
Manual Part # 99903769

3820/5020 Parts & Specifications

Effective S/N 3820S2061004, 5020S2061001 Forward

Revision Date 20190116



IOWA MOLD TOOLING CO., INC.

PO Box 189

Garner, IA 50438

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

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

Copyright © 2013 Iowa Mold Tooling Co., Inc.
All rights reserved

No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise without the prior written permission of Iowa Mold Tooling Co., Inc.

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

Contents

Revisions	iv
Introduction	7
Specifications	9
General Specifications	9
Geometric Configuration	13
3820 Capacity Chart	14
5020 Capacity Chart	15
Crane Reference	17
Assemblies and Grease Zerk Locations	18
Recommended Spare Parts List	19
Telescopic Crane Orientation	21
Crane Installation.....	22
Crane Control.....	23
Parts	25
Parts Information	26
Base and Mast Assemblies	28
Base & Mast Assembly (99903947) (Primary Configuration)	28
Gear Rotator (71056543) (Primary)	30
Base & Mast Assembly (99903966) (Alternate Configuration)	32
Gear Rotator (71056610) (Alternate Configuration)	34
Crane & Worm Winch Assembly (99903948) (Primary Configuration).....	35
Crane & Worm Winch Assembly (99903967) (Alternate Configuration).....	38
Winch, Worm, 3820 (71057936).....	41
Winch, Worm, 2820 & 5020 (70570501).....	43
Crane & Planetary Winch Assembly (99903954) (Primary Configuration).....	45
Crane & Planetary Winch Assembly (99903973) (Alternate Configuration)	48
Winch, Planetary (71570844) (Eff. 11-2007).....	50
Winch, Planetary (71570781) (Through 10-2007)	52
Winch Replacement Kit (51720111 Valve Cranes) (Dwg. 99904255)	54
Winch Replacement Kit (73734193-4 Valve Cranes) (Dwg. 99904255).....	56
Cylinder, Lower, 3820 (51720921) (Eff. 5-17-07).....	58
Cylinder, Lower, 3820 (71411871) (Thru 5-17-07)	60
Cylinder, Lower, 5020 (51720916) (Eff. 4-3-07).....	62
Cylinder, Lower, 5020 (71412008) (Thru 4-3-07)	64
Boom Assemblies & Cylinders.....	66
Boom & Winch Assembly (99904008) (Eff. 8-1-06)	66
Boom & Winch Assembly (99903683) (Through 8-1-06)	69
Cylinder, Extension (51720936) (Eff. 5-07).....	72
Cylinder, Extension (71411883) (Thru 4-07)	74

Hydraulics.....	76
Hydraulic Installation, Worm Winch (99903944).....	76
Hydraulic Installation, Planetary Winch (99903953).....	79
Valve Bank, Plan. Winch (73734472) (Eff. 1-10).....	82
Valve Bank, Plan. Winch (73734193) (Eff 5-07 to 12-09).....	84
Valve Bank, Worm Winch (73734473) (Eff. 1-10).....	86
Valve Bank, Worm Winch (73734194) (From 5-4-07 to 12-09).....	87
Telescopic Valve Bank Replacement (99904783).....	89
Replacement Valve Coils.....	91
Valve Bank Assembly (51720111) (Thru 5-4-07).....	93
Valve Bank (73734070) (Thru 5-4-07).....	94
Dump Valve (51720117) (Thru 5-4-07).....	95
Harness, Valvebank (77441204) (Eff. 8-1-06).....	96
Harness, Valvebank (77441184) (Through 8-1-06).....	98
Controls.....	101
Controls Installation, Tethered (Kit 90719399/Dwg. 99903697).....	101
Handle Assembly, Tethered Remote w/Engine Start (51719470).....	102
Tethered Remote Calibration Mode.....	104
Electrical Harness, Tethered Remote (77441164).....	104
Electrical Schematic, Tethered (77441164).....	105
Controls Installation / Radio Remote (Kit 90719400/Dwg. 99903697).....	107
Tethered Proportional Remote Potentiometer Adjustment.....	108
Auxiliary Stabilizer Assemblies and Valvebanks.....	109
Stabilizer, Power Out/Power Down, 7x5 (31712739).....	109
Stabilizer, Manual Out/Power Down, 7x5 (31712740).....	112
Stabilizer, Manual Out/Crank Down, 7x5 (31712741).....	114
Stabilizer, Manual Out/Manual Down, 7x5 (31712902).....	115
Stabilizer, Front Right Pull-Out (51714110).....	116
Auxiliary Stabilizers, Power Out/ Power Down (31704123).....	117
Cylinder, Power Down (3B205010).....	119
Cylinder, Power Out (3B142860) (Effective 2-07, prior to 8-05).....	120
Cylinder, Power Out (71411797) (Used 9-05 to 1-07).....	122
Valve Bank, 2-Section (51705983).....	123
Valve Bank, 3-Section (51705984).....	124
Decal Kits.....	125
3820 Decal Kit (99903752).....	125
5020 Decal Kit (99903753).....	127
Installation Kits.....	129
Installation Kit (93719692).....	129
Miscellaneous.....	131
Boom Support Assembly (51714181).....	131
Reservoir (51707798).....	132
Cord Reel Assembly (51720302).....	133
Cord Reel Assembly (51713168) (Through 8-1-06).....	134
Cord Reel Assembly - Electric Cranes (51717275).....	135
Chassis Wiring Harness (99903340).....	136

General Reference 137

Inspection Checklist.....	137
Deficiency / Recommendation / Corrective Action Report	142
Wire Rope Inspection & Replacement.....	144
Hook Inspection.....	145
Holding Valve Inspection	146
Anti-Two-Block Device Inspection	146
Thread Torques	147
Turntable Bearing Thread Tightening Sequence	150
Turntable Bearing Inspection.....	151
Turntable Bearing Tilt Test.....	151

Revisions

DATE	LOCATION	DESCRIPTION
20060123	Throughout	ECN 10025 - Release of planetary winch option
20060323	Throughout	ECN 10067 - Valvebank change
20060815	51720302	ECN 10121 - Released new cord reel assembly; added 99904008 boom assembly, updated 99903947 base asm.
	99903752, 99903753	ECN 10200 - Added 70392982 to 95719348 decal kit.
20061107	99904008, 99903948, 99903967	ECN 10295 - UPDATED BOOM HARDWARE KITS, ECN 10284 - ADDED WIRE TIES
20070406	99903953, 99903944	ECN 10391 - ADDED HOSE SLEEVES TO HYD KITS.
20070410	51720916, 51720921	ECN 10380 - CHANGED CYLINDER 71411871 TO 51720921; CYLINDER 71412008 TO 51720916. UPDATED CRANE AND WINCH ASSEMBLY DRAWINGS.
	73734193, 73734194	ECN 10373 - NEW VALVEBANKS 73734193 AND 73734194
20070516	99903967	ECN 10458 - ADDED THREADLOCK TO WINCH BOLTS.
	73734193, 73734194	ECN 9000 - PARTS LABELING REVISION
	99904008, 51720936	ECN 10481 - CYLINDER MOUNTING CHANGE
20070611	99903954, 99903973	ECN 10476 - CHANGED FROM 71570781 WINCH TO 71570844 WINCH. ADDED WINCH REPLACEMENT KIT DRAWING 99904255.
	77441184, 77441204	EXPANDED SCHEMATIC DRAWING SIZES.
20070718	73734193, 73734194	ECN 9000 - CORRECTED, ADDED PARTS.
20070910	99904255	ECN 9000 - UPDATED NOTES; 51719470 - ADDED 51717817 CABLE ASSEMBLY.
20071019		ADDED TELESCOPIC CRANE ORIENTATION DRAWING.
20071203	99903967, 99903953, 99903954, 71570844	ECN 10604 - PRODUCTION EDITS DUE TO 71570844, ADDED SPARE PARTS LIST FOR 71570844 PLANETARY WINCH.
20080104	71570844	ADDED EFFECTIVE SERIAL NUMBER 3820SII071451. ADDED CALIBRATION NOTE TO 51719470 TETHERED REMOTE.
20080515	93719692	ECN 10758 - NEW LEVEL INDICATOR
20080915	73734193-4	ADDED PLATED TUBE SPARE PART FOR VALVE SECTIONS
	99903947	ECN 10820 – MOTOR 73051919 REPL 73511070
20090115	99903948, 99903967	ECN 10820-4 - MOTOR 73051940 WAS 73511081
20100609	73734193, 73734194	ECN 11134 - 73734472 REPLACED 73734193; 73734473 REPLACED 73734194. REPLACED IN ASSEMBLY DRAWINGS ALSO. EFFECTIVE 3820S2091216, 5020S2091012.
20110204	REPL. VALVE COILS, 71570825	ADDED INFORMATION ON REPLACING VALVE COILS. ADDED INSERT TO 71570825 WINCH.
20111101	51720936, 99903953	ECN 11611 - ADD HOSE CLAMP LOCATIONS TO CYLINDER; ECN 11587 - HYD KIT ADAPTER CHANGE FOR PLANETARY WINCH.

DATE	LOCATION	DESCRIPTION
20120507	51720921, 51720936, 3B205010	ECN 11615 - CYLINDER UPDATES & WAFER LOCK REPLACEMENT.
20130612	99904008	Engineering mark-up; corrected typo note 2.
20131205	99904008 99903683	ECN 12027; Engineering mark-up; item 2 part number change. ECN 12027; Engineering mark-up; item 3 part number change.

CHAPTER 1

Introduction

This volume deals with information applicable to your particular crane. For operating, maintenance and repair instructions, refer to Telescopic Crane Volume 1: OPERATION, MAINTENANCE AND REPAIR. (IMT part number 99903514.)

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 this manual, three means are used to draw the attention of personnel. They are NOTES, CAUTIONs and WARNINGs and are defined as follows:

NOTE

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

CAUTION

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

WARNING

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

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

CHAPTER 2

Specifications

In This Chapter

General Specifications.....	9
Geometric Configuration.....	13
3820 Capacity Chart.....	14
5020 Capacity Chart.....	15

General Specifications

CRANE RATING *	Model 3820 - 38,000 ft-lb (5.26 ton-meters) Model 5020 - 50,000 ft-lb (6.92 ton-meters)
REACH (from centerline of rotation)	20'-6" (6.2 m)
HYDRAULIC EXTENSIONS (2)	60" (152.4 cm) 48" (121.9 cm)
MANUAL EXTENSION	N/A
LIFTING HEIGHT (from base of crane)	22'-5" (6.8 m)
CRANE WEIGHT	Model 3820 - 1460 lb (660 kg) Model 5020 - 1480 lb (670 kb)
STABILIZER SPAN (required option) - Crane Side from Centerline of Chassis	89" (226 cm)
STORAGE HEIGHT (crane only)	39" (99 cm)
MOUNTING SPACE REQUIRED (crane base)	20" x 21" (50.8 cm x 53.3 cm)
OPTIMUM PUMP CAPACITY (PTO Driven)	10 U.S. GPM
SYSTEM OPERATING PRESSURE	3000 psi (207 bar)
LOWER BOOM CYLINDER	Model 3820 - 4" bore; 22-1/2" stroke (10.2 cm bore; 57 cm stroke) Model 5020 - 4.5" bore; 22.5" stroke (11.4 cm bore; 57 cm stroke)
EXTENSION BOOM CYLINDER	2.5" bore; 60" + 48" stroke (6.4 cm bore; 152.4 cm + 121.0 cm stroke)
HORIZONTAL CENTER OF GRAVITY (from centerline of rotation)	39" (99.1 cm)
VERTICAL CENTER OF GRAVITY (from bottom of crane base)	19" (48.3 cm)
TIE-DOWN BOLT PATTERN (on center)	14-3/4" x 14-3/4" (37.5 cm x 37.5 cm)
ROTATIONAL TORQUE	9000 ft-lb (1.2 ton-m)
* Crane rating (ft-lb) is the rated load (lb) multiplied by the respective distance (ft) from the centerline of rotation with all extensions retracted and lower boom in horizontal position.	

Performance Characteristics

	SPECIFICATION	PTO Speed - Model 3820	PTO Speed - Model 5020
ROTATION	400° (7.0 rad)	33 seconds	33 seconds
LOWER BOOM ELEVATION	-10° to +80° (-0.1 to +1.4 rad)	9 seconds	11.5 seconds
EXTENSION CYLINDER	60" & 48" (152.4 cm & 121.9 cm)	18 seconds total	18 seconds total
WINCH (WORM-DRIVE)	single part line	25 ft/min (7.6 m/min)	25 ft/min (7.6 m/min)
	two part line	13 ft/min (3.9 m/min)	13 ft/min (3.9 m/min)
WINCH (PLANETARY OPTION)	single part line	62 ft/min (18.9 m/min) on the third wrap	62 ft/min (18.9 m/min) on the third wrap

* All times based on 10 GPM (37.9 lpm) PTO delivery rate.

System Specifications**POWER SOURCE**

PTO DRIVEN - Integral mounted hydraulic pump and PTO application. Other standard power sources may be used. Minimum power required is 23.5 horsepower based on 10 GPM (37.9 liters/min) at 3,000 PSI (207 bar).

CYLINDER HOLDING VALVES

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

ROTATION SYSTEM

Turntable bearing with external worm gear powered with a high-torque hydraulic motor through a self-locking worm. Total gear reduction is 85 to 1.

HYDRAULIC SYSTEM (PTO DRIVEN)

The hydraulic system is an open-centered, full-pressure system that requires 10 GPM (37.85 liters/min.) optimum oil flow at 3000 psi (207 bar). It is equipped with a four-section, stack-type, electric, remote control valve with 30-foot control cable.

EXCESSIVE LOAD LIMIT SYSTEM (ELLS)

A pressure switch which is mounted on the extend side of the lower boom cylinder and connected electrically to the lift side of the winch, the extend side of the extension boom, and the down side of the lower boom provides the capacity alert system. If the operator attempts to lift a load exceeding the rated capacity of the crane, the winch lift, extension out and lower boom down functions will not operate. To relieve the situation, the operator may set the load down (winch down) or retract the extension boom (extension in).

WINCH

The 3820 worm winch is powered using a hydraulic motor driving a 38:1 worm gear. The line speed of 27.0 ft/minute (8.1 m/min), under no load, is achieved at an optimum oil flow of 10 GPM (37.9 liters/min) and one-part line. Maximum single line lifting capacity of the 3820 worm winch is 3800 lb (1724 kg), and maximum two-part line lifting capacity is 7500 lb (3400 kg).

The 5020 winch is powered using a hydraulic motor driving a 31:1 worm gear. The line speed of 25.0 ft/minute (7.62 m/min), under no load *on the first wrap*, is achieved at an optimum oil flow of 10 GPM (37.9 lpm) and one-part line. Maximum single line lifting capacity of the 5020 worm winch is 4300 lb (1950 kg) *on the top wrap*, and maximum two-part line lifting capacity of the winch is 8500 lb (3400 kg).

The planetary winch (optional on both 3820 and 5020 models) is powered using a hydraulic motor driving a 5:1 planetary gear. The line speed of 62.0 ft/minute (18.9 m/min), under no load, is achieved at an optimum oil flow of 10 GPM (37.9 liters/min) and one-part line. Maximum single line lifting capacity of the planetary winch is 3800 lb (1724 kg), and maximum two-part line lifting capacity is 7500 lb (3400 kg).

All winches are equipped with 85 feet (25.9 m), 3/8" (9.5 mm), 6X25 FW PRF RRL IWRC XIPS wire rope. Nylon sheaves are located at the tip of the extension boom. The ratio of winch drum and sheave pitch diameter is 18.6:1 for the drum and 18:1 for the snatch block and boom tip sheave. A compact anti-two block device is included to prevent the lower block or hook assembly from coming in contact with the boom sheave assembly.

MINIMUM CHASSIS SPECIFICATIONS

	Model 3820	Model 5020
CHASSIS STYLE	Conventional Cab	Conventional Cab
BODY STYLE	Dominator™ I or Dominator™ II	Dominator™ II only
WHEELBASE	154" (391 cm)	154" (391 cm)
CAB-TO-AXLE	84" (213 cm)	84" (213 cm)
RESISTANCE TO BENDING MOMENT	360,000 in-lb (4,149 kg-m)	600,000 in-lb (6,915 kg-m)
FRAME SECTION MODULUS	10 cubic inches	12 cubic inches
FRONT AXLE RATING (GAWR)	5,000 lb (2,268 kg)	7,000 lb (3,175 kg)
REAR AXLE RATING (GAWR)	9,500 lb (4,309 kg)	15,000 lb (6,804 kg)
GROSS VEHICLE RATING	14,500 lb (6,577 kg)	22,000 lb (9,979 kg)
TRANSMISSION	4 speed	5 speed

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

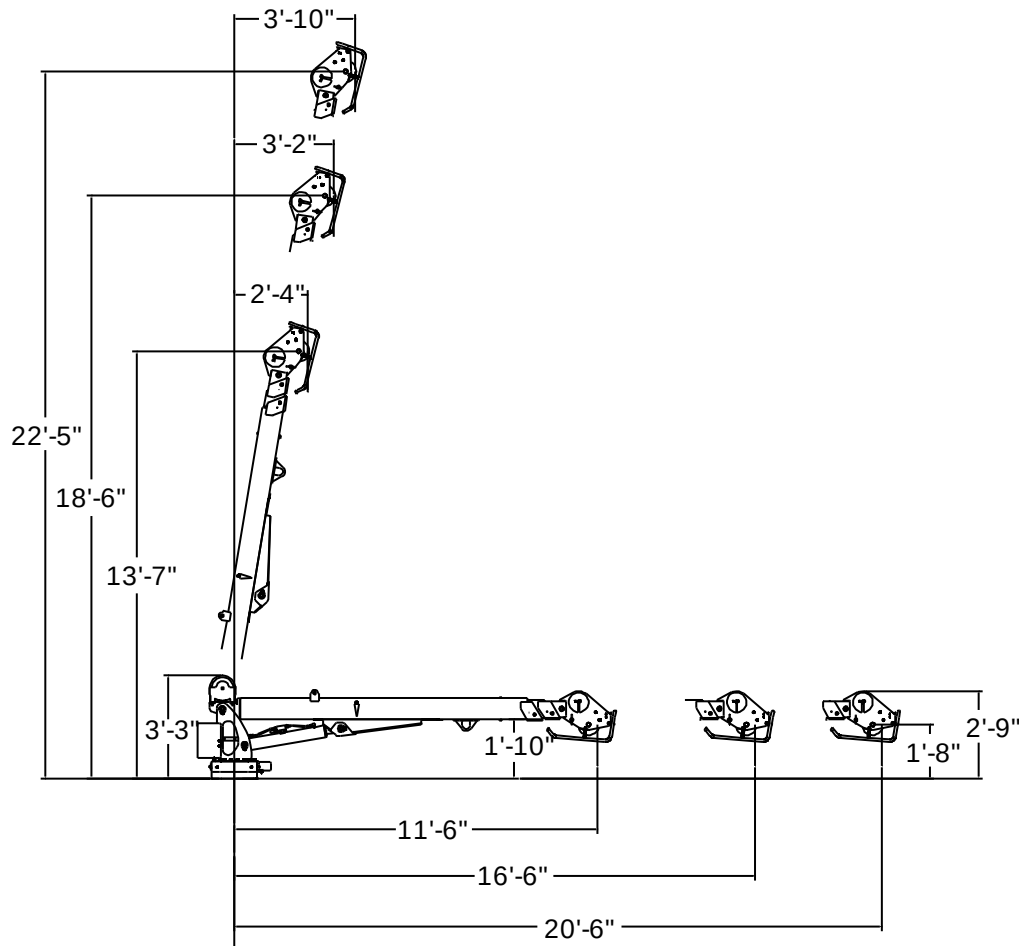
NOTES:

- 1** GAWR means Gross Axle Weight Rating. GAWR is dependent on all vehicle components including axles, tires, wheels, springs, brakes, steering and frame strength meeting the manufacturer's recommendations. Always specify GAWR when purchasing a truck.
- 2** Minimum axle requirements may increase with use of diesel engines, longer wheelbase or service bodies. Contact the factory for more information.
- 3** Weight distribution calculations are required to determine final axle loading.

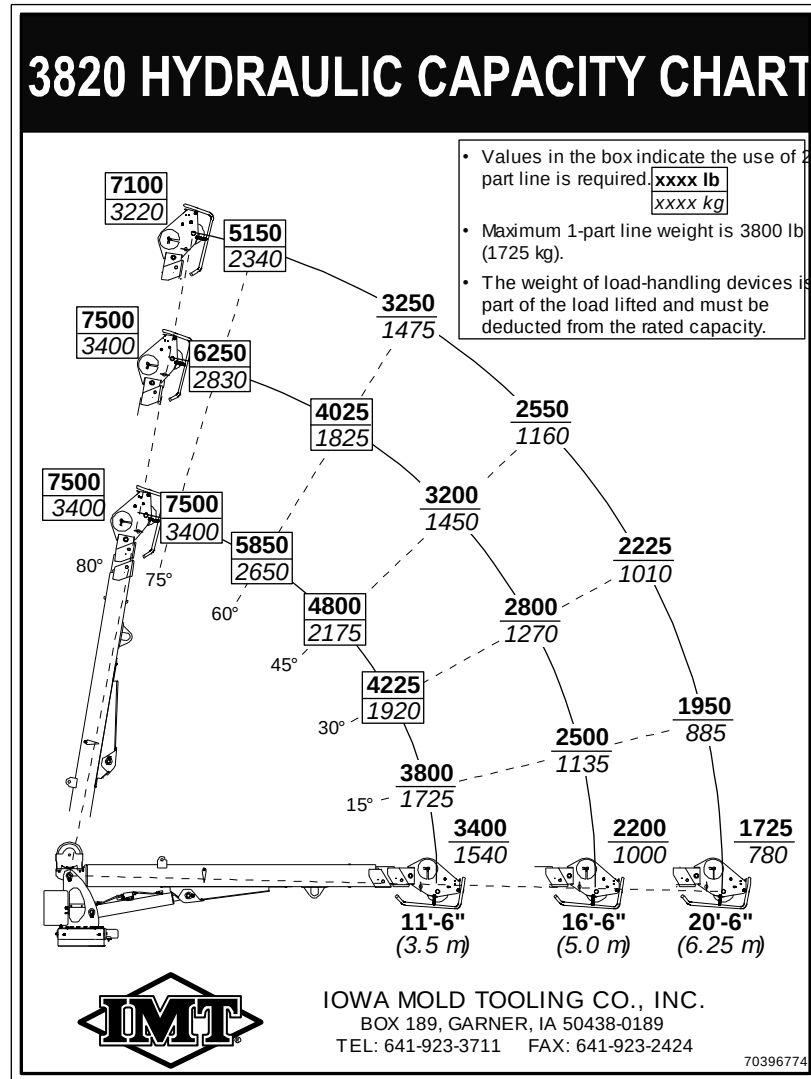
All chassis, crane and body combinations must be stability-tested to ensure stability per ANSI B30.5

Iowa Mold Tooling Co., Inc. reserves the right to change specifications and design without notice.

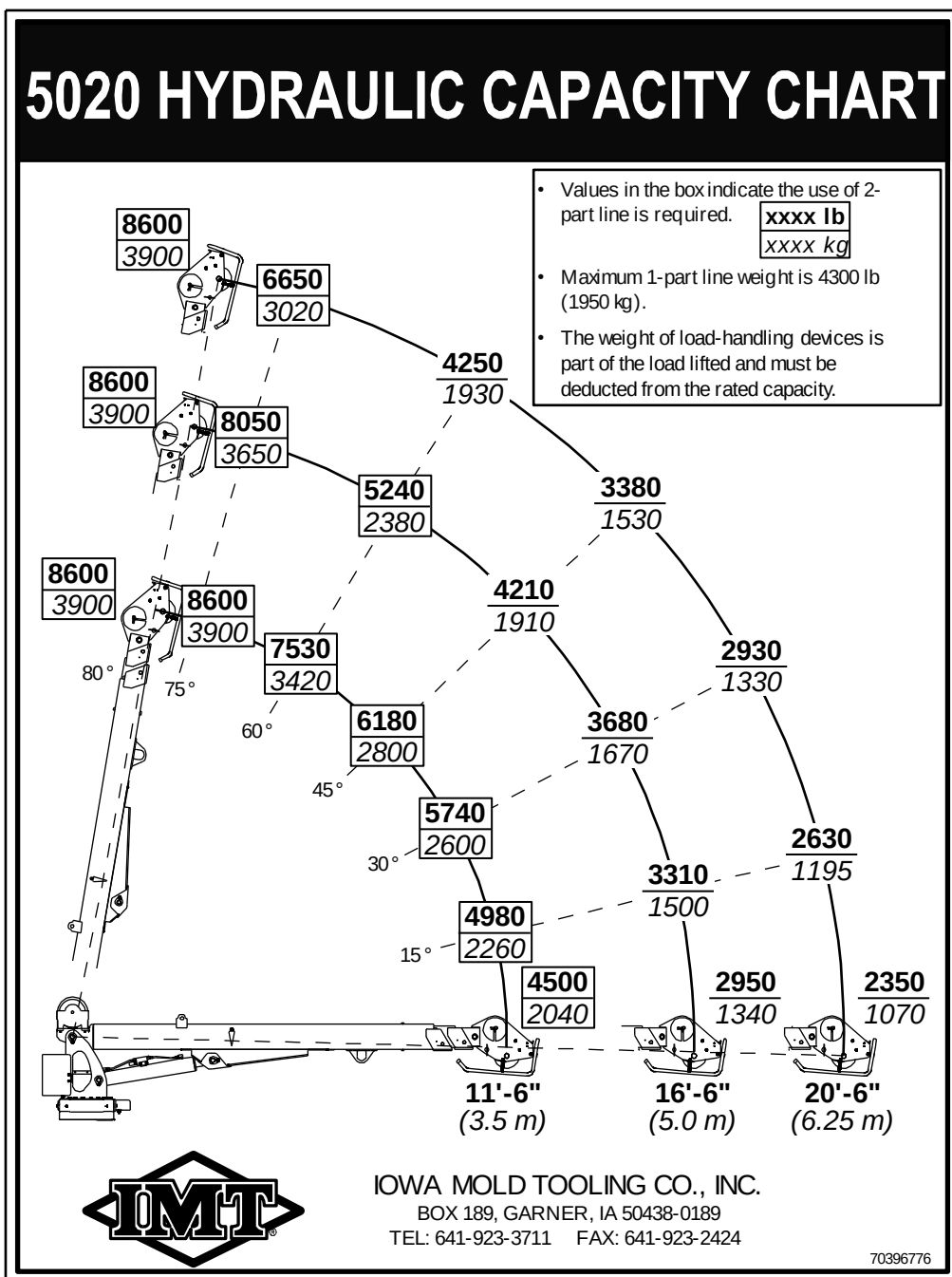
Geometric Configuration



3820 Capacity Chart



5020 Capacity Chart



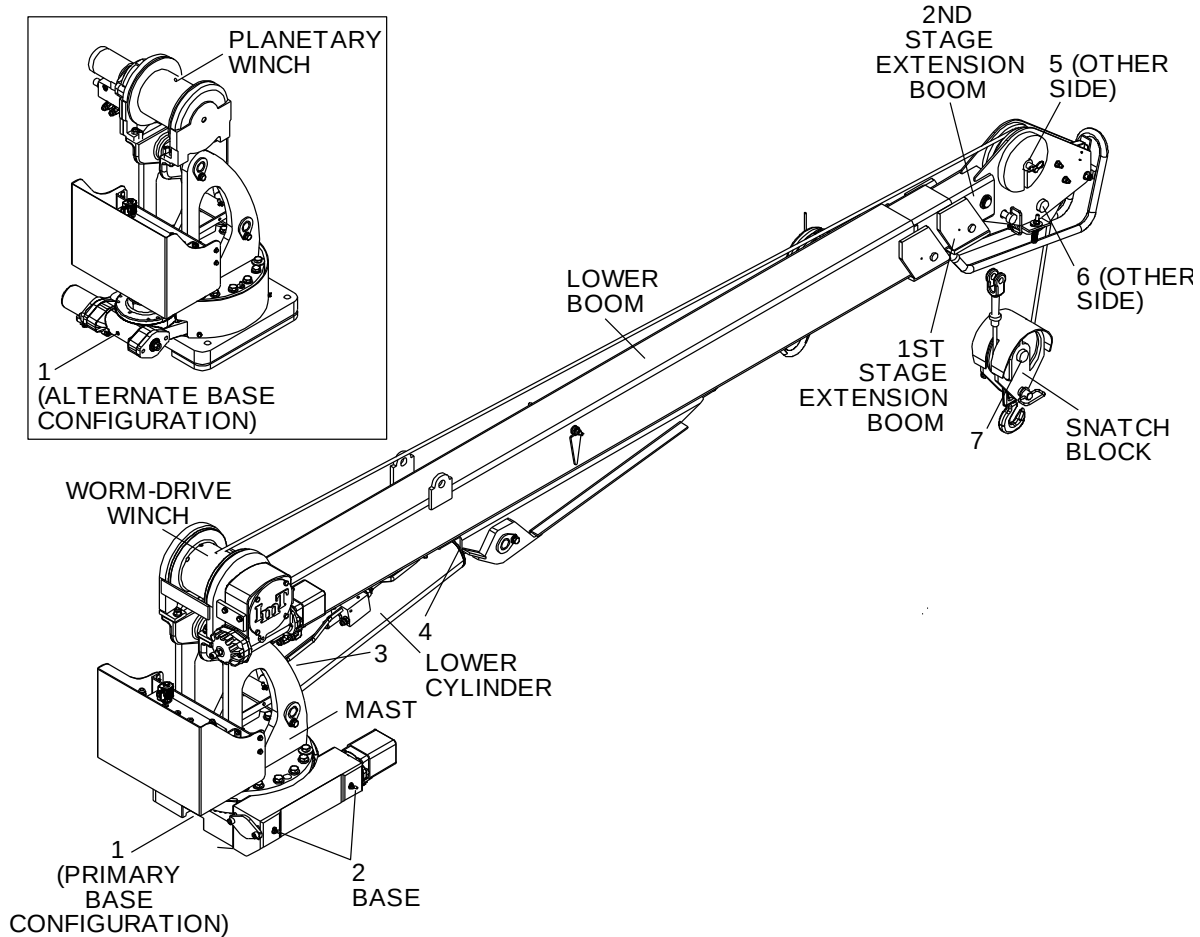
CHAPTER 3

Crane Reference

In This Chapter

Assemblies and Grease Zerk Locations	17
Recommended Spare Parts List	19
Telescopic Crane Orientation	21
Crane Installation	22
Crane Control	23

Assemblies and Grease Zerk Locations



ITEM	LOCATION DESCRIPTION	LUBRICANT	FREQUENCY
1.	Gear Rotator Grease Extension *Rotate Crane While Greasing.	Shell Alvania 2EP or Shell Retinax "A"	Weekly
2.	Crane Base		
3.	Lower Cylinder Base		
4.	Lower Cylinder Rod		
5.	Upper Sheave Pin		
6.	Lower Sheave Pin		
7.	Snatch Block Sheave Pin		

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

Recommended Spare Parts List

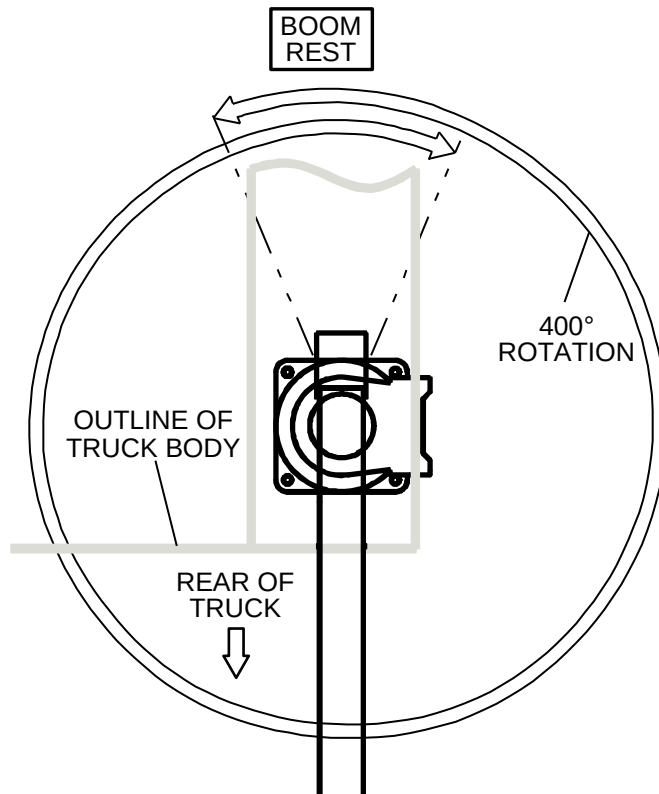
This parts list is intended to provide the user with a stock of parts sufficient to keep the unit operating with the minimal down-time waiting for parts, but it does not indicate these items will fail within a year. In addition, there may be parts failures not covered by this list. Parts not listed are considered as not being Critical or Normal Wear items during the first year of operations and you need to contact the distributor or manufacturer for availability.

ASSEMBLY DESCRIPTION		
PART #	SPARE PART DESCRIPTION	QUANTITY
BASE & MAST ASSEMBLY		
73051919	HYDRAULIC MOTOR (PRIMARY CONFIG)	1
73051963	HYDRAULIC MOTOR (ALT CONFIG)	1
72060794	CAP SCREW 1/2-13X1.25 SH PLAIN (ALL CONFIGS)	2
76039295	GASKET (ALL CONFIGS)	1
GEAR ROTATOR (PRIMARY) (71056543)		
70395074	O-RING	1
70395076	SEAL	1
70145786	SNAP RING	1
70055271	BEARING-CONE	2
70055281	BEARING-CUP	2
70145501	BEARING RETAINER	1
70056550	WORM	1
73145506	SHIM .005	2
73145505	SHIM .015	2
73145504	SHIM .030	2
76395075	GASKET	1
GEAR ROTATOR (ALTERNATE) (71056610)		
96396836	SEAL KIT-ROTATION	1
94396835	SEAL KIT-MOTOR	1
94396837	SHIM KIT	1
CRANE & WINCH ASSEMBLY (ALL CONFIGURATIONS)		
70580143	WIRE ROPE ASSEMBLY (WORM WINCH)	1
70580182	WIRE ROPE ASSEMBLY (PLANETARY WINCH)	1
71073035	HOOK W/LATCH	1
	DOWNHAUL WEIGHT	
52719629	PIN	2
52719630	PIN	1
WINCH, WORM, 3820 (71057936)		
94396834	SEAL KIT	1
76393174	O-RING	1
76393173	OIL SEAL	1
70055202	BALL BEARING	2
70732542	BRAKE KIT	1

76393171	GASKET	2
WINCH, WORM, 5020 (70570501)		
76393174	O-RING	1
76393173	OIL SEAL	1
70055202	BALL BEARING	2
70733294	BRAKE KIT	1
76393171	GASKET	2
WINCH, PLANETARY (71570781)		
71411150	CABLE WEDGE	1
94744136	SEAL KIT, WINCH	1
74396840	SEAL KIT, MOTOR	1
CYLINDER, LOWER (51720921) (MODEL 3820)		
51744131	SEAL KIT	1
73540052	COUNTERBALANCE VALVE	1
77041561	PRESSURE SWITCH	1
7BF81215	BUSHING	4
CYLINDER, LOWER (51720916) (MODEL 5020)		
51744132	SEAL KIT	1
72530052	COUNTERBALANCE VALVE	1
73540035	COUNTERBALANCE VALVE	1
77041561	PRESSURE SWITCH	1
7BF81215	BUSHING	4
BOOM & WINCH ASSEMBLY (99903683)		
51713168	CORD REEL ASSEMBLY	1
60030330	WEAR PAD	1
60030331	WEAR PAD	1
60030339	WEAR PAD	4
60030340	WEAR PAD	1
60030341	WEAR PAD	1
60122985	WEAR PAD	4
77041459	LIMIT SWITCH	1
EXTENSION CYLINDER (51720936)		
9D101220	SEAL KIT	1
73054999	COUNTERBALANCE VALVE	1
VALVEBANK, PLANETARY WINCH (73734472) (73734193 replaced by 73734472 on S/N 3820S2091216, 5020S2091012.		
73540252	VALVE, PROP FLOW	1
73540396	VALVE, RELIEF	1
73540375	SOLENOID-VALVE SECTION	4
VALVEBANK, WORM WINCH (73734473) (73734194 replaced by 73734473 on S/N 3820S2091216, 5020S2091012.		
73540395	VALVE, PROP FLOW	1
73540396	VALVE-RELIEF	1
73540375	SOLENOID-VALVE SECTION	4
DUMP VALVE (51720117) (THRU 4-07)		
73540090	SOLENOID VALVE	1
INSTALLATION KIT (93719692)		
73052092	HYDRAULIC FILTER ELEMENT	1

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.



Crane Installation

GENERAL

This section contains instructions for the installation of your crane. Prior to installing the crane and hydraulic components, make sure that the chassis is ready to receive the crane (see the Installation Section of the IMT Telescopic Crane Operation & Safety Manual, 99903514).

Reinforce the chassis frame, as necessary, and install the PTO and pump.

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

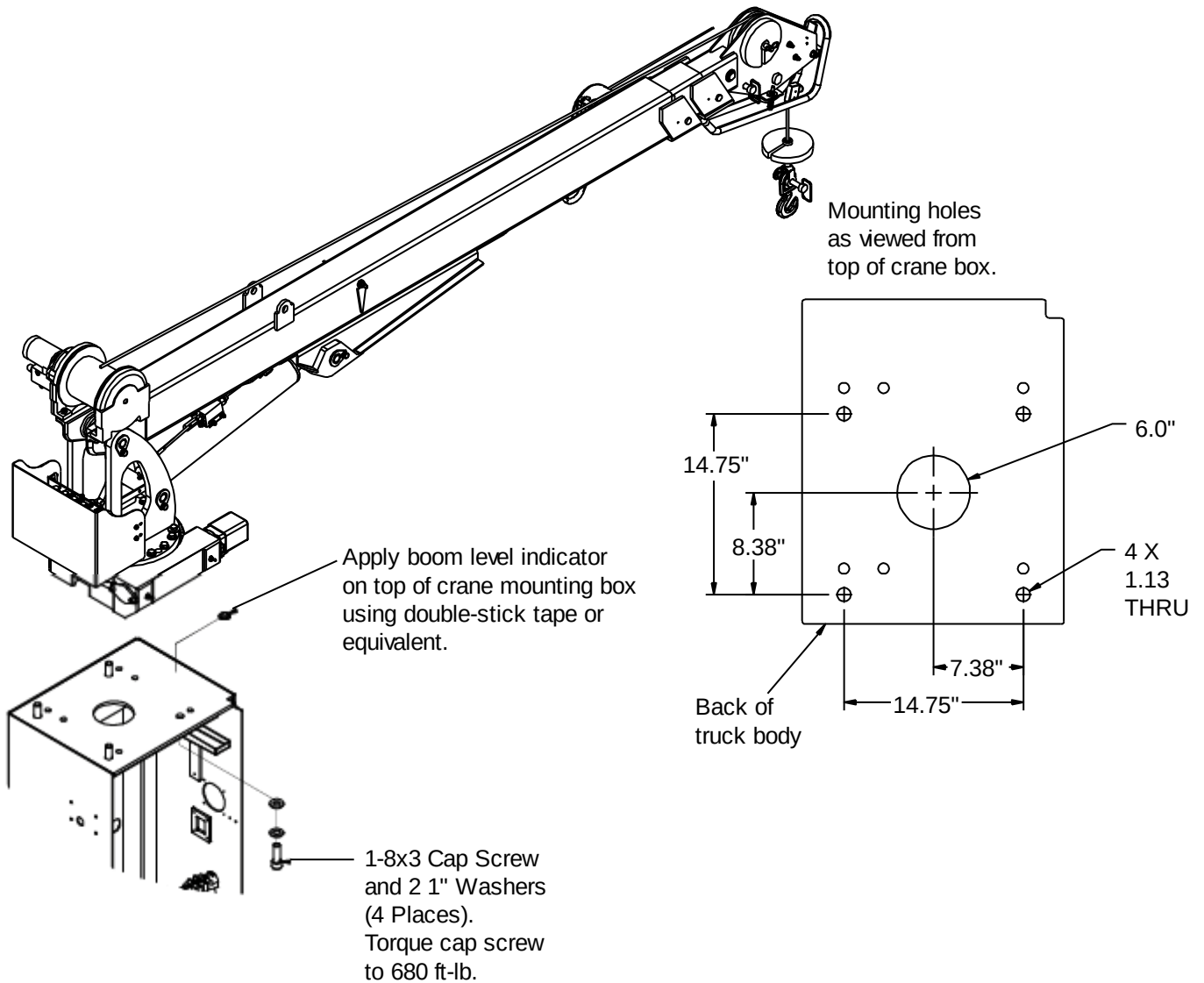
CRANE INSTALLATION

In addition to meeting Minimum Chassis Specifications, there must be sufficient room for mounting the crane and the platform must be strong enough to support the crane and rated load. Install the 3820 crane only on an IMT designed and approved truck body. The body must be designed to sustain the forces imposed by the crane when lifting the full rated load. In addition, an IMT designed body is designed to take full advantage of the standard reservoir placement. This reservoir is installed in the cargo area of the body. Before attempting to install the crane, the body must be installed.

To install the crane:

- 1 Use a lifting device capable of lifting the weight of the crane, up to 1545 lb (700 kg). Attach fabric slings to the crane lower boom, centered approximately 18 inches from the mast hinge. Make certain the crane is well balanced on the slings by slowly lifting approximately 6" off the ground. Lift the crane, apply a bead of waterproof compound, such as silicon based caulk, to the bottom of the base. Move the chassis under the crane and lower the crane into the desired position.

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



Crane Control

IMT's telescopic 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 Telescopic Crane Operation & Safety Manual (part number 99903514).

CHAPTER 4

Parts

In This Chapter

Parts Information	26
Base and Mast Assemblies	28
Boom Assemblies & Cylinders.....	66
Hydraulics	76
Controls.....	101
Auxiliary Stabilizer Assemblies and Valvebanks.....	108
Decal Kits	125
Installation Kits	129
Miscellaneous	130

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

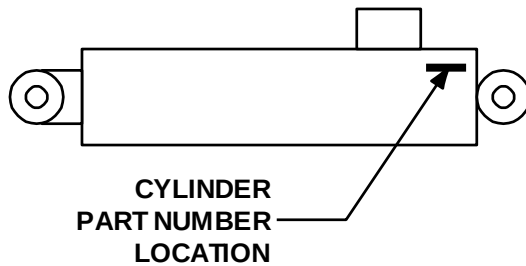
Identification placard for Iowa Mold Tooling Co., Inc. The placard is black with white text and fields. It includes the company name and address at the top, followed by three rows for identification numbers: Model Number, Serial Number, and Mfg Date. The placard is marked with two circles on the left and right sides, and a vertical number 70023119 is printed on the right edge.

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

70023119

CYLINDER IDENTIFICATION

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



WELDMENT IDENTIFICATION

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

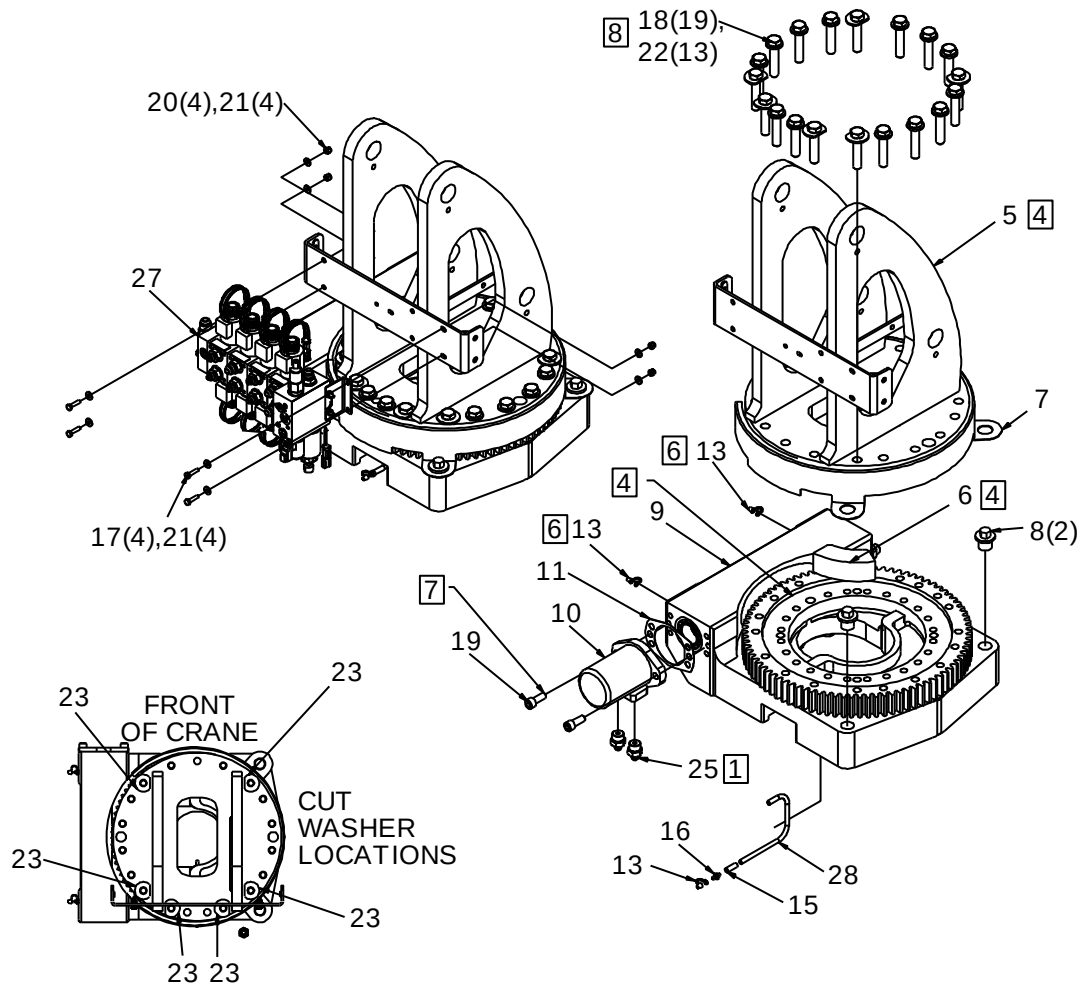
ORDERING REPAIR PARTS

When ordering replacement parts:

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

Base and Mast Assemblies

Base & Mast Assembly (99903947) (Primary Configuration)

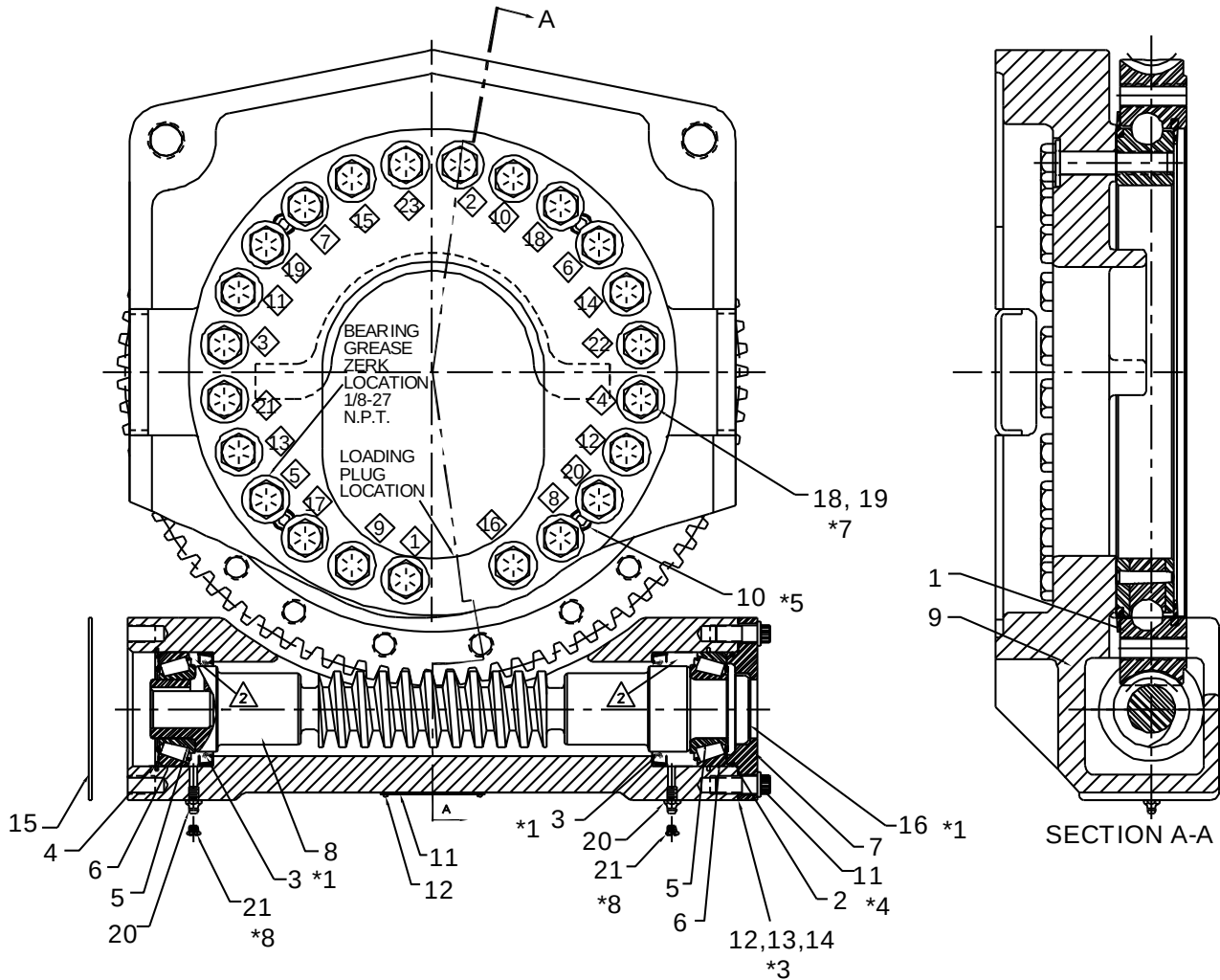


NOTES (IF TIED TO DRAWING, SEE REFERENCE # IN BOX ☐):

- 1 HYDRAULIC FITTINGS ARE PART OF 91720110 (PLANETARY WINCH) OR 91720113 (WORM DRIVE WINCH) HOSE KITS.
- 2 USE 70034060 AS NEEDED TO SECURE WIRE HARNESS.
- 3 USE ITEMS #32, 33, AND 34 FOR PLANETARY WINCH APPLICATIONS.
- 4 USE RUST PREVENTATIVE ON SLIDE STOP, BEARING RACE AND BOTTOM OF MAST.
- 5 INSTALL HARNESS JUMPER AND CONNECTORS PER WIRING HARNESS DRAWING.
- 6 REMOVE PLUGS AND INSTALL GREASE ZERKS WITH GEAR ROTATOR, #9.
- 7 USE BLUE THREAD LOCKER.
- 8 TORQUE TO 160 FT-LB

99903947 PARTS LIST				
ITEM	PART #	DESCRIPTION	KIT #	QUANTITY
1.	51720119	HARDWARE KIT-BASE & MAST (INCL 13-23)		1
3.	91720110	HOSE KIT-PLANETARY WINCH (INCL 24,25,28,33)		1 REF
4.	91720113	HOSE KIT-WORM WINCH (INCL 25,28)		1 REF
5.	52719628	MAST WELDMENT		1
6.	60120138	SLIDE-ROTATION STOP		1
7.	60120192	GEAR GUARD		1
8.	70029595	THREADED PLUG 1.00-8		2
9.	71056543	GEAR ROTATOR		1
10.	73051919	MOTOR-HYD (WAS 73511070 THRU 9-15-08)		1
11.	76039295	GASKET		1
12.	77441204	HARNESS-TELESCOPIC RADIO REMOTE (WAS 77441184 THROUGH 8-1-06)		1
13.	70034382	CAP-GREASE	#1	3
14.	70034060	TIES-PLASTIC	#1	5
15.	72053301	COUPLING-BLK .12	#1	1
16.	72053508	ZERK-NPT .12	#1	1
17.	72060004	CAP SCR .25-20X 1.00 HH GR5 Z	#1	4
18.	72060177	CAP SCR .62-11X 3.00 HH GR8 Z	#1	19
19.	72060794	CAP SCR .50-13X 1.25 SH PLAIN	#1	2
20.	72062104	NUT .25-20 HEX NYLOCK (WAS 6)	#1	4
21.	72063001	WASHER .25 FLAT (WAS 12)	#1	8
22.	72063119	WASHER .62 FLAT ASTM F436	#1	13
23.	72063216	WASHER .62 N FLAT-CUT 3816	#1	6
24.	72053758	ELBOW-M STR/90/M JIC 4 4	#3	2 REF
25.	72533613	ADPTR-M STR/M JIC 10 6	#3 OR #4	2 REF
27.	73734473	VALVE BANK-MODIFIED INLET (WAS 73734194 THROUGH S/N 3820S2091216, 5020S2091012)		1
28.	51395121	HOSE-AA .13 X 13.50 OAL (2-2)	#3 OR #4	1
29.	77045945	CONNECTOR-DEUTSCH DT 2 PIN RECEPT		1
30.	77044668	PLUG-SEAL DEUTSCH 114017		2
31.	77441191	HARNESS-PRESSURE SWITCH JUMPER		1
33.	72532351	ADPTR-M STR/M JIC 4 4		1
REV. D 20100609				

Gear Rotator (71056543) (Primary)



NOTES (*)

- 1 INSTALL SEALS #3 AND #16 WITH LOCTITE PLASTIC GASKET ON O.D. LUBRICATE SEAL SURFACE BEFORE ASSEMBLY.
- 2 PACK CAVITIES WITH EPO GREASE
- 3 SHIM TO OBTAIN 0.000 / 0.004 END PLAY ON WORM SHAFT.
- 4 LUBRICATE O-RING #2 WITH WORM GEAR OIL BEFORE INSTALLING.
- 5 INSTALL BOLTS #10 WITH LOCTITE #242.
- 6 SET BACKLASH BETWEEN WORM AND ROTATION BEARING 0.005 - 0.012.
- 7 TIGHTEN 5/8-11 UNC GRADE 8 MOUNTING BOLTS AS FOLLOWS: TIGHTEN PROGRESSIVELY AND AT 180° INTERVALS. FIRST INTERVAL AT 70 FT-LB. SECOND INTERVAL AT 140 FT-LB. THIRD INTERVAL AT 210 FT-LB. TIGHTEN BOLTS IN ORDER SHOWN IN DIAMONDS (<>). DO NOT USE LOCTITE ON MOUNTING BOLTS.
- 8 ITEM #20 SHIPS LOOSE. INSTALL ITEM #21 FOR SHIPPING.

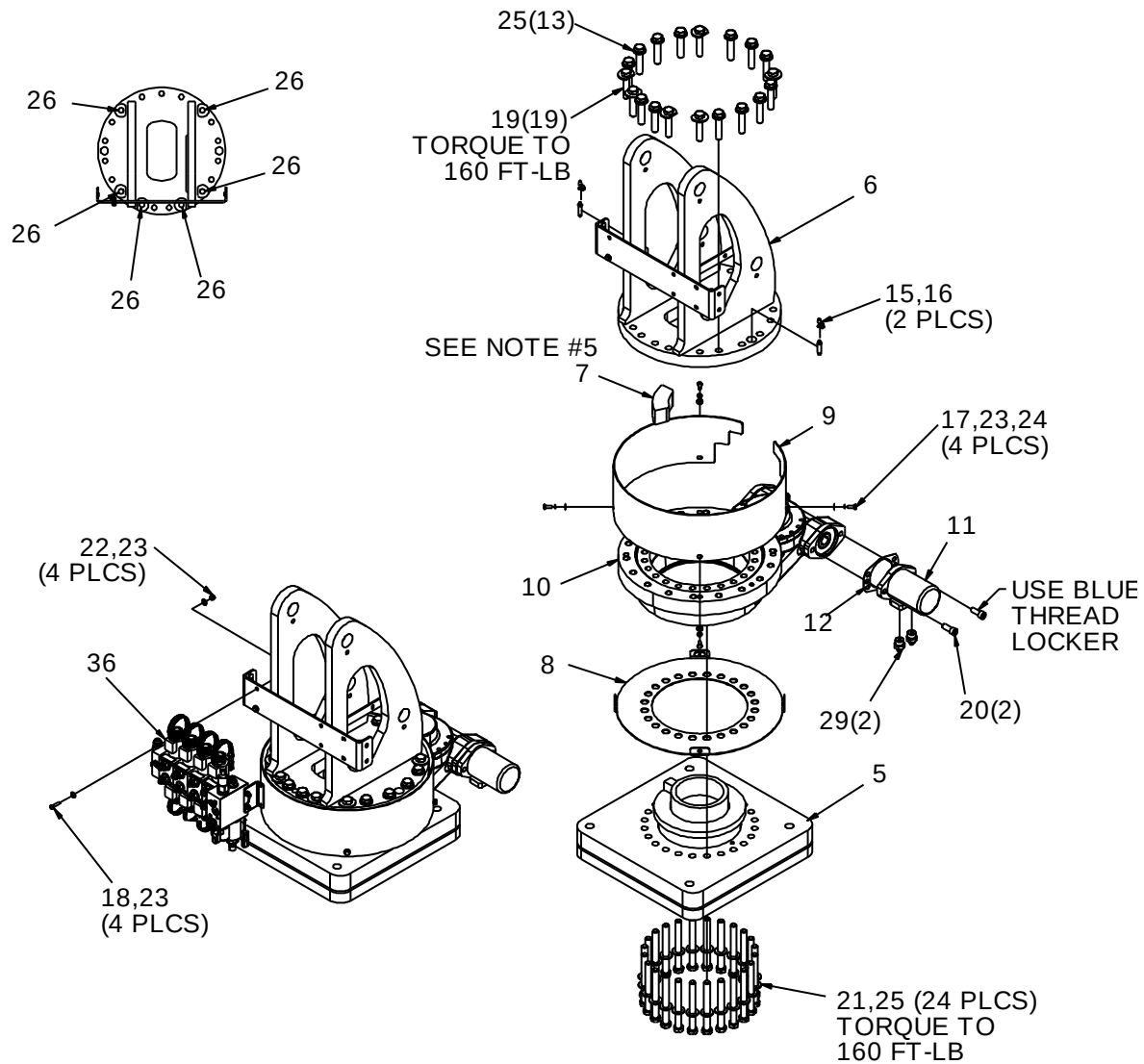
WARNING

ANY TIME THE GEAR-BEARING BOLTS HAVE BEEN REMOVED, THEY MUST BE REPLACED WITH NEW BOLTS OF IDENTICAL GRADE AND SIZE. FAILURE TO REPLACE GEAR-BEARING BOLTS MAY RESULT IN BOLT FAILURE DUE TO METAL FATIGUE, CAUSING DEATH OR SERIOUS INJURY.

71056543 PARTS LIST				
ITEM	PART #	DESCRIPTION	DETAILS	QUANTITY
1.	70056527	ROTATION BEARING		1
2.	70395074	O-RING		1
3.	70395076	SEAL		2
4.	70145786	SNAP RING		1
5.	70055271	BEARING-CONE		2
6.	70055281	BEARING-CUP		2
7.	70145501	BEARING RETAINER		1
8.	70056550	WORM		1
9.	70145787	HOUSING		1
10.	72601734	CAP SCREW	3/8-16X1-1/4 SH	4
11.	72601733	CAP SCREW	1/2-13X1-1/4 FERRY	4
12.	73145506	SHIM	.005" THICK	2
13.	73145505	SHIM	.015" THICK	2
14.	73145504	SHIM	.030" THICK	2
15.	76395075	GASKET		1
16.	72533604	PLUG		1
17.	72661504	PIN	3/8X1	2
18.	72601751	CAP SCREW	5/8-11X2-3/4 HHGR8	23
19.	72063219	WASHER	5/8 FLAT HARD	23
20.	72533605	ZERK		2
21.	72533439	VENT PLUG		2

REV. B 20031029

Base & Mast Assembly (99903966) (Alternate Configuration)

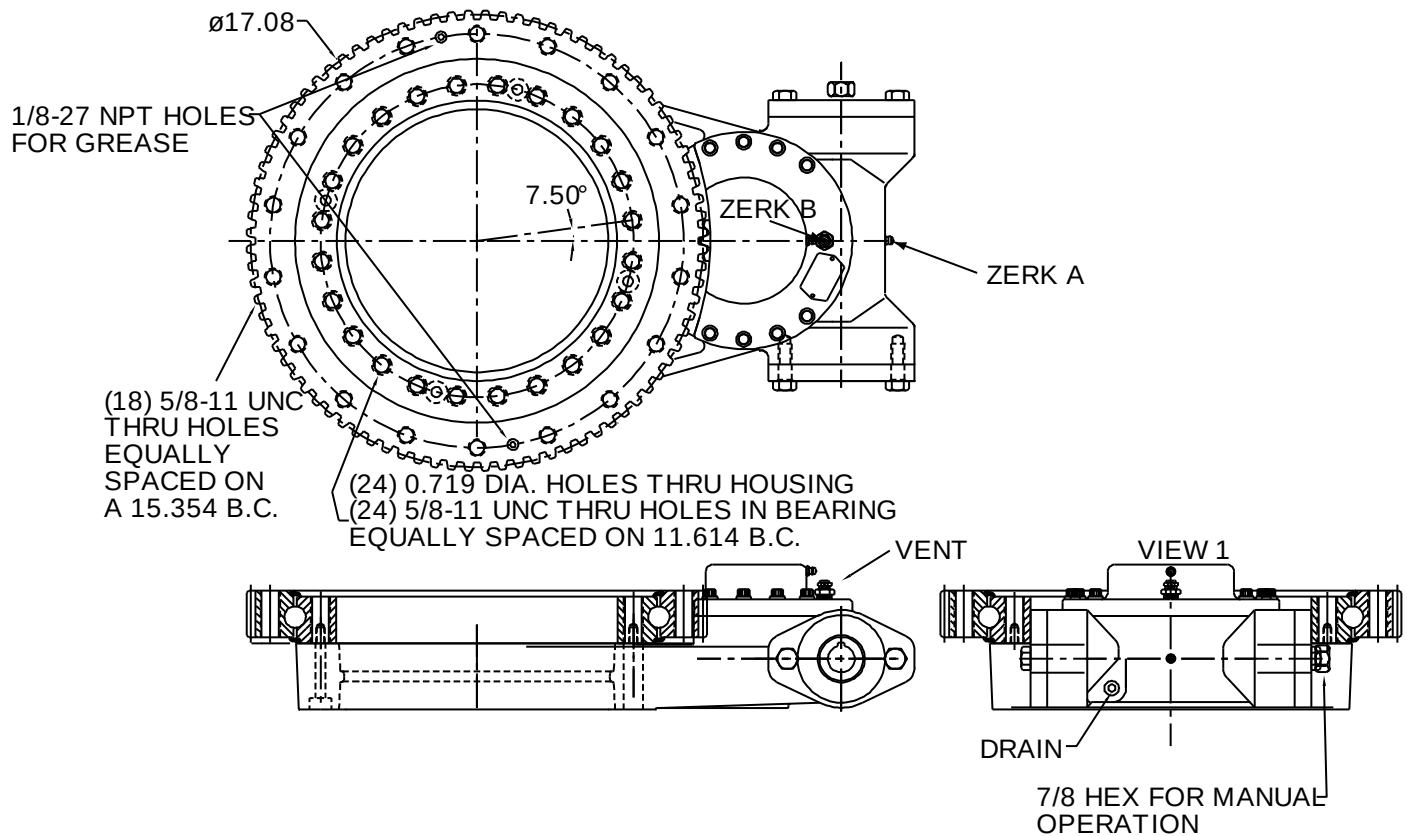


NOTES:

- 1 HYDRAULIC FITTINGS ARE PART OF 91720132 (PLANETARY WINCH) OR 91720113 (WORM DRIVE WINCH) HOSE KITS.
- 2 USE 70034060 AS NEEDED TO SECURE WIRE HARNESS.
- 3 USE ITEMS #34, 35, AND 36 FOR PLANETARY WINCH APPLICATIONS.
- 4 USE RUST PREVENTATIVE ON SLIDE STOP, BEARING RACE AND BOTTOM OF MAST.
- 5 INSTALL HARNESS JUMPER AND CONNECTORS PER WIRING HARNESS DRAWING.

99903966 PARTS LIST				
ITEM	PART #	DESCRIPTION	KIT #	QUANTITY
1.	51720164	HARDWARE KIT-MAST ASY (INCL 14-26,36)		1
2.				
3.	91720132	HOSE KIT-PLAN WINCH (INCL 28, 35)		REF
4.	91720113	HOSE KIT-WORM WINCH (INCL 29)		REF
5.	52719672	BASE WLDMNT		1
6.	52719628	MAST WELDMENT		1
7.	60120138	SLIDE-ROTATION STOP		1
8.	52719673	GEAR GUARD WELDMENT		1
9.	60129066	GEAR GUARD		1
10.	71056610	GEAR-TURNABLE W/O BASEPLATE		1
11.	73051963	MOTOR-ROTATION		1
12.	76039295	GASKET		1
13.	77441184	HARNESS-TELESCOPIC RADIO REMOTE-VORC		1
14.	70034060	TIES-PLASTIC .18W 8.00L BLACK	#1	5
15.	70034382	CAP-GREASE PRO20 GC-RED	#1	2
16.	72534418	ZERK-NPT .12 X 1.75 LG	#1	2
17.	72060002	CAP SCR .25-20X .75 HH GR5 Z	#1	4
18.	72060004	CAP SCR .25-20X 1.00 HH GR5 Z	#1	2
19.	72060177	CAP SCR .62-11X 3.00 HH GR8 Z	#1	19
20.	72060794	CAP SCR .50-13X 1.25 SH PLAIN	#1	2
21.	72601857	CAP SCR .62-11X 6.00 HH GR8 Z	#1	24
22.	72062104	NUT .25-20 HEX NYLOCK	#1	2
23.	72063001	WASHER .25 FLAT	#1	8
24.	72063049	WASHER .25 LOCK	#1	4
25.	72063119	WASHER .62 FLAT ASTM F436	#1	37
26.	72063216	WASHER .62 N FLAT-CUT 3816	#1	6
28.	72053758	ELBOW-M STR/90/M JIC 4 4	#3	2 REF
29.	72533613	ADPTR-M STR/M JIC 10 6	#3	2
30.	51719947	VALVE BANK ASSEMBLY WO/BRAKE		REF
30.	51719858	VALVE BANK ASSEMBLY W/BRAKE		REF
31.	77045945	CONNECTOR-DEUTSCH DT 2 PIN RECEPT		1
32.	77044668	PLUG-SEAL DEUTSCH 114017		2
33.	77441191	HARNESS-PRESSURE SWITCH JUMPER		1
35.	72532351	ADPTR-M STR/M JIC 4 4	#3	1
36.	73734472	VALVE BANK (73734193 FROM S/N 3820S2071163 THROUGH 3820S2091216) (WAS 51720111 THRU 5-4-07)		1
REV B 20100609				

Gear Rotator (71056610) (Alternate Configuration)

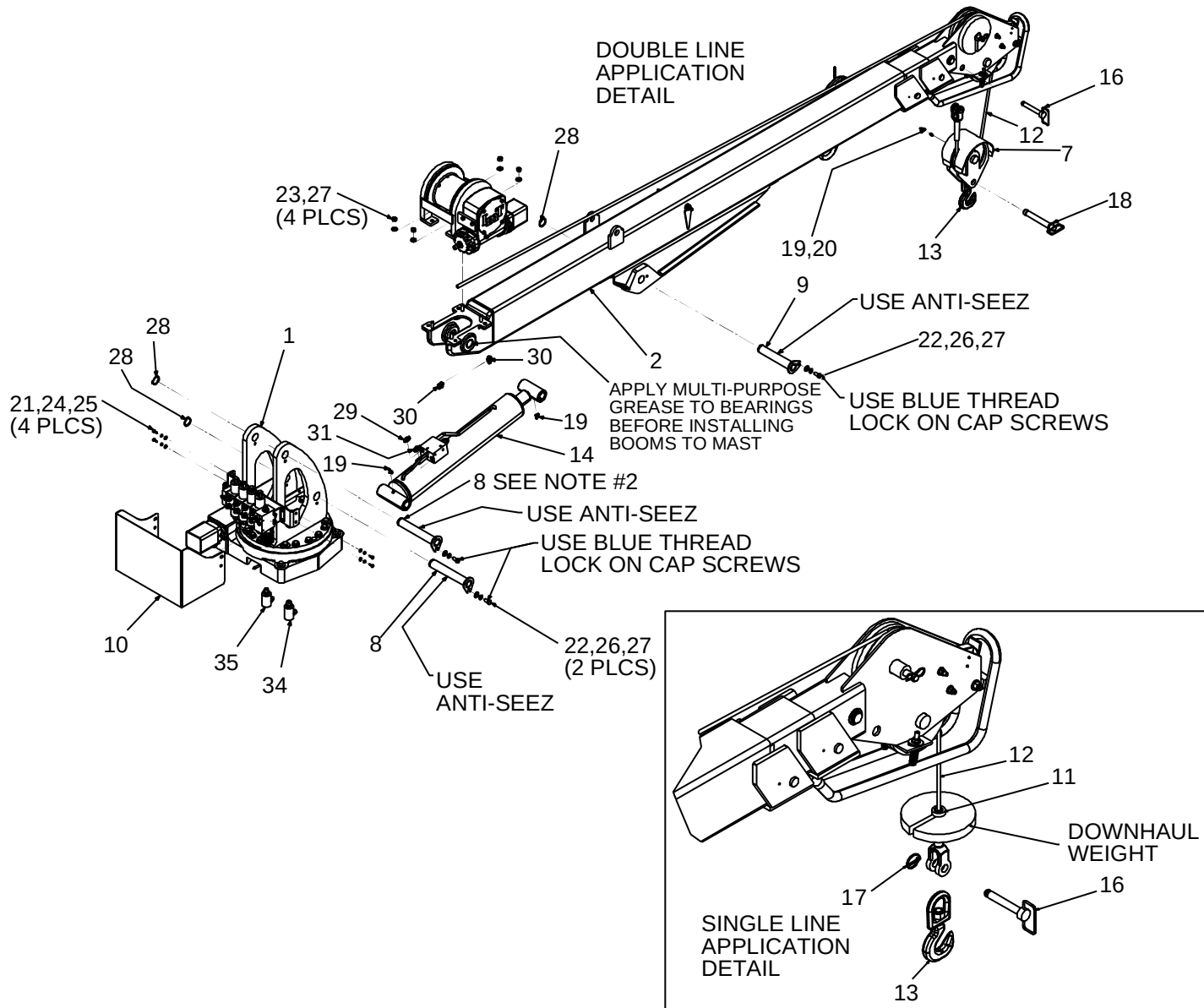


NOTES:

- 1 GREASE ZERK A FILLED WITH MOBIL SHC 007 GREASE.
- 2 GREASE ZERK B WITH BEARING GREASE, PACKED THROUGH FITTINGS WITH MOBIL SHC 460.
- 3 TORQUE GRADE 5 MOUNTING BOLTS TO 75 FT-LB WHEN MOUNTING MOTOR. MOTOR ADAPTER AND MOUNTING HOLES FIT SAE "A" TYPE 2-BOLT STANDARD HYDRAULIC MOTOR WITH 1" KEYED SHAFT.

71056610 PARTS LIST		
PART #	DESCRIPTION	QUANTITY
94396836	SEAL KIT, ROTATION	1
94396835	SEAL KIT, MOTOR	1
94396837	SHIM KIT	1

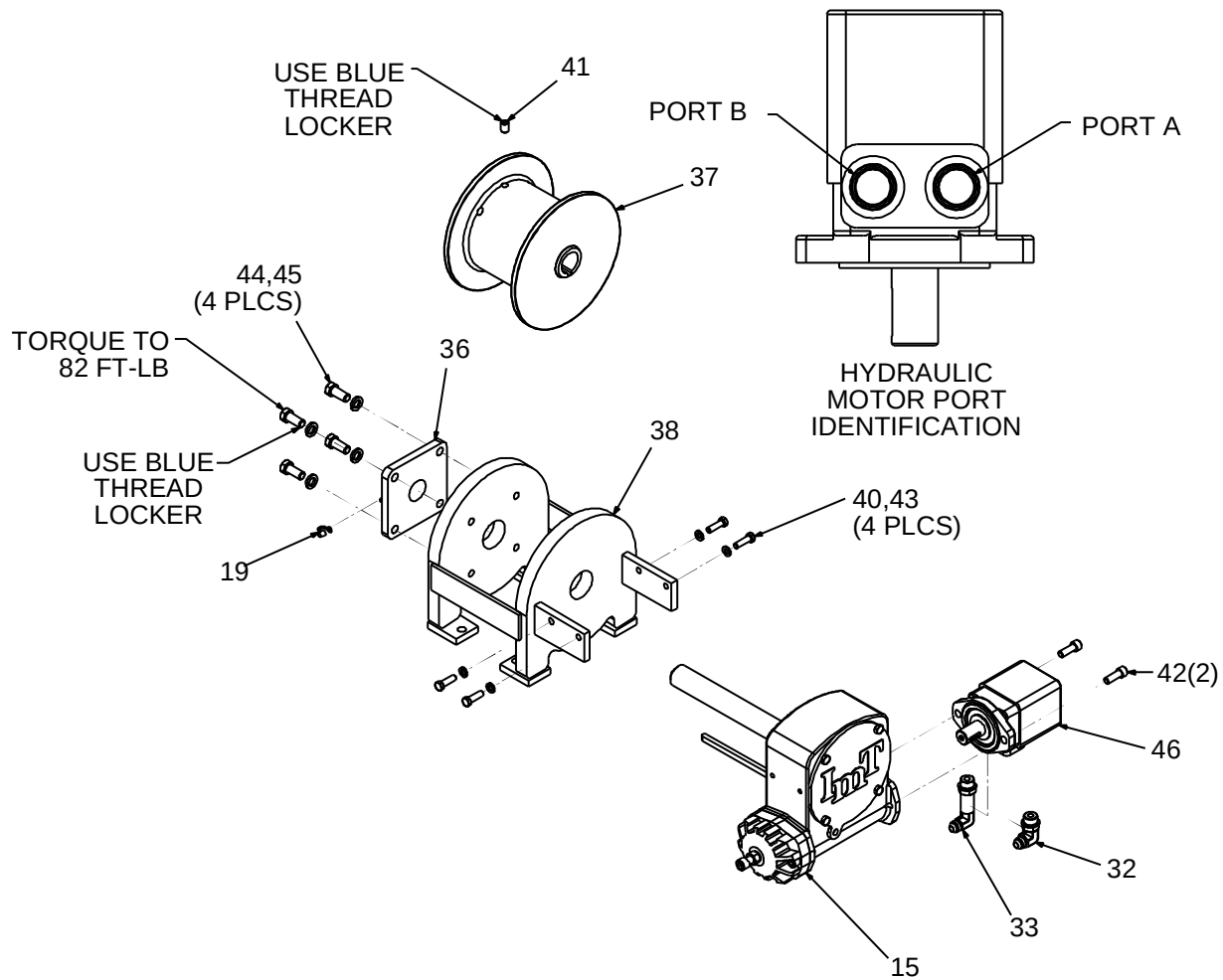
Crane & Worm Winch Assembly (99903948) (Primary Configuration)



NOTES:

- 1 FOR DOUBLE LINE APPLICATION, INSTALL PIN #16 THROUGH BOOM SIDE PLATE, THEN THROUGH WIRE ROPE CLEVIS. FOR SINGLE LINE APPLICATION, INSTALL PIN #16 THROUGH WIRE ROPE CLEVIS AS SHOWN.
- 2 IF REQUIRED, USE 72063037 MACHINERY BUSHINGS BETWEEN MAST & BOOM WHEN INSTALLING PIN #8.
- 3 FOR SINGLE LINE, MOUNT DOWNHAUL WEIGHT OVER CLEVIS.
- 4 USE 70034069 AS NEEDED TO SECURE WIRE HARNESS.
- 5 VIEW SHOWN WITH CRANE AS POSITIONED ON ASSEMBLY STAND.

99903948 WINCH & MOTOR ASSEMBLY

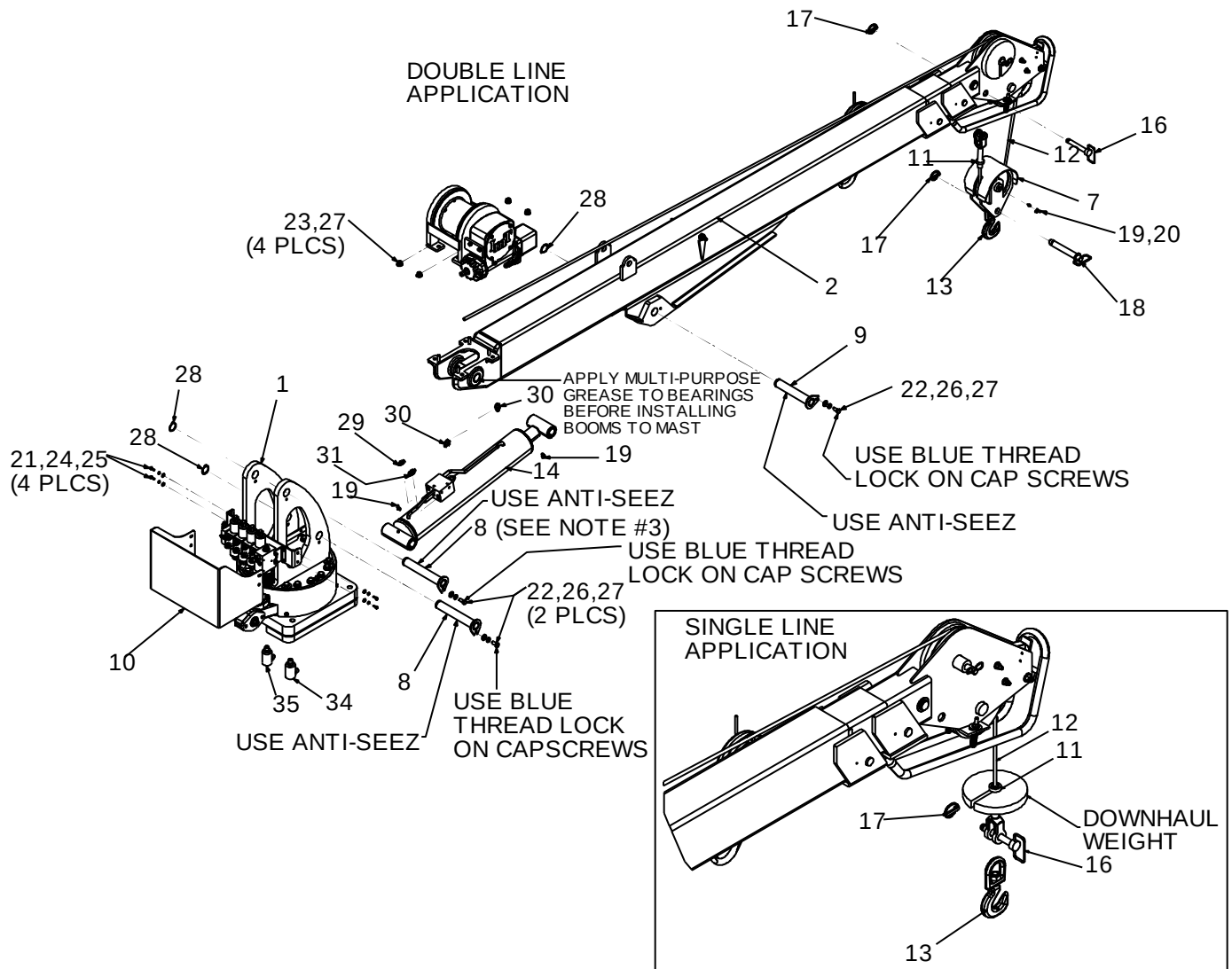


99903948 PARTS LIST

ITEM	PART #	DESCRIPTION	QUANTITY
1.	99903947	DWG-BASE & MAST ASY	REF
2.	99903683	DWG-BOOM ASY	REF
3.	99903944	HYD INSTALLATION DWG-WORM WINCH	REF
4.			1
5.	91720113	HOSE KIT-WORM WINCH (INCL 29-35)	1
6.	51719762	HARDWARE KIT-CRANE & WORM WINCH (INCL 19-28,40-44)	1
7.	52715836	GUARD WELDMENT SNATCH BLOCK	1
8.	52719629	PIN-TYPE MM 1.50X 9.75 (9.19)	2
9.	52719630	PIN-TYPE MM 1.50X 8.75 (8.19)	1
10.	60127985	COVER-VALVE BANK	1
11.	70149793	COLLAR-SHAFT	1
12.	70580143	CABLE ASM	1
13.	71073035	HOOK-SWVL W/LATCH	1
14.	51720916	CYLINDER (5020) (WAS 71412008 THRU 4/3/07)	REF

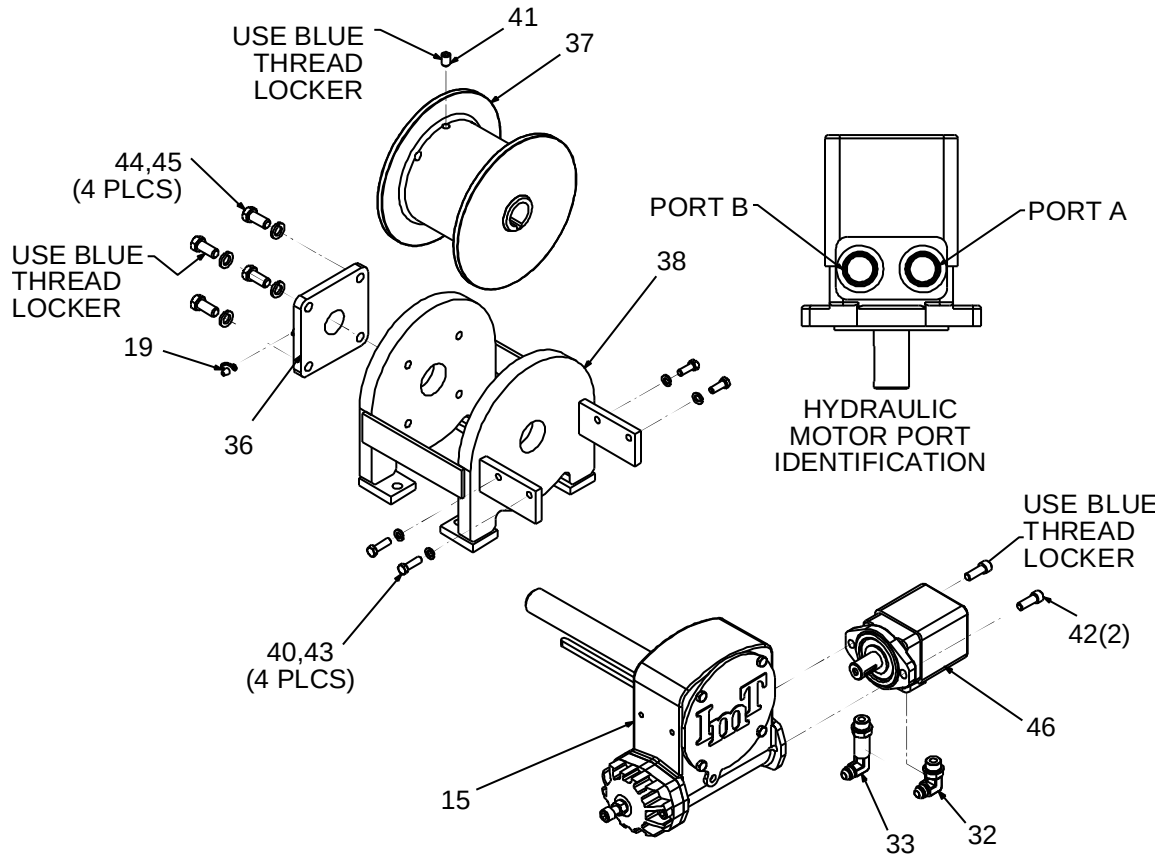
99903948 PARTS LIST			
ITEM	PART #	DESCRIPTION	QUANTITY
14.	51720921	CYLINDER (3820) (WAS 71411871 THRU 5/17/07)	REF
15.	71057936	WINCH (3820)	REF
15.	70570501	WINCH (5020)	REF
16.	72661514	PIN-LOCK W/HANDLE .875 X 4.25	1
17.	72661543	PIN-QUICK 316-10QP	2
18.	73733171	PIN LOCK 1X6 W/HAIR PIN	1
19.	70034382	CAP-GREASE	4
20.	72053508	ZERK-NPT .12	1
21.	72060002	CAP SCR .25-20X .75 HH GR5 Z	4
22.	72060091	CAP SCR .50-13X 1.00 HH GR5 Z	3
23.	72062107	NUT .50-13 HEX CENTER LOCK Z	4
24.	72063001	WASHER .25 FLAT	4
25.	72063049	WASHER .25 LOCK	4
26.	72063053	WASHER .50 LOCK	3
27.	72063132	WASHER .50 FLAT ASTM F436	7
28.	72066132	RETAINING RING-EXT 1.50 HD	3
29.	72532355	ADPTR-M STR/M JIC 6 6	1 REF
30.	72532356	ADPTR-M STR/M JIC 8 6	2 REF
31.	72532357	ADPTR-M STR/M JIC 6 8	1 REF
32.	72053764	ELBOW-M STR/90/M JIC 10 8	1 REF
33.	72534435	ELBOW-M STR/90/M JIC XLG 10 8	1 REF
34.	72534412	SWIVEL-M JIC/90/M JIC 10 10	1 REF
35.	72533648	SWIVEL-M JIC/90/M JIC 8 8	3 REF
36.	70055185	BEARING-FLANGE BLK FC4-35-1.5	1
37.	51713808	WINCH DRUM - MACHINED 3816	1
38.	52719749	WINCH MNT-WLDMNT	1
39.	70034069	TIES-PLASTIC	2
40.	72060047	CAP SCR .38-16X 1.25 HH GR5 Z	4
41.	72060596	SET SCR .50-13X .75 SH PLAIN	1
42.	72060774	CAP SCR .44-14X 1.25 SH PLAIN	2
43.	72063051	WASHER .38 LOCK	4
44.	72063054	WASHER .56 LOCK	4
45.	72601499	CAP SCR .56-12X 1.25 HH GR5 Z	4
46.	73051940	MOTOR (5020)	REF
46.	73511069	MOTOR (3820)	REF
REV C 20090114			

Crane & Worm Winch Assembly (99903967) (Alternate Configuration)



NOTES:

- 1 FOR DOUBLE LINE APPLICATION, INSTALL PIN #16 THROUGH BOOM SIDE PLATE AND THEN THROUGH WIRE ROPE CLEVIS. FOR SINGLE LINE APPLICATION, INSTALL PINE #16 THROUGH WIRE ROPE CLEVIS AS SHOWN.
- 2 IF REQUIRED, USE 72063037 MACHINERY BUSHINGS BETWEEN MAST AND BOOM WHEN INSTALLING PIN #8.
- 3 VIEW SHOWN FOR CRANE AS POSITIONED ON ASSEMBLY STAND.
- 4 MOUNT DOWNHAUL WEIGHT OVER CLEVIS.
- 5 USE 70034069 AS NEEDED TO SECURE WIRE HARNESS.

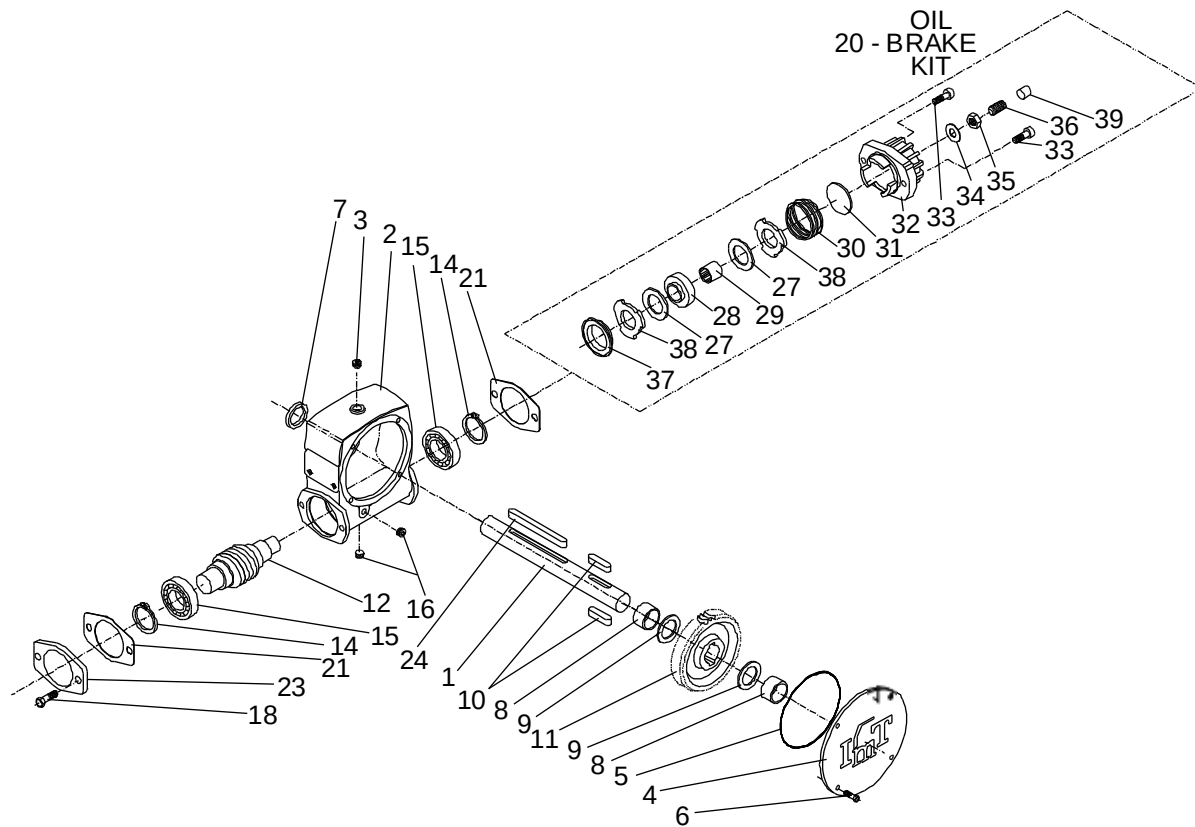
99903967 WINCH & MOTOR ASSEMBLY**NOTES:**

- 1 SEE 99903944 FOR HYDRAULIC INSTALLATION.
- 2 VIEWS SHOW CRANE POSITION AS MOUNTED ON TRUCK.

99903967 PARTS LIST			
ITEM	PART #	DESCRIPTION	QUANTITY
1.	99903966	DWG-BASE & MAST ASY	REF
2.	99903683	DWG-BOOM ASY	REF
3.	99903944	DWG-HYD INSTALL WORM WINCH	REF
4.			
5.	91719113	HYDRAULIC KIT-WORM WINCH (INCL 29-35)	1
6.	51719762	HARDWARE KIT-CRANE & WINCH ASM (INCL 19-28, 40-45)	1
7.	52715836	GUARD WELDMENT SNATCH BLOCK	1
8.	52719629	PIN-TYPE MM 1.50X 9.75 (9.19)	2
9.	52719630	PIN-TYPE MM 1.50X 8.75 (8.19)	1
10.	60127985	COVER-VALVE BANK	1
11.	70149793	COLLAR-SHAFT 2 PIECE 11/16 IN	2
12.	70580143	CABLE ASM	1
13.	71073035	HOOK-SWVL L-322A-3T W/LATCH	2
14.	51720916	CYLINDER (5020) (WAS 71412008 THRU 4-3-07)	1 REF

99903967 PARTS LIST			
ITEM	PART #	DESCRIPTION	QUANTITY
14.	51720921	CYLINDER (3820) (WAS 71411871 THRU 5-17-07)	1 REF
15.	71057936	WINCH (3820)	1 REF
15.	70570501	WINCH (5020)	1 REF
16.	72661514	PIN-LOCK W/HANDLE .875 X 4.25	2
17.	72661543	PIN-QUICK 316-10QP	2
18.	73733171	PIN LOCK 1X6 W/HAIR PIN	1
19.	70034382	CAP-GREASE PRO20 GC-RED	4
20.	72053508	ZERK-NPT .12	1
21.	72060002	CAP SCR .25-20X .75 HH GR5 Z	4
22.	72060091	CAP SCR .50-13X 1.00 HH GR5 Z	3
23.	72062107	NUT .50-13 HEX CENTER LOCK Z	4
24.	72063001	WASHER .25 FLAT	4
25.	72063049	WASHER .25 LOCK	4
26.	72063053	WASHER .50 LOCK	3
27.	72063132	WASHER .50 FLAT ASTM F436	7
28.	72066132	RETAINING RING-EXT 1.50 HD	3
29.	72532355	ADPTR-M STR/M JIC 6 6	1
30.	72532356	ADPTR-M STR/M JIC 8 6	2
31.	72532357	ADPTR-M STR/M JIC 6 8	1
32.	72053764	ELBOW-M STR/90/M JIC 10 8	1
33.	72534435	ELBOW-M STR/90/M JIC XLG 10 8	1
34.	72534412	SWIVEL-M JIC/90/M JIC 10 10	1
35.	72533648	SWIVEL-M JIC/90/M JIC 8 8	3
36.	70055185	BEARING-FLANGE BLK FC4-35-1.50	1
37.	51713808	WINCH DRUM - MACHINED	1
38.	52719749	WINCH MNT-WLDMNT WORM DRIVE	1
39.	70034069	PLASTIC TIES	2
40.	72060047	CAP SCR .38-16X 1.25 HH GR5 Z	4
41.	72060596	SET SCR .50-13X .75 SH PLAIN	1
42.	72060774	CAP SCR .44-14X 1.25 SH PLAIN	2
43.	72063051	WASHER .38 LOCK	4
44.	72063054	WASHER .56 LOCK	4
45.	72601499	CAP SCR .56-12X 1.25 HH GR5 Z	4
46.	73511069	MOTOR (3820)	1 REF
46.	73051940	MOTOR (5020)	1 REF
REV F 20071115			

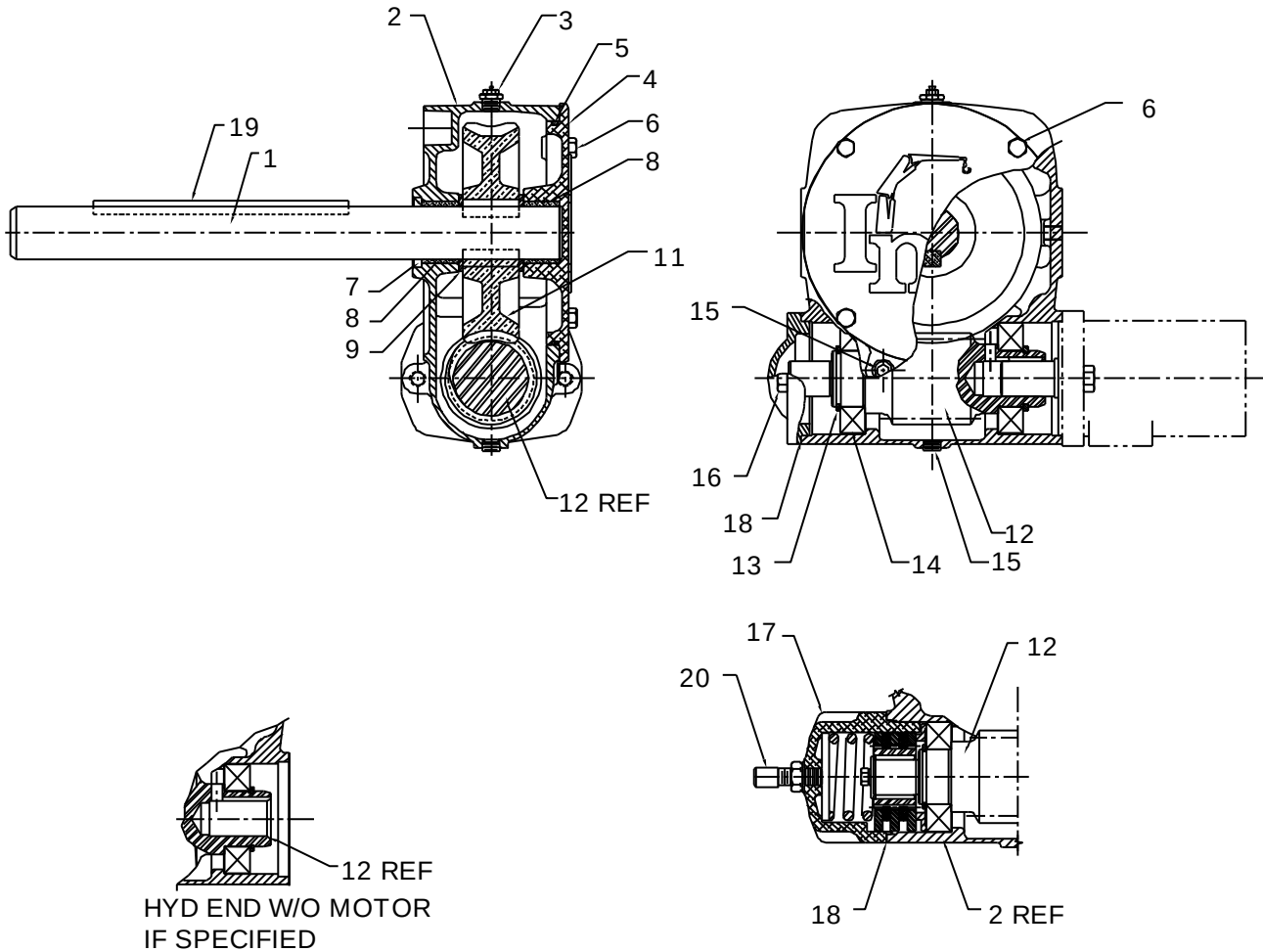
Winch, Worm, 3820 (71057936)



71057936 PARTS LIST			
ITEM	PART #	DESCRIPTION	QUANTITY
1.	70143673	SHAFT-OUTPUT	1
2.	70143672	HOUSING	1
3.	70048142	BUSHING & BRTHR KIT 3/8 NPT	1
4.	70145277	COVER	1
5.	76393174	O-RING	1
6.	72601568	CAP SCREW	4
7.	76393173	OIL SEAL	1
8.	70143670	BUSHING	2
9.	70143669	WASHER	2
10.	70143668	KEY	2
11.	70056428	GEAR-SR	1
12.	70056427	WORM-SR	1
14.	72661348	RETAINING RING	2
15.	70055202	BALL BEARING	2
16.	70143865	PIPE PLUG	2
18.	72601567	CAP SCREW	2
20.	70732542	BRAKE KIT (INCL:27-38)	1
21.	76393171	GASKET	2
23.	—	PROTECTOR (DISCARD)	1REF

71057936 PARTS LIST			
24.	70143658	KEY	1
27.	70143664	*FRICTION DISC	2REF
28.	70143665	*BRAKE HUB	1REF
29.	70143662	*CAM CLUTCH	1REF
30.	70143661	*SPRING	1REF
31.	70143660	*THRUST WASHER	1REF
32.	70143666	*BRAKE HOUSING	1REF
33.	72601565	*CAP SCREW-SOC HD	2REF
34.	76393172	*WASHER-SEAL	1REF
35.	72601722	*LOCKNUT-SEAL	1REF
36.	72601723	*SET SCREW	1REF
37.	70143659	*BRAKE SPACER	1REF
38.	70143663	*STATOR PLATE	2REF
39.	70034440	*CAP-PLASTIC	1REF
	94396834	SEAL KIT - MOTOR	REF
	* PART OF ITEM 20.		

Winch, Worm, 2820 & 5020 (70570501)



WINCH SPECIFICATIONS

GEAR RATIO	31:1
OUTPUT TORQUE	19,800 IN-LB
MAXIMUM INPUT TORQUE	1,161 IN-LB
MAXIMUM INPUT SPEED	400 RPM
INSTALLED WEIGHT	41 LB
LUBRICATION	EP140 (1 U.S. PINT)

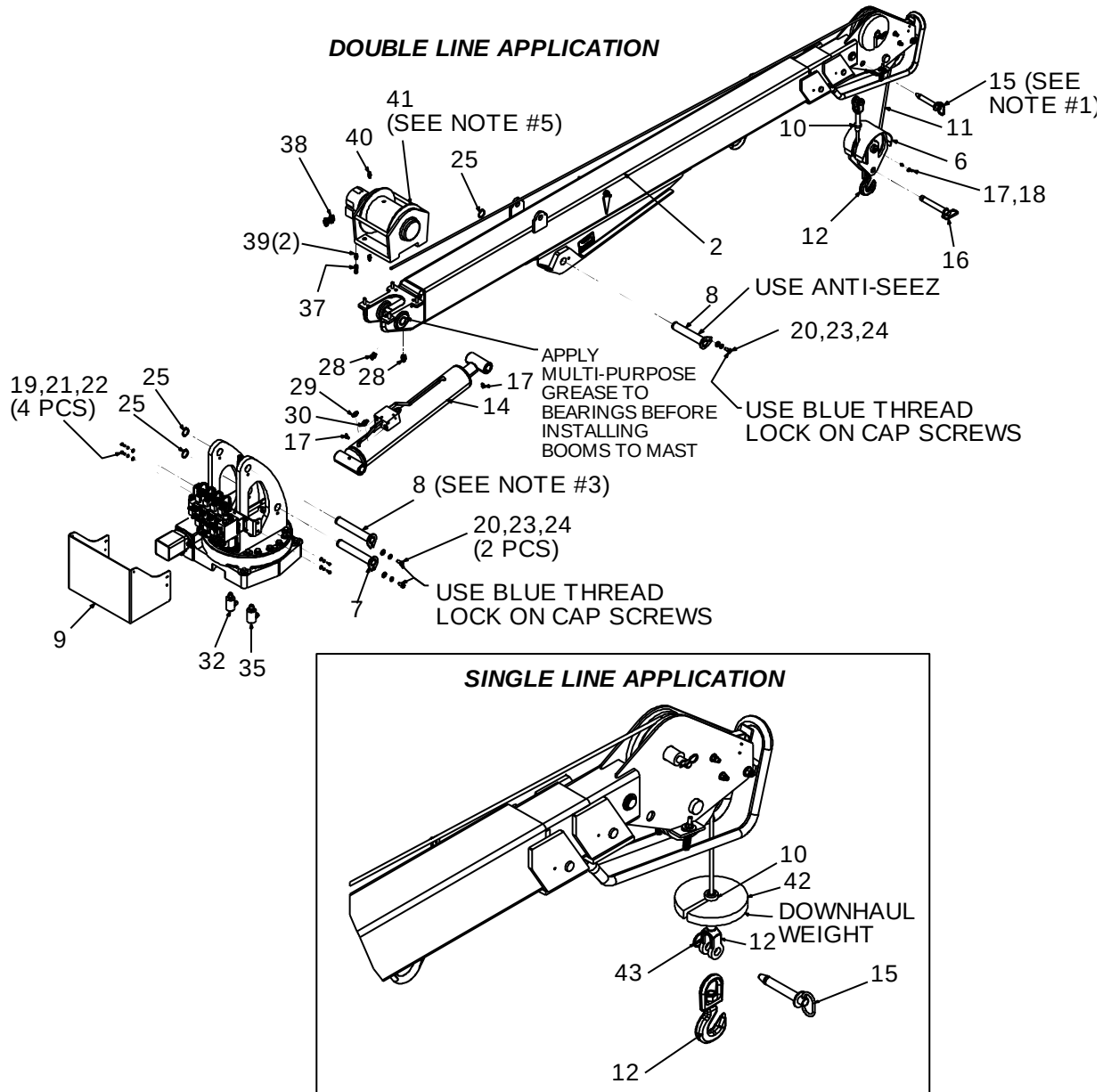
70570501 PARTS LIST

ITEM	PART #	DESCRIPTION	QUANTITY
1.	70143673	SHAFT	1
2.	70143672	HOUSING	1
3.	70048142	BREATHER	1
4.	70145277	COVER, WINCH	1
5.	76393174	O-RING	1
6.	72601568	CAP SCR	4
7.	76393173	SEAL	1
8.	70143670	BUSHING	2

70570501 PARTS LIST			
9.	70143669	WASHER	2
10.	70143668	KEY	2
11.	70056542	GEAR	1
12.	70056541	WORM	1
13.	72661348	RETAINING RING	2
14.	70055202	BEARING	2
15.	70143865	PIPE PLUG	2
16.	72601567	CAP SCR	2
17.	70733294	BRAKE KIT	1
18.	76393171	GASKET	2
19.	70143658	KEY	1
20.	70034440	PLASTIC CAP	1

REV. B 20031104

Crane & Planetary Winch Assembly (99903954) (Primary Configuration)



DOUBLE LINE APPLICATION NOTES:

- 1 For double line applications, install item #16, pin, through boom side plate and then through wire rope clevis.
- 2 If required, use 72063037 machinery bushings between the mast and boom when installing item #8, pin.
- 3 The cable wedge is supplied with the winch. Refer to the winch drawing for replacement part number.
- 4 View shown as mounted on assembly stand.
- 5 Remove studs. Mount winch with 72060928 and 02063053.

SINGLE LINE APPLICATION NOTES:

- 1 Use swivel hook #12 for single line.
- 2 Install item #16, pin, through wire rope clevis as shown.
- 3 Mount downhaul weight over clevis.

99903954 PARTS LIST			
ITEM	PART #	DESCRIPTION	QUANTITY
1.	99903947	DRAWING-BASE & MAST ASY	REF
2.	99903683	DRAWING-BOOM ASY	REF
3.	99903953	DRAWING-HYDRAULIC INSTALL	REF
4.	91720190	HOSE KIT (INCL 26-34,36,38-40)	REF
5.	51719592	HARDWARE& WINCH KIT (INCL 17-25)	1
6.	52715836	GUARD WELDMENT SNATCH BLOCK	1
7.	52719629	PIN-TYPE MM 1.50X 9.75 (9.19)	2
8.	52719630	PIN-TYPE MM 1.50X 8.75 (8.19)	1
9.	60127985	COVER-VALVE BANK 3820/5020 SII	1
10.	70149793	COLLAR-SHAFT 2 PIECE 11/16 IN	2
11.	70580182	CABLE ASM	1
12.	71073035	HOOK-SWVL W/LATCH	1
13.	51720921	CYLINDER (3820) (WAS 71411871 THRU 5-17-07)	REF
14.	51720916	CYLINDER (5020) (WAS 71412008 THRU 4-3-07)	REF
15.	72661514	PIN-LOCK W/HANDLE .875 X 4.25	1
16.	73733171	PIN LOCK 1X6 W/HAIR PIN	1
17.	70034382	CAP-GREASE	3
18.	72053508	ZERK-NPT .12	1
19.	72060002	CAP SCR .25-20X .75 HH GR5 Z	4
20.	72060091	CAP SCR .50-13X 1.00 HH GR5 Z	3
21.	72063001	WASHER .25 FLAT	4
22.	72063049	WASHER .25 LOCK	4
23.	72063053	WASHER .50 LOCK	3
24.	72063132	WASHER .50 FLAT ASTM F436	3
25.	72066132	RETAINING RING-EXT 1.50 HD	3
26.	72060928	CAP SCR .5-13 X 2.25 HHGR5Z	4
27.	72063053	WASHER .50 LOCK ZINC	4
28.	72532356	ADPTR-M STR JIC 8 6	2
29.	72532355	ADPTR-M STR/M JIC 6 6	1
30.	72532357	ADPTR-M STR/M JIC 6 8	1 REF
31.	72053764	ELBOW-M STR/90/M JIC 10 8	1 REF
32.	72534435	ELBOW-M STR/90/M JIC XLG 10 8	1 REF
33.	72532358	ADAPTR-MSTR/MJIC 8 8	1REF
34.	72533648	SWIVEL-M JIC/90/M JIC 8 8	1 REF
35.	72534412	SWIVEL-M JIC/90/M JIC 10 10	1 REF
36.	72053758	ELBOW-M STR/90/M JIC 4 4	1 REF
37.	72532981	TEE-SWVL NUT RUN JIC 4	1 REF
38.	72532359	ADPTR-MSTR/MJIC 10 8	2REF

99903954 PARTS LIST			
ITEM	PART #	DESCRIPTION	QUANTITY
39.	72534531	ADPTR-MJIC/MBSPT 4-2	2REF
40.	72533490	ADPTR-MJIC/MBSPT 4-4	1REF
41.	71570844	WINCH-PLANETARY 4300 LINE PULL (EFF 3720SII071451) (WAS 71570781)	1
42.	60122263	PLATE-SINGLE SHEAVE	1
43.	72661543	PIN-QUICK	4
REV D 20071030			

- 3 If required, use 72063037 machinery bushings between the mast and boom when installing item #8, pin.
- 4 The cable wedge is supplied with the winch. Refer to the winch drawing for replacement part number.
- 5 View shown as mounted on assembly stand.
- 6 Remove studs, and mount winch with 72060928 and 72063053.

SINGLE LINE APPLICATION NOTES:

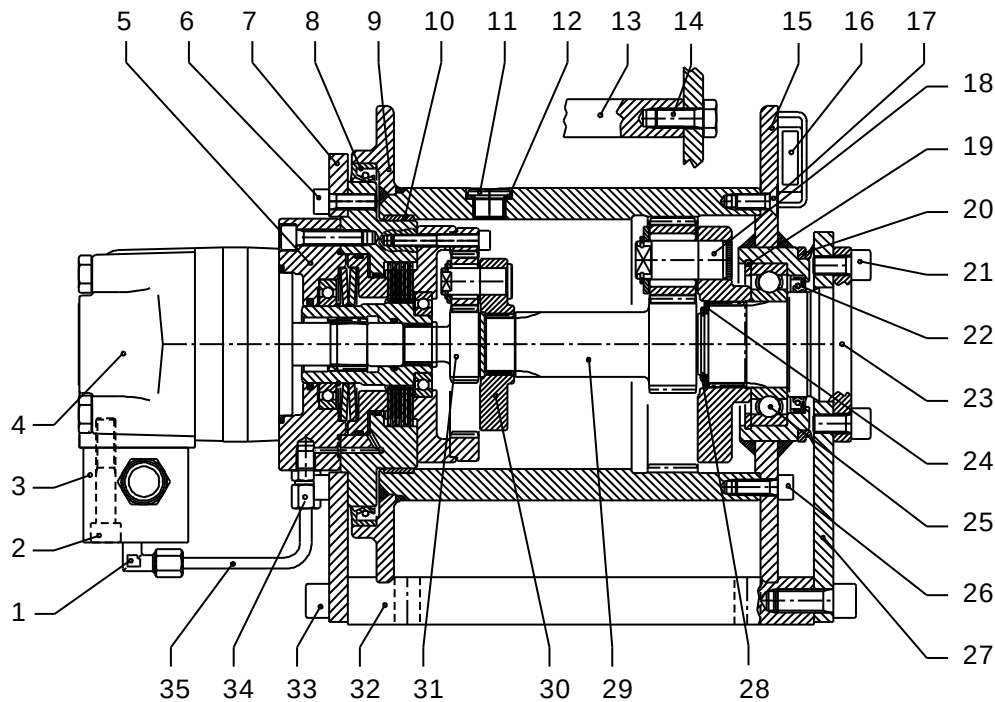
- 1 Use swivel hook #12 for single line.
- 2 Install item #16, pin, through wire rope clevis as shown.
- 3 Mount downhaul weight over clevis.

99903973 PARTS LIST			
ITEM	PART #	DESCRIPTION	QUANTITY
1.	99903966	DRAWING-BASE & MAST ASY	REF
2.	99903683	DRAWING-BOOM ASY	REF
3.	99903953	DRAWING-HYDRAULIC INSTALL	REF
4.	91721090	HOSE KIT, PLAN WINCH (INCL 17-25)	REF
5.	51719592	HARDWARE KIT (INCL 26-31, 34-36)	1
6.	52715836	GUARD WELDMENT SNATCH BLOCK	1
7.	52719629	PIN-TYPE MM 1.50X 9.75 (9.19)	2
8.	52719630	PIN-TYPE MM 1.50X 8.75 (8.19)	1
9.	60127985	COVER-VALVE BANK	1
10.	70149793	COLLAR-SHAFT 2 PIECE 11/16 IN	1
11.	70580182	CABLE ASM	1
12.	71073035	HOOK-SWVL W/LATCH	1
13.	51720921	CYLINDER (3820) (WAS 71411871 THRU 5-17-07)	1 REF
14.	51720916	CYLINDER (5020) (WAS 71412008 THRU 4-3-07)	1 REF
15.	72661514	PIN-LOCK W/HANDLE .875 X 4.25	2
16.	73733171	PIN LOCK 1X6 W/HAIR PIN	1
17.	70034382	CAP-GREASE	3
18.	72053508	ZERK-NPT .12	1
19.	72060002	CAP SCR .25-20X .75 HH GR5 Z	4
20.	72060091	CAP SCR .50-13X 1.00 HH GR5 Z	3
21.	72063001	WASHER .25 FLAT	4
22.	72063049	WASHER .25 LOCK	4
23.	72063053	WASHER .5 LOCK	3
24.	72063132	WASHER .50 FLAT ASTM F436	3
25.	72066132	RETAINING RING-EXT 1.50 HD	3
26.	72532355	ADPTR-M STR/M JIC 6 6	1 REF
27.	72532356	ADPTR-M STR/M JIC 8 6	2 REF
28.	72532357	ADPTR-M STR/M JIC 6 8	1 REF
29.	72533648	SWIVEL-M JIC/90/M JIC 8 8	1 REF
30.	72534412	SWIVEL-M JIC/90/M JIC 10 10	1 REF
31.	72532981	TEE-SWVL NUT RUN JIC 4	1 REF
32.	60122263	PLATE-SINGLE SHEAVE	1
33.	71570844	WINCH, PLANETARY (EFF 3720SII071451) (WAS 71570781)	1

99903973 PARTS LIST			
ITEM	PART #	DESCRIPTION	QUANTITY
34.	72532359	ADAPTER-MSTR/MJIC 10 8	2
35.	72534479	ELBOW-MJIC/MBSPT 4-2	2
36.	72534474	ELBOW-MBSPP /90/ MJIC 4-4	1
37.	72060928	CAP SCR .50-13 X 2.25 HHGR5Z	4
38.	72063053	WASHER .50 LOCK ZINC	4
REV C 20071019			

Winch, Planetary (71570844) (Eff. 11-2007)

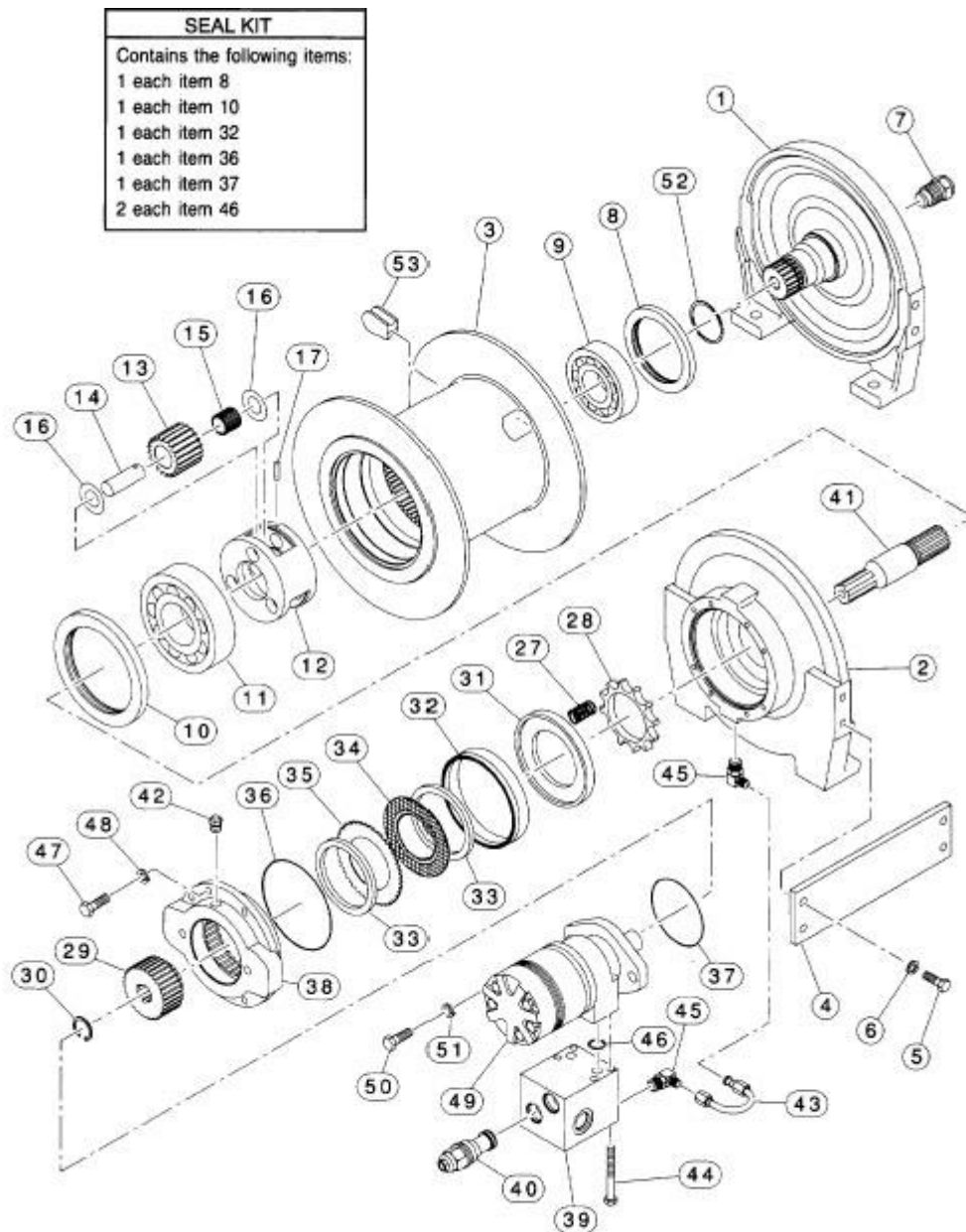
3820 crane - effective serial number 3820SII071451.



71570844 PARTS LIST			
ITEM	PART #	DESCRIPTION	QUANTITY
1.		90° CONNECTION (CONICAL)	1
2.		SOCKET HEAD CAP SCREW	2
3.	73540308	DUAL COUNTERBALANCE VALVE ASSEMBLY	1
4.	73511162	HYDRAULIC MOTOR	1
5.	73511163	BRAKE UNIT	1
6.		SOCKET HEAD CAP SCREW	8
7.		MOTOR SIDE SUPPORT	1
8.	73534535	OIL RETAINER SEAL	1
9.		WINCH DRUM	1
10.		GUIDE BUSHING	1
11.		PLUG	2

71570844 PARTS LIST			
12.		COPPER WASHER	2
13.	71413594	CROSS MEMBER	2
14.		HEX SCREW	4
15.		REDUCTION GEAR SIDE BODY	1
16.		THIMBLE	1
17.		SCREW, TSPEI	1
18.		REDUCTION GEAR UNIT	1
19.		RETAINING RING	1
20.		SEAL	1
21.		SOCKET HEAD CAP SCREW	8
22.		OIL RETAINER SEAL	1
23.		FLANGE, ANTI-ROTATION	1
24.		SHIM RING	2
25.	73534536	BALL BEARING	1
26.		SOCKET HEAD CAP SCREW	5
27.		GEAR SIDE SUPPORT	1
28.		RETAINING RING	1
29.		SUN GEAR	1
30.		REDUCTION GEAR UNIT	1
31.		SUN GEAR	1
32.		FASTENING SURFACE PLATE	2
33.		SOCKET HEAD CAP SCREW	8
34.		STRAIGHT PIPE FITTING (CONICAL)	1
35.		BRAKE PIPE	1
REV. 20080929			

Winch, Planetary (71570781) (Through 10-2007)



71570781 PARTS LIST

ITEM	PART #	DESCRIPTION	QUANTITY
1.		BEARING SUPPORT ENDPLATE	1
2.		BRAKE CYLINDER ENDPLATE	1
3.		CABLE DRUM	1
4.		TIEPLATE	2

71570781 PARTS LIST			
5.		CAPSCREW	8
6.		LOCK WASHER	8
7.		SIGHT GAUGE	1
8.		OIL SEAL (PART OF #54)	1
9.	71411143	BALL BEARING	1
10.		OIL SEAL (PART OF #54)	1
11.	71411144	BALL BEARING	1
12.		OUTPUT PLANET CARRIER	1
13.		OUTPUT PLANET GEAR	3
14.		OUTPUT PLANET GEAR SHAFT	3
15.	71411145	ROLLER BEARING	3
16.		THRUST RACE	6
17.		ROLL PIN	3
27.	71411146	SPRING	8
28.		SPRING LOCATOR	1
29.		BRAKE COUPLING	1
30.		SNAP RING	1
31.		SPRING PLATE	1
32.		BRAKE PISTON SEAL (PART OF #54)	1
33.		BRAKE PISTON SPACER	2
34.	71411147	FRICTION DISC	8
35.	71411148	STEEL DISC	9
36.		O-RING (PART OF #54)	1
37.		O-RING (PART OF #54)	1
38.		MOTOR ADAPTER	1
39.	73540370	BRAKE VALVE BLOCK	1
40.	73540300	COUNTERBALANCE VALVE CARTRIDGE	2
41.		SUN GEAR	1
42.	71411149	VENT PLUG	1
43.		TUBE ASSEMBLY	1
44.		CAPSCREW	4
45.		ELBOW FITTING	2
46.		O-RING (PART OF #54)	2
47.		CAPSCREW	8
48.		LOCK WASHER	8
49.	73511057	HYDRAULIC MOTOR	1
50.		CAP SCREW	2
51.		LOCK WASHER	2
52.		SNAP RING	1
53.	71411150	CABLE WEDGE	1
54.	94744136	SEAL KIT - WINCH (INCL. 8,10,32,36,37,46)	REF
	94396840	SEAL KIT - MOTOR	REF

WINCH SPECIFICATIONS

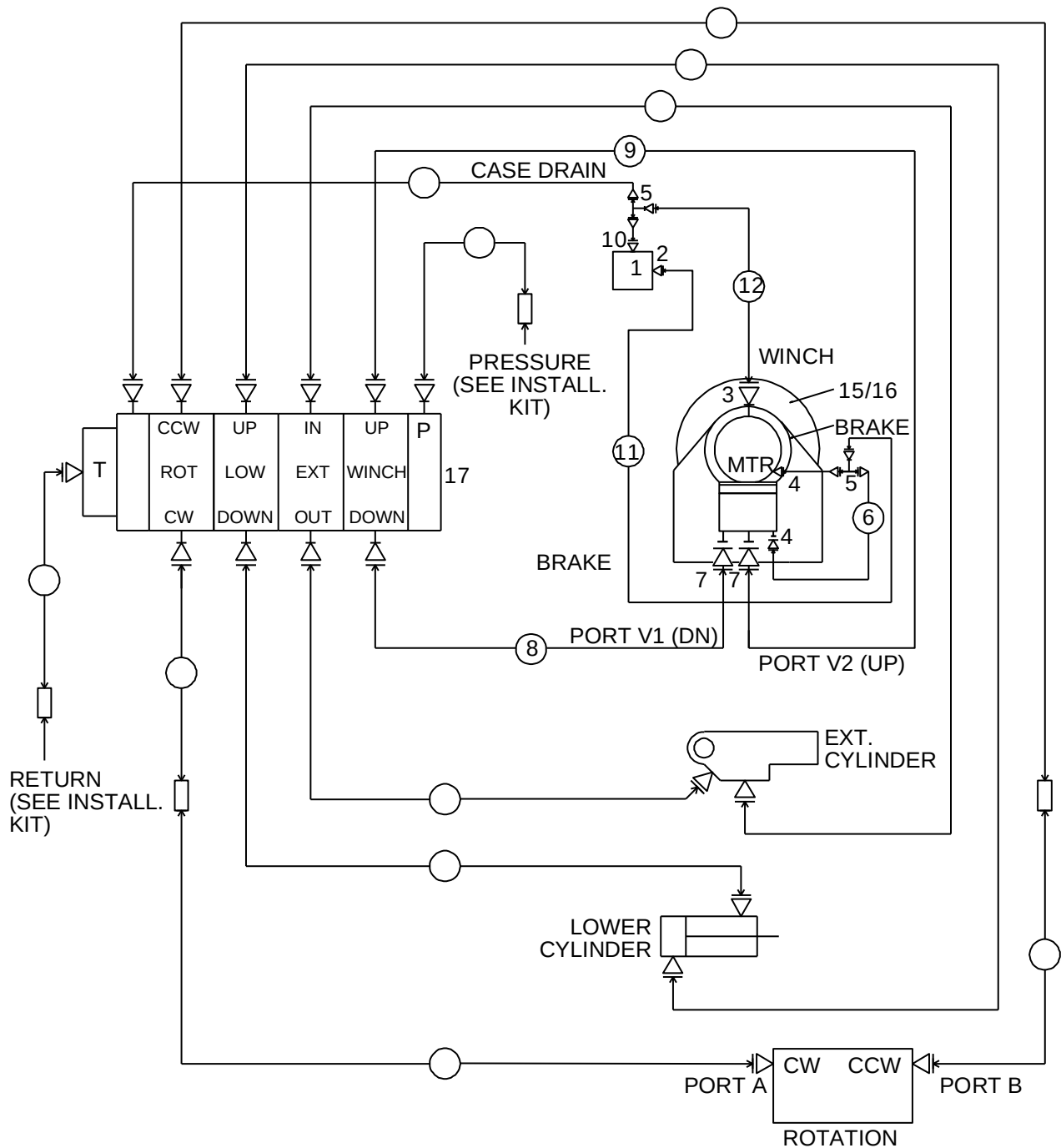
MOTOR DISP:	13.9 CI/REV
DRUM DIAMETER	6.75"
FLANGE DIAMETER	11"
WIDTH	7.28"
PRESSURE	2451 PSI
FLOW	10 GPM
D/d	14.5:1

MOTOR EFFICIENCY:	0.68
MOTOR SUP	1.5 GPM
RATIO	5
WINCH EFFICIENCY	0.95
HP INPUT	14.3
RPW INPUT	141 RPM

Winch Replacement Kit (51720111 Valve Cranes) (Dwg. 99904255)

Use on cranes with 51720111 main valve only.

Use winch kit 91721099 with 5525, 6025, and 6625 cranes. Use 91721105 with 3820 and 5020 cranes.



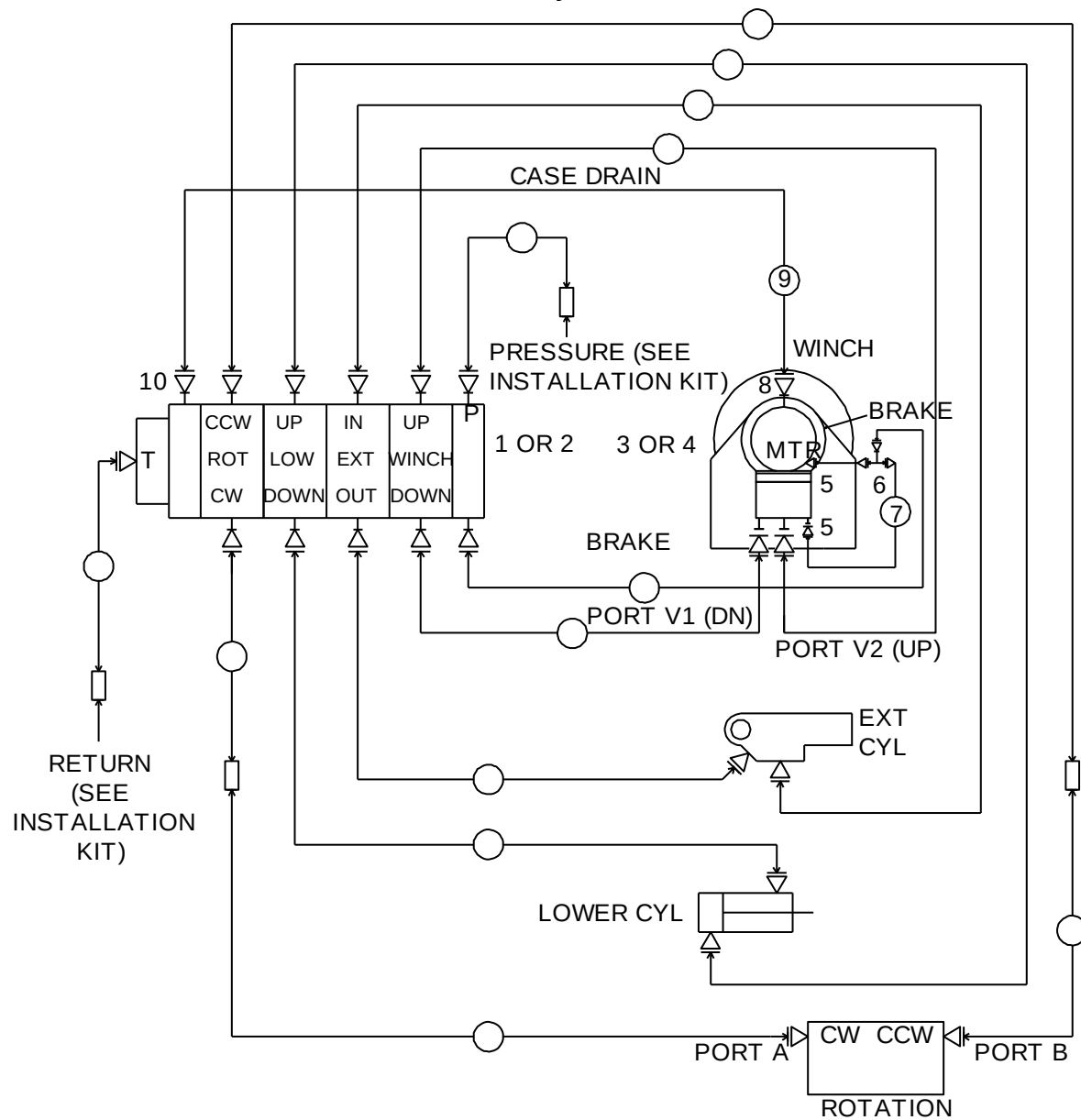
NOTES:

- 1 TO INSTALL WINCH, REMOVE STUDS THAT MOUNT WINCH TO BOOM. REPLACE WITH BOLTS AND LOCK WASHERS, ITEMS 13 AND 14. USE SERVICEABLE LOCKTITE.
- 2 INSTALL ALL HOSES AND FITTINGS AS SHOWN ON THIS DRAWING. ONLY HOSES AND FITTINGS MARKED WITH NUMBERS ON THE SCHEMATIC HAVE CHANGED EXCEPT ITEMS 1, 3, AND 10, WHICH ARE SHOWN FOR REFERENCE ONLY.

99904255 PARTS LIST			
ITEM	PART #	DESCRIPTION	QUANTITY
1.	51720117	VALVE-SOLENOID DUMP	1REF
2.	72053758	ELBOW-MSTR/90/MJIC 4 4	1REF
3.	72534474	ELBOW-MBSPP/90/MJIC 4 4	1
4.	72534479	ELBOW-MJIC/MBSPT 4-2	2
5.	72532981	TEE-SWIVEL NUT RUN JIC 4	2
6.	51393999	HOSE-FF .25 X 18 (4-4) 100R2	1
7.	72532359	ADPTR-MSTR/MJIC 10 8	2
8.	51397081	HOSE-FZ .50 X 31.50 OAL (8-8) 100R17	1
9.	51397082	HOSE-FJ .50 X 31.00 OAL (8-8) 100R17	1
10.	72532351	ADPTR-MSTR/MJIC 4 4	1REF
11.	51395879	HOSE-FF .25 X 37 (4-4) 100R17	1
12.	51704626	HOSE-FF .25 X 40 (4-4) 100R2	1
13.	72063053	WASHER .50 LOCK ZINC	4
14.	72060928	CAP SCR .50-13 X 2.25 HH GR5Z	4
15.	71570825	WINCH-PLANETARY 6000 # (PART OF #19)	1
16.	71570844	WINCH-PLANETARY 4300 LINE PULL (PART OF #20)	1
17.	51720111	VALVE BANK ASSEMBLY (EXISTING)	1REF
18.	91271106	KIT-HOSE 3820/6025 REPLACEMENT (PART OF #19 AND #20) (INCL. 3-9, 11-14)	1REF
19.	91721099	6025 FAMILY WINCH REPLACEMENT KIT	1REF
20.	91721105	3820 FAMILY WINCH REPLACEMENT KIT	1REF
REV. C 20070910			

Winch Replacement Kit (73734193-4 Valve Cranes) (Dwg. 99904255)

Use with 73734193 or 73734194 valve banks only.

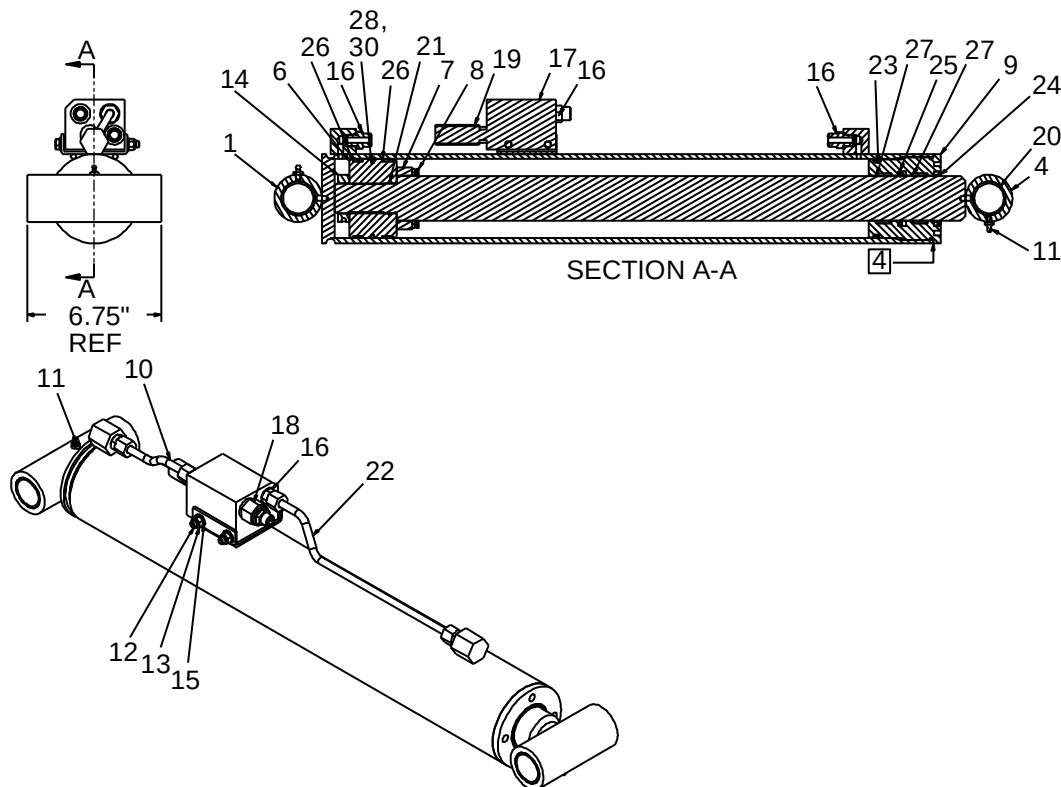


NOTES:

- 1 Remove studs in boom. Mount winch with items 11 and 12 using serviceable locktite.
- 2 Install all hoses and fittings as shown on this drawings. Only those with numbers have changed, except items 1 through 4, which are shown for reference only.

99904255-2 PARTS LIST			
ITEM	PART #	DESCRIPTION	QUANTITY
1.	73734193	VALVEBANK, MODIFIED INLET (PLANETARY WINCH)	REF
2.	73734194	VALVEBANK, MODIFIED INLET (WORM WINCH)	REF
3.	71570825	WINCH-PLANETARY 6000 LB LINE PULL	REF
4.	71570844	WINCH-PLANETARY 4300 LINE PULL	REF
5.	72534479	ELBOW-MJIC/MBSPT 4-2	2
6.	72532981	TEE-SWIVEL NUT RUN JIC 4	1
7.	51393999	HOSE-FF .25 X 18 (4-4) 100R2	1
8.	72534474	ELBOW-MBSPP/90/MJIC 4 4	1
9.	51704626	HOSE-FF .25 X 40 (4-4) 100R2	1
10.	72053758	ELBOW-MSTR/90/MJIC 4 4	1
11.	72063053	WASHER .50 LOCK ZINC	4
12.	72060928	CAP SCR .50-13 X 2.25 HHGR5Z	4
REV. C 20070910			

Cylinder, Lower, 3820 (51720921) (Eff. 5-17-07)



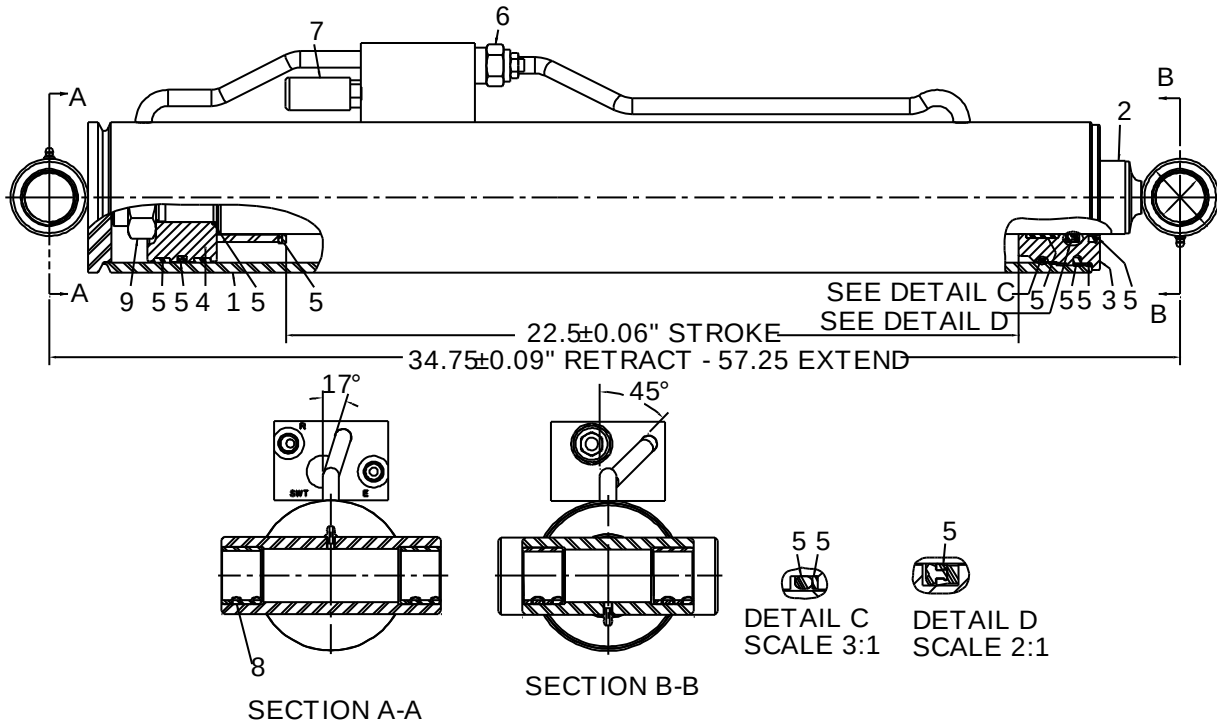
51720921 CYLINDER DATA	
EXTENDED	12.57 IN ² , 1.18 GAL
RETRACTED	8.59 IN ² , 0.80 GAL
CASE	ø4.5 X 4.08 X 30.31" LONG
ROD	ø2.25" X 32.94" LONG (1.50 S)
DRY WEIGHT	99 LB
TEST PRESSURE	3600 PSI
OPERATING PRESSURE	2350 PSI

NOTES (IF TIED TO DRAWING, SEE REFERENCE NUMBER IN •):

- 1 REPLACE ALL COMPONENTS OF THE SEAL KIT WHENEVER THE CYLINDER IS DISASSEMBLED. THIS WILL REDUCE FUTURE DOWNTIME.
- 2 APPLY "NEVER-SEEZ" REGULAR GRADE ANTI-SEIZE AND LUBRICATING COMPOUND TO THREADS ON THE CYLINDER HEAD ONLY. KEEP AWAY FROM SEALS.
- 3 APPLY "LUBRIPLATE" NO. 630-2 MEDIUM HEAVY, MULTI-PURPOSE LUBRICANT TO ALL PISTON, HEAD GLANDS, AND HOLDING VALVE SEALS, NYLON LOCK RING, CAST IRON PISTON RINGS, AND ROD STINGER THREADS.
- 4 DRILL #15 HOLE, 3/16" DEEP. PRESS IN PIN # 60125699.
- 5 ITEM #8, STOP TUBE, REPLACES 6A025022 WAFER LOCK. USE STOP TUBE INSTEAD OF WAFER LOCK WHEN RESEALING CYLINDER.
- 6 TORQUE PISTON TO 710-740 FT-LB, HEAD TO 400 FT-LB, CARTRIDGE TO 40-FT-LB; AND CAP SCREW TO 16 FT-LB.

51720921 PARTS LIST			
ITEM	PART #	DESCRIPTION	QUANTITY
1.	52720923	CASE ASSEMBLY (INCL 11,20)	1
2.	51720921A	CYLINDER (INCL 1,3,4,6,7,9,14)	1
3.	51744131	SEAL KIT (INCL 6,8,21,23-28)	1
4.	52720922	ROD ASM (INCL 11,20)	1
5.	60125699	PIN - LOCK TUBE	1
6.	60125918	PISTON	1
7.	60125920	STOP TUBE	1
8.	60138275	STOP TUBE (WAS 6A025022)	1
9.	6HD40022	HEAD	1
10.	71412660	TUBE ASM	1
11.	72053507	ZERK - STR THD .25-28	2
12.	72060037	CAP SCR .31-18X 4.00 HH GR5 Z	2
13.	72062109	NUT .31-18 HEX NYLOCK	2
14.	72062305	COLLAR-LOCK 1-1/2-12 X 2.375 X .563	1
15.	72063002	WASHER .31 FLAT	4
16.	72533186	ADPTR-M FACE/M STR 6 6	4
17.	73540035	VALVE-CBAL 1.75:1 NV (INCL 18,19)	1
18.	73540052	VALVE-CBAL	1
19.	77041561	PRESSURE SWITCH	1
20.	7BF81215	BUSHING - STL 1.50 PIN X 1.25 LG	6
21.	7Q072128	O RING 1.487X 1.693X 0.103 70	1
22.	71412665	TUBE ASM	1
23.	7Q10P342	BACK-UP RING 3.62 BORE 4 O.D. 0.07 THK	1
24.	7R14P022	ROD WIPER-TYPE D 2.25 ROD	1
25.	7R546022	U-CUP LOADED 2.25X2.75X.38 "B	1
26.	7T2N4040	WEAR RING - PISTON 4.00 O.D. X .50 W	2
27.	7T2NX625	WEAR RING-ROD 2.25 IDX0.75	2
28.	7T66P040	PISTON SEAL DYNAMIC 4.00"	1
29.	7Q072342	O-RING - 3.62 X 4 0.19 70	1
30.	7Q072153	O-RING - 3.5 X 3.69 X .097	1
REV D 20120404			

Cylinder, Lower, 3820 (71411871) (Thru 5-17-07)



NOTES:

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

CYLINDER DATA	
EXTENDED	12.57 IN ² , 1.22 GAL
RETRACTED	8.59 IN ² , 0.84 GAL
CASE	4.0 BORE X Ø4.63
ROD	Ø2.25"
DRY WEIGHT	96.4 LB
TEST PRESSURE	3500 PSI
OPERATING PRESSURE	3000 PSI
PORTS	SAE #6 O-RING BOSS (9/16-18 UNF-2B)
CYLINDER TUBE BURST PRESSURE	12,254 PSI
TORQUES	TORQUE ITEM #9, LOCKNUT, WITH THREADLOCK COMPOUND TO 1325-1450 FT-LB. USE LOCKTITE 271 OR EQUIVALENT.
	TORQUE ITEM #3, HEAD GLAND, TO 300-400 FT-LB.
	TORQUE ITEM #6, COUNTERBALANCE VALVE, TO 40-45 FT-LB.
	TORQUE ITEM #7, PRESSURE SWITCH, TO 17-20 FT-LB.

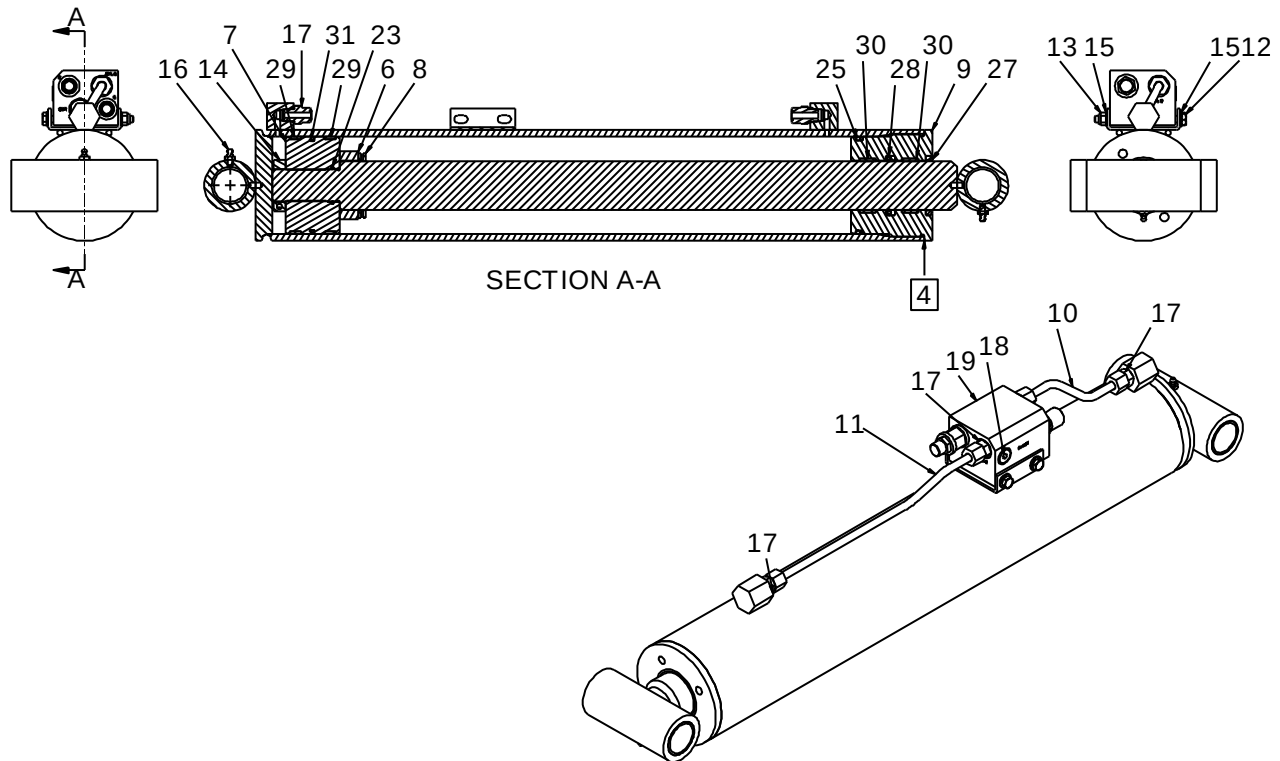
71411871 PARTS LIST

ITEM	PART #	DESCRIPTION	QUANTITY
1.	71412013	CASE-WLDMT LIFT CYL	1
2.	71412014	ROD-WLDMT LIFT CYL	1

71411871 PARTS LIST			
ITEM	PART #	DESCRIPTION	QUANTITY
3.	71411939	HEAD GLAND - LIFT CYL	1
4.	71411940	PISTON - LIFT CYL	1
5.	94396833	SEAL KIT - LIFT CYL	1
6.	73540052	VALVE - COUNTERBALANCE	1
7.	77041561	SWITCH - PRESSURE	1
8.	71411947	BUSHING - SPRING 1.50 PIN X 1.25 LG	4
9.	-REF-	LOCKNUT, 1.50-12 UNF	1

NEW 20051208

Cylinder, Lower, 5020 (51720916) (Eff. 4-3-07)



51720916 CYLINDER DATA	
EXTENDED	16.05 IN ² , 1.56 GAL
RETRACTED	12.07 IN ² , 1.18 GAL
CASE	4.5 X 5.12 X 30.11"
ROD	2.23" X 32.68" LONG (1.50 S)
DRY WEIGHT	122 LB
TEST PRESSURE	3600 PSI
OPERATING PRESSURE	3000 PSI

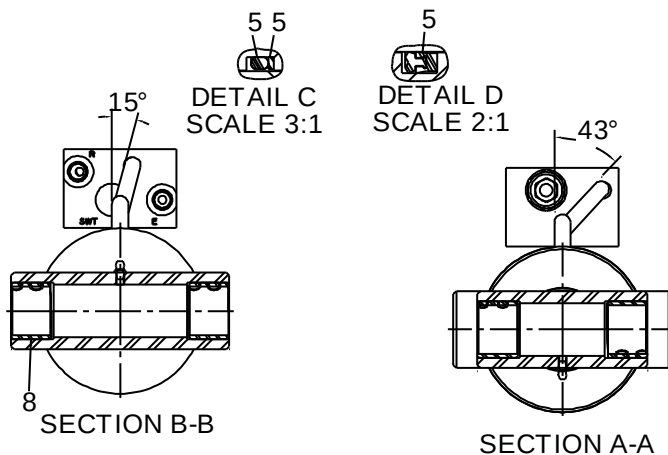
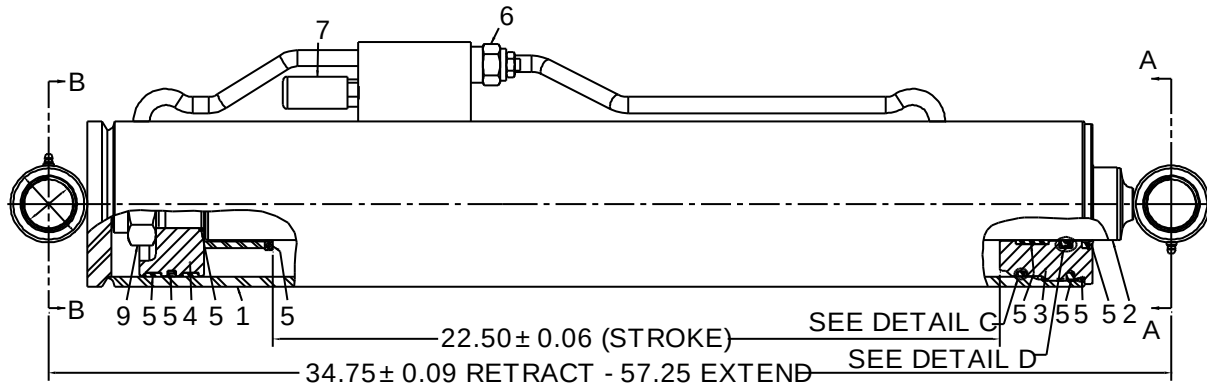
NOTES (IF TIED TO DRAWING, SEE REFERENCE NUMBER IN •):

- 1 REPLACE ALL COMPONENTS OF THE SEAL KIT WHENEVER THE CYLINDER IS DISASSEMBLED. THIS WILL REDUCE FUTURE DOWNTIME.
- 2 APPLY "NEVER-SEEZ" REGULAR GRADE ANTI-SEIZE AND LUBRICATING COMPOUND TO THREADS ON THE CYLINDER HEAD ONLY. KEEP AWAY FROM SEALS.
- 3 APPLY "LUBRIPLATE" NO. 630-2 MEDIUM HEAVY, MULTI-PURPOSE LUBRICANT TO ALL PISTON, HEAD GLANDS, AND HOLDING VALVE SEALS, NYLON LOCK RING, CAST IRON PISTON RINGS, AND ROD STINGER THREADS.
- 4 DRILL #15 HOLE, 3/16" DEEP. PRESS IN PIN # 60125699.

51720916 PARTS LIST			
ITEM	PART #	DESCRIPTION	QUANTITY
1.	52720915	CASE ASSEMBLY-4.50 BORE X 32.06	1
2.	51720916A	CYLINDER ASSEMBLY (INCL 1,3,4,6,7,9,14,16,22)	1
3.	51744132	SEAL KIT (INCL 5,8,23-31)	1

51720916 PARTS LIST			
ITEM	PART #	DESCRIPTION	QUANTITY
4.	52718385	ROD ASM-2.25 DIA X 32.81 LG 1.44 S 1.50 (INCL 16, 22)	1
5.	60125699	PIN-LOCK TUBE 0.19 OD X 0.065 WALL	1
6.	60125922	STOP TUBE - 2.25 ROD X .75 LONG	1
7.	60125926	PISTON- 4.50 BORE X 1.50 STGR	1
8.	6A025022	WAFER LOCK- IMT 2.25	1
9.	6HD45022	HEAD - 4.50 BORE X 2.25 ROD	1
10.	71412660	TUBE ASM-2015 LOWER CYL FACE	1
11.	71412661	TUBE ASM-5020 LOWER CYL FACE	1
12.	72060037	CAP SCR .31-18X 4.00 HH GR5 Z	2
13.	72062109	NUT .31-18 HEX NYLOCK	2
14.	72062305	COLLAR-LOCK 1-1/2-12 X 2.375 X .563	1
15.	72063002	WASHER .31 FLAT	4
16.	72503507	ZERK-STR THD .25-28	1
17.	72533186	ADPTR-M FACE/M STR 6 6	4
18.	72533603	PLUG-STR HOL HEX STL .56	1
19.	73540035	VALVE-CBAL	1
20.	73540052	VALVE-CBAL	1
21.	77041561	PRESSURE SWITCH	1
22.	7BF81215	BUSHING-STL 1.50 PIN X 1.25 LG	1
23.	7Q072128	O RING 1.487X 1.693X 0.103 70	1
24.	7Q072155	O RING 4.00X 4.19X .09 70	1
25.	7Q072346	O RING 4.12X 4.50X .19 70	1
26.	7Q10P346	BACKUP RING-4.12 ID X 4.50 OD	1
27.	7R14P022	ROD WIPER-TYPE D 2.25 ROD	1
28.	7R546022	U-CUP LOADED 2.25X2.75X.38 "B	1
29.	7T2N4045	WEAR RING - PISTON 4.50 O.D. X .50 W	2
30.	7T2NX625	WEAR RING-ROD 2.25 IDX0.75	2
31.	7T66P045	PISTON SEAL-DYNAMIC 4.50"	1
NEW 20070410			

Cylinder, Lower, 5020 (71412008) (Thru 4-3-07)



NOTES:

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

CYLINDER DATA	
EXTENDED	15.90 IN ² , 1.55 GAL
RETRACTED	11.93 IN ² , 1.16 GAL
CASE	4.5 BORE X Ø5.13
ROD	Ø2.25"
DRY WEIGHT	96.0 LB
TEST PRESSURE	3500 PSI
OPERATING PRESSURE	3000 PSI
PORTS	SAE #6 O-RING BOSS (9/16-18 UNF-2B)
CYLINDER TUBE BURST PRESSURE	11,074 PSI
TORQUES	TORQUE ITEM #9, LOCKNUT, WITH THREADLOCK COMPOUND TO 1600-1800 FT-LB. USE LOCKTITE 271 OR EQUIVALENT.
	TORQUE ITEM #3, HEAD GLAND, TO 300-400 FT-LB.
	TORQUE ITEM #6, COUNTERBALANCE VALVE, TO 40-45 FT-LB.
	TORQUE ITEM #7, PRESSURE SWITCH, TO 17-20 FT-LB.

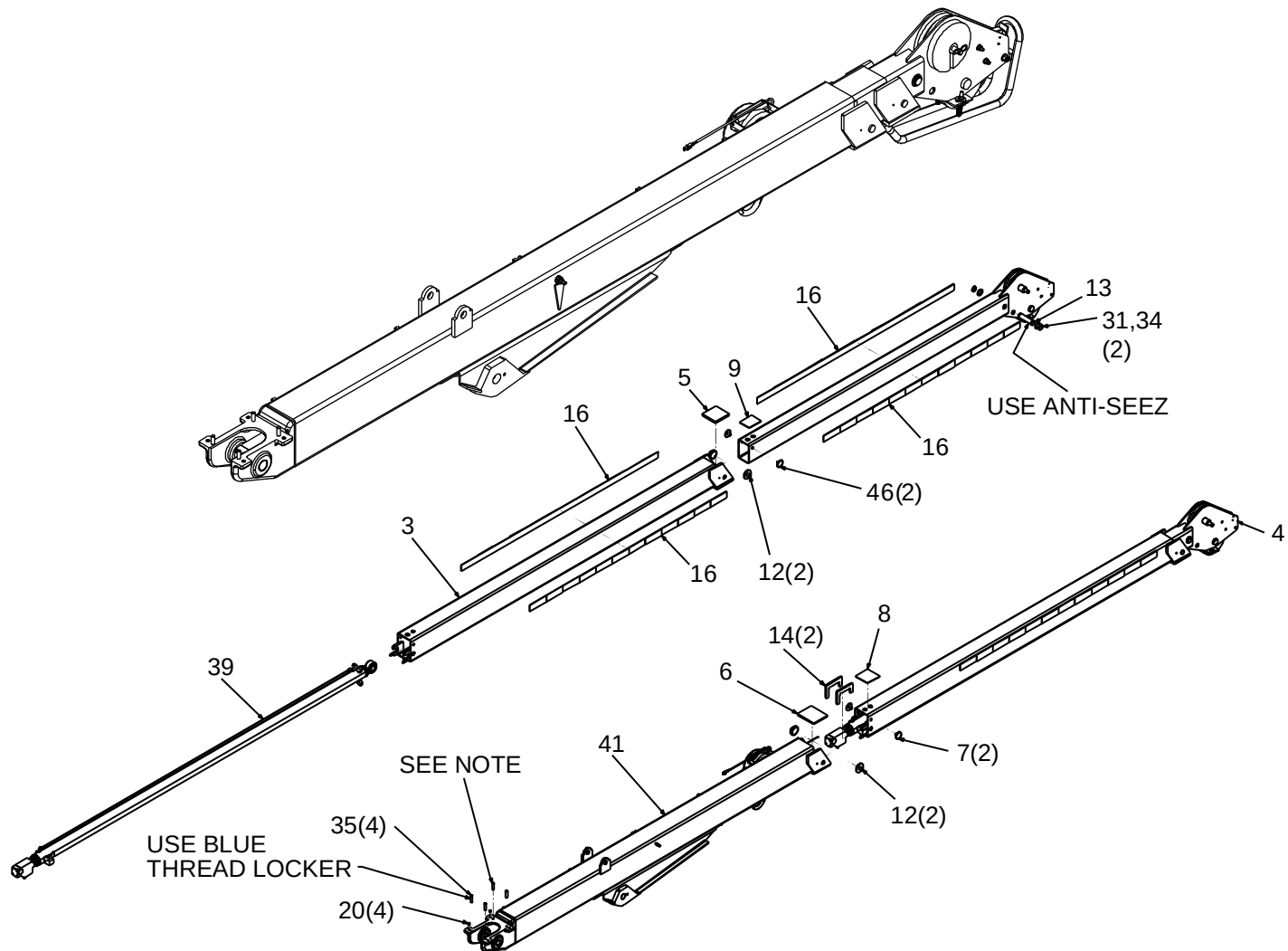
71412008 PARTS LIST			
ITEM	PART #	DESCRIPTION	QUANTITY
1.	71412019	CASE-WLDMT LIFT CYL	1
2.	71411950	ROD-WLDMT LIFT CYL	1
3.	71411951	HEAD GLAND - LIFT CYL	1
4.	71411952	PISTON - LIFT CYL	1
5.	94396797	SEAL KIT - LIFT CYL	1
6.	73540052	VALVE - COUNTERBALANCE	1
7.	77041561	SWITCH - PRESSURE	1
8.	71411947	BUSHING - SPRING 1.50 PIN X 1.25 LG	4
9.	-REF-	1.50-12 UNF LOCKNUT	1

NEW 20060102

Boom Assemblies & Cylinders

Boom & Winch Assembly (99904008) (Eff. 8-1-06)

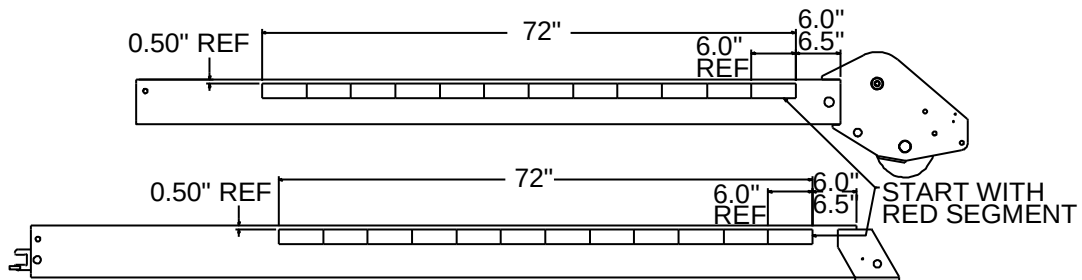
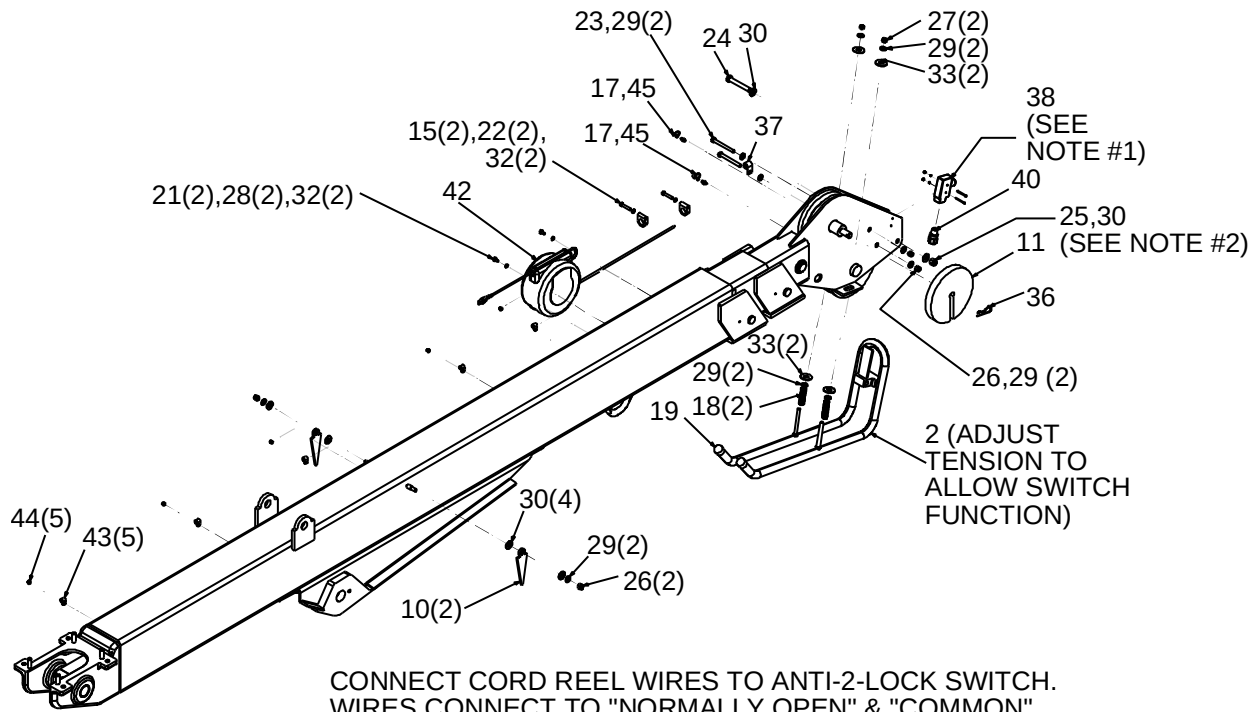
Boom & Winch Assembly 99904008 uses Cord Reel Assembly 51720302.



NOTES:

- 1 INSTALL STUDS IN APPROPRIATE HOLES; OUTSIDE HOLES FOR 71057781 WINCH, INSIDE HOLES FOR 52719749 WINCH MOUNT WELDMENT.

99904008 DRAWING



NOTES:

- 1 MOUNTING HARDWARE IS INCLUDED WITH THE SWITCH. USE O-RINGS, SCREWS, AND #6 NYLOCK HEX NUTS.
- 2 DO NOT OVER-TIGHTEN NUT - ANTI-TUBE BLOCK MUST BE FREE TO PIVOT.
- 3 APPLY BOOM LENGTH INDICATOR TAPE ON BOTH SIDES OF BOOM AND EXTENSION.

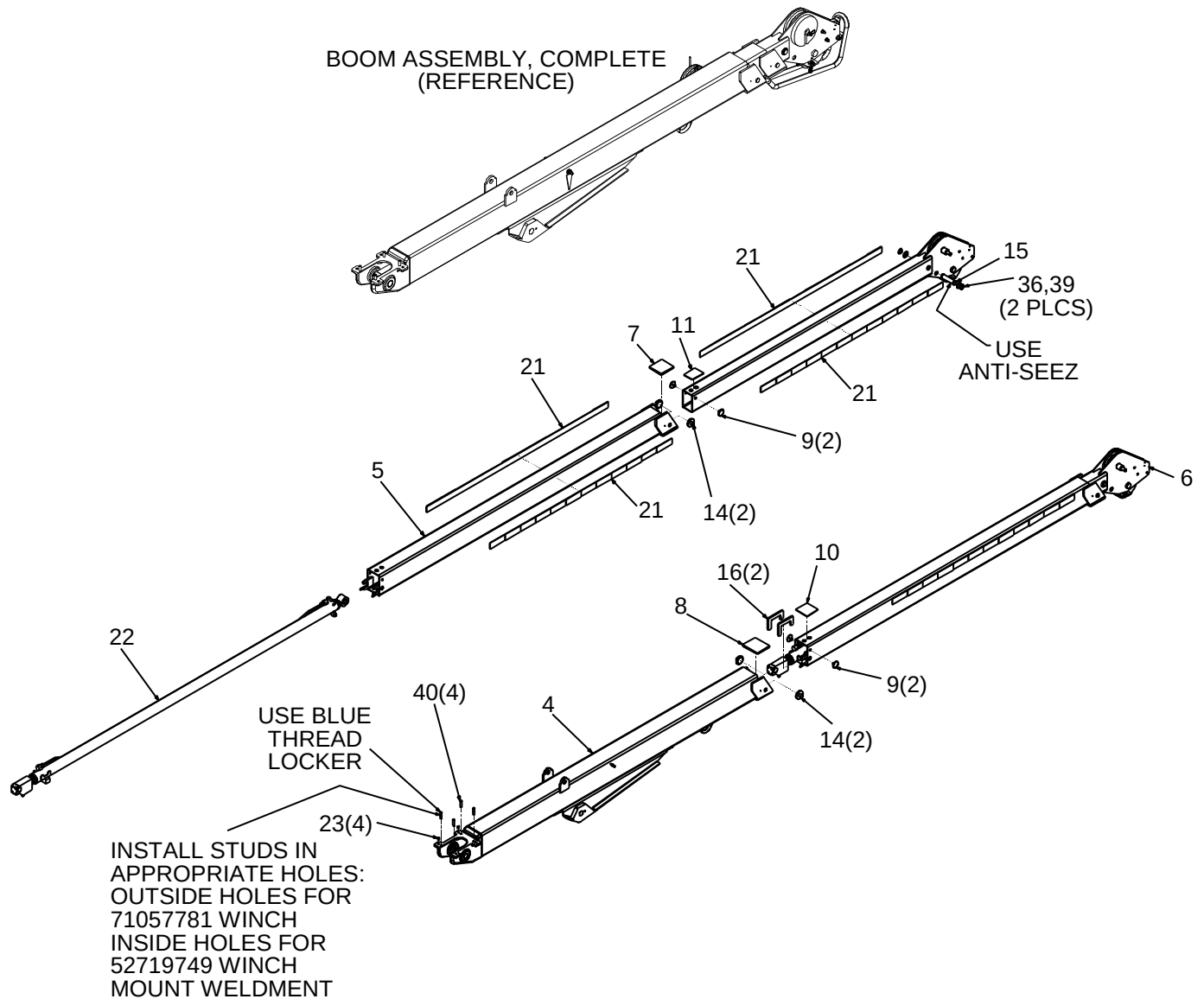
99904008 PARTS LIST

ITEM	PART #	DESCRIPTION	QUANTITY
1.	51719591	HARDWARE KIT, BOOM ASSEMBLY (INCL 15,17-37,44-46)	1
2.	52725232	TUBE WELDMENT- ANTI TWO BLOCK	1
3.	52719119	BOOM-1st STAGE EXT WLDMT	1
4.	52719120	BOOM-2nd STAGE EXT WLDMT	1
5.	60030330	WEAR PAD-RC 0.50 X 4.88 X 5.00	1

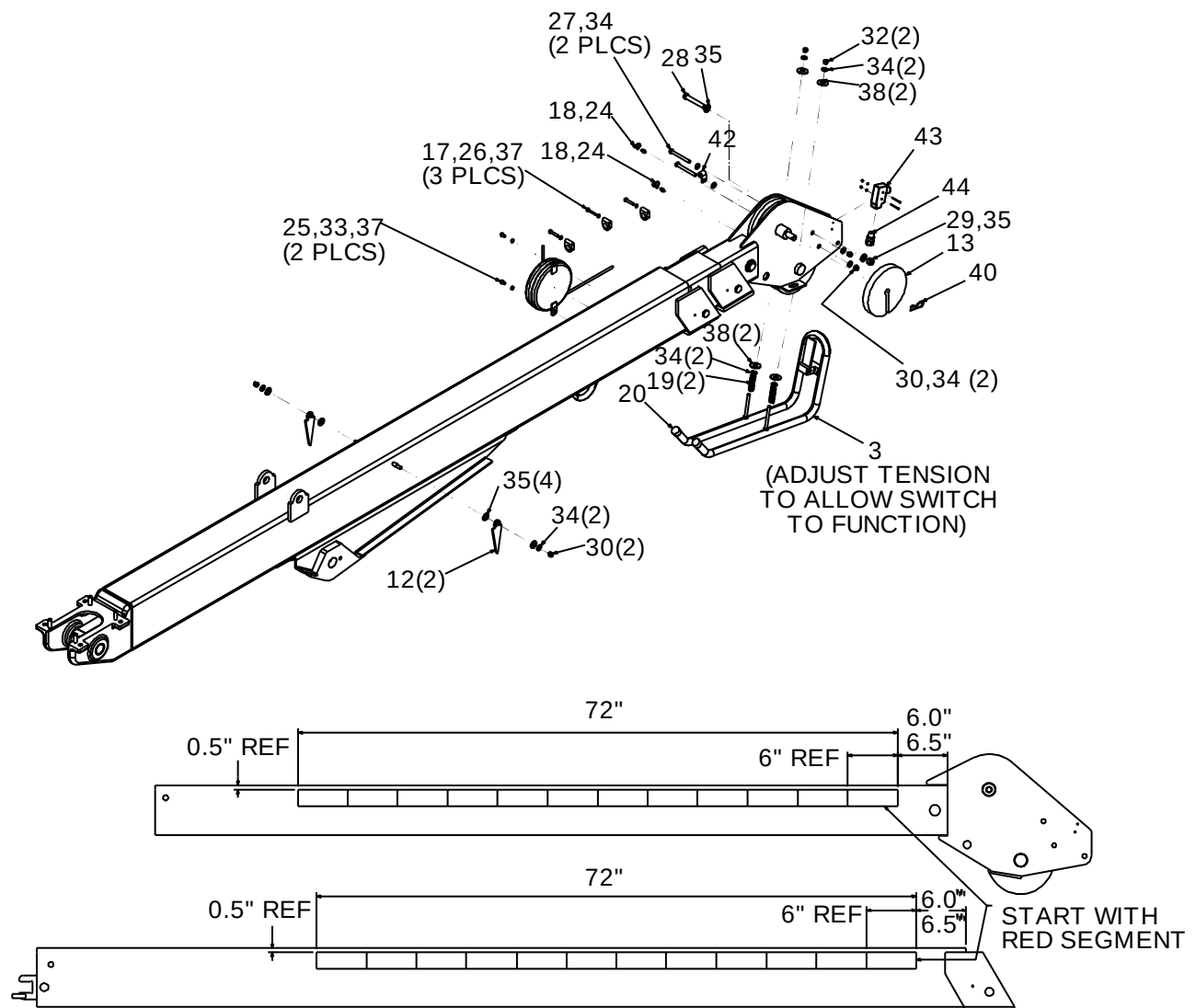
99904008 PARTS LIST			
ITEM	PART #	DESCRIPTION	QUANTITY
6.	60030331	WEAR PAD-RC 0.50 X 4.938 X 5.88	1
7.	60030339	WEAR PAD-RND 2.00 DIA X .60 DIA X 1.0 L (WAS QTY 4)	2
8.	60030340	WEAR PAD-BLOCK 4.50 X 4.50 X .44	1
9.	60030341	WEAR PAD-BLOCK 4.50 X 3.50 X .44	1
10.	60105544	PLATE-ANGLE PLASTIC	2
11.	60122263	PLATE-SINGLE SHEAVE	1
12.	60122985	WEAR PAD-RND	4
13.	60123971	PIN-TYPE A 1.25X 4.91 (4.32)	1
14.	60127979	PLATE-EXT CYL C-CLIP	2
15.	70034381	SUPPORT	2
16.	70396734	DECAL-BOOM LENGTH INDICATOR	4
17.	70034382	CAP-GREASE	2
18.	70146096	SPRING 0.62 X 2.50 X 14 GA.	2
19.	70396121	CAP-PLSTC 1.00 TUBE OD X 0.68 HGT BLACK	2
20.	72034479	PLUG-PLSTC .50-13X .50UNC-2B	4
21.	72060000	CAP SCR .25-20X .50 HH GR5 Z	2
22.	72060006	CAP SCR .25-20X 1.50 HH GR5 Z	2
23.	72060055	CAP SCR .38-16X 3.50 HH GR5 Z	2
24.	72060098	CAP SCR .50-13X 3.50 HH GR5 Z	1
25.	72062080	NUT .50-13 HEX NYLOCK	1
26.	72062103	NUT .38-16 HEX NYLOCK	4
27.	72062179	NUT .38-16 HEX CENTER LOCKING	2
28.	72063001	WASHER .25 FLAT	2
29.	72063003	WASHER .38 FLAT	10
30.	72063005	WASHER .50 FLAT	6
31.	72063035	MACHY BUSHING 1.25X10 GA NR	2
32.	72063049	WASHER .25 LOCK	4
33.	72063117	WASHER .56 FLAT ASTM F436	4
34.	72066129	RETAINING RING-EXT 1.25 HD	2
35.	72601757	STUD .30-13X 2.00 NC GR5 STL	4
36.	72066145	HAIR PIN .19 ZINC	1
37.	72661312	CLAMP- .50 LOOP CUSHIONED	1
38.	77041459	SWITCH-LIMIT	1
39.	51720936	CYLINDER (WAS 71411883 THRU 4-07)	1
40.	77441096	CONNECTOR- .50 STR RLF .25-.38	1
41.	52720320	BOOM-LOWER WLDMT ASM	1
42.	51720302	CORD REEL ASM- 10'	1
43.	72034485	CLAMP-PLASTIC 1/4" CABLE	5
44.	72062106	NUT 10-24 HEX NYLOCK	5
45.	72053508	ZERK-NPT .12	2
46.	60030369	WEAR PAD-RND 2.00 DIA X .60 DIA X 0.75 L	2
REV. D 20070516			

Boom & Winch Assembly (99903683) (Through 8-1-06)

Boom & Winch Assembly 99903683 uses Cord Reel Assembly 51713168.



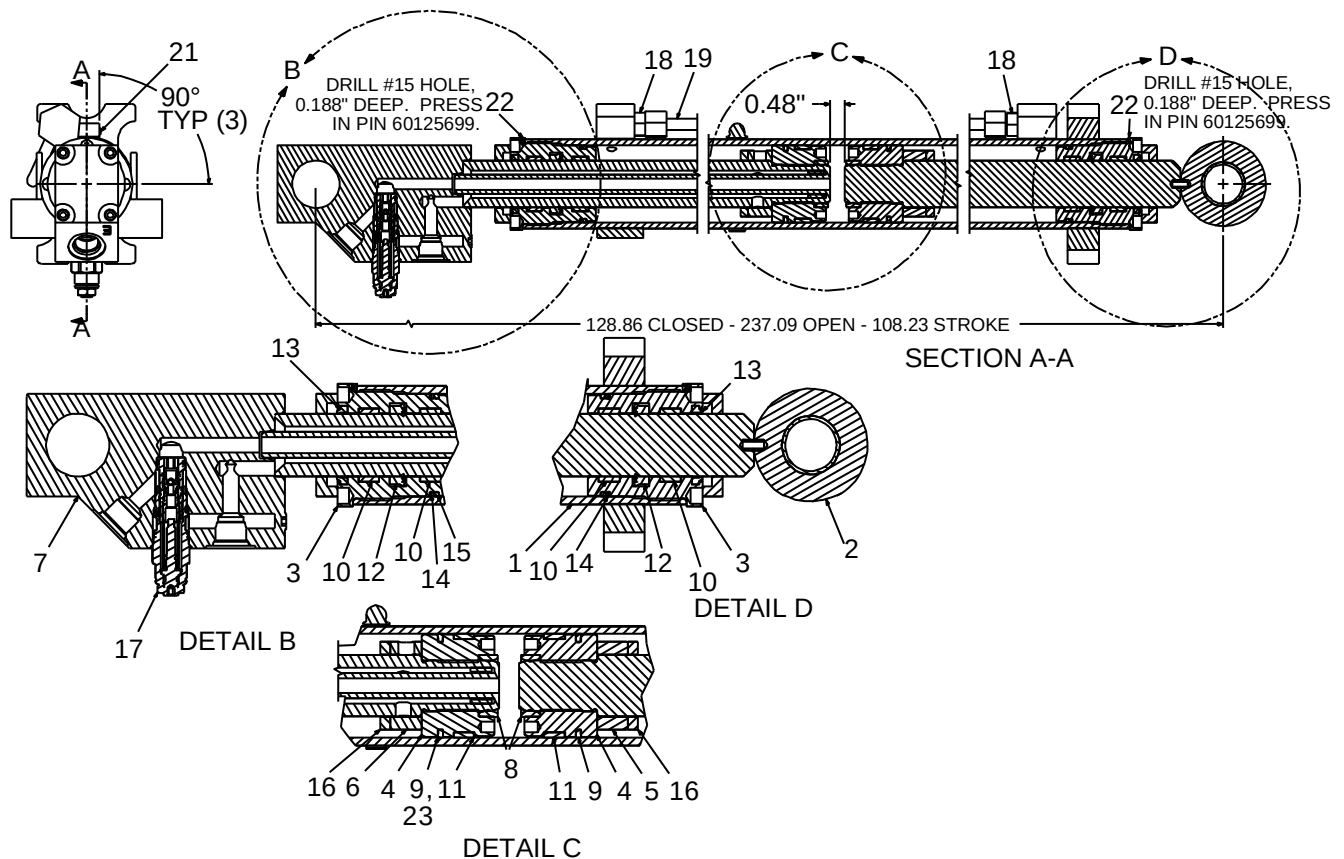
99903683 DRAWING

**NOTES:**

- 1 CONNECT CORD REEL WIRES TO ANTI-TWO-LOCK SWITCH. WIRES CONNECT TO "NORMALLY OPEN" AND "COMMON".
- 2 DO NOT OVERTIGHTEN ANTI-TUBE LOCK. MUST BE FREE TO PIVOT.
- 3 MOUNTING HARDWARE INCLUDED WITH SWITCH. (USE O-RINGS, SCREWS, #6 NYLOCK HEX NUTS.)
- 4 ITEM 18, 70396734, IS A BOOM LENGTH INDICATOR DECAL. EACH RED SEGMENT AND EACH WHITE SEGMENT IS 6-INCHES LONG, SO A RED AND WHITE PAIR OF SEGMENTS IS 1-FOOT LONG. BY COUNTING THE NUMBER OF RED AND WHITE PAIRS, THE OPERATOR CAN DETERMINE HOW FAR THE BOOM IS EXTENDED, AND THUS, THE CAPACITY AT THAT PARTICULAR REACH.

99903683 PARTS LIST			
ITEM	PART #	DESCRIPTION	QUANTITY
1.	51713168	CORD REEL ASSEMBLY	1
2.	51719591	KIT-HARDWARE BOOM ASSEMBLY (INCL. 19-41)	1
3.	52725232	TUBE WELDMENT- ANTI TWO BLOCK	1
4.	52719118	BOOM-LOWER WLDMT ASM	1
5.	52719119	BOOM-1st STAGE EXT WLDMT	1
6.	52719120	BOOM-2nd STAGE EXT WLDMT	1
7.	60030330	WEAR PAD-RC 0.50 X 4.88 X 5.00	1
8.	60030331	WEAR PAD-RC 0.50 X 5.00 X 5.88	1
9.	60030339	WEAR PAD-RND 2.00 DIA X .60 DIA X 1.00 LG	4
10.	60030340	WEAR PAD-BLOCK 4.50 X 4.50 X .44	1
11.	60030341	WEAR PAD-BLOCK 4.50 X 3.50 X .44	1
12.	60105544	PLATE-ANGLE PLASTIC	2
13.	60122263	PLATE-SINGLE SHEAVE	1
14.	60122985	WEAR PAD-RND 6625 BOOMS	4
15.	60123971	PIN-TYPE A 1.25X 4.91 (4.32)	1
16.	60127979	PLATE-EXT CYL C-CLIP	2
17.	70034381	SUPPORT	6
18.	70034382	CAP, GREASE	2
19.	70146096	SPRING	2
20.	70396121	CAP, PLASTIC (effective to 07/18/13)	2
21.	70396734	DECAL-BOOM LENGTH INDICATOR	4
22.	51720936	CYLINDER (WAS 71411883)	1
23.	72034479	PLUG-PLSTC .50-13X .50UNC-2B	4
24.	72053508	ZERK-NPT .12	2
25.	72060000	CAP SCR .25-20X .50 HH GR5 Z	2
26.	72060006	CAP SCR .25-20X 1.50 HH GR5 Z	3
27.	72060055	CAP SCR .38-16X 3.50 HH GR5 Z	2
28.	72060098	CAP SCR .50-13X 3.50 HH GR5 Z	1
29.	72062080	NUT .50-13 HEX NYLOCK	1
30.	72062103	NUT .38-16 HEX NYLOCK	4
31.	72062104	NUT .25-20 HEX NYLOCK	3
32.	72062179	NUT .38-16 HEX CENTER LOCKING	2
33.	72063001	WASHER .25 FLAT	2
34.	72063003	WASHER .38 FLAT	10
35.	72063005	WASHER .50 FLAT	6
36.	72063035	MACHY BUSHING 1.25X10 GA NR	2
37.	72063049	WASHER .25 LOCK	5
38.	72063117	WASHER .56 FLAT ASTM F436	4
39.	72066129	RETAINING RING-EXT 1.25 HD (WAS 72066084)	2
40.	72066145	HAIR PIN .19 ZINC	1
41.	72601757	STUD .50-13X 2.00 UNC GR5 STL	4
42.	72661312	CLAMP- .50 LOOP CUSHIONED	1
43.	77041459	SWITCH-LIMIT ZE-N-2S	1
44.	77044468	CONNECTOR- .50 STR RLF .12-.25	1

Cylinder, Extension (51720936) (Eff. 5-07)



NOTES:

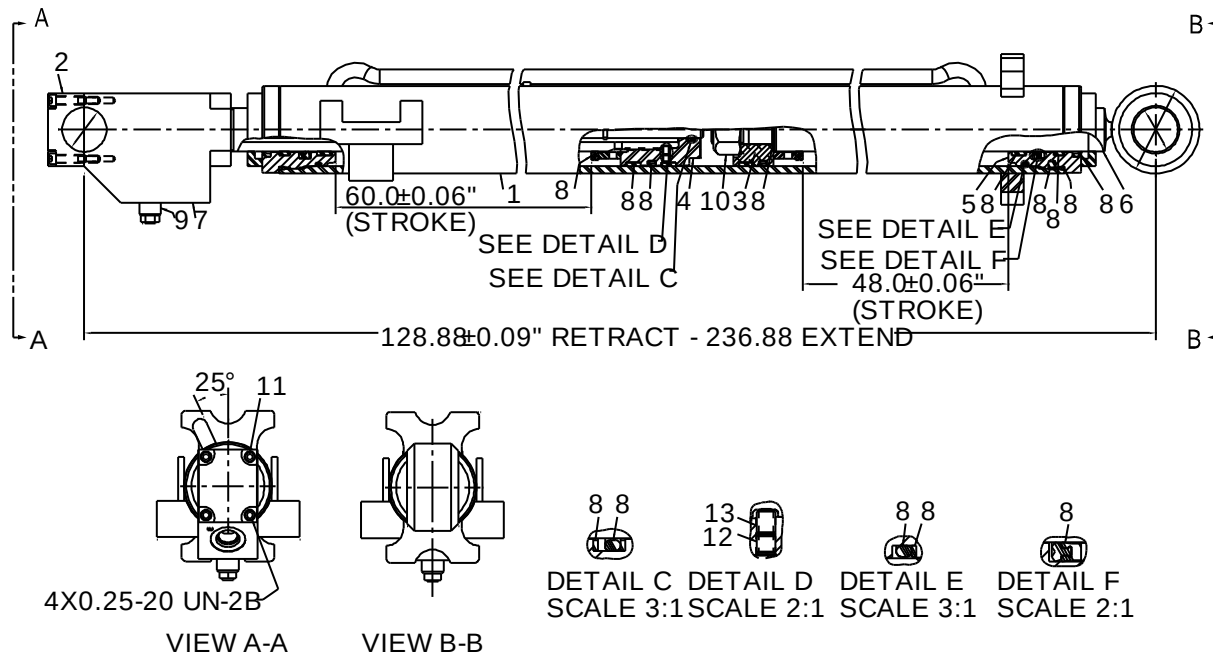
- 1 REPLACE ALL COMPONENTS OF THE SEAL KIT WHENEVER THE CYLINDER IS DISASSEMBLED. THIS WILL REDUCE FUTURE DOWNTIME.
- 2 APPLY REGULAR GRADE ANTI-SEIZE AND LUBRICATING COMPOUND TO THREADS ON CYLINDER HEAD ONLY. KEEP AWAY FROM ALL SEALS.
- 3 APPLY "LUBRIPLATE" NO. 630-2 MEDIUM HEAVY, MULTI-PURPOSE LUBRICANT,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

51720936 PARTS LIST

ITEM	PART #	DESCRIPTION	KIT #	QUANTITY
1.	52720934	CASE ASM-2.50 BORE X 119.21 LONG		1
2.	4G022020	ROD ASM-1.50 DIA X 56.38 LG 1.25 S		1
3.	6HD25015	HEAD-2.50 BORE X 1.50 ROD (DUCTILE IRON)		2
4.	6ID25125	PISTON-2.50 BORE X 1.25 STGR (DUCT IRON)		2
5.	6C075015	STOP TUBE-1.50 ROD X .75 LONG		1
6.	6C022020	STOP TUBE-W/HOLES 1.50 ROD X 0.75 LONG		1
7.	52720935	ROD ASM-1.50 DIA X 72.00 LG 1.25 S		1
8.	7T61N125	LOCK RING-NYLON 1.25	#20	2
9.	7T66P025	PISTON SEAL DYNAMIC 2.50	#20	2
10.	7T2NX417	WEAR RING-ROD 1.50 IDX0.50W	#20	4

51720936 PARTS LIST				
ITEM	PART #	DESCRIPTION	KIT #	QUANTITY
11.	7T2N4025	WEAR RING-PISTON 2.50 ODX .50W	#20	2
12.	7R546015	U-CUP 1.50 ID X 2.00 OD	#20	2
13.	7R14P015	ROD WIPER TYPE D 1.50 ROD	#20	2
14.	7Q10P228	BACKUP RING-2.25 ID X 2.50 OD	#20	2
15.	7Q072228	O RING 2.25X 2.50X .12 70	#20	2
16.	60138272	STOP TUBE 1.75 ROD X .25 LONG	#20	2
17.	73054999	VALVE-CBAL		1
18.	72533186	ADPTR-M FACE/M STR 6 6		2
19.	70146464	TUBE ASM-HYD EXT CYL 3820 2H		1
20.	9D101220	SEAL KIT (INCLUDES ITEMS 8-16, 22)		2
21.	72661286	CLAMP-HOSE 2.56-3.50 SAE #48		3
22.	60125699	PIN-LOCK TUBE	#20	2
23.	7Q072137	O-RING	#20	2
REV E 20120404				

Cylinder, Extension (71411883) (Thru 4-07)



NOTES:

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

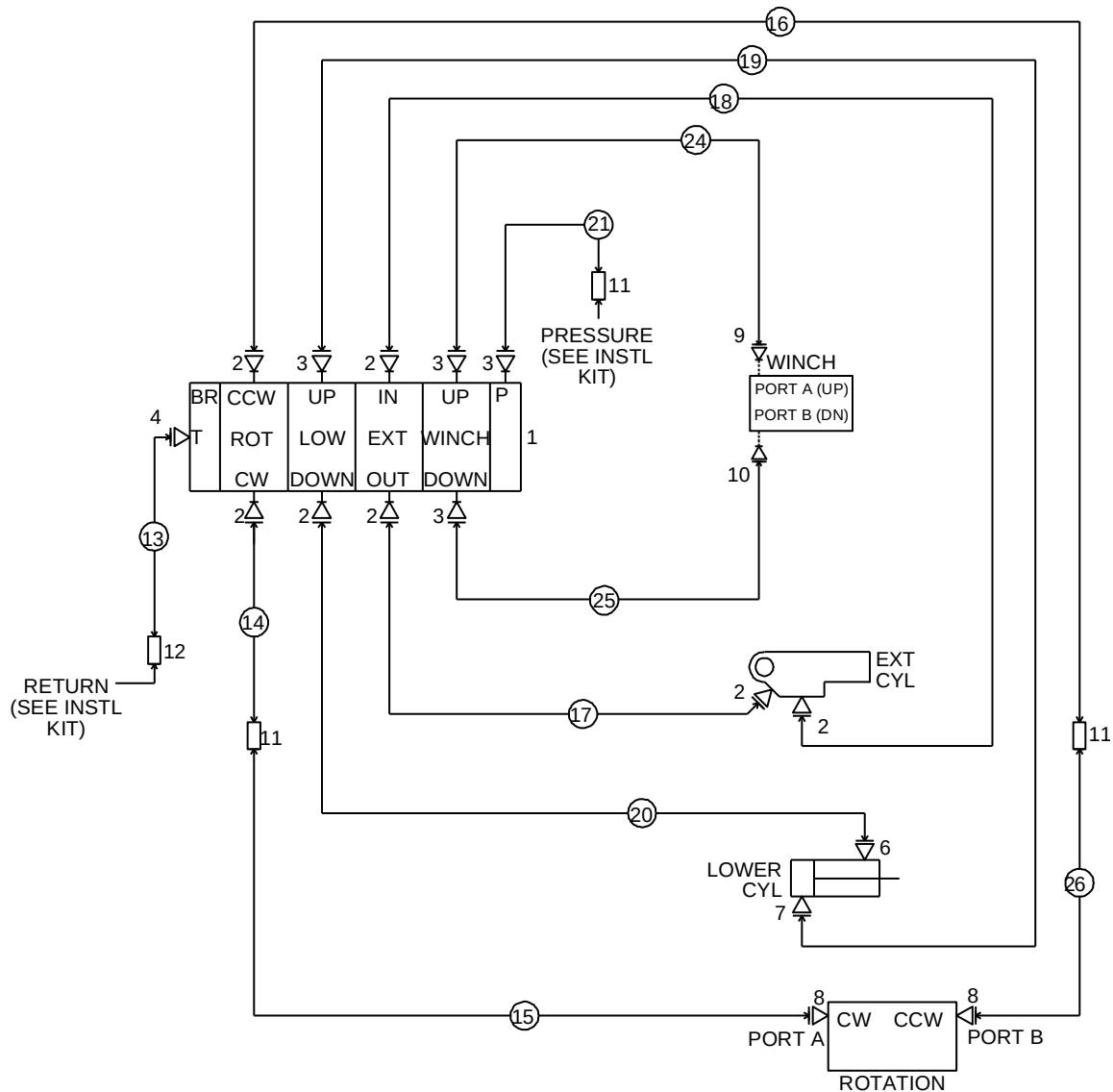
71411883 CYLINDER DATA	
EXTENDED	4.91 IN ² , 2.29 GAL
RETRACTED	3.14 IN ² , 1.47 GAL
CASE	2.50 BORE X ø3.0
ROD	ø1.50
DRY WEIGHT	151.2 LB
TEST PRESSURE	3500 PSI
OPERATING PRESSURE	3000 PSI
PORTS	SAE #8 O-RING BOSS (3/4-16 UNF-2B)
CYLINDER TUBE BURST PRESSURE	14,995 PSI
TORQUES	USING THREADLOCK COMPOUND GRADE 271 OR EQUIVALENT, TORQUE AS INDICATED: ITEM #3, PISTON, TO 450-500 FT-LB ITEM #10, LOCKNUT, TO 260-300 FT-LB ITEM #11, CAP SCREW, TO 6-7 FT-LB ITEMS #12 & #13, SET SCREWS, TO 5-6 FT-LB TORQUE ITEM #5, HEAD GLAND, TO 200-250 FT-LB TORQUE ITEM #9,C-BAL VALVE, TO 30-35 FT-LB

71411883 PARTS LIST			
ITEM	PART #	DESCRIPTION	QUANTITY
1.	71412015	CASE WELDMENT	1
2.	71412016	CAP PIN-EXT CYL	1
3.	71411919	PISTON	1
4.	71411920	PISTON	2
5.	71411918	HEAD GLAND	1

71411883 PARTS LIST			
ITEM	PART #	DESCRIPTION	QUANTITY
6.	71412017	ROD WELDMENT	1
7.	71412018	ROD WELDMENT	1
8.	94396789	SEAL KIT	1
9.	73054999	VALVE - COUNTERBALANCE	1
10.	-REF-	1.00-14 UNS LOCKNUT	1
11.	-REF-	1/4-20 UNC X 1.50 LG CAP SCR SH	4
12.	-REF-	1/4-20 UNC X .25 LG SET SCR.	1
13.	-REF-	1/4-20 UNC X .31 LG SET SCR.	1
NEW 20051208			

Hydraulics

Hydraulic Installation, Worm Winch (99903944)

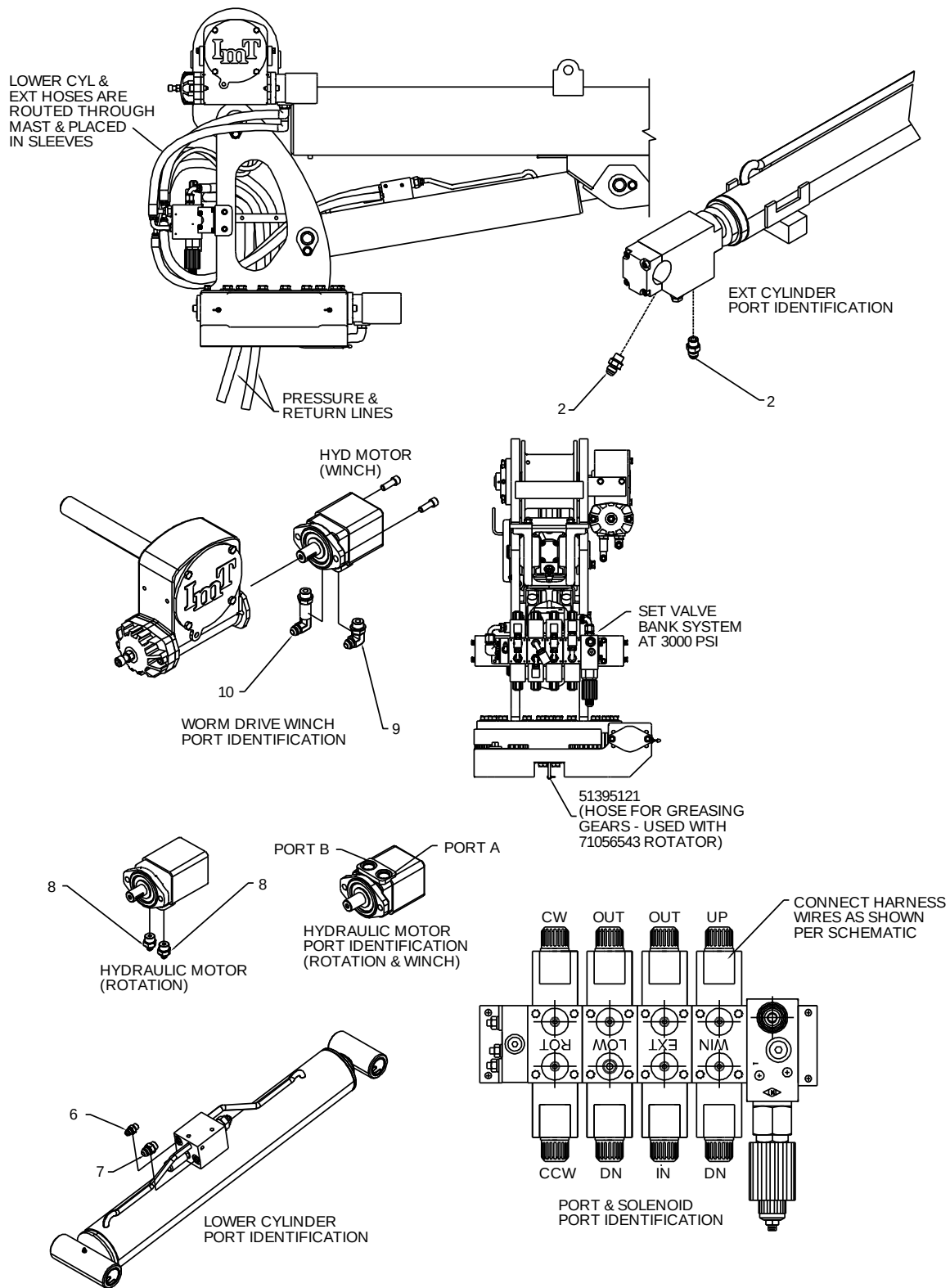


NOTES:

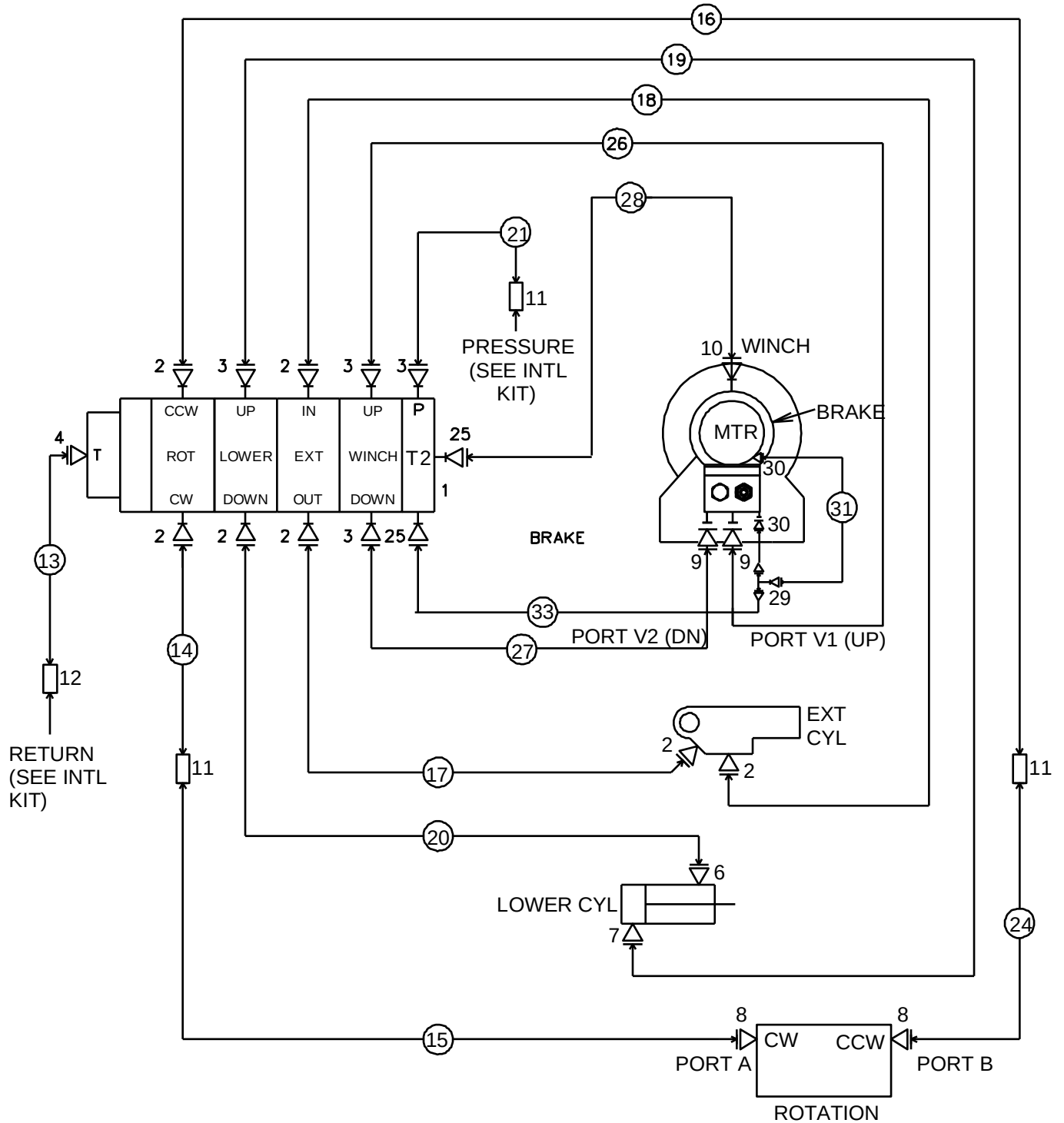
- 1 INSTALL 60350141 ON HOSES (#17 AND 18) AND (#19 AND 20).
- 2 INSTALL 60350142 ON HOSES (#24 AND 25) AND ON HOSES (#13, 14, 16 AND 21).
- 3 ITEM #1, 73734194 VALVEBANK, USED ON CRANES WITH SERIAL NUMBERS OF 3820S2071163 AND BEYOND.

99903944 PARTS LIST				
ITEM	PART #	DESCRIPTION	KIT #	QUANTITY
1.	73734473	VALVE BANK, WORM WINCH (WAS 73734194 FROM FROM S/N 3820S2071163 THROUGH 3820S2091216) (WAS 51720111 THRU 5-4-07)		1
2.	72532356	ADAPTER #8MSTR #6MJIC	#1, #5	7
3.	72532358	ADAPTER #8MSTR #8MJIC	#1	4
4.	72533507	ELBOW #8MSTR #10MJIC 90°	#1	1
5.	91720113	HOSE KIT-WORM WINCH (INCL. 2,6-25)		1
6.	72532355	ADAPTER, #6MSTR #6MJIC	#5	1
7.	72532357	ADAPTER, #6MSTR #8MJIC	#5	1
8.	72533613	ADAPTER, #10MSTR #6MJIC	#5	2
9.	72053764	ELBOW #10MSTR 90° #8MJIC	#5	1
10.	72534435	ELBOW #10MSTR 90° #8MJIC	#5	1
11.	72533648	SWIVEL #8MJIC #8MJIC 90°	#5	3
12.	72534412	SWIVEL #10MJIC #10MJIC 90°	#5	1
13.	51397080	HOSE FJ 0.62 X 30 OAL (10-10) (WAS 51396806)	#5	1
14.	51396807	HOSE FZ 0.38 X 33.5 OAL (8-6)	#5	1
15.	51396808	HOSE FJ 0.38 X 20 OAL (8-6) (WAS 2)	#5	1
16.	51396809	HOSE FJ 0.38 X 42 OAL (8-6)	#5	1
17.	51396810	HOSE JZ 0.38 X 21.5 OAL (6-6)	#5	1
18.	51396811	HOSE JZ 0.38 X 23 OAL (6-6)	#5	1
19.	51396878	HOSE FZ 0.50 X 37 OAL (8-8)	#5	1
20.	51396879	HOSE FJ 0.38 X 39.5 OAL (6-6)	#5	1
21.	51396017	HOSE FJ 0.50 X 30 OAL(8-8) (WAS 51396816)	#5	1
22.	60350141	SLEEVE-HOSE	#5	2
23.	60350142	SLEEVE-HOSE (WAS 1)	#5	2
24.	51396828	HOSE-FJ 1/2X27 (8-8)	#5	1
25.	51396829	HOSE-FZ 1/2X27 (8-8)	#5	1
26.	51397079	HOSE-FJ 3/8 X 24 (8-6)	#5	1
REV C 20100609				

HYDRAULIC INSTALLATION, WORM WINCH (99903944)



Hydraulic Installation, Planetary Winch (99903953)

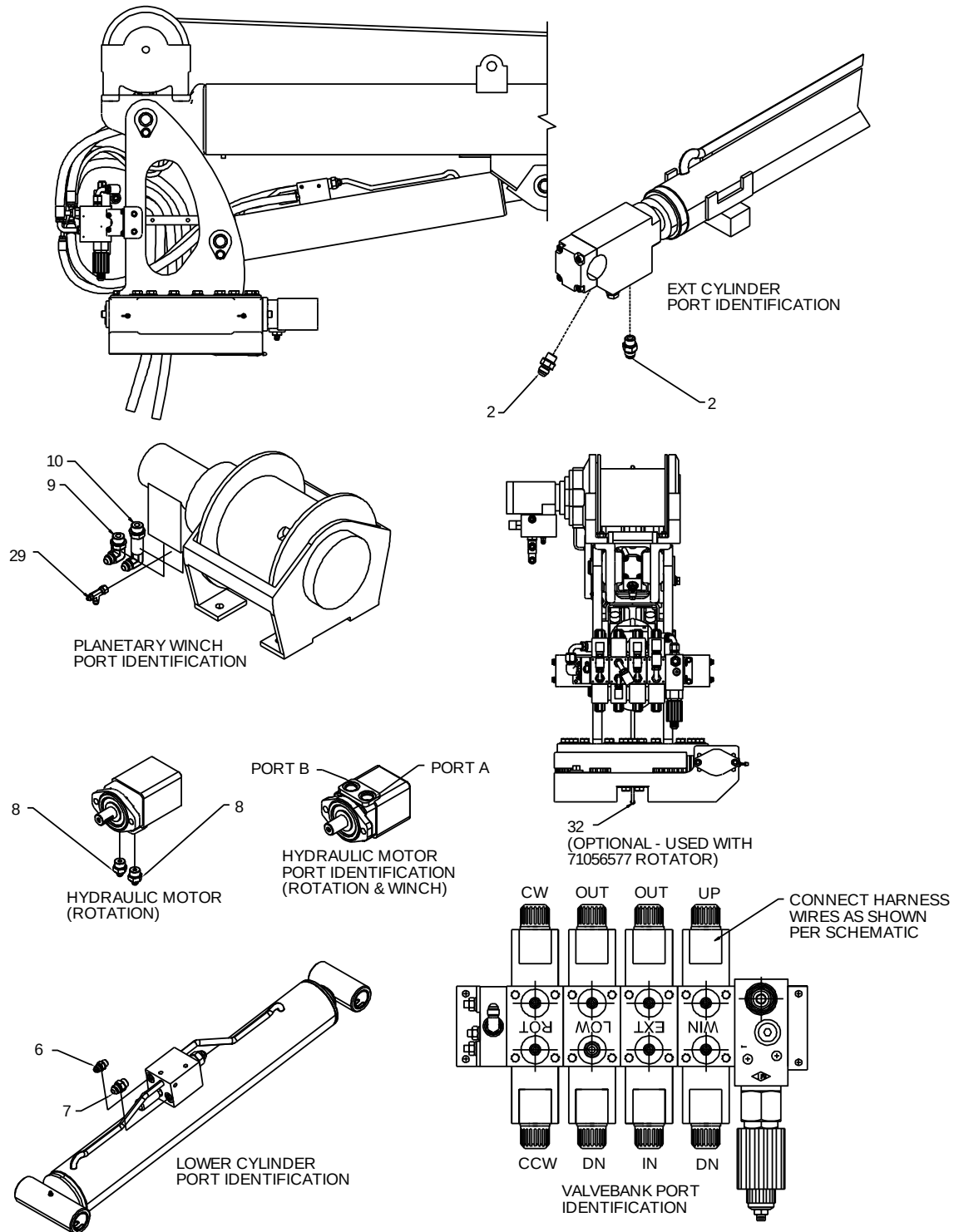


NOTES:

- 1 USE SLEEVE # 60350141 ON HOSES (#17 AND 18) AND (#19 AND 20).
- 2 USE SLEEVE # 60350142 ON HOSES (#27, 28 AND 33) AND (#13, 14, 16 AND 21).
- 3 ITEM #1, 73734194 VALVEBANK, USED ON CRANES WITH SERIAL NUMBERS FROM 3820S2071163 TO 3820S2091215. 73734472 USED ON 3820S2091216, 5020S2091012 AND BEYOND.

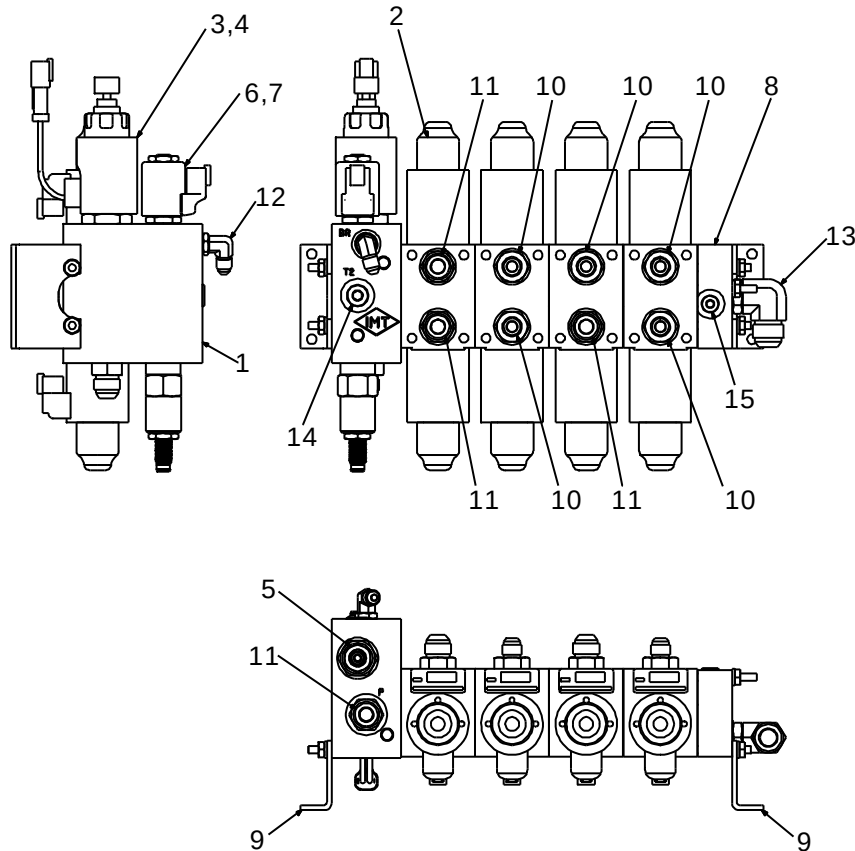
99903953 PARTS LIST				
ITEM	PART #	DESCRIPTION	KIT #	QUANTITY
1.	73734472	VALVE BANK, PLAN WINCH (WAS 73734193 FROM FROM S/N 3820S2071163 THROUGH 3820S2091216) (WAS 51720111 THRU 5-4-07)		1
2.	72532356	ADAPTER #8MSTR #6MJIC	#1, #5	7
3.	72532358	ADAPTER #8MSTR #8MJIC	#1	4
4.	72533507	ELBOW #8MSTR #10MJIC 90°	#1	1
5.	91721090	HOSE KIT (INCL. 6-23) (WAS 91721032)		1
6.	72532355	ADAPTER, #6MSTR #6MJIC	#5	1
7.	72532357	ADAPTER, #6MSTR #8MJIC	#5	1
8.	72533613	ADAPTER, #10MSTR #6MJIC	#5	2
9.	72532359	ADAPTER #10 MSTR #8MJIC (WAS 72053764)	#5	2
10.	72533490	ADAPTER #4MJIC #4MBSPP (WAS 72534474)	#5	1
11.	72533648	SWIVEL #8MJIC #8MJIC 90°	#5	3
12.	72534412	SWIVEL #10MJIC #10MJIC 90°	#5	1
13.	51397080	HOSE FJ 0.62 X 30 OAL (10-10) (WAS 51396806)	#5	1
14.	51396807	HOSE FZ 0.38 X 44.5 OAL (8-6)	#5	1
15.	51396808	HOSE FJ 0.38 X 30 OAL (8-6) (WAS 2)	#5	1
16.	51396809	HOSE FJ 0.38 X 42 OAL (8-6)	#5	1
17.	51396810	HOSE JZ 0.38 X 21.5 OAL (6-6)	#5	1
18.	51396811	HOSE JZ 0.38 X 23 OAL (6-6)	#5	1
19.	51396878	HOSE FZ 0.50 X 35 OAL (8-8)	#5	1
20.	51396879	HOSE FJ 0.38 X 35 OAL (6-6)	#5	1
21.	51396017	HOSE FJ 0.50 X 30 OAL(8-8) (WAS 51396816)	#5	1
22.	60350141	SLEEVE-HOSE	#5	2
23.	60350142	SLEEVE-HOSE (WAS 1)	#5	2
24.	51397079	HOSE-FJ .38 X 24 (8-6)	#5	1
25.	72532699	ELBOW-MSTR/90/MJIC 6 4 (WAS 72053758)	#5	1
26.	51397082	HOSE-FJ 1/2X31 (8-8) (WAS 51396880)	#5	1
27.	51397081	HOSE-FZ 1/2X31.5 (8-8) (WAS 51396881)	#5	1
28.	51395960	HOSE-FJ .25 X 40 (4-4) 100R16 (WAS 51704626)	#5	1
29.	72532981	TEE-SWVL NUT RUN JIC 4	#5	1
30.	72534531	ADPTR-MJIC/M BSPT 4 2 (WAS 72534479)	#5	2
31.	51395865	HOSE-FF .25 X 18 (4-4) 100R2 (WAS 51393999)	#5	1
32.	51395121	HOSE-AA 0.13X13.5 (2-2) 100R17	#5	1
33.	51393879	HOSE-FF 0.25X37 OAL (4-4) (WAS 51393953)	#5	1
REV G 20111031				

HYDRAULIC INSTALLATION, PLANETARY WINCH (999903953)



Valve Bank, Plan. Winch (73734472) (Eff. 1-10)

NOTE: 73734472 replaced 73734193 effective 1-2010. 73734472 used on cranes starting with these serial numbers: 3820S2091216, 5020S2091012, 5525S2101004, 6025S2091070, 6625S2091002, 7025S2101001.

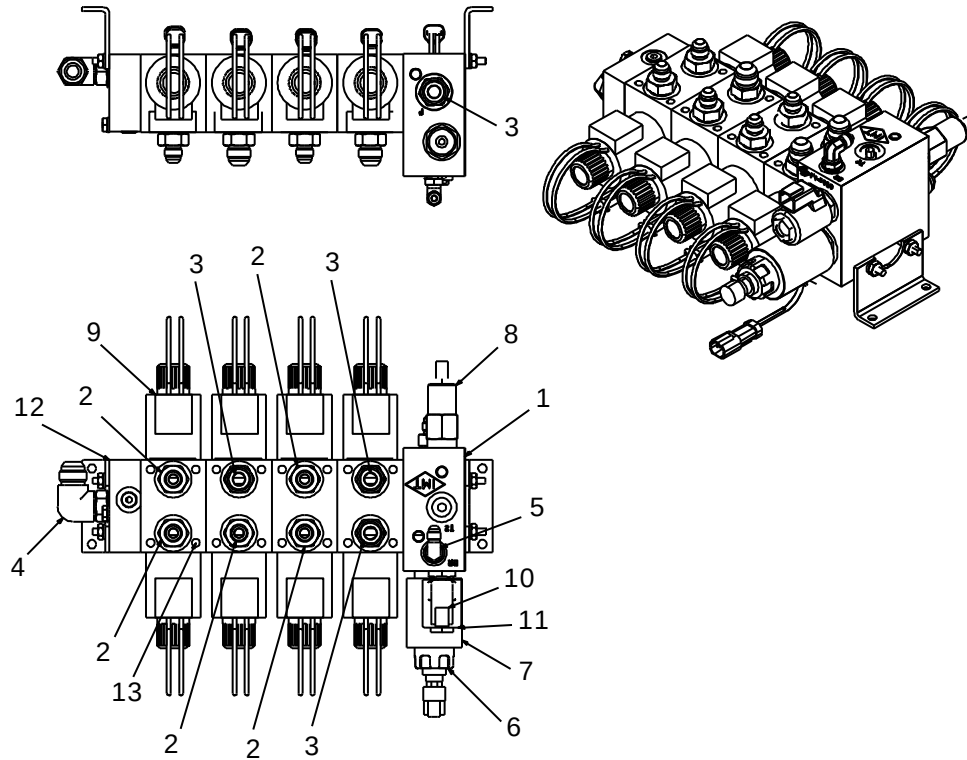


73734472 PARTS LIST			
ITEM	PART #	DESCRIPTION	QUANTITY
1.	73540394	VALVE BODY	1
2.	73540375	VALVE SECTION	4
	90744198	REPLACEMENT COIL KIT FOR 73540375	REF
3.	73540252	FLOW CONTROL VALVE	1
4.	73540253	COIL FOR 73540252	1
5.	73540396	RELIEF VALVE	1
6.	73540397	VALVE-SPOOL	1
7.	73540398	COIL-S SERIES 12VDC DEUTSCH	1
8.	73540027	END PLATE	1
9.	70145830	MOUNTING FOOT	2
10.	72532356	ADAPTER-M STR/M JIC 8 6	5
11.	72532358	ADAPTER-M STR/M JIC 8 8	4
12.	72053758	ELBOW-M STR/90/M JIC 4 4	1
13.	72533507	ELBOW-M STR/90/M JIC 8 10	1

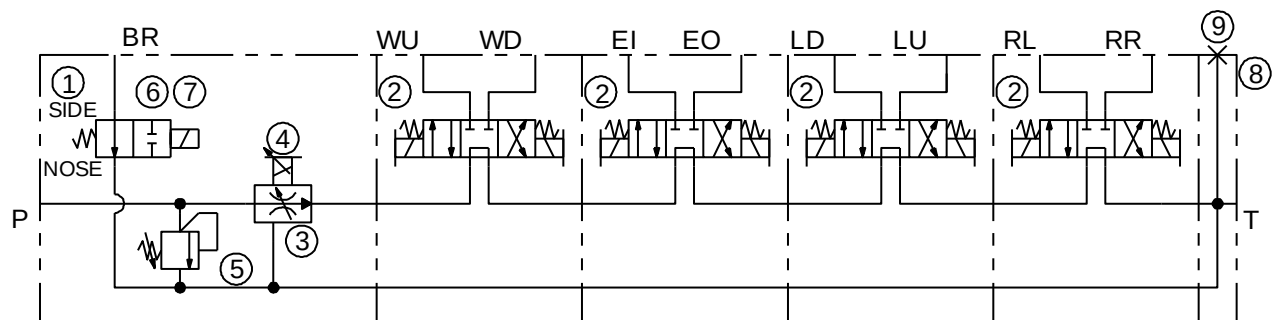
73734472 PARTS LIST			
ITEM	PART #	DESCRIPTION	QUANTITY
14.	72534560	PLUG-STR SOC HD STL 4 ZERO LEAK	1
15.	72534561	PLUG-STR SOC HD STL 6 ZERO LEAK	1
NEW 20100503			

Valve Bank, Plan. Winch (73734193) (Eff 5-07 to 12-09)

(VALVEBANK 73734193 FROM USED ON 6025 CRANES FROM 6025S2071211 TO 6025S2091069) (WAS 51720111 THRU 5-4-07)



73734193 SCHEMATIC

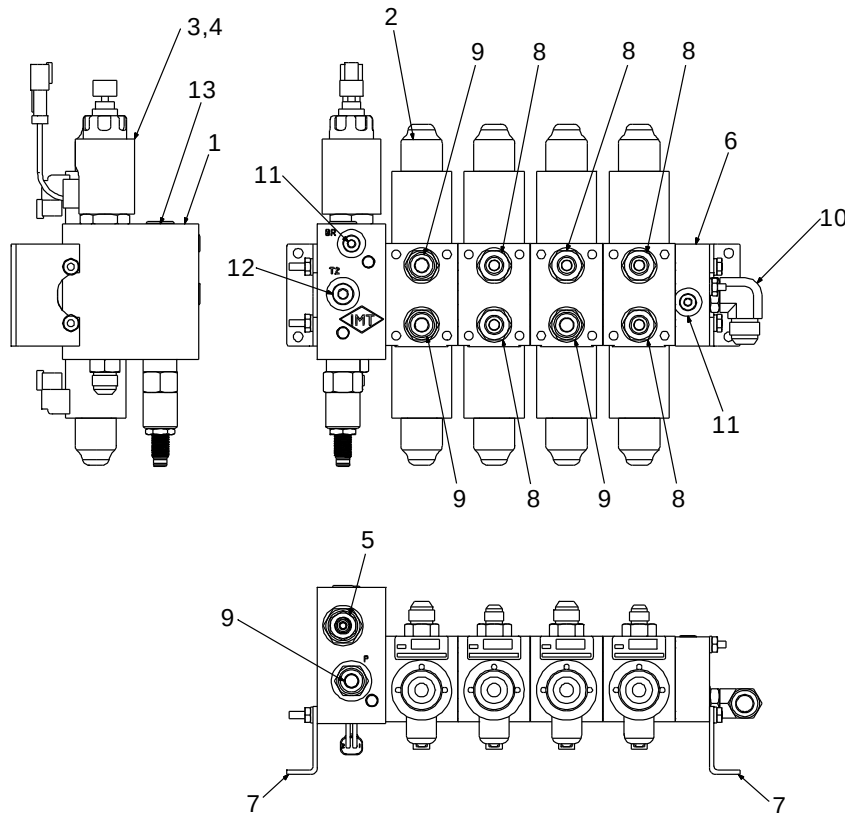


73734193 PART LIST			
ITEM	PART #	DESCRIPTION	QUANTITY
1.	73540251	VALVE-BODY	1
2.	72532356	ADPTR-M STR/M JIC 8 6	5
3.	72532358	ADPTR-M STR/M JIC 8 8	4
4.	72533507	ELBOW-M STR/90/M JIC 8 10	1
5.	72053758	ELBOW-M STR/90/M JIC 4 4	1
6.	73540252	VALVE-CARTRIDGE - P.FLOW CONTROL	1
7.	73540253	VALVE-COIL (COIL ONLY)	1

73734193 PART LIST			
8.	73540254	VALVE-RELIEF	1
9.	77041715	COIL - SOLENOID-VALVE SECT	8
10.	73540255	VALVE-SOLENOID (INCL COIL 73540256)	1
11.	73540256	VALVE- COIL	1
12.	73540027	END CAP-VB	1
13.	73540375	VALVE-SECTION W/ SOLENOID (WAS 73054214)	4
	91722709	COIL KIT WITH O-RING (PART OF 13)	REF
REV. 20100615			

Valve Bank, Worm Winch (73734473) (Eff. 1-10)

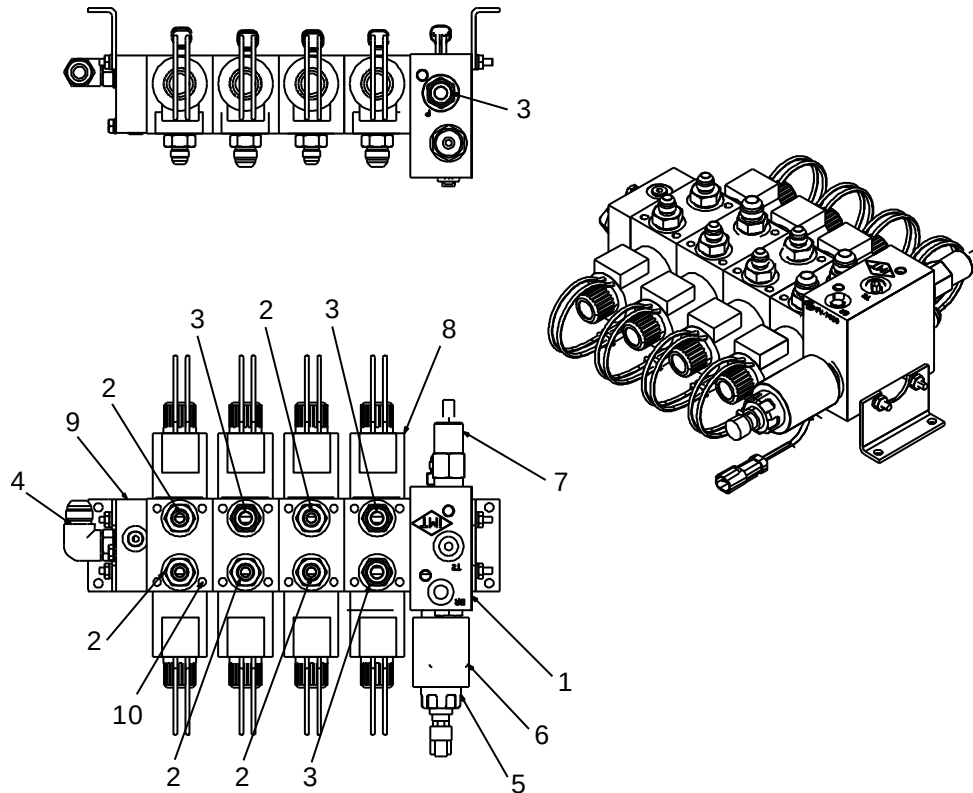
NOTE: 73734473 replaced 73734194 effective 1-2010. 73734473 used on cranes starting with these serial numbers: 3020101005, 3820S2091216, 5020S2091012.



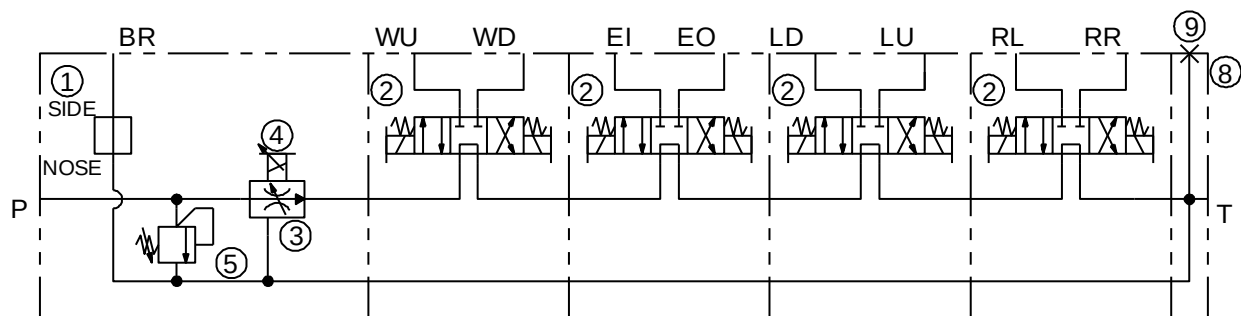
73734473 PARTS LIST			
ITEM	PART #	DESCRIPTION	QUANTITY
1.	73540394	VALVE BODY	1
2.	73540375	VALVE SECTION	4
	90744198	REPLACEMENT COIL KIT FOR 73540375	REF
3.	73540252	FLOW CONTROL VALVE	1
4.	73540253	COIL FOR 73540252	1
5.	73540396	RELIEF VALVE	1
6.	73540027	END PLATE	1
7.	70145830	MOUNTING FOOT	2
8.	72532356	ADAPTER-MSTR/MJIC 8 6	5
9.	72532358	ADAPTER-MSTR/MJIC 8 8	4
10.	72533507	ELBOW-MSTR/90/MJIC 8 10	1
11.	72534560	PLUG-STR SOCKET HEAD STL 4 ZERO LEAK	2
12.	72534561	PLUG-STR SOCKET HEAD STL 6 ZERO LEAK	1
13.	72534562	PLUG-STR SOCKET HEAD STL 8 ZERO LEAK	1
NEW 20100608			

Valve Bank, Worm Winch (73734194) (From 5-4-07 to 12-09)

NOTE: 73734473 replaced 73734194 effective 1-2010. 73734473 used on cranes starting with these serial numbers: 3820S2091216, 5020S2091012.



73734194 SCHEMATIC



73734194 PARTS LIST

ITEM	PART #	DESCRIPTION	QUANTITY
1.	73540251	VALVE-BODY	1
2.	72532356	ADPTR-M STR/M JIC 8 6	5
3.	72532358	ADPTR-M STR/M JIC 8 8	4
4.	72533507	ELBOW-M STR/90/M JIC 8 10	1

73734194 PARTS LIST			
ITEM	PART #	DESCRIPTION	QUANTITY
5.	73540252	VALVE-P.FLOW CONTROL (INCLUDES COIL 73540253)	1
6.	73540253	VALVE-COIL	1
7.	73540254	VALVE-RELIEF	1
8.	77041715	COIL - SOLENOID VALVE SECT	8
9.	73540027	END CAP-VB	1
10.	73540375	VALVE-SECTION W/ SOLENOID (WAS 73054214)	4
	91722709	COIL KIT (PART OF 10)	REF
REV. 20100615			

Telescopic Valve Bank Replacement (99904783)

From November 2009 through April 2010, IMT telescopic cranes may have been built with a hybrid valve section due to a supplier model change. When ordering replacement parts, note the serial number on the valve section and the appearance of the complete valvebank to determine which parts are required.

Valve for 73734193 and 73734194 Valvebanks



Serial tag number ends with no dash

Gold-colored valve coils

- Valve Model: BV18 with 5/8 threads IP65
- Serial # tag has no dash at the end of the number.
- Coils are gold.

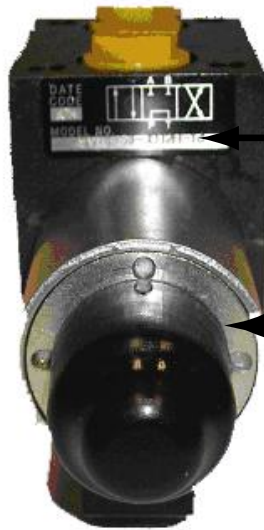
Hybrid Valve Section - Added to 73734193 to make 73734495, and added to 73734194 to make 73734496



Serial tag number ends with -9

Silver-colored valve coils

- Valve Model: BV18 with 5/8 threads IP69 Hybrid
- Serial # tag ends with -9
- Coils are silver.

New Valve Section - Valve for 73734472 and 73734473 Valvebanks

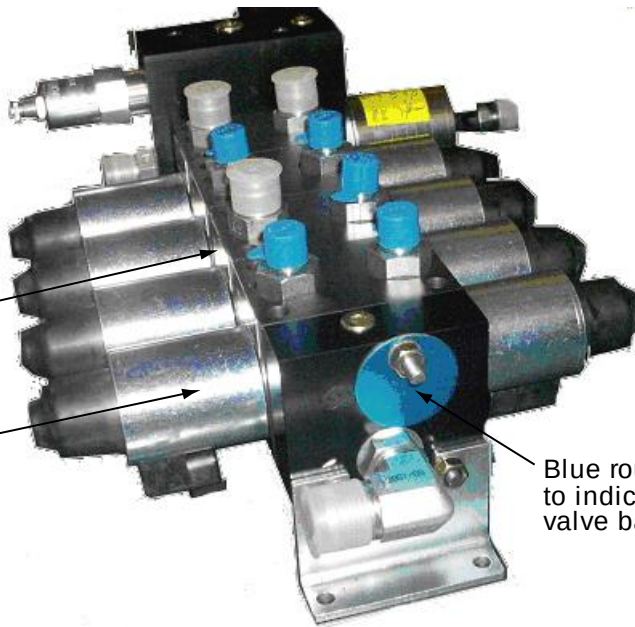
Serial tag number ends with -10

Silver-colored valve coils

- Valve Model: BV18 with M19 threads
- Serial # tag ends with -10
- Coils are silver.

Hybrid Valve Bank 73734495 or 73734496

- Valve Model: BV18 with 5/8 threads IP69 Hybrid
- Serial # tag ends with -9
- Coils are silver.
- A blue tag has been attached to the end of the valvebank to indicate it includes all hybrid valves.

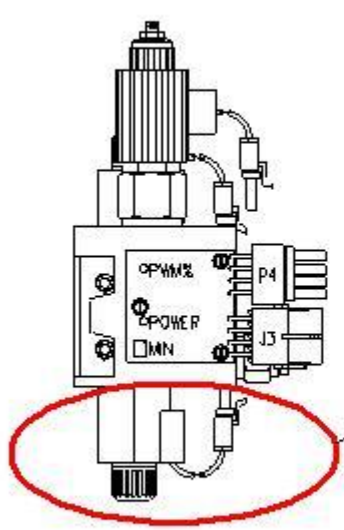


Valve section serial # tag ends with -9

Valve coils are silver

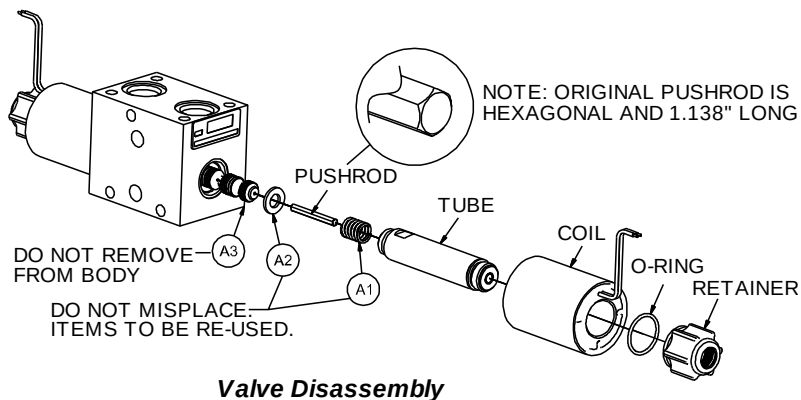
Blue round tag to indicate hybrid valve bank

Replacement Valve Coils

1 If you have this valve:  If the wires are molded in, you must replace with 91722709. (Coils with molded wires are no longer available.)	2  91722709 Valve coil kit which includes connectors and jumper harnesses. This kit - which comes with 2 coils, stem kits, and jumpers - must be used to replace the coil on the top and bottom of a valve section.
	3  If your coil looks like this (same coil from 91722709), you can replace a single coil. Order 90744198.

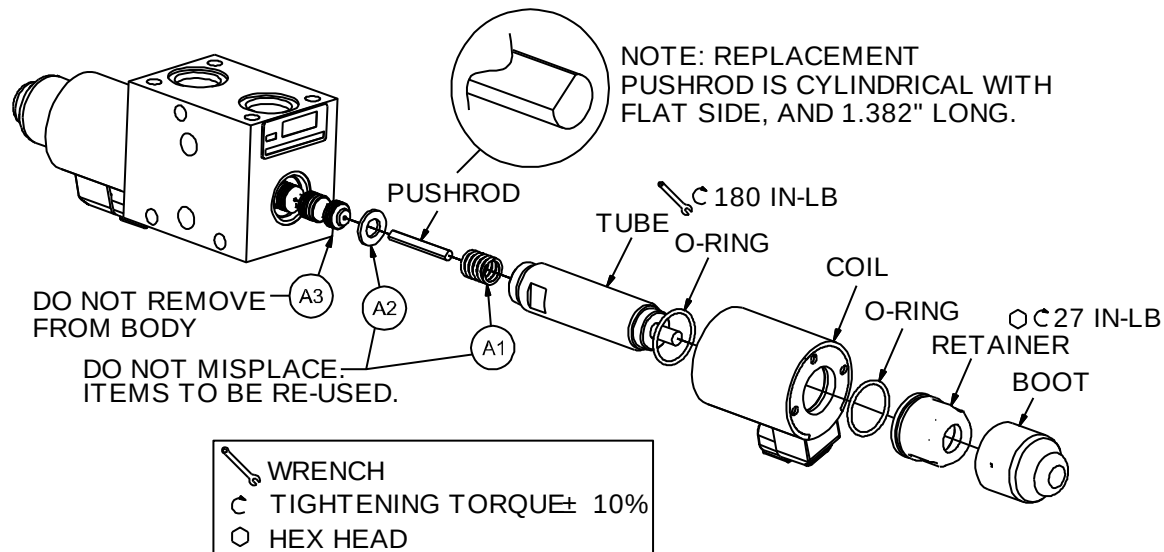
Disassemble the valve as follows:

- 1 Remove retainer by rotating counterclockwise with pliers.
- 2 Slide o-ring and coil over tube to remove.
- 3 Remove tube using an 11/16" open-end wrench. Turn counterclockwise. NOTE: Do not remove valve spool (A3), or misplace washer (A2) or spring (A1). Do not contaminate valve!
- 4 Remove pushrod.



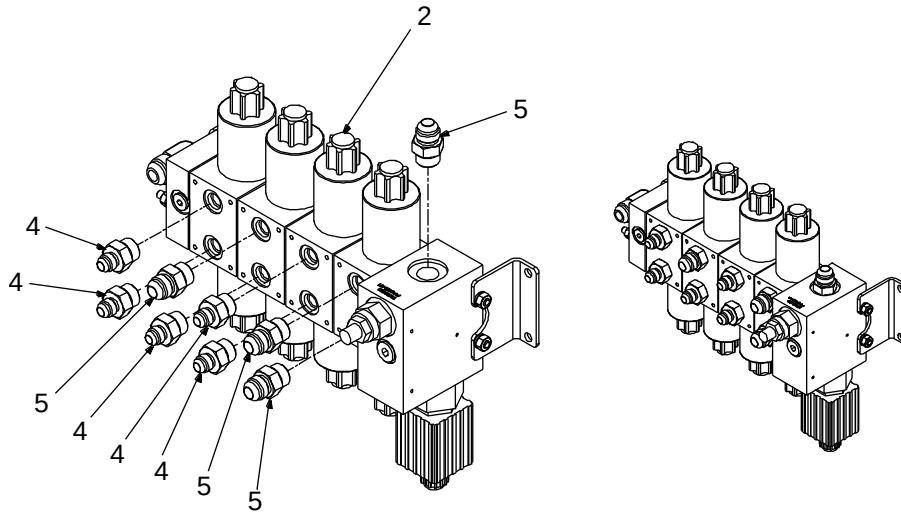
Install the components of repair kit 91722709 as follows:

- 1 Position washer (A2) on valve spool (A3).
- 2 Insert pushrod and spring (A1) onto tube.
- 3 Install tube clockwise with $\frac{3}{4}$ " (19 mm) crows foot wrench. Torque to 180 in-lb.
- 4 Slide o-ring, coil, and second o-ring over tube.
- 5 Install retainer clockwise onto tube with 1-1/16" socket. Torque to 27 in-lb.
- 6 Stretch boot over retainer.
- 7 You may need a jumper harness (IMT # 77441393) to electrically connect the valve section to the crane. Two of these jumper harnesses were included with kit 91722709. Plug the jumper harnesses into the plugs on the coils as shown in Figure 3 and connect them to the crane wiring.
- 8 Kit 91722709 has components to repair both sides of the valve section. Repair each side individually, but be sure to repair both sides before re-installing the valve on the crane.



Valve Assembly

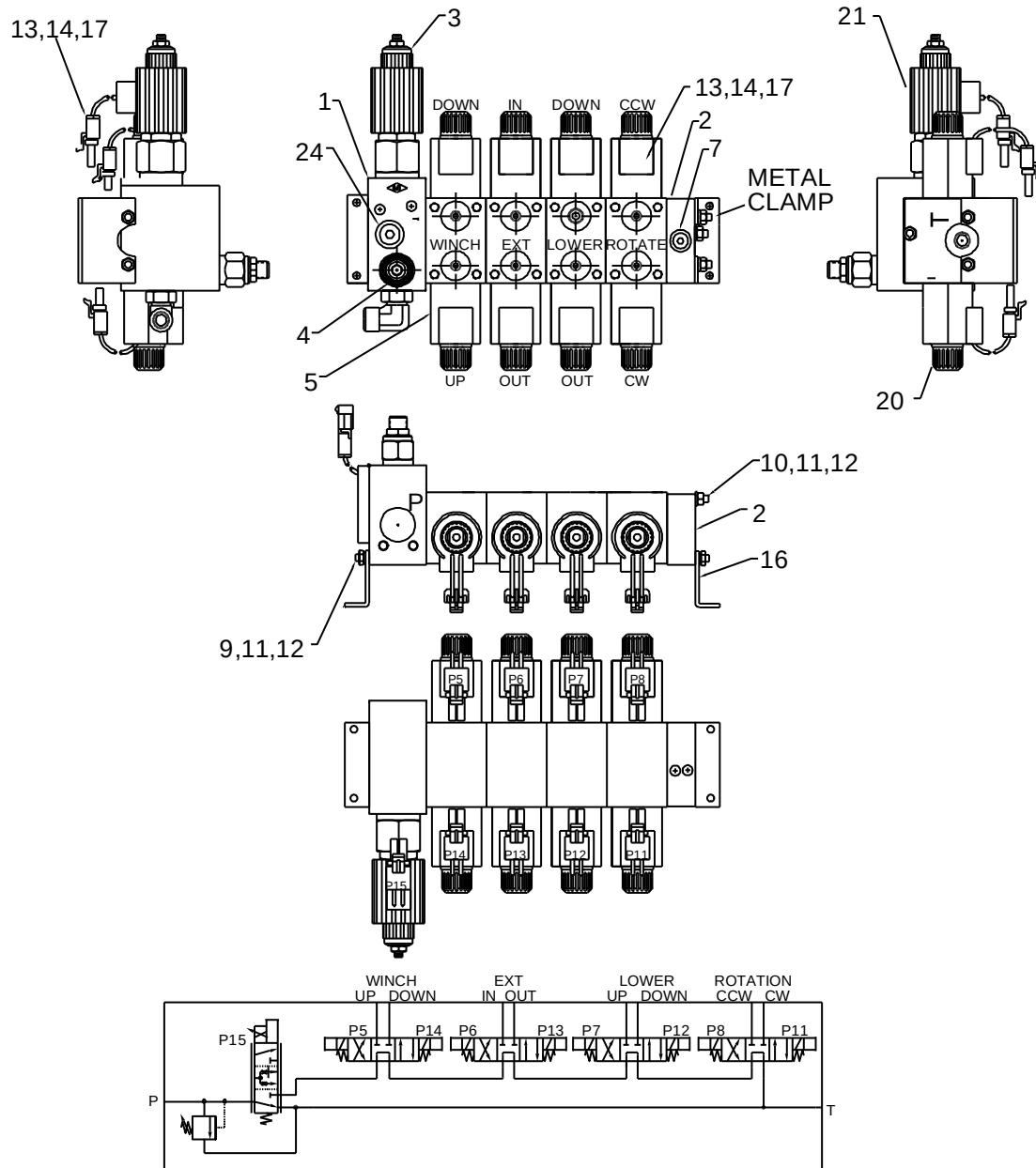
Valve Bank Assembly (51720111) (Thru 5-4-07)



51720111 PARTS LIST

ITEM	PART #	DESCRIPTION	QUANTITY
1.	91719870	HYDRAULIC KIT-VALVE BANK ASM (INCL 3-5)	1
2.	73734512	VALVE BANK -4 SECT 10 GPM (WAS 73734070)	1
4.	72532356	ADPTR-M STR/M JIC 8 6	5
5.	72532358	ADPTR-M STR/M JIC 8 8	4
REV B 20100609			

Valve Bank (73734070) (Thru 5-4-07)

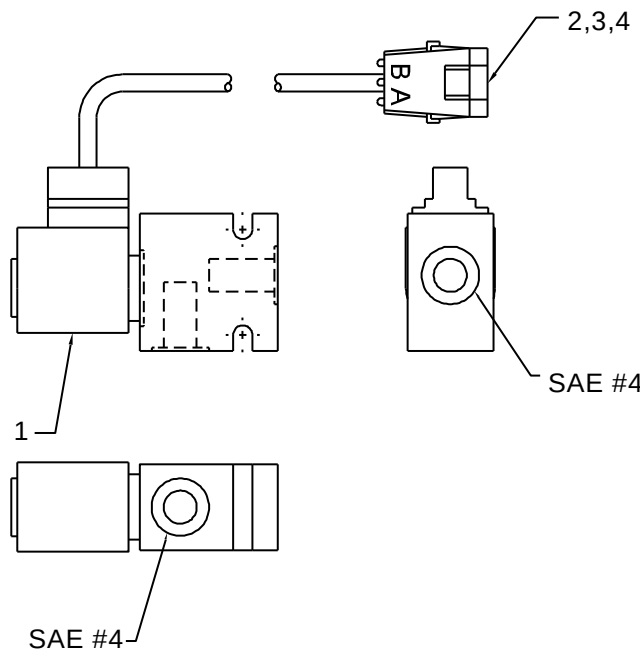


73734070 PARTS LIST

ITEM	PART #	DESCRIPTION	QUANTITY
1.	73540028	BLOCK-INLET VB	1
2.	73540027	END CAP	1
3.	73054213	VALVE, PROP FLOW (WAS 73054934)	1
4.	73054935	VALVE, RELIEF	1
5.	73540375	VALVE, SECT (WAS 73054214, 73540044)	4
6.	7Q072013	O-RING	10
7.	72533477	PLUG, STR HOL HEX STL .44 THD	1
8.	70145829	EXPANDER PLUG	4

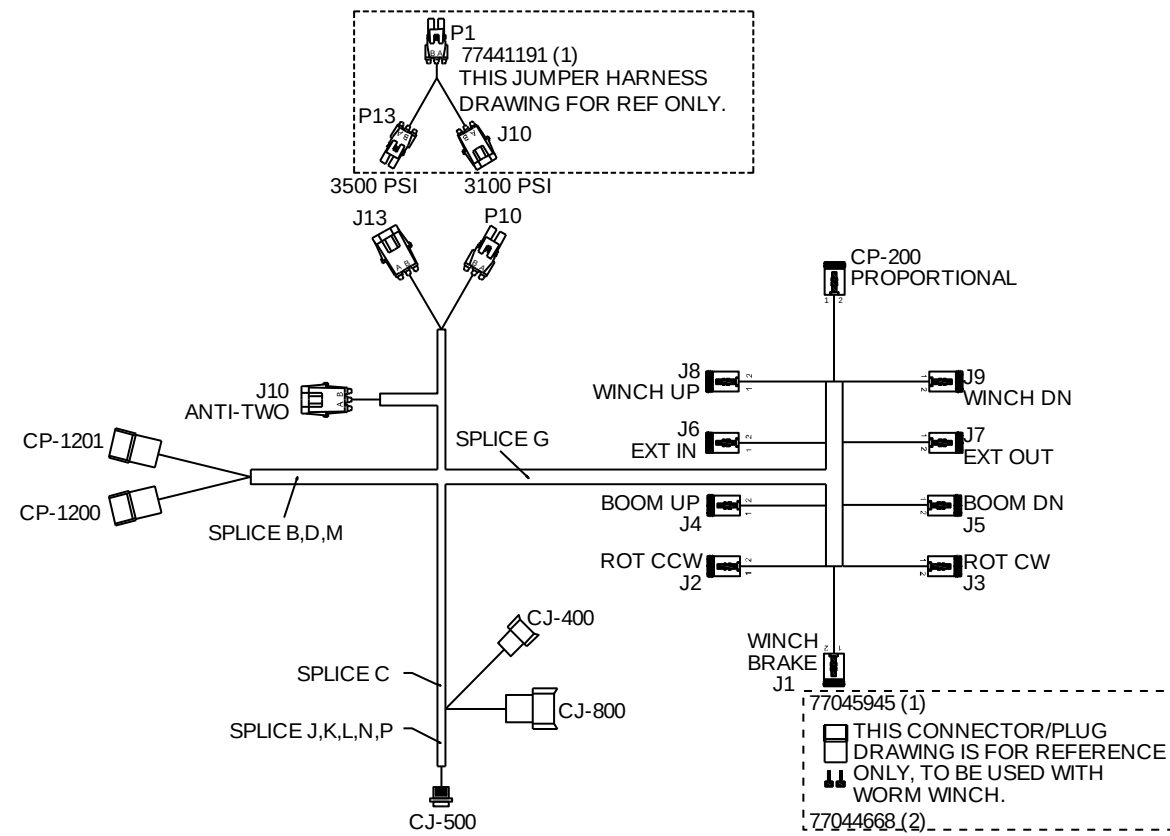
73734070 PARTS LIST			
9.	60119363	ROD, THREADED 1/4-20X12.5	2
10.	60119364	ROD, THREADED 1/4-20X10.56	1
11.	72062000	NUT 1/4-20 HEX ZINC	5
12.	72063049	WASHER 1/4 LOCK	5
13.	77045945	CONNECTOR (WAS 1)	9
14.	77045946	LOCK, WEDGE (WAS 1)	9
15.	70394069	SEAL, CABLE CONNECTOR	2
16.	70145830	BRACKET, MOUNTING	2
17.	77045947	TERMINAL, DEUTSCH (WAS 2)	18
20.	70734468	SOLENOID VALVE SECTION (WAS 77041715)	8
21.	77041716	SOLENOID-VALVE, PROP FLOW CONTROL	1
24.	72533603	PLUG, STR HOL HEX STL	1
26.	73733602	VALVEBANK, (INCL 1-12,15,16,24)	1
REV. 20100615			

Dump Valve (51720117) (Thru 5-4-07)

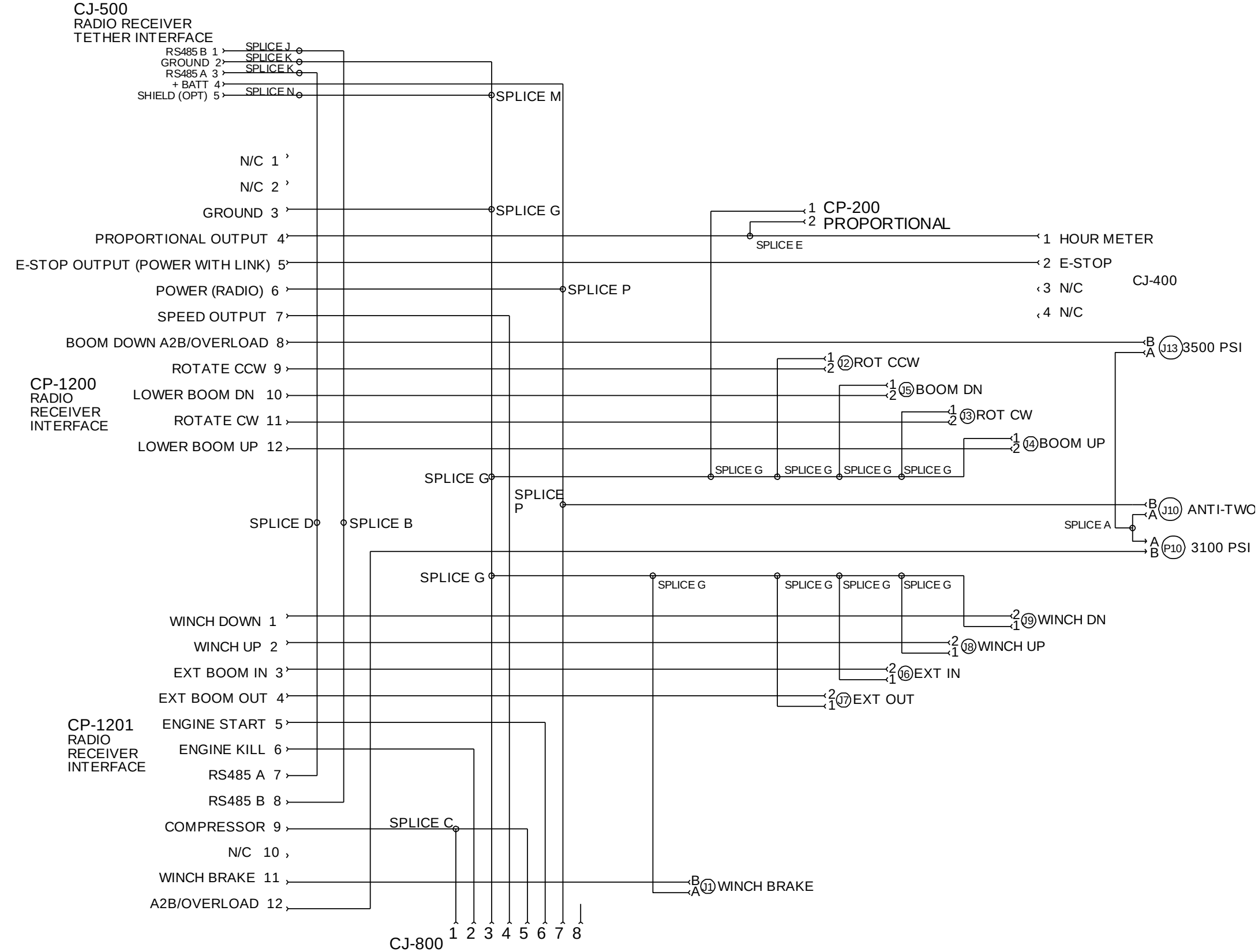


51720117 PARTS LIST			
ITEM	PART #	DESCRIPTION	QUANTITY
1.	73540090	VALVE, SOLENOID (NORMALLY OPEN)	1
2.	77045945	CONNECTOR	1
3.	77045946	LOCK-WEDGE	2
4.	77045947	TERMINAL-PIN 14-16 AWG	2
NEW 20060301			

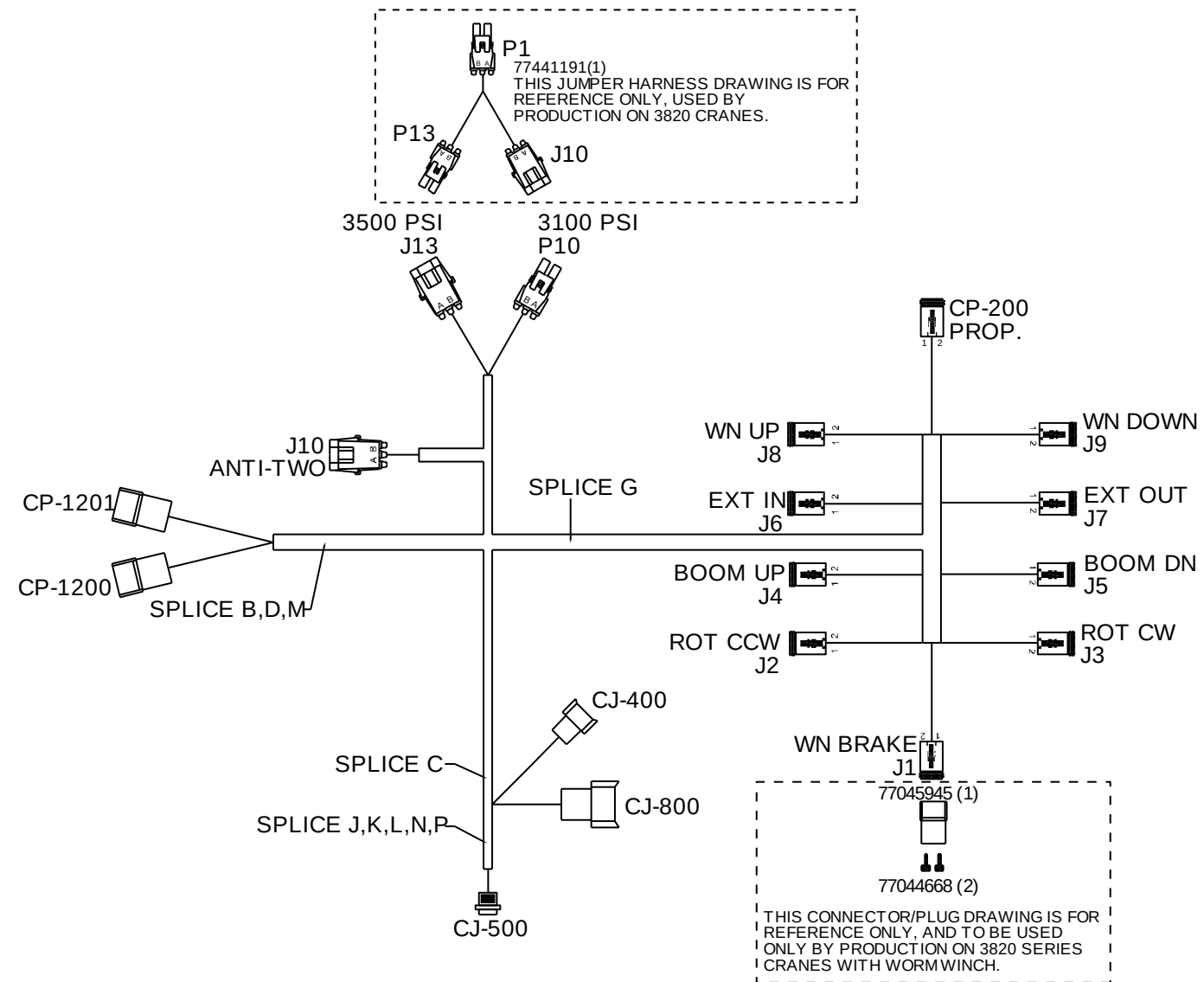
Harness, Valvebank (77441204) (Eff. 8-1-06)



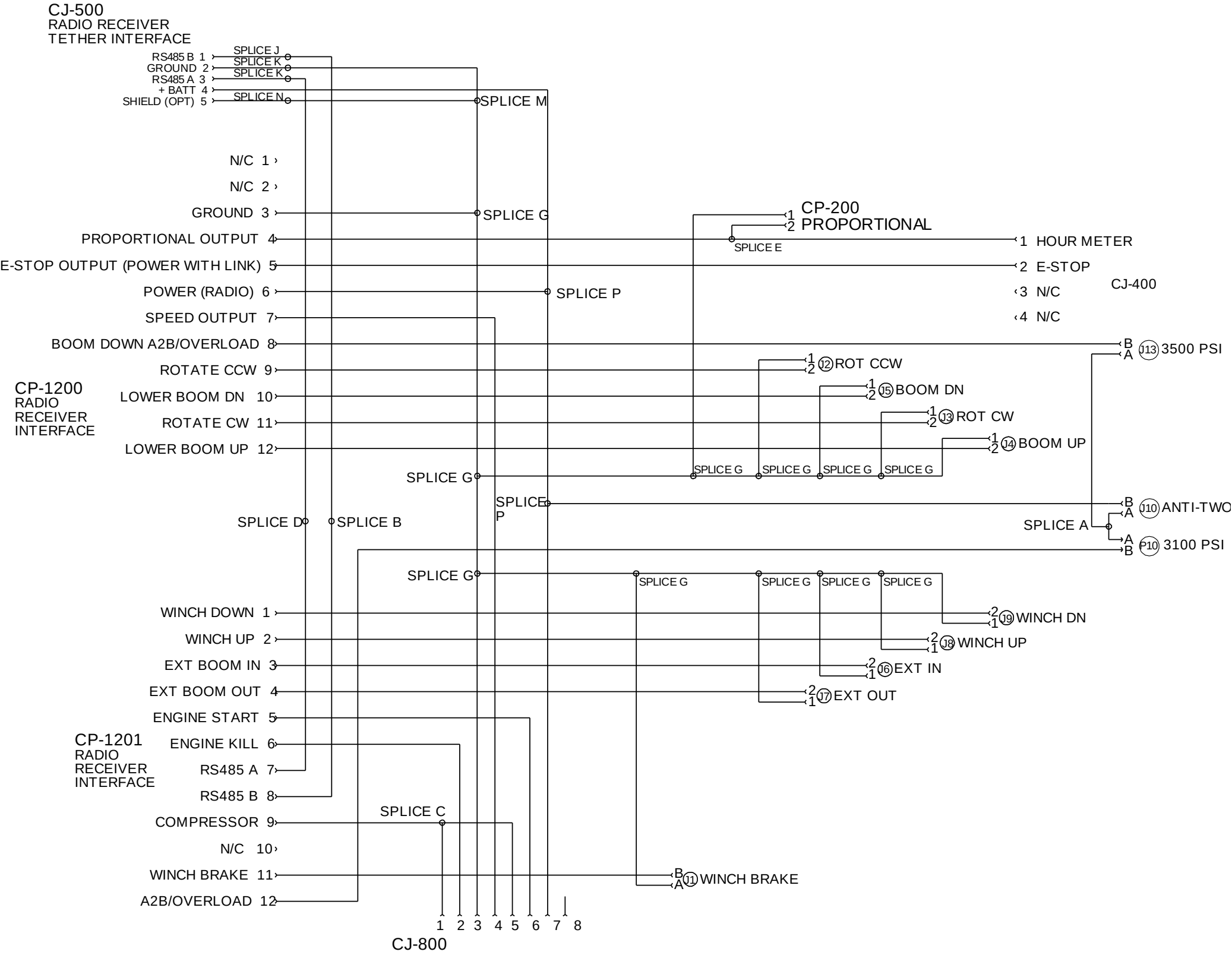
77441204 ELECTRICAL SCHEMATIC



Harness, Valvebank (77441184) (Through 8-1-06)

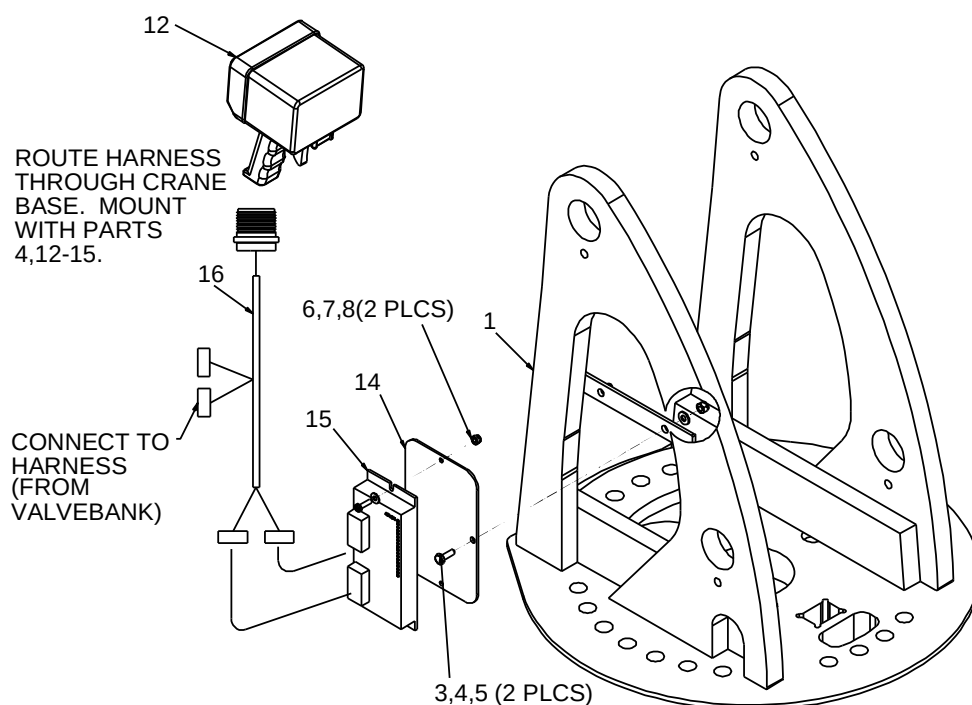


77441184 SCHEMATIC



Controls

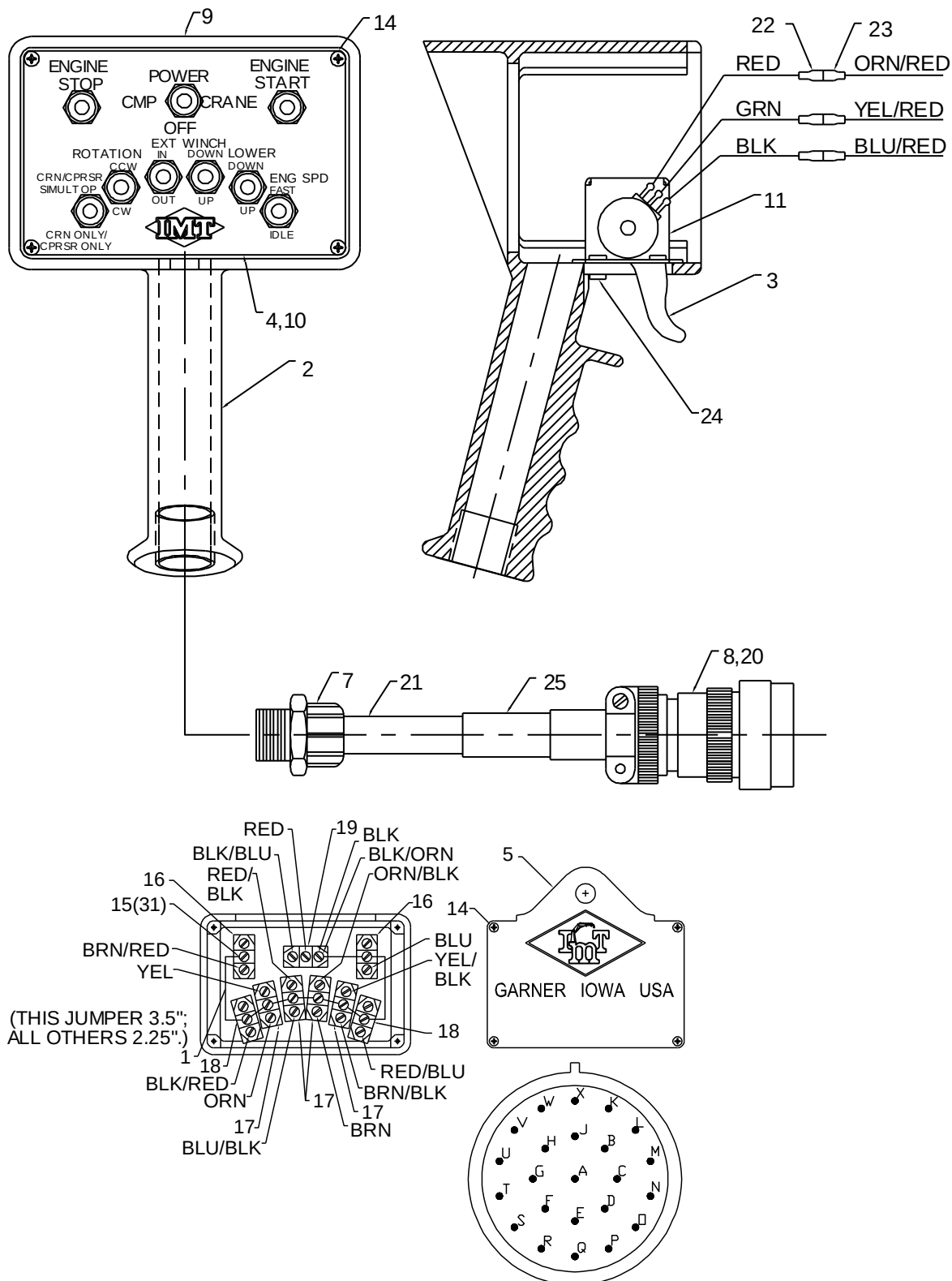
Controls Installation, Tethered (Kit 90719399/Dwg. 99903697)



90719399 TETHERED CONTROLS PARTS LIST

ITEM	PART #	DESCRIPTION	QUANTITY
1.	N/A	MAST WLDMNT	1
2.	51719412	HARDWARE KIT - TELE CRANE, TETH CONTROLS (INCL 3-11)	REF
3.	72601827	CAP SCR-SS .25-20X .75 HH GR5	2
4.	72063166	WASHER-SS .25 R WRT18-8 .62OD	2
5.	72062194	NUT-SS .25-20 NYLOC	2
6.	72060636	SCR-MACH#10-24X .75 RDH PH Z	2
7.	72062106	NUT 10-24 HEX NYLOCK	2
8.	72063000	WASHER .19 W FLAT ANSI B27.2Z	2
9.	77044645	NUT-DEUTSCH 24 SHELL112263-90	1
10.	77044646	WASHER-LOCK DEUTSCH 112264	1
11.	72601330	CAP SCR-SS .25-20X 1.00 HH	2
12.	51719470	HANDLE ASSEMBLY	1
13.	60119299	BRACKET-MTG	1
14.	60128881	BRACKET-CONTROLLER	1
15.	71411554	TETHER LOGIC MODULE	1
16.	77441164	HARNESS-TETHER	1
REV. B 20050513			

Handle Assembly, Tethered Remote w/Engine Start (51719470)



51719470 HANDLE ASSEMBLY WIRE FUNCTIONS

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

51719470 PARTS LIST

ITEM	PART #	DESCRIPTION	QUANTITY
1.	89044214	WIRE 18GA GRN	1.61 FT
2.	60119335	CONTROL HANDLE	1
3.	60111141	TRIGGER (PART OF 11)	1REF
4.	60119277	COVER	1
5.	70034306	BACK COVER	1
7.	77044196	STRAIN RELIEF 3/4	1
8.	77044621	PIN	23
9.	70394447	DECAL-DGR RC ELECTRO SM	1
10.	70396719	DECAL-CTRL	1
11.	70394183	TRIGGER ASM (INCL 3)	1
14.	72061009	SHT MTL SCR #6X3/4 PH	8
15.	77040051	TERM-SPRSPD #8 16-14GA	31
16.	77040371	TOGGLE SWITCH SPST	2
17.	77040372	TOGGLE SWITCH SPDT	4
18.	77040373	TOGGLE SWITCH SPST	2
19.	77040374	TOGGLE SWITCH SPDT	1
20.	77044579	CONNECTOR	1
21.	89044100	CABLE 18GA 24WIRE (NOTE: MUST ORDER 40 FT)	40 FT
REF	51717817	TETHERED CABLE, 40' (INCL 8, 15 (24) 20, 21, 25)	1
22.	77040147	TERM-FSLPON 1/4TAB 22-18	3

51719470 PARTS LIST			
23.	77040047	TERM-MSLPON 1/4TAB 16-14	3
24.	72060602	MACH SCR #6-32X3/8 RDHD	4
25.	70145495	TUBING-HEAT SHRINK	.5 FT
REV 20071016			

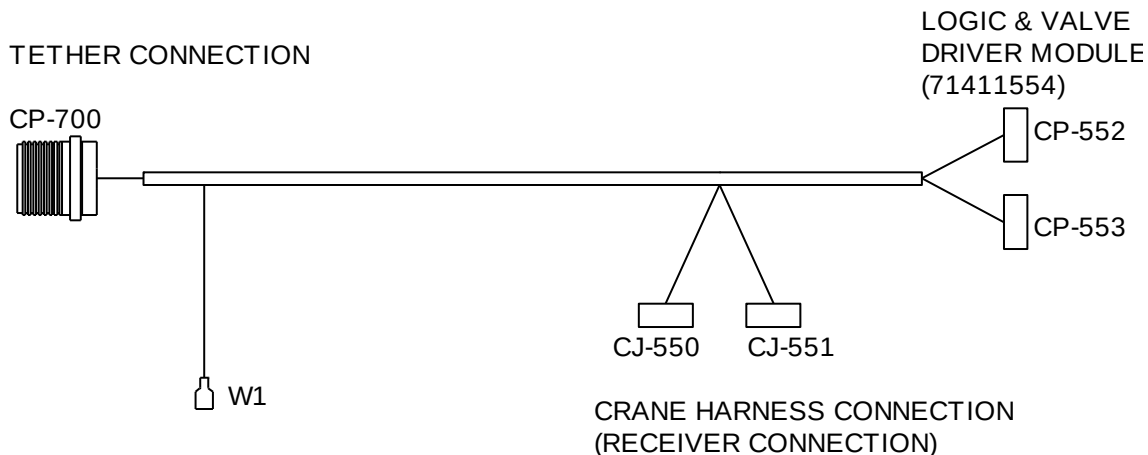
NOTE: KIT # 51717817, TETHERED CABLE - 40 FEET, INCLUDES ITEMS 8, 15 (QTY 24), 20, 21, AND 25. ORDER 51717817 TO REPLACE THE CABLE ASSEMBLY.

Tethered Remote Calibration Mode

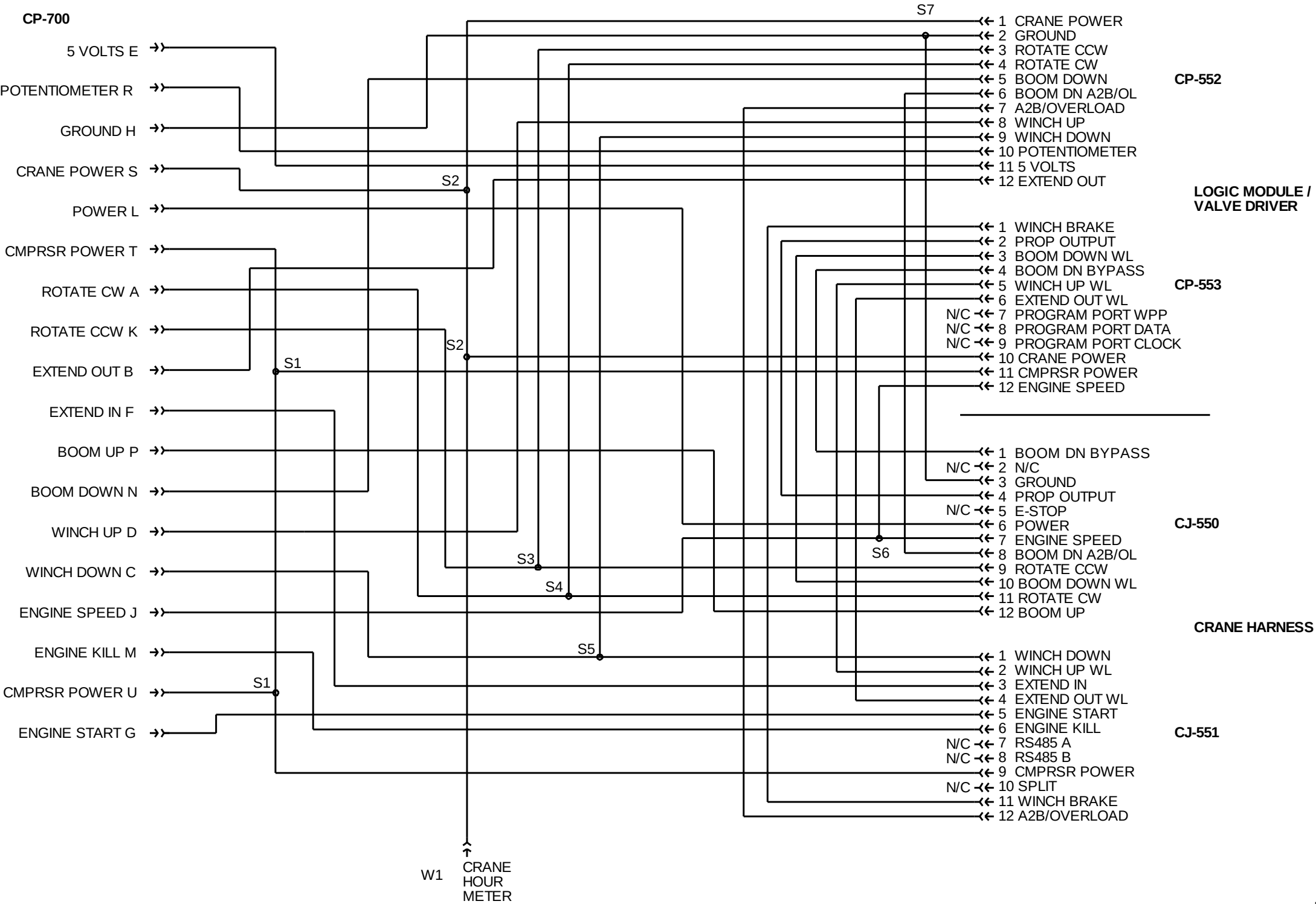
To enter the calibration mode on the tethered remote control,

- 1 Turn on the CRANE switch.
- 2 With the trigger released, hold the momentary EXTENSION OUT and WINCH UP switches while activating the momentary LOWER DOWN switch four (4) times in succession.
- 3 The CRANE AND COMPRESSOR ON output and LED will begin to flash, indicating successful entry to the calibration mode. Release momentary switches at this time.
- 4 Use the CCW/CW momentary switches to adjust the minimum output to the valve. CCW will increase the minimum output and CW will decrease the minimum output.
- 5 To adjust the maximum output to the valve, squeeze the trigger all the way and use the CCW/CW switches in a similar manner. CCW will increase the maximum output and CW will decrease the maximum output.
- 6 When finished, move the CRANE switch to the OFF position to save the new values to flash memory and exit the calibration mode.

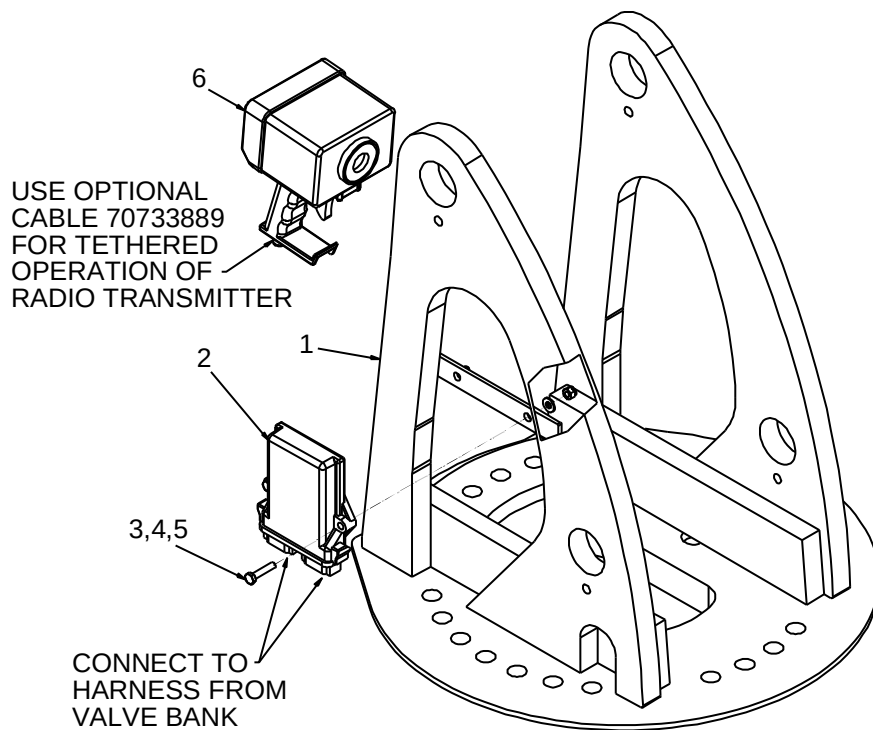
Electrical Harness, Tethered Remote (77441164)



Electrical Schematic, Tethered (77441164)

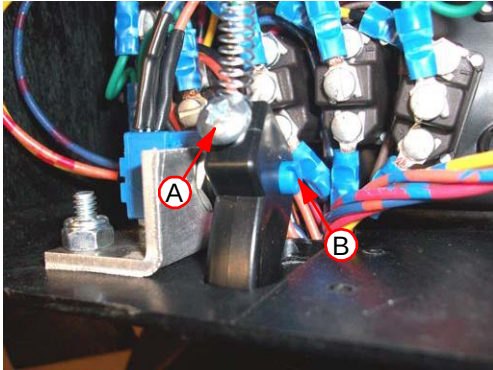


Controls Installation / Radio Remote (Kit 90719400/Dwg. 99903697)



90719400 TETHERED CONTROLS PARTS LIST			
ITEM	PART #	DESCRIPTION	QUANTITY
1.	N/A	MAST WELDMENT	1
2.	70733956	RECEIVER - RADIO REMOTE TELE VORC	1
3.	72601846	CAP SCR-SS .25-20X 1.25 HH	2
4.	72063166	WASHER-SS .25 R WRT 18-8 .62OD	2
5.	72062194	NUT-SS .25-20 NYLOC	2
6.	70733883	TRANSMITTER-RADIO REMOTE TELE	1
7.	51719413	HARDWARE KIT-TELE CRANE RADIO CONTROLS	REF
NEW 20050329			

Tethered Proportional Remote Potentiometer Adjustment

**NOTE:**

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

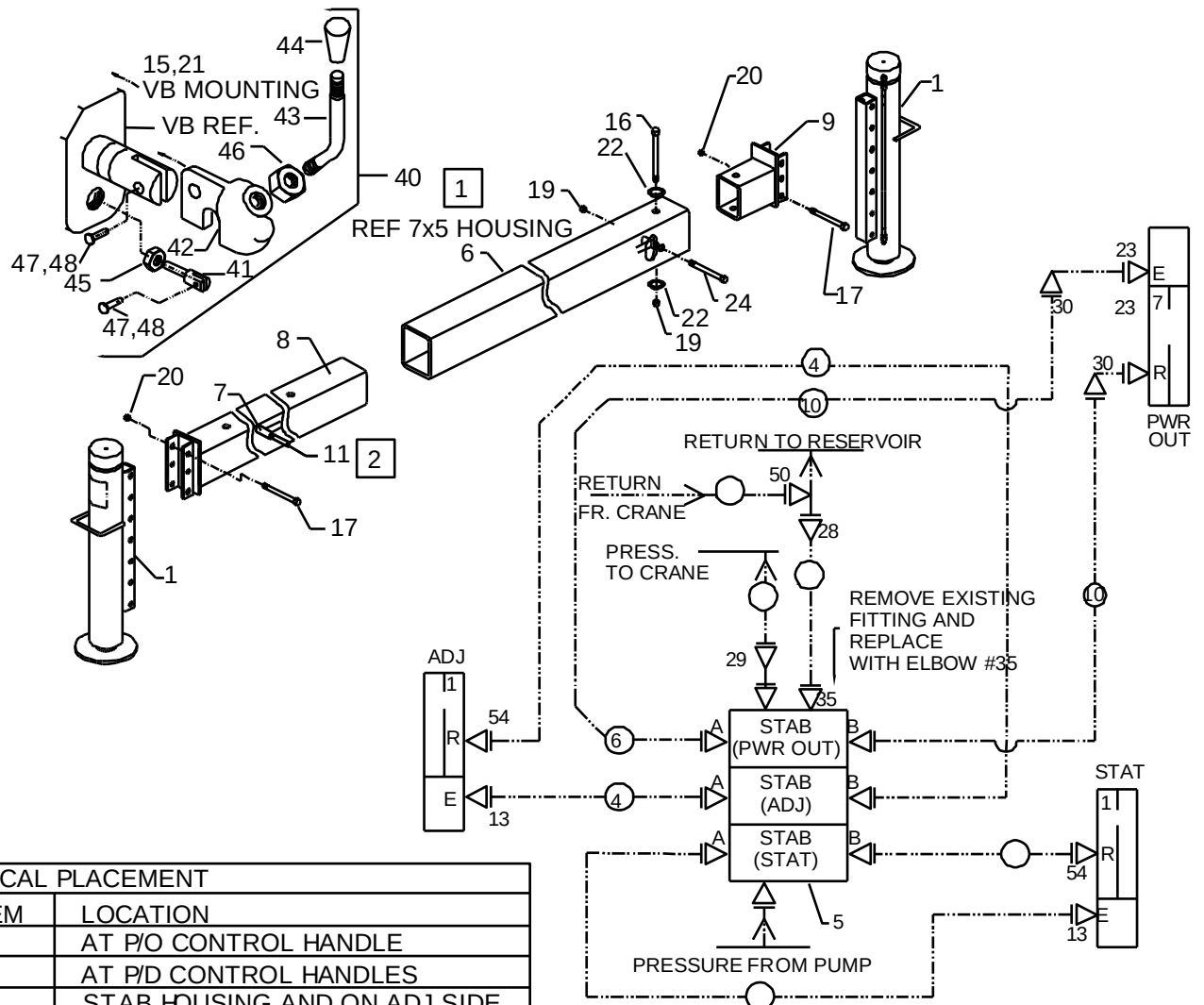
You may need a second operator to help with steps 4 and 5.

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

Auxiliary Stabilizer Assemblies and Valvebanks

The IMT telescopic cranes have a variety of stabilizer options, depending on the body on which the crane is installed and the crane lifting application. Refer to the IMT Stabilizer Manual for complete details on the applicable stabilizers.

Stabilizer, Power Out/Power Down, 7x5 (31712739)



DECAL PLACEMENT	
ITEM	LOCATION
36	AT P/O CONTROL HANDLE
37	AT P/D CONTROL HANDLES
51	STAB HOUSING AND ON ADJ SIDE
53	STAB ADJUSTABLE SIDE
56	AT FULL EXTENSION

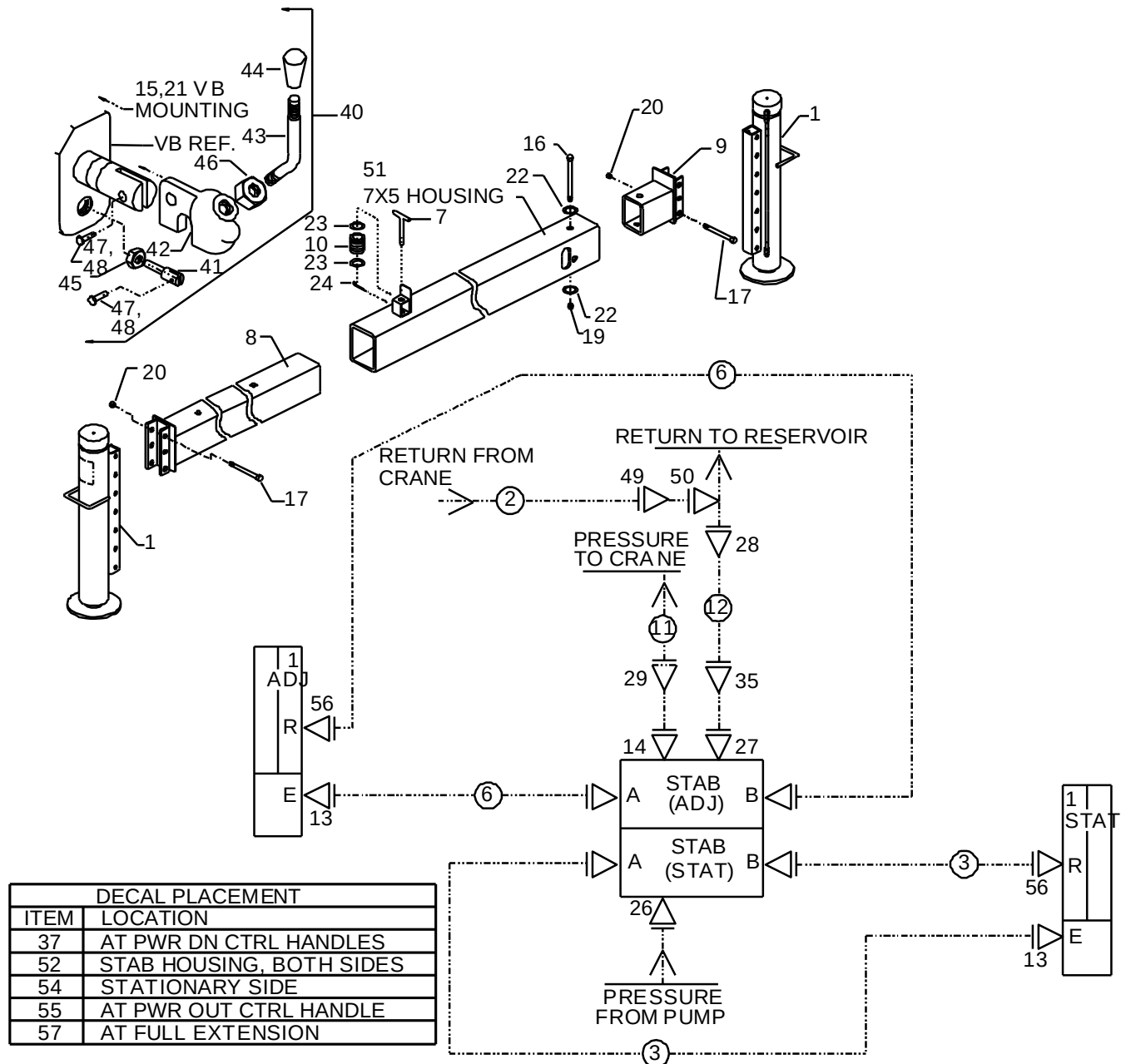
NOTES (SEE REFERENCE NUMBER IN BOX):

- 1 TIE STABILIZER HOUSING TUBE INTO THE STRUCTURAL SUPPORT OF THE CRANE WHEN INSTALLING STABILIZERS.
- 2 INSERT PIN #11 THROUGH SIDE WALL OF #8 WHILE PASSING THROUGH END OF #7.
- 3 INSTALL #18, 21, 25 TO SUPPORT HOSE ASSEMBLIES #3, 4, AND 10.
- 4 INSTALL #38 SPIRAL WRAP AROUND HOSE ASSEMBLIES #3 AND #4 NEAR #1 CYLINDER.

31712739 PARTS LIST				
ITEM	PART #	DESCRIPTION	DETAILS	QUANTITY
1.	3B205010	CYLINDER	3.5/2.5 18.00SS 29.50CC	2
2.	51396184	HOSE	FF 1/2X159 OAL (8-8) (PART OF #55)	1REF
3.	51395164	HOSE	FJ 1/4X135 OAL (4-4) (PART OF #55)	2REF
4.	51396280	HOSE	FJ 1/4X96 OAL (4-4) (PART OF #55)	2REF
5.	51714812	VALVEBANK ASSEMBLY		1
6.	60118680	TUBE-STABILIZER HOUSING POWER OUT		1REF
7.	71411797	CYLINDER, POWER OUT (WAS 3B142860)	1.2/.7 42.00S 50.00CC	1
8.	52712735	ARM, ADJUSTABLE		1
9.	52712736	ARM, STATIONARY		1
10.	51396281	HOSE	FJ 1/4X107 OAL (4-4) (PART OF #55)	2REF
11.	72661472	PIN-SPRING	1/2X4	1
12.	51396282	HOSE	FF 3/4 X51 OAL (12-12) (PART OF #55)	1REF
13.	72053758	ELBOW	#4MSTR #4MJIC 90°	2
15.	72060025	CAP SCREW	5/16-18X1 HHGR5Z	3
16.	72060107	CAP SCREW	1/2-13X8 HHGR5	1
17.	72060155	CAP SCREW	5/8-11X3.5 HHGR5	4
18.	72060833	SCREW-THREAD CUT	5/16-18X3/4 HWH-1 (SEE NOTE)	2
19.	72062080	NUT	1/2-13 HEX NYLOC	2
20.	72062091	NUT	5/8-11 HEX NYLOC	4
21.	72063002	WASHER	5/16 FLAT	5
22.	72063005	WASHER	1/2 FLAT	2
23.	72532351	ADAPTER	#4MSTR #4MJIC	4
24.	72601297	CAP SCREW	1/2-13 X 5.75 HH GR5	1
25.	72066582	CLAMP-UMP 20	(SEE NOTE)	2
28.	72531205	TEE-MALE JIC	3/4-16 1/2 TUBE	1
29.	72532658	ELBOW	#8MJIC #8FJIC SW	1
30.	72532690	ELBOW	#4MJIC #4FJIC SW	2
35.	72533623	ELBOW	#8MSTR #12MJIC 90°	1
36.	71392277	DECAL-STABILIZER POWER OUT		1
37.	76391511	DECAL-UP & DOWN STAB. R&L		1
38.	89034049	SPIRAL WRAP, BLACK	(SEE NOTE)	4'
39.	99900644	MANUAL-AUX STABILIZER		1
40.	51731580	HANDLE ASSEMBLY	(INCL. 34-41) (PART OF 5)	2REF
41.	70142648	PIVOT-LEVER	(PART OF #40)	2REF
42.	70142650	LEVER SUPPORT	(PART OF #40)	2REF
43.	70142651	LEVER-CONTROL HANDLE	(PART OF #40)	2REF
44.	71392269	KNOB-CONTROL HANDLE	(PART OF #40)	2REF

31712739 PARTS LIST				
ITEM	PART #	DESCRIPTION	DETAILS	QUANTITY
45.	72062021	NUT	5/16-18 HEX JAM (PART OF #40)	2REF
46.	72062024	NUT	1/2-13 HEX JAM (PART OF #40)	2REF
47.	72066162	COTTER PIN	(PART OF #40)	4REF
48.	72661204	CLEVIS PIN	(PART OF #40)	4REF
49.	51395431	HOSE	FF 1/2X96 OAL (8-8) (PART OF #55)	1REF
50.	72532972	ADAPTER	#8MJIC #12FJIC	1
51.	70392864	DECAL-DANGER STAB STAND CLEAR		2
53.	71392257	DECAL-DANGER POWER DOWN SS		1
54.	72533567	ELBOW	#4MSTR #4MJIC XLG	2
55.	51717834	HOSE KIT - STAB PO/PD (7X5)		1
56.	70399271	DECAL-FULLY DEPLOYED		2
REV F 20120309				

Stabilizer, Manual Out/Power Down, 7x5 (31712740)

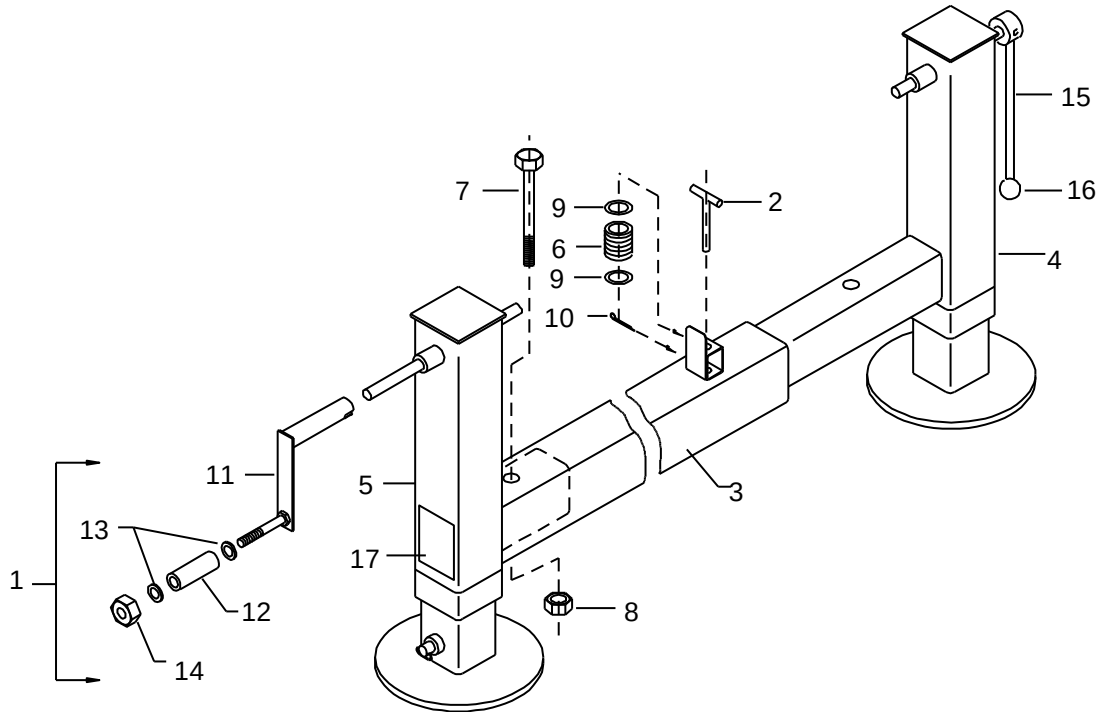


Installation Notes:

- 1 Tie stabilizer housing tube into the structural support of the crane.
- 2 Items #18, #25, and quantity (1) of #21 are installed behind the back wall of the crane box to support hose assembly #2 as it passes behind the crane box.
- 3 Items #18, #25, and quantity (1) of #21 are installed under belly pan of floor to support hose assembly #3 as it passes under belly pan.
- 4 #38 spiral wrap is installed around #3 and #4.

31712740 PARTS LIST			
ITEM	PART #	DESCRIPTION	QUANTITY
1.	3B205010	CYLINDER	2
2.	51394931	HOSE-FF 1/2X98 OAL	1
3.	51395552	HOSE-FJ 1/4X135 OAL	2
5.	51714813	VALVE BANK, 2 SECT (INCLUDES #40)	1
6.	51396280	HOSE-FJ 1/4X96	2
7.	52070138	PIN WELDMENT	1
8.	52712735	ARM, ADJUSTABLE	1
9.	52712736	ARM, STATIONARY	1
10.	60010351	SPRING "T" PIN	1
11.	51396184	HOSE-FF 1/2X159 OAL (8-8) (PART OF #51)	1
12.	51396282	HOSE-FF 3/4 X51 OAL (12-12) (PART OF #51)	1
13.	72053758	ELBOW #4MSTR #4MJIC 90°	2
14.	72053764	ELBOW #10MSTR #8MJIC 90°	1
15.	72060025	CAP SCR 5/16-18X1 HHGR5Z	3
16.	72060107	CAP SCR 1/2-13X8 HHGR5	1
17.	72060155	CAP SCR 5/8-11X3.5 HHGR5	4
18.	72060833	SCR-THD CUT 5/16-18X3/4 HWH-1 (SEE NOTE)	2
19.	72062080	NUT 1/2-13 HEX NYLOC	1
20.	72062091	NUT 5/8-11 HEX NYLOC	4
21.	72063002	WASHER 5/16 FLAT	5
22.	72063005	WASHER 1/2 FLAT	2
23.	72063027	MACHY BUSHING 5/8X14 GA NR	2
24.	72066185	COTTER PIN	1
25.	72066582	CLAMP-UMP 20 (SEE NOTE)	2
26.	72532358	ADPTR #8MSTR #8MJIC	1
27.	72532365	ADPTR #10MSTR #12MJIC	1
28.	72531205	TEE-MALE JIC 3/4-16 1/2 TUBE	1
29.	72532658	ELBOW #8MJIC #8FJIC SW	1
35.	72532696	ELBOW #12MJIC #12FJIC SW	1
37.	76391511	DECAL-UP & DOWN STAB. R&L	1
38.	89034049	SPIRAL WRAP, BLK (SEE NOTE)	4'
39.	99900644	MANUAL-AUX STABILIZER	1
40.	51731580	HANDLE ASM (INCL. 34-41) (PART OF 5)	2REF
41.	70142648	PIVOT-LEVER (PART OF #40)	2REF
42.	70142650	LEVER SUPPORT (PART OF #40)	2REF
43.	70142651	LEVER-CONTROL HANDLE (PART OF #40)	2REF
44.	71392269	KNOB-CONTROL HANDLE (PART OF #40)	2REF
45.	72062021	NUT 5/16-18 HEX JAM (PART OF #40)	2REF
46.	72062024	NUT 1/2-13 HEX JAM (PART OF #40)	2REF
47.	72066162	COTTER PIN (PART OF #40)	4REF
48.	72661204	CLEVIS PIN (PART OF #40)	4REF
49.	72532972	ADPTR #8MJIC #12FJIC	1
50.	72532980	ADTPR PR SW IN-LINE JIC 3/4	1
51.	52712734	STAB HOUSING 7X5	1
52.	70392864	DECAL-WARNING STAB STAND CLEAR	2
54.	71392257	DECAL-STAB POWER DOWN SS	1
55.	71392277	DECAL-STAB POWER OUT	1
56.	72533567	ELBOW #4MSTR #4MJIC XLG	2
57.	70399271	DECAL-FULLY DEPLOYED	2
REV F 20120308			

Stabilizer, Manual Out/Crank Down, 7x5 (31712741)

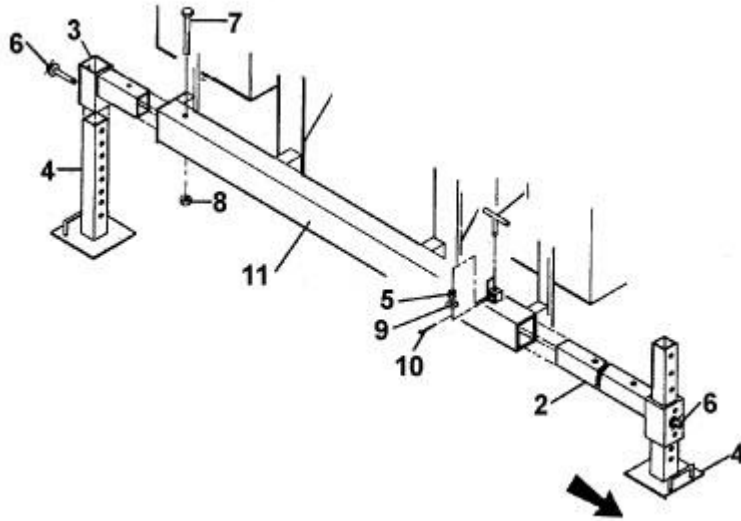


NOTE:

1 TIE STABILIZER HOUSING TUBE INTO STRUCTURAL SUPPORT OF CRANE.

31712741 PARTS LIST			
ITEM	PART #	DESCRIPTION	QUANTITY
1.	51705040	CRANK ASM (INCL. 11-14)	1
2.	52070138	PIN WELDMENT - "T"	1
3.	52712734	STAB HOUSING 7X5	1
4.	52712737	ARM-STAB ADJ. MAN OUT/CRANK DOWN	1
5.	52712738	ARM-STAT MAN OUT/CRANK DOWN	1
6.	60010351	SPRING-"T" PIN	1
7.	72060107	CAP SCR 1/2-13X8 HHGR5	1
8.	72062080	NUT 1/2-13 HEX NYLOC	1
9.	72063007	WASHER 5/8 FLAT	2
10.	72066185	COTTER PIN	1
11.	52705039	CRANK WELDMENT (PART OF #1)	1REF
12.	60030099	ROLLER (PART OF #1)	1REF
13.	72063003	WASHER 3/8 WRT (PART OF #1)	2REF
14.	72062103	NUT 3/8-16 HEX SELF-LOCK (PART OF #1)	1REF
15.	52703319	CRANK HANDLE	1
16.	71039096	CONTROL KNOB	1
17.	70392864	DECAL-DANGER STAB STAND CLEAR	2
REV A 20031117			

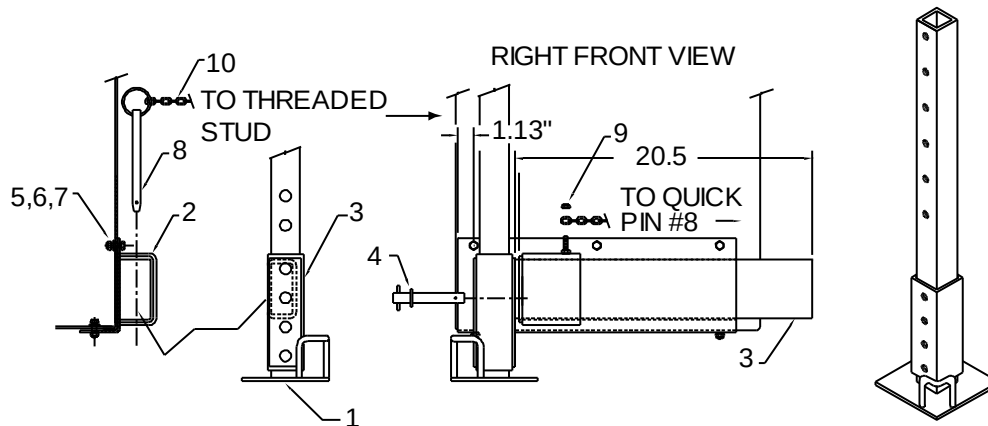
Stabilizer, Manual Out/Manual Down, 7x5 (31712902)



31712902 PARTS LIST			
ITEM	PART #	DESCRIPTION	QUANTITY
1.	52070138	PIN WELDMENT "T"	1
2.	52712889	ADJUSTABLE ARM	1
3.	52712890	STATIONARY ARM	1
4.	52703353	STABILIZER LEG	2
5.	60010351	SPRING	1
6.	71731361	QUICK RELEASE "T" PIN	2
7.	72060107	CAP SCR 1/2-13X8 HHGR5	1
8.	72062080	NUT 1/2-13 NYLOC	1
9.	72063007	WASHER 5/8 WRT	1
10.	72066185	COTTER PIN	1
11.	52712734	STABILIZER HOUSING 7X5	1

REV. A 20031117

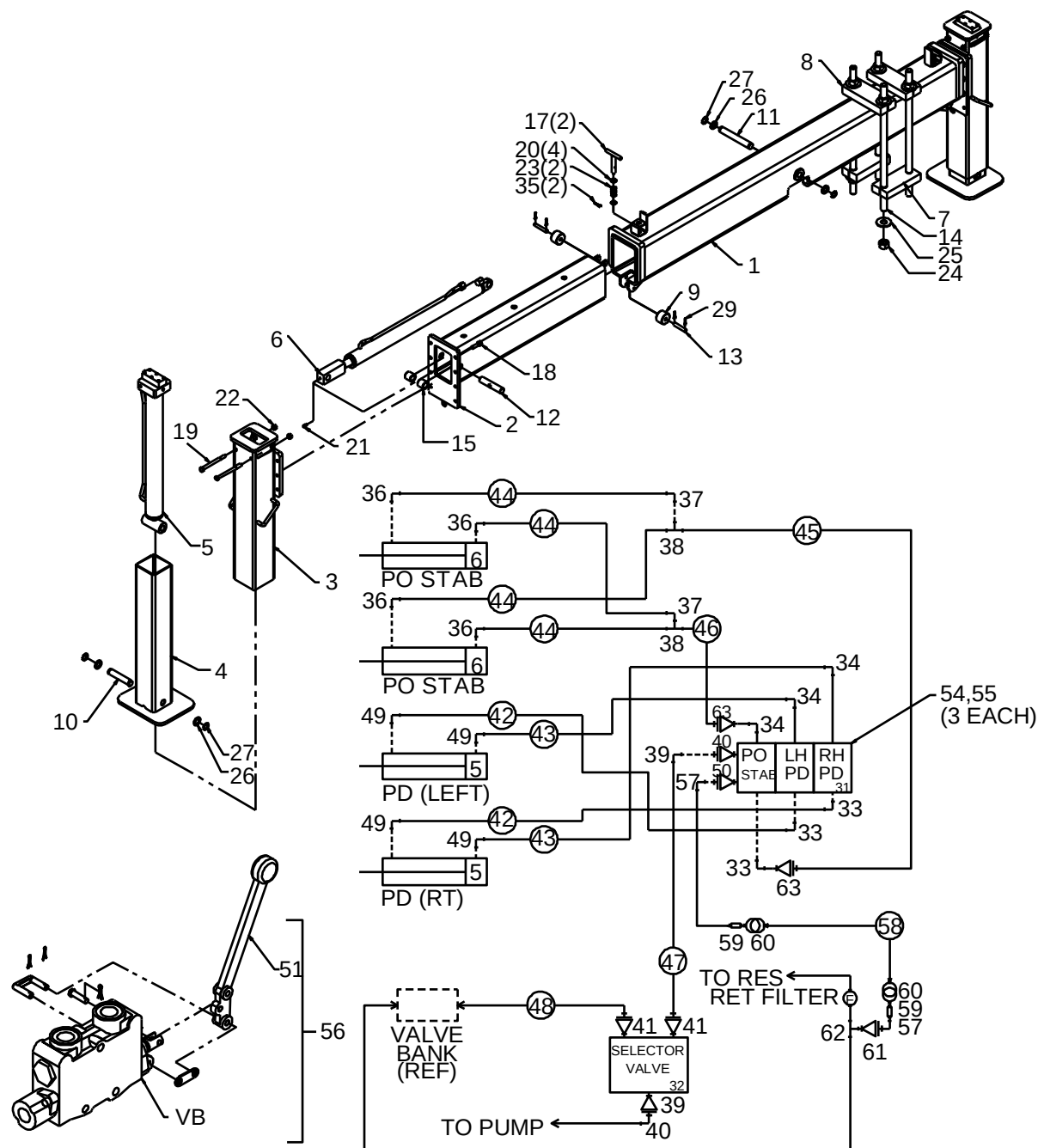
Stabilizer, Front Right Pull-Out (51714110)



51714110 PARTS LIST			
ITEM	PART #	DESCRIPTION	QUANTITY
1.	52714182	STABILIZER LEG	1
2.	52715282	STABILIZER HOUSING, PULL-OUT	1
3.	52715283	STABILIZER ARM	1
4.	71731372	PIN, QUICK RELEASE	1
5.	72060046	CAP SCR 3/8-16X1 HHGR5	5
6.	72062103	NUT 3/8-16 LOCK	5
7.	72063003	WASHER 3/8 LOCK	5
8.	71733327	PIN, QUICK-RELEASE	1
9.	72062104	NUT 1/4-20 HEX NYLOC	1
10.	60114940	CHAIN - 1/8X9"	1

REV. E 20040114

Auxiliary Stabilizers, Power Out/ Power Down (31704123)



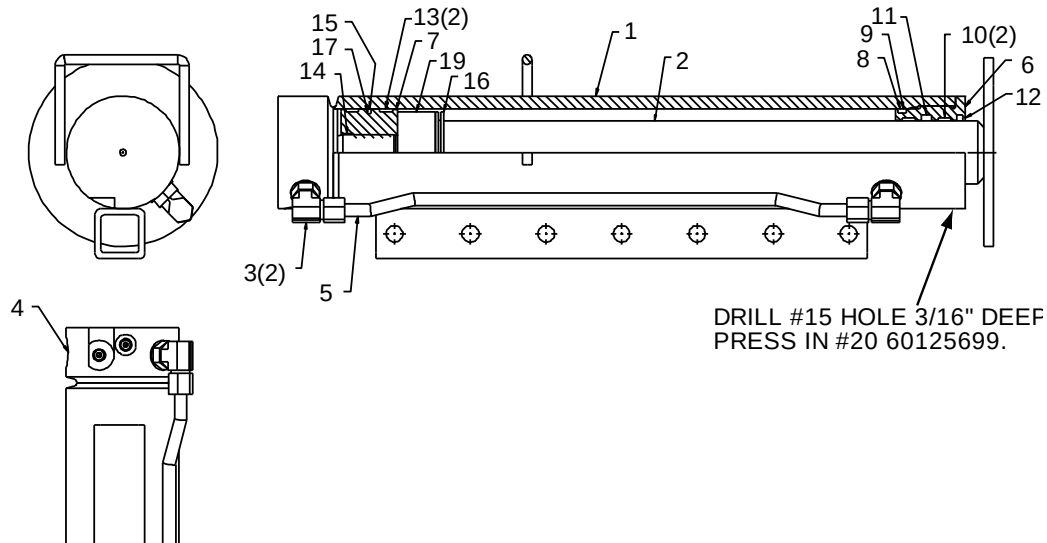
31704123 PARTS LIST

ITEM	PART #	DESCRIPTION	QUANTITY
1.	52704109	STABILIZER HOUSING-WELDMENT	1
2.	52701065	STAB ARM-WELDMENT	2
3.	52704867	STAB HSG-WELDMENT	2
4.	52704868	STAB LEG-WELDMENT	2

31704123 PARTS LIST			
ITEM	PART #	DESCRIPTION	QUANTITY
5.	3B166820	CYLINDER	2
6.	3B210522	CYLINDER	2
7.	60010354	CLAMP PLATE-1.50X3.50X 8.00	4
8.	60106716	CLAMP PLATE-1.50X3.50X 9.25	4
9.	60030053	ROLLER-UHMW .50 X 2.00 X 1.38 LG	4
10.	60106968	PIN	2
11.	60103202	PIN	1
12.	60106281	PIN	2
13.	60106314	PIN	4
14.	71014053	STUD-TIE DOWN 1.00X26.00	8
15.	60106380	PIPE-1.00 SCH40 X 1.25	4
16.	70392566	DECAL-AUX STAB SELECTOR	1
17.	52070138	PIN-WLDMT	2
18.	72060795	CAP SCR .50-13X 1.50 SH PLAIN	12
19.	72060102	CAP SCR .50-13X 5.50 HH GR5 Z	4
20.	72063007	WASHER .62 W FLAT ANSI B27.2Z	4
21.	72060581	SET SCR .38-16X .75 SH PLAIN	2
22.	72062107	NUT .50-13 HEX CENTER LOCK Z	4
23.	60010351	SPRING-"T" PIN	2
24.	72062141	NUT 1.00- 8 HEX LOCK STIN GR5	16
25.	72063066	WASHER 1.00 HI STR ZINC YELLOW	16
26.	72063034	MACHY BUSHING 1.00X10 GA NR	6
27.	72066125	RETAINING RING-EXT 1.00 HD	6
28.	71392277	DECAL-STAB POWER OUT	1
29.	72066178	COTTER PIN .12X1.00 PLAIN	8
30.	71392257	DECAL-STAB POWER DOWN SS	1

REV. 18 20051220

Cylinder, Power Down (3B205010)



NOTES:

- 1 TO REDUCE DOWNTIME, REPLACE ALL COMPONENTS OF THE SEAL KIT WHENEVER THE CYLINDER IS DISASSEMBLED.
- 2 APPLY "LUBRIPLATE #630-2" MEDIUM HEAVY, MULTI-PURPOSE LUBRICANT OR EQUIVALENT TO ALL PISTON AND HEAD GLANDS, LOCK RING AND ROD THREADS BEFORE ASSEMBLY.
- 3 USE ANTI-SEIZE LUBRICATING COMPOUND OR EQUIVALENT BETWEEN THE HEAD AND THE CASE WHEN ASSEMBLING THE CYLINDER.
- 4 ITEM #16, STOP TUBE, REPLACES 6A025025 WAFER LOCK. USE STOP TUBE INSTEAD OF WAFER LOCK WHEN RESEALING CYLINDER.
- 5 TORQUE PISTON TO 500-530 FT-LB, HEAD TO 350 FT-LB, AND CARTRIDGE TO 30-35 FT-LB.

3B205010 PARTS LIST

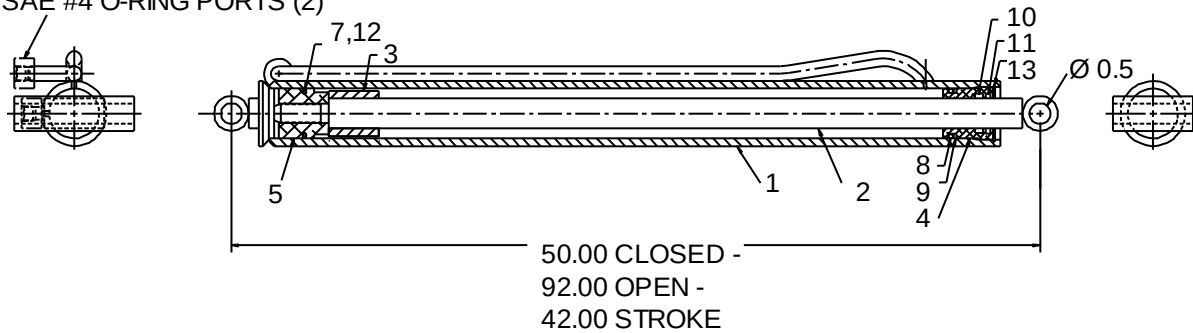
ITEM	PART #	DESCRIPTION	QUANTITY
1.	4B205010	CASE ASY	1
2.	4G048870	ROD ASY	1
3.	72053763	ELBOW #8MSTR #8MJIC 90°	2
4.	73054681	CHECK VALVE	1
5.	5P288970	PORT TUBE	1
6.	6HD35025	HEAD	1
7.	6ID35125	PISTON	1
8.	7Q072338	O-RING	1REF
9.	7Q10P338	BACKUP RING	1REF
10.	7T2NX427	WEAR RING	2REF
11.	7R546025	U-CUP SEAL	1REF
12.	7R14P025	ROD WIPER	1REF
13.	7T2NX435	PISTON RING	2REF
14.	7T61N125	NYLON LOCK RING	1REF
15.	7T66P035	PISTON SEAL	1REF
16.	60138260	STOP TUBE (WAS 6A025025 WAFER LOCK) (SEE NOTE)	1REF

3B205010 PARTS LIST

17.	7Q072151	O-RING	1REF
18.	9D142020	SEAL KIT (INCL. 8-17, 20)	1
19.	6C015025	STOP TUBE	1
20.	60125699	PIN-LOCK TUBE	1
REV. D 20120312			

Cylinder, Power Out (3B142860) (Effective 2-07, prior to 8-05)

SAE #4 O-RING PORTS (2)

**CYLINDER DATA**

CLOSED LENGTH	50.17 / 49.85" CLOSED
OPEN LENGTH	92.33 / 91.59" OPEN
STROKE	42.15 / 41.84" STROKE
PISTON TORQUE	10-40 FT-LB
CARTRIDGE TORQUE	30-35 FT-LB

NOTES:

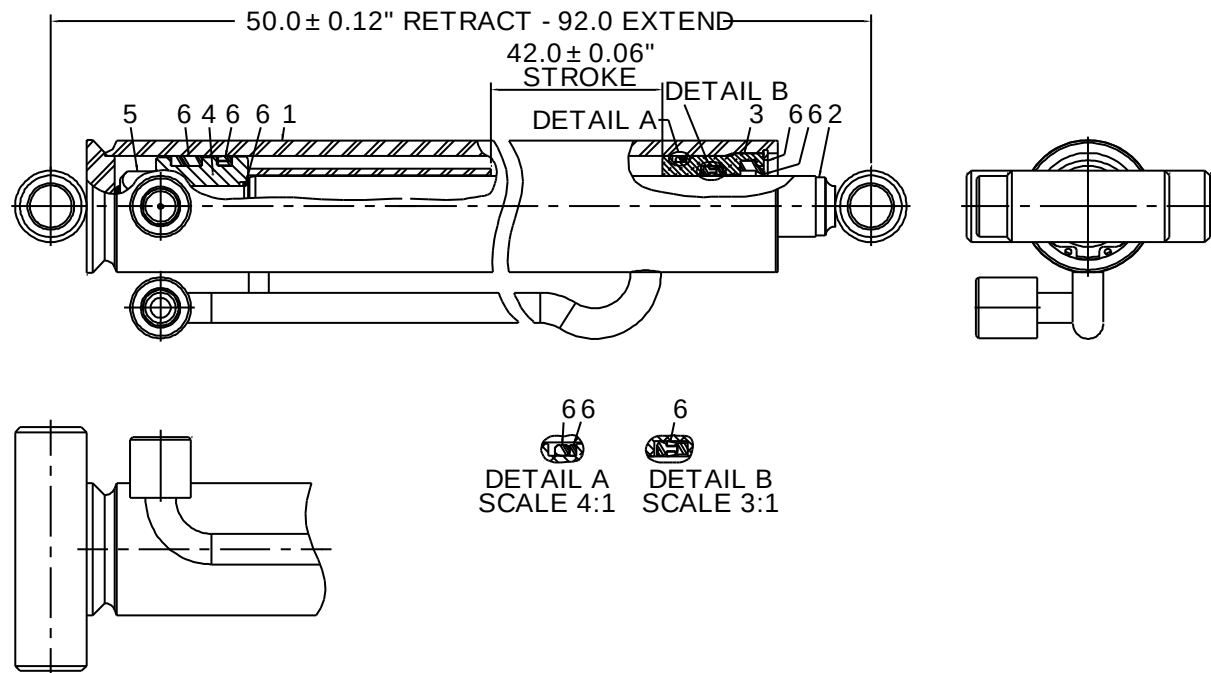
- 1 REPLACE ALL COMPONENTS OF THE SEAL KIT WHENEVER THE CYLINDER IS DISASSEMBLED. THIS WILL REDUCE FUTURE DOWNTIME.
- 2 APPLY REGULAR GRADE ANTI-SEIZE AND LUBRICATING COMPOUND TO THE THREADS ON THE CYLINDER HEAD ONLY. KEEP AWAY FROM ALL SEALS.
- 3 APPLY "LUBRIPLATE" NO. 630-2 MEDIUM HEAVY, MULTI-PURPOSE LUBRICANT, TO ALL PISTON HEAD GLAND AND HOLDING VALVE SEALS, NYLON LOCK RING, CAST IRON PISTON RINGS, AND ROD STINGER THREADS.
- 4 TORQUE PISTON TO 10-40 FT-LB, CARTRIDGE TO 30-35 FT-LB.

3B142860 PARTS LIST

ITEM	PART #	DESCRIPTION	QUANTITY
1.	4B142860	CASE ASM	1
2.	4G142860	ROD ASM	1
3.	6C125007	STOP TUBE	1
4.	6H012007	HEAD	1
5.	6I012050	PISTON	1
6.	9B050608	SEAL KIT	REF
7.	7Q072021	O-RING	1
8.	7Q072214	O-RING	1
9.	7Q10P214	BACKUP RING	1
10.	7R100750	U-CUP SEAL	1

3B142860 PARTS LIST			
11.	7R13P007	ROD WIPER	1
12.	7T66P012	PISTON SEAL	1
13.	72066029	RETAINING RING	1
REV B 20120417			

Cylinder, Power Out (71411797) (Used 9-05 to 1-07)



NOTES:

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

71411797 CYLINDER DATA

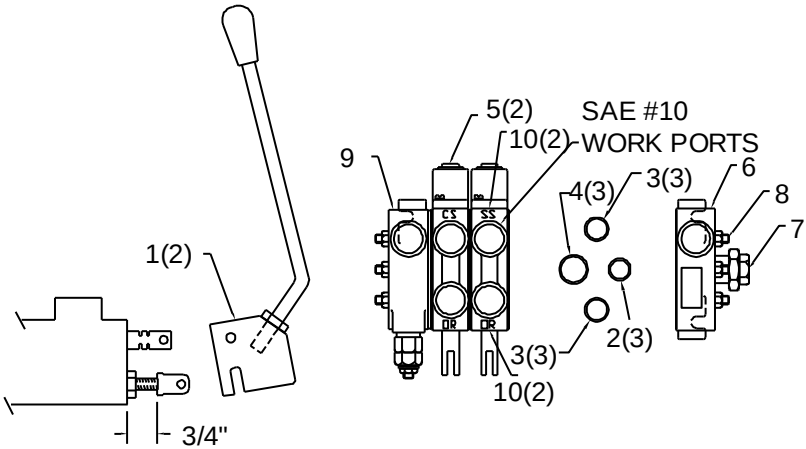
EXTENDED	1.23 IN ² , 0.22 GAL
RETRACTED	0.79 IN ² , 0.14 GAL
CASE	1.25 BORE X Ø1.63
ROD	Ø 0.750
DRY WEIGHT	19.7 LB
TEST PRESSURE	3000 PSI
OPERATING PRESSURE	2500 PSI
PORTS	SAE #4 O-RING BOSS (7/16-20 UNF-2B)
CYLINDER TUBE BURST PRESSURE	20,000 PSI
TORQUE	TORQUE LOCKNUT (#6) WITH THREADLOCK COMPOUND TO 35-40 FT-LB

71411797 PARTS LIST

ITEM	PART #	DESCRIPTION	QUANTITY
1.	71411933	CASE WELDMENT	1
2.	71411934	ROD WELDMENT	1
3.	71411935	HEAD GLAND	1
4.	71411936	PISTON	1
5.	-REF-	LOCKNUT 1-14 UNS	1
6.	94396794	SEAL KIT	1

NEW 20051010

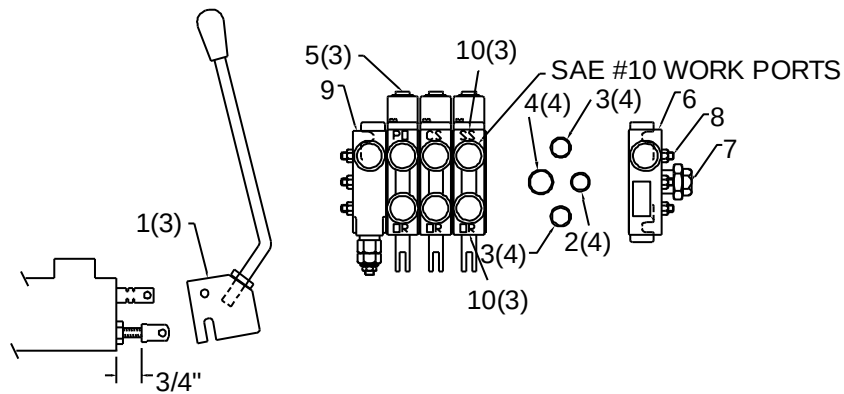
Valve Bank, 2-Section (51705983)



FOR OUTRIGGER VALVE BANK LEVER PIVOT BOLT MUST BE HELD OUT 3/4" SO HANDLE TIPS IN AS SHOWN.

51705983 PARTS LIST			
ITEM	PART #	DESCRIPTION	QUANTITY
1.	73540073	LEVER ASM	2
2.	7Q072017	O-RING SM	3
3.	7Q072018	O-RING MED	6
4.	7Q072021	O-RING LG	3
5.	73540074	VALVE SECTION 4-WAY	2
6.	73540075	END COVER RH	1
7.	73540076	POWER BEYOND ADAPTER	1
8.	73540078	TIE ROD KIT (2 SECT)	1
9.	73540077	END COVER-LH	1
10.	7Q072114	O-RING	4

Valve Bank, 3-Section (51705984)



FOR OUTRIGGER VALVE BANK LEVER, PIVOT BOLT MUST BE HELD OUT 3/4" SO HANDLE TIPS IN AS SHOWN.

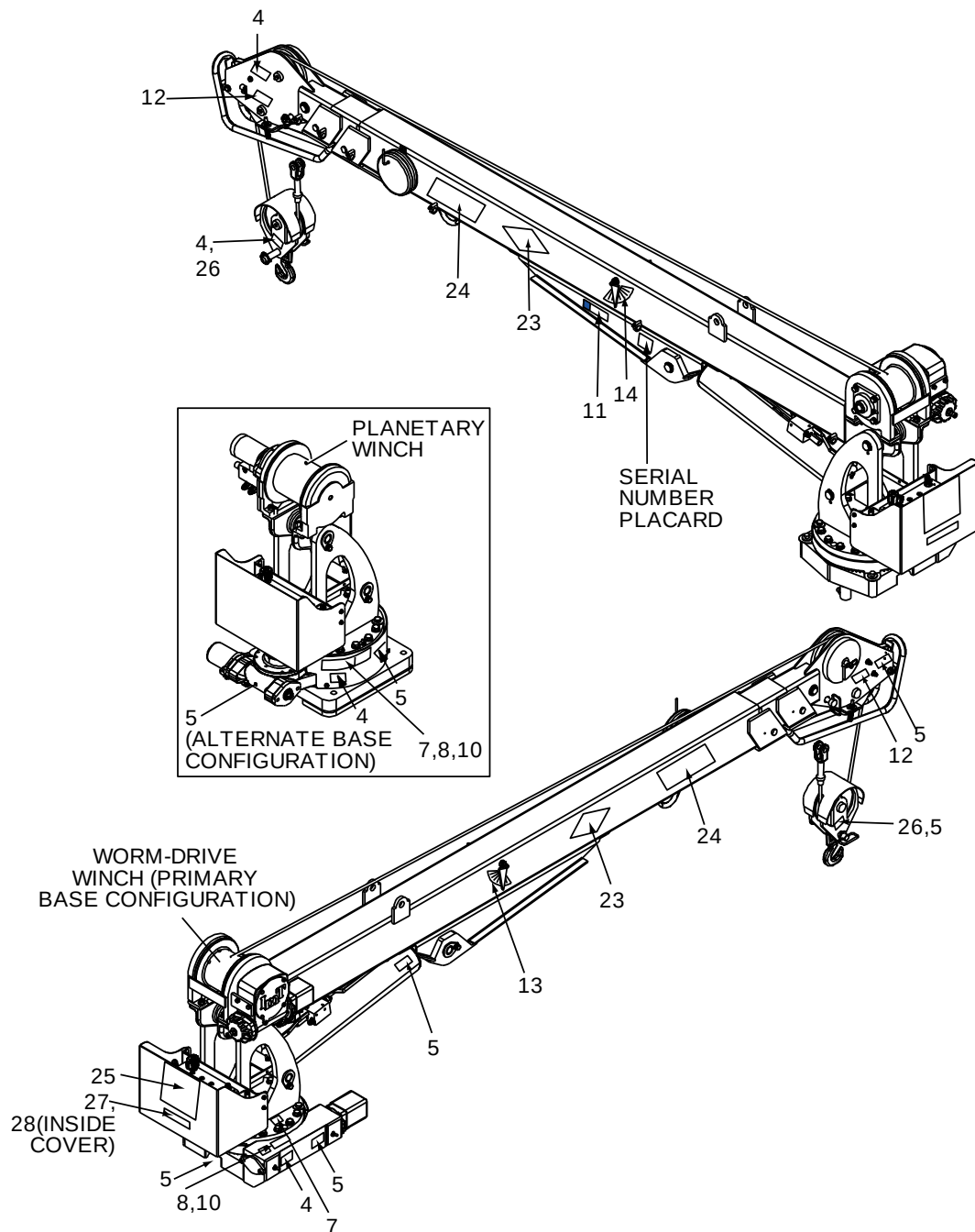
51705984 PARTS LIST

ITEM	PART #	DESCRIPTION	QUANTITY
1	73540073	HANDLE ASM	3
2	7Q072017	O-RING SM	4
3	7Q072018	O-RING MED	8
4	7Q072021	O-RING LG	4
5	73540074	VALVE SECTION	3
6	73540075	END COVER RH	1
7	73540076	POWER BEYOND ADAPTER	1
8	73540079	TIE ROD KIT	1
9	73540077	END COVER LH	1
10	7Q072114	O-RING	6

REV. F 20040115

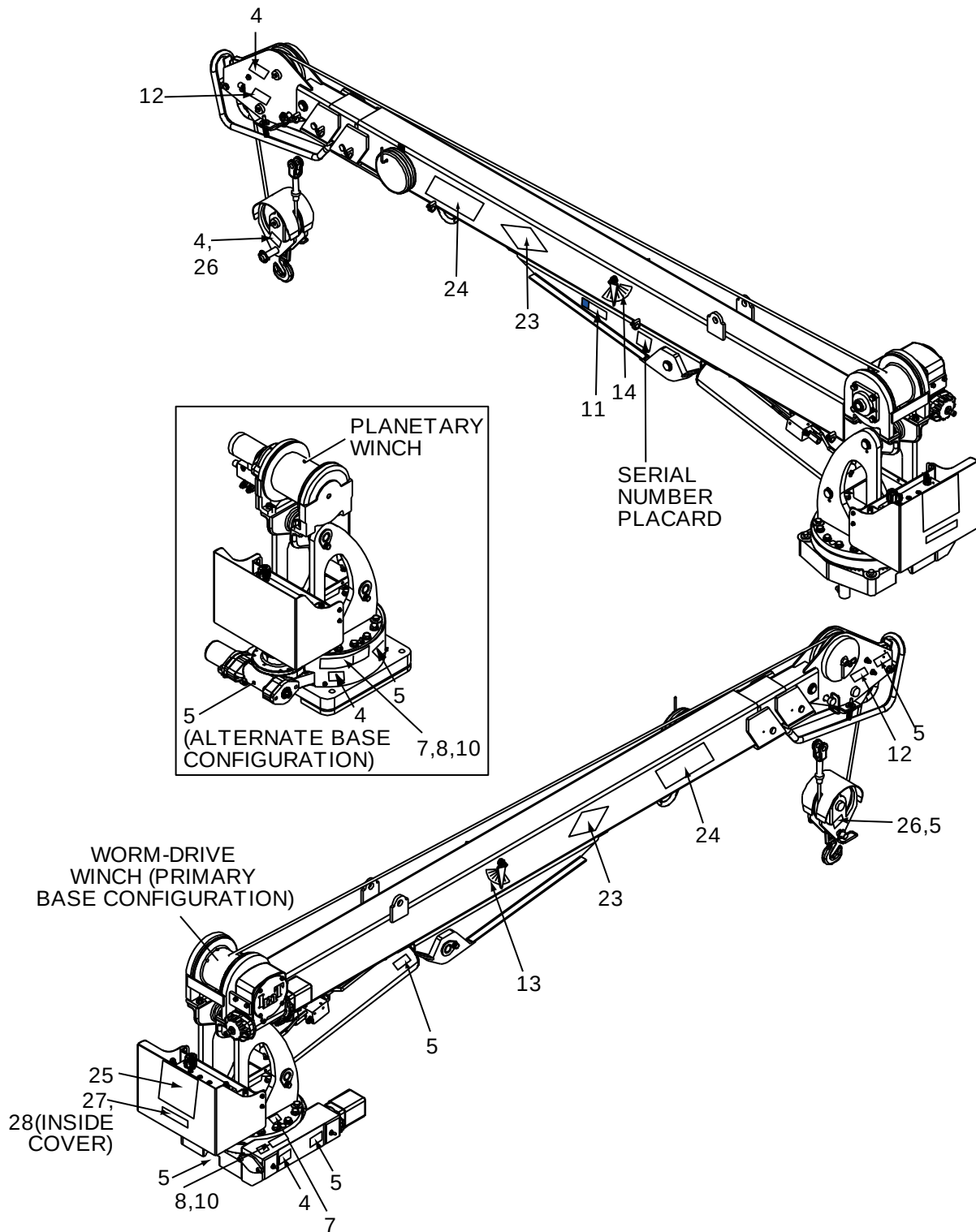
Decal Kits

3820 Decal Kit (99903752)



DECAL PLACEMENT (IF NOT SHOWN ON CRANE)			
ITEM #	PLACEMENT		
21,22,25,29	AT OR NEAR REMOTE HANDLE STORAGE POINT		
15	ON STABILIZERS OR BUMPER GUSSET		
16	2 ON REAR STABILIZERS, 2 ON SIDEPACK FRONT WALLS		
18	AT OR NEAR DRIVELINE		
17,20	ON ALL FOUR SIDES OF CARRIER VEHICLE		
19	ON OIL RESERVOIR		
7,8,10	ON TOP OF BASE OVER WORM DRIVE (PRIMARY CONFIGURATION) OR ON GEAR GUARD (ALTERNATE CONFIGURATION)		
99903752 PARTS LIST			
ITEM	PART #	DESCRIPTION	QUANTITY
1.	95719347	DECAL KIT, TELESCOPIC (COMMON) (INCL. 4-14, 28)	1
2.	95719348	DECAL KIT, BODY (COMMON) (INCL. 15-22,29)	1
3.	95719663	DECAL KIT, 3820 MODEL SPECIFIC (INCL. 23-27)	1
4.	70391612	DECAL-GREASE WEEKLY, LEFT	3
5.	70391613	DECAL-GREASE WEEKLY, RIGHT	5
7.	70392399	DECAL-LUBRICATION	1
8.	70392524	DECAL-ROTATE WHILE GREASING	1
10.	70395090	DECAL-GREASE WORM DRIVE BRNGS	1
11.	70395324	DECAL-ASME/ANSI B30.5	1
12.	70395670	DECAL-CAUTION, DOWNHAUL WT	2
13.	71391522	DECAL-ANGLE INDICATOR (RH)	1
14.	71391523	DECAL-ANGLE INDICATOR (LH)	1
15.	70391598	DECAL-WARNING, MANUAL STAB	2
16.	70392864	DECAL-STABILIZER STAND CLEAR	4
17.	70392868	DECAL-DANGER LOADLINE (TRUCK)	4
18.	70392891	DECAL-DANGER DRIVELINE	1
19.	70394189	DECAL-OIL RESERVOIR	1
20.	70394445	DECAL-DANGER ELECTROCUTION	4
21.	70396613	DECAL-CRANE OPERATION	1
22.	71039134	DECAL-CAUTION, OIL LEVEL	1
23.	70392887	DECAL-DIAMOND IMT 5.00 X 10.00	2
24.	70396656	DECAL-3820 ID	2
25.	70396774	DECAL-CP, 3820	2
26.	70394453	DECAL-4 TON LD BLOCK RATING	2
27.	70396631	DECAL-MANUAL OP	1
28.	70394166	DECAL-MANUAL OVERRIDE INST.	1
29.	70392982	DECAL-SERVICE & REPAIR	1

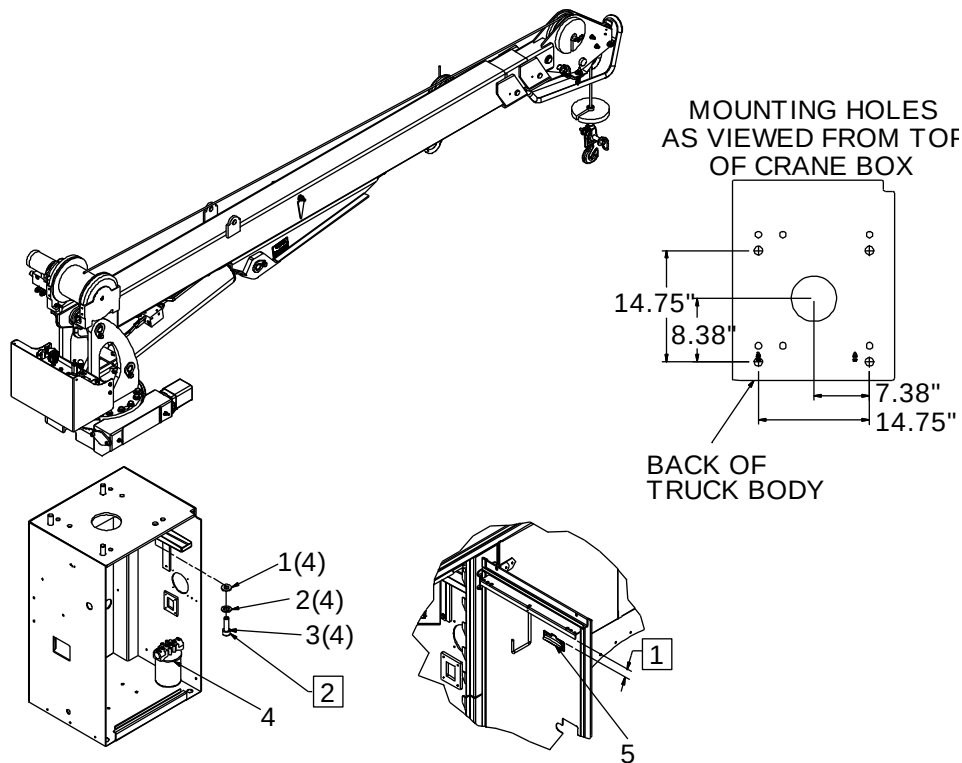
5020 Decal Kit (99903753)



DECAL PLACEMENT (IF NOT SHOWN ON CRANE)			
ITEM #	PLACEMENT		
21,22,25,29	AT OR NEAR REMOTE HANDLE STORAGE POINT		
15	ON STABILIZERS OR BUMPER GUSSET		
16	2 ON REAR STABILIZERS, 2 ON SIDEPACK FRONT WALLS		
18	AT OR NEAR DRIVELINE		
17,20	ON ALL FOUR SIDES OF CARRIER VEHICLE		
19	ON OIL RESERVOIR		
7,8,10	ON TOP OF BASE OVER WORM DRIVE (PRIMARY CONFIGURATION) OR ON GEAR GUARD (ALTERNATE CONFIGURATION)		
99903753 PARTS LIST			
ITEM	PART #	DESCRIPTION	QUANTITY
1.	95719347	DECAL KIT, TELESCOPIC (COMMON) (INCL. 4-14,28)	1
2.	95719348	DECAL KIT, BODY (COMMON) (INCL. 15-22,29)	1
3.	95719743	DECAL KIT, 5020 MODEL SPECIFIC (INCL. 23-27)	1
4.	70391612	DECAL-GREASE WEEKLY, LEFT	3
5.	70391613	DECAL-GREASE WEEKLY, RIGHT	5
7.	70392399	DECAL-LUBRICATION	1
8.	70392524	DECAL-ROTATE WHILE GREASING	1
10.	70395090	DECAL-GREASE WORM DRIVE BRNGS	1
11.	70395324	DECAL-ASME/ANSI B30.5	1
12.	70395670	DECAL-CAUTION, DOWNHAUL WT	2
13.	71391522	DECAL-ANGLE INDICATOR (RH)	1
14.	71391523	DECAL-ANGLE INDICATOR (LH)	1
15.	70391598	DECAL-WARNING, MANUAL STAB	2
16.	70392864	DECAL-STABILIZER STAND CLEAR	4
17.	70392868	DECAL-DANGER LOADLINE (TRUCK)	4
18.	70392891	DECAL-DANGER DRIVELINE	1
19.	70394189	DECAL-OIL RESERVOIR	1
20.	70394445	DECAL-DANGER ELECTROCUTION	4
21.	70396613	DECAL-CRANE OPERATION	1
22.	71039134	DECAL-CAUTION, OIL LEVEL	1
23.	70029251	DECAL-DIAMOND IMT 5.00 X 10.00	2
24.	70396786	DECAL-5020 ID	2
25.	70396776	DECAL-CP, 5020	2
26.	73096787	DECAL-4.3 TON LD BLOCK RATING	2
27.	70396631	DECAL-MANUAL OP	1
28.	70394166	DECAL-MANUAL OVERRIDE INST.	1
29.	70392982	DECAL-SERVICE & REPAIR	1

Installation Kits

Installation Kit (93719692)



CAUTION

THE 3" BOLTS SUPPLIED ARE FOR USE ON BODIES WITH A CRANE BOX TOP PLATE THICKNESS OF 7/8" TO 1" ONLY. DETERMINE THE CRANE BOX TOP PLATE THICKNESS PRIOR TO MOUNTING. IF DIFFERENT LENGTH BOLTS ARE REQUIRED, THEY MUST BE 1-8, GRADE 8, ZINC COATED, OF THE PROPER LENGTH. FAILURE TO USE PROPER LENGTH BOLTS MAY CAUSE THE BOLTS UNDER THE WORM HOUSING TO BOTTOM OUT BEFORE TORQUEING. INSURE A MINIMUM OF 1-1/2" THREAD ENGAGEMENT.

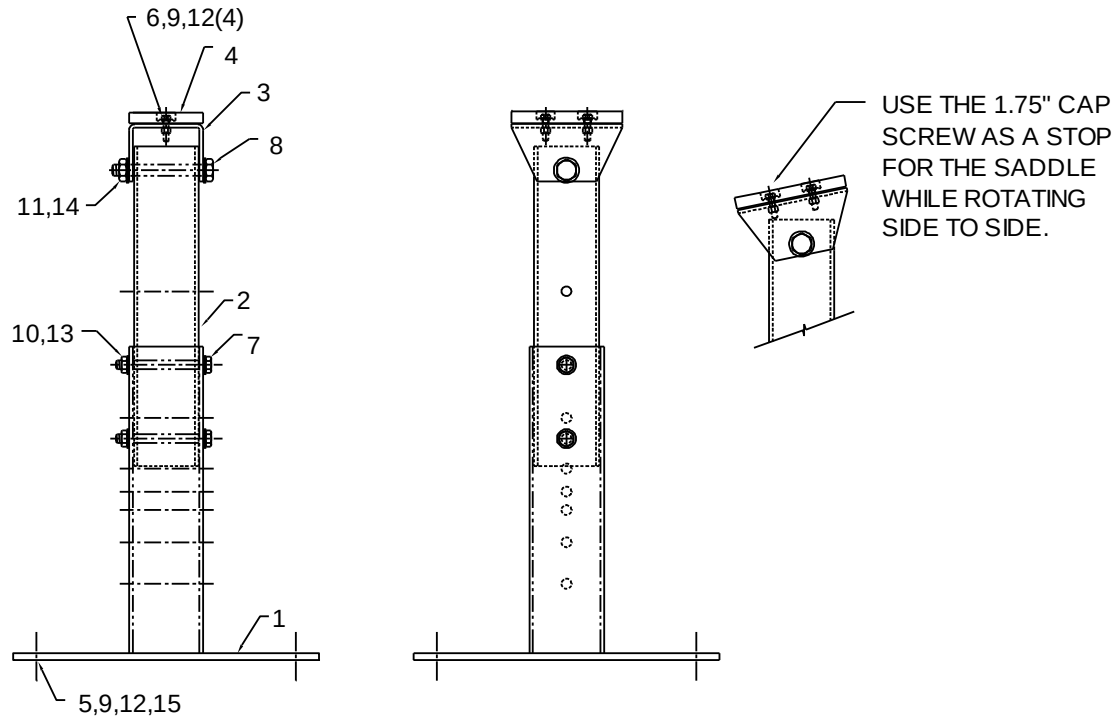
NOTE:

- 1 LEVEL INDICATOR MUST BE INSTALLED PARALLEL TO THE DOOR REINFORCEMENTS.
- 2 TORQUE TO 680 FT-LB.

93719692 PARTS LIST			
ITEM	PART #	DESCRIPTION	QUANTITY
1.	60123848	WASHER-SPECIAL 1.00 X 2.00 X 0.25	4
2	72063066	WASHER 1.00 FLAT HI STR	4
3.	72601748	CAP SCR 1.00- 8X 3.00 SH GR8	4
4.	73052091	FILTER-HYD RET 10MIC 1.25 NPTF	1
5.	72042097	LEVEL INDICATOR	1
REV. E 20080515			

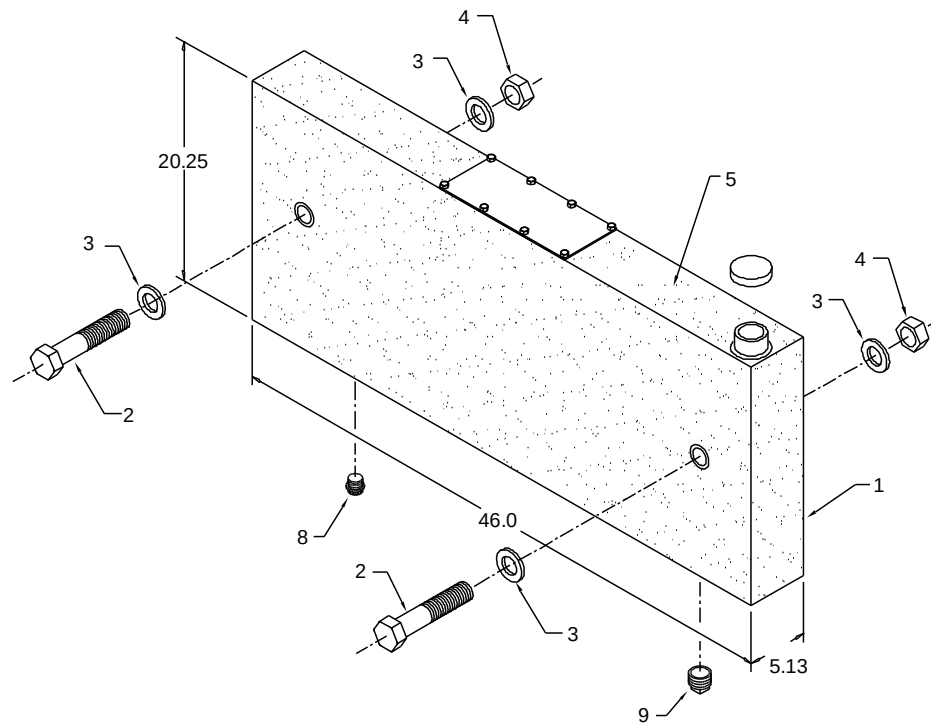
Miscellaneous

Boom Support Assembly (51714181)



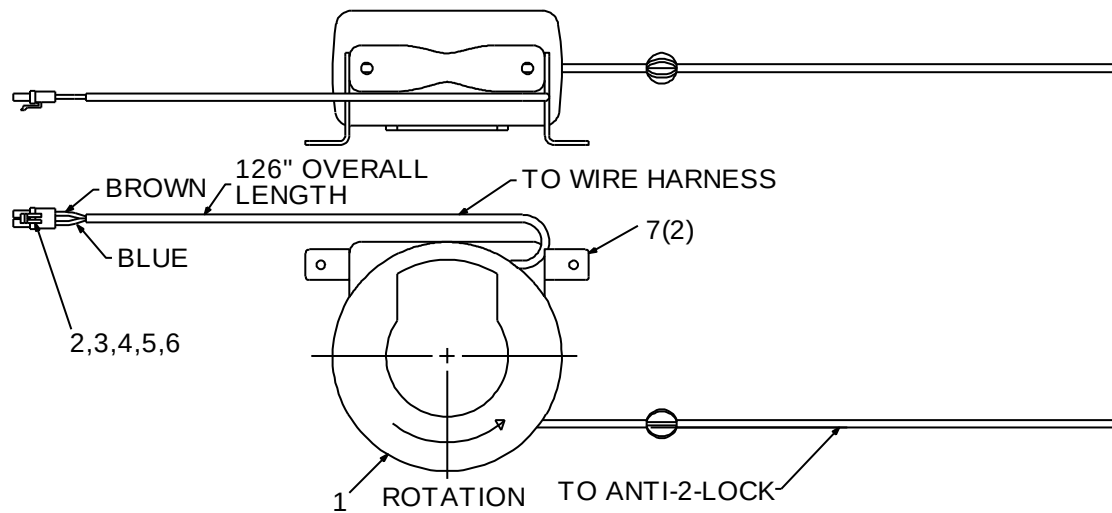
51714181 PARTS LIST			
ITEM	PART #	DESCRIPTION	QUANTITY
1.	52708159	PEDESTAL	1
2.	60121853	TUBE	1
3.	60120516	SADDLE	1
4.	60030306	WEAR PAD	1
5.	72060048	CAP SCR 3/8-16X1-1/2 HHGR5	4
6.	72060049	CAP SCR 3/8-16X1-3/4 HHGR5	2
7.	72060101	CAP SCR 1/2-13X5 HHGR5	2
8.	72601671	CAP SCR 3/4-10X5-1/2 HHGR5	1
9.	72062103	NUT 3/8-16 LOCK	6
10.	72062080	NUT 1/2-13 LOCK	2
11.	72062114	NUT 3/4-10 LOCK	1
12.	72063003	WASHER 3/8 WRT	12
13.	72063005	WASHER 1/2 WRT	4
14.	72063008	WASHER 3/4 WRT	2
15.	76392821	WASHER-BONDED PLTD	4
16.	51716384	HARDWARE KIT (INCL. 5-15)	1

Reservoir (51707798)



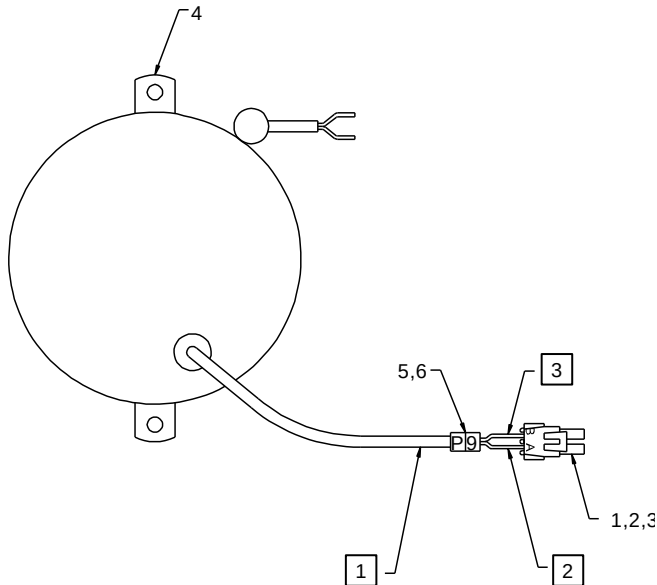
51707798 PARTS LIST			
ITEM	PART #	DESCRIPTION	QUANTITY
1.	52711432	RESERVOIR WELDMENT	1
2.	72060104	CAP SCR 1/2-13X6-1/2 HHGR5	2
3.	72063005	WASHER 1/2 WRT	8
4.	72062080	NUT 1/2-13 LOCK	2
5.	70394189	DECAL-OIL RECOMMENDED	1
8.	70393233	PLUG 3/4NPT	1
9.	72601004	PLUG 1-1/4NPT SQUARE HEAD	1

Cord Reel Assembly (51720302)



51720302 PARTS LIST			
ITEM	PART #	DESCRIPTION	QUANTITY
1.	70734075	CORD REEL	1
2.	77044574	CONNECTION-WP 2CAV FEMALE/TOWER	1
3.	77044550	TERMINAL-WP 18-20GA FEMALE	2
4.	70394069	SEAL	2
5.	77041493	WIRE MARKER	1
6.	77041491	WIRE MARKER	1
7.	60128001	BRACKET, CORD REEL	2
REV. A 20060815			

Cord Reel Assembly (51713168) (Through 8-1-06)

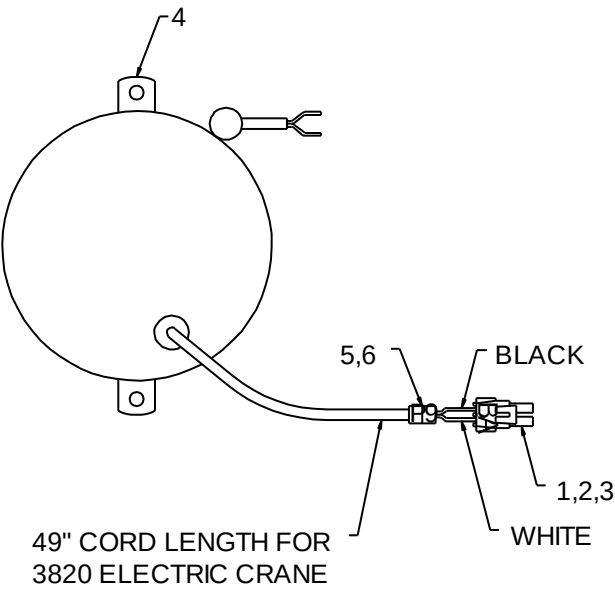


NOTES (SEE REFERENCE NUMBER IN BOX):

- 1 CUT TO LENGTH.
- 2 WHITE
- 3 BLACK

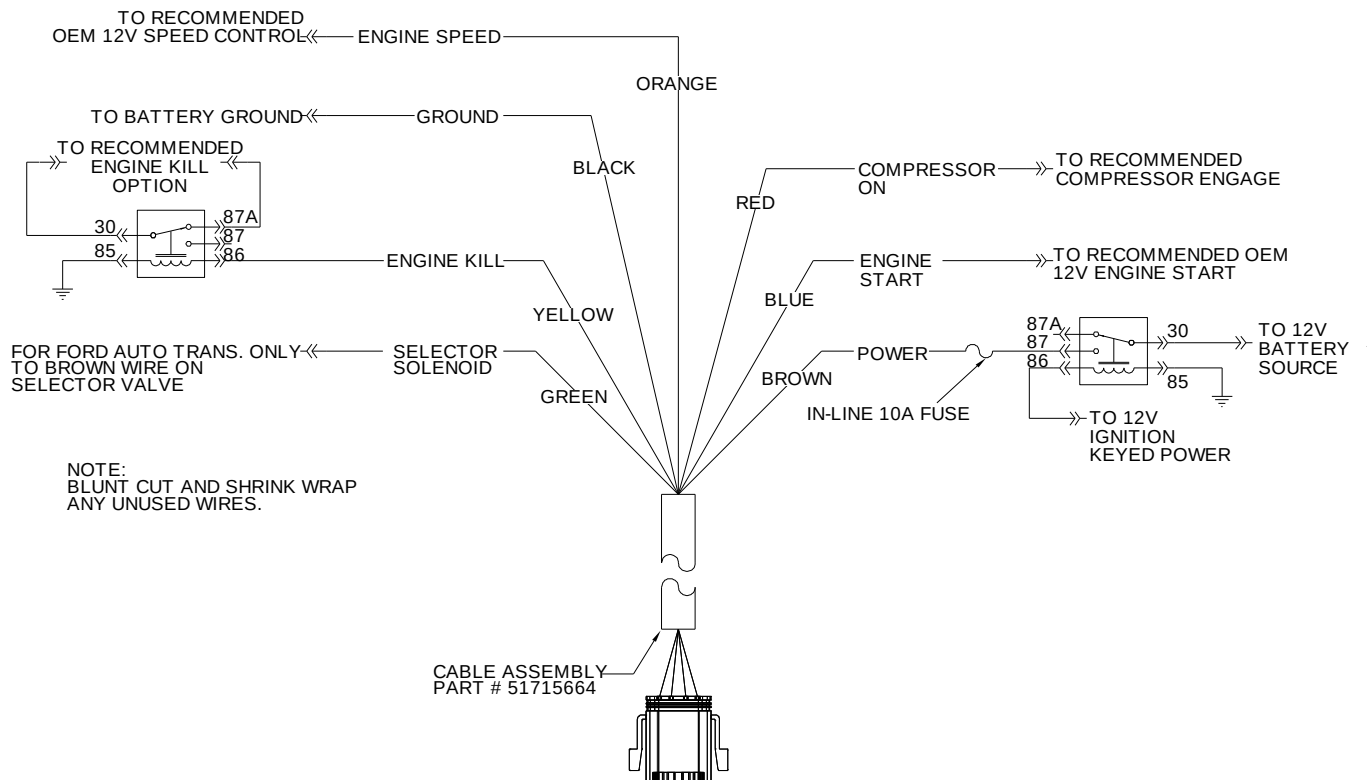
51713168 PARTS LIST			
ITEM	PART #	DESCRIPTION	QUANTITY
1.	77044574	TOWER CONNECTOR	1
2.	77044552	PIN 18-20GA	2
3.	70394069	CABLE SEAL	2
4.	70732193	CORD REEL	1
5.	77041493	WIRE MARKER	1
6.	77041491	WIRE MARKER	1

Cord Reel Assembly - Electric Cranes (51717275)



51717275 PARTS LIST			
ITEM	PART #	DESCRIPTION	QUANTITY
1.	77044574	CONNECTOR	1
2.	77044550	TERMINAL-FEM 18-20 GA	2
3.	70394069	SEAL-CABLE GREEN	2
4.	70732193	CORD REEL-ANTI 2 BLOCK	1
5.	77041493	WIRE MARKER-PA2-P-YELLOW	1
6.	77041491	WIRE MARKER-PA2-9-YELLOW	1

Chassis Wiring Harness (99903340)



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

CHAPTER 5

General Reference

In This Chapter

Inspection Checklist	137
Deficiency / Recommendation / Corrective Action Report.....	142
Wire Rope Inspection & Replacement	144
Hook Inspection.....	145
Holding Valve Inspection	146
Anti-Two-Block Device Inspection	146
Thread Torques.....	147
Turntable Bearing Thread Tightening Sequence	150
Turntable Bearing Inspection.....	151
Turntable Bearing Tilt Test	151

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 (which ever comes first) includes all daily inspections plus items designated with an (M). This inspection must be recorded and retained for a minimum of 3 months.

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

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

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.	
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.	

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

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

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

[illegible]

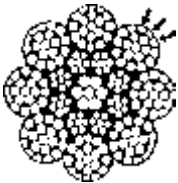
Wire Rope Inspection & Replacement

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

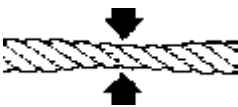
- a Corrosion can be cause for replacement. Any development of corrosion must be noted and monitored closely.
- b When there are either three broken wires in one strand or a total of six broken wires in all strands in any one rope lay.



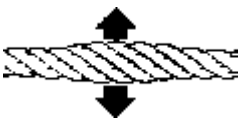
- c When flat spots on the outer wires appear and those outside wires are less than $\frac{2}{3}$ the thickness of the unworn outer wire.



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



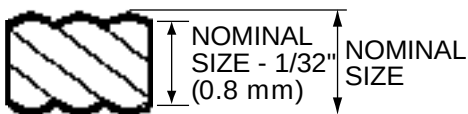
- e When kinking, crushing, birdcaging or other distortion occurs.



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



- g When the diameter is reduced from nominal size by $\frac{1}{32}$ " (0.8 mm) or more.



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



Hook Inspection

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

a DISTORTION

Bending / Twisting

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

Increased Throat Opening

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

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

b WEAR

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

c CRACKS, NICKS, GOUGES

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

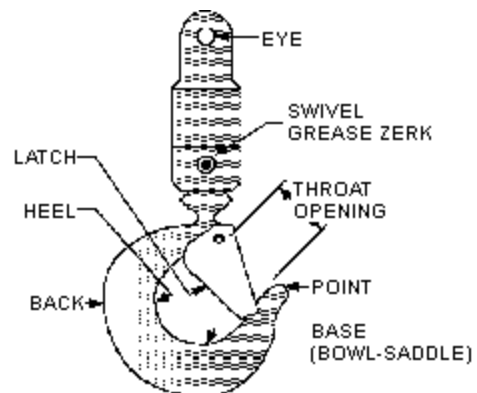
d LATCH

Engagement, Damage & Malfunction

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

e HOOK ATTACHMENTS & SECURING MEANS

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



Holding Valve Inspection

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

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

Anti-Two-Block Device Inspection

(See the operation, maintenance, and repair manual for this crane for a complete description.)

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

- 1 Examine flexible rod and weight to insure free unrestricted mechanical operation.
- 2 Examine cord for damage, cuts or breaks. Grasp cord and pull to check operation of cord reel. The cord should retract on reel when released.
- 3 Start vehicle, engage PTO and slowly winch loadline up until anti-two-block weight comes in contact with the hook end of the loadline cable. At the moment the weight is fully supported, a marked difference in winch operation should be noted. At this point, the winch up function should become very sluggish or non-functioning and have very little pull capability. Slowly increase truck engine speed while simultaneously actuating the winch up function. The winch characteristics should remain sluggish with little or no tensioning of the cable. If operation other than as described occurs, stop immediately and investigate. Failure to do so will risk damage to the cable or the crane. If all is well at this point, actuate the boom extend function slowly, and gradually increase to full actuation. Once again the function should be sluggish or non-existent with no tightening of the winch cable. If operation other than described occurs, stop immediately and reverse the function.
- 4 The final check involves actuating both the winch up and extend functions together and checking for proper operation of the anti-two-blocking circuit. Once again, start slowly and stop if it appears the cable is being tensioned.
- 5 If the anti-two-block function appears to be functioning normally, winch the cable down until the sensing weight swings free.

Thread Torques

WARNING

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

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

- 1 Bolt manufacturer's particular specifications should be consulted when provided.
- 2 Flat washers of equal strength must be used.
- 3 All torque measurements are given in foot-pounds. To convert to inch-pounds, multiply by 12.
- 4 Torque values specified are for bolts with residual oils or no special lubricants applied. If special lubricants of high stress ability, such as Never-Seez compound graphite and oil, molybdenum 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.

FINE THREAD TORQUE CHART (ENGLISH)

TIGHTENING TORQUE					
SIZE (DIA-TPI)	BOLT DIA. (INCHES)	 SAE J429 GRADE 5		 SAE J429 GRADE 8	
		PLAIN (FT-LB)	PLATED (FT-LB)	PLAIN (FT-LB)	PLATED (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 TORQUE CHART (ENGLISH)

TIGHTENING TORQUE					
SIZE (DIA-TPI)	BOLT DIA. (INCHES)	 SAE J429 GRADE 5		 SAE J429 GRADE 8	
		PLAIN (FT-LB)	PLATED (FT-LB)	PLAIN (FT-LB)	PLATED (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

FINE THREAD TORQUE CHART (METRIC)**TIGHTENING TORQUE**

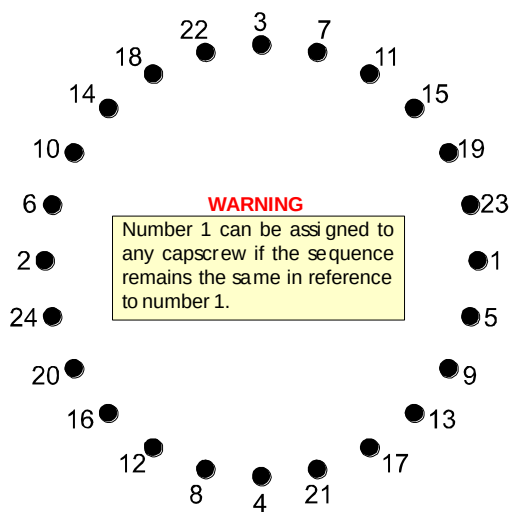
SIZE (DIA-TPI)	BOLT DIA. (INCHES)	 SAE J429 GRADE 5		 SAE J429 GRADE 8	
		PLAIN (KG-M)	PLATED (KG-M)	PLAIN (KG-M)	PLATED (KG-M)
5/16-24	0.3125	3	2	4	3
3/8-24	0.375	5	4	7	5
7/16-20	0.4375	8	6	11	8
1/2-20	0.5	12	9	17	12
9/16-18	0.5625	17	12	24	18
5/8-18	0.625	24	18	33	25
3/4-16	0.75	41	31	58	44
7/8-11	0.875	62	45	93	69
1-12	1	89	67	138	103
1 1/8-12	1.125	123	93	200	150
1 1/4-12	1.25	171	129	278	209
1 3/8-12	1.375	232	174	375	281
1 1/2-12	1.5	304	228	492	369

COARSE THREAD TORQUE CHART (METRIC)**TIGHTENING TORQUE**

SIZE (DIA-TPI)	BOLT DIA. (INCHES)	 SAE J429 GRADE 5		 SAE J429 GRADE 8	
		PLAIN (KG-M)	PLATED (KG-M)	PLAIN (KG-M)	PLATED (KG-M)
5/16-18	0.3125	2	2	3	2
3/8-16	0.375	4	3	6	5
7/16-14	0.4375	7	5	10	7
1/2-13	0.5	10	8	15	11
9/16-12	0.5625	15	11	21	16
5/8-11	0.625	21	16	30	22
3/4-10	0.75	37	28	52	39
7/8-9	0.875	55	41	84	63
1-8	1	82	62	126	94
1 1/8-7	1.125	110	82	178	133
1 1/4-7	1.25	155	116	251	188
1 3/8-6	1.375	203	152	329	246
1 1/2-6	1.5	270	210	438	328

Turntable Bearing Thread Tightening Sequence

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



TIGHTENING PROCEDURE

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

Turntable Bearing Inspection

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

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

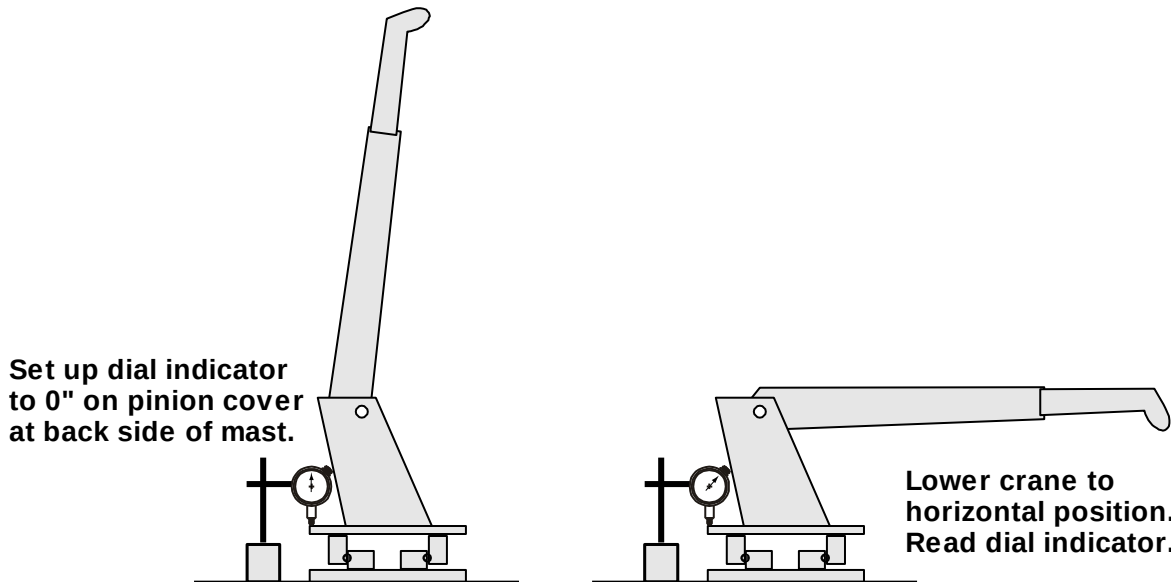
If one or more of the above conditions exists, further inspection may be required. Limits are measured in "TILT" which is dependent on the internal clearances of the bearing. TILT is the most practical determination of a bearings' internal clearance once mounted on a crane. You can measure the tilt using the ***Turntable Bearing Tilt Test***. (see "Turntable Bearing Tilt Test" on page 151)

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

Turntable Bearing Tilt Test

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

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



COMPARISON CHART - MEASURED TILT DIMENSION PER CRANE MODEL

NOTE: The tilt dimensions listed in this chart are service guidelines and do not, in themselves, require that the bearing be inspected.

If there is reason to suspect an excess of bearing wear **AND** the measured tilt dimension exceeds the dimension listed, remove the bearing for inspection.

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