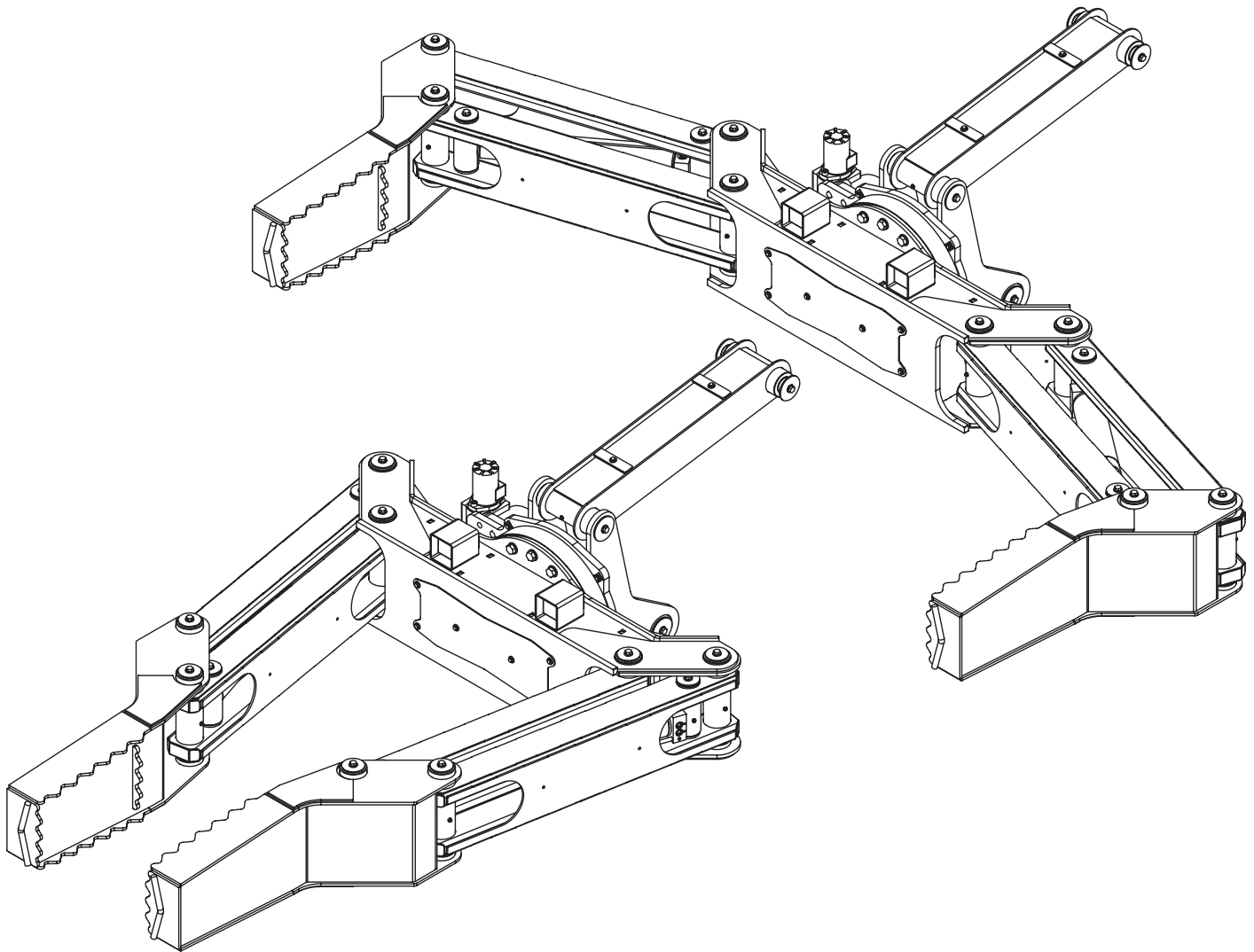




TireMan 6116 Owner's Manual

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

Stellar Industries, Inc.

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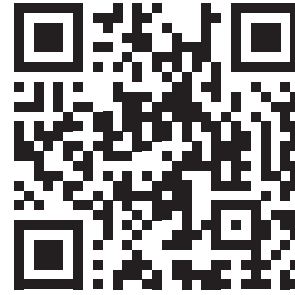
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Rev 2
PN 99433

Model TM6116 Manual Revisions

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.



www.p65/warning.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.

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Introduction

A copy of this manual is provided with every tire manipulator 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 tire manipulator 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.

**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

Order Parts

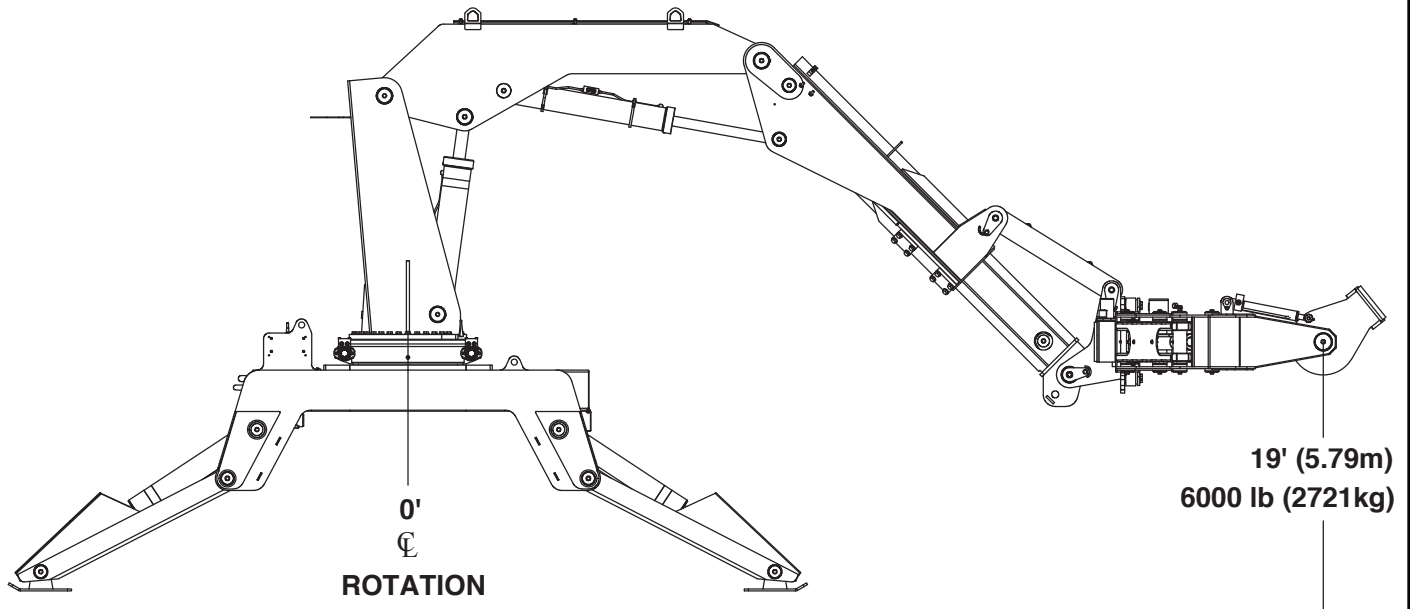
parts@stellarindustries.com

Warranty Information

warranty@stellarindustries.com

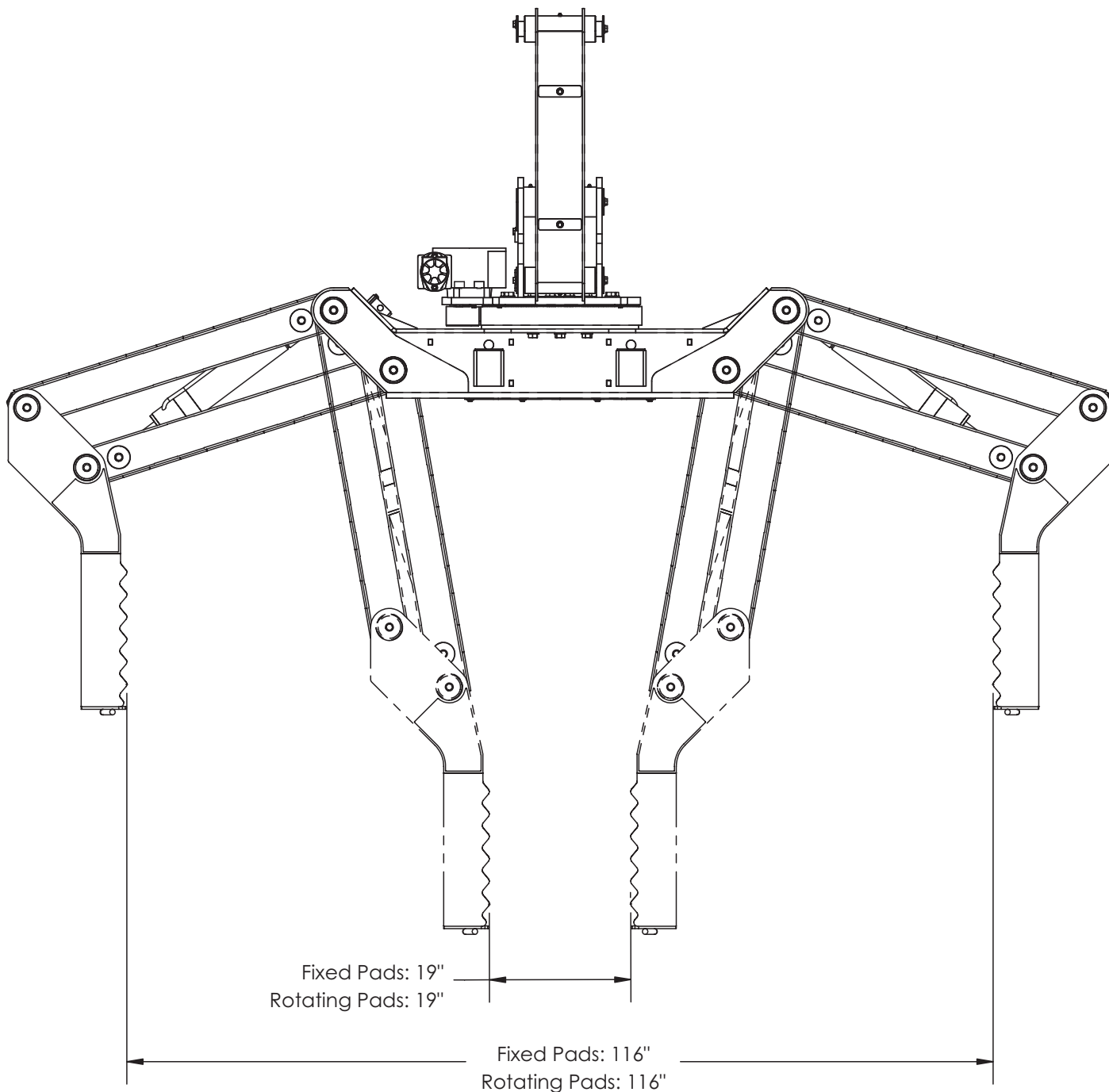
Model TM6116 Specifications

CAPACITY CHART



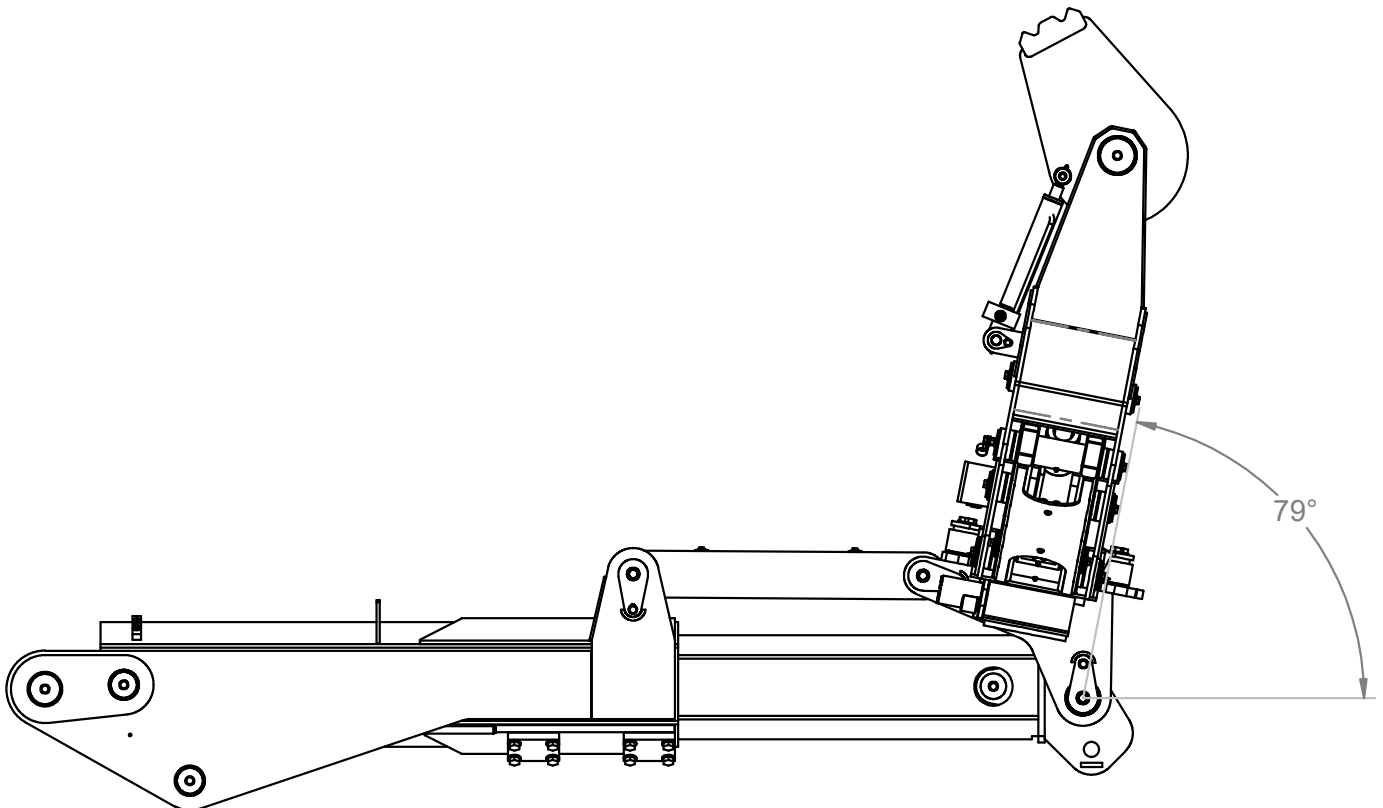
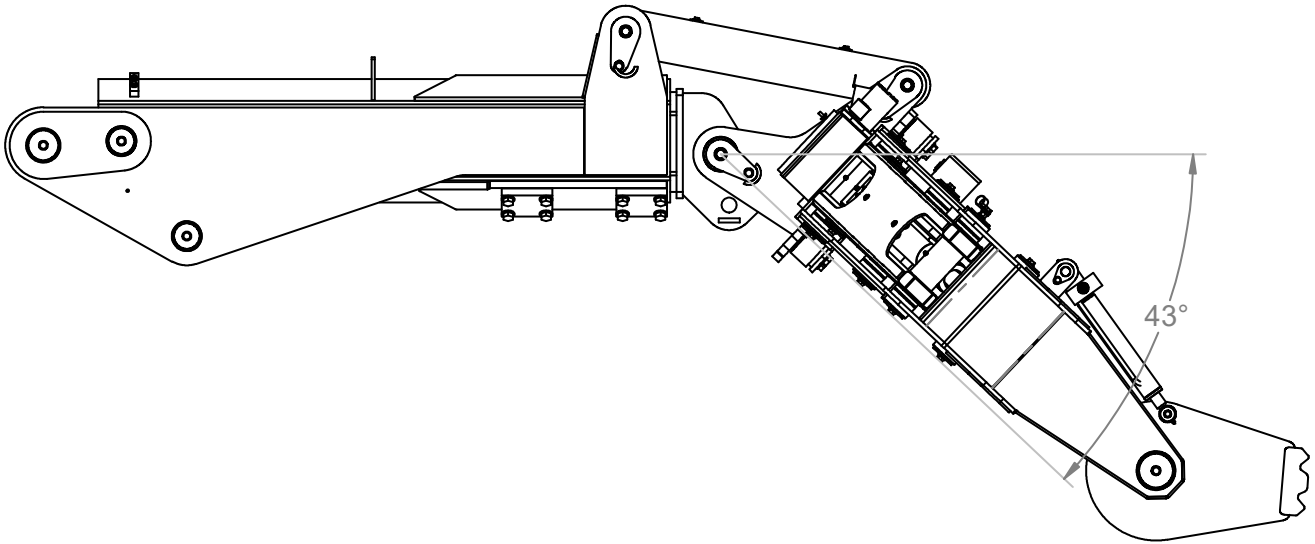
Capacity:	6,000 lbs @ 19' (2,721 kg @ 5.79m)
Clamping Span:	Fixed Pads - 19" to 116" (48.3 cm to 294.6 cm) Rotating Pads - 19" to 116" (48.3 cm to 294.6 cm)
Clamp Cylinders:	3.5" (8.9 cm) bore with integral pilot operated counter balance valves
Tilt Cylinder:	Provided by crane extension boom
Body Rotation:	300° power
Rotation System:	Hourglass worm gear
Clamping Pad Rotation:	Optional: 90° Rotating Pads
TireMan Tilt:	+79° to -43°
Hydraulic Controls:	Incorporated with the crane controls
Approximate Shipping Weight:	2,375 lbs (1077 kg) Standard 2,650 lbs (1202 kg) With 90° Rotating Pad

TM6116 Dimensional Layout



TM6116 Dimensional Layout (Continued)

TIREMAN TILT



General Installation

This chapter is designed to serve as a general guide for the installation of a Stellar TM6116 on a Stellar Service Crane. 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 Crane installed on a vehicle that meets the minimum chassis requirements of the crane. It is the installer's responsibility to assure that the unit is mounted on a platform that will support the maximum crane rating of this crane.

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

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.

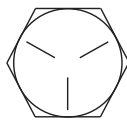
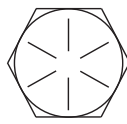
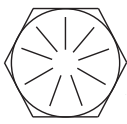
Therefore, the installer of Stellar® Cranes and Bodies is considered one of the manufacturers of the vehicle. As such a manufacturer, the installer is responsible for compliance with all applicable federal and state regulations. They are required to certify that the vehicle is in compliance with the 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.*

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.

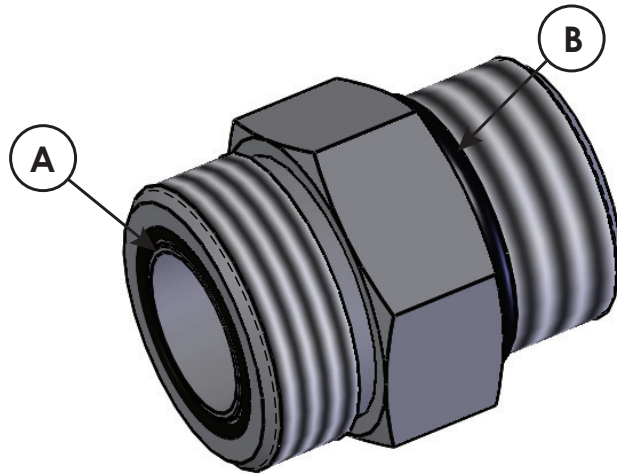
When installing metal hydraulic tubes, tighten all fittings finger tight. Then, in order, tighten the fittings at the rigid end, the adjustable end, and the mounting brackets. After tubes are mounted, install the hoses. Connect both ends of the hose with all fittings finger tight. Position the hose so 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

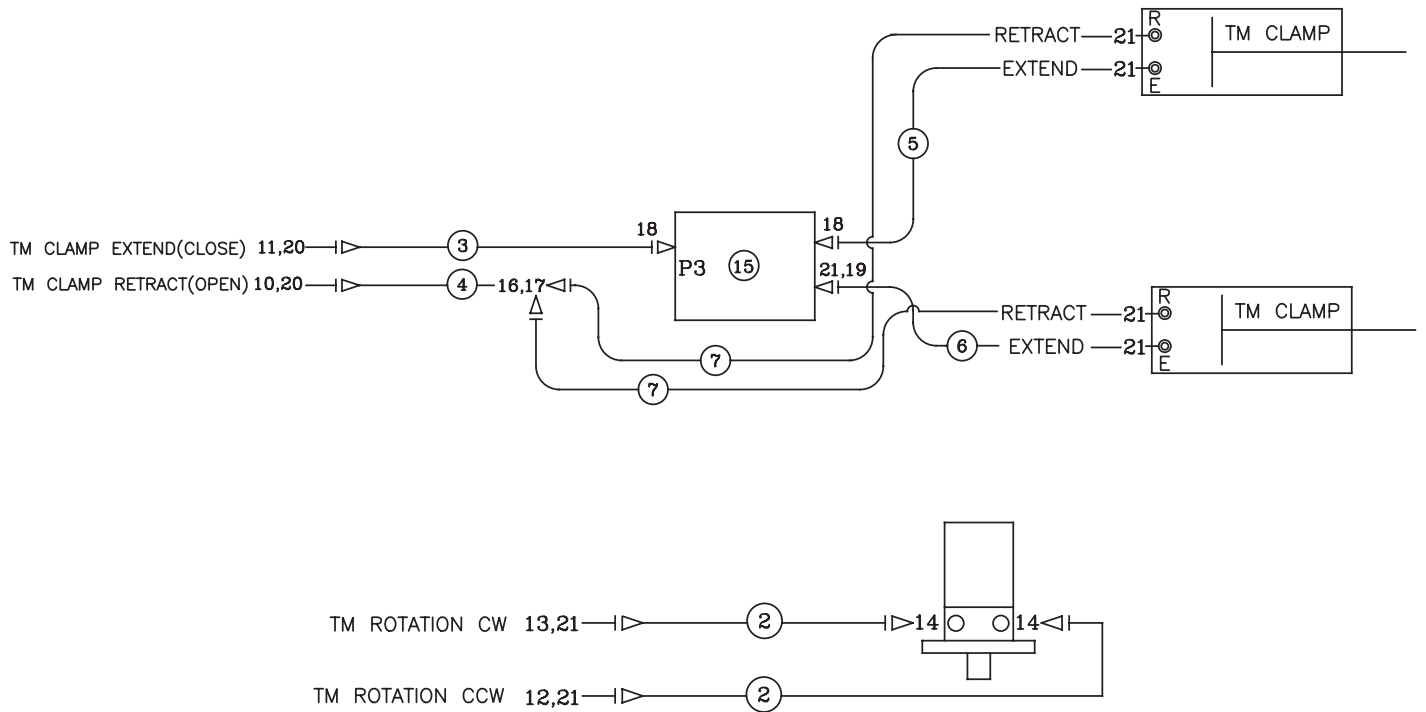
Main Relief 4600 psi			
		Pressure (psi)	
Function	Flow (gpm)	Extend	Retract
Inner	10.6	4400	2200
Outer	10.6	4400	2200
Extension	10.6	4400	4400
Rotation	10.6	2200	2200
TM Rot	6.6	2200	2200
TM Pad Rot	6.6	3000	3000
TM Clamp	6.6	3000	3000

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 w/Fixed Pads - PN 99146

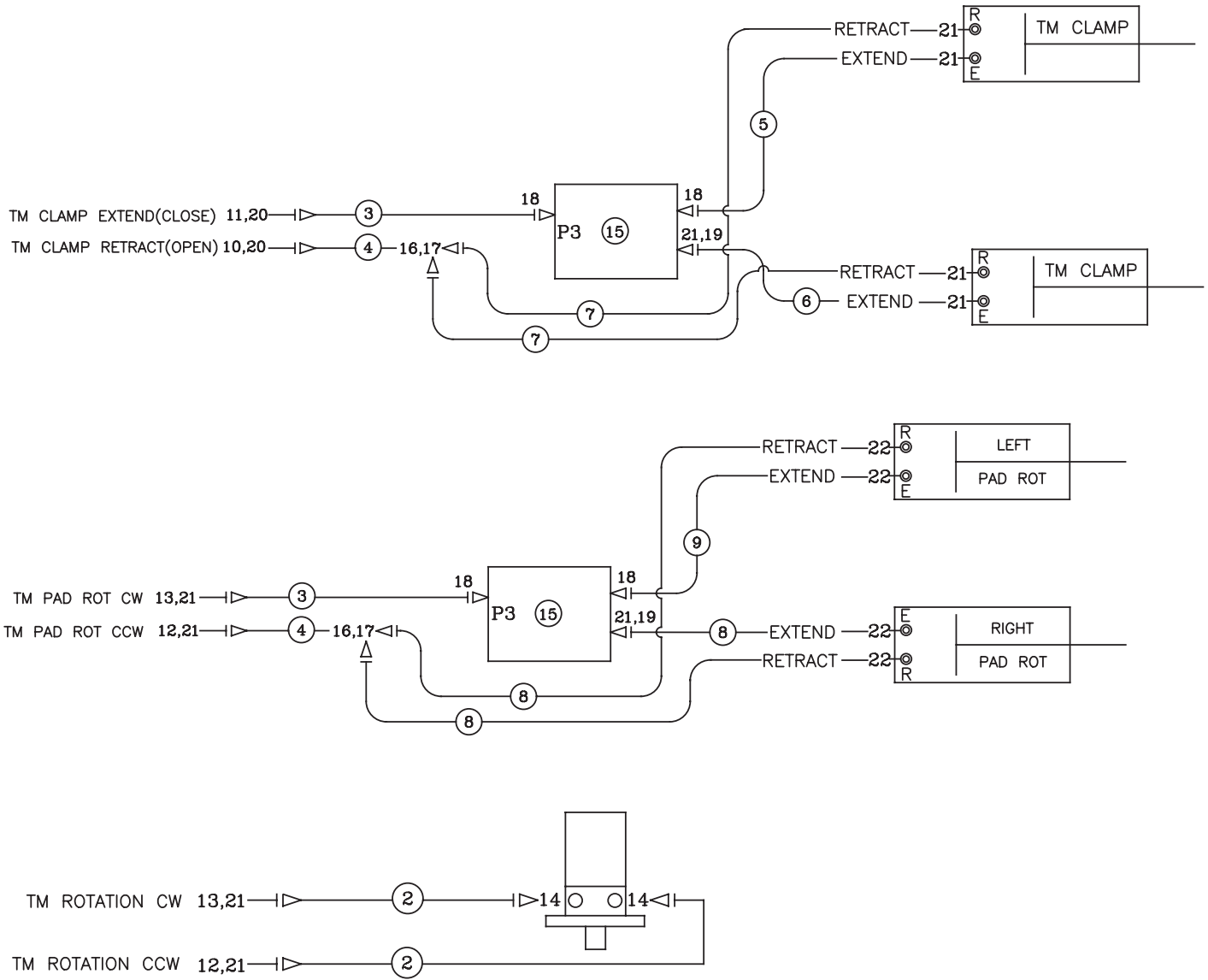


PN 99146

22	53479	LOOM 1.00 SPIRAL WRAP POLYETHYLENE	4
21	0279	FTG 6-6 MFS-MORB STRAIGHT	7
20	C1854	FTG 6-8 MFS-MORB STRAIGHT	2
19	C2248	FTG 6-6 MFS-FFSS 90	1
18	C0338	FTG 6-6 MFS-MAORB 90	2
17	D0107	FTG 6-6-6 MFS-MFS-FFSS BRANCH TEE	1
16	12171	FTG 6-6 MFS-MFS SWIVEL STRAIGHT	1
15	35111	VALVE COMB DIV FD50-44-6T-N-44	1
14	C1855	FTG 6-10 MFS-MORB STRAIGHT	2
13	13555	QUICK COUPLER 2FFI14-38SAE-M	1
12	13554	QUICK COUPLER 2FFI14-38SAE-F	1
11	13557	QUICK COUPLER 2FFN38-12SAE-M	1
10	13556	QUICK COUPLER 2FFN38-12SAE-F	1
09			
08			
07	99140	HOSE-HYD 0.25 X 38	2ref
06	99139	HOSE-HYD 0.25 X 63	1ref
05	99138	HOSE-HYD 0.25 X 33	1ref
04	79572	HOSE-HYD 0.25 X 85	1ref
03	79571	HOSE-HYD 0.25 X 113	1ref
02	55891	HOSE-HYD 0.25 X 77	2ref
01	99147	HOSE KIT,TM6116 V2 (incl:2-7)	1
ITEM	PART No.	DESCRIPTION	QTY

USE SPIRAL HOSE WRAP (53479) OVER HOSES THRU BODY ROTATION AREA

Hydraulic Kit w/Rotating Pads - PN 99136



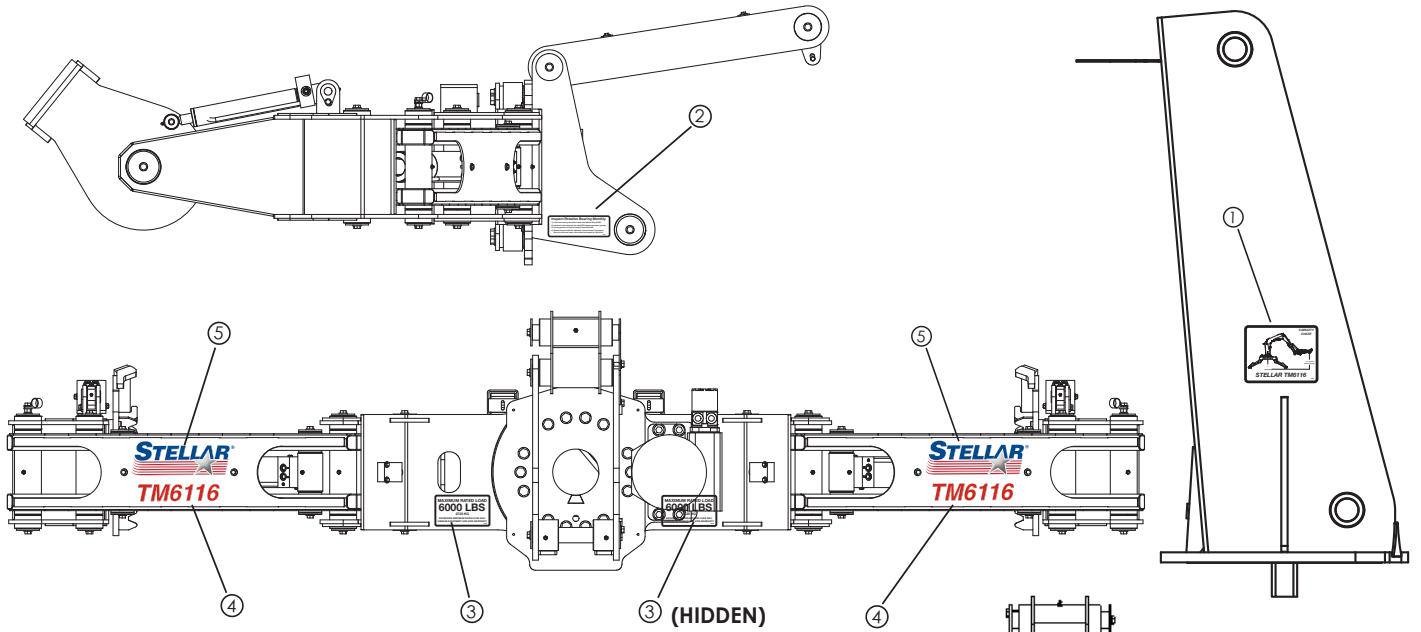
PN 99136

12	13554	QUICK COUPLER 2FF114-38SAE-F	2
11	13557	QUICK COUPLER 2FFN38-12SAE-M	1
10	13556	QUICK COUPLER 2FFN38-12SAE-F	1
09	99142	HOSE-HYD 0.25 X 122	1ref
08	99141	HOSE-HYD 0.25 X 96	3ref
07	99140	HOSE-HYD 0.25 X 38	2ref
06	99139	HOSE-HYD 0.25 X 63	1ref
05	99138	HOSE-HYD 0.25 X 33	1ref
04	79572	HOSE-HYD 0.25 X 85	2ref
03	79571	HOSE-HYD 0.25 X 113	2ref
02	55891	HOSE-HYD 0.25 X 77	2ref
01	99137	HOSE KIT, TM6116 V2 RP (incl:2-9)	1
ITEM	PART No.	DESCRIPTION	QTY

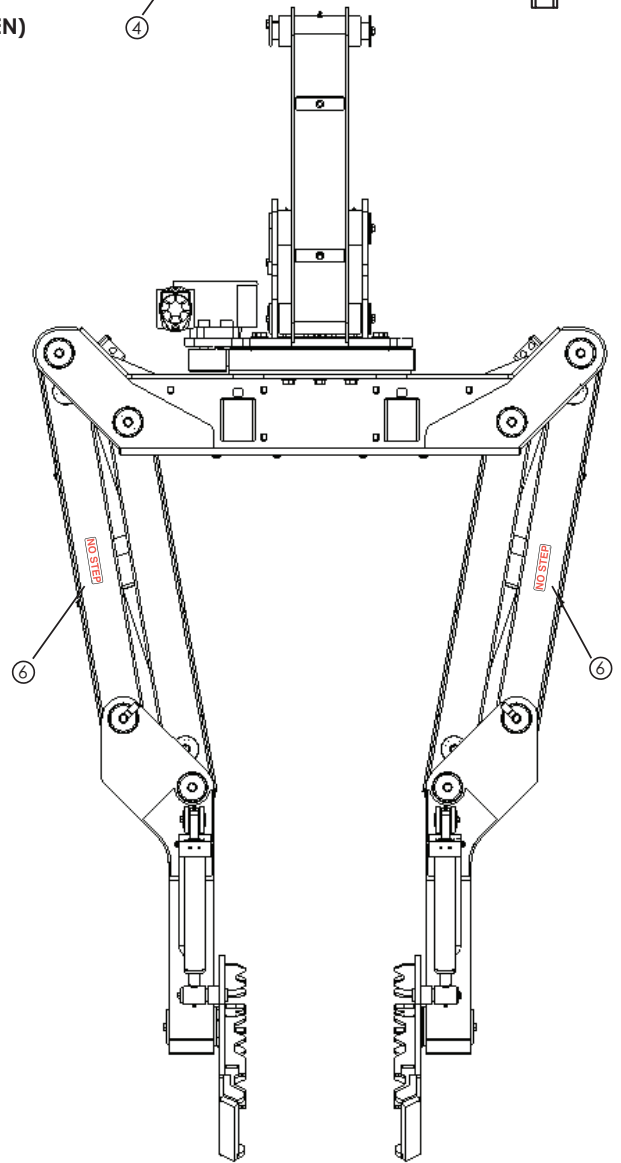
23	53479	LOOM 1.00 SPIRAL WRAP POLYETHYLENE	4
22	C4922	FTG 4-6 MFS-MORB STRAIGHT	4
21	0279	FTG 6-6 MFS-MORB STRAIGHT	10
20	C1854	FTG 6-8 MFS-MORB STRAIGHT	2
19	C2248	FTG 6-6 MFS-FFSS 90	2
18	C0338	FTG 6-6 MFS-MAORB 90	4
17	D0107	FTG 6-6-6 MFS-MFS-FFSS BRANCH TEE	2
16	12171	FTG 6-6 MFS-MFS SWIVEL STRAIGHT	2
15	35111	VALVE COMB DIV FD50-44-6T-N-44	2
14	C1855	FTG 6-10 MFS-MORB STRAIGHT	2
13	13555	QUICK COUPLER 2FF114-38SAE-M	2
ITEM	PART No.	DESCRIPTION	QTY

USE SPIRAL HOSE WRAP (53479) OVER HOSES THRU BODY ROTATION AREA

Decal Placement - PN 73107



Last Revision
 Rev Level: B
 Date: 01/14/22
 By: MEL
 Change: Added 24982 (2)



PN 73107

ITEM	P/N	DESCRIPTION	QTY.
01	72077	DECAL CAPACITY TM6116	2
02	22617	DECAL ROTATION BEARING	1
03	72239	DECAL TM6116 RATED LOAD	2
04	72238	DECAL IDENTIFICATION TM6116	2
05	53850	DECAL STELLAR LOGO 4.00X11.5	2
06	24982	DECAL NO STEP 5.00X1.25	2

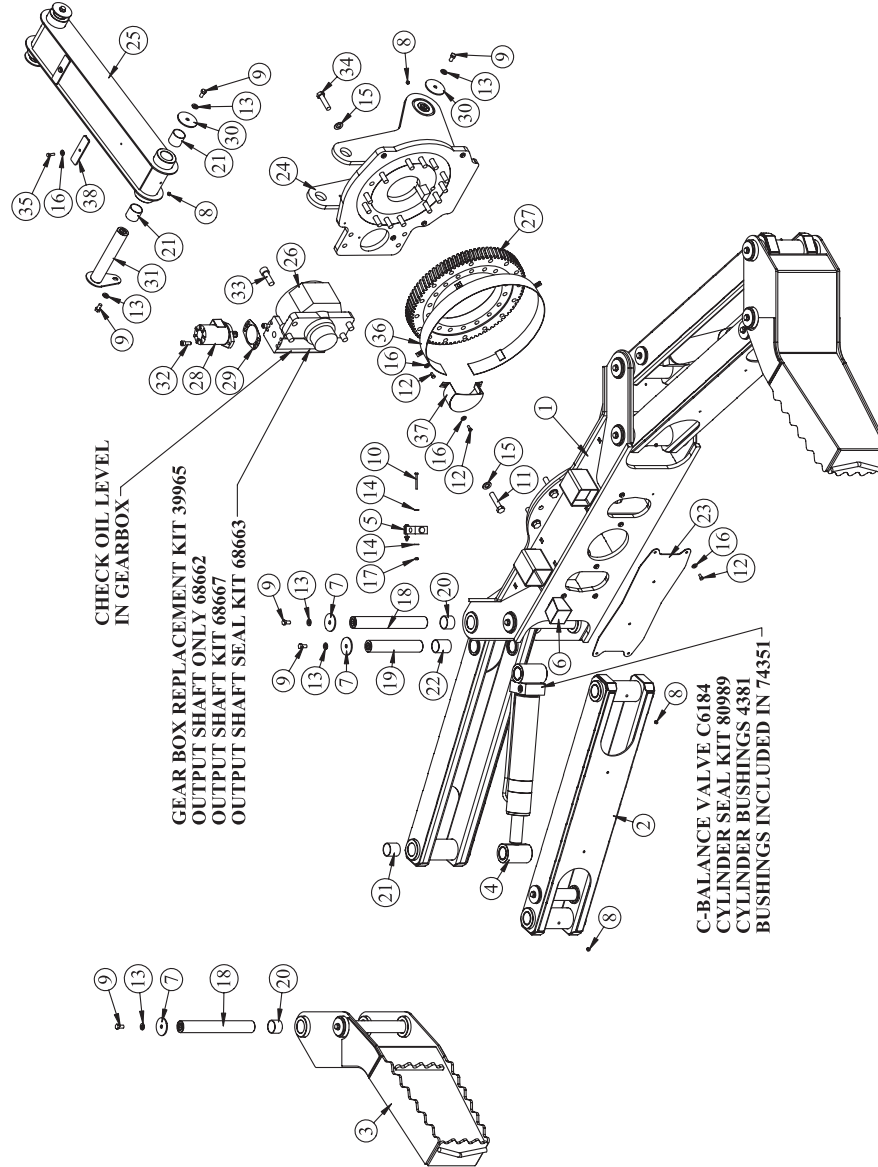
TM6116 Standard Assembly - PN 99145

PN 99145

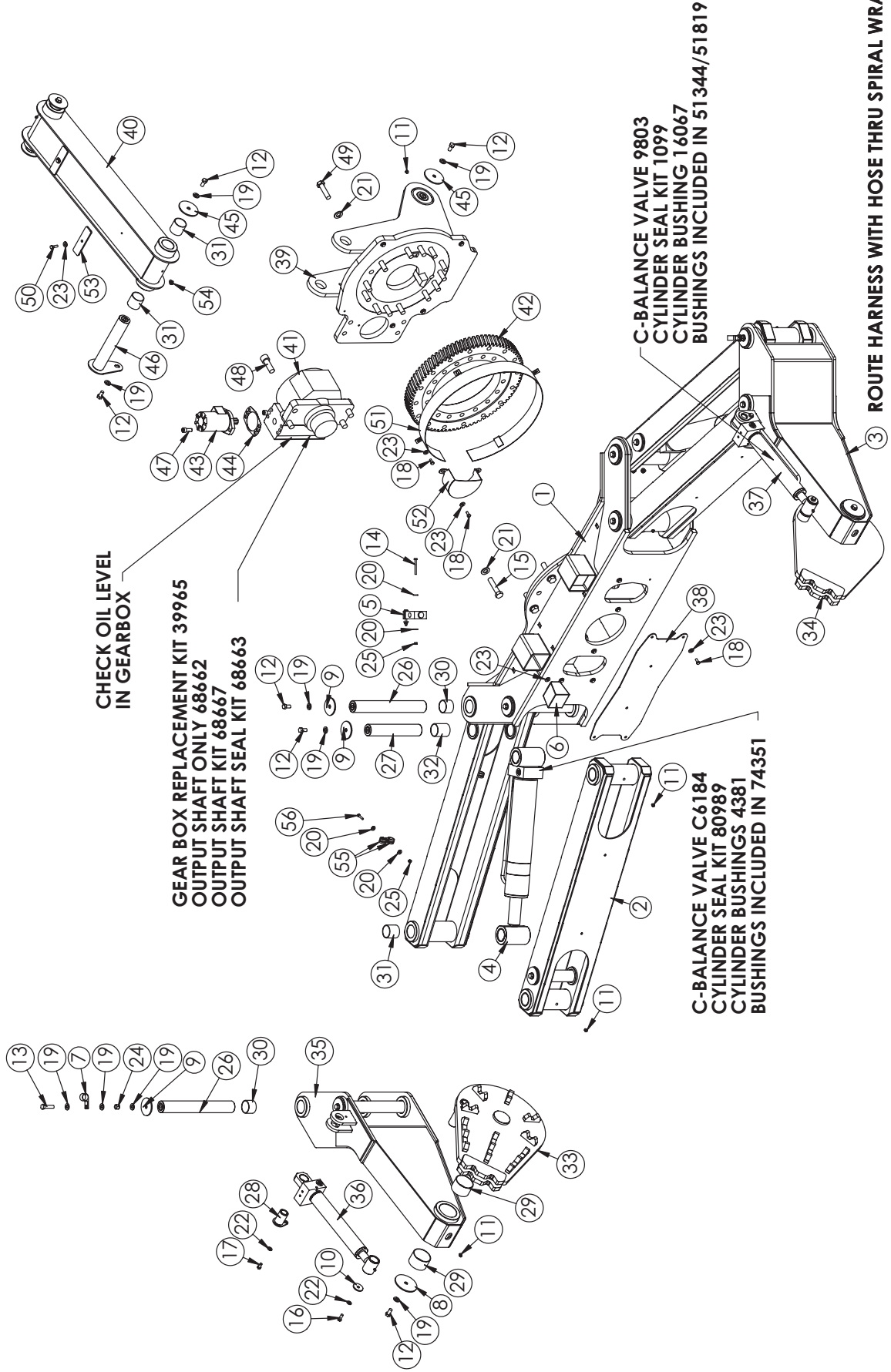
ITEM	PART	DESCRIPTION	QTY.
1	94259	BODY TM6116 V2	1
2	94333	LINK TM6116 V2	4
3	94336	ARM TM6116 V2	2
4	74351	CYLINDER 3.50X13.25	2
5	35111	VALVE COMB DIV FD10-44-61-N-44	1
6	78431	LIGHT FLOOD LED 3.2X2.9 850LM 16W 10-30V	2
7	5145	PIN CAP 0.56X3.00X0.19 YZ	24
8	c1592	ZERK 1/8 NPT STRAIGHT	12
9	10172	CAP SCR 0.50-13X1.00 HHGR8	30
10	0339	CAP SCR 0.25-20X2.50 HHGR5	2
11	22278	CAP SCR 0.75-10X3.50 HHGR5	12
12	0420	CAP SCR 0.31-18X0.75 HHGR9	2
13	D0790	WASHER 0.50 SAE FLAT YELLOW GR8	30
14	0340	WASHER 0.25 USS FLAT	4
15	17150	WASHER 0.75 SAE FLAT YELLOW GR9	26
16	0343	WASHER 0.31 USS FLAT	14
17	0333	NUT 0.25-20 HHGR5 NYLOC	2
18	17315CR	PIN 2.00X14.75 D&T ZC	8
19	74650CR	PIN 2.00X10.63 D&T	4
20	4380	BUSHING BPC32DXR24 2.00X1.50	16
21	4381	BUSHING BPC32DXR32 2.00X2.00	20
22	4379	BUSHING BPC32DXR40 2.00X2.50	8
23	90767	COVER BODY FRONT TM6116 V2	1
24	73255	BASE TM6116	1
25	73206	LINK TM6116	1
26	29723	GEARBOX 010 (EAR 02356)	1
27	29722	TURNABLE BEARING 450-05110-1	1
28	D1453	MOTOR HYD EATON 101-2493	1
29	21151	GASKET MOTOR 008-10056-1	1
30	8377	PIN CAP 0.56X3.50X0.19 YZ	3
31	73400CR	PIN TEAR DROP 2.00X11.31 ZC	3
32	D1307	CAP SCR 0.50-13X1.25 SHGR8 W/ RED PATCH	2
33	30495	CAP SCR 0.88-9X2.50 SH	4
34	17148	CAP SCR 0.75-10X3.00 HHGR9	14
35	0485	CAP SCR 0.31-18X1.25 HHGR5	2
36	29725PC	GUARD TB TM6120C PC BLACK	1
37	29727	GUARD TB TM6120C PC BLACK	1
38	18042	HOSE CLAMP TM14160 PC WHITE	2

NOT SHOWN:

- 21409 (1) WIRE HARNESS FLOOD LIGHT TM14160
- 73107 (1) DECAL KIT TM6116
- 99146 (1) HYD KIT TM6116 V2
- D0240 (1) FIG 4-2 CPRSN-MP 90
- D1810 (0.67 FT) TBE AIR SAEJ844 TYPE A .25 (RM)
- D1345 (1) FIG 4-2 CPRSN-MP STRAIGHT
- 22161 (1) FIG 2-2 FP-FP COUPLER STRAIGHT BRASS
- 56589 (1) ZERK 1/8 NPT STRAIGHT LONG THREAD
- 9752 (2) CONNECT 2 PIN SHROUD PACKARD
- 9756 (4) CONTACT M TERM SHROUD 18-20
- 8384 (4) CABLE SEAL 18-20 PACKARD 39000
- 99433 (1) MANUAL TM6116 V2

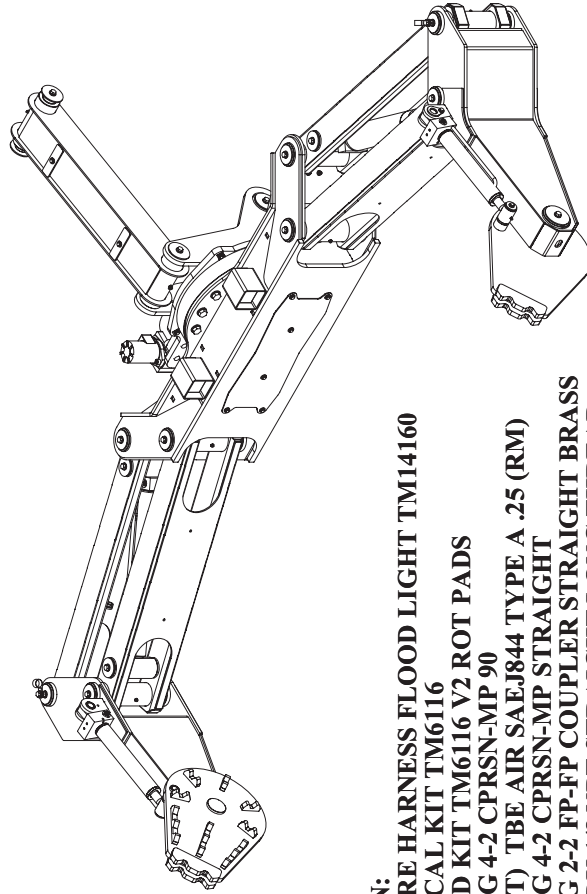


TM6116 w/Rotation Pads Assembly - PN 99143



TM6116 w/Rotation Pads Bill - PN 99143

ITEM	PART	DESCRIPTION	QTY.	ITEM	PART	DESCRIPTION	QTY.
43	D1453	MOTOR HYD EATON 101-2493	1	1	94259	BODY TM6116 V2	1
44	21151	GASKET MOTOR 008-10056-1	1	2	94333	LINK TM6116 V2	4
45	8377	PIN CAP 0.56X3.50X0.19 YZ	3	3	94264	ARM TM6116 SS PAD ROT V2	1
46	73400CR	PIN TEAR DROP 2.00X1.31 ZC	3	4	74351	CYLINDER 3.50X13.25	2
47	D1307	CAP SCR 0.50-13X1.25 SHGR8 W/ RED PATCH	2	5	35111	VALVE COMB DIV FD50-44-6T-N-44	2
48	30495	CAP SCR 0.88-9X2.50 SH	4	6	78431	LIGHT FLOOD LED 3.2X2.9 850LM 16W 10-30V	2
49	17148	CAP SCR 0.75-10X3.00 HHGR9	14	7	C5586	CLAMP 1.38	2
50	0485	CAP SCR 0.31-18X1.25 HHGR5	2	8	13315	PIN CAP 0.56X4.00X0.19 YZ	2
51	29725PC	GUARD ITB TM6120C PC BLACK	1	9	5145	PIN CAP 0.56X3.00X0.19 YZ	24
52	29727	GUARD ITB TM6120C PC BLACK	1	10	9320	PIN CAP 0.44X1.75X0.19 YZ	2
53	18042	HOSE CLAMP TM14160 PC WHITE	2	11	C1592	ZERK 1/8 NPT STRAIGHT	12
54	C1597	ZERK 1/8 NPT 90 DEG	2	12	10172	CAP SCR 0.50-13X1.00 HHGR8	30
55	7623	CLAMP 1.00 RUBBER	8	13	8833	CAP SCR 0.50-13X2.00 HHGR8	2
56	0437	CAP SCR 0.25-20X1.25 HHGR5	4	14	0339	CAP SCR 0.25-20X2.50 HHGR5	4
				15	22278	CAP SCR 0.75-10X3.50 HHGR9	12
				16	13573	CAP SCR 0.38-16X1.00 HHGR8	2
				17	9843	CAP SCR 0.38-16X0.75 HHGR8	2
				18	0420	CAP SCR 0.31-18X0.75 HHGR5	12
				19	D0790	WASHER 0.50 SAE FLAT YELLOW GR8	36
				20	0340	WASHER 0.25 USS FLAT	16
				21	17150	WASHER 0.75 SAE FLAT YELLOW GR9	26
				22	C6353	WASHER 0.38 SAE FLAT YELLOW GR8	4
				23	0343	WASHER 0.31 USS FLAT	16
				24	5468	NUT 0.50-13 HHGR8 NYLOC	2
				25	0333	NUT 0.25-20 HHGR5 NYLOC	8
				26	17315CR	PIN 2.00X14.75 D&T ZC	8
				27	74650CR	PIN 2.00X10.63 D&T	4
				28	51652CR	PIN TEAR DROP 1.50X2.31 ZC	2
				29	0865	BUSHING BPC48DXR32 3.00X2.00	4
				30	4380	BUSHING BPC32DXR24 2.00X1.50	16
				31	4381	BUSHING BPC32DXR32 2.00X2.00	20
				32	4379	BUSHING BPC32DXR40 2.00X2.50	8
				33	125795	PAD TM6116 V2 ROT PAD SHORT GRIP SS	1
				34	125794	PAD TM6116 V2 ROT PAD SHORT GRIP CS	1
				35	94879	ARM TM6116 CS PAD ROT V2	1
				36	51344	CYLINDER 2.00X9.75 SS	1
				37	51819	CYLINDER 2.00X9.75 CS	1
				38	90767	COVER BODY FRONT TM6116 V2	1
				39	73255	BASE TM6116	1
				40	73206	LINK TM6116	1
				41	29723	GEARBOX 010(EAR 02356)	1
				42	29722	TURNABLE BEARING 450-05257-1	1



- NOT SHOWN:**
- 21409 (1) WIRE HARNESS FLOOD LIGHT TM14160
 - 73107 (1) DECAL KIT TM6116
 - 99136 (1) HYD KIT TM6116 V2 ROT PADS
 - D0240 (1) FTG 4-2 CPRSN-MP 90
 - D1810 (0.67 FT) TBE AIR SAEJ844 TYPE A .25 (RM)
 - D1345 (1) FTG 4-2 CPRSN-MP STRAIGHT
 - 22161 (1) FTG 2-2 FP-FP COUPLER STRAIGHT BRASS
 - 56589 (1) ZERK 1/8 NPT STRAIGHT LONG THREAD
 - 9752 (2) CONNECT 2 PIN SHROUD PACKARD
 - 8384 (4) CABLE SEAL 18-20 PACKARD 39000
 - 99433 (1) MANUAL TM6116 V2



Subject to Change without Notification.
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