)		1
50.	72602011	SCREW-MACH #8-32 X 0.62 (effective from 04/22/13)	#3	6
52.	72060000	CAP SCREW 0.25-20 X 0.5 HH GR5 Z (effective from 06/30/13)		1
45.	70034381	SUPPORT		2
	72661694	(effective 12-17-12)		
51.	60140653	WELDED COMPONENT, VALVE BANK COVER (effective from 12/05/12)		1
REV J 20110610				

99904317 Parts List, Complete (See Parts List for Effectivity Dates)

99904317 PARTS LIST				
ITEM	PART #	DESCRIPTION	KIT #	QUANTITY
1.	99904315	DRAWING-BASE AND MAST ASSEMBLY 3203		REF
2.	99904316	DRAWING-BOOM ASSEMBLY 3203I		REF
3.	51721321	HARDWARE KIT-CRANE & WINCH		1
4.	51721494	CORD REEL ASSEMBLY (effective through 11/14/12)		1
5.	52721264	SNATCH BLOCK WELDED COMPONENT (effective through 11/14/12)		1
6.	52721265	PIN (effective through 12/5/12)		1
7.	52724112	PIN (WAS 52721266) (effective through 12/5/12)		1
8.	52721275	ANTI-TWO-BLOCK TRIP MECHANISM WELDED COMPONENT (effective through 11/14/12)		1
	52725018	(effective 12-17-12)		
9.	52721982	WELDED COMPONENT, VALVE BANK COVER (effective through 04/25/13)		1
10.	60132111	BRACKET- CORD REEL MOUNT (effective through 11/14/12)		1
11.	60132216	DOWNHAUL WEIGHT (effective through 11/14/12)		1
12.	60133631	COVER - CONTACTOR (effective through 04/25/13)		1
13.	70034381	SUPPORT		2
	72661694	(effective 12-17-12)		
14.	70580197	WIRE ROPE ASSEMBLY (effective through 11/14/12)		1
15.	71073921	HOOK- 2 TON SWIVEL (effective through 11/14/12)		1
	51715352	LATCH KIT-1.5 - 2 TON (PART OF 15) (effective through 11/14/12)		
16.	71570922	WINCH- DC2000		1
17.	77041801	CONTACTOR, WINCH 12V DC2000 (effective through 05/09/13)		1
18.	71734310	PIN-QUICK RELEASE (effective through 11/14/12)		1
19.	72034485	CLAMP-PLASTIC 1/4" CABLE		2
20.	72066144	HAIR PIN (effective through 11/14/12)		1
21.	72661543	PIN-QUICK (effective through 11/14/12)		1
22.	77041459	SWITCH-LIMIT		1
23.	77441096	CONNECTOR- .50 STRAIN RELIEF		1
24.	77441278	GROUND STRAP		1
25.	71413185	SPRING	#3	1
26.	72060002	CAP SCREW .25-20X .75 HEX HEAD GRADE 5 ZINC (effective through 04/25/13)	#3	7
27.	72060007	CAP SCREW .25-20X 1.75 HEX HEAD GRADE 5 ZINC	#3	2
28.	72060046	CAP SCREW .38-16X 1.00 HEX HEAD GRADE 5 ZINC	#3	2
29.	72060073	CAP SCREW .44-14X 4.50 HEX HEAD GRADE 5 ZINC	#3	1
30.	72062093	NUT #8-32 HEX ZINC	#3	1
31.	72062104	NUT .25-20 HEX NYLOCK	#3	2
32.	72062105	NUT .44-14 HEX NYLOCK	#3	1

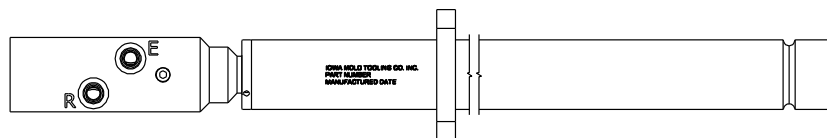
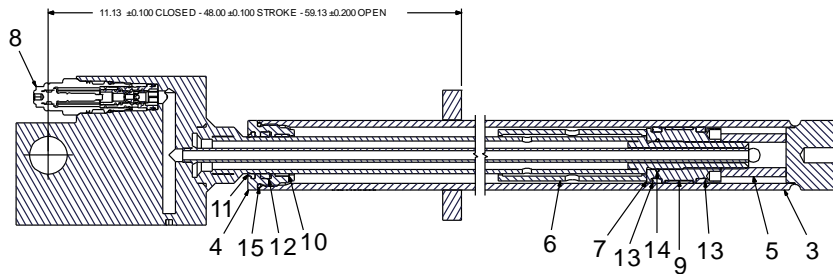
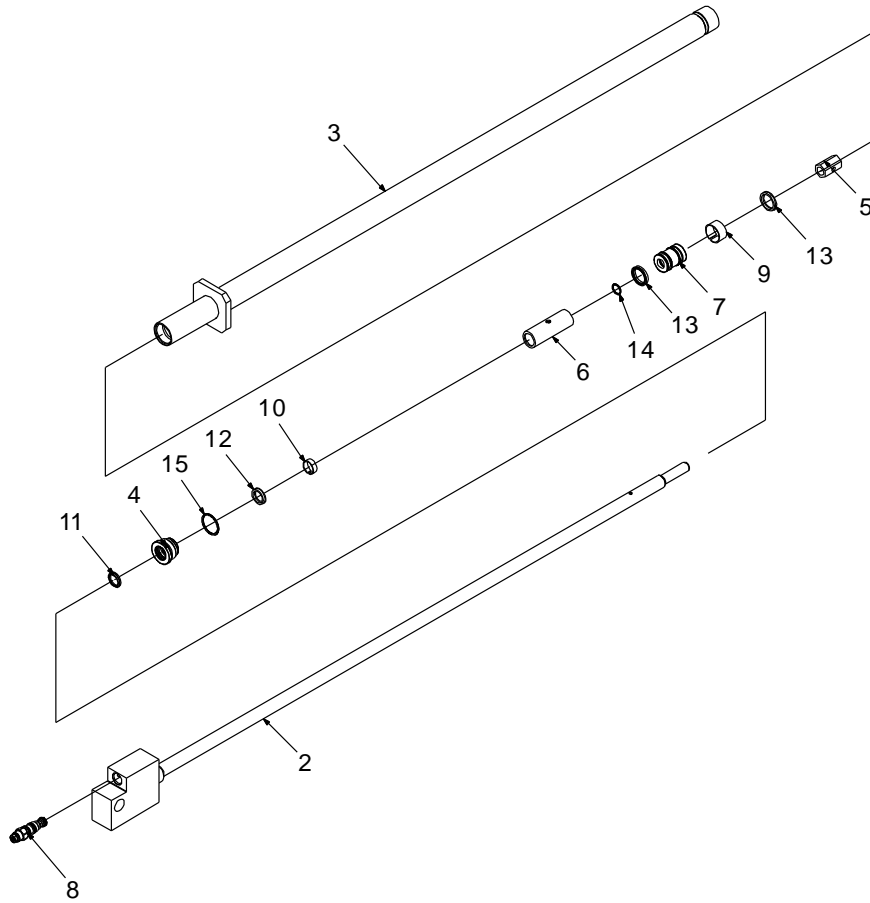
99904317 PARTS LIST				
ITEM	PART #	DESCRIPTION	KIT #	QUANTITY
33.	72062106	NUT 10-24 HEX NYLOCK	#3	2
34.	72062207	NUT 8-32 HEX NYLOCK (effective through 04/22/13)	#3	1
35.	72063001	WASHER .25 FLAT (WAS 13) (effective through 04/25/13)	#3	12
36.	72063002	WASHER .31 FLAT (effective through 01/09/13)	#3	4
37.	72063004	WASHER .44 FLAT	#3	2
38.	72063034	MACHINERY BUSHING 1 X 10 GA NR (effective through 12/05/12)	#3	2
39.	72063049	WASHER .25 LOCK (effective through 04/25/13)	#3	9
40.	72063051	WASHER .38 LOCK	#3	2
41.	72063271	WASHER #8 FLAT (effective through 04/22/13)	#3	2
42.	72066125	RETAINING RING-EXT 1.00 HD (effective through 12/5/12)	#3	2
43.	72601798	WASHER-LOCK 12MM (effective through 04/22/13)	#3	4
44.	72601935	CAP SCREW M12-1.75 X 40 SOCKET HEAD CAP SCREW	#3	4
45.	72601938	BOLT-EYE # 8/32X 1.125	#3	1
46.	72601941	CAP SCREW .25-20 X .38 BUTTON-HEAD, ZINC (WAS 4)	#3	3
47.	77040051	TERMINAL	#3	2
48.	72066535	CLAMP-LOOP .38 VINYL COVERED		1
49.	71413869	COLLAR-SHAFT 2 PIECE 1/2" (effective through 11/14/12)		1
50.	71073921	HOOK-SWIVEL WITH LATCH (effective through 11/14/12)		1
REV J 20110610				

Snatch Block (51724950)



51724950-PARTS LIST			
ITEM	PART #	DESCRIPTION	QTY
1.	60140591	SHEAVE PLATE – 3203I	2
2.	60030482	SHEAVE – 5.5 NYLATRON GSM 0.75 BORE	1
3.	72661711	CLEVIS PIN .50 X 3.00	2
4.	71073921	HOOK – SWVL S-322A2T W/LATCH	1
5.	52704828	PIN-TYPE T .75 X 3.00	1
6.	72053508	ZERK-NPT .12	1
7.	72066145	HAIR PIN .19 ZINC	1
8.	60030243	SPACER-POL .52 X 1.50 X .50	2
9.	70734805	COTTER PIN BOWTIE .50	2
10.	72063030	MACHY BUSHING .75 X 10 GA NR	1
REV B-20151123			

Cylinder, Extension (51725007) (Effective 01/09/13)



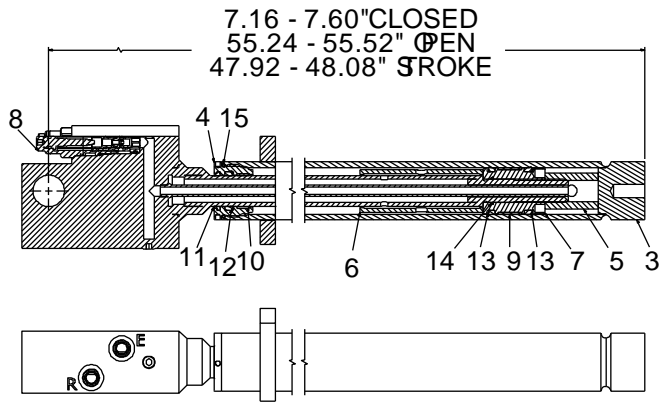
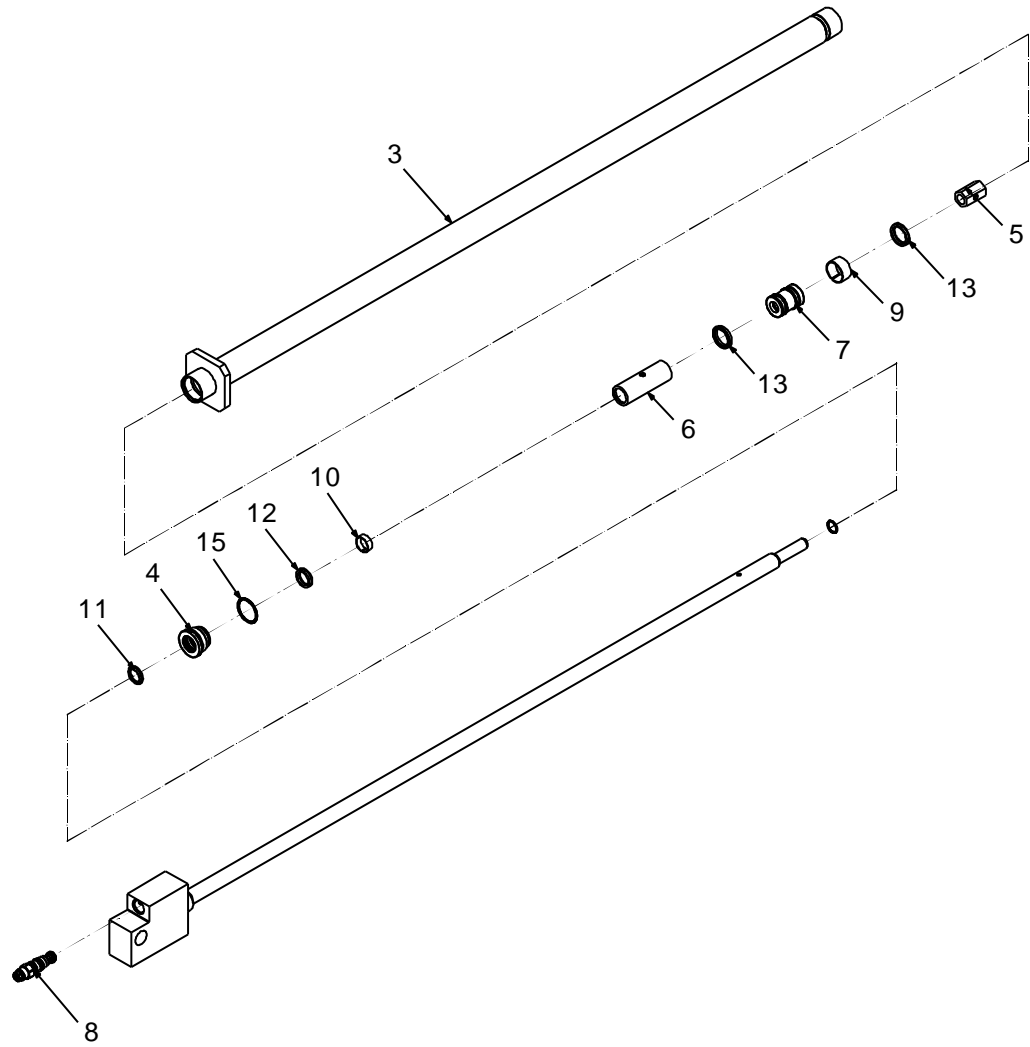
NOTES:

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

51725007 CYLINDER DATA	
CASE	ø5 cm (1.88") O.D. X ø3.8 cm (1.5") BORE X 147 cm (58.25") LONG
ROD	ø2.54 cm (1") X 156 cm (61.38") LONG
STROKE	122 cm (48")
DRY WEIGHT	16.5 kg (36.45 LB)
TEST PRESSURE	207 bar (3000 PSI)
OPERATING PRESSURE	172 bar (2500 PSI)
TORQUES	PISTON 13.8-18 KG- M (100-130 FT-LB)
	HEAD 27.7 KG-M (200 FT-LB)
	CARTRIDGE 4.1-4.8 KG-M (30-35 FT-LB)

51725007 PARTS LIST			
ITEM	PART #	DESCRIPTION	QUANTITY
1.	94397290	IMT SEAL KIT-1.50 BORE 1.00 ROD .75 STGR	1
2.	52722110	ROD ASM-1.00 DIA X 61.38 LG .75 S	1
3.	52725008	CASE ASM-1.50 BORE X 58.25 LG	1
4.	60135105	HEAD-1.50 BORE X 1.00 ROD (60131651)	1
5.	60132170	STINGER LOCK .75-16 X 1.75 LG	1
6.	60132173	STOP TUBE-1.00 ROD X 4.00 LONG	1
7.	60135106	PISTON-1.50 BORE X .75 STGR (60132177)	1
8.	73054999	VALVE-CBAL SUN01 CBBC-LHN	1
9.	76397127	WEAR RING-PISTON 1.50OD X .75W	1
10.	76397128	WEAR RING-ROD 1.12 ID X .38W	1
11.	76397129	ROD WIPER-TYPE AN 1.00 ROD	1
12.	76534502	U-CUP LOADED 1.00X1.25X.250 B	1
13.	76534503	U-CUP LOADED 1.25X1.50X.250 B	2
14.	7Q072018	O RING .75X .88X .06 70	1
15.	7Q072129	O RING 1.56X 1.75X .09 70	1
REV A 20130604			

Cylinder, Extension (51722111) (Through 01/09/13)



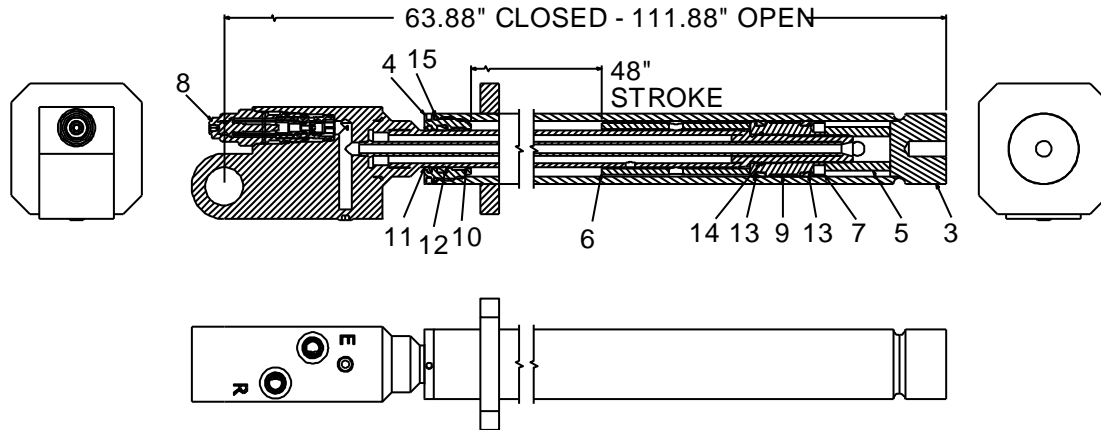
NOTES:

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

51722111 CYLINDER DATA	
CASE	ø5 cm (2") O.D. X ø3.8 cm (1.5") BORE X 147 cm (58") LONG
ROD	ø2.54 cm (1") X 147 cm (58") LONG
STROKE	122 cm (48")
DRY WEIGHT	18.1 kg (39.86 LB)
TEST PRESSURE	207 bar (3000 PSI)
OPERATING PRESSURE	172 bar (2500 PSI)
TORQUES	PISTON 13.8-18 KG- M (100-130 FT-LB)
	HEAD 27.7 KG-M (200 FT-LB)
	CARTRIDGE 4.1-4.8 KG-M (30-35 FT-LB)

51722111 PARTS LIST			
ITEM	PART #	DESCRIPTION	QUANTITY
1.	94397290	IMT SEAL KIT-1.50 BORE 1.00 ROD .75 STGR	1
2.	52722110	ROD ASM-1.00 DIA X 61.38 LG .75 S	1
3.	52721293	CASE ASM-1.50 BORE X 58.25 LG	1
4.	60135105	HEAD-1.50 BORE X 1.00 ROD (60131651)	1
5.	60132170	STINGER LOCK .75-16 X 1.75 LG	1
6.	60132173	STOP TUBE-1.00 ROD X 4.00 LONG	1
7.	60135106	PISTON-1.50 BORE X .75 STGR (60132177)	1
8.	73054999	VALVE-CBAL SUN01 CBBC-LHN	1
9.	76397127	WEAR RING-PISTON 1.50OD X .75W	1
10.	76397128	WEAR RING-ROD 1.12 ID X .38W	1
11.	76397129	ROD WIPER-TYPE AN 1.00 ROD	1
12.	76534502	U-CUP LOADED 1.00X1.25X.250 B	1
13.	76534503	U-CUP LOADED 1.25X1.50X.250 B	2
14.	7Q072018	O RING .75X .88X .06 70	1
15.	7Q072129	O RING 1.56X 1.75X .09 70	1
REV B 20120326			

Cylinder, Extension (51721291) (Through 12/29/08)



NOTES:

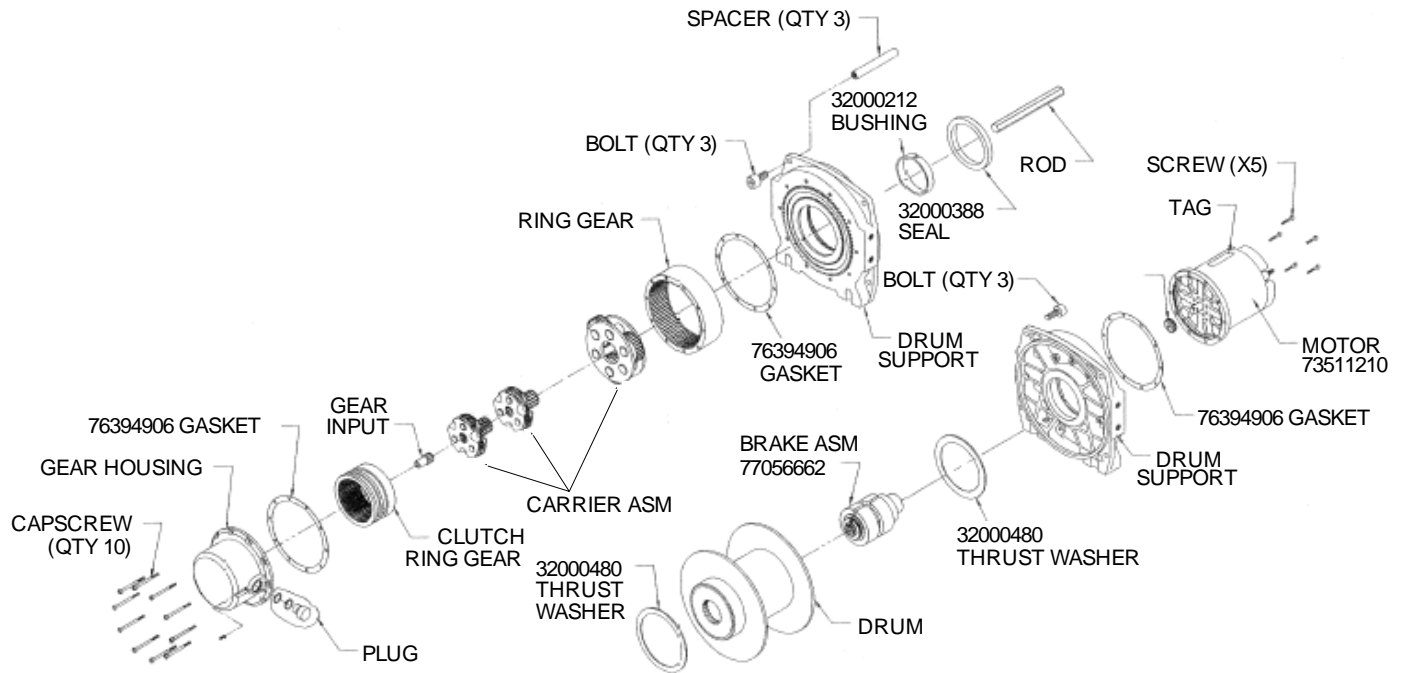
- 1 TO REDUCE DOWNTIME, REPLACE ALL COMPONENTS OF THE SEAL KIT WHENEVER THE CYLINDER IS DISASSEMBLED.
- 2 APPLY LUBRICATING COMPOUND TO THREADS ON CYLINDER HEAD ONLY. KEEP AWAY FROM ALL SEALS.
- 3 APPLY "LUBRIPLATE" NO. 630-2 MEDIUM HEAVY, MULTI-PURPOSE LUBRICANT, TO ALL PISTON, HEAD GLAND, AND HOLDING VALVE SEALS, NYLON LOCK RING, CAST IRON PISTON RINGS, AND ROD STINGER THREADS.

51721291 CYLINDER DATA	
CASE	ø5 cm (2") O.D. X ø3.8 cm (1.5") BORE X 147 cm (58") LENGTH
ROD	ø2.54 cm (1") X 147 cm (58") LONG
STROKE	122 cm (48")
DRY WEIGHT	18.1 kg (39.86 LB)
TEST PRESSURE	207 bar (3000 PSI)
OPERATING PRESSURE	172 bar (2500 PSI)
TORQUES	ITEM #5, LOCK NUT: 407 N-m (300 FT-LB)

51721291 PARTS LIST				
ITEM	PART #	DESCRIPTION	KIT #	QUANTITY
1.	94397290	IMT SEAL KIT		1
2.	52721292	ROD ASSEMBLY		1
3.	52721293	CASE ASSEMBLY		1
4.	60131651	HEAD		1
5.	60132170	STINGER LOCK		1
6.	60132173	STOP TUBE		1
7.	60132177	PISTON		1
8.	73054999	VALVE-COUNTERBALANCE		1
9.	76397127	WEAR RING-PISTON	#1	1
10.	76397128	WEAR RING-ROD	#1	1

51721291 PARTS LIST				
ITEM	PART #	DESCRIPTION	KIT #	QUANTITY
11.	76397129	ROD WIPER	#1	1
12.	76534502	U-CUP LOADED	#1	1
13.	76534503	U-CUP LOADED	#1	2
14.	7Q072018	O RING	#1	1
15.	7Q072129	O RING	#1	1
NEW 20080314				

Winch (71570922)



WINCH REPLACEMENT PARTS

BRAKE - IMT # 77056662

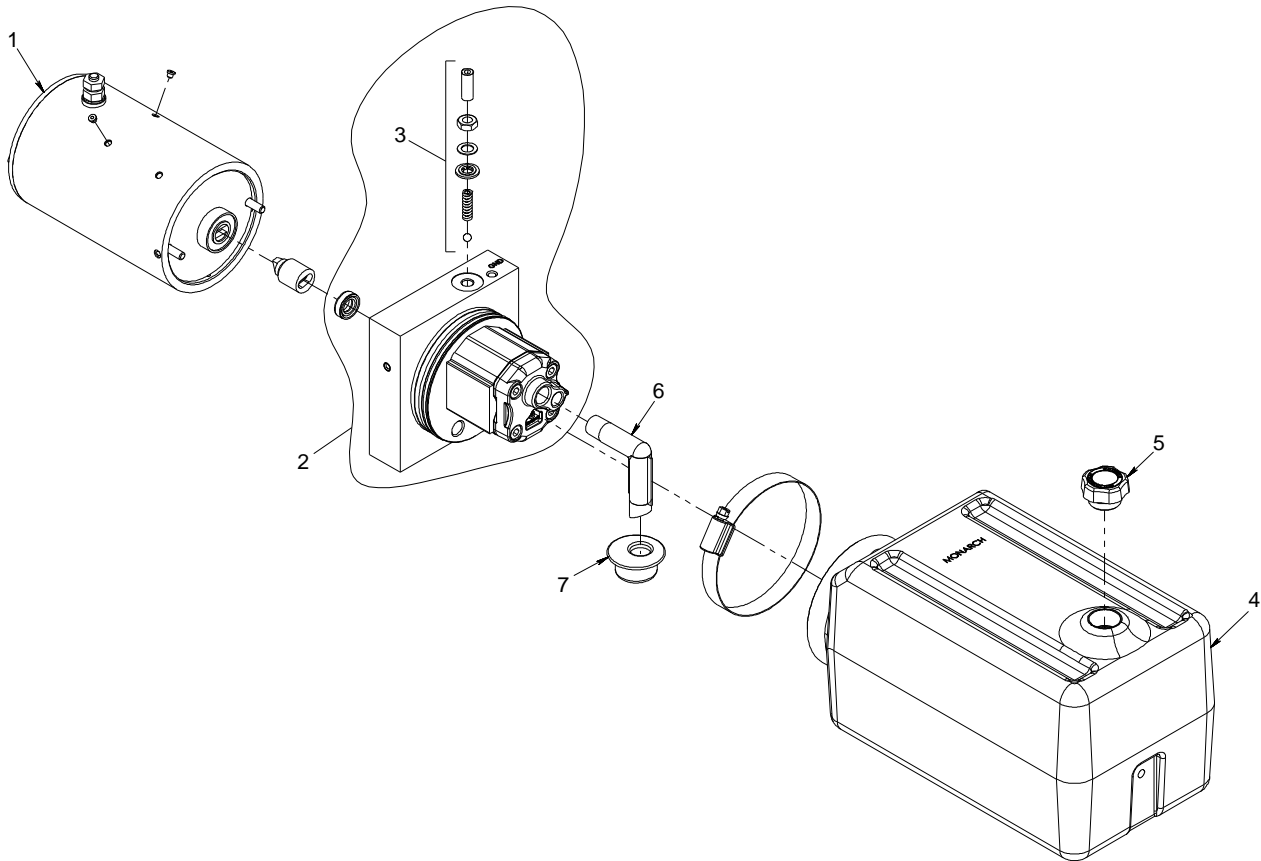
MOTOR - IMT # 73511210

CONTACTOR - IMT # 77041862

NOTE: For 24V systems use 71571008.

Power Unit (73511283_{12V} & 73511305_{24V})

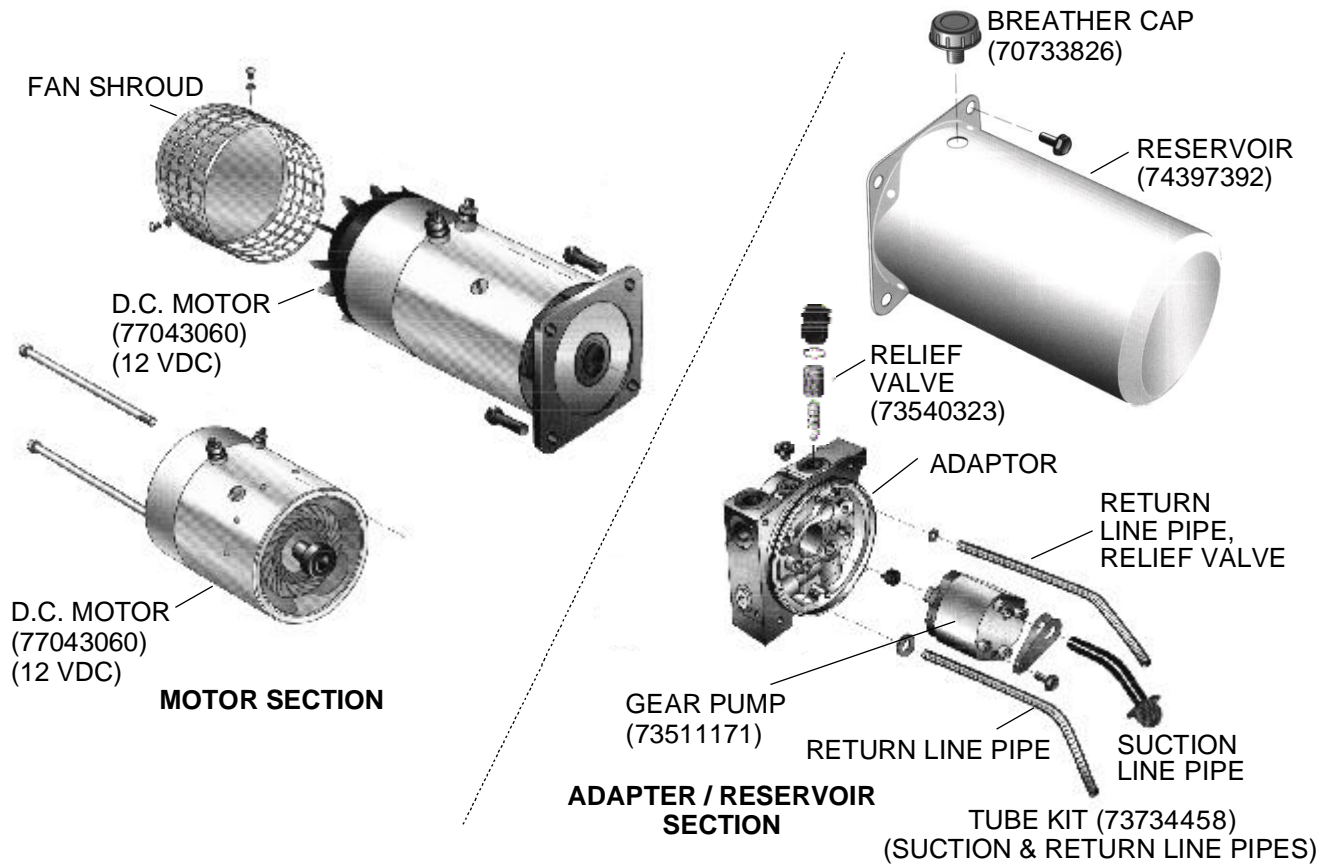
(Effective 10/11/12)



NOTE: Pump pressure relief valve setting = 2500 psi (172 bar)

73511283 (12V) & 73511305 (24V) PARTS LIST				
ITEM	PART #	DESCRIPTION	KIT #	QUANTITY
1.	77043065	MOTOR 12VDC		A/R
1.	77043066	MOTOR 24VDC		A/R
2.	73511306	PUMP		1
3.	73540517	RELIEF VALVE ASSEMBLY		1
4.	74399495	RESERVOIR		1
5.	70734788	BREATHER CAP		1
6.	73734791	TUBE-SUCTION		1
7.	70734792	STRAINER		1
NEW 20130809				

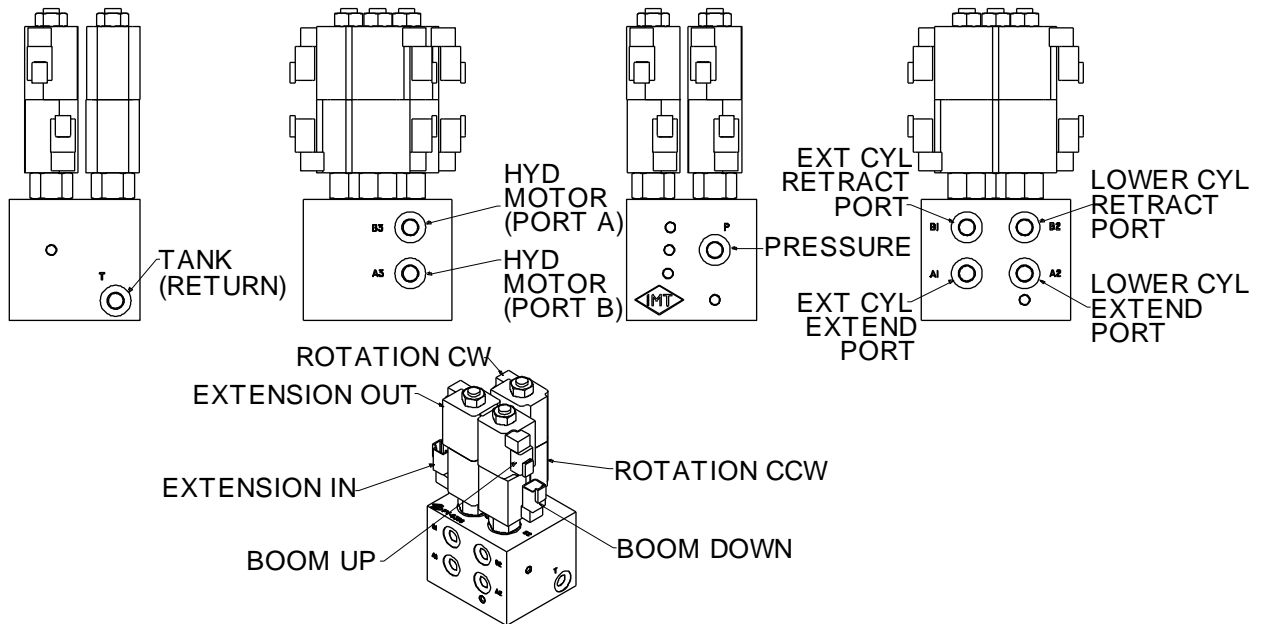
Power Unit (73511169) (Through 10/11/12)



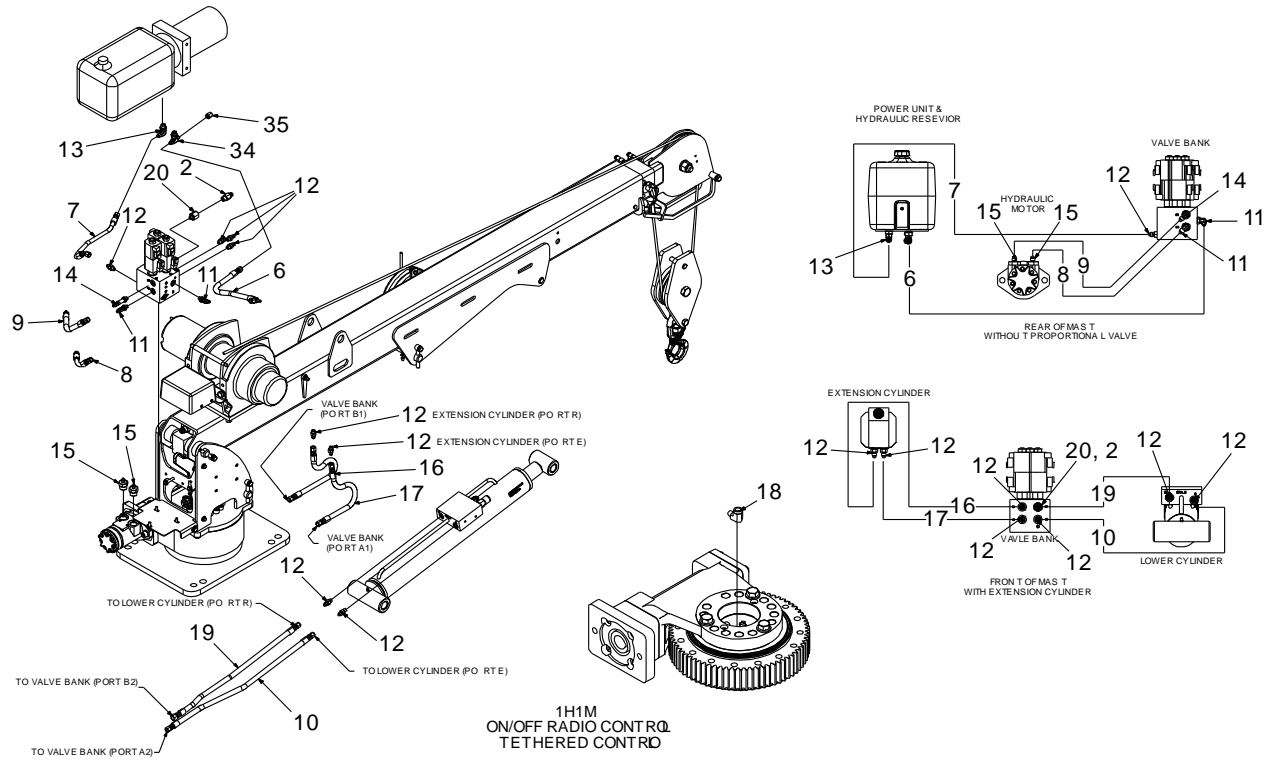
NOTE: Pump pressure relief valve setting = 2500 psi (172 bar)

Hydraulic Installation (99904361)

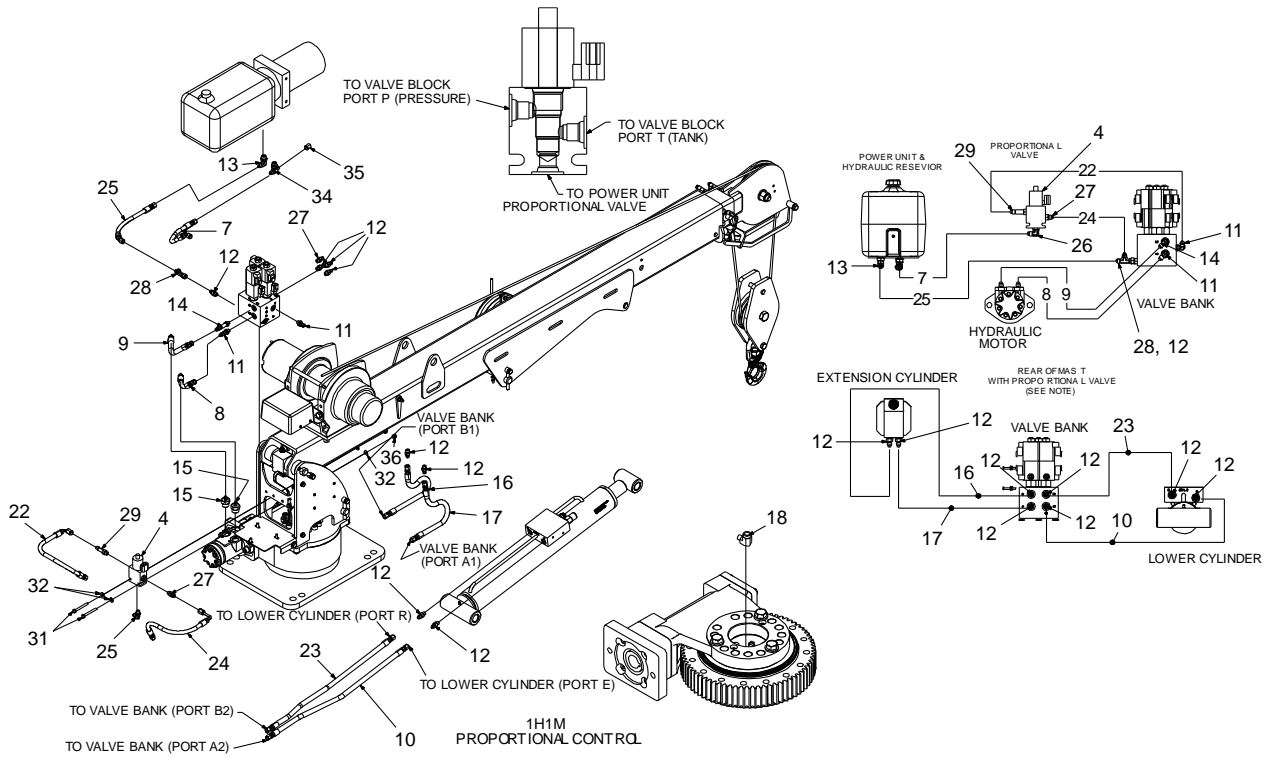
VALVE BANK (99904361-2)



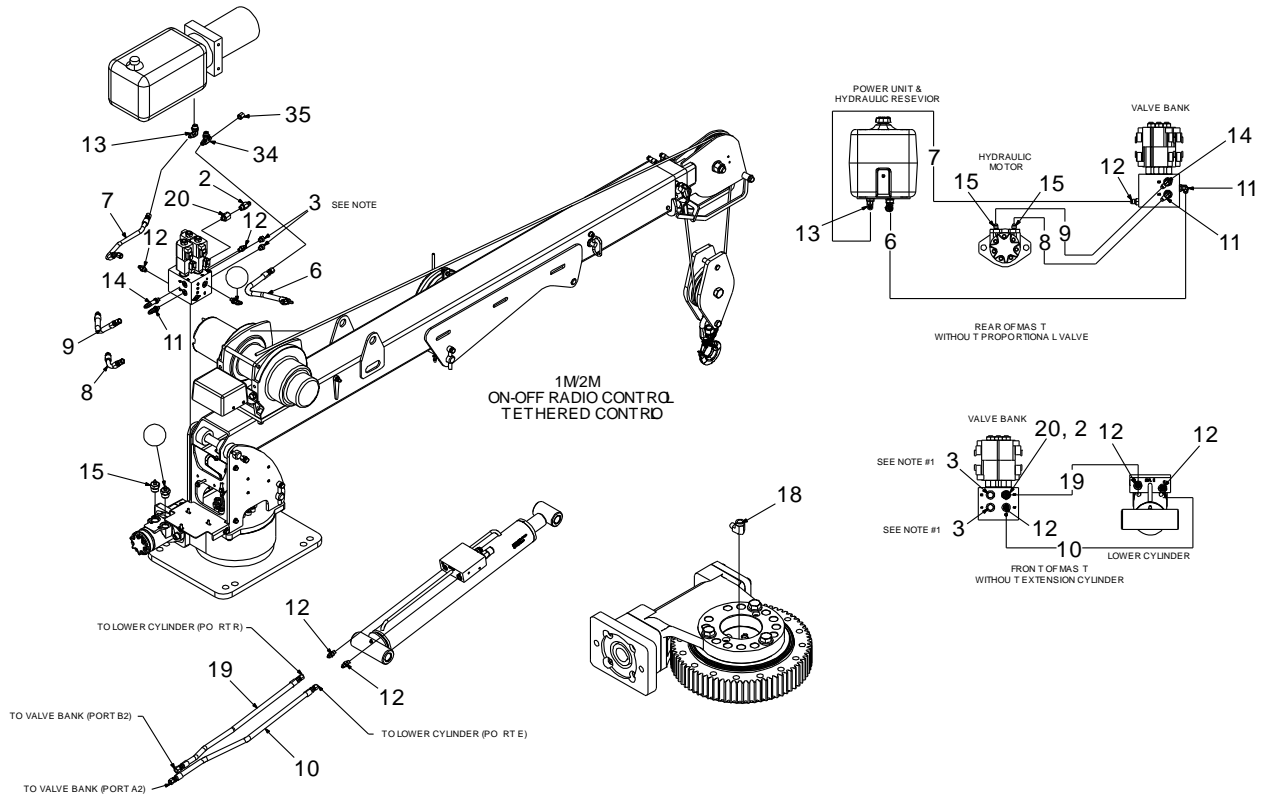
1H1M ON/OFF RADIO CONTROL / TETHERED CONTROL (99904361-3) (Effective 04-25-13)



1H1M PROPORTIONAL CONTROL (99904361-4) (Effective 04-25-13)



1H/2M ON-OFF RADIO CONTROL & TETHERED CONTROL (99904361-5) (Effective 04-25-13)



NOTE:

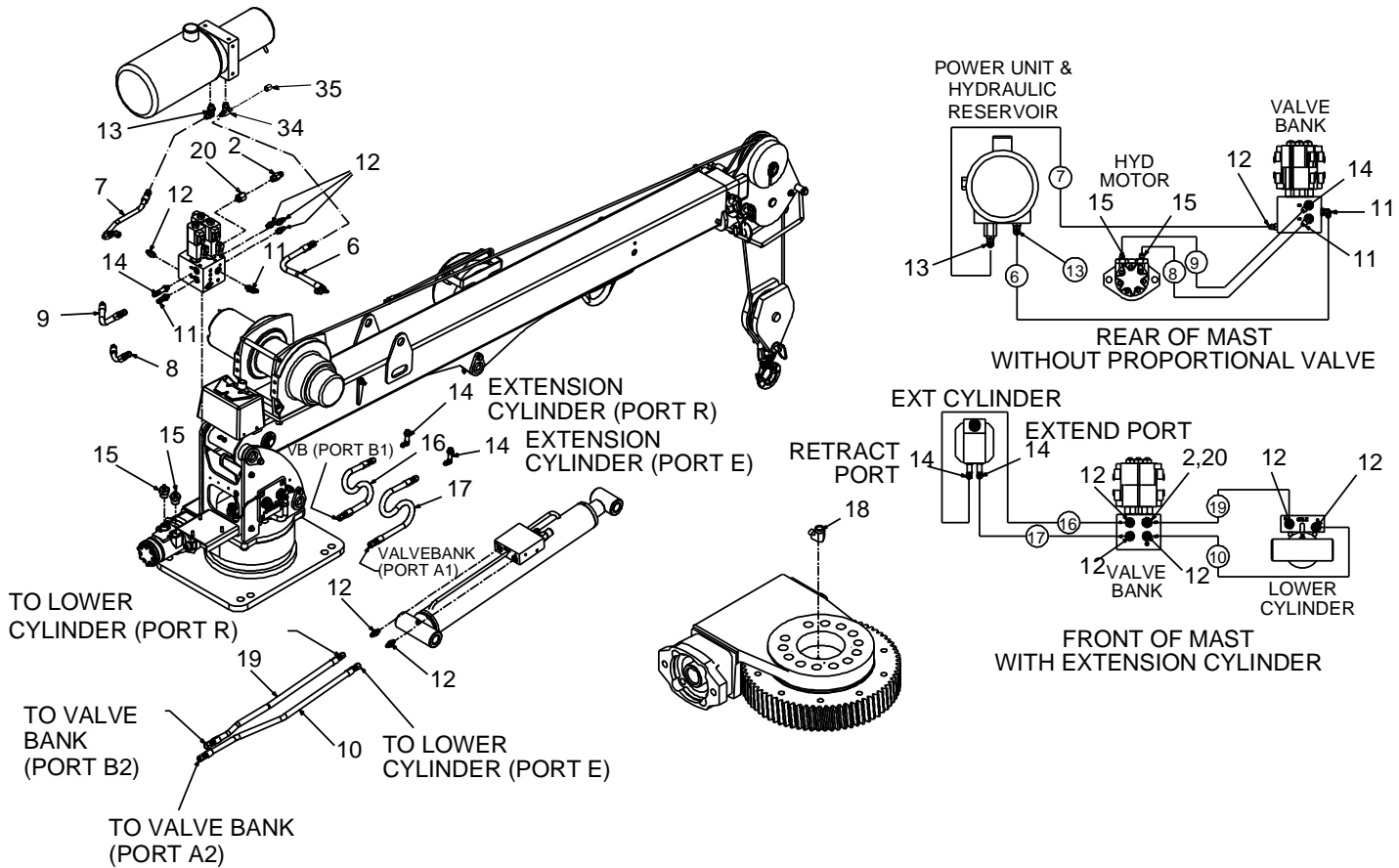
- 1 CRANES WITHOUT EXTENSION CYLINDER USE PLUGS (72532522) TO BLOCK HYDRAULIC PORTS B1 & A1 ON THE VALVE BLOCK.

99904361 PARTS LIST				
ITEM	PART #	DESCRIPTION	KIT #	QUANTITY
1.	99904317	DRAWING-CRANE & WINCH ASSEMBLY		REF
2.	70145928	FLOW LIMITER		1
3.	72532522	PLUG-STR HEX HD STL .44		2
4.	73540325	VALVE-PROPORTIONAL FLOW CONTROL		1
5.	51721322	HYDRAULIC KIT (effective through 09/16/13)		REF
5.	51725633	HYDRAULIC KIT (effective from 09/16/13)		REF
6.	51397335	HOSE-FZ .25 X 13.50 (4-4) 100R17	#5	1
7.	51397336	HOSE-FI .25 X 12.50 (4-4) 100R17	#5	1
8.	51397337	HOSE-FJ .25 X 7.00 (4-4) 100R17	#5	1
9.	51397338	HOSE-FJ .25 X 9.25 (4-4) 100R17	#5	1
10.	51397339	HOSE-FF .25 X 23.50 (4-4) 100R17	#5	1
11.	72053758	ELBOW-M STR/90/M JIC 4 4	#5	2
12.	72532351	ADAPTER-M STR/M JIC 4 4	#5	6
13.	72532699	ELBOW-M STR/90/M JIC 6 4 (WAS 2)	#5	1
14.	72533567	ELBOW-M STR/90/M JIC XLG 4 4	#5	3
15.	72533589	ADAPTER-M STR/M JIC 10 4	#5	2

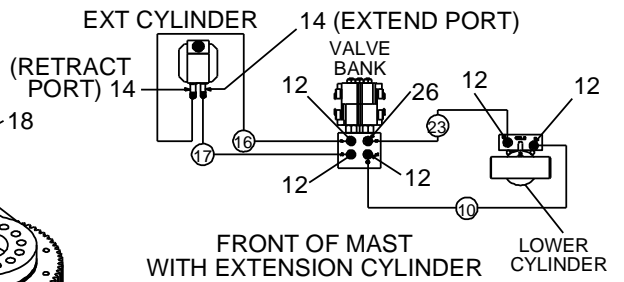
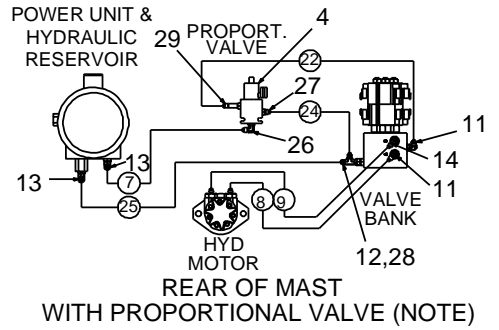
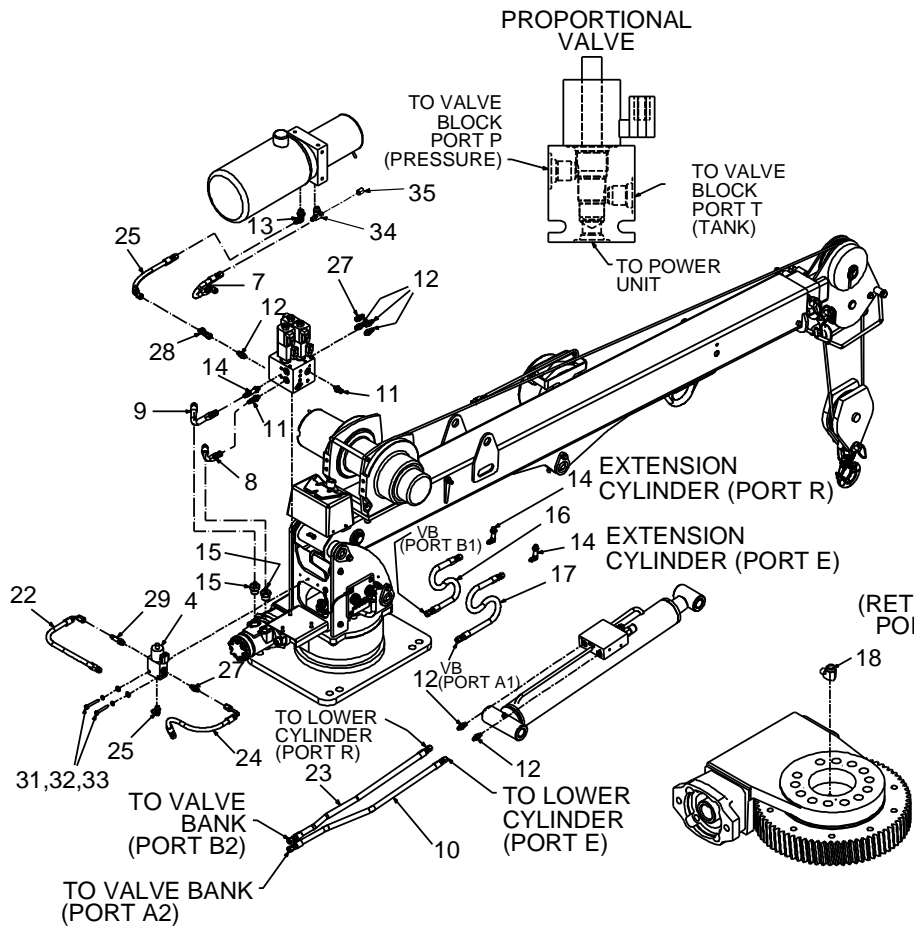
99904361 PARTS LIST				
ITEM	PART #	DESCRIPTION	KIT #	QUANTITY
16.	51395219	HOSE-FF .25 X 18.00 (4-4) 100R17	#5	1
17.	51395872	HOSE-FF .25 X 21.00 (4-4) 100R17	#5	1
18.	72534875	ELBOW-STREET STL M6 x 90 DEG (effective to 9/6/13)	#5	1
18.	72531130	ELBOW-STREET STL .12 X 90 DEG (effective from 2/10/15)	#5	1
19.	51395380	HOSE-FF .25 X 22.00 (4-6) 100R17	#5	1
20.	72532992	ADAPTER-M STR/F STR 4 6	#5	1
21.	91721626	HYDRAULIC KIT-3203i PROPORTIONAL		REF
22.	51395663	HOSE-FJ .25 X 14.00 (4-4) 100R17	#21	1
23.	51397339	HOSE-FF .25 X 23.50 (4-4) 100R17	#21	1
24.	51397434	HOSE-FZ .25 X 16.00 (4-4) 100R17	#21	1
25.	51397452	HOSE-FI .25 X 11.50 (4-4) 100R17	#21	1
26.	72053758	ELBOW-M STR/90/M JIC 4 4	#21	1
27.	72532351	ADAPTER-M STR/M JIC 4 4	#21	2
28.	72532981	TEE-SWVL NUT RUN JIC 4	#21	1
29.	72534477	ADAPTER-M STR/M JIC 4 4 XLG	#21	1
30.	51721645	HARDWARE-PROPORTIONAL CONTROL VALVE		REF
31.	72060009	CAP SCREW .25-20X 2.25 HH GR5 Z	#30	2
32.	72063001	WASHER .25 FLAT	#30	2
34.	72534714	TEE-STL JIC/STR/JIC 4 6 4 BRANCH	#5	1
35.	72532674	CAP-JIC STL 4 (0.44 THD)	#5	1
REV. M 20130925				

NOTE: DESIGN INCLUDING ITEM #2, 70145928, EFFECTIVE S/N 3203i091012.

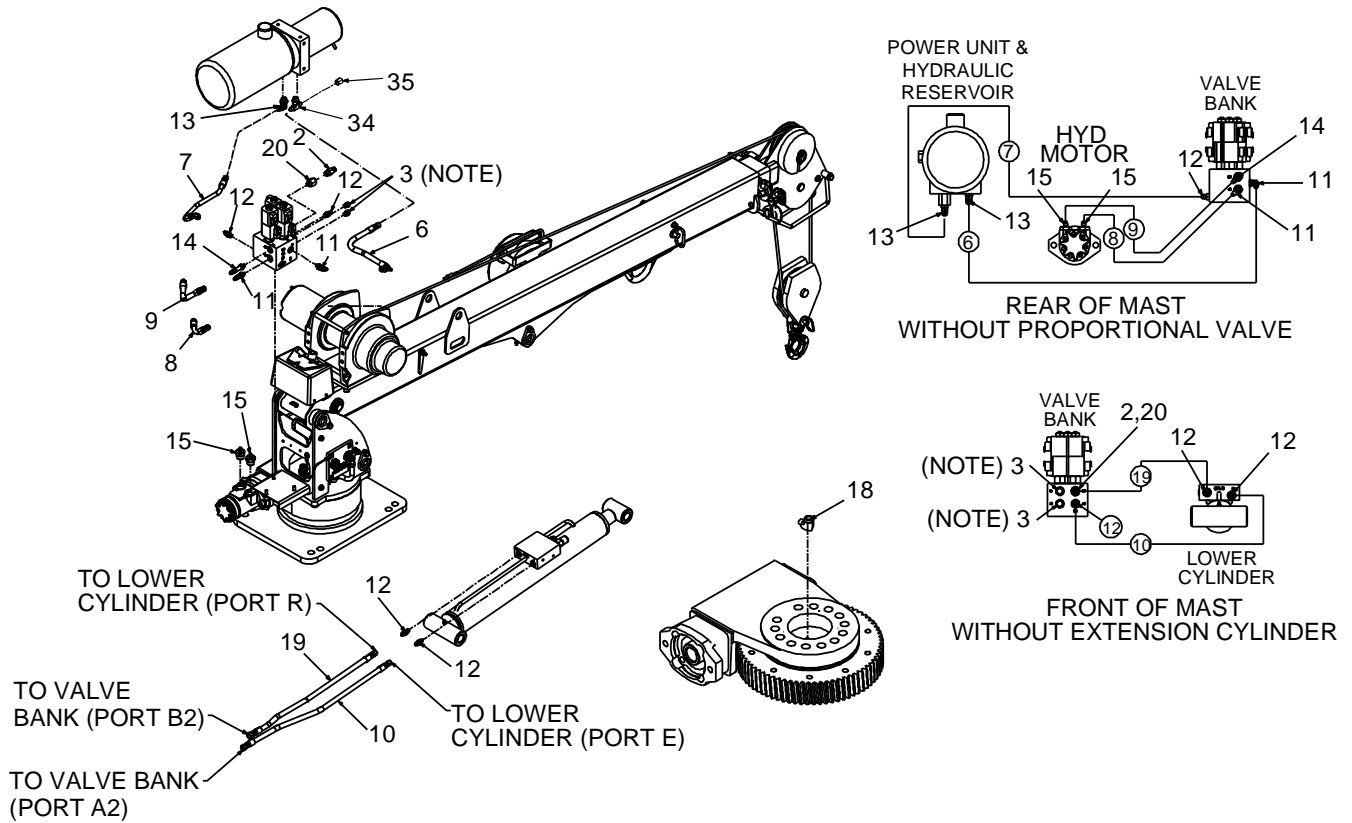
1H1M ON/OFF RADIO CONTROL / TETHERED CONTROL (99904361-3) (Through 04-25-13)



1H1M PROPORTIONAL CONTROL (99904361-4) (Through 04-25-13)



1H/2M ON-OFF RADIO CONTROL & TETHERED CONTROL (99904361-5) (Through 04-25-13)



NOTE:

1 CRANES WITHOUT EXTENSION CYLINDER USE PLUGS (72532522) TO BLOCK HYDRAULIC PORTS B1 & A1 ON THE VALVE BLOCK.

99904361 PARTS LIST

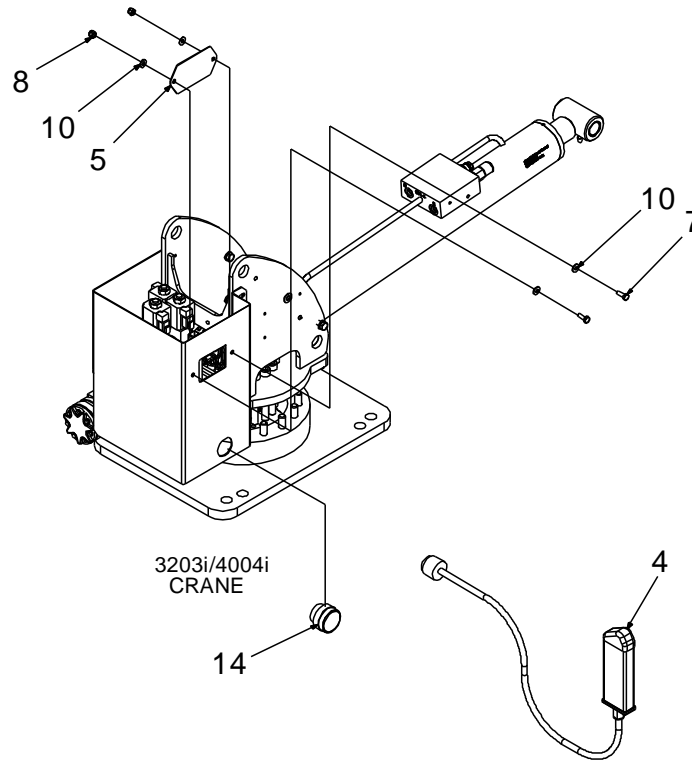
ITEM	PART #	DESCRIPTION	KIT #	QUANTITY
1.	99904317	DRAWING-CRANE & WINCH ASSEMBLY		REF
2.	70145928	FLOW LIMITER		1
3.	72532522	PLUG-STR HEX HD STL .44		2
4.	73540325	VALVE-PROPORTIONAL FLOW CONTROL		1
5.	51721322	HYDRAULIC KIT		REF
6.	51397335	HOSE-FZ .25 X 13.50 (4-4) 100R17	#5	1
7.	51397336	HOSE-FI .25 X 12.50 (4-4) 100R17	#5	1
8.	51397337	HOSE-FJ .25 X 7.00 (4-4) 100R17	#5	1
9.	51397338	HOSE-FJ .25 X 9.25 (4-4) 100R17	#5	1
10.	51397339	HOSE-FF .25 X 23.50 (4-4) 100R17	#5	1
11.	72053758	ELBOW-M STR/90/M JIC 4 4	#5	2
12.	72532351	ADAPTER-M STR/M JIC 4 4	#5	6
13.	72532699	ELBOW-M STR/90/M JIC 6 4 (WAS 2)	#5	1
14.	72533567	ELBOW-M STR/90/M JIC XLG 4 4	#5	3
15.	72533589	ADAPTER-M STR/M JIC 10 4	#5	2
16.	51395219	HOSE-FF .25 X 18.00 (4-4) 100R17	#5	1

99904361 PARTS LIST				
ITEM	PART #	DESCRIPTION	KIT #	QUANTITY
17.	51395872	HOSE-FF .25 X 21.00 (4-4) 100R17	#5	1
18.	72531130	ELBOW-STREET STL .12 X 90 DEG	#5	1
19.	51395380	HOSE-FF .25 X 22.00 (4-6) 100R17	#5	1
20.	72532992	ADAPTER-M STR/F STR 4 6	#5	1
21.	91721626	HYDRAULIC KIT-3203i PROPORTIONAL		REF
22.	51395663	HOSE-FJ .25 X 14.00 (4-4) 100R17	#21	1
23.	51397339	HOSE-FF .25 X 23.50 (4-4) 100R17	#21	1
24.	51397434	HOSE-FZ .25 X 16.00 (4-4) 100R17	#21	1
25.	51397452	HOSE-FI .25 X 11.50 (4-4) 100R17	#21	1
26.	72053758	ELBOW-M STR/90/M JIC 4 4	#21	1
27.	72532351	ADAPTER-M STR/M JIC 4 4	#21	2
28.	72532981	TEE-SWVL NUT RUN JIC 4	#21	1
29.	72534477	ADAPTER-M STR/M JIC 4 4 XLG	#21	1
30.	51721645	HARDWARE-PROPORTIONAL CONTROL VALVE		REF
31.	72060007	CAP SCREW .25-20X 1.75 HH GR5 Z	#30	2
32.	72063001	WASHER .25 FLAT	#30	2
33.	72063049	WASHER .25 LOCK	#30	2
34.	72534714	TEE-STL JIC/STR/JIC 4 6 4 BRANCH	#5	1
35.	72532674	CAP-JIC STL 4 (0.44 THD)	#5	1
REV. J 20100311				

NOTE: DESIGN INCLUDING ITEM #2, 70145928, EFFECTIVE S/N 3203i091012.

Tethered Control Installation (99904593)

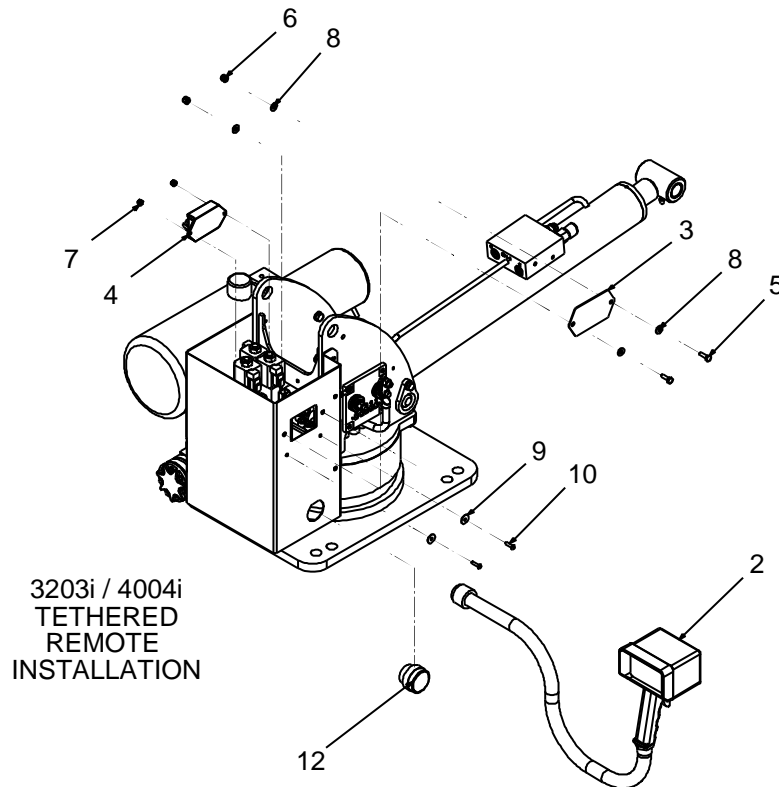
(Effective 04-25-13)



99904593 PARTS LIST			
ITEM	PART #	DESCRIPTION	QUANTITY
2.	91725111	CONTROL KIT- TETHERED ELECTRIC CRANE	1
4.	70734746	HANDLE ASM-TETHERED ELECTRIC CRANES	1
5.	60133633	COVER- WINDOW	1
7.	72060002	CAP SCR .25-20X .75 HH GR5 Z	2
8.	72062104	NUT .25-20 HEX NYLOCK	2
10.	72063001	WASHER .25 FLAT	4
14.	77441536	PLUG CAP-DEUTSCH HDC36-24	1
REV B 20130306			

NOTE: See 99904377 for installation drawing prior to 2-15-09. Component parts are the same.

Tethered Control Installation (99904593) (Through 04-25-13)

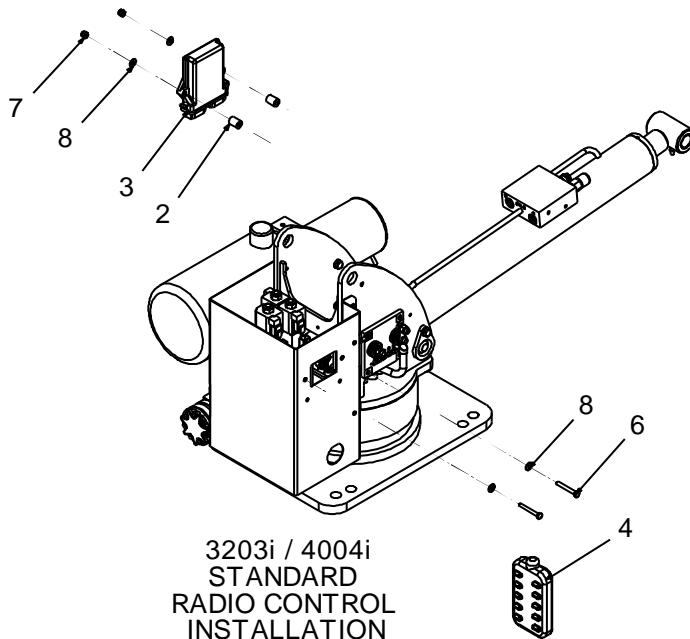


99904593 PARTS LIST

ITEM	PART #	DESCRIPTION	QUANTITY
1.	91721524	CONTROL KIT- TETHERED ELECTRIC CRANE	1
2.	51721502	HANDLE ASM-TETHERED ELECTRIC CRANES	1
3.	60133633	COVER- WINDOW	1
4.	71413190	RELAY-2 RELAY MODULE	1
5.	72060002	CAP SCR .25-20X .75 HH GR5 Z	2
6.	72062104	NUT .25-20 HEX NYLOCK	2
7.	72062106	NUT 10-24 HEX NYLOCK	2
8.	72063001	WASHER .25 FLAT	4
9.	72063268	WASHER #10 W FLAT ANSI B27.2Z	2
10.	72601994	SCREW-MACHINE #10-24X .75 BTNHD ZC	2
12.	77044667	PLUG CAP-DEUTSCH HDC36-24	1
REV A 20090515			

NOTE: See 99904377 for installation drawing prior to 2-15-09. Component parts are the same.

Radio Control Installation, Standard (99904594)

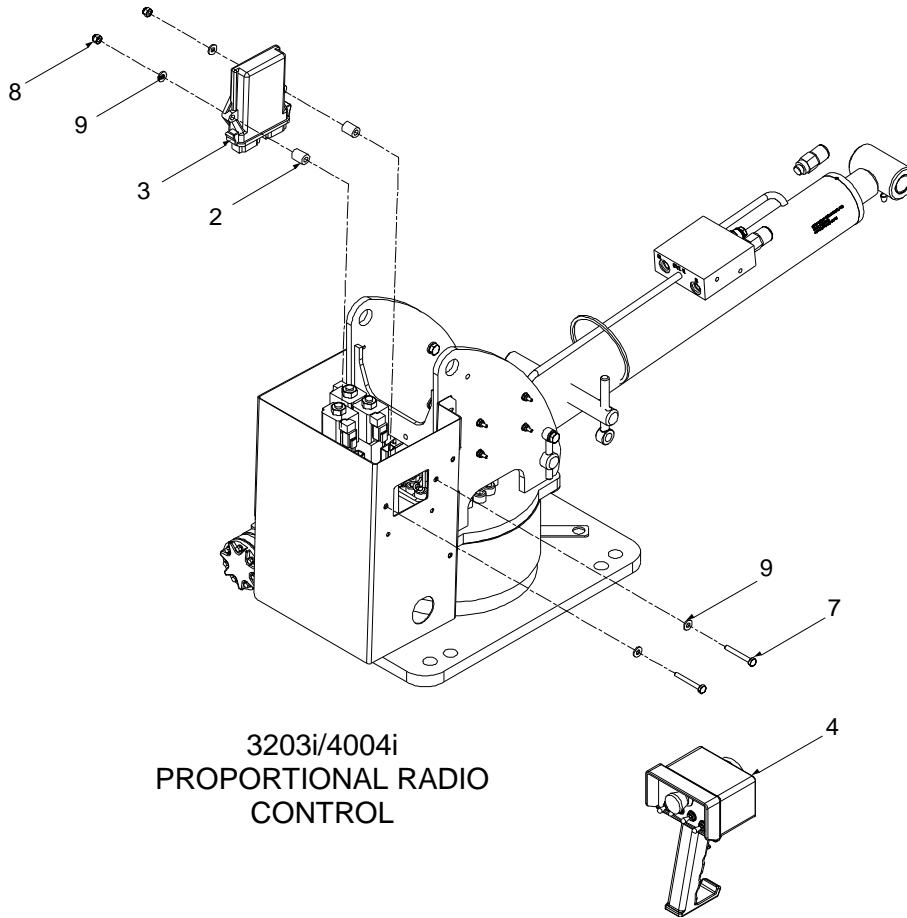


99904594 PARTS LIST			
ITEM	PART #	DESCRIPTION	QUANTITY
1.	91721523	CONTROL KIT- RADIO ELECTRIC CRANE	1
2.	60133634	SLEEVE-TYPE C .63X .81X .31	2
3.	70734329	RECEIVER - RADIO REMOTE TELE VORC	1
4.	70734330	TRANSMITTER-RADIO REMOTE ELECTRIC CRANE	1
6.	72060008	CAP SCR .25-20X 2.00 HH GR5 Z	2
7.	72062104	NUT .25-20 HEX NYLOCK	2
8.	72063001	WASHER .25 FLAT	4
NEW 20090305			

NOTE: See 99904522 for installation drawing prior to 2-15-09. Component parts are the same.

NOTE: Image may be different depending on assembly date but control installation is identical.

Radio Control Installation, Proportional (99904595) Effective 5-25-16

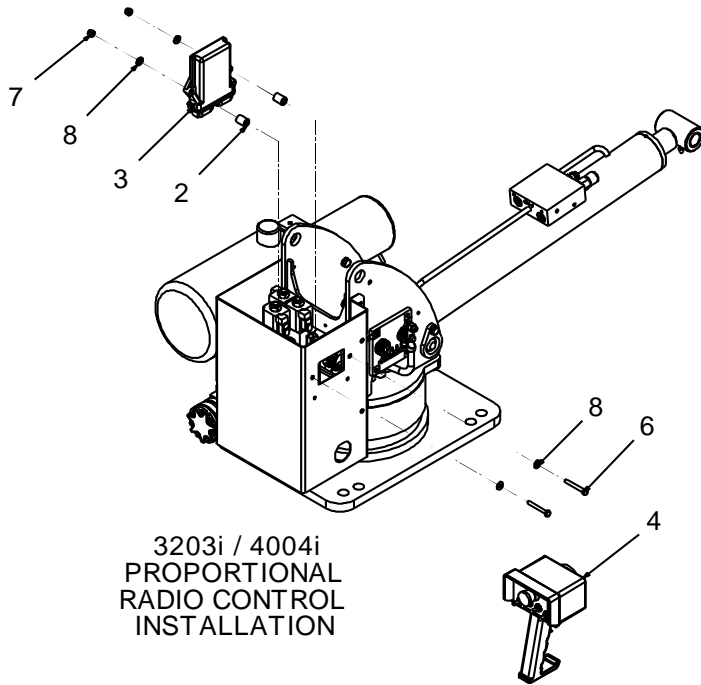


99904595 PARTS LIST EFFECTIVE 3-31-16					
ITEM	PART NO	DESCRIPTION	REF	KIT NO	QTY
2	60133634	SLEEVE-TYPE C .63X .81X .31	X	2	1
3	70734347	RECEIVER-PROP RADIO ELECTRIC CRANE	X	1	1
4	70734348	TRANSMITTER-RADIO ELECTRIC CRANE PROP	X	1	1
7	72060008	CAP SCR .25-20X 2.00 HH GR5 Z	X	2	1
8	72062104	NUT .25-20 HEX NYLOCK	X	2	1
9	72063001	WASHER .25 FLAT	X	4	1
REV. A 20160628					

99904595 Complete Parts List

99904595 COMPLETE PARTS LIST EFFECTIVE 3-31-16					
ITEM	PART NO.	DESCRIPTION	REF NO.	KIT NO.	QTY
1	91721644	CONTROL KIT- PROP ELECTRIC CRANE-12V	X	1	
2	60133634	SLEEVE-TYPE C .63X .81X .31	X	2	1
3	70734347	RECEIVER-PROP RADIO ELECTRIC CRANE	X	1	1
4	70734348	TRANSMITTER-RADIO ELECTRIC CRANE PROP	X	1	1
5	70734988	CABLE ASM-33FT 5 PIN RADIO ELIMINATION	X (REF)	1	1
6	72060005	CAP SCR .25-20X 1.25 HH GR5 Z		2	1
7	72060008	CAP SCR .25-20X 2.00 HH GR5 Z	X	2	1
8	72062104	NUT .25-20 HEX NYLOCK	X	2	1
9	72063001	WASHER .25 FLAT	X	4	1
10	72063049	WASHER .25 LOCK		2	1
11	73540325	VALVE-PROP FLOW CNTRL 12V ELEC CRANE	X (REF)	1	1
12	77441270	HARNESS-RADIO ELECTRIC CRANE	X (REF)	1	1
13	91721626	KIT-HYD PROP ELEC CRANE	X (REF)	1	1
REV. A 20160517					

Radio Control Installation, Proportional (99904595)



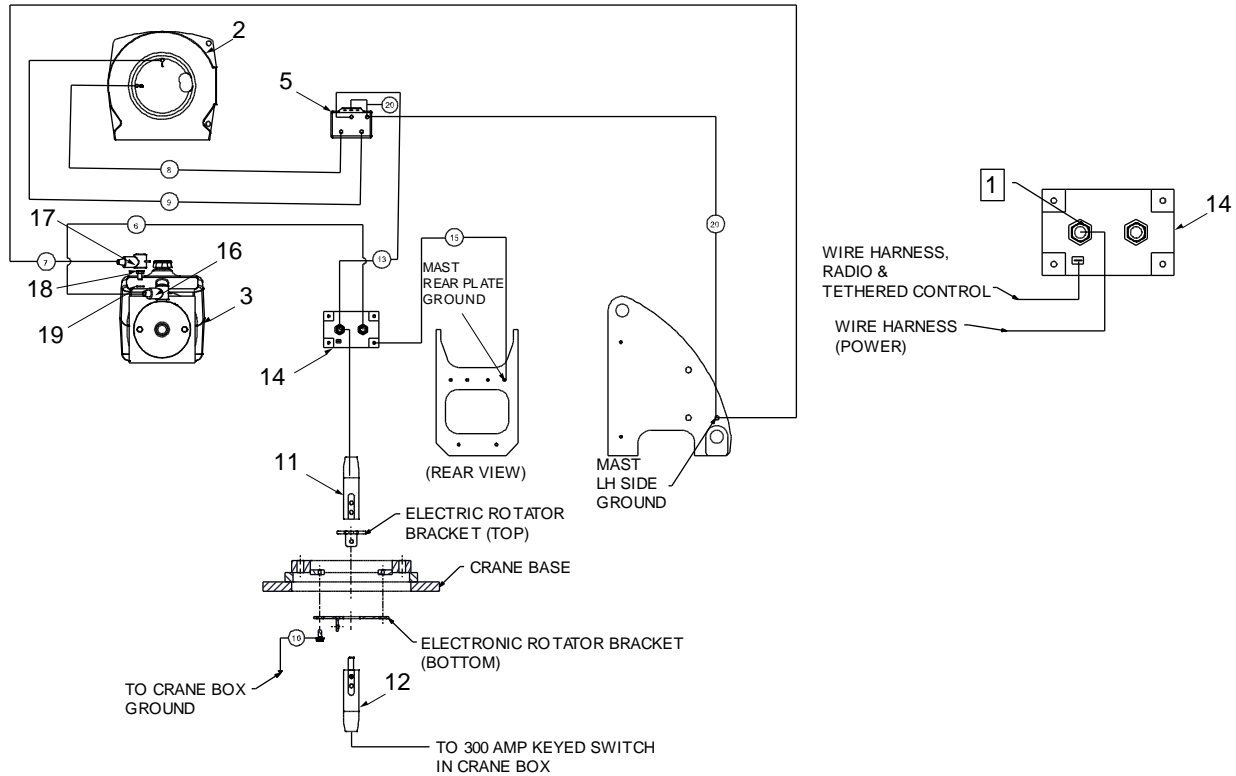
99904595 PARTS LIST

ITEM	PART #	DESCRIPTION	QUANTITY
1.	91721644	CONTROL KIT- PROP ELECTRIC CRANE-12V	1
2.	60133634	SLEEVE-TYPE C .63X .81X .31	2
3.	70734347	RECEIVER-PROP RADIO ELECTRIC CRANE CRANE	1
4.	70734348	TRANSMITTER-RADIO ELECTRIC CRANE PROP	1
6.	72060008	CAP SCR .25-20X 2.00 HH GR5 Z	2
7.	72062104	NUT .25-20 HEX NYLOCK	2
8.	72063001	WASHER .25 FLAT	4

NOTE: See 99904523 for installation drawing prior to 2-15-09. Component parts are the same.

NOTE: Image may be different depending on assembly date but control installation is identical.

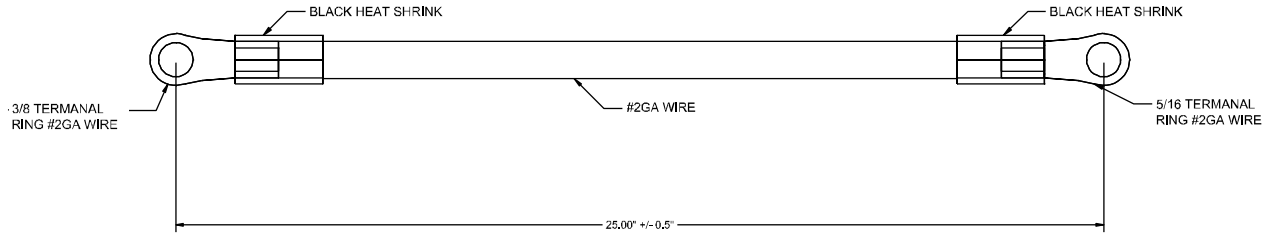
Electrical Installation (99904389) Effective 12-28-14



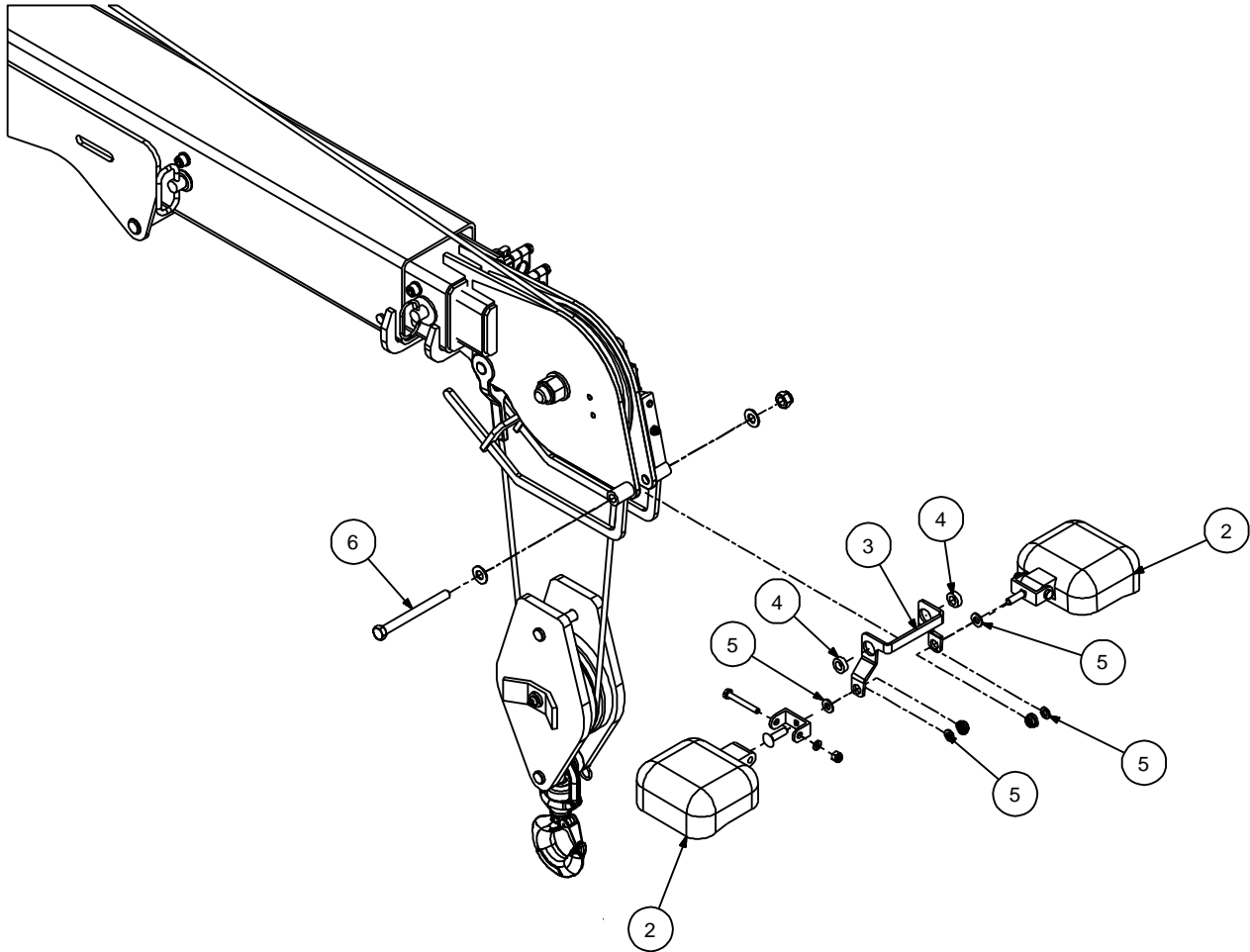
99904389 PARTS LIST				
ITEM	PART NO.	DESCRIPTION	KIT NO.	QTY
1	91722219	KIT- 3203I ELECTRICAL INSTALLATION		1
2	71570922	WINCH-DC2000 12VDC		REF
3	73511283	POWER UNIT- 1.19CC 12VDC		1
4	89034049	SPIRAL WRAP-BLACK		1
5	77041932	CONTACTOR-WINCH 12V DC2000		REF
6	51721718	CABLE ASM- 2GA-5/16RNGX 3/8RNGX 25.00LG	#1	2
7	51721497	CABLE ASM- 2GA-5/16RNGX 3/8RNGX 8.25LG	#1	1
8	51721498	CABLE ASM- 2GA-5/16RNG X 1/4RNG X 19.00LG	#1	1
9	51721499	CABLE ASM- 2GA-5/16RNG X 1/4RNG X 26.50LG	#1	1
10	51721664	CABLE ASM- 1GA-5/16RNGX 1/4RNGX 48.00LG	#1	1
11	51721943	CABLE ASM- 1GA-3/8RNGX SWVL FX 11.00LG	#1	1
12	51721944	CABLE ASM- 1GA-3/8RNGX SWVL MX 60.00LG	#1	1
13	51721719	CABLE ASM- 2GA-5/16RNGX 3/8RNGX 20.00LG	#1	1
14	77441534	SWITCH-225A CONTACTOR 12V OR 24V		1
15	77441312	CABLE ASM-10GA-#10RNGX 1/4RNGX 6.00LG	#1	1

99904389 PARTS LIST				
ITEM	PART NO.	DESCRIPTION	KIT NO.	QTY
16	77441302	TERM INSUL RED #8-2 GA WIRE		1
17	77441303	TERM INSUL BLK #8-2 GA WIRE		1
18	72060021	CAP SCR .31-18X .50 HH GR5 Z		1
19	72063050	WASHER .31 LOCK		1
REV. M 20160620				

Cable Assembly (51726427) Effective 4-8-16

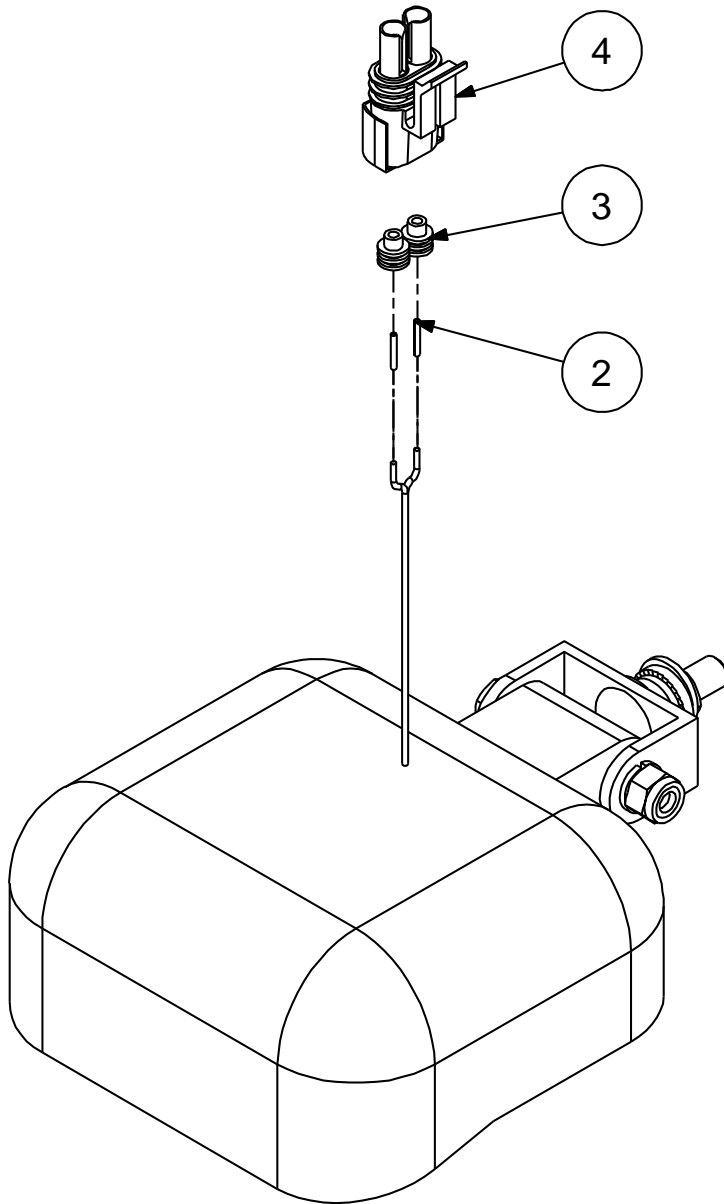


Light Kit (99906234)



ITEM NO.	PART NO.	DESCRIPTION	KIT NO.	QTY.
1.	51727279	ELECT KIT-BOOM FLOOD LIGHTS 3203i-4004i		1
2.	77040581	FLOODLIGHT-LED 12-36VDC	1	2
3.	60145055	BRACKET-LIGHT 3203i-4004i	1	1
4.	60145332	SLEEVE-TYPE C .44X .75X .25	1	2
5.	72063002	WASHER .31 FLAT	1	4
6.	72060074	CAP SCR .44-14X 5.00 HH GR5 Z	1	1
REV. B				
Effective 1-1-2018				

99906234-1

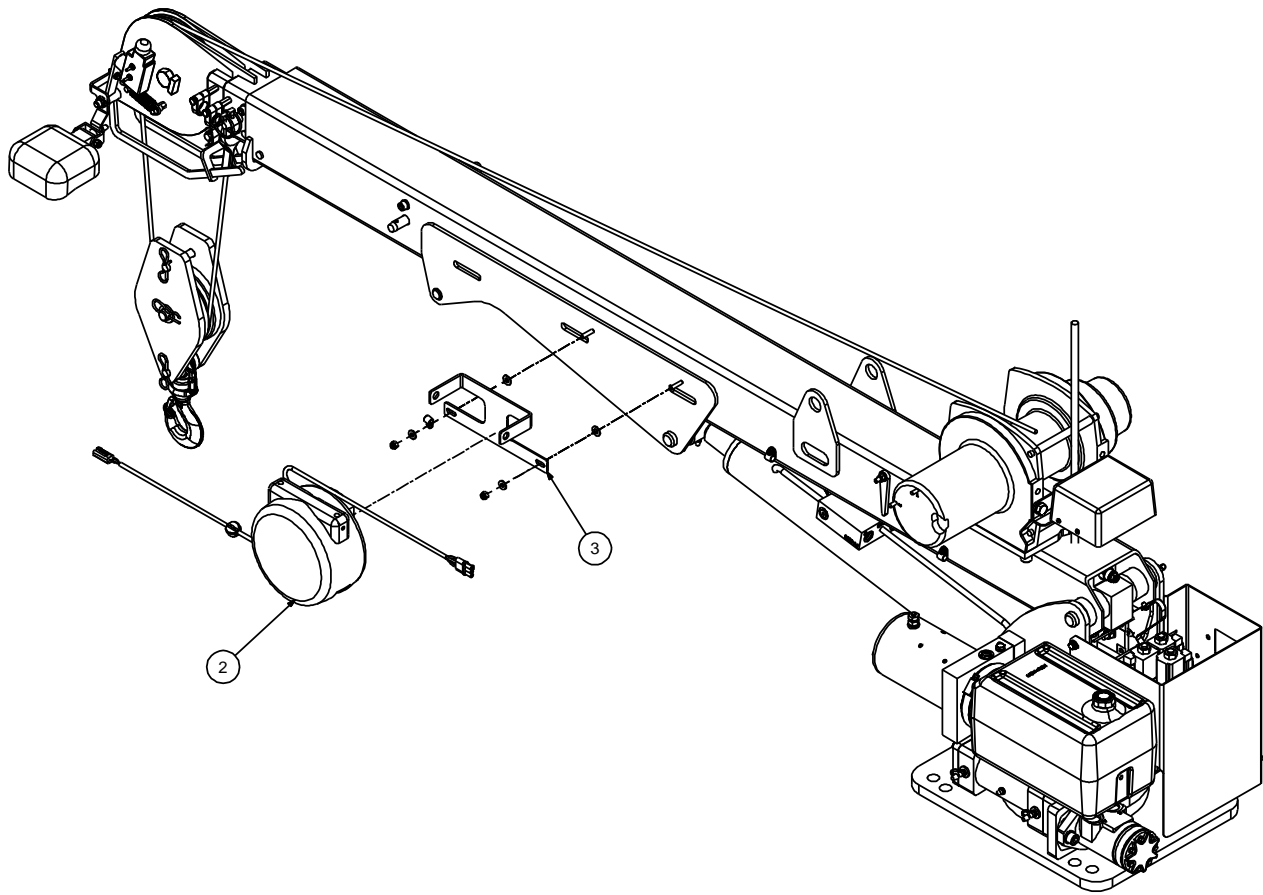


ITEM NO.	PART NO.	DESCRIPTION	KIT NO.	QTY.
1.	51727279	ELECT KIT-BOOM FLOOD LIGHTS 3203i-4004i		1
2.	77045888	TERM-PKRD WEATHERPACK 14-16GA FEMALE	1	2
3.	77044927	CABLE SEAL-PKRD WP/MP 14 GA GREY	1	2
4.	77044574	CONN-PKRD WEATHERPACK 2 CAV FEMALE/TOWER	1	1

REV. B

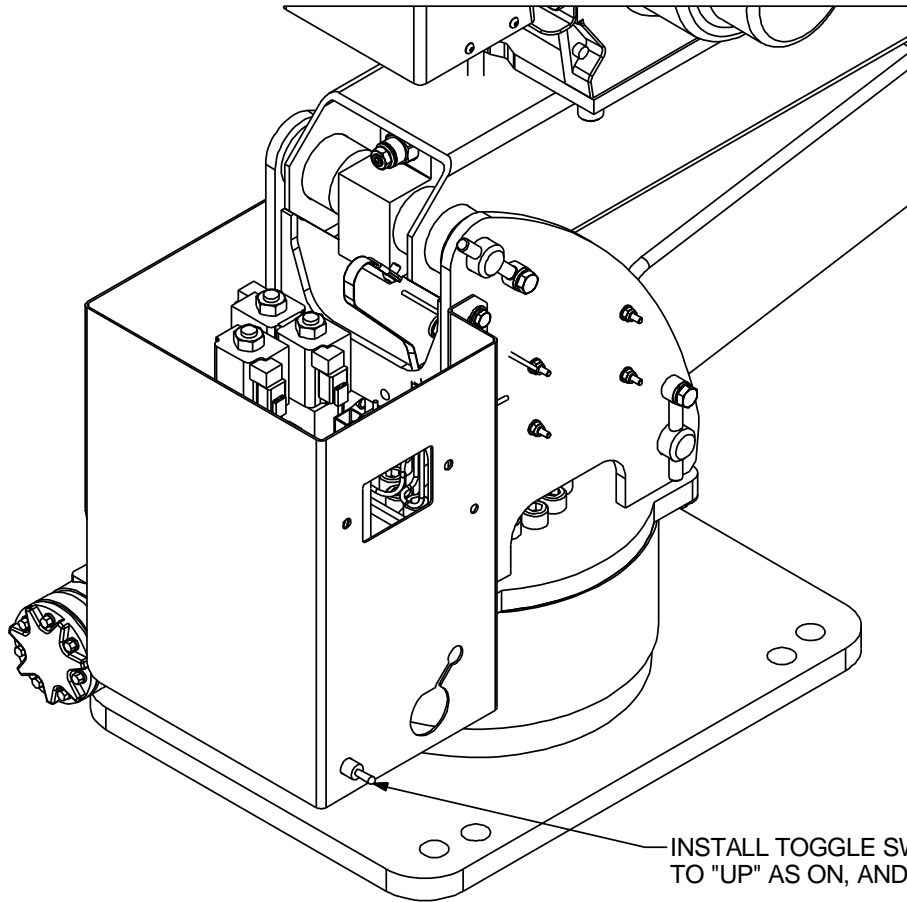
Effective 1-1-2018

99906234-2



ITEM NO.	PART NO.	DESCRIPTION	KIT NO.	QTY.
1.	51727279	ELECT KIT-BOOM FLOOD LIGHTS 3203i-4004i		1
2.	51727416	CORD REEL ASM 4.75' W/PACKARD CONN 3-WIR		1
3.	60132111	BRKT- CORD REEL MNT		1
REV. B				
Effective 1-1-2018				

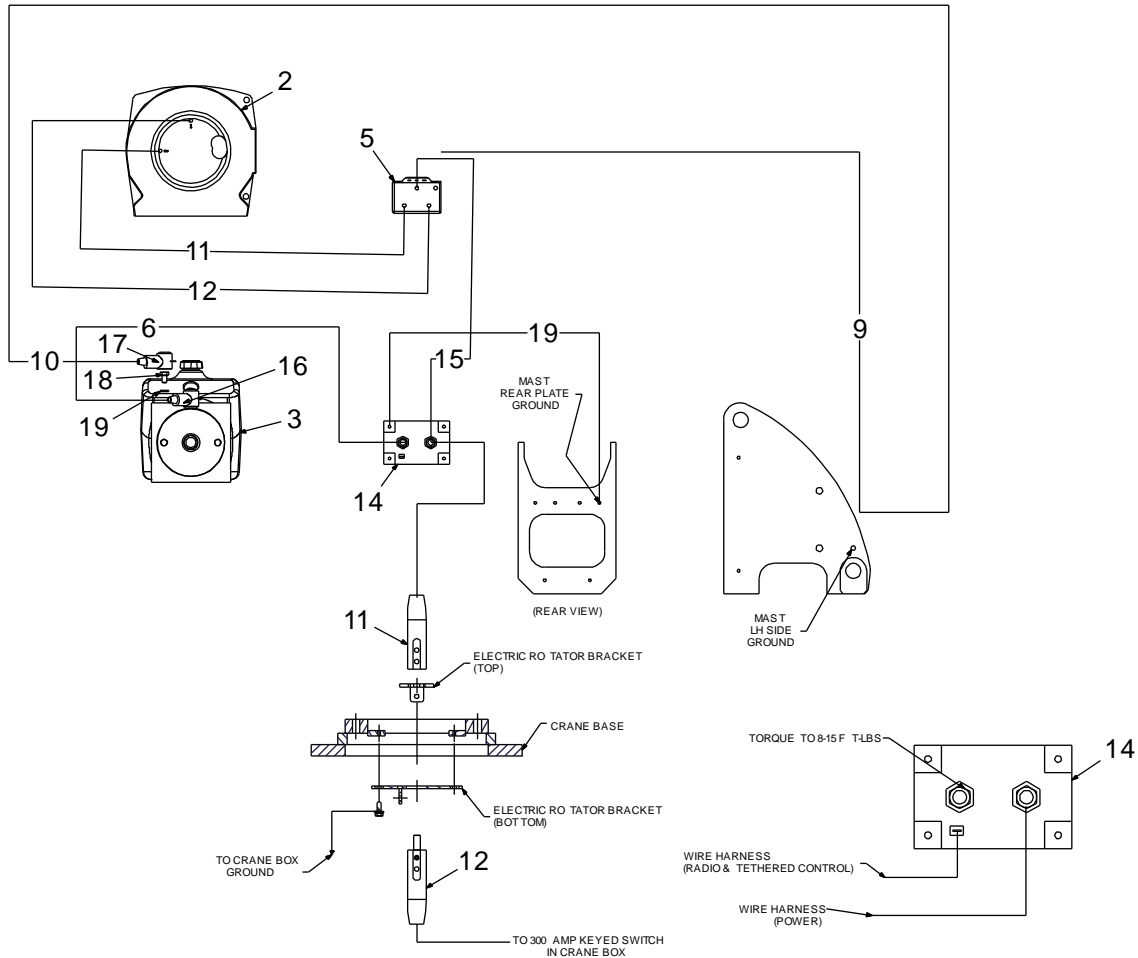
99906234-3



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

NOTE: TOGGLE SWITCH 77041345 IS PART OF HARNESS 77441674.

Electrical Installation (99904389) (See Parts List for Effectivity Dates)



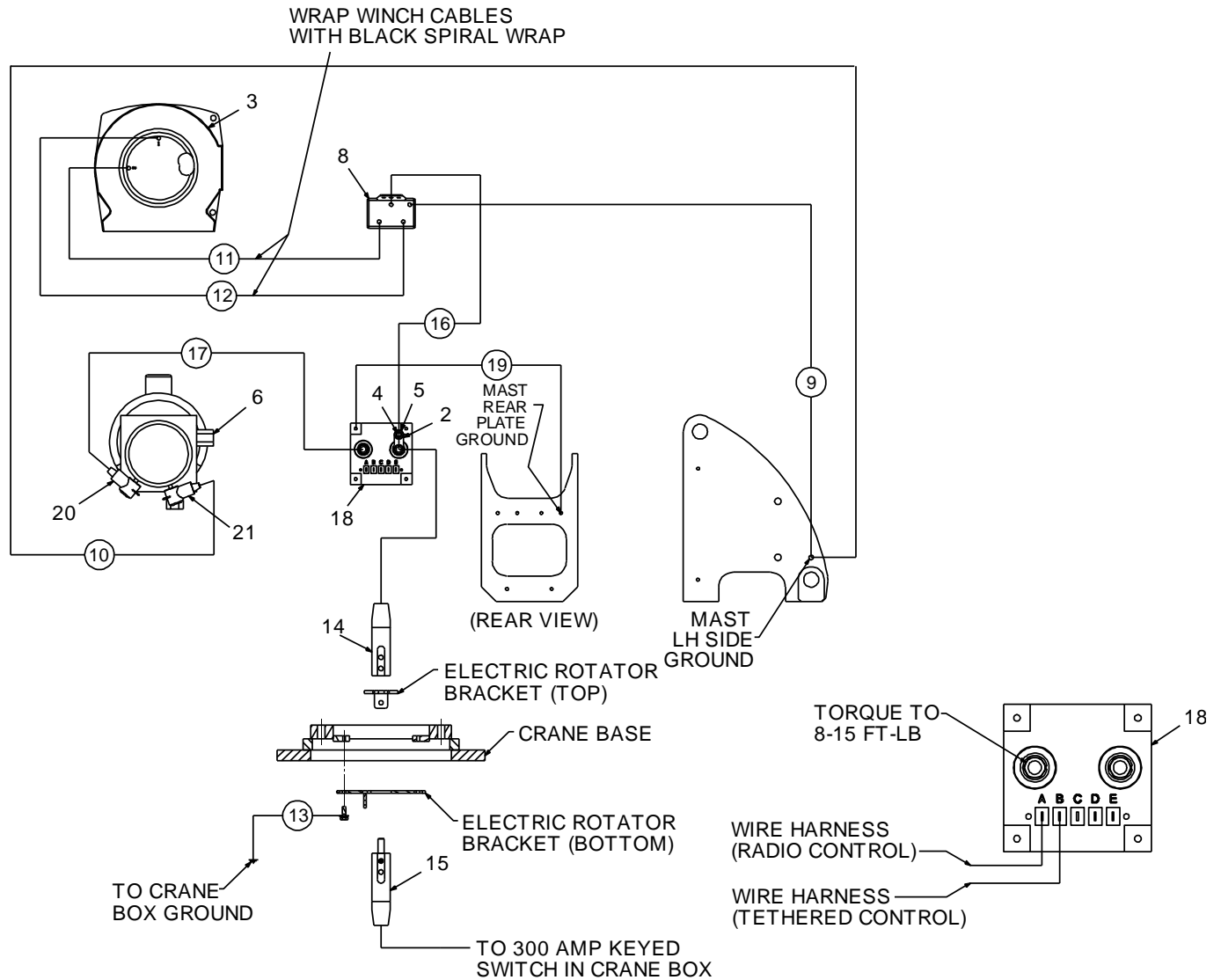
99904389 PARTS LIST

ITEM	PART #	DESCRIPTION	KIT #	QTY
1.	91722219	KIT- 3203I ELECTRICAL INSTALLATION (WAS 91721525 THRU 12-29-08)		1
2.	71570922	WINCH		REF
3.	73511283	POWER UNIT (effective through 10/11/12)		REF
4.	89034049	SPIRAL WRAP – BLACK		1
5.	77041932	CONTACTOR-WINCH 12V (effective through 05/09/13)		REF
6.	51721718	CABLE ASSEMBLY (effective through 03/27/13)	#1	2
7.	51721497	CABLE ASSEMBLY	#1	1
8.	51721498	CABLE ASSEMBLY	#1	1
9.	51721499	CABLE ASSEMBLY	#1	1
10.	51721664	CABLE ASSEMBLY	#1	1

99904389 PARTS LIST				
ITEM	PART #	DESCRIPTION	KIT #	QTY
11.	51721943	CABLE ASSEMBLY	#1	1
12.	51721944	CABLE ASSEMBLY	#1	1
13.	51721719	CABLE ASSEMBLY (effective through 03/27/13)	#1	1
14.	77441534	SWITCH-225A CONTACTOR (WAS 77441277 THRU 12-29-08) (effective through 04/25/13)	#1	1
15.	77441312	CABLE ASSEMBLY	#1	1
16.	77441302	TERMINAL-INSULATED RED #8-2 GA WIRE		1
17.	77441303	TERMINAL-INSULATED BLACK #8-2 GA WIRE		1
18.	72060021	CAP SCREW 0.31-18 X .5 HH GR5 Z		1
19.	72063050	WASHER 0.31 LOCK		1
REV. L 20130619				

Electrical Installation (99904389) (See Parts List for Effectivity Dates)

Dates)

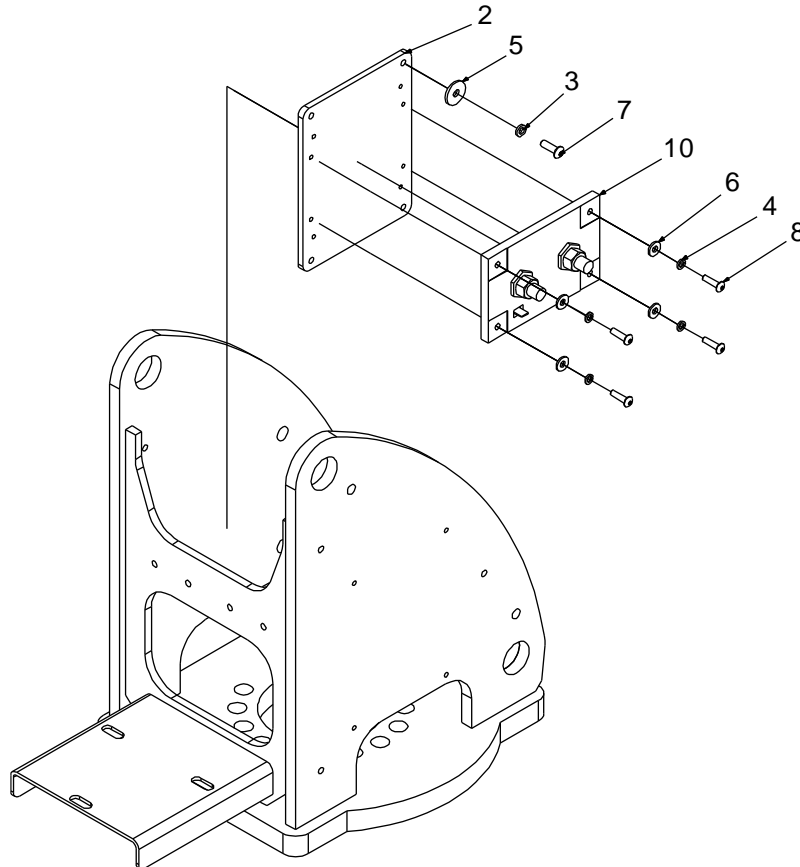


ITEM	PART #	DESCRIPTION	KIT #	QTY
1.	91722219	KIT- 3203I ELECTRICAL INSTALLATION (WAS 91721525 THRU 12-29-08)		1
2.	60133635	CONTACT JUNCTION (effective through 04/28/13)		REF
3.	71570922	WINCH		REF
4.	72060044	CAP SCREW .38-16 X .75 HEX HEAD GRADE 5 ZINC (effective through 04/25/13)		REF
5.	72062002	NUT .38-16 HEX (effective through 04/25/13)		REF
6.	73511169	POWER UNIT (effective through 10/11/12)		REF

ITEM	PART #	DESCRIPTION	KIT #	QTY
7.	89034049	SPIRAL WRAP – BLACK		1
8.	77041801	CONTACTOR-WINCH 12V (effective through 05/09/13)		REF
9.	51721495	CABLE ASSEMBLY (effective through 03/27/13)	#1	1
10.	51721497	CABLE ASSEMBLY	#1	1
11.	51721498	CABLE ASSEMBLY	#1	1
12.	51721499	CABLE ASSEMBLY	#1	1
13.	51721664	CABLE ASSEMBLY	#1	1
14.	51721943	CABLE ASSEMBLY	#1	1
15.	51721944	CABLE ASSEMBLY	#1	1
16.	51721974	CABLE ASSEMBLY (effective through 04/22/13)	#1	1
17.	51721976	CABLE ASSEMBLY (effective through 03/27/13)	#1	1
18.	77441336	SWITCH-275A CONTACTOR (WAS 77441277 THRU 12-29-08) (effective through 04/25/13)	#1	1
19.	77441312	CABLE ASSEMBLY	#1	1
20.	77441302	TERMINAL-INSULATED RED #8-2 GA WIRE		1
21.	77441303	TERMINAL-INSULATED BLACK #8-2 GA WIRE		1
REV. G 20090515				

225-Amp Contactor Replacement (99904578)

(Effective 04/25/13)



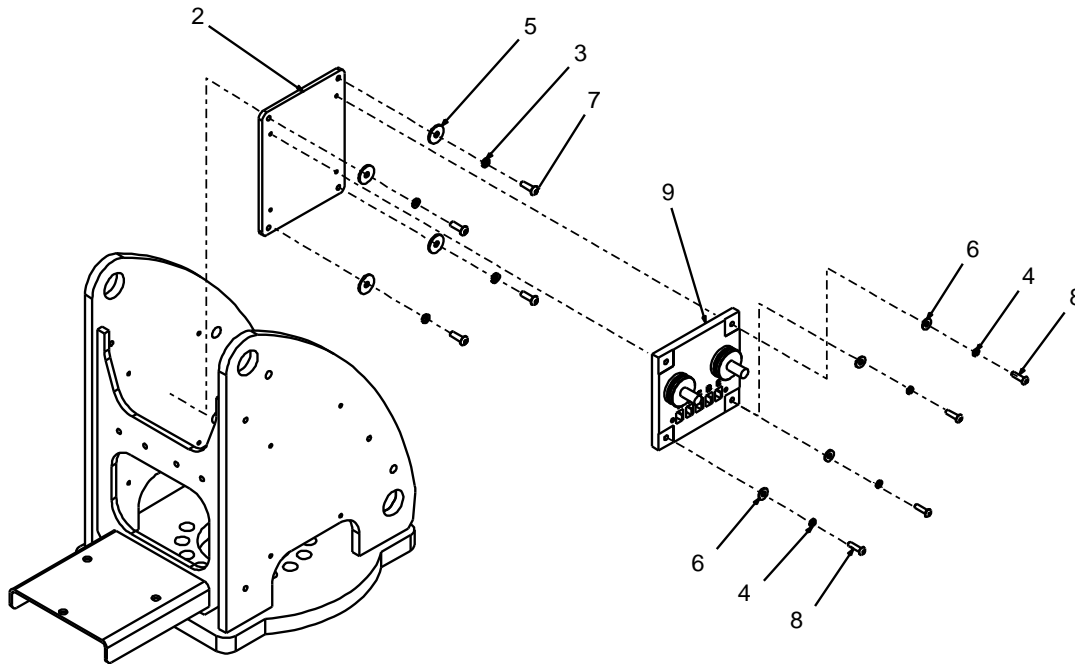
NOTES:

- 1 THE 77441534 CONTACTOR IS SMALLER THAN THE 77441336. THE MOUNTING SPACE FOR THE 77441336 IS 3.4" SQUARE. THE MOUNTING SPACE FOR THE 77441534 IS 3.6" HORIZONTALLY BY 2.1" VERTICALLY.
- 2 THE 77441336 WAS MOUNTED INSIDE THE MAST, AS SHOWN. USE THE REPLACEMENT KIT WHEN MOUNTING A REPLACEMENT 77441534 INSIDE THE MAST WHERE THE 77441336 WAS.

99904578 PARTS LIST				
ITEM	PART #	DESCRIPTION	KIT #	QUANTITY
1.	91722165	HARDWARE KIT-CONTACTOR REPLACEMENT		1
2.	60251278	PLATE-CONTACTOR MNT		1
3.	72063047	WASHER #10 LOCK	#1	4
4.	72063239	WASHER # 8 LOCK	#1	4
5.	72063268	WASHER #10 W FLAT ANSI B27.2Z	#1	4
6.	72063271	WASHER # 8 W FLAT ANSI B27.2Z	#1	4
7.	72602007	SCREW-MACHINE #10-24X .62 BUTTONHEAD, ZINC-COATED	#1	4
8.	72602011	SCREW-MACHINE # 8-32X .62 BUTTONHEAD, ZINC-COATED	#1	4
9.	77441534	SWITCH- 225A CONTACTOR		1
REV B 20130702				

275-Amp Contactor Replacement (99904578)

(Through 04-25-13)



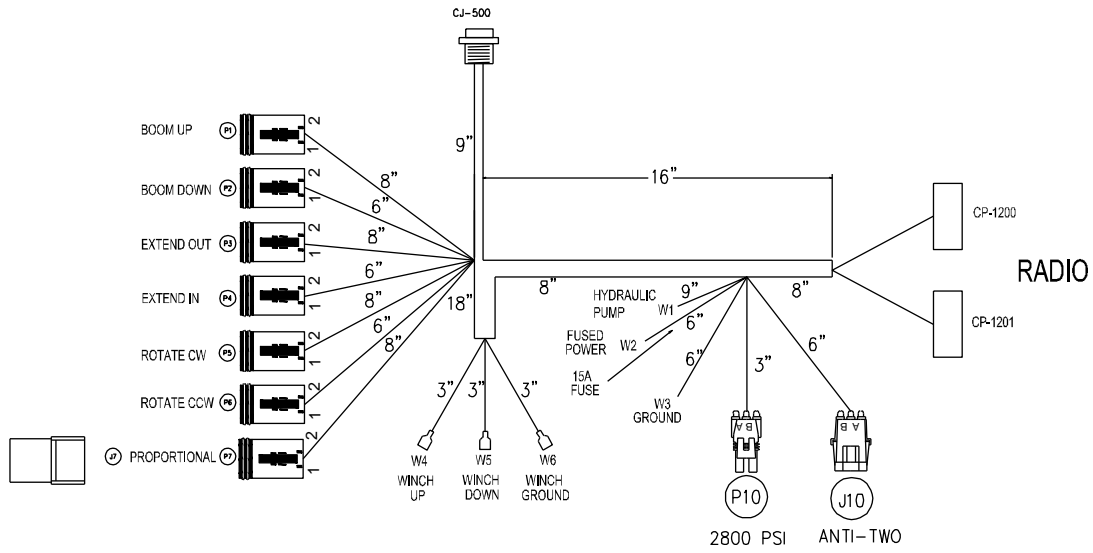
NOTES:

- CONTACTOR 77441277 REPLACED BY 77441336 IN JANUARY 2009. CONTACTOR 77441336 EFFECTIVE ON CRANES WITH SERIAL NUMBERS STARTING WITH THE FOLLOWING SERIAL NUMBERS: 3203i091006 (Model 3203i), 4004i091002 (Model 4004i), 6006i091001 (Model 6006i).
- THE 77441336 CONTACTOR IS SMALLER THAN THE 77441277. THE MOUNTING SPACE FOR THE 77441277 IS 3.6" HORIZONTALLY BY 4.9" VERTICALLY. THE MOUNTING SPACE FOR THE 77441336 IS 3.4" SQUARE.
- THE 77441277 WAS MOUNTED INSIDE THE MAST, AS SHOWN. USE THE REPLACEMENT KIT WHEN MOUNTING A REPLACEMENT 77441336 INSIDE THE MAST WHERE THE 77441277 WAS.

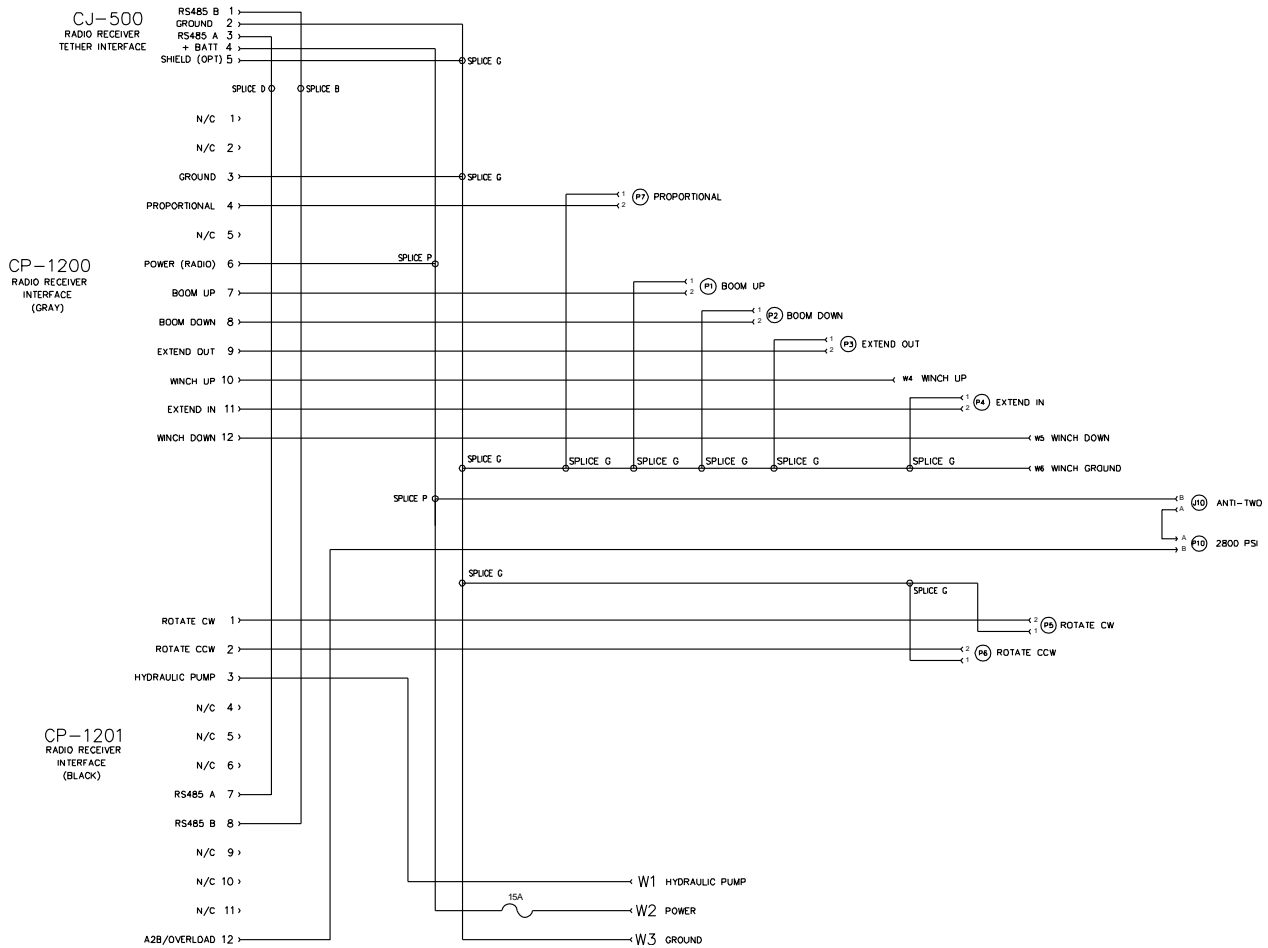
99904578 PARTS LIST

ITEM	PART #	DESCRIPTION	KIT #	QUANTITY
1.	91722165	HARDWARE KIT-CONTACTOR REPLACEMENT		1
2.	60251278	PLATE-CONTACTOR MNT		1
3.	72063047	WASHER #10 LOCK	#1	4
4.	72063239	WASHER # 8 LOCK	#1	4
5.	72063268	WASHER #10 W FLAT ANSI B27.2Z	#1	4
6.	72063271	WASHER # 8 W FLAT ANSI B27.2Z	#1	4
7.	72602007	SCREW-MACHINE #10-24X .62 BUTTONHEAD, ZINC-COATED	#1	4
8.	72602011	SCREW-MACHINE # 8-32X .62 BUTTONHEAD, ZINC-COATED	#1	4
9.	77441336	SWITCH- 275A CONTACTOR		1
NEW 20090210				

Harness, Radio (77441270) Effective 5-1-2015



SCHEMATIC, HARNESS, RADIO (77441270)



NOTES:

1. UNLESS OTHERWISE NOTED, BRAIDING STOPS 4" FROM BACK OF CONNECTOR.
2. ALL DIMENSIONS ARE FROM MATING END OF CONNECTOR TO BREAK-OUT POINT IN HARNESS.
3. ALL WIRE TO BE GXL.
4. CONNECTORS WITH THE SYMBOL, o, ARE TO BE PERMANENTLY LABELED WITH THE LETTER AND NUMBER.

PROTECTIVE LOOM DETAIL

HIGH TEMPERATURE RESISTANT VINYL COATED YARN.

PHYSICAL PROPERTIES:

- MOISTURE AND WEATHER RESISTANT
- FIRE AND OIL RESISTANT
- HIGH ABRASION RESISTANT (SEE SAE 20:20.106 J562)
- TEMPERATURE RESISTANT FROM +280°F TO -65°F

YARN COLOR TO BE BLACK WITH YELLOW STRIPING

YARN SHOULD BE BRAIDED WITH WEAVE TIGHTNESS OF 12 PICKS PER INCH.

Circuit Chart (77441270)

LOCATOR CODE: CJ-500		BRAD/HARRIS: 89540418A120		CAP 80012 (1E TO HARNESS)	
CAVITY	COLOR	GA.	PRINT LABEL	TO	CON-SPLC CAVITY
1	BRN	22	RS 485 B	TO	SPLB -
2	BLK	22	GROUND	TO	SPLG -
3	BLU	22	RS 485 A	TO	SPLD -
4	WHT	22	+BATT	TO	SPLP -
5	GREY	22	SHIELD (OPTIONAL)	TO	SPLG -

LOCATOR CODE: CP-1200		DEUTSCH: DT08-2S		DEUTSCH: DT08-2S (GRAY)	
TERM: 0462-209-16141		WEDGE: W25		0413-204-2005	
CAVITY	COLOR	GA.	PRINT LABEL	TO	CON-SPLC CAVITY
1	-	-	N/C	TO	-
2	-	-	N/C	TO	-
3	WHT	16	GROUND	TO	SPLG -
4	WHT	16	PROP VLV PWR	TO	P7 B
5	-	-	N/C	TO	-
6	WHT	16	POWER (RADIO)	TO	SPLP -
7	WHT	16	BOOM UP	TO	P1 2
8	WHT	16	BOOM DOWN	TO	P2 2
9	WHT	16	EXTEND OUT	TO	P3 2
10	WHT	16	WINCH UP	TO	W4 -
11	WHT	16	EXTEND IN	TO	P4 2
12	WHT	16	WINCH DOWN	TO	W5 -

LOCATOR CODE: CP-1201		DEUTSCH: DT08-2S		DEUTSCH: DT08-2S (BLACK)	
TERM: 0462-209-16141		WEDGE: W112S		0413-204-2005	
CAVITY	COLOR	GA.	PRINT LABEL	TO	CON-SPLC CAVITY
1	WHT	16	ROTATE CW	TO	P5 2
2	WHT	16	ROTATE CCW	TO	P6 2
3	WHT	16	HYDRAULIC PUMP	TO	W1 -
4	-	-	N/C	TO	-
5	-	-	N/C	TO	-
6	-	-	N/C	TO	-
7	WHT	16	RS 485 A	TO	SPLD -
8	WHT	16	RS 485 B	TO	SPLB -
9	-	-	N/C	TO	-
10	-	-	N/C	TO	-
11	-	-	N/C	TO	-
12	WHT	16	2800 PSI	TO	P10 B

LOCATOR CODE: P1		DEUTSCH: DT08-2S		DEUTSCH: DT08-2S	
TERM: 0462-209-16141		WEDGE: W25		0413-204-2005	
CAVITY	COLOR	GA.	PRINT LABEL	TO	CON-SPLC CAVITY
1	WHT	16	BOOM UP GND	TO	SPLG -
2	WHT	16	BOOM UP	TO	CP-1200 7

LOCATOR CODE: P2		DEUTSCH: DT08-2S		DEUTSCH: DT08-2S	
TERM: 0462-209-16141		WEDGE: W25		0413-204-2005	
CAVITY	COLOR	GA.	PRINT LABEL	TO	CON-SPLC CAVITY
1	WHT	16	BOOM DOWN GND	TO	SPLG -
2	WHT	16	BOOM DOWN	TO	CP-1200 8

LOCATOR CODE: P3		DEUTSCH: DT08-2S		DEUTSCH: DT08-2S	
TERM: 0462-209-16141		WEDGE: W25		0413-204-2005	
CAVITY	COLOR	GA.	PRINT LABEL	TO	CON-SPLC CAVITY
1	WHT	16	EXTEND OUT GND	TO	SPLG -
2	WHT	16	EXTEND OUT	TO	CP-1200 9

LOCATOR CODE: P4		DEUTSCH: DT08-2S		DEUTSCH: DT08-2S	
TERM: 0462-209-16141		WEDGE: W25		0413-204-2005	
CAVITY	COLOR	GA.	PRINT LABEL	TO	CON-SPLC CAVITY
1	WHT	16	EXTEND IN GND	TO	SPLG -
2	WHT	16	EXTEND IN	TO	CP-1200 11

LOCATOR CODE: P5		DEUTSCH: DT08-2S		DEUTSCH: DT08-2S	
TERM: 0462-209-16141		WEDGE: W25		0413-204-2005	
CAVITY	COLOR	GA.	PRINT LABEL	TO	CON-SPLC CAVITY
1	WHT	16	ROTATE CW GND	TO	SPLG -
2	WHT	16	ROTATE CW	TO	CP-1201 1

LOCATOR CODE: P6		DEUTSCH: DT08-2S		DEUTSCH: DT08-2S	
TERM: 0462-209-16141		WEDGE: W25		0413-204-2005	
CAVITY	COLOR	GA.	PRINT LABEL	TO	CON-SPLC CAVITY
1	WHT	16	ROTATE CCW GND	TO	SPLG -
2	WHT	16	ROTATE CCW	TO	CP-1201 2

LOCATOR CODE: P7		DEUTSCH: DT08-2S		DEUTSCH: DT08-2S	
TERM: 0462-209-16141		WEDGE: W25		0413-204-2005	
CAVITY	COLOR	GA.	PRINT LABEL	TO	CON-SPLC CAVITY
1	WHT	16	PROP VLV GND	TO	SPLG -
2	WHT	16	PROP VLV PWR	TO	CP-1200 4

LOCATOR CODE: J7		DEUTSCH: DT04-2P		DEUTSCH: DT04-2P	
TERM: -		PLUG: 114017		0413-204-2005	
CAVITY	COLOR	GA.	PRINT LABEL	TO	CON-SPLC CAVITY
1	-	-	PLUG	TO	-
2	-	-	PLUG	TO	-

LOCATOR CODE: J10		PACKARD: 12010773		PACKARD: 12010773	
TERM: 12124582		SEAL: 12015359		0413-204-2005	
CAVITY	COLOR	GA.	PRINT LABEL	TO	CON-SPLC CAVITY
A	WHT	16	A2B	TO	P10 A
B	WHT	16	POWER	TO	SPLP -

LOCATOR CODE: P10		PACKARD: 12010792		PACKARD: 12010792	
TERM: 12124580		SEAL: 12015359		0413-204-2005	
CAVITY	COLOR	GA.	PRINT LABEL	TO	CON-SPLC CAVITY
A	WHT	16	A2B	TO	J10 A
B	WHT	16	2800 PSI	TO	CP-1201 12

LOCATOR CODE: -		SPLICE B		SPLICE B	
CAVITY	COLOR	GA.	PRINT LABEL	TO	CON-SPLC CAVITY
-	BRN	22	RS 485 B	TO	CJ-500 1
-	WHT	16	RS 485 B	TO	CJ-1201 8

LOCATOR CODE: -		SPLICE D		SPLICE D	
CAVITY	COLOR	GA.	PRINT LABEL	TO	CON-SPLC CAVITY
-	BLU	22	RS 485 A	TO	CJ-500 3
-	WHT	16	RS 485 A	TO	CJ-1201 7

LOCATOR CODE: -		SPLICE G		SPLICE G	
CAVITY	COLOR	GA.	PRINT LABEL	TO	CON-SPLC CAVITY
-	WHT	14	GROUND	TO	W3 -
-	WHT	16	BOOM UP GND	TO	P1 1
-	WHT	16	BOOM DOWN GND	TO	P2 1
-	WHT	16	EXTEND OUT GND	TO	P3 1
-	WHT	16	EXTEND IN GND	TO	P4 1
-	WHT	16	ROTATE CW GND	TO	P5 1
-	WHT	16	ROTATE CCW GND	TO	P6 1
-	WHT	16	PROP VLV GND	TO	P7 A
-	WHT	16	GROUND	TO	CP-1200 3
-	BLK	22	GROUND	TO	CJ-500 2
-	GREY	22	SHIELD (OPTIONAL)	TO	CJ-500 5
-	WHT	16	WINCH GROUND	TO	W6 -

LOCATOR CODE: -		SPLICE P		SPLICE P	
CAVITY	COLOR	GA.	PRINT LABEL	TO	CON-SPLC CAVITY
-	WHT	14	POWER	TO	W2 -
-	WHT	16	POWER (RADIO)	TO	CP-1200 6
-	WHT	16	POWER	TO	J10 B
-	WHT	22	+BATT	TO	CJ-500 4

LOCATOR CODE: W1		TERM: WAYTEK 31535 (HS FEMALE 1/4" FLAG PUSH ON)		TERM: WAYTEK 31535 (HS FEMALE 1/4" FLAG PUSH ON)	
CAVITY	COLOR	GA.	PRINT LABEL	TO	CON-SPLC CAVITY
-	WHT	16	HYDRAULIC PUMP	TO	CP-1201 3

LOCATOR CODE: W2		TERM: WAYTEK 46215/46237		TERM: WAYTEK 46215/46237	
** - TERM: WAYTEK 32905 (HS 3/8" RING)		FUSE/HOLDER: WAYTEK 46215/46237		FUSE/HOLDER: WAYTEK 46215/46237	
CAVITY	COLOR	GA.	PRINT LABEL	TO	CON-SPLC CAVITY
1	WHT	12	POWER	TO	SPLP -
2**	WHT	12	POWER	TO	W2 -

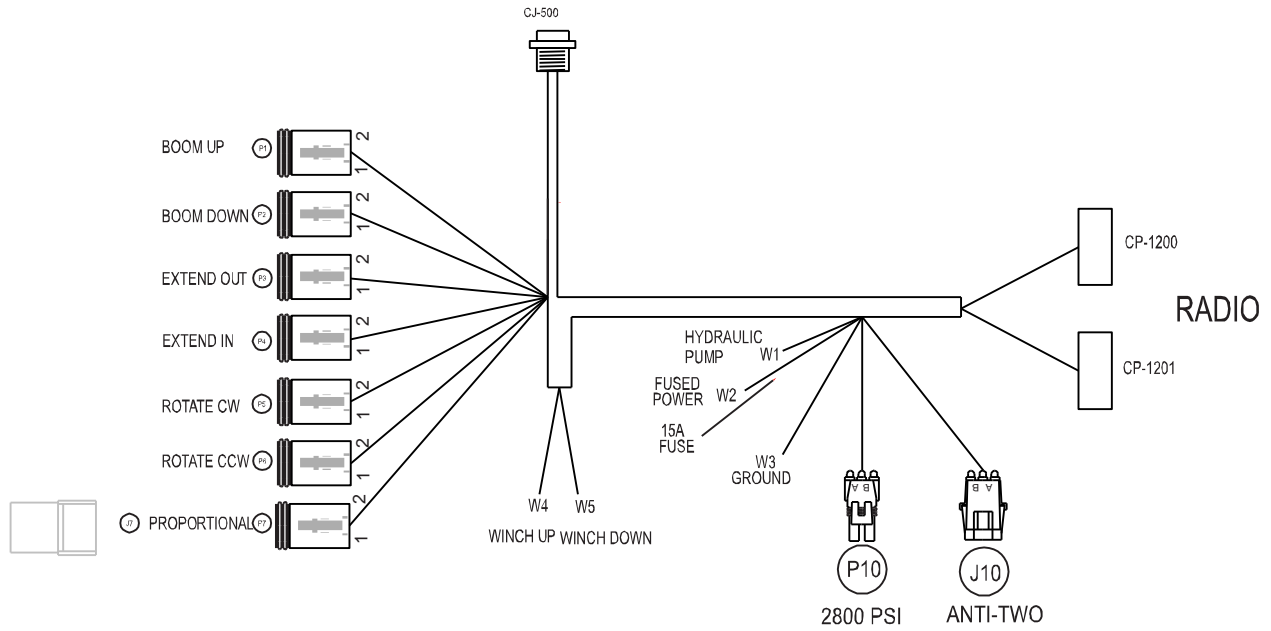
LOCATOR CODE: W3		TERM: WAYTEK 31904 (HS 1/4" RING)		TERM: WAYTEK 31904 (HS 1/4" RING)	
CAVITY	COLOR	GA.	PRINT LABEL	TO	CON-SPLC CAVITY
-	WHT	14	GROUND	TO	SPLG -

LOCATOR CODE: W4		TERM: WAYTEK 32036 (FEMALE 1/4" QUICK COIN)		TERM: WAYTEK 32036 (FEMALE 1/4" QUICK COIN)	
CAVITY	COLOR	GA.	PRINT LABEL	TO	CON-SPLC CAVITY
-	WHT	16	WINCH UP	TO	CP-1200 10

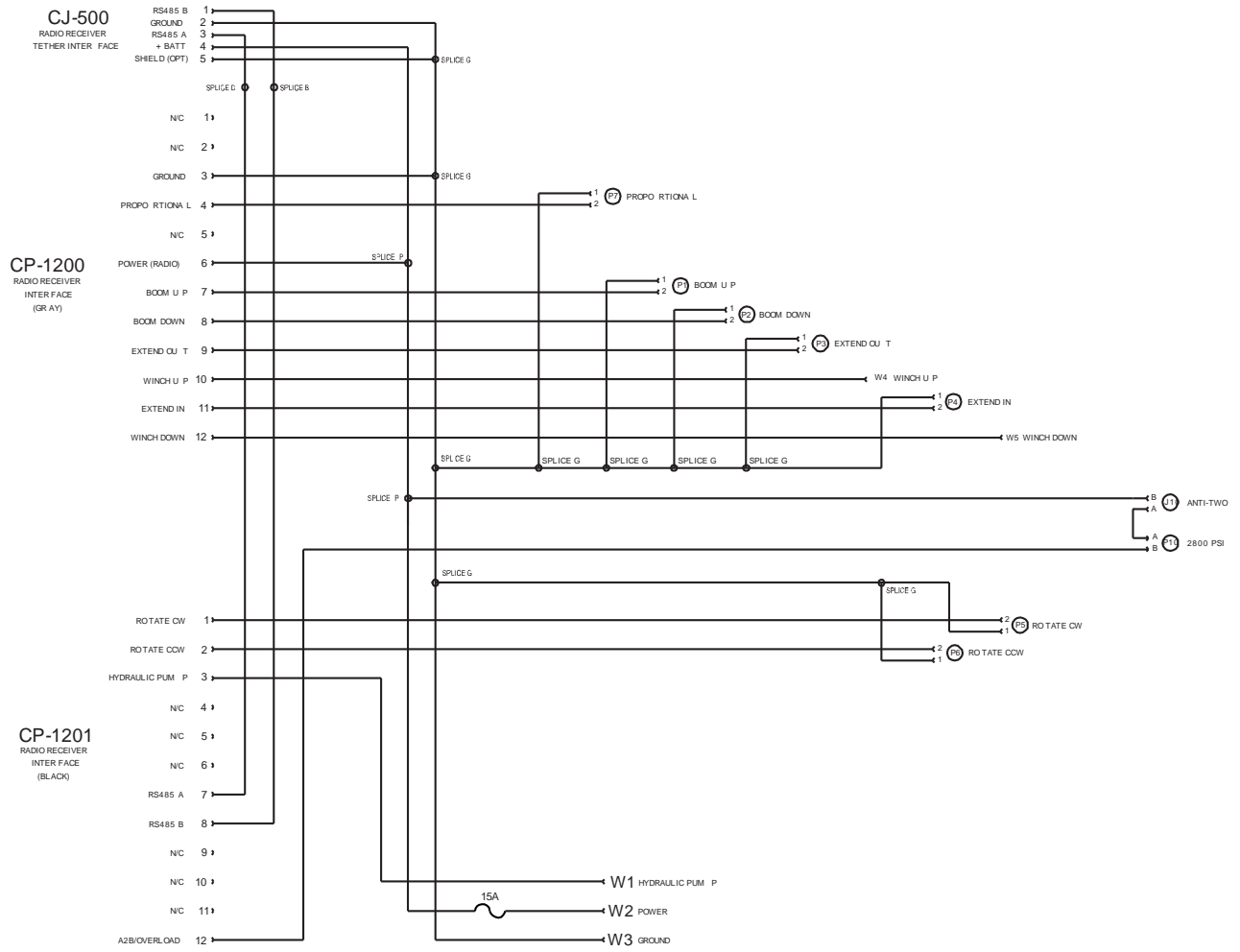
LOCATOR CODE: W5		TERM: WAYTEK 32036 (FEMALE 1/4" QUICK COIN)		TERM: WAYTEK 32036 (FEMALE 1/4" QUICK COIN)	
CAVITY	COLOR	GA.	PRINT LABEL	TO	CON-SPLC CAVITY
-	WHT	16	WINCH DOWN	TO	CP-1200 12

LOCATOR CODE: W6		TERM: WAYTEK 32036 (FEMALE 1/4" QUICK COIN)		TERM: WAYTEK 32036 (FEMALE 1/4" QUICK COIN)	
CAVITY	COLOR	GA.	PRINT LABEL	TO	CON-SPLC CAVITY
-	WHT	16	WINCH GROUND	TO	SPLG -

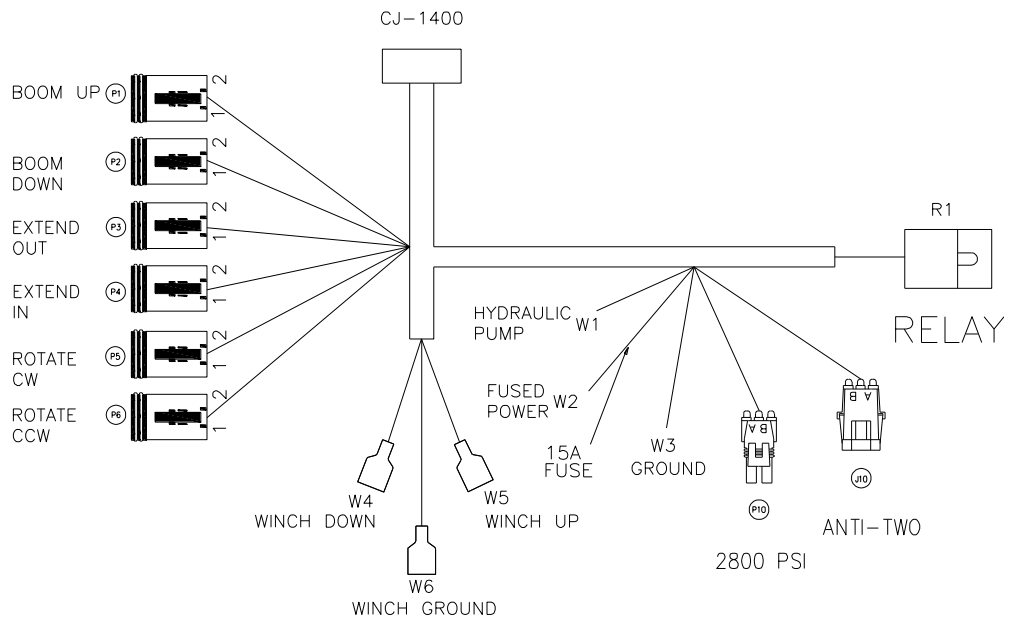
Harness, Radio (77441270)



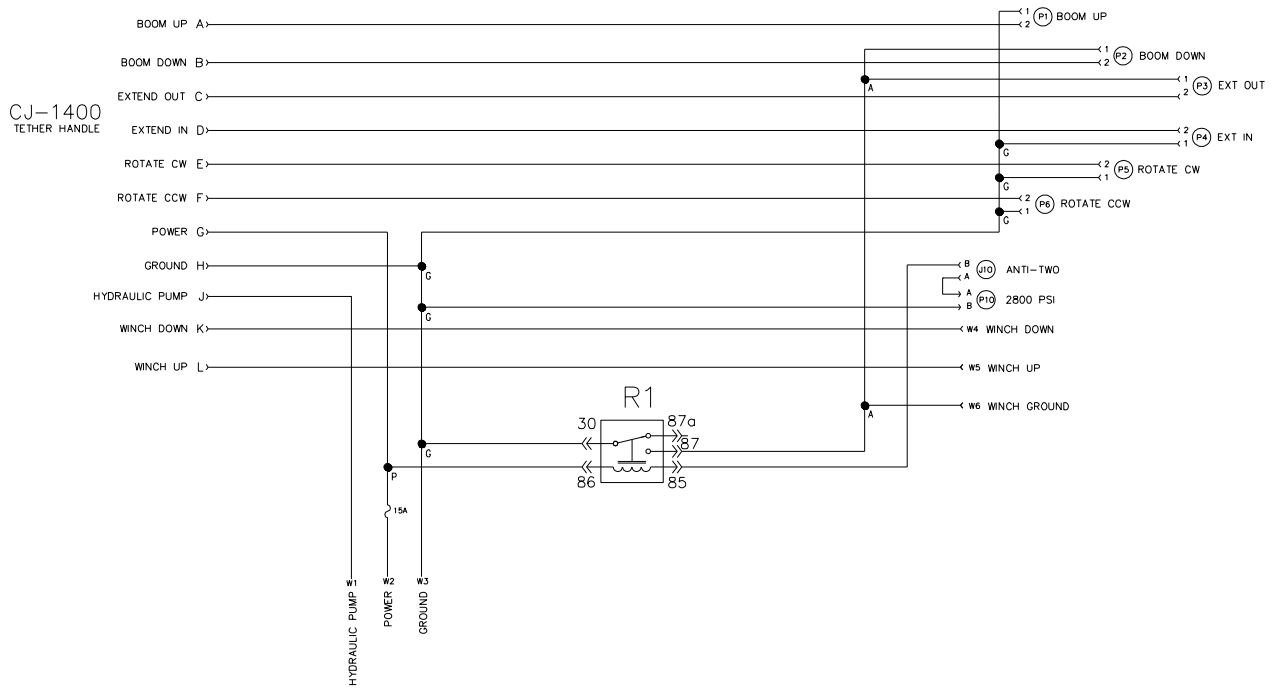
SCHEMATIC, HARNESS, RADIO (77441270)



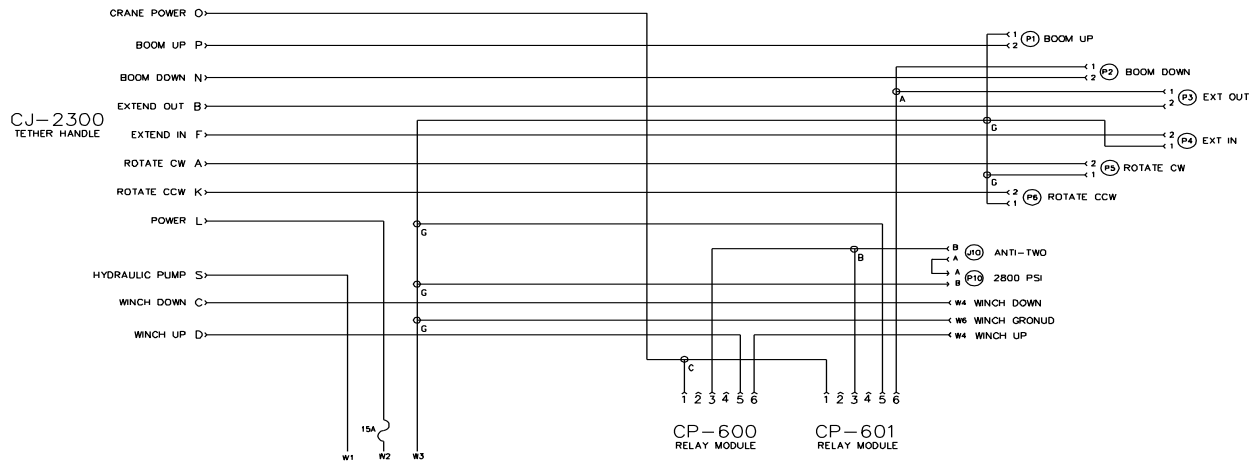
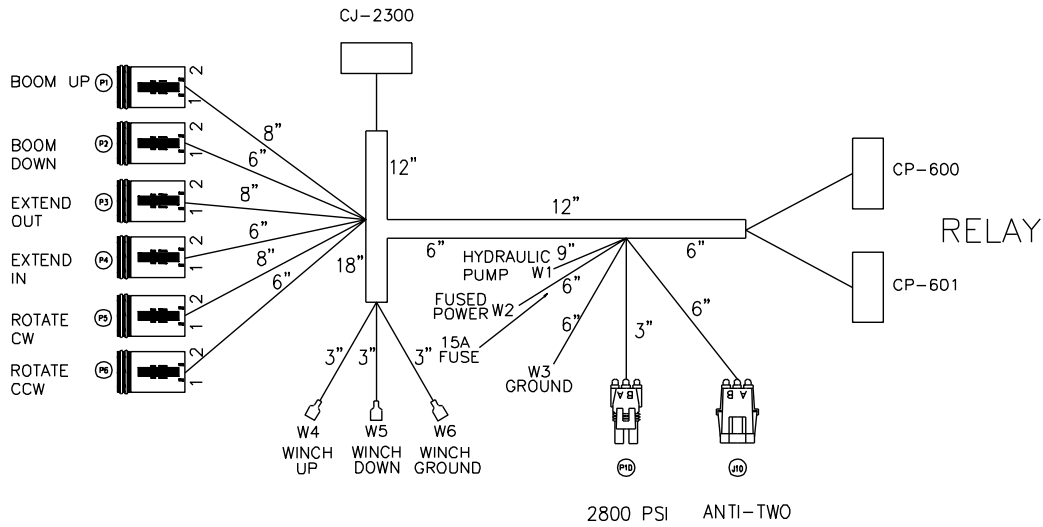
Harness, Tethered (77441532)



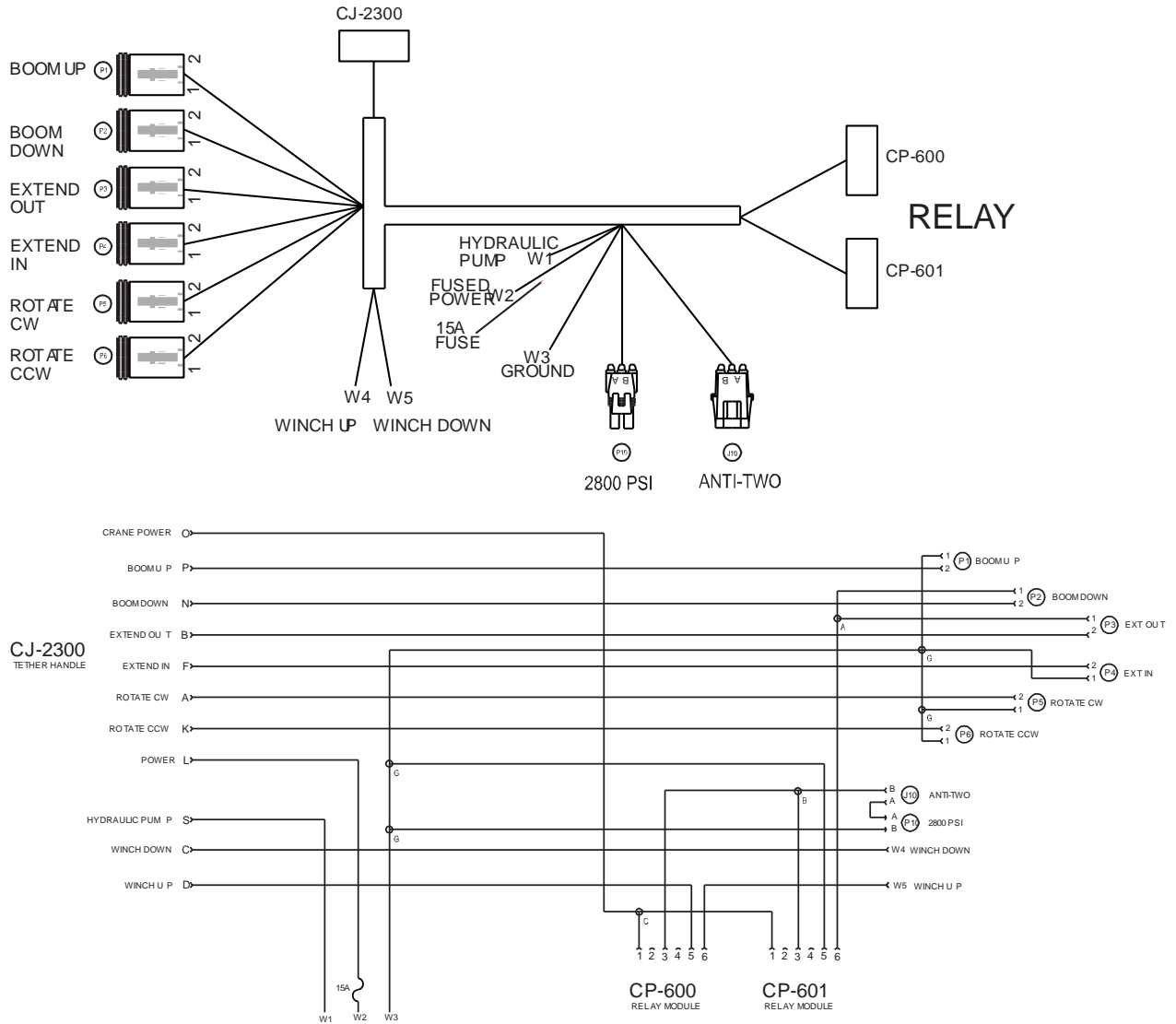
77441532-1



Harness, Tethered (77441269) EFFECTIVE 5-1-2015

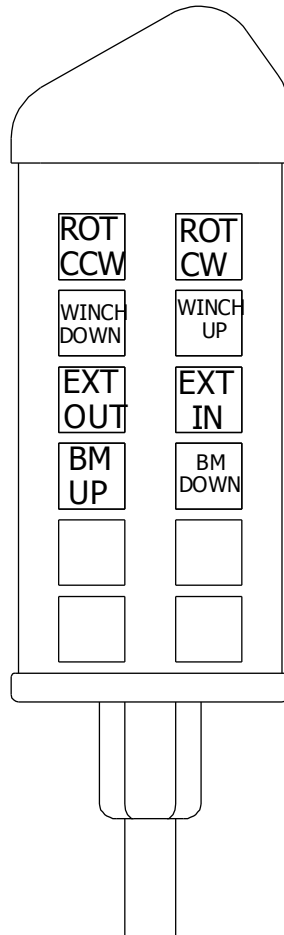


Harness, Tethered (77441269)



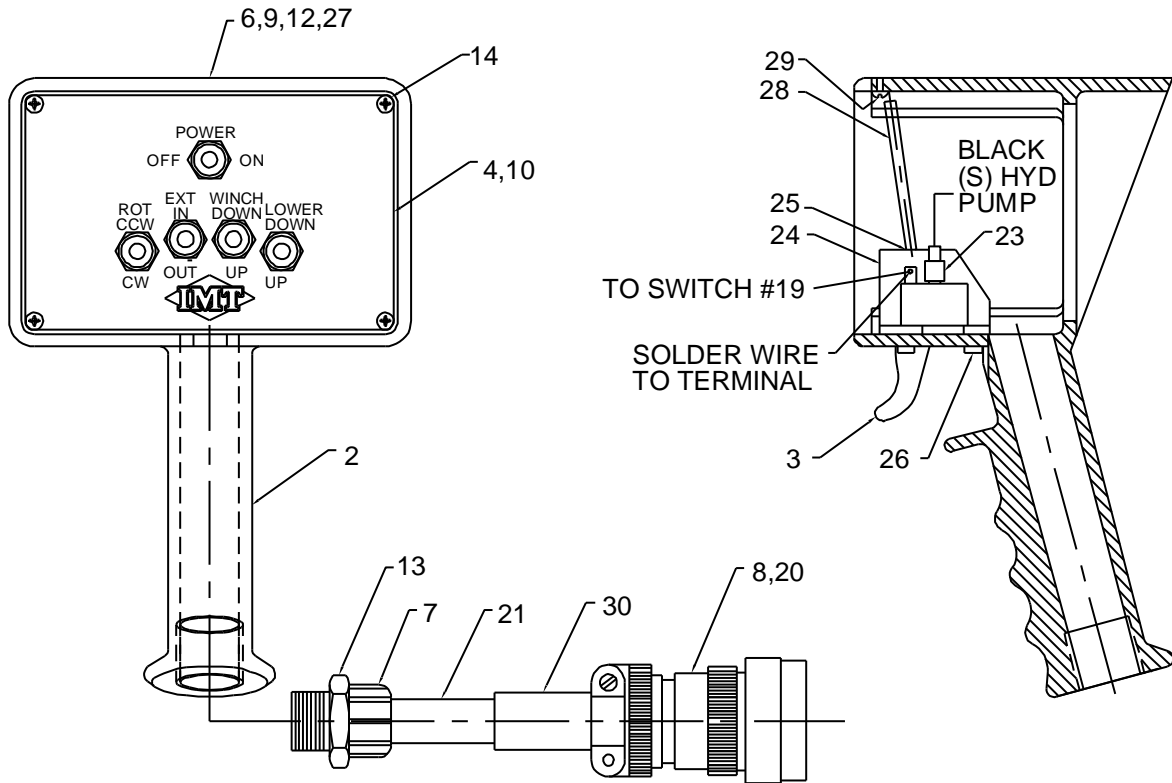
Handle Assembly, Tethered (70734746) (Effective

04/25/13)

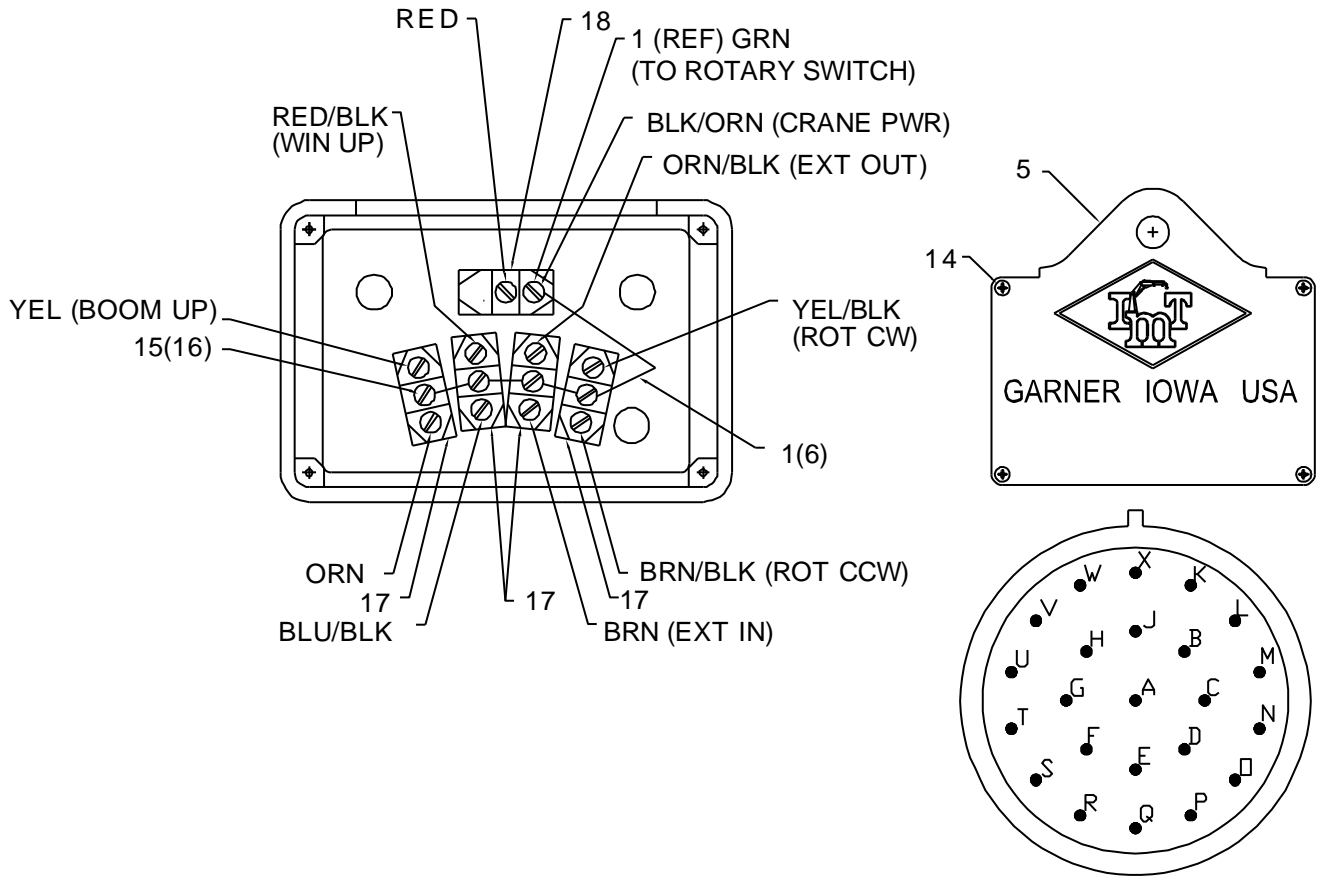


NOTE: Tethered handle assembly is non-serviceable. If damaged a new assembly is required.

Handle Assembly, Tethered (51721502) (Through 04/25/13)



Tethered Remote Handle Assembly (51721502)



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	CRANE POWER
P YEL	LOWER UP
Q BRN/BLU	-
R YEL/RED	-
S BLK	HYD PUMP
T BLK/BLU	-
U RED/BLU	-

SOLID/STRIPE		FUNCTION
V	BLU/ORN	-
W	ORN/BLU	-
X	YEL/BLU	-
-	RED/ORN	-

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-TELESCOPIC REMOTE 95	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	16
17.	77040372	TOGGLE SWITCH SPDT	4
18.	77040373	TOGGLE SWITCH SPST	1
20.	77044579	CONNECTOR	1
21.	89044100	CABLE 18GA 24WIRE	30 FT
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
NEW 20080407			

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

Protective Sleeve Installation (70034573)



Step 1: Place the protective sleeve under the fuse holder, centering the holder with the protective sleeve.



Step 2: Securely wrap the two ends of the protective sleeve together making sure velcro is sealed on the top side of the front jump start plug holder.



Step 3: Securely zip tie both ends of the protective sleeve.

WARNING

For trucks without a battery disconnect switch, to prevent accidental vehicle start-up, which could cause death or serious injury, disconnect battery cables (negative cable first) before proceeding. Disconnect negative (-) battery cable first, if positive (+) cable should contact ground with negative (-) cable connected, the resulting sparks can cause a battery explosion, which could result in death or serious injury.

AMG FUSE HOLDERS REQUIRING PROTECTIVE SLEEVE	
PART NO.	DESCRIPTION
77041593	FUSE HOLDER-AMG 1 POS W-COVER HMG-221
77441116	FUSE HOLDER-AMG 1 POS W-COVER FMG-211
77040714	FUSE HOLDER-AMG AND MEGA 500 AMP W/COVER

CAUTION

AVOID POSSIBLE FIRE!
Visually inspect and verify no other fuse holder posts are coming in contact with the chassis. The contact of a fuse to a grounded structure can cause a potentially dangerous short circuit. Failure to inspect and verify the fuse holder posts could result in a fire.

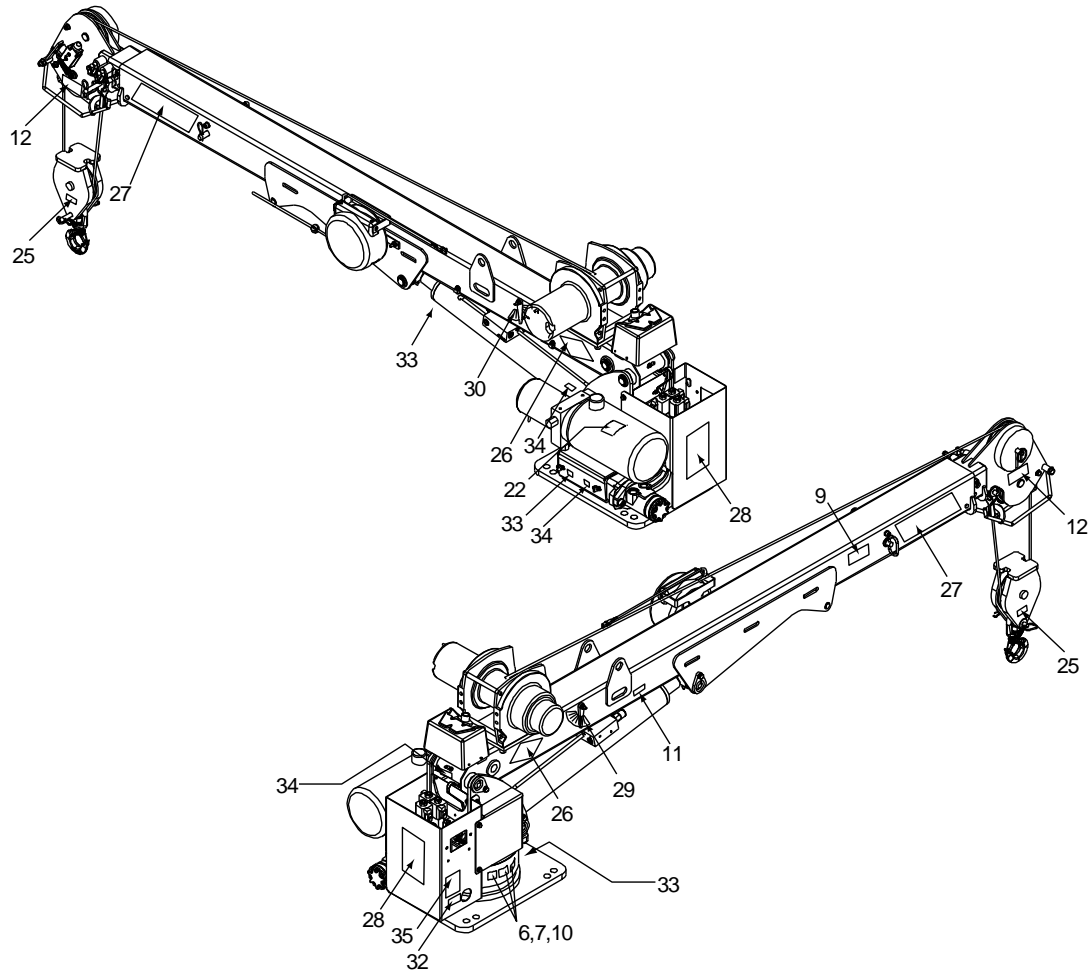
SAFETY NOTICE

Use appropriate Personal Protective Equipment (PPE) as required by your company. Read and understand the following instructions found within this document prior to starting work on the chassis.

SAFETY NOTICE

Follow your company's Lock-Out/Tag-Out procedures to prevent the truck from being started or moved while performing work on this crane. If your company does not have a Lock-Out/Tag-Out procedure, follow OSHA 1910.147, Lock-Out/Tag-Out.

Decal Installation (99904375)



DECAL PLACEMENT (IF NOT SHOWN ON CRANE)	
ITEM #	PLACEMENT
15,21,23, 24,28,31,35	AT OR NEAR REMOTE HANDLE STORAGE POINT
16	2 ON REAR STABILIZERS
19	AT OR NEAR DRIVELINE
18,20	ON SIDES AND REAR OF CARRIER VEHICLE
37,38	ON FRONT OF CARRIER VEHICLE
36	ON CRANE POWER CABLE CONNECTION AT VEHICLE BATTERY

99904375 PARTS LIST					
ITEM	PART #	DESCRIPTION	KIT #	QTY IN KIT	QTY ON CRANE
1.	95719347	DECAL KIT - TELE COMMON			1
2.	95719348	DECAL KIT - BODY COMMON			1
3.	95721446	DECAL KIT - 3203i SPECIFIC			1
4.	70391612	DECAL-GREASE WEEKLY (LEFT)	1	9	0
5.	70391613	DECAL-GREASE WEEKLY (RIGHT)	1	6	0
6.	70392399	DECAL-LUBRICATE WORM	1	1	1
7.	70392524	DECAL-ROTATE CRANE WHILE GREAS	1	1	1
8.	70394166	DECAL-INSTR FOR MNL OPERATION	1	1	0
9.	70394443	DECAL-DANGER FREEFALLING BOOMS	1	1	1
10.	70395090	DECAL-GREASE WORM DR BRNGS	1	1	1
11.	70395324	DECAL-ASME/ANSI B30.5-TELESCOP	1	1	1
12.	70395670	DECAL-CAUTION DOWN HAUL WT	1	2	2
13.	71391522	DECAL-ANGLE INDICATOR RH	1	1	0
14.	71391523	DECAL-ANGLE INDICATOR LH	1	1	0
15.	70392213	DECAL-CAUTION DONT WASH/WAX	1	1	1
16.	70392864	DECAL-WARNING STAB STAND CLEAR	2	4	2
17.	70391598	DECAL-WARNING, MAN STAB	2	2	0
18.	70392868	DECAL-DANGER CR LOADLINE (TRK)	2	4	3
19.	70392891	DECAL-DANGER DRIVELINE	2	1	1
20.	70394445	DECAL-DANGER ELEC HZD LG TELES	2	4	3
21.	70396613	DECAL-CRANE SAFETY & OPER	2	1	1
22.	70394189	DECAL-MOBILOIL RESERVOIR	2	1	1
23.	71039134	DECAL-CAUTION OIL LEVEL	2	1	1
24.	70392982	DECAL-SERVICE & REPAIR	2	1	1
25.	71394083	DECAL-LOAD BLOCK RATING 2.0TON	3	2	2
26.	70399142	DECAL-DIAMOND IMT 4X8	3	2	2
27.	70396779	DECAL-3203i ID	3	2	2
28.	70397348	DECAL-CAPACITY CHART 3203i	3	2	2
29.	71397349	DECAL-ANGLE INDICATOR RH, SM	3	1	1
30.	71397350	DECAL-ANGLE INDICATOR LH, SM	3	1	1
31.	70397334	DECAL-WARNING, ELEC CR OL	3	1	1
32.	70397351	DECAL-REMOTE PENDANT STORE	3	1	1
33.	70397411	DECAL-GREASE WEEKLY (LH) SMALL	3	3	3
34.	70397412	DECAL-GREASE WEEKLY (RH) SMALL	3	3	3
35.	70397404	DECAL-DANGER, UNPLUG CRANE	3	2	2
36.	70397405	DECAL-CRANE POWER DISCONNECT	3	1	1
37.	70397389	DECAL-DANGER ELEC HZD MED TELE	3	1	1
38.	70397390	DECAL-DANGER CR LOADLINE (MED TRK)	3	1	1
REV. C 20111206					

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.	
M	33	Hardware	All bolts, fasteners and retaining rings for tightness, wear and corrosion.	
M	34	Wear Pads	Presence of wear pads.	

FREQUENCY	ITEM	KEY	INSPECTION DESCRIPTION	STATUS (S,R,X,NA)
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	
Q	77	Pumps & Motors	Pumps and Motors for loose bolts/fasteners, leaks, noise, vibration, loss of performance, heating & excess pressure.	
	78		• Winch motor(s)	

FREQUENCY	ITEM	KEY	INSPECTION DESCRIPTION	STATUS (S,R,X,NA)
	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.	

Thread Torque Chart (English)

FINE THREAD BOLTS (ENGLISH)					
SIZE	BOLT DIA.	GRADE 5		GRADE 8	
		 SAE J429 GRADE 5	 SAE J429 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	
		 SAE J429 GRADE 5	 SAE J429 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

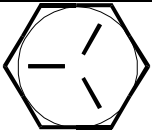
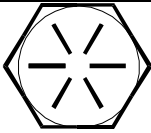
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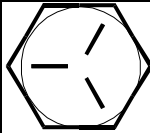
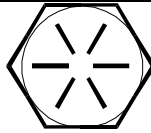
- 1 Tightening torques provided are midrange.
- 2 Consult bolt manufacturer's particular specifications, when provided.
- 3 Use flat washers of equal strength.
- 4 All torque measurements are given in foot-pounds.
- 5 Torque values specified are for bolts with residual oils or no special lubricants applied. 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.

Thread Torque Chart (Metric)

⚠ WARNING

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

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

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 3/8-12	1.375	232	174	375	281
1 1/2-12	1.5	304	228	492	369

1 3/8-6	1.375	203	152	329	246
1 1/2-6	1.5	270	210	438	328

NOTES

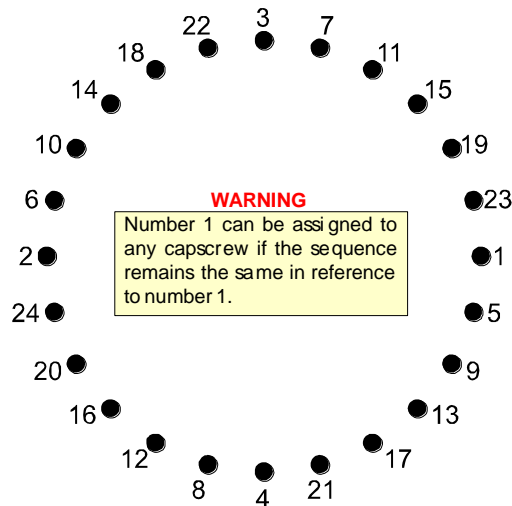
- 1 Tightening torques provided are midrange.
- 2 Consult bolt manufacturer's particular specifications, when provided.
- 3 Use flat washers of equal strength.
- 4 All torque measurements are given in kilogram-meters.
- 5 Torque values specified are for bolts with residual oils or no special lubricants 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

<p>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.</p>

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 cap screw used.
- 2 Follow the tightening sequence shown in the diagram. Note that the quantity of cap screws may differ from the diagram, but the sequence must follow the criss-cross pattern as shown in the diagram.
- 3 Torque all cap screws to approximately 40% of the specified torque value, by following the sequence.
(EXAMPLE: $.40 \times 265 \text{ FT-LB} = 106 \text{ FT-LB}$)
(EXAMPLE-METRIC: $.40 \times 36 \text{ KG-M} = 14.4 \text{ KG-M}$)
- 4 Repeat Step 3, but torquing all cap screws to 75% of the specified torque value. Continue to follow the tightening sequence.
(EXAMPLE: $.75 \times 265 \text{ FT-LB} = 199 \text{ FT-LB}$)
(EXAMPLE-METRIC: $.75 \times 36 \text{ KG-M} = 27 \text{ KG-M}$)
- 5 Using the proper sequence, torque all cap screws 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:

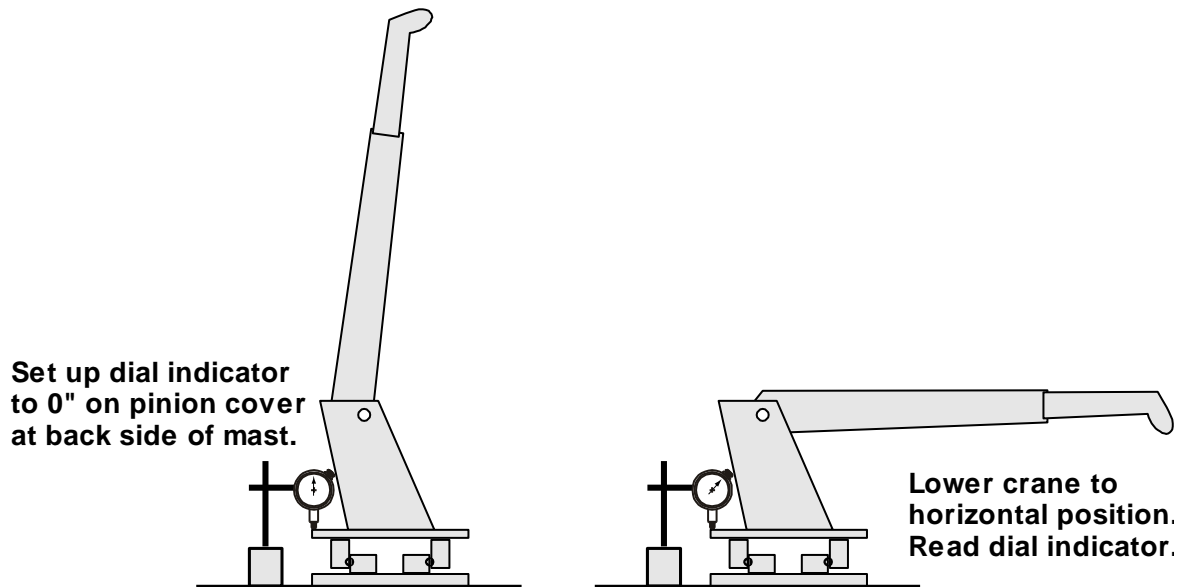
- 1 Metal particles present in the bearing lubricant.
- 2 Increased drive power required to rotate the crane.
- 3 Noise emitting from the bearing during rotation.
- 4 Rough rotation.
- 5 Uneven or excessive wear between the pinion gear and turntable gear.

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 152)

Turntable Bearing Tilt Test

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.**

- 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)