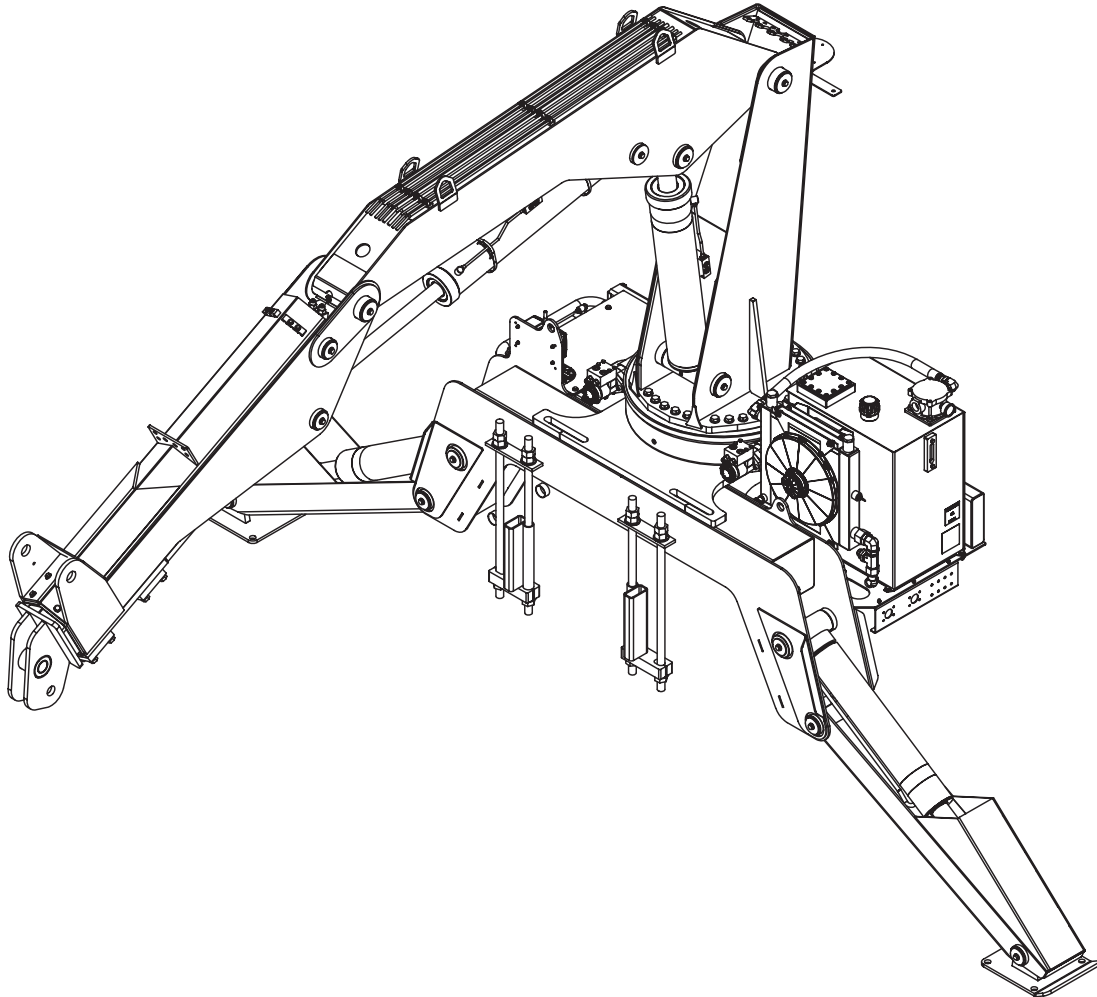




# Model 13500 Articulating Crane Owner's Manual

Installation • Assembly Drawings • Parts



Notice: A copy of this manual must remain with the equipment at all times.  
For a printable download copy, please visit: [www.stellarindustries.com](http://www.stellarindustries.com)

**Stellar Industries, Inc.**

**190 State Street**

**PO Box 169**

**Garner, IA 50438**

**800-321-3741**

**Fax: 641-923-2811**

**[www.stellarindustries.com](http://www.stellarindustries.com)**

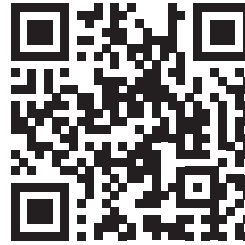
Subject to Change without Notification.  
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Rev 4  
PN 90305

# P65 Warning / Serial Tag Location

## **WARNING**

Operating, maintaining, and servicing a Stellar product may expose you to chemicals including, but not limited to, engine exhaust, carbon monoxide, phthalates, and lead. These chemicals are known to the State of California to cause cancer and birth defects (or other reproductive harm). To keep your exposure to a minimum, be sure to avoid breathing exhaust and service your Stellar product in a well-ventilated area while wearing gloves or washing your hands frequently. For more information, go to [www.P65Warnings.ca.gov/passenger-vehicle](http://www.P65Warnings.ca.gov/passenger-vehicle).



[www.p65warnings.ca.gov](http://www.p65warnings.ca.gov)

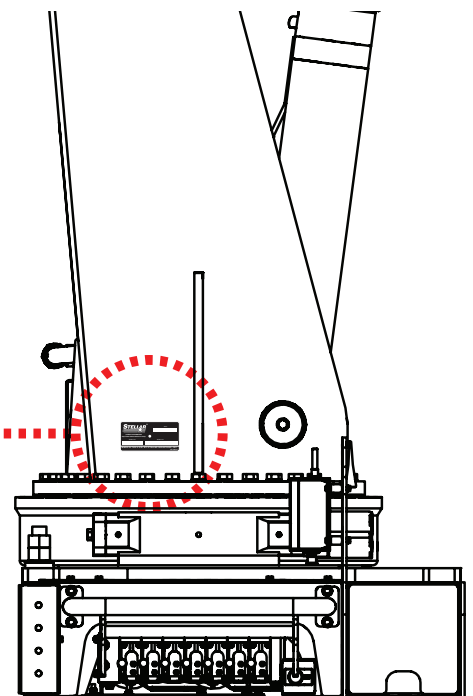
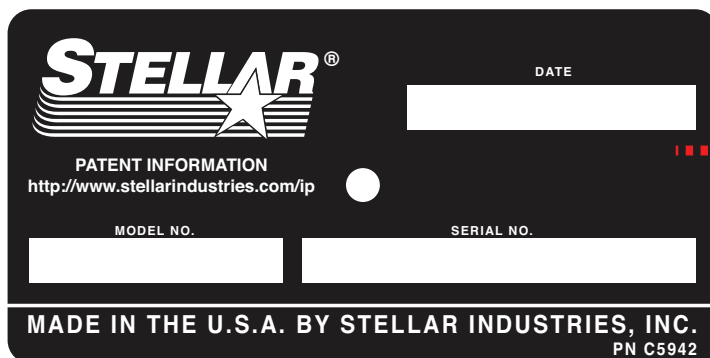
## **NOTICE**

### **Cold Weather Performance**

Although clear data on cold weather performance from every steel manufacturer is not available for all types and thicknesses of steel, Stellar Industries is confident that the weldments on our products will operate to 100% of their intended purpose to temperatures down to -40° F / C.

It is recommended if Stellar manufactured equipment needs to be used in temperatures below -40° F / C, the operator should pull the unit into a climate-controlled area and allow the weldments to warm up to and then maintain a temperature above this level.

## **Serial Tag Location**



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# Introduction

A copy of this manual is provided with every crane and can be found in the hard plastic manual case that is installed on the chassis. A copy of this manual shall remain with the crane at all times.

Throughout the manual, three signal words will be used to bring attention to important items:

## **NOTICE**

A NOTICE signal word indicates a practice not related to physical injury.

## **⚠ WARNING**

A WARNING signal word indicates a hazardous situation which, if not avoided, could result in death or serious injury.

## **⚠ DANGER**

A DANGER signal word indicates a hazardous situation which, if not avoided, will result in death or serious injury.

Information contained within this manual does not cover operation, maintenance, or troubleshooting. Please refer to the Large OTR Crane Manual for details on these items.

This manual is not binding. Stellar Industries, Inc. reserves the right to change, at any time, any or all of the items, components, and parts deemed necessary for product improvement or commercial/production purposes. This right is kept with no requirement or obligation for immediate mandatory updating of this manual.

In closing:

If more information is required or technical assistance is needed, or if you feel that any part of this manual is unclear or incorrect, please contact the Stellar Customer Service Department by phone at 800-321-3741 or email at [service@stellarindustries.com](mailto:service@stellarindustries.com).

For Technical Questions, Information, Parts, or Warranty, Call Toll-Free at

**800-321-3741**

Hours: Monday - Friday, 8:00 a.m. - 5:00 p.m. CST

Or email at the following addresses:

Technical Questions, and Information

[service@stellarindustries.com](mailto:service@stellarindustries.com)

Order Parts

[parts@stellarindustries.com](mailto:parts@stellarindustries.com)

Warranty Information

[warranty@stellarindustries.com](mailto:warranty@stellarindustries.com)

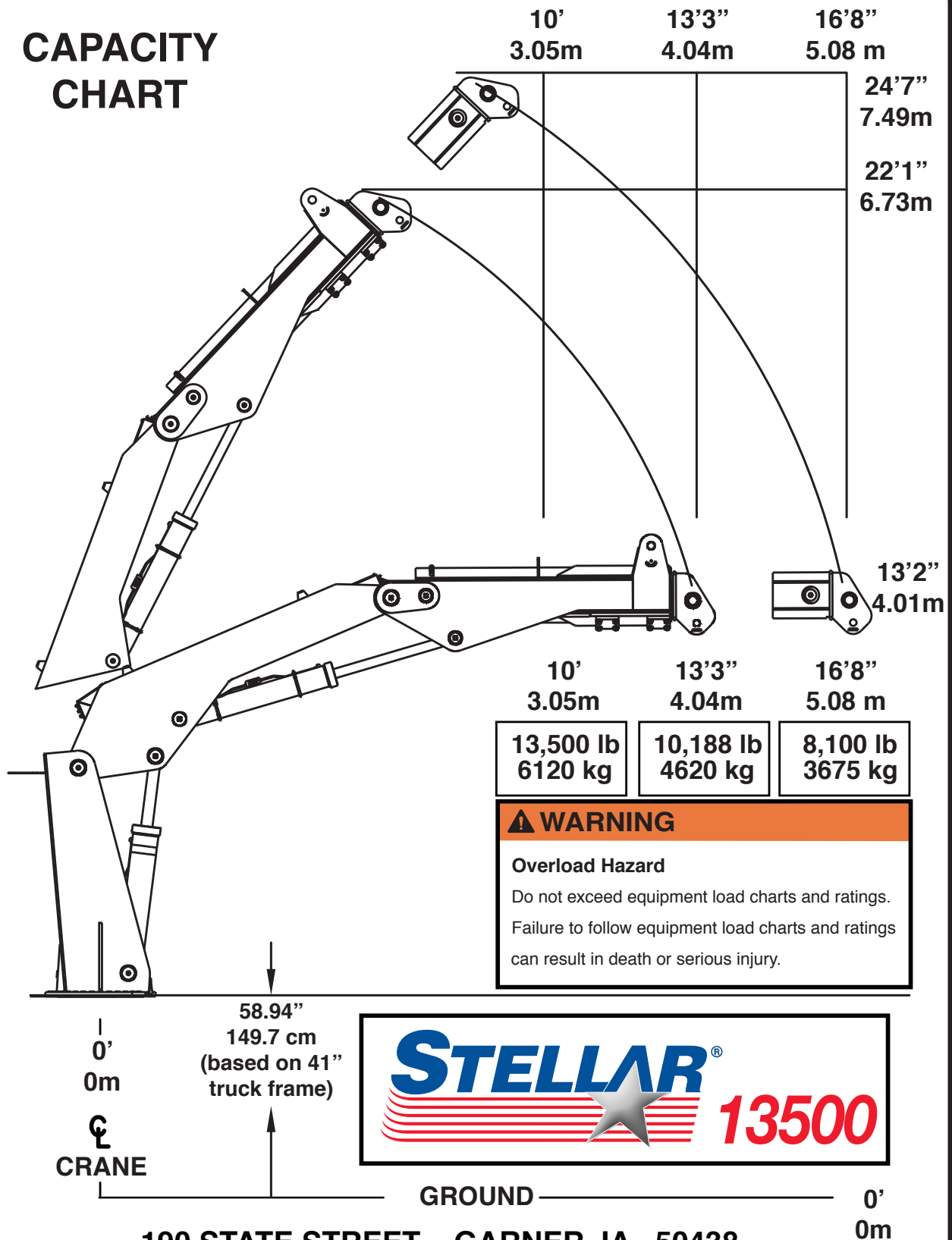
# Chapter 1 - Specifications

## Model 13500 Specifications

Crane Rating:	135,000 ft-lbs ( 18.6 ton meters)
Standard Boom Length:	13'3" (4.04 m) from CL of Crane
Boom Extension:	Hydraulic 41.5" (105.4 cm)
Maximum Horizontal Reach:	16'8" (5.08 m) from CL of Crane
Maximum Vertical Lift: (From Truck Frame)	24'7" (7.49 m)
Cylinder Specifications:	Inner Lift Cylinder: 6" (15.24 cm) bore with integral pilot operated counterbalance valves
	Outer Lift Cylinder: 5" (12.7 cm) bore with integral pilot operated counterbalance valves
	Extension Cylinder: 3.5" (8.89 cm) bore with integral pilot operated counterbalance valves
Rotation: (planetary gear with pinion)	315 degree power
Lifting Capacities: (From CL of Truck)	13,500 lbs @ 10' (6123 kg @ 3.05 m) 8,100 lbs @ 16' 8" (3674 kg @ 5.08 m)
Power Supply Required:	PTO & Pump - 16 gpm @ 4,400 psi (60 lpm @ 304 bar)
Controls:	Fully Proportional Paddle Controls for all functions.
Stowed Height: (Above Truck Frame)	97" (246.4 cm)
Mounting Space Required:	47" (119.4 cm)
Chassis RBM (Recommended):	1,620,000 in-lb
Approximate Shipping Weight:	6,400 lbs (2,903 kg)

# Capacity Chart - Decal PN 72245

## CAPACITY CHART



**⚠ WARNING**  
**Overload Hazard**  
 Do not exceed equipment load charts and ratings.  
 Failure to follow equipment load charts and ratings can result in death or serious injury.



190 STATE STREET GARNER, IA 50438  
 PHONE: (800) 321-3741 FAX: (641) 923-2812 72245 - Rev A

# Chapter 2 - Installation

## General Installation

This chapter is designed to serve as a general guide for the installation of a Stellar 13500 Crane on a Stellar Service Body. Each installation is considered unique so certain portions of this chapter may or may not apply to your direct application. If a question should arise during the installation process, please contact Stellar Customer Service at (800) 321 3741.

This crane is designed for use with a Stellar Service Body installed on a vehicle that meets the minimum chassis requirements of the crane. It is the installer's responsibility to assure that the crane is mounted on a platform that will support the maximum crane rating of this crane.

**⚠ WARNING** Do not install this crane on a body not capable of handling the loads imposed on it. Failure to do so may result in serious injury or death.

**NOTICE** When installing welder units to the service bodies, it is highly recommended that a surge protector is installed on the chassis batteries to protect the crane radio receiver, wiring and other electronic devices from an unexpected electrical spike or surge. Failure to do so could result in extensive damage to the service body and crane electrical circuit.

## Installer Notice

According to Federal Law (49 cfr part 571), each final-stage manufacturer shall complete the vehicle in such a manner that it conforms to the standards in effect on the date of manufacture of the incomplete vehicle, the date of final completion, or a date between those two dates. This requirement shall, however, be superseded by any conflicting provisions of a standard that applies by its terms to vehicles manufactured in two or more stages.

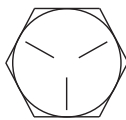
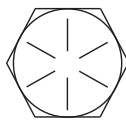
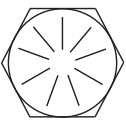
Therefore, the installer of Stellar® Cranes and Bodies is considered one of the manufacturers of the vehicle. As such a manufacturer, the installer is responsible for compliance with all applicable federal and state regulations. They are required to certify that the vehicle is in compliance with the Federal Motor Vehicle Safety Standards and other regulations issued under the National Traffic and Motor Vehicle Safety Act.

Please reference the Code of Federal Regulations, title 49 - Transportation, Volume 5 (400-999), for further information, or visit <http://www.gpoaccess.gov/nara/index.html> for the full text of Code of Federal Regulations.

## Torque Data Chart

When using the torque data in the chart, the following rules should be observed:

- Bolt manufacturer's particular specifications should be consulted when provided.
- Flat washers of equal strength must be used.
- All torque measurements are given in foot-pounds. To convert to inch-pounds, multiply by 12.
- Torque values specified are for bolts with residual oils or no special lubricants applied.
- Torque values for socket-head capscrews are the same as for Grade 8 capscrews.

		GRADE 5		GRADE 8		GRADE 9
						
Size (DIA-TPI)	Bolt DIA (Inches)	Plain (Ft-Lb)	Plated (Ft-Lb)	Plain (Ft-Lb)	Plated (Ft-Lb)	Plated (Ft-Lb)
5/16-18	0.3125	17	13	25	18	22
3/8-16	0.3750	31	23	44	33	39
7/16-14	0.4375	49	37	70	52	63
1/2-13	0.5000	75	57	105	80	96
9/16-12	0.5625	110	82	155	115	139
5/8-11	0.6250	150	115	220	160	192
3/4-10	0.7500	265	200	375	280	340
7/8-9	0.8750	395	295	605	455	549
1-8	1.000	590	445	910	680	823
1 1/8-7	1.1250	795	595	1290	965	1167
1 1/4-7	1.2500	1120	840	1815	1360	1646
1 3/8-6	1.3750	1470	1100	2380	1780	2158
1 1/2-6	1.500	1950	1460	3160	2370	2865

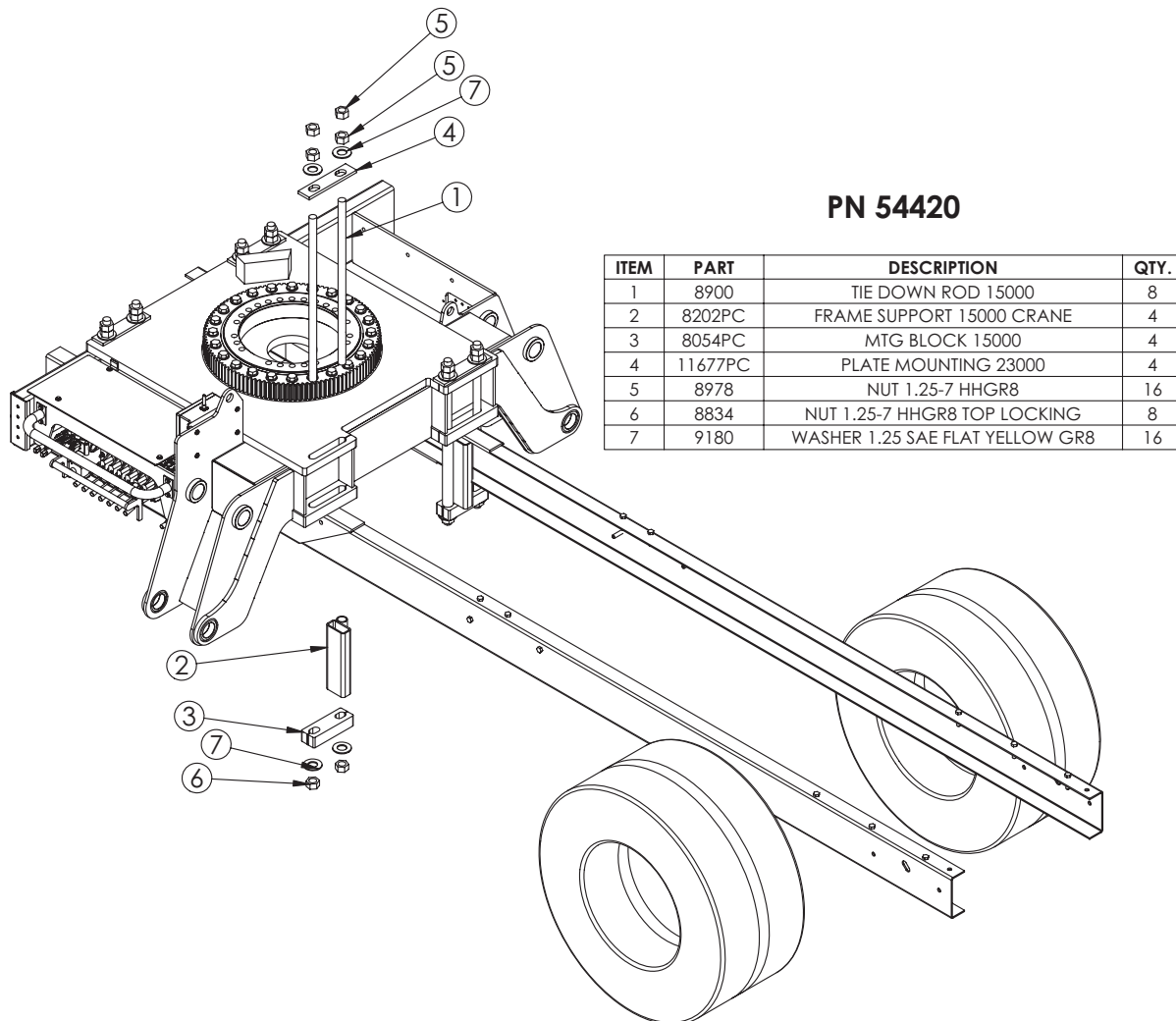
- **NOTICE** Do not use these values if a different torque value or tightening procedure is given for a specific application. Torque values listed are for general use only. Check tightness of fasteners periodically.
- Shear bolts are designed to fail under predetermined loads. Always replace shear bolts with identical grade.
- Fasteners should be replaced with the same or higher grade. If higher grade fasteners are used, these should only be tightened to the strength of the original.
- Tighten plastic insert or crimped steel-type lock nuts to approximately 110 percent of the dry torque values shown in the chart below, applied to the nut, not to the bolt head. Tighten toothed or serrated-type lock nuts to the full torque value. Note: "Lubricated" means coated with a lubricant such as engine oil, or fasteners with phosphate and oil coatings. "Dry" means plain or zinc plated without lubrication. Tighten lubricated bolts to approximately 80% of dry bolts.



## Installation Overview

1. Relocate any obstructions on the frame that will be in the way of mounting the crane.
2. Measure the inside of the frame rails and cut the frame support to this length. Ensure that the frame supports have a tight fit between the frame rails.
3. Set the crane on the chassis and allow a minimum of 3" from the cab.
4. Make certain that the frame supports are installed square, cut to length in such a way as to support the frame flanges with the tie down rods are torqued.
5. Install the crane tie downs. Start at one corner and tighten both tie downs to 200 ft-lbs. Move to the diagonal set and tighten to 200 ft-lbs. Tighten the remaining 2 corners. Continue this pattern at 200 ft-lb increments until 500-550 ft-lbs is achieved. Be sure the mounting block stays perpendicular to the frame rail as they are tightened down.
6. Connect the pressure and return lines per the hydraulic kit.
7. Connect the electrical power and ground wires. Ground preferably connected to battery.
8. With the crane and outriggers in the stored position, check the reservoir for oil and fill if necessary.
9. Operate the crane for several cycles. Fully cycle the cylinder in both directions (blow past relief) to remove any air from the system.

## Mounting Kit Drawing



# Hydraulic Installation

Never modify or alter any of the equipment, whether mechanical, electrical, or hydraulic, without Stellar Industries' approval.

**⚠ WARNING** Do not touch or grab any hoses that could be under pressure. Release system pressure before attempting to make adjustments or repairs.

Do not attempt service or repair when PTO is engaged.

Disassemble and assemble hydraulic components on a clean surface.

Clean all metal parts in a nonflammable cleaning fluid. Then lubricate all components to aid in assembly.

**⚠ WARNING** Hydraulic fluid expands when heated. This raises the pressure in an unventilated tank. Release the tank pressure before removing the cap completely. Failure to do so may cause the oil to shoot out of the tank very rapidly and cause severe burns.

**⚠ WARNING** Do not rely on the hydraulic fluid to support the boom or crane. If hydraulic fluid escapes, the boom or crane can fall immediately. Make sure the ground or blocking is supporting the boom before performing any maintenance or repair.

**NOTICE** Contaminants in a hydraulic system affect operation and will result in serious damage to the system components. Dirty hydraulic systems are a major cause of component failures.

If evidence of foreign particles is found in the hydraulic system, flush the system.

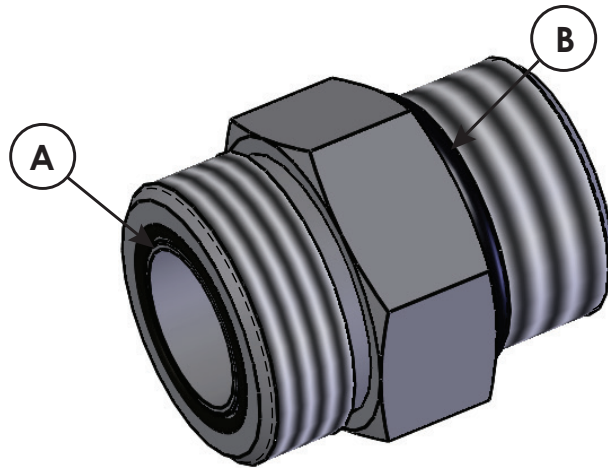
When installing metal hydraulic tubes, tighten all fittings finger tight. Then, in order, tighten the fittings at the rigid end, the adjustable end, and the mounting brackets. After tubes are mounted, install the hoses. Connect both ends of the hose with all fittings finger tight. Position the hose so it does not rub the machine or another hose and has a minimum of bending and twisting. Tighten fittings in both couplings.

Due to manufacturing methods, there is a natural curvature to a hydraulic hose. The hose should be installed so any bend is with this curvature.

## Hydraulic Pressure Settings

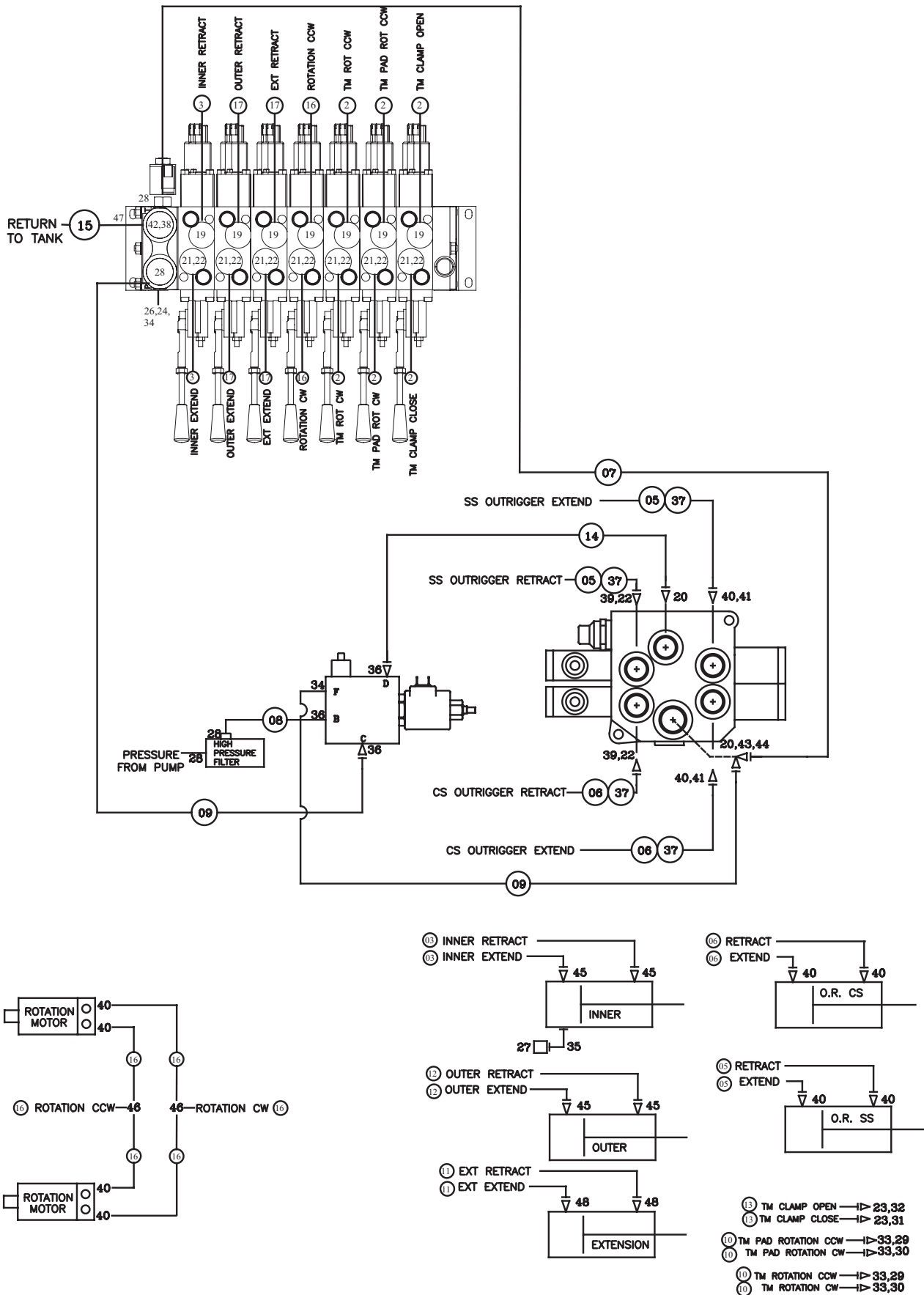
Main Relief 4600 psi			
		Pressure (psi)	
Function	Flow (gpm)	Extend	Retract
Inner	10.6	4400	2200
Outer	10.6	4400	2200
Extension	10.6	4400	4400
Rotation	10.6	2200	2200
TM Rot	6.6	2200	2200
TM Pad Rot	6.6	3000	3000
TM Clamp	6.6	3000	3000

## Face Seal/O-Ring Size Chart



Hose Size	Fitting Size	Face Seal (A) Stellar® PN	O-ring Boss (B) Stellar® PN
1/4"	#4	C2027	D1245
3/8"	#6	C2028	D1246
1/2"	#8	C2029	D1247
5/8"	#10	32223	D1248
3/4"	#12	D1244	D1249
1"	#16		D1250

# Hydraulic Kit - PN 97591

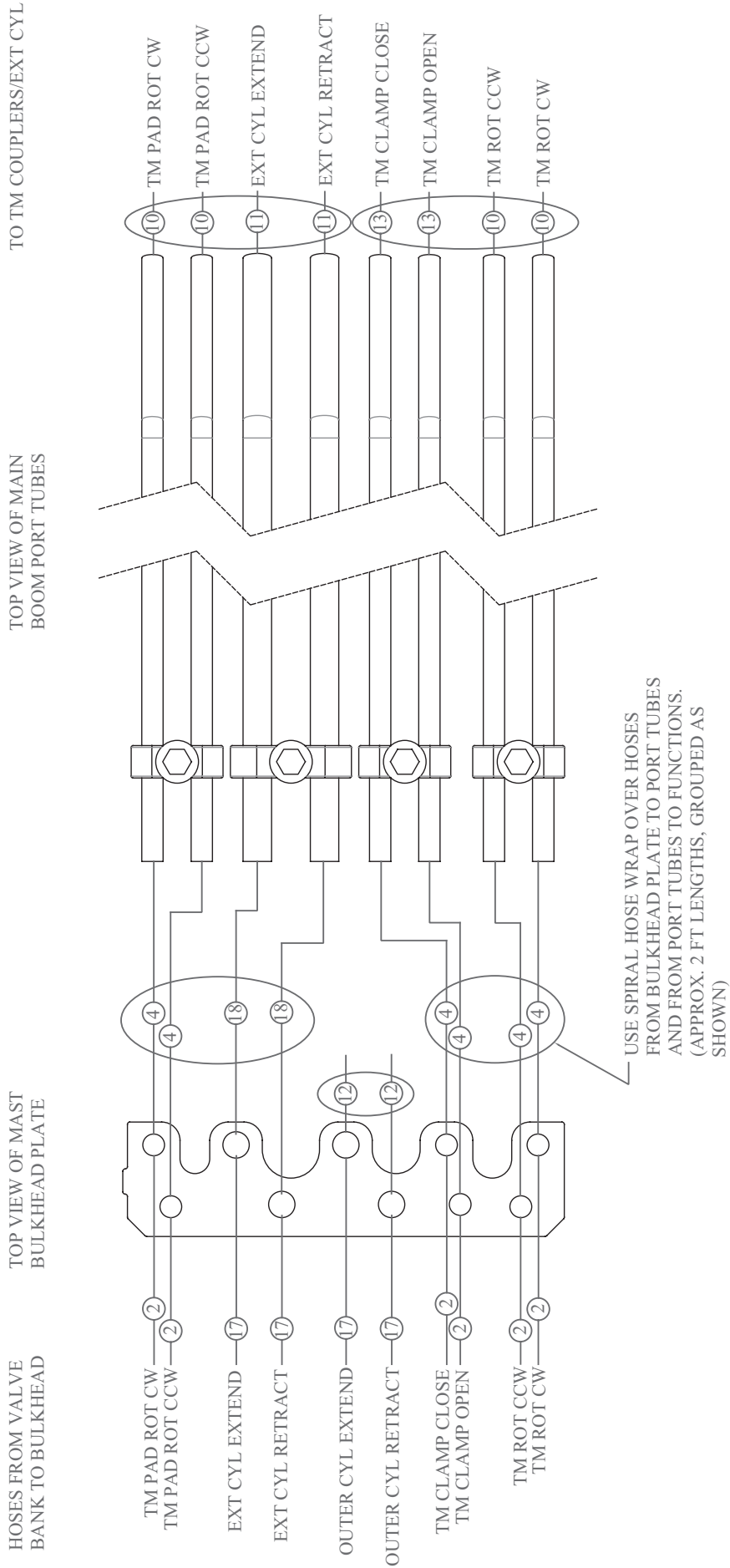


# Hydraulic Kit - PN 97591 (cont.)

## PN 97591

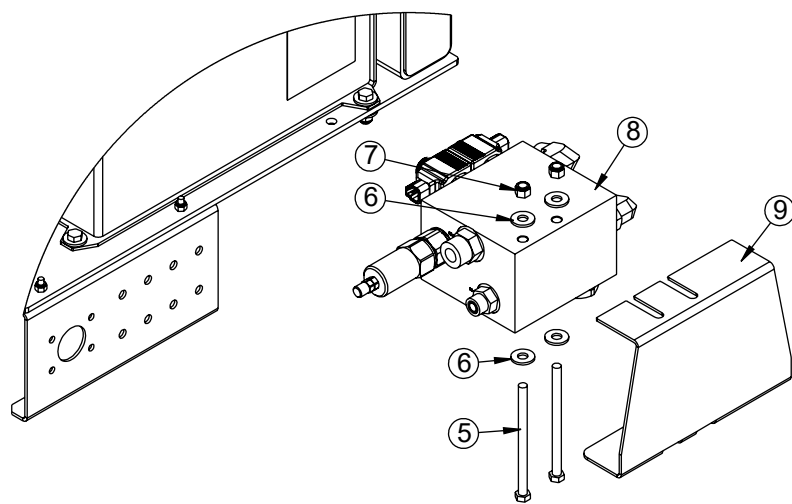
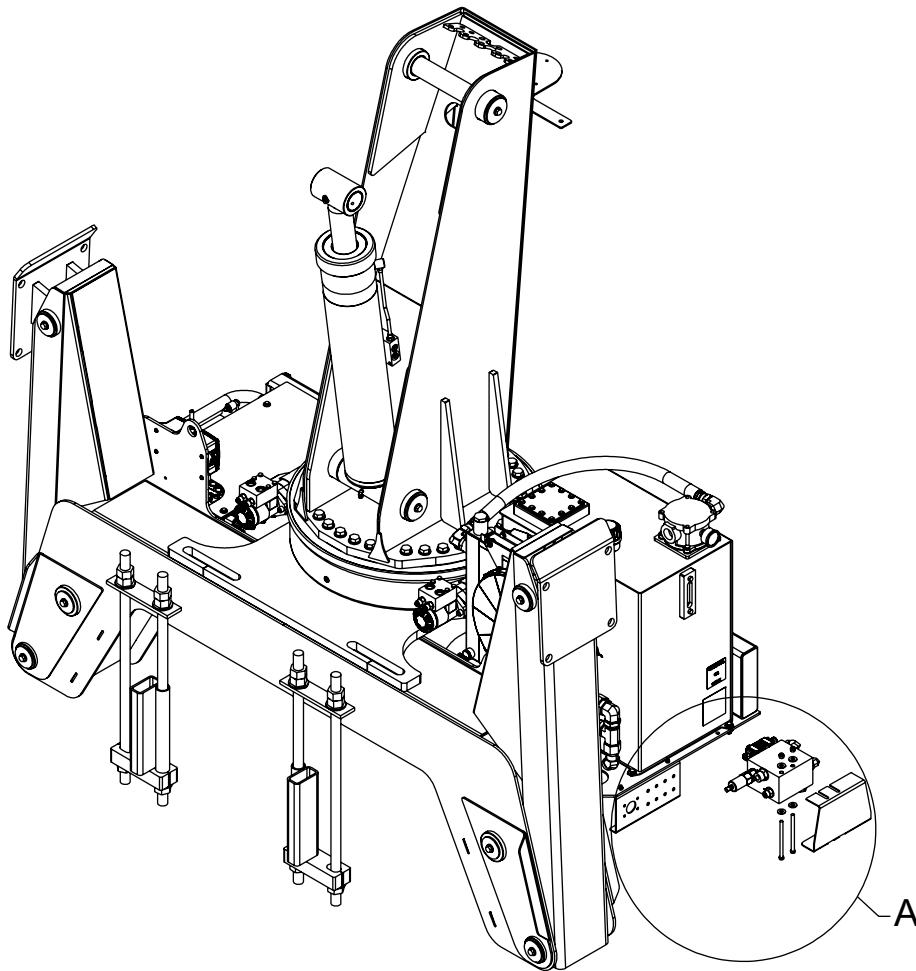
49	53479	LOOM 1.00 SPIRAL WRAP POLYETHYLENE	13.5ft
48	7343	FTG 6-8 MFS-MAORB 45	2
47	C2142	FTG 12-12 MFS-MORB STRAIGHT	1
46	1562	FTG 6-6-6 MFS-MFS-MFS TEE	2
45	0279	FTG 6-6 MFS-MORB STRAIGHT	4
44	C2376	FTG 8-8 MFS-FFSS 90	1
43	D0165	FTG 8-8-8 MFS-FFSS-MFS RUN TEE	1
42	10095	FTG 12-12 MAORB-FORB 90	1
41	C2248	FTG 6-6 MFS-FFSS 90	2
40	C1854	FTG 6-8 MFS-MORB STRAIGHT	6
39	C0885	FTG 8-6 MORB-FORB STRAIGHT REDUCER	2
38	30542	FTG 12-12-12 MAORB-FORB-FORB TEE	1
37	17288	HOSE PROTECTOR 1.00 AS-B-27	22'
36	C3643	FTG 8-10 MFS-MAORB 90	2
35	3861	FTG 6-6 MAORB-FORB 90	1
34	C2252	FTG 8-10 MFS-MORB STRAIGHT	1
33	47405	FTG 6-6 MORB-MFS BULKHEAD STRAIGHT	4
32	13557	QUICK COUPLER 2FFN38-12SAE-M	1
31	13556	QUICK COUPLER 2FFN38-12SAE-F	1
30	13554	QUICK COUPLER 2FFI14-38SAE-F	2
29	13555	QUICK COUPLER 2FFI14-38SAE-M	2
28	C1180	FTG 8-12 MFS-MORB STRAIGHT	4
27	55394	SWITCH PRES OVERLD CD-11C-5500R/WD	1
26	39780	GAUGE OIL LF 2.5 0-6000 CBM SAE	1
25	14354	FTG 12-10 MFS-MAORB 90	1
24	44521	FTG 5-4 MORB-FORB STRAIGHT REDUCER	1
23	47406	FTG 8-8 MORB-MFS BULKHEAD STRAIGHT	2
22	25361	FTG 6-6 MFS-MAORB 90 LONG	9
21	C1111	FTG 10-6 MORB-FORB STRAIGHT REDUCER	7
20	1554	FTG 8-8 MFS-MORB STRAIGHT	2
19	D1302	FTG 6-10 MFS-MAORB 90	7
18	97596	HOSE-HYD .38 X 36	2ref
17	97593	HOSE-HYD .38 X 107	4ref
16	79695	HOSE-HYD .38 X 34	6ref
15	76335	HOSE-HYD .75 X 78	1ref
14	62801	HOSE-HYD .50 X 40	1ref
13	97654	HOSE-HYD .25 X 63	2ref
12	97595	HOSE-HYD .38 X 71	2ref
11	97598	HOSE-HYD .38 X 28	2ref
10	97599	HOSE-HYD .25 X 63	4ref
09	75481	HOSE-HYD .50 X 32	2ref
08	16627	HOSE-HYD .50 X 24	1ref
07	75480	HOSE-HYD .50 X 48	1ref
06	75106	HOSE-HYD .38 X 110	2ref
05	107506	HOSE-HYD .38 X 60	2ref
04	97597	HOSE-HYD .25 X 36	6ref
03	11684	HOSE-HYD .38 X 66	2ref
02	97594	HOSE-HYD .25 X 107	6ref
01	97592	HOSE KIT 13500 V2 (incl:2-18)	1
ITEM	PART No.	DESCRIPTION	QTY

# Hydraulic Kit - PN 97591 (cont.)



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# Hydraulic Backup Valve (Opt.) PN - 103421



DETAIL A  
SCALE 1 : 8

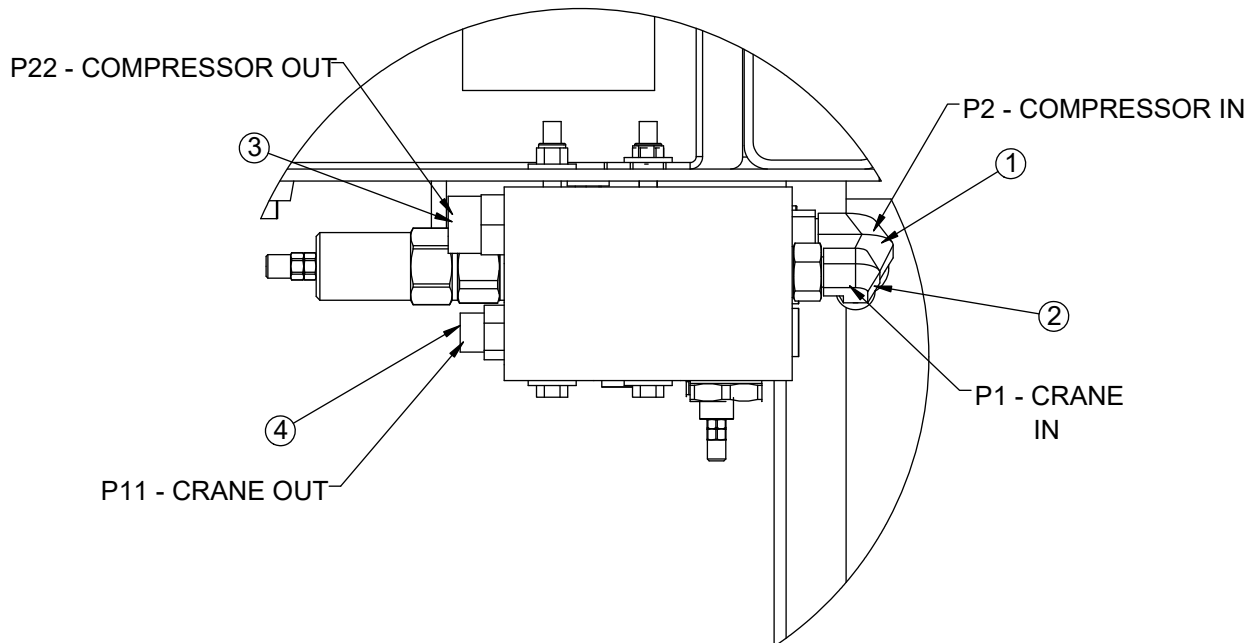
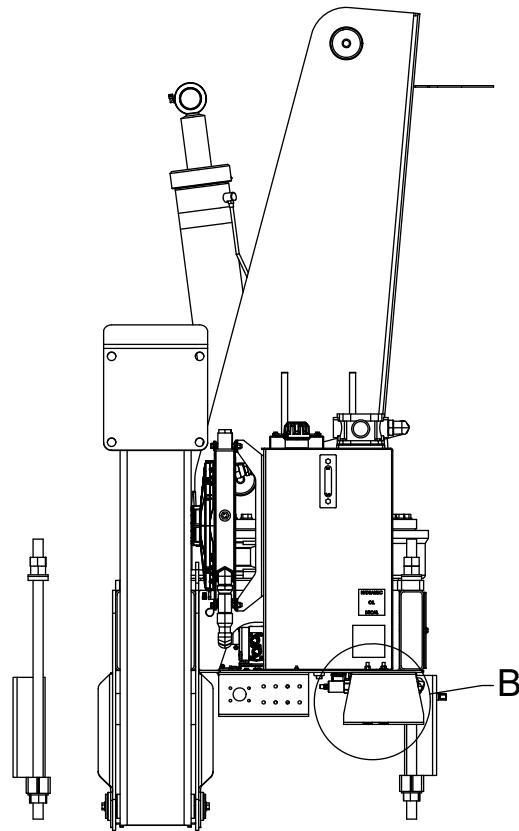


# Hydraulic Backup Valve (Opt.) PN - 103421 Parts List

PN 103421			
ITEM	PART	DESCRIPTION	QTY
1	C5968	FTG 12-12 MFS-MAORB 90	1
2	C3643	FTG 8-10 MFS-MAORB 90	1
3	C2142	FTG 12-12 MFS-MORB STRAIGHT	1
4	C2252	FTG 8-10 MFS-MORB STRAIGHT	1
5	C0956	CAP SCR 0.38-16X5.50 HHGR5	2
6	0346	WASHER 0.38 USS FLAT	4
7	0347	NUT 0.38-16 HHGR5 NYLOC	2
8	101759	VALVE MOBILE CRANE BACKUP	1
9	103422	PLATE COVER VALVE CRANE BACKUP 13500	1

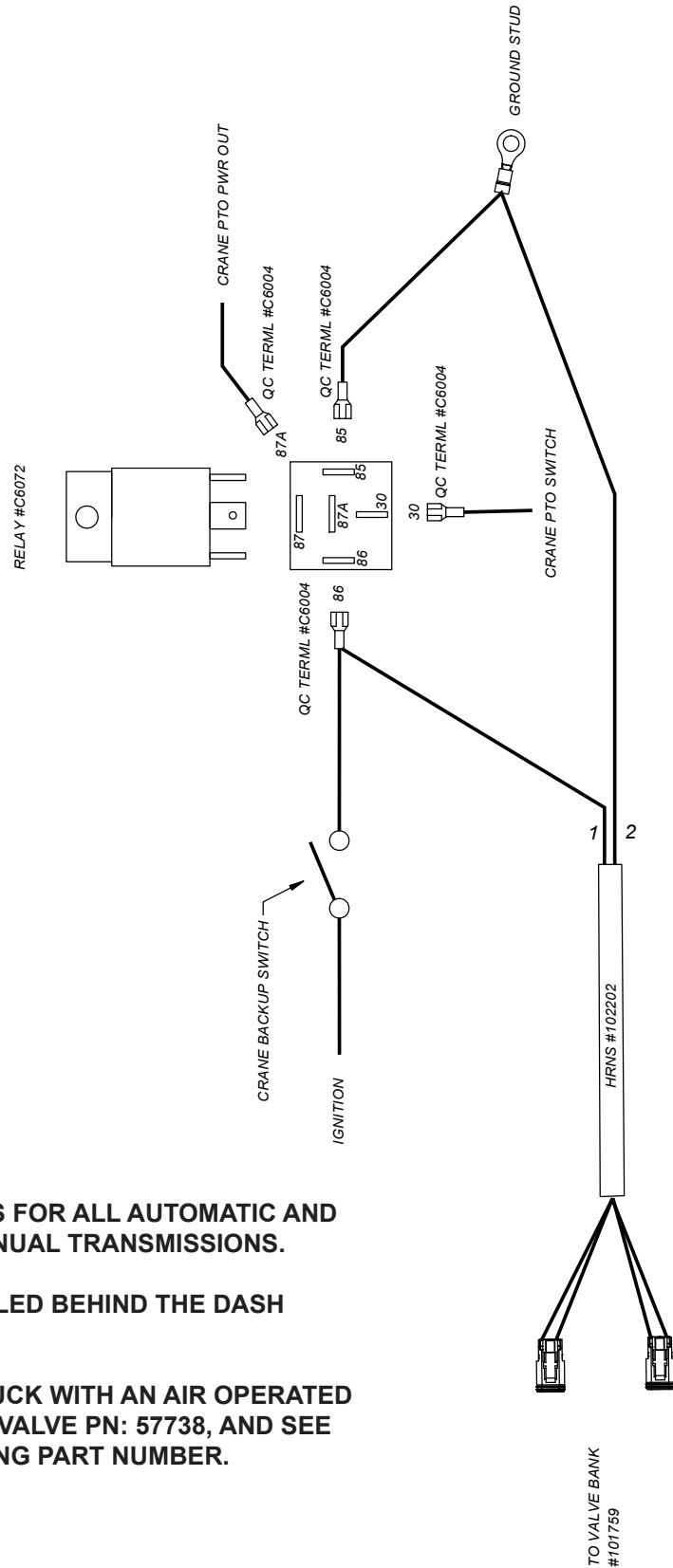
ITEMS NOT SHOWN		
PART	DESCRIPTION	QTY
102202	WIRE HARNESS VALVE CRANE EMER BLOCK	1
75110	TERML BUTT 16-14GA STP 22-18GA HS	2

# Hydraulic Backup Valve (Opt.) PN - 103421 (Continued)



DETAIL B  
SCALE 1 : 4

# Hydraulic Backup Valve (Opt.) PN - 103421 (Continued)



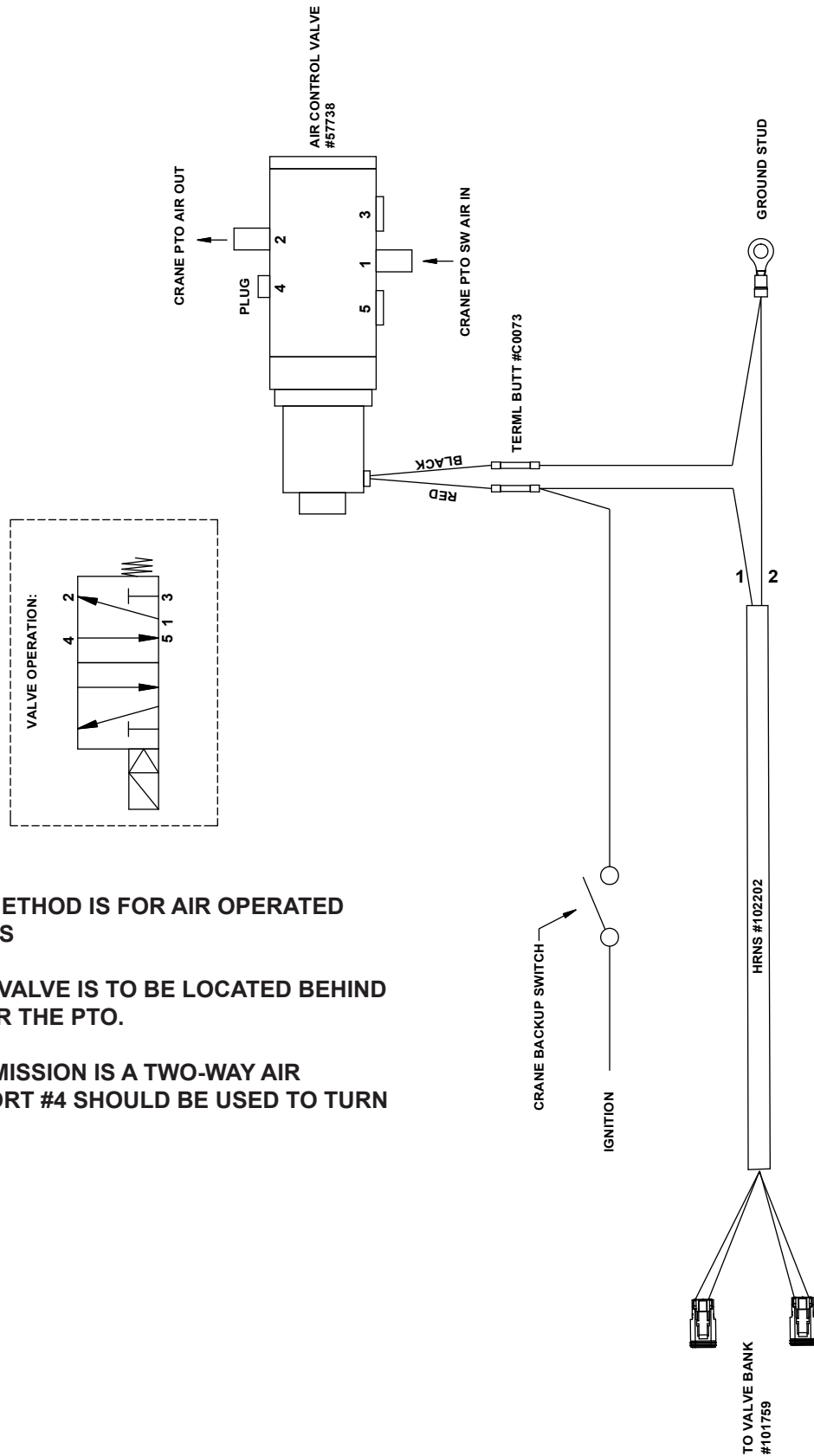
**NOTES:**

**\*THIS WIRING METHOD IS FOR ALL AUTOMATIC AND ELECTRIC OVER AIR MANUAL TRANSMISSIONS.**

**\*RELAY IS TO BE INSTALLED BEHIND THE DASH NEAR THE PTO SWITCH.**

**\*IF INSTALLING ON A TRUCK WITH AN AIR OPERATED PTO, ADD AIR CONTROL VALVE PN: 57738, AND SEE PAGE 16 OF THIS DRAWING PART NUMBER.**

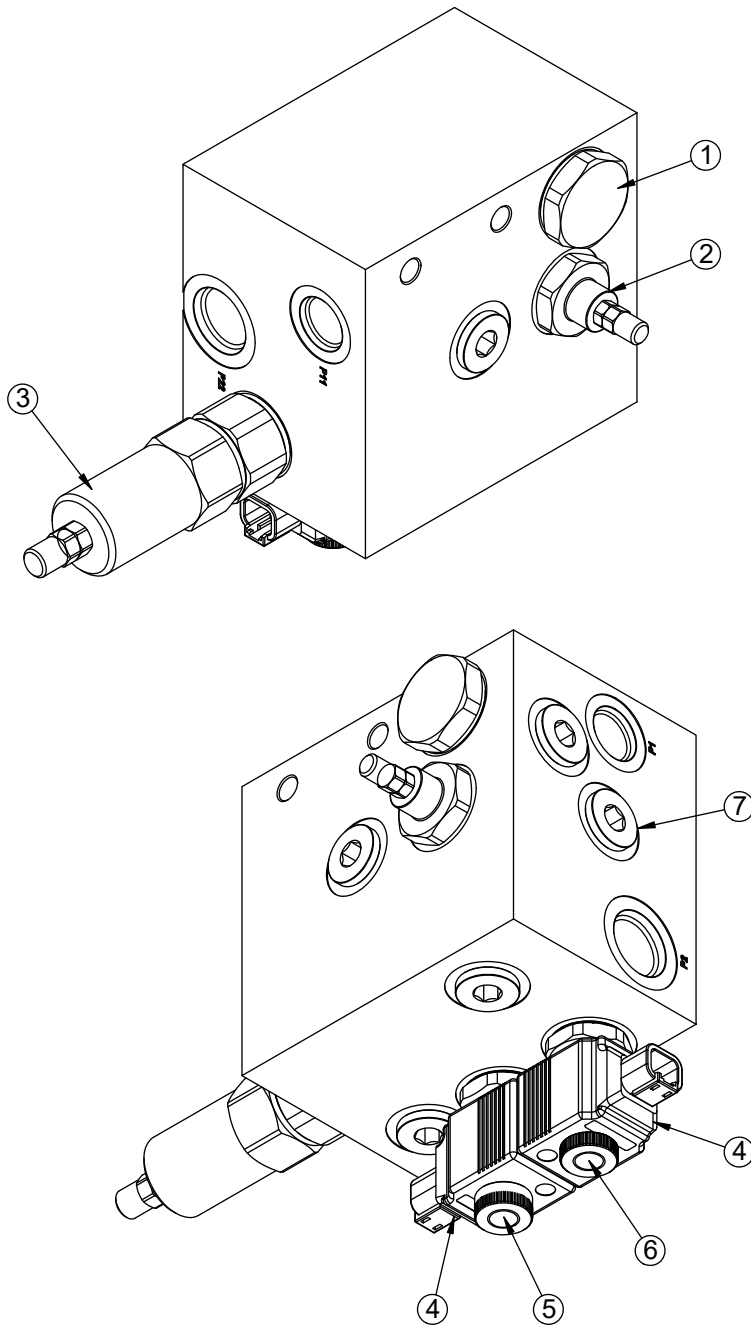
# Hydraulic Backup Valve (Opt.) PN - 103421 (Continued)



**NOTES:**

- \*THIS WIRING METHOD IS FOR AIR OPERATED TRANSMISSIONS
- \*AIR CONTROL VALVE IS TO BE LOCATED BEHIND THE DASH NEAR THE PTO.
- \*IF THE TRANSMISSION IS A TWO-WAY AIR OPERATION, PORT #4 SHOULD BE USED TO TURN THE PTO OFF.

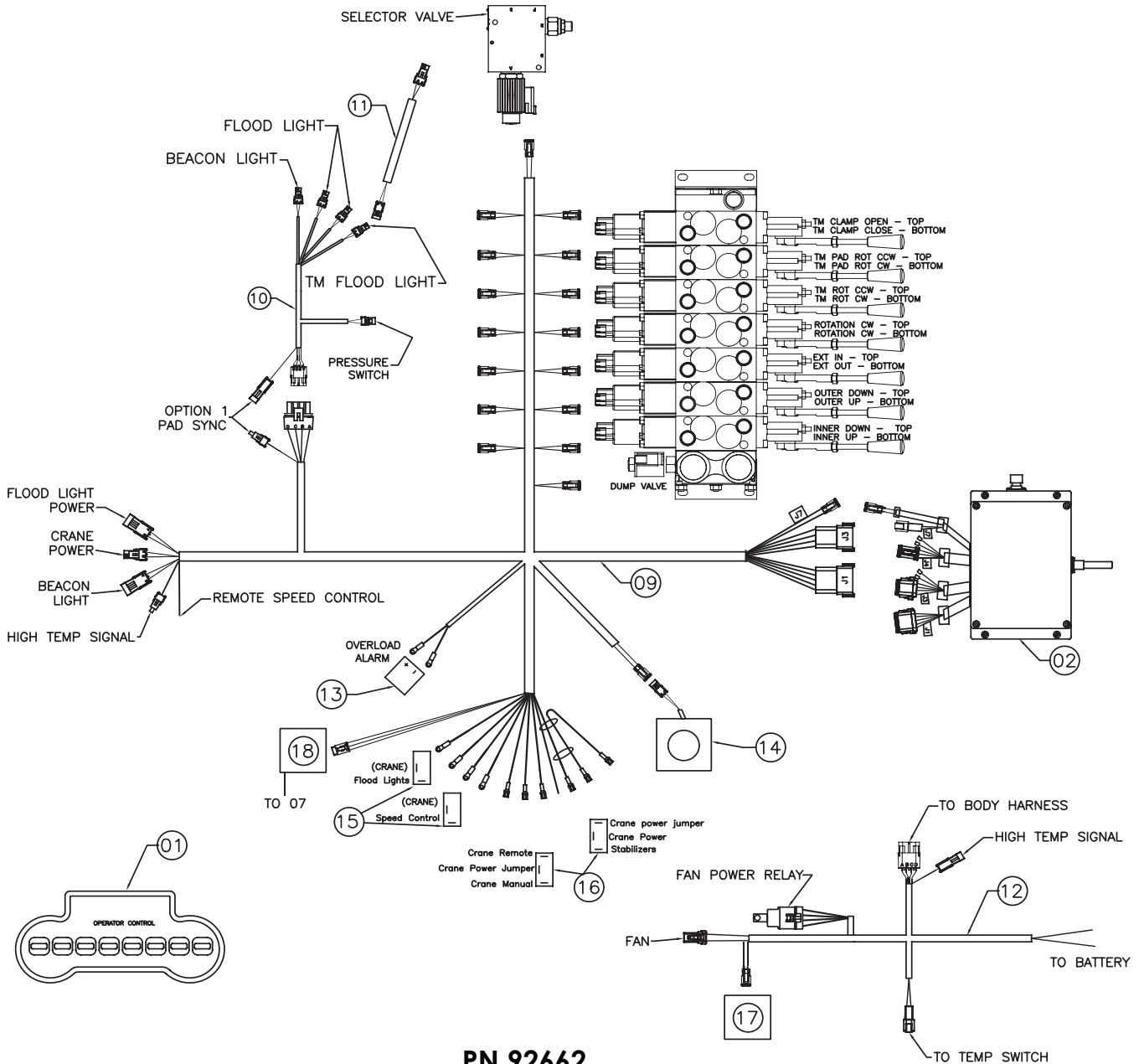
# Valve Mobile Backup - 101759



## PN 101759

ITEM	PART	DESCRIPTION	QTY
1	131389	VALVE CHECK MOBILE CRANE BACKUP	1
2	131390	FLOW DIVIDER MOBILE CRANE BACKUP	1
3	131391	VALVE RELIEF MOBILE CRANE BACKUP	1
4	131392	COIL 12VDC DEUTSCH MOBILE CRANE BACKUP	2
5	131393	VALVE CARTRIDGE MOBILE CRANE BACKUP	1
6	131394	VALVE CARTRIDGE MOBILE CRANE BACKUP	1
7	12153	FTG 10 MORB PLUG HOLLOW HEX	5

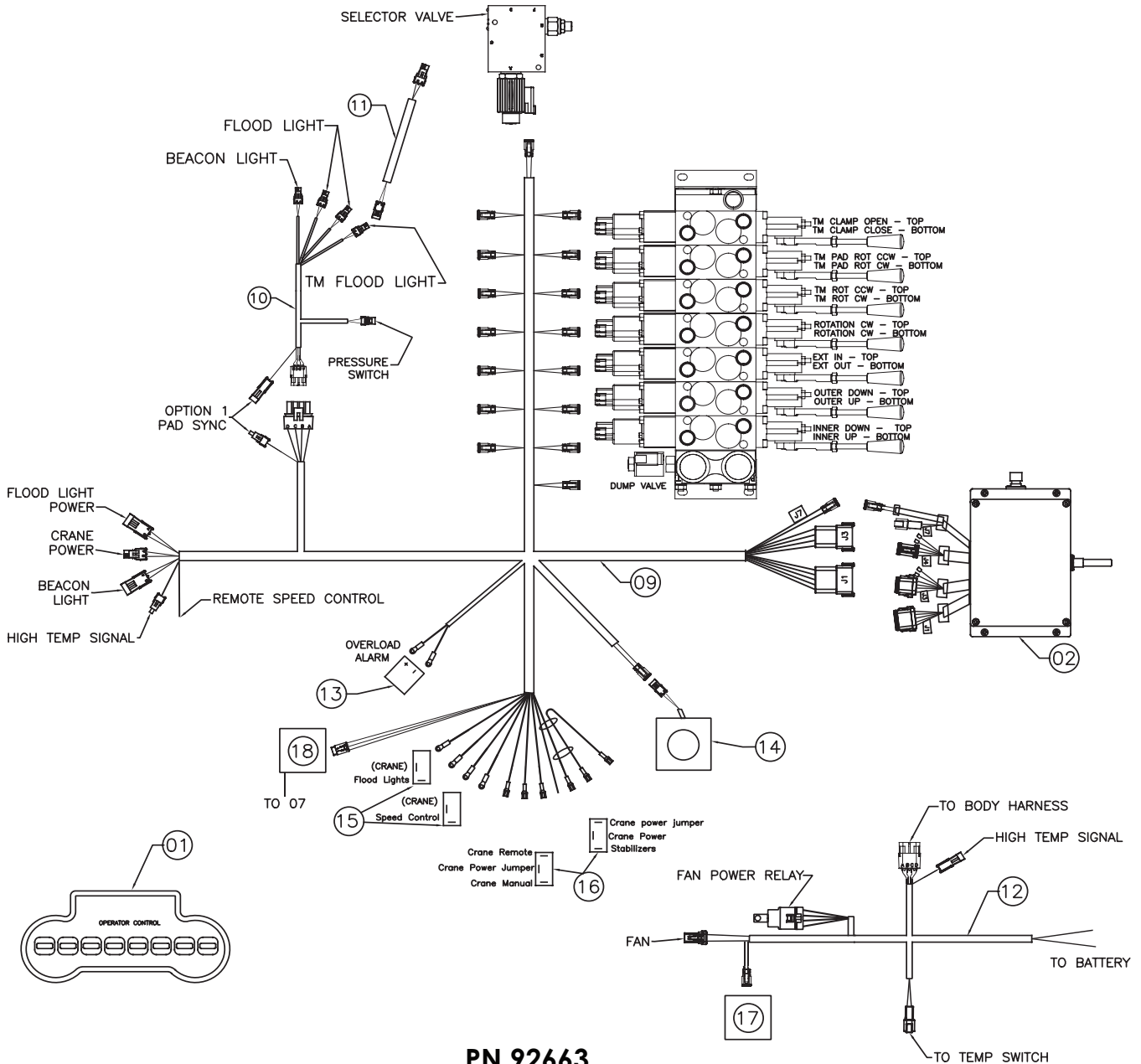
# Control Kit (900 MHz Version) - PN 92662



## PN 92662

ITEM	PART No.	DESCRIPTION	QTY
01	89149	TRANSMITTER SCANRECO 9/135/17/23/28	1
02	93082	RECEIVER ASM SCANRECO OTR 900 MHZ	1
03	89152	CABLE BACKUP 10M SCANRECO	1
04	89154	BATTERY SCANRECO	2
05	89155	CHARGER BATTERY SCANRECO	1
06	89639	STRAP CARRYING SCANRECO	1
07	93191	CABLE ASM M12 5P M-F RA 5FT	1ref
08	93192	DUST CAP M12 SKT BLACK PLASTIC	1ref
09	93695	WIRE HRNS CRANE 9K-28K	1
10	93204	WIRE HRNS CRANE MAST LRG OTR	1
11	68797	WIRE HARNESS MAIN BOOM 28000 TM LTS	1
12	125411	WIRE HRNS OTR COOLER FAN HTP	1
13	78246	BACKUP ALARM 87 DECIBEL	1
14	93201	E-STOP SWITCH ASM 9/13.5K CRANE	1
15	C4815	SWITCH, TOGGLE ON/OFF	2
16	8623	SWITCH TOGGLE ON-OFF-ON SGL P DBL T	2
17	125412	RELAY ASM COOLER FAN PWR INTRLK	1
18	125415	RELAY ASM HTP ALARM INDICATOR	1

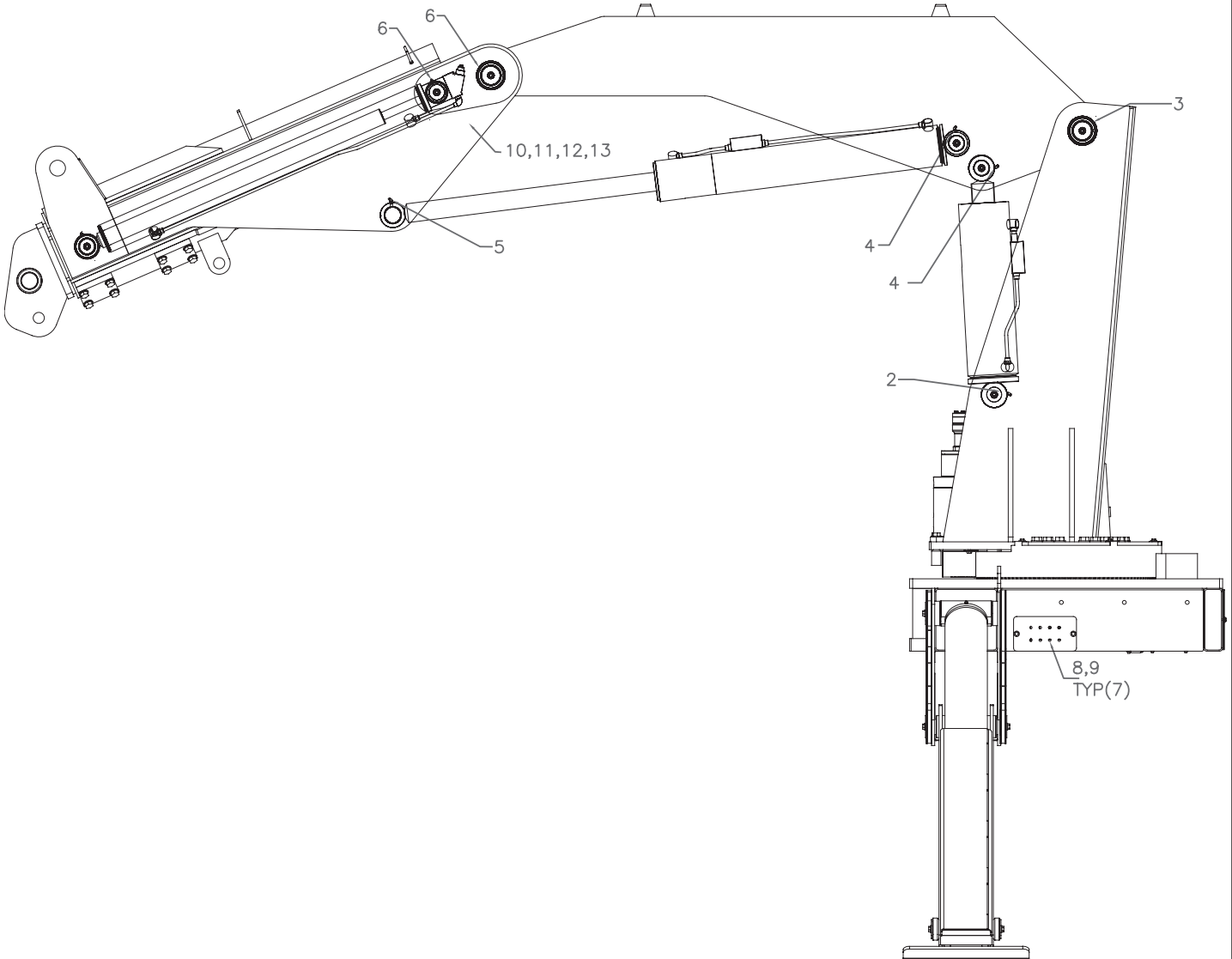
# Control Kit (434 MHz Version) - PN 92663



## PN 92663

ITEM	PART No.	DESCRIPTION	QTY
01	93084	TRANSMITTER SCANRECO 9/135/17/23/28	1
02	93083	RECEIVER ASM SCANRECO OTR 434 MHZ	1
03	89152	CABLE BACKUP 10M SCANRECO	1
04	89154	BATTERY SCANRECO	2
05	89155	CHARGER BATTERY SCANRECO	1
06	89639	STRAP CARRYING SCANRECO	1
07	93191	CABLE ASM M12 5P M-F RA 5FT	1ref
08	93192	DUST CAP M12 SKT BLACK PLASTIC	1ref
09	93695	WIRE HRNS CRANE 9K-28K	1
10	93204	WIRE HRNS CRANE MAST LRG OTR	1
11	68797	WIRE HARNESS MAIN BOOM 28000 TM LTS	1
12	125411	WIRE HRNS OTR COOLER FAN HTP	1
13	78246	BACKUP ALARM 87 DECIBEL	1
14	93201	E-STOP SWITCH ASM 9/13.5K CRANE	1
15	C4815	SWITCH, TOGGLE ON/OFF	2
16	8623	SWITCH TOGGLE ON-OFF-ON SGL P DBL T	2
17	125412	RELAY ASM COOLER FAN PWR INTRLK	1
18	125415	RELAY ASM HTP ALARM INDICATOR	1

# Grease Kit - PN 97668

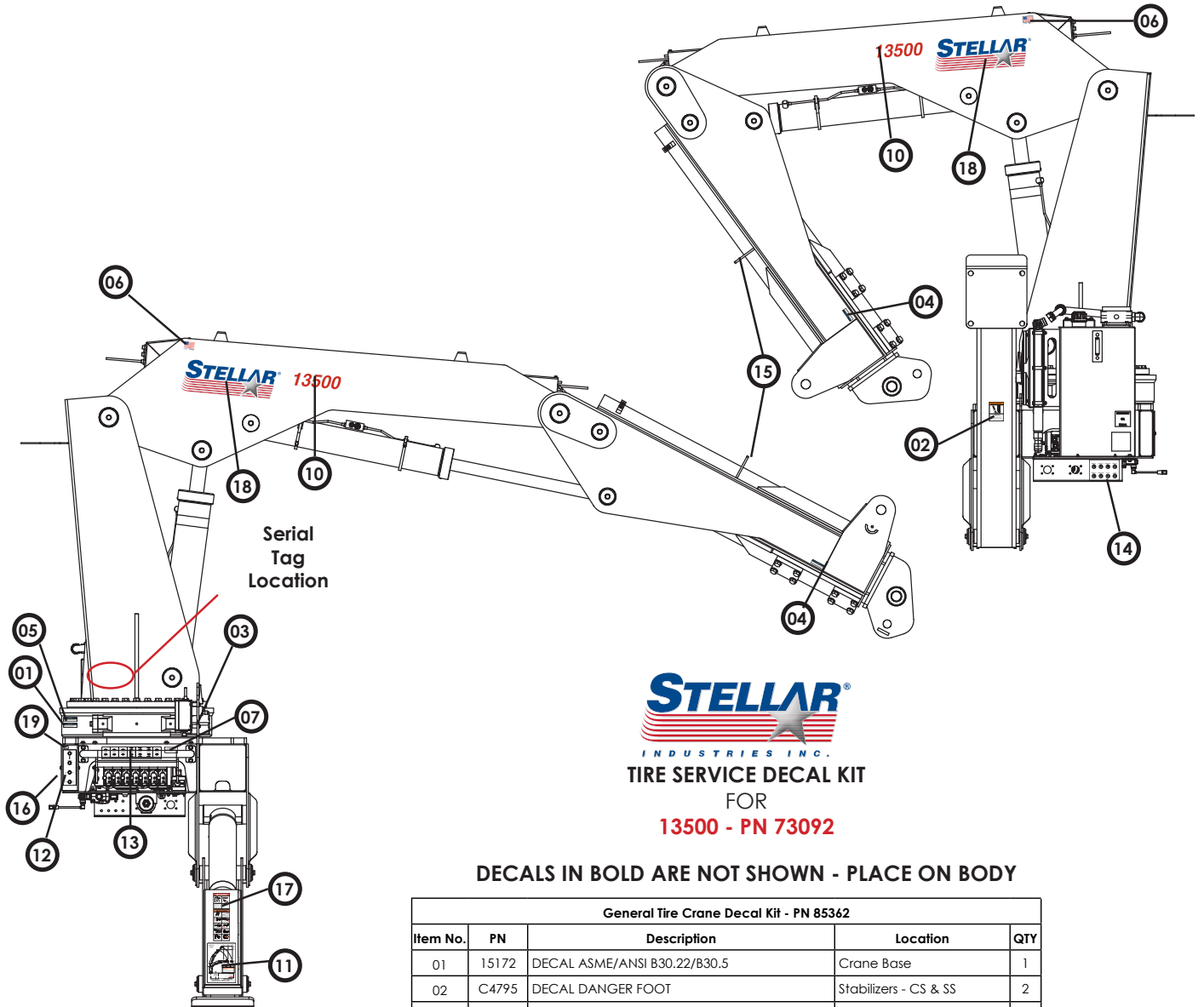


## PN 97668

13	0340	WASHER 0.25 USS FLAT ZINC	2
12	0333	NUT 0.25-20 HHGR5 NYLOC	1
11	0480	CAP SCR 0.25-20X1.00 HHGR5	1
10	C0078	CLAMP 0.38 BLK VINYL	1
09	C2256	FTG 2-2 FP-FP CPLR STRAIGHT	7
08	56589	ZERK 1/8 NPT STRAIGHT LONG THREAD	7
07			
06	42299	HOSE-HYD 0.13 X 245	2ref
05	42298	HOSE-HYD 0.13 X 259	1ref
04	37556	HOSE-HYD 0.13 X 156	2ref
03	37554	HOSE-HYD 0.13 X 138	1ref
02	42107	HOSE-HYD 0.13 X 68	1ref
01	40448	HOSE KIT,15000 GREASE KIT (incl:2-7)	1
ITEM	PART No.	DESCRIPTION	QTY



# Decal Placement - PN 73092



  
**TIRE SERVICE DECAL KIT**  
 FOR  
**13500 - PN 73092**

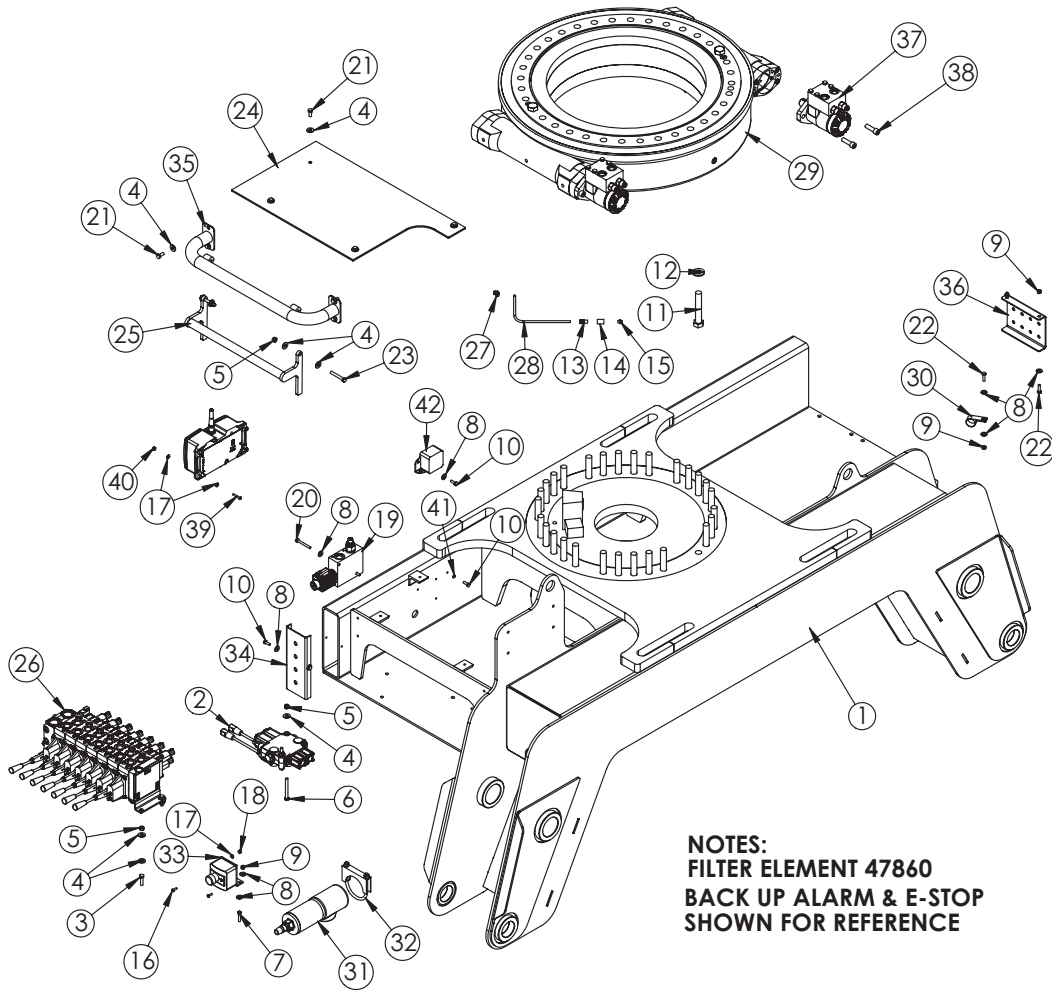
**DECALS IN BOLD ARE NOT SHOWN - PLACE ON BODY**

General Tire Crane Decal Kit - PN 85362				
Item No.	PN	Description	Location	QTY
01	15172	DECAL ASME/ANSI B30.22/B30.5	Crane Base	1
02	C4795	DECAL DANGER FOOT	Stabilizers - CS & SS	2
03	73929	DECAL RADIO PRESSURE WASHER NOTICE	Crane Base	1
04	16973	DECAL USE STELLAR APPROVED ATTACHMT	Main Boom - Both Sides	2
05	9188	DECAL WORM GEAR LUBRICATION	Crane Base	1
06	35234	MADE IN THE USA - STELLAR	Crane Mast - Both Sides	2
07	4214	DECAL CONTACT STELLAR	Crane Base	1
08	<b>C4545</b>	<b>DECAL DANGER ELECTROCUTION</b>	<b>Four Corners of the Body</b>	<b>4</b>
09	<b>C5910</b>	<b>DECAL STELLAR LOGO 4.00X9.50 PRE-MASKED</b>	<b>Body - Optional</b>	<b>3</b>

13500 Decal Kit - PN 85368				
Item No.	PN	Description	Location	QTY
10	72240	DECAL 13500 ID PRE-MASKED	Main Boom - Both Sides	2
11	72245	DECAL CAPACITY 13500	Stabilizers CS & SS	2
12	65108	DECAL SWITCH PLATE 9000 V2	Crane Control Station	1
13	54771	DECAL VB CONTROL 17000	Crane Control Station	1
14	41918	DECAL 9000 GREASE KIT	Crane Base - CS	1
15	47404	DECAL COUPLERS 23000	Main Boom	1
16	13036	DECAL CRANE OUTRIGGER	Crane Base	1
17	54781	DECAL WARNING PLACARD	Stabilizers CS & SS	2
18	54589	DECAL STELLAR LOGO 8X22.25 PRE-MASKED	Main Boom - Both Sides	2
19	125941	DECAL OIL TEMP	Crane Base	1

# Chapter 3 - Assembly Drawings

## Base Assembly - PN 72144



**NOTES:**  
 FILTER ELEMENT 47860  
 BACK UP ALARM & E-STOP  
 SHOWN FOR REFERENCE

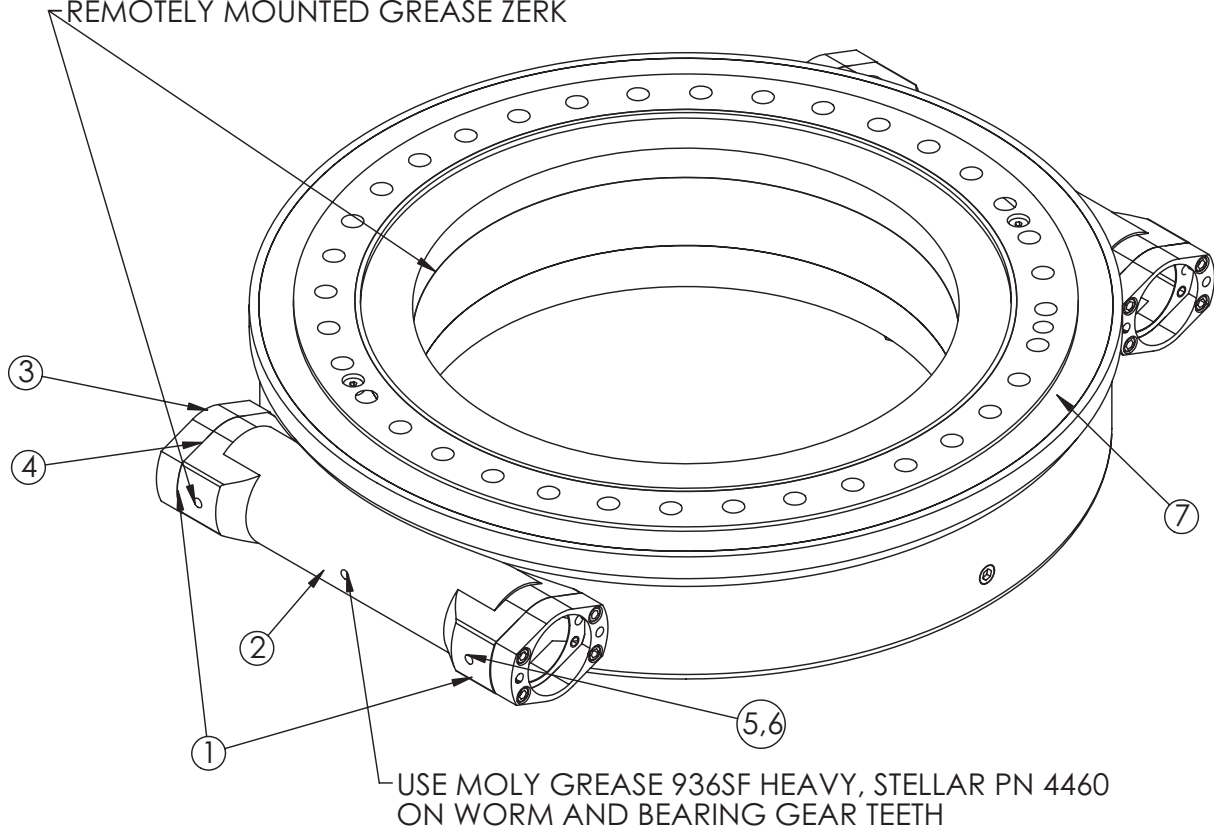
### PN 72144

ITEM	PART No.	DESCRIPTION	QTY.	ITEM	PART No.	DESCRIPTION	QTY.
1	72145	BASE 13500	1	22	0480	CAP SCR 0.25-20X1.00 HHGR5	3
2	61642	VB 2 SECT HYDROCONTROL M45 PB REMOVE	1	23	C0927	CAP SCR 0.31-18X2.25 HHGR5	2
3	0485	CAP SCR 0.31-18X1.25 HHGR5	3	24	72944	PLATE COVER BASE 13500	1
4	0343	WASHER 0.31 USS FLAT	20	25	41082	BAR PANIC 23000 PC RED	1
5	0342	NUT 0.31-18 HHGR5 NYLOC	7	26	76181	VB 7 SECT DANFOSS PVG32 13500	1
6	C0930	CAP SCR 0.31-18X3.00 HHGR5	2	27	D0240	FTG 4-2 CPRSN-MP 90	1
7	0437	CAP SCR 0.25-20X1.25 HHGR5	2	28	D1810	TBE AIR SAEJ844 TYPE A .25 (RM)	6
8	0340	WASHER 0.25 USS FLAT	14	29	72187	BEARING SWING DRIVE 25 IN DBL WORM ENCLSD	1
9	0333	NUT 0.25-20 HHGR5 NYLOC	5	30	C5586	CLAMP 1.38	1
10	0479	CAP SCR 0.25-20X0.75 HHGR5	5	31	78432	FILTER HIGH PRSSR 1.06-12SAE 5000PSI 10 MICRON	1
11	5841	CAP SCR 0.75-10X4.50 HHGR8	29	32	78433	CLAMP HIGH PRESSURE FILTER 3.00	1
12	C6219	WASHER 0.75 SAE FLAT YELLOW GR8	29	33	22918	BRACKET E-STOP 28000 PC WHITE	1
13	D1345	FTG CPRSN 0.12NPT/0.25 TUBE	1	34	49327	PLATE SWITCH MTG 15000 PC WHITE	1
14	C2256	FTG CPLR PIPE 0.13	1	35	41084	GUARD VB 23000 PC WHITE	1
15	C1592	ZERK 1/8 NPT STRAIGHT	1	36	103423	BRACKET GREASE LINE 13500	1
16	59075	CAP SCR #10-24X0.63 BTNHD ZC	2	37	79698	MOTOR ASM GEAR BEARING 13500	2
17	D0178	WASHER #10 SAE FLAT	10	38	62484	CAP SCR 12MMX40MM SH	4
18	C4956	NUT #10-24 HH NYLOC SS	2	39	30472	CAP SCR #10-24X1.25 BTNHD SS	4
19	66286	SOLENOID VALVE ASM 3 WAY 2 POS W/ RELIEF	1	40	26034	NUT #10-24 HH NYLOC	4
20	0438	CAP SCR 0.25-20X2.25 HHGR5	2	41	0521	WASHER 0.25 LOCK	1
21	0420	CAP SCR 0.31-18X0.75 HHGR5	8	42	78246	BACKUP ALARM 87 DECIBEL	1

# Gear Bearing - PN 72187

USE EP2 LITHIUM COMPLEX GREASE, STELLAR PN 78090  
ON WORM BEARINGS AND BEARING RACE

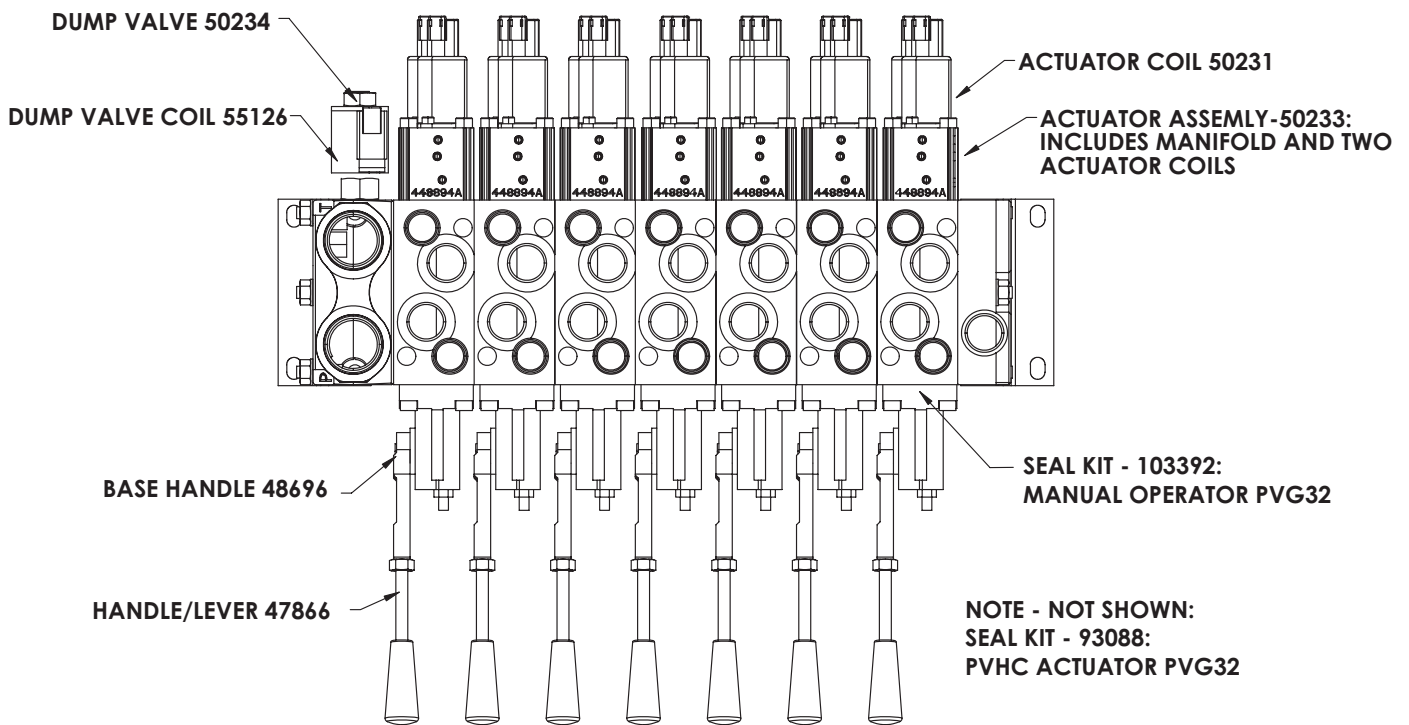
GREASE MAIN BEARING RACE THROUGH  
REMOTELY MOUNTED GREASE ZERK



## PN 72187

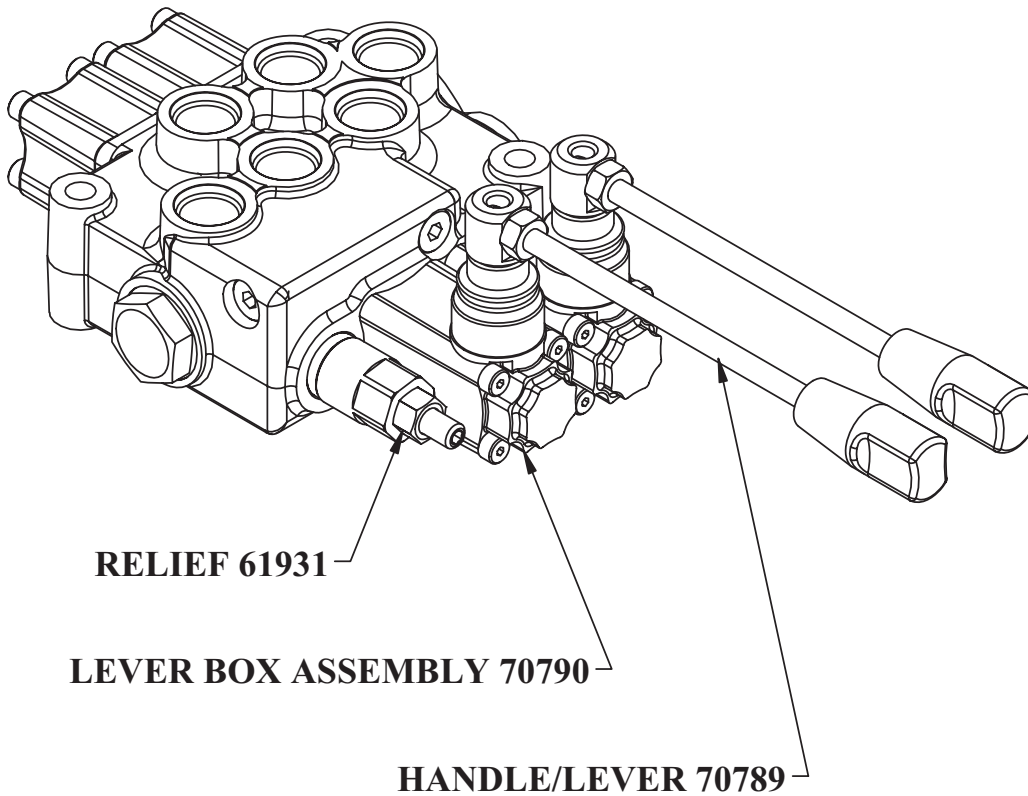
ITEM	PART No.	DESCRIPTION	QTY.
1	77741	BEARING AND SEAL KIT 14IN, 17IN, 25IN ENCLOSED KNMTS	2
2	77894	WORM 25IN ENCLOSED KNMTS	2
3	67864	END CAP 9IN/14IN/17IN/25IN KNMTS AFTER 2006	2
4	67863	SHIM KIT 6000 KINEMATICS W17B02	2
5	92062	ZERK M8-125 90 DEG(13500)	2
6	92061	ZERK M8-125 STRAIGHT(TM28)	6
7	102100	SEAL TOP BEARING	6

# Valve Bank - PN 76181

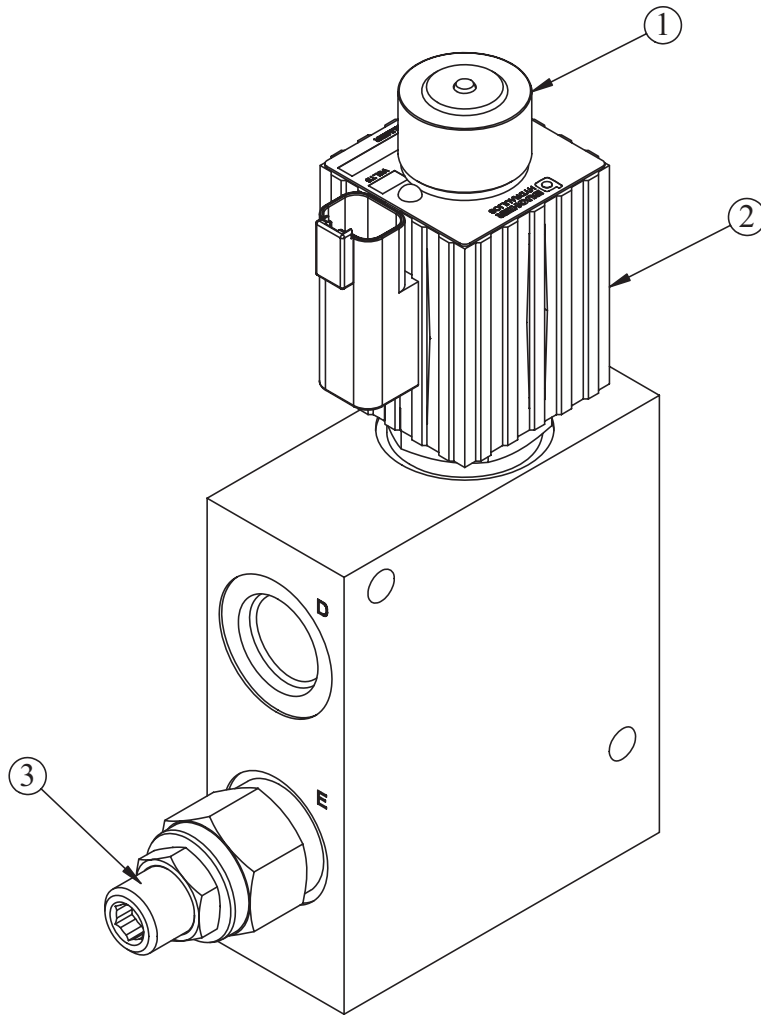


PN 76181

# Stabilizer Valve Bank - PN 61642



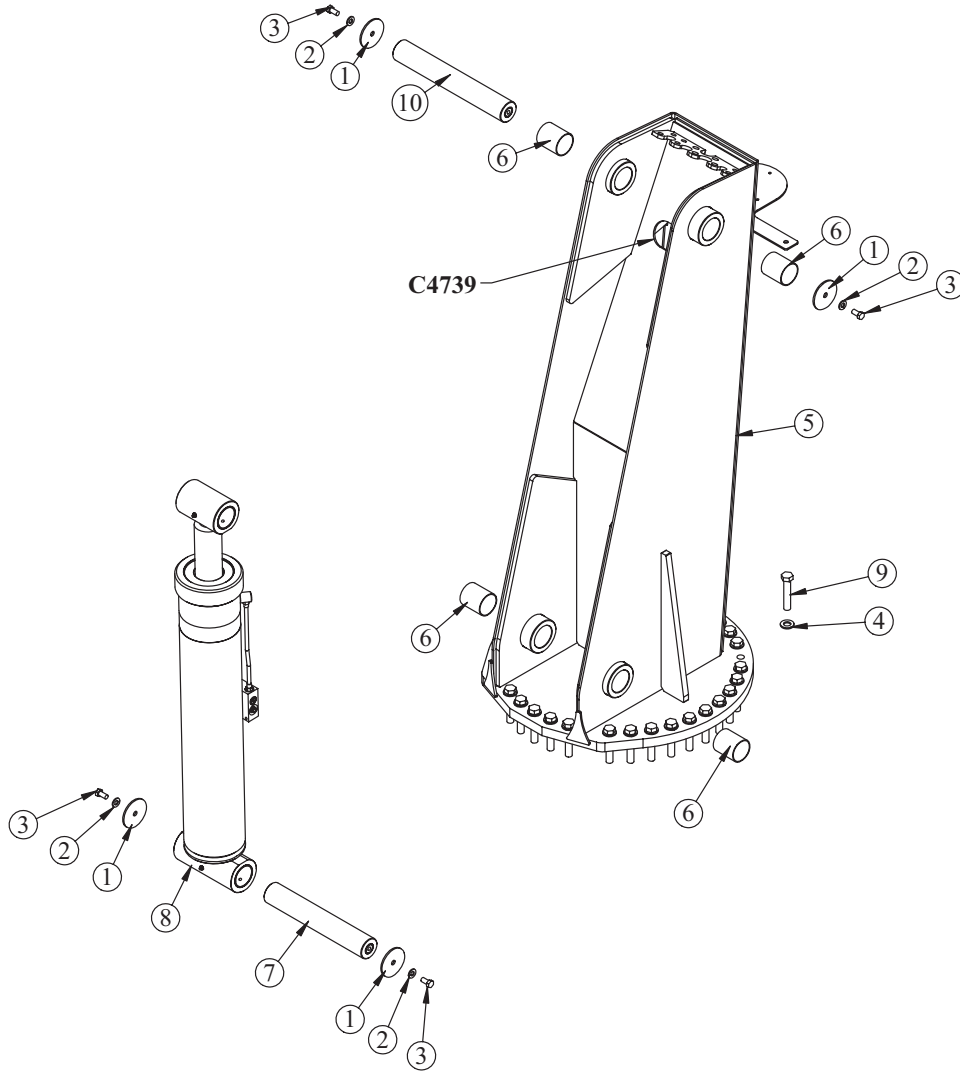
# Valve Assembly - PN 66286



## PN 66286

ITEM	PART	DESCRIPTION	QTY.
1	69029	VALVE SOLND EMDV-12-N-3D-0-0	1
2	63515	COIL VALVE BUCHER 12VDC DEUTSCH	1
3	69030	VALVE RELIEF RVPS-10-N-S-0-50	1

# Mast Assembly - PN 96545

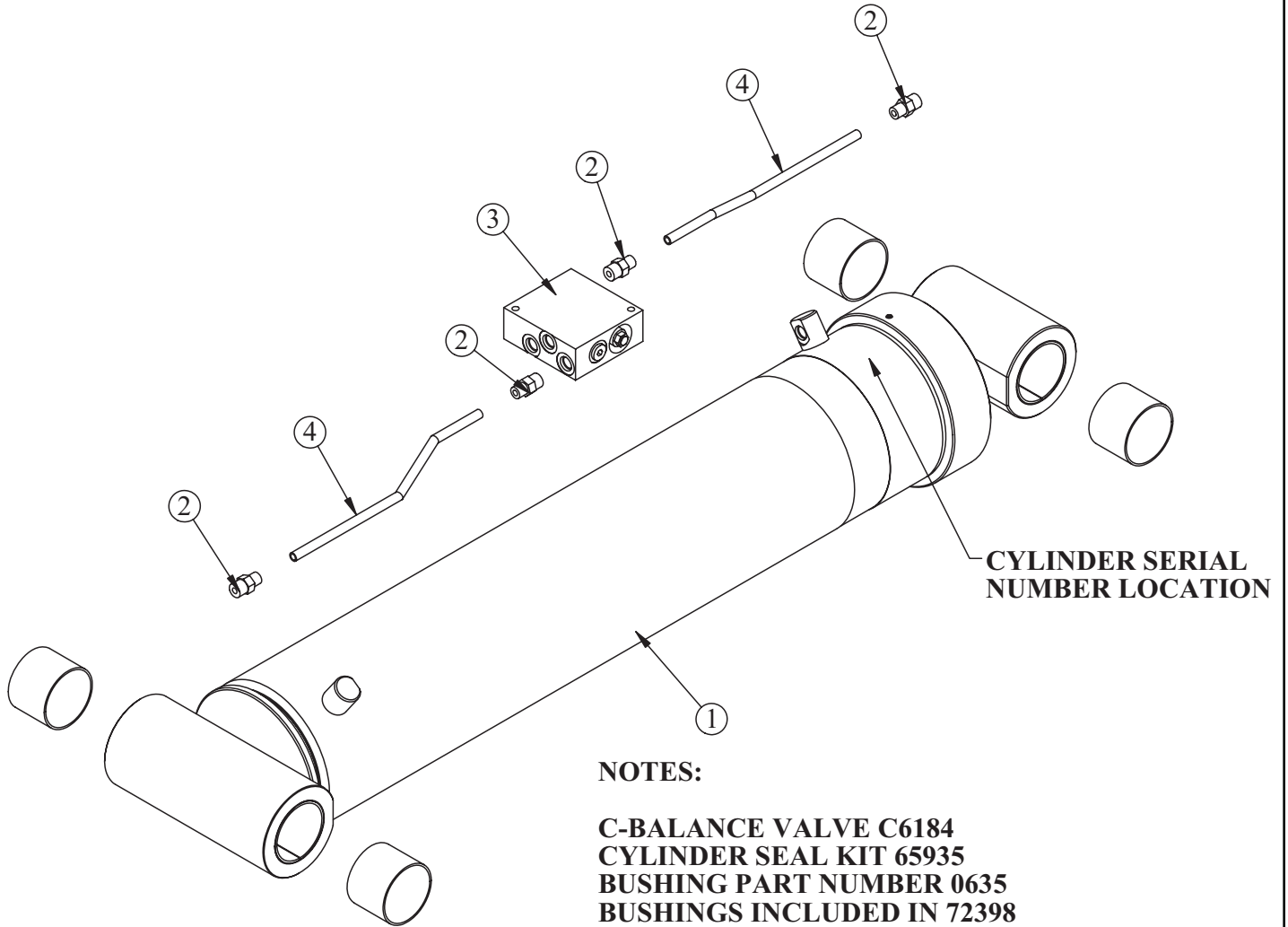


## PN 96545

ITEM	PART	DESCRIPTION	QTY.
1	8377	PIN CAP 0.56X3.50X0.19 YZ	4
2	D0790	WASHER 0.50 SAE FLAT YELLOW GR8	4
3	10172	CAP SCR 0.50-13X1.00 HHGR8	4
4	C6219	WASHER 0.75 SAE FLAT YELLOW GR8	34
5	96546	MAST 13500 V2	1
6	5739	BUSHING BPC40DXR48 2.50X3.00	4
7	72397CR	PIN 2.50X15.13 D&T ZC	1
8	73497	CYLINDER ASM 6.00X28.63 (4400 PSI)	1
9	C6218	CAP SCR 0.75-10X4.00 HHGR8	34
10	75482CR	PIN 2.50X16.75 D&T ZC	1

**C4739 - TRIM EDGE 0.38X0.63 AL (RM) - 1.6 FT**

# Main Cylinder Assembly - PN 73497

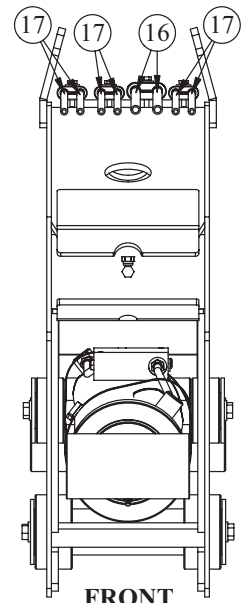
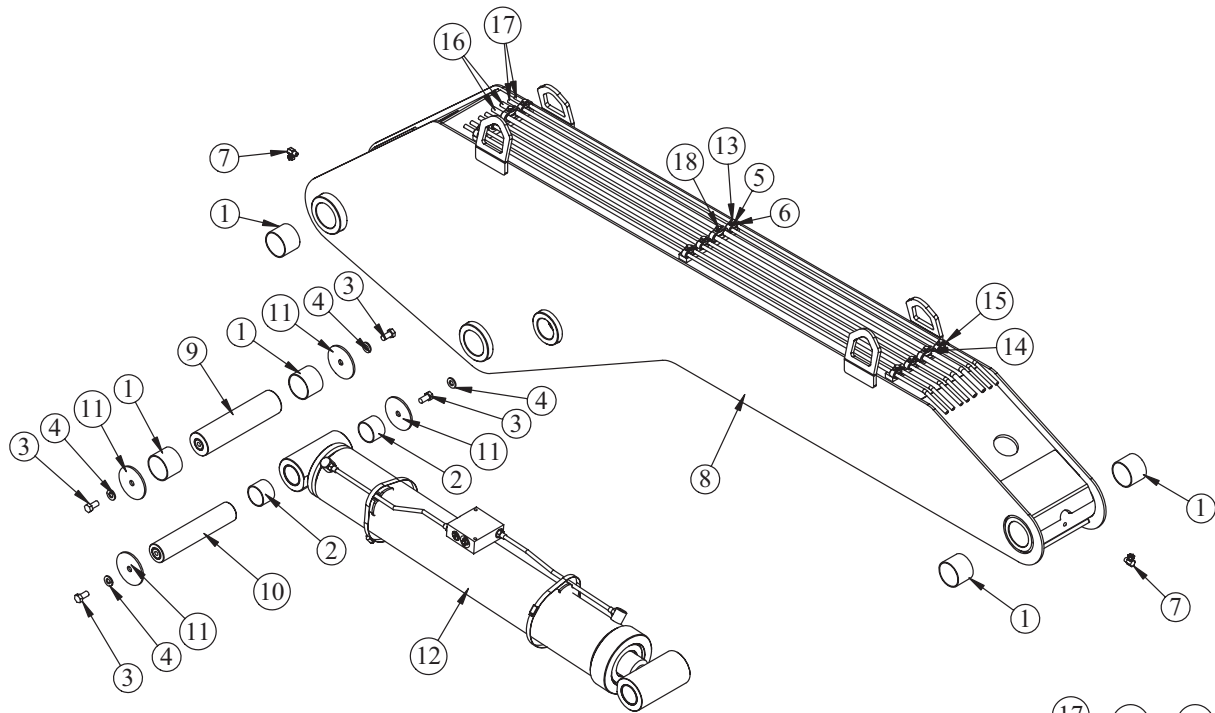


## PN 73497

ITEM	PART	DESCRIPTION	QTY.
1	72398	CYLINDER 6.00X28.63 (4400 PSI)	1
2	0279	FTG 6-6 MFS-MORB STRAIGHT	4
3	15822	MANIFOLD DOUBLE T11A 5000 PSI	1
4	29353	TUBE ASM 0.38X11.39 YZ	2



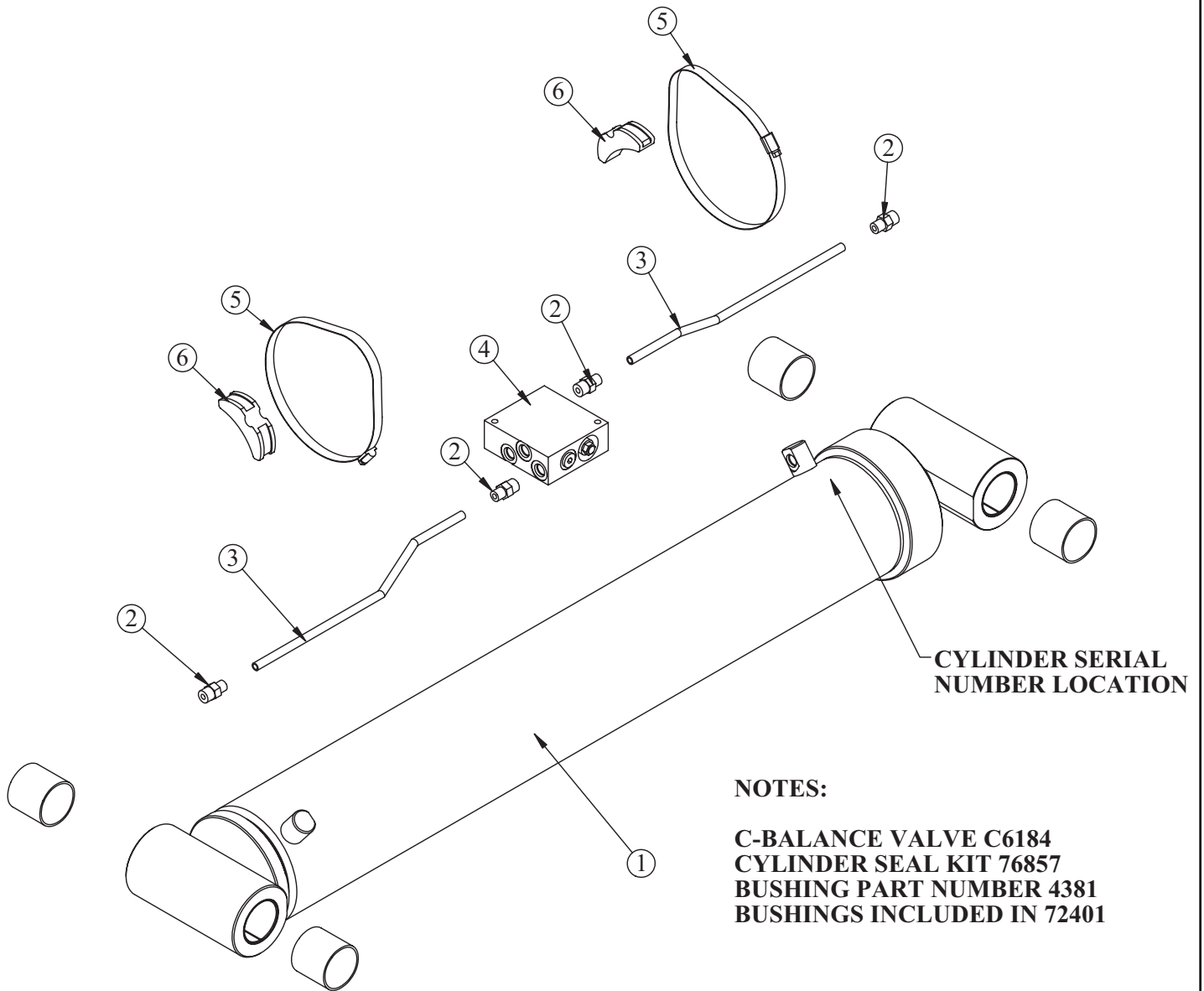
# Main Boom Assembly - PN 96550



## PN 96550

ITEM	PART	DESCRIPTION	QTY.
1	0635	BUSHING BPC40DXR32 2.50X2.00	6
2	4380	BUSHING BPC32DXR24 2.00X1.50	2
3	10172	CAP SCR 0.50-13X1.00 HHGR8	4
4	D0790	WASHER 0.50 SAE FLAT YELLOW GR8	4
5	0521	WASHER 0.25 LOCK	12
6	0340	WASHER 0.25 USS FLAT	12
7	37561	FTG 2-2 MP-FPS 90	2
8	96551	INNER BOOM 13500 V2	1
9	29358CR	PIN 2.50X10.13 D&T ZC	1
10	14189CR	PIN 2.00X10.00 D&T ZC	1
11	8377	PIN CAP 0.56X3.50X0.19 YZ	4
12	73498	CYLINDER ASM 5.00X30.00 (4400 PSI)	1
13	0437	CAP SCR 0.25-20X1.25 HHGR5	9
14	96566	CLAMP 0.50 PORT TUBE TWIN - STAUFF LNGF	3
15	96567	CLAMP 0.38 PORT TUBE TWIN - STAUFF LNGF	9
16	96568	TUBE ASM 0.50X66.00 MAIN BOOM 13500 YZ	2
17	96569	TUBE ASM 0.38X66.00 MAIN BOOM 13500 YZ	6
18	0220	CAP SCR 0.25-20X1.50 HHGR5	3

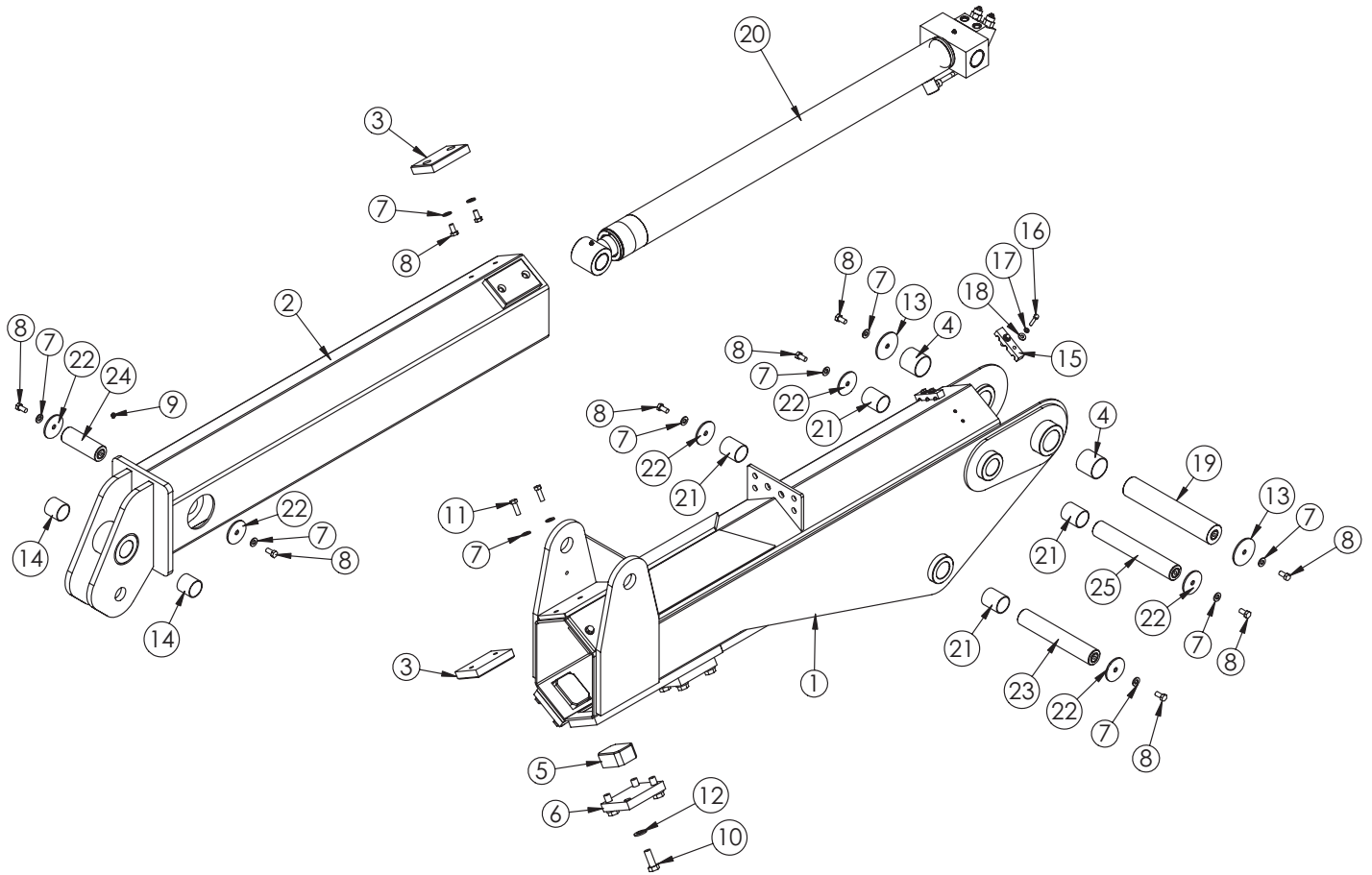
# Outer Cylinder Assembly - PN 73498



## PN 73498

ITEM	PART	DESCRIPTION	QTY.
1	72401	CYLINDER 5.00X30.00 (4400 PSI)	1
2	0279	FTG 6-6 MFS-MORB STRAIGHT	4
3	29357	TUBE ASM 0.38X13.89 YZ	2
4	15822	MANIFOLD DOUBLE T11A 5000 PSI	1
5	19369	HOSE CLAMP 4.13-7.00 5416K38	2
6	18701	CLAMP PORT TUBE ZR518	2

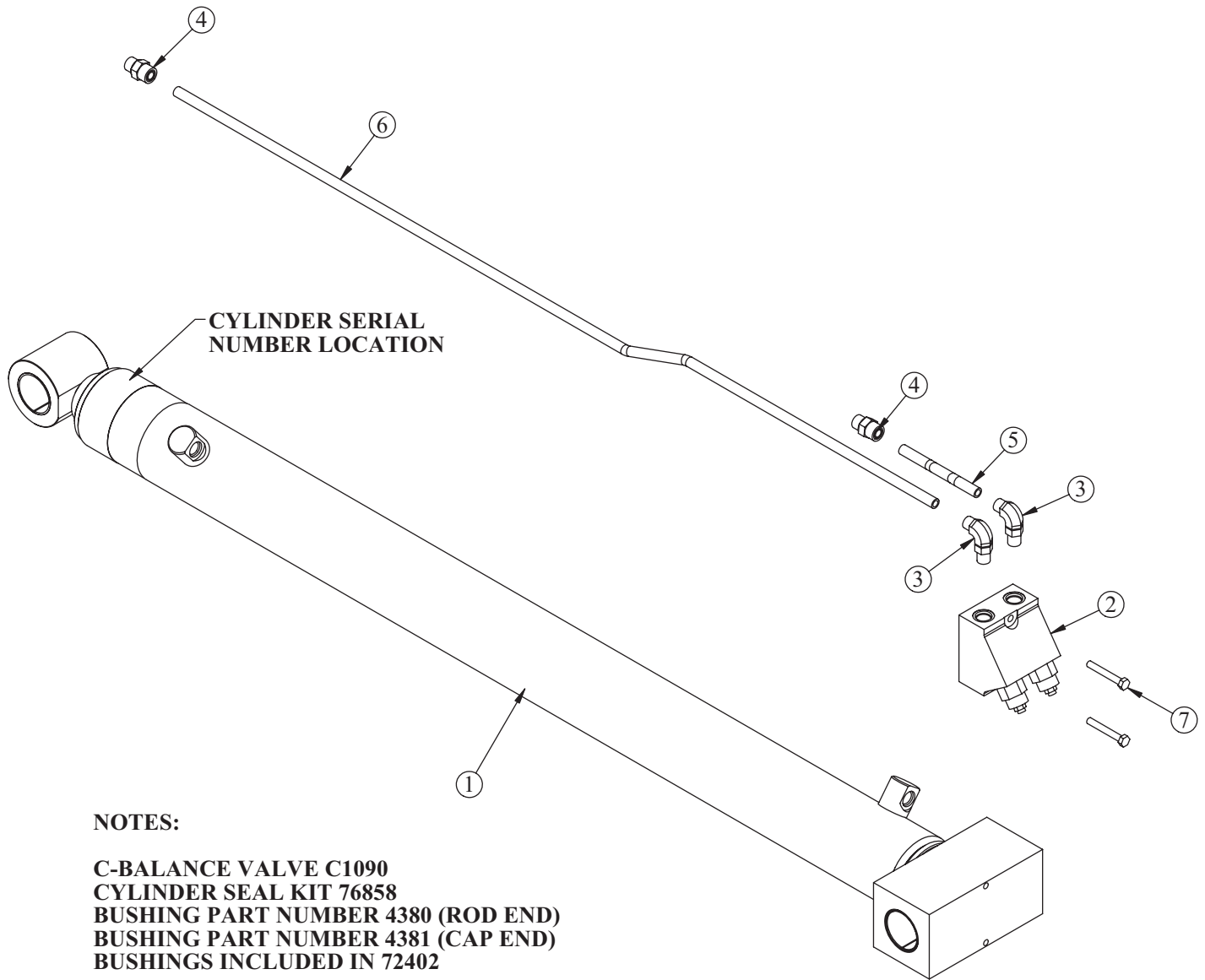
# Extension Boom Assembly - PN 72199



## PN 72199

ITEM	PART	DESCRIPTION	QTY.
1	72201	OUTER BOOM 13500	1
2	72202	EXT BOOM 13500	1
3	41058	WEAR PAD 1.00X4.00X6.00	4
4	17320	BUSHING BPC40DXR40 2.50X2.50	2
5	41059	WEAR PAD 3.00X4.00X1.75 NYLATRON	4
6	41064PC	PLATE WEAR PAD COVER 23000	4
7	D0790	WASHER 0.50 SAE FLAT YELLOW GR8	16
8	10172	CAP SCR 0.50-13X1.00 HHGR8	12
9	c1592	ZERK 1/8 NPT STRAIGHT	1
10	4543	CAP SCR 0.75-10X2.00 HHGR8	16
11	10548	CAP SCR 0.50-13X1.50 HHGR8	4
12	C6219	WASHER 0.75 SAE FLAT YELLOW GR8	16
13	8377	PIN CAP 0.56X3.50X0.19	2
14	4381	BUSHING BPC32DXR32 2.00X2.00	2
15	71305	CLAMP 3 HOSE 0.25 HYD 17000	2
16	0487	CAP SCR 0.31-18X1.75 HHGR5	4
17	0522	WASHER 0.31 LOCK	4
18	0343	WASHER 0.31 USS FLAT ZINC	4
19	48385ZP	PIN 2.50X14.00 D&T	1
20	73499	CYLINDER ASM EXT 13500	1
21	4379	BUSHING BPC32DXR40 2.00X2.50	4
22	5145	PIN CAP 0.56X3.00X0.19	6
23	72392CR	PIN 2.00X11.88 D&T	1
24	29552ZP	PIN 2.00X5.63 D&T	1
25	72393CR	PIN 2.00X12.88 D&T	1

# Extension Cylinder Assembly - PN 73499

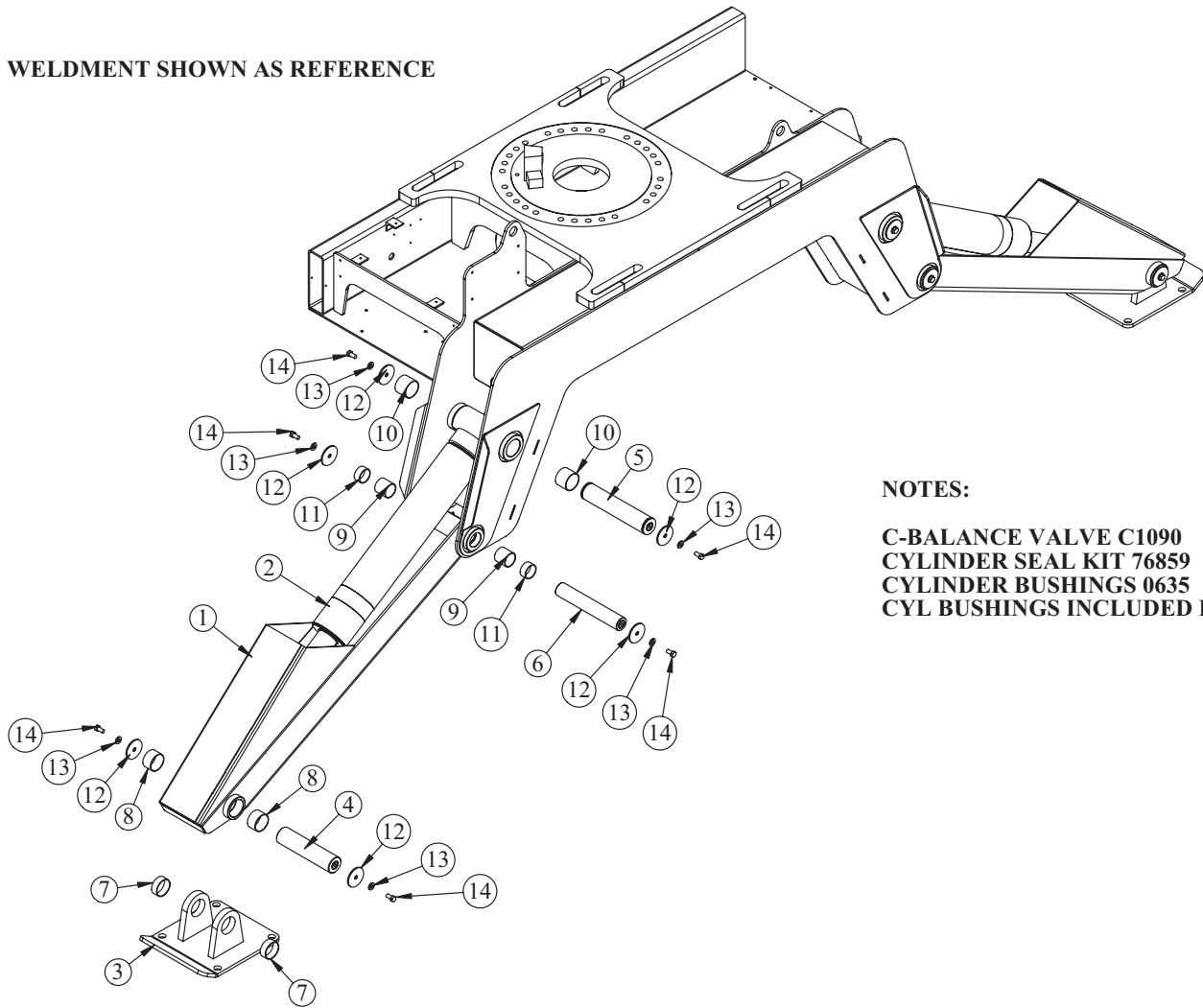


## PN 73499

ITEM	PART	DESCRIPTION	QTY.
1	72402	CYLINDER 3.50X41.50 (4400 PSI)	1
2	53516	MANIFOLD CBAL DOUBLE T2A SUN CBDD-LJN-XAJ	1
3	1556	FTG 8-8 MFS-MAORB 90	2
4	1554	FTG 8-8 MFS-MORB STRAIGHT	2
5	53517	TUBE ASM 0.50X5.81 YZ	1
6	54312	TUBE ASM 0.50X50.28 YZ	1
7	C0927	CAP SCR 0.31-18X2.25 HHGR5	2

# Stabilizer Assembly - PN 75925

BASE WELDMENT SHOWN AS REFERENCE



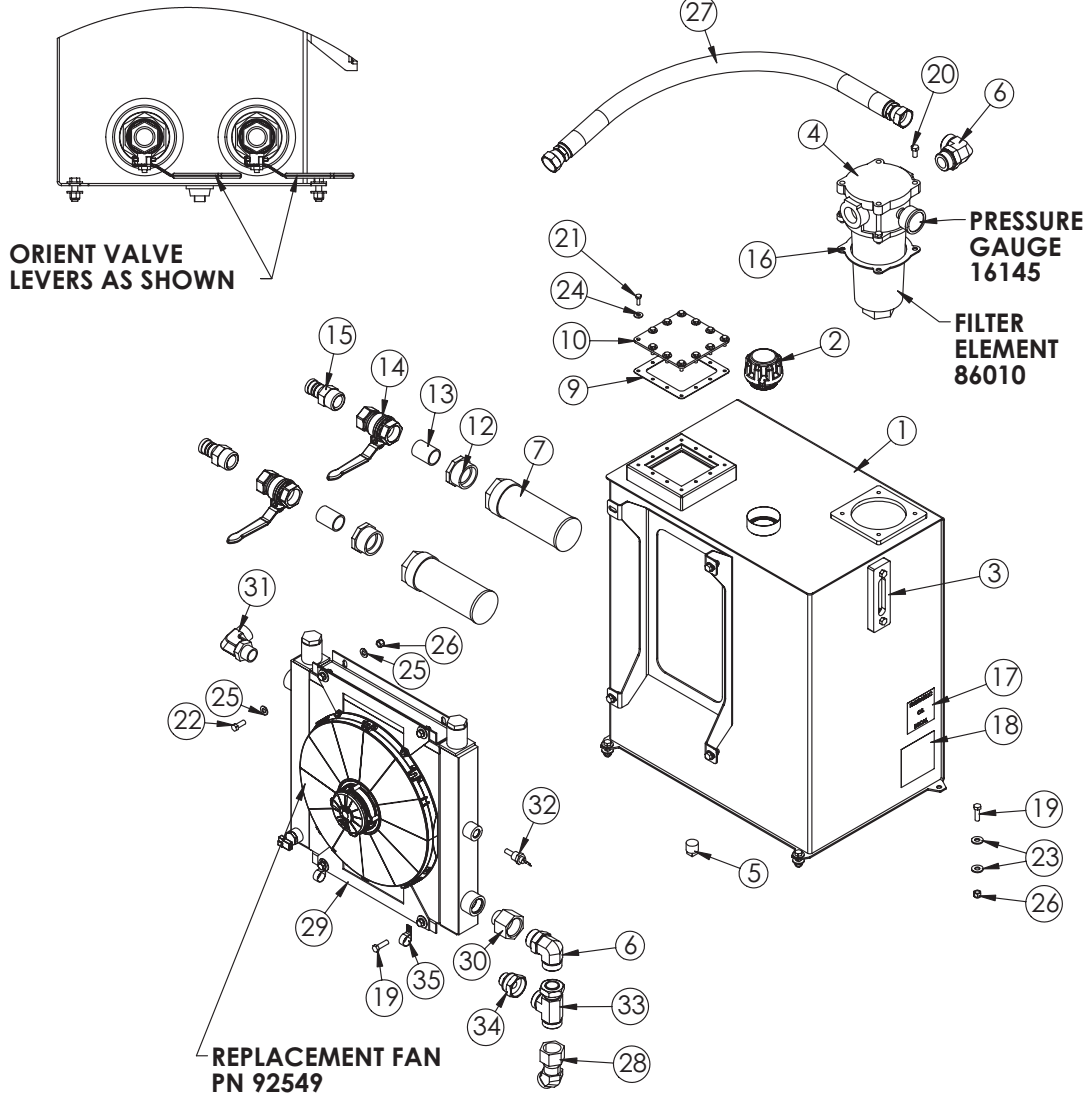
**NOTES:**

C-BALANCE VALVE C1090  
 CYLINDER SEAL KIT 76859  
 CYLINDER BUSHINGS 0635  
 CYL BUSHINGS INCLUDED IN 75636

## PN 75925

ITEM	PART	DESCRIPTION	QTY.
1	66281	OUTRIGGER LEG WLDMT 9000/TM20165	2
2	75636	CYLINDER 5.00X24.50 13500	2
3	66282	OUTRIGGER PAD 9000/TM20165	2
4	54322CR	PIN 2.50X10.38 D&T	2
5	0857CR	PIN 2.50X12.38 SR/D&T	2
6	20042CR	PIN 2.00X12.13 D&T	2
7	13343	BUSHING BPC40DXR16 2.50X1.00	4
8	13817	BUSHING BPC40DXR24 2.50X1.50	4
9	4381	BUSHING BPC32DXR32 2.00X2.00	4
10	0635	BUSHING BPC40DXR32 2.50X2.00	4
11	8819	BUSHING BPC32DXR16 2.00X1.00	4
12	5145	PIN CAP 0.56X3.00X0.19 YZ	12
13	D0790	WASHER 0.50 SAE FLAT YELLOW GR8	12
14	10172	CAP SCR 0.50-13X1.00 HHGR8	12
15	c1592	ZERK 1/8 NPT STRAIGHT	2

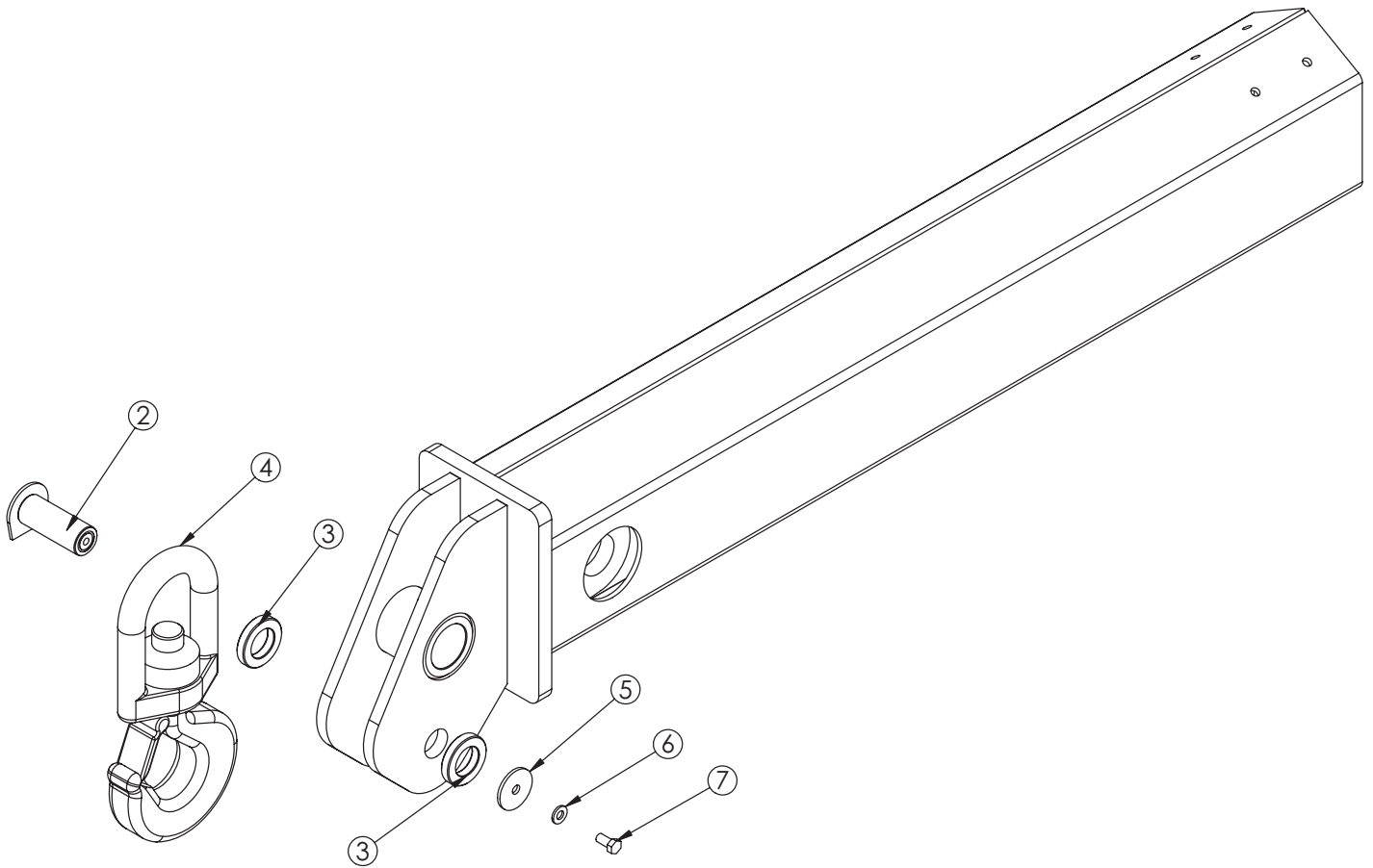
# Reservoir Assembly - PN 85788



## PN 85788

ITEM	PART No.	DESCRIPTION	QTY.	ITEM	PART No.	DESCRIPTION	QTY.
1	85789	RSRVR 40GAL ORING V2 13500	1	19	0335	CAP SCR 0.38-1.6X1.25 HHGR5	6
2	81018	CAP FILL NO RELIEF ZINGA THREADED	1	20	0492	CAP SCR 0.38-1.6X0.75 HHGR5	4
3	15463	THERMO SIGHT GAUGE ZINGA SG-O5-A-T-N	1	21	0479	CAP SCR 0.25-20X0.75 HHGR5	12
4	85928	FILTER TANK TOP 20 FORB	1	22	0351	CAP SCR 0.38-1.6X1.00 HHGR5	4
5	C2126	MAGNETIC PLUG DRAIN 3/4"	1	23	0346	WASHER 0.38 USS FLAT	8
6	64276	FTG 20-20 MFS-MAORB 90	2	24	0340	WASHER 0.25 USS FLAT	12
7	C6327	FILTER STRAINER 35GAL TF-2030	2	25	C6353	WASHER 0.38 SAE FLAT YELLOW GR8	8
8	C4841	PLUG 0.38 NPT SQ HD BLK	1	26	0347	NUT 0.38-1.6 HHGR5 NYLOC	8
9	11149	GASKET ARCTIC FOX HEATER #A-611	1	27	52627	HOSE 1.25(881-JC-JC-20-20-20-33)	1
10	11442	PLATE COVER TANK HEATER FLANGE PC WHITE	1	28	75108	FTG 20-20 MFS-FFSS 45	1
11	71411	FTG HOSE 6-6 PL-MP 90 BRASS	1	29	85790	WASHER 0.38 SAE FLAT YELLOW GR8	1
12	C4907	BUSHING 2.00X1.25 BLK	2	30	51358	FTG 1.6-20 MORB-FORB STRAIGHT REDUCER	1
13	C1057	FTG 20-20XCLOSE MP-MP NIPPLE STRAIGHT BLK	2	31	51275	FTG 20-16 MFS-MAORB 90	1
14	C5511	VALVE BALL 1.25	2	32	123756	SWITCH TEMP NC TT-F5B-170R-PD	1
15	C2282	FTG 1.25 NPT TO 1.25 BARB	2	33	64517	FTG 20-20-20 MFS-FFSS-MFS RUN TEE	1
16	58396	GASKET RG-11 TANK TOP FILTER	1	34	73633	FTG 20-12 FFSS-MFS STRAIGHT	1
17	13002	DECAL HYD OIL SPECIFICATION MOBIL	1	35	C5946	HOSE CLAMP #8 RUBBER COATED	2
18	42971	DECAL OIL FILTER CHANGE	1				

# Optional 15 Ton Hook Kit - PN 54768



## PN 54768

ITEM	PART	DESCRIPTION	QTY.
1	54268	EXT BOOM 17000	1
2	54766ZP	PIN TEAR DROP 1.75X4.44	1
3	54765PC	COLLAR 1.78X3.00X.56	2
4	41499	HOOK 15 TON SWIVEL CROSBY 1028654	1
5	9142	PIN CAP 0.56X2.50X0.19	1
6	D0790	WASHER 0.50 SAE FLAT YELLOW GR8	1
7	10172	CAP SCR 0.50-13X1.00 HHGR8	1

# Radio Transmitter - PN 89149/93084



## PN 89149/93084

ITEM	PART	DESCRIPTION	QTY
1	95026	2-WAY MOMENTARY TOGGLE SWITCH	1
2	95027	TOGGLE SWITCH RUBBER BOOT	3
3	95025	SWITCH PADDLE SCANRECO (LABEL KIT INCLUDED)	6
4*	89474	3-WAY MOMENTARY TOGGLE SWITCH	2
5	95030	E-STOP SWITCH	1
6	95028	PUSH BUTTON START SWITCH	1
7	95029	PUSH BUTTON SWITCH BOOT	1

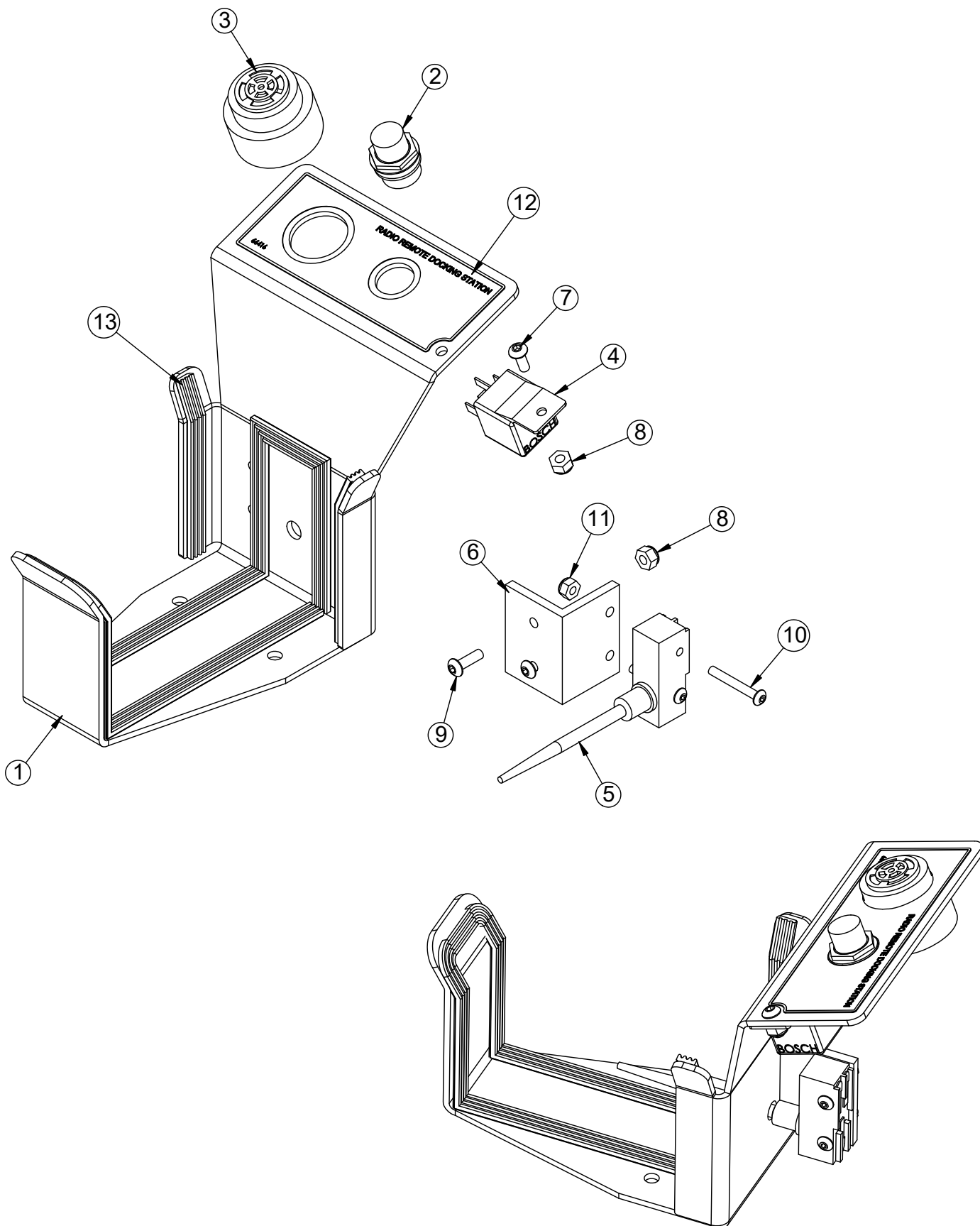
\*"OPTION" switch may or may not be active depending on factory settings; additional functionality dependent on user.



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# Transmitter Docking Station Asm (Opt.) - PN 97334

## SCANRECO BELLY BOX G2B-MINI



# Transmitter Docking Station (Opt.) - PN 97334 Parts List

## PN 97334

ITEM	PART	DESCRIPTION	QTY
1	97470	BRKT RADIO STOW SCANRECO 89149/89150	1
2	26288	LIGHT INDICATOR RED FORCE PTO	1
3	26031	BACKUP ALARM PIEZO JAMECO 123537	1
4	C6072	RELAY BOSCH 20-30 AMP	1
5	66413	SWITCH SPRING ROD OMRON Z-15GNJ55	1
6	66411	ANGLE AL SWITCH MOUNT DOCK STATION HET NOVA	1
7	D1711	CAP SCR #10-24X0.50 BTNHD SS	1
8	C4956	NUT #10-24 HH NYLOC SS	3
9	59075	CAP SCR #10-24X0.63 BTNHD ZC	2
10	66412	SCREW #8-32X1.25 BTNHD SS	2
11	22186	NUT #8-32 HH NYLOC SS	2
12	66416	DECAL DOCKING STATION HET NOVA 41922	1
13	17162	WEATHERSTRIP RIBBED 0.38X0.13	3.5

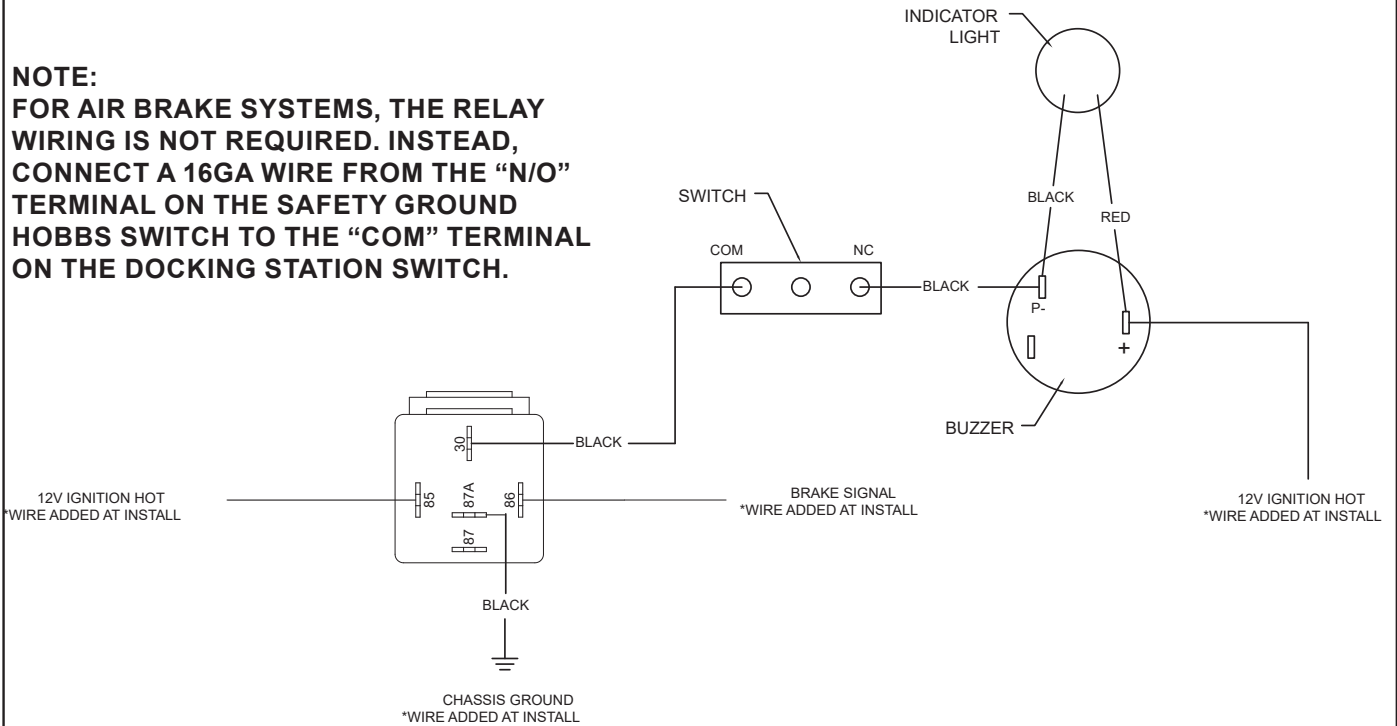
## PARTS NOT SHOWN

PART	DESCRIPTION	QTY
65989	WIRING DIAGRAM DOCKING STATION 65984	1
C0072	TERML RING #10 16-14GA	6
C0080	TERML QC F 0.19 16-14GA 0.20 TAB FULLY INS	4
C2607	TERML QC PIGGYBK 0.25 16-14GA	1
C4689	WIRE 14GA (RM) RED SAE J-1128	1.5
C4691	WIRE 14GA (RM) BLACK SAE J-1128	3
C4860	DECAL BALLAST MSTR OPERATION	1

# Wiring Diagram Docking Station - PN 65989

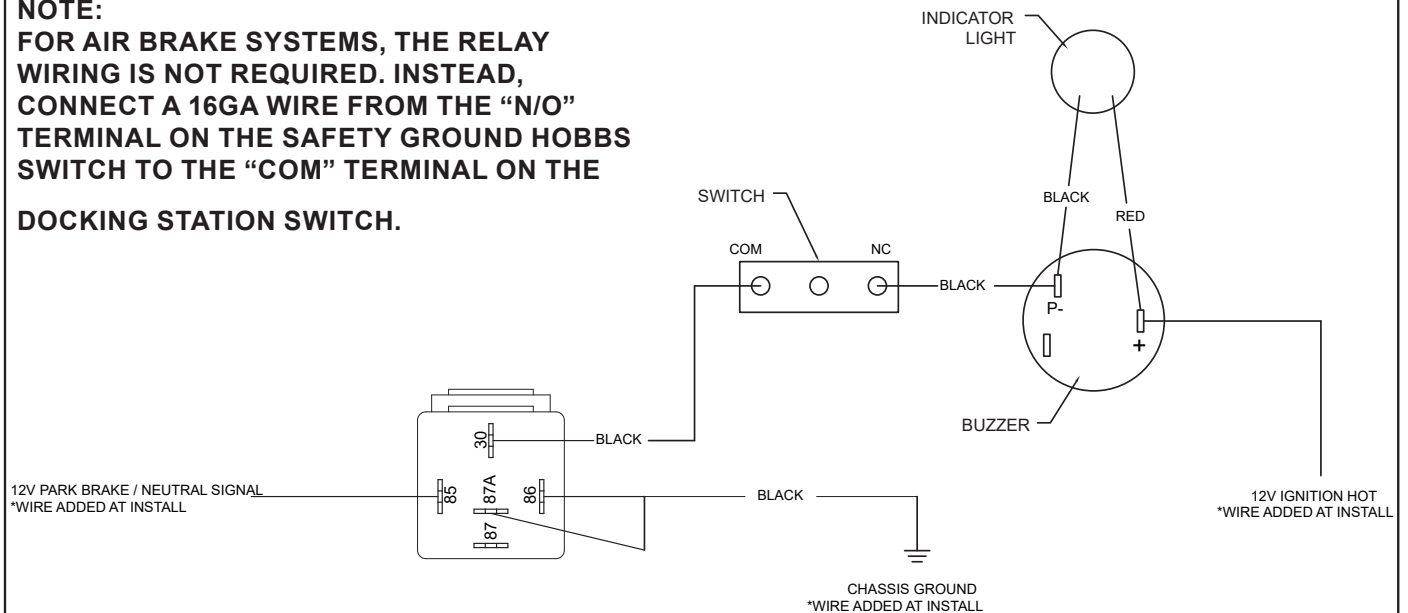
## NEGATIVE BRAKE SIGNAL

**NOTE:**  
**FOR AIR BRAKE SYSTEMS, THE RELAY WIRING IS NOT REQUIRED. INSTEAD, CONNECT A 16GA WIRE FROM THE "N/O" TERMINAL ON THE SAFETY GROUND HOBBS SWITCH TO THE "COM" TERMINAL ON THE DOCKING STATION SWITCH.**



## POSITIVE BRAKE SIGNAL

**NOTE:**  
**FOR AIR BRAKE SYSTEMS, THE RELAY WIRING IS NOT REQUIRED. INSTEAD, CONNECT A 16GA WIRE FROM THE "N/O" TERMINAL ON THE SAFETY GROUND HOBBS SWITCH TO THE "COM" TERMINAL ON THE DOCKING STATION SWITCH.**







Subject to Change without Notification.  
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