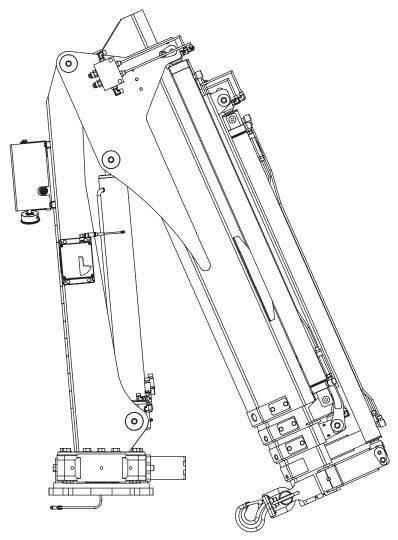


Model TC38 Telescopic Crane Owner's Manual

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

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Model TC38 Manual Revisions

Date of Revsion	Section Revised	Description of Revision
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PATENT INFORMATION THE U.S.	ON ON	

Table of Contents

Introduction	iv
Chapter 1 - Specifications	1
Model TC38 Specifications	1
TC38 Capacity	2
Chapter 2 - Installation	3
General Installation	3
Installer Notice	3
Torque Data Chart	4
Installation Overview	5
TC38 Mounting Detail	5
TC38 Installation Drawing - PN 91598	6
Flatbed Body Reinforcement	6
Control Kit - PN 96174	7
Control Kit Installation Drawing - PN 96175	
TC Series Wiring Diagram	
Hydraulic Kit - PN 91597	
Hydraulic Kit - PN 91597 (cont.)	11
Hydraulic Kit - PN 91597 (cont.)	
TC38 Hydraulic Schematic	
Hydraulic Kit Installation Drawing - PN 92250	
Optional Power Unit Assembly - PN 77897	
Face Seal/O-Ring Size Chart	
Stability Procedure	
Crane Load Level Indicator	
Decal Placement - PN 76878	
Chapter 3 - Assembly Drawings	
Base Assembly - PN 90744	
Gear Bearing Assembly - PN 69735	
Mast Assembly - PN 90747	
Boom Assembly - PN 90606	
Boom Bill - PN 90606	25

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:

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

AWARNING

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



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 General Light Duty 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

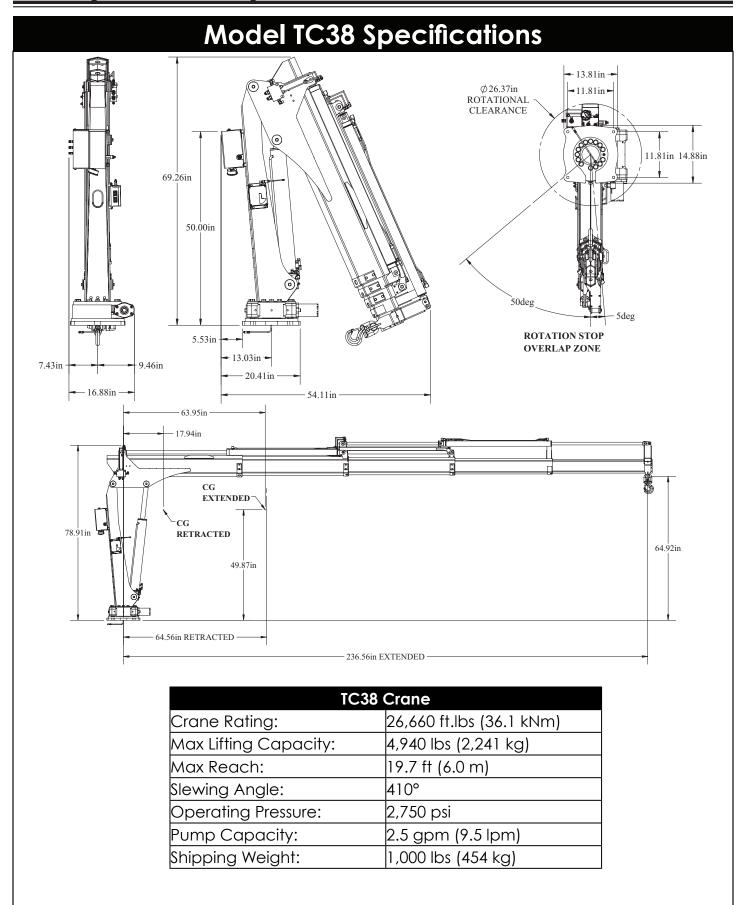
Order Parts

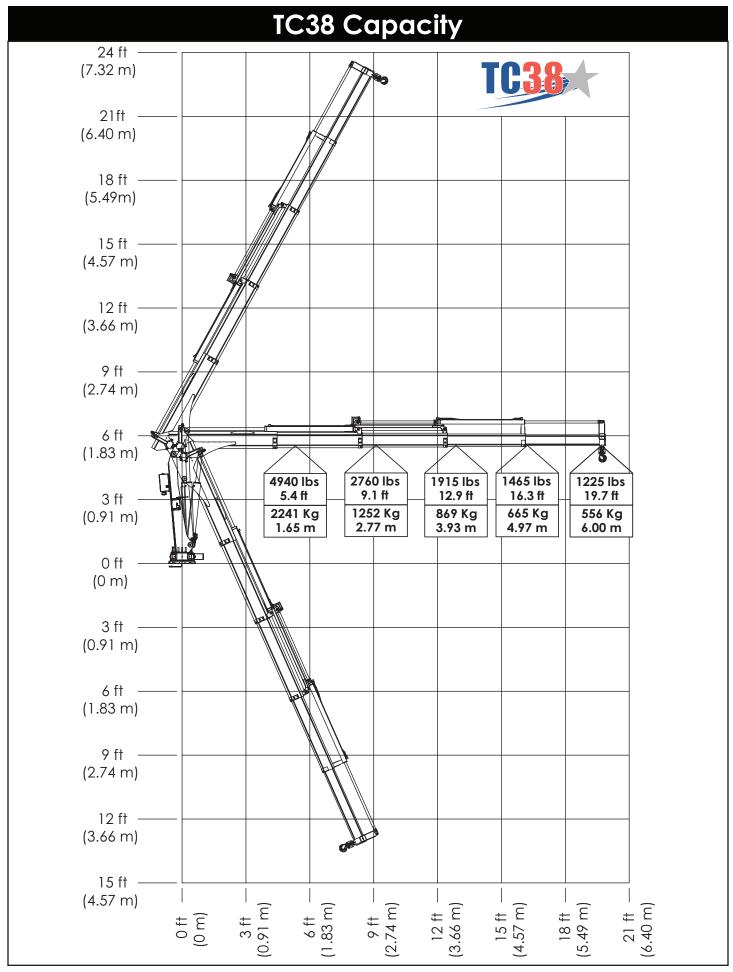
parts@stellarindustries.com

Warranty Information

warranty@stellarindustries.com

Chapter 1 - Specifications





Page 2 | Stellar® TC38 Telescopic Crane Owner's Manual

Chapter 2 - Installation

General Installation

This chapter is designed to serve as a general guide for the installation of a Stellar TC13 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.

AWARNINGDo 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. If special lubricants of high stress ability, such as Never-Seez compound graphite and oil, molybdenum

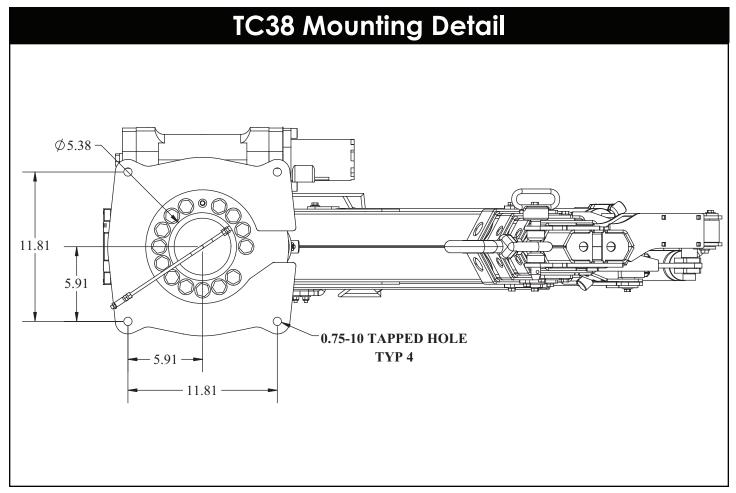
		GRA	DE 5	GRA	DE 8	GRADE 9
Size	Bolt DIA	Plain	Plated	Plain	Plated	Plated
(DIA-TPI)	(Inches)	(Ft-Lb)	(Ft-Lb)	(Ft-Lb)	(Ft-Lb)	(Ft-Lb)
5/16-18	0.3125	17	13	25	18	22
3/8-16	0.3750	31	23	44	33	39
7/16-14	0.4375	49	37	70	52	63
1/2-13	0.5000	75	57	105	80	96
9/16-12	0.5625	110	82	155	115	139
5/8-11	0.6250	150	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

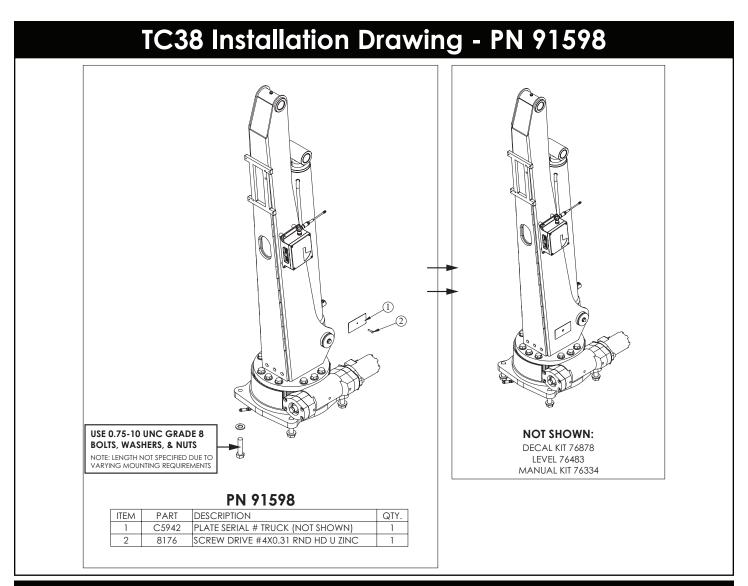
disulphite, colloidal copper or white lead are applied, multiply the torque values in the charts by the factor .90. The use of Loctite does not affect the torque values listed above.

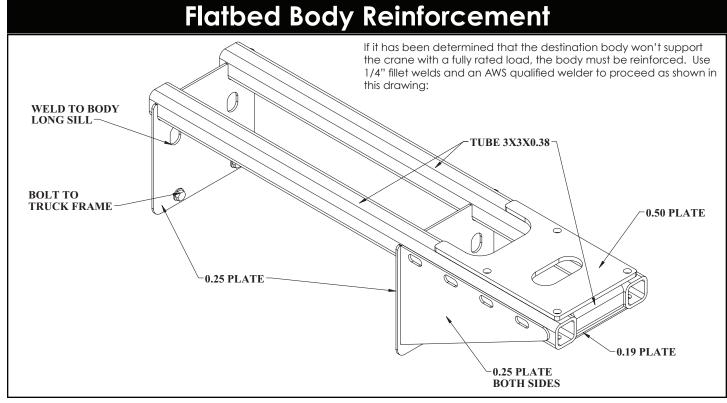
- Torque values for socket-head capscrews are the same as for Grade 8 capscrews.
- Do not use these values if a different torque value or tightening procedure is given for a specific application. Torque values listed are for general use only. Check tightness of fasteners periodically.
- Shear bolts are 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. Use the dimensional specifications to properly size and position the crane for mounting.
- 2. Use the detail on the following page to drill .82" diameter holes into the mounting plate.
- 3. Use a crane or lifting device capable of lifting the weight of the TC13 (See specifications for shipping weight details).
- 4. Connect straps or chain from the lifting device to the main boom of the TC13.
- 5. Remove motor to allow installation of the mounting bolts.
- 6. Use four (4) 0.75-10 UNC Grade 8 bolts, washers, and nuts. (See install drawing for details)
- 7. Using the lifting device, lower the TC13 just above the mounting surface and start the bolts. Have someone assist in leveling the crane.
- 8. Secure the crane using the mounting hardware provided. Note: longer or shorter bolts may be required – recommended thread engagement into crane base is 0.75" – use grade 8, zinc plated bolts only.
- 9. Torque the bolts to proper torque.
- 10. Remove supporting crane.
- 11. Hook up hydraulics and electrical using the schematics provided later in this chapter.

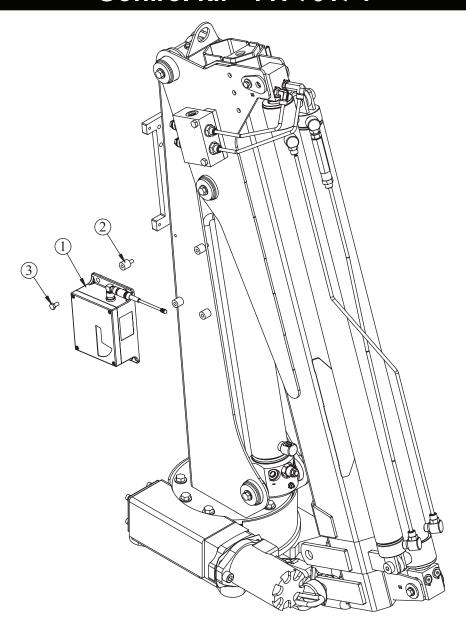






Page 6 | Stellar® TC38 Telescopic Crane Owner's Manual

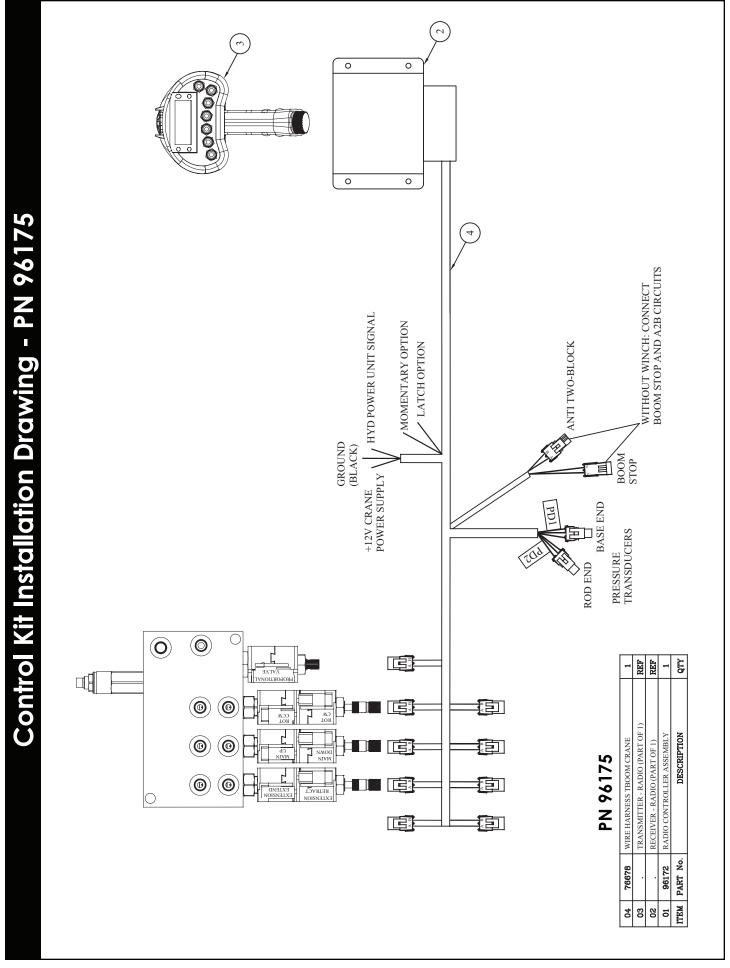
Control Kit - PN 96174



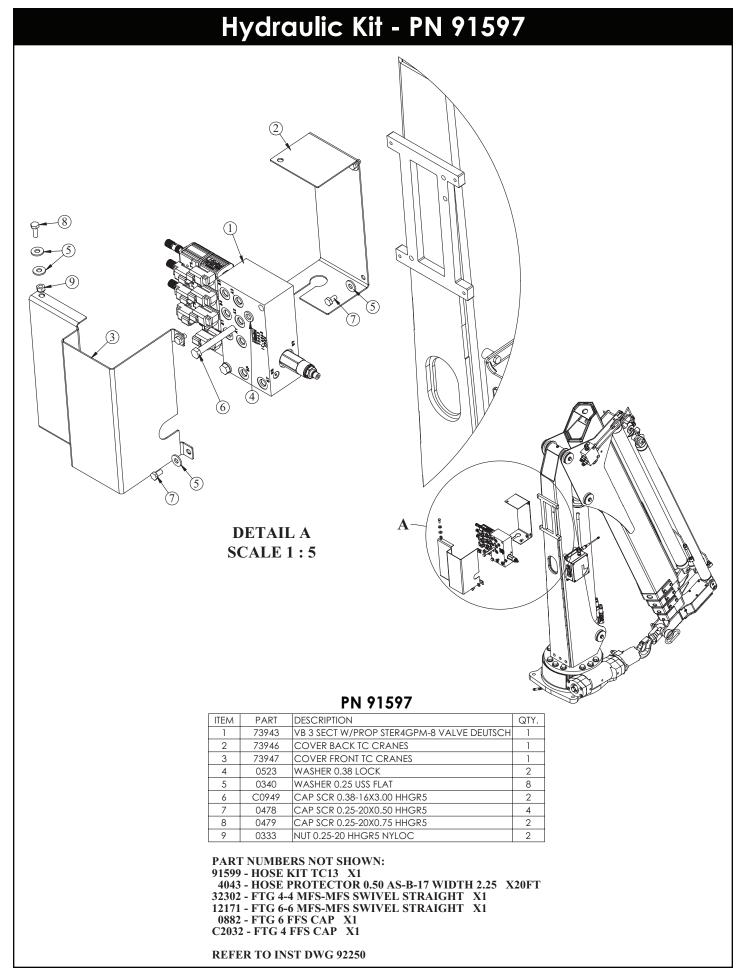
PN 96174

ITEM	PART	DESCRIPTION	QTY.
1	96172	RADIO CTRL ASM 7 FCTN CDT TC CRANES V3	1
2	76554	ISOLATOR RUBBER 0.25-20X1.13	4
3	0478	CAP SCR 0.25-20X0.50 HHGR5	4

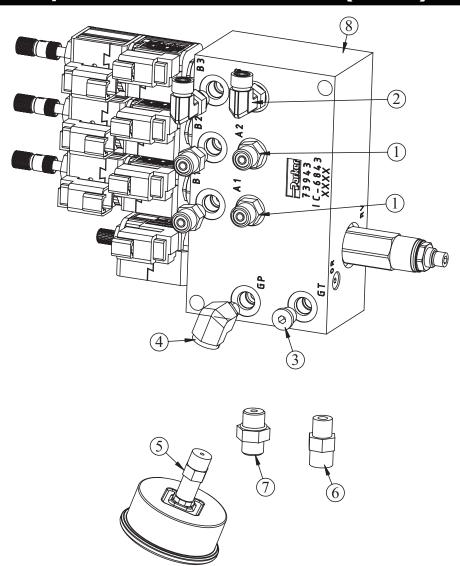
NOT SHOWN: WIRE HARNESS 76678 **BACKUP CABLE 84201 DOCKING STATION 75105**



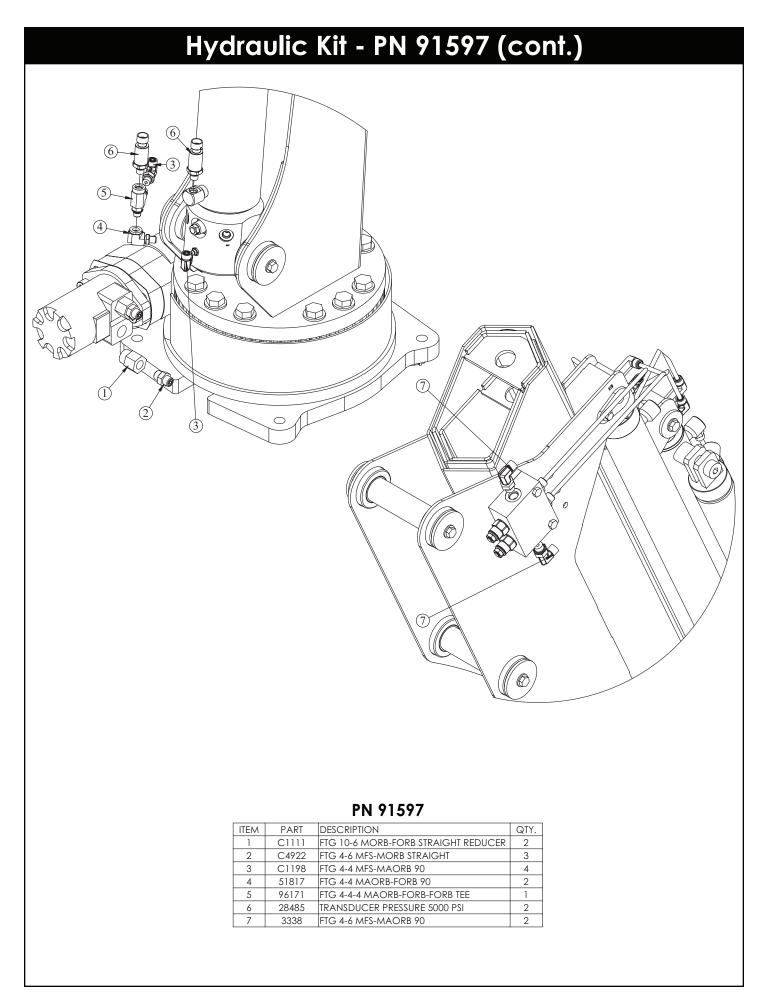
Stellar® TC38 Telescopic Crane Owner's Manual

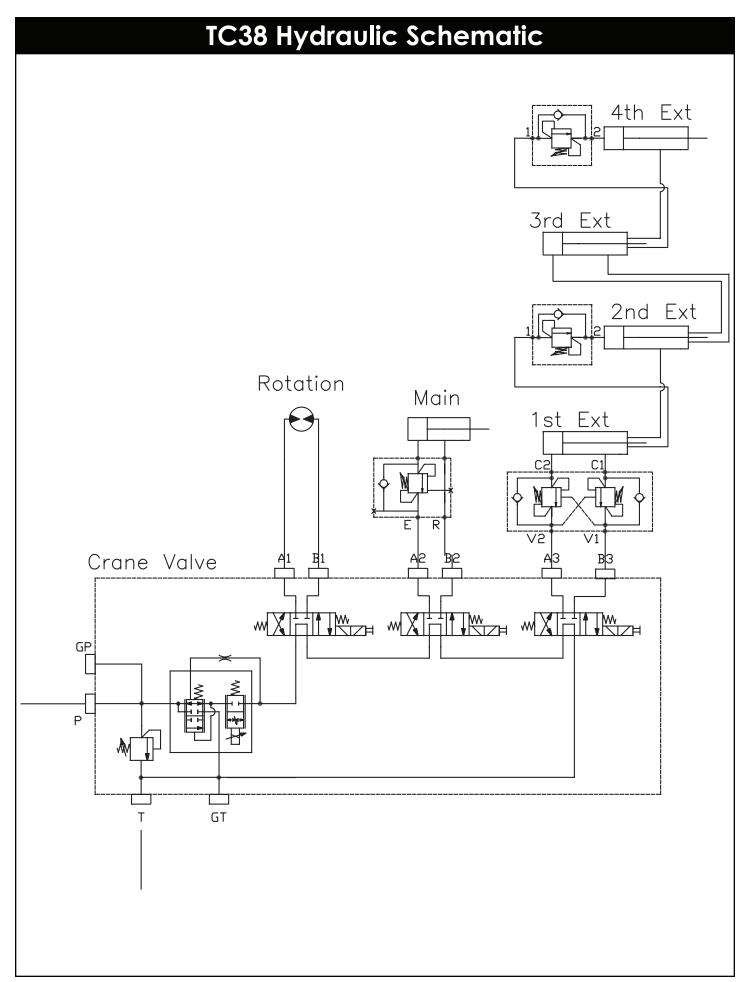


Hydraulic Kit - PN 91597 (cont.)

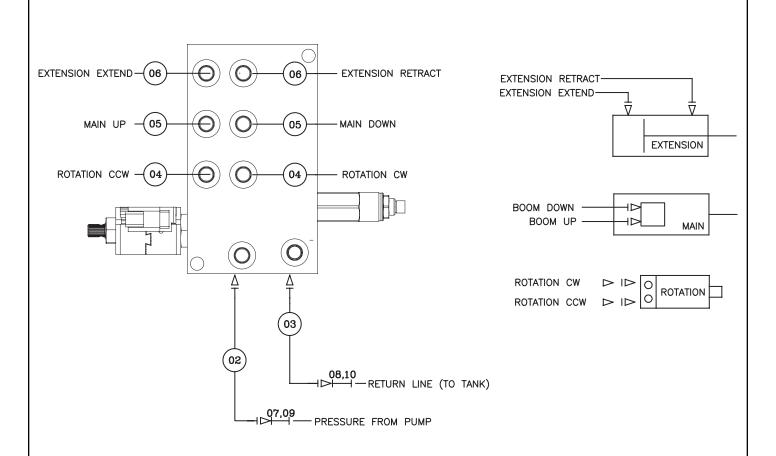


ITEM	PART	DESCRIPTION	QTY.
1	D1291	FTG 4-4 MFS-MORB STRAIGHT	4
2	C1198	FTG 4-4 MFS-MAORB 90	4
3	D0511	FTG 4 MORB PLUG HOLLOW HEX	1
4	51817	FTG 4-4 MAORB-FORB 90	2
5	39780	GAUGE OIL LF 2.5 0-6000 CBM SAE	1
6	0279	FTG 6-6 MFS-MORB STRAIGHT	1
7	C4922	FTG 4-6 MFS-MORB STRAIGHT	3
8	73943	VB 3 SECT W/PROP STER4GPM-8 VALVE DEUTSCH	1





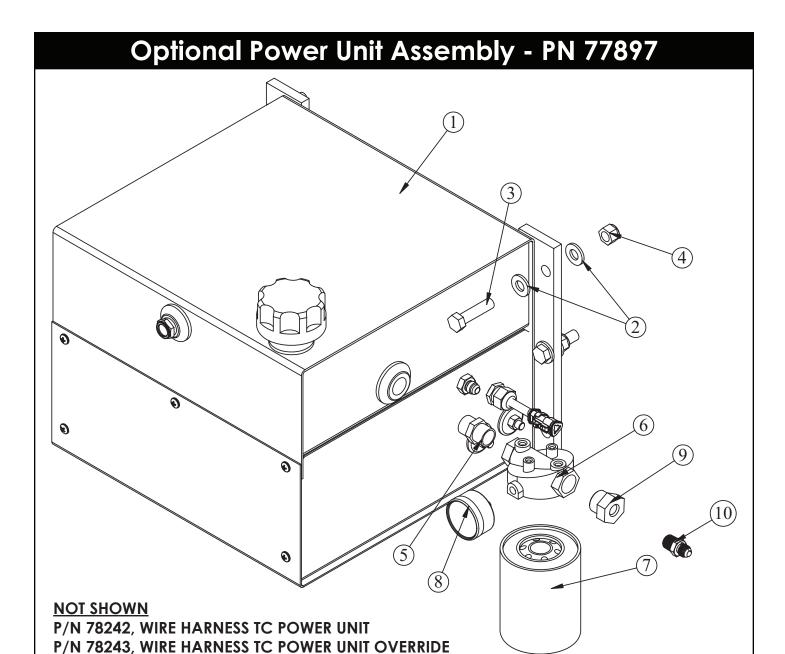
Hydraulic Kit Installation Drawing - PN 92250



PN 92250

11	4043	HOSE PROTECTOR 0.50 AS-B-17	20'
10	0882	FTG 6 FFS CAP	1
09	C2032	FTG 4 FFS CAP	1
08	12171	FTG 6-6 MFS-MFS SWIVEL STRAIGHT	1
07	32302	FTG 4-4 MFS-MFS SWIVEL STRAIGHT	1
06	90466	HOSE-HYD .25 X 34	2ref
05	92546	HOSE-HYD .25 X 50	2ref
04	92950	HOSE-HYD .25 X 68	2ref
03	12998	HOSE-HYD .38 X 54	1ref
02	92545	HOSE-HYD .25 X 54	1ref
01	91599	HOSE KIT TC38 V2 (incl:2-6)	1
ITEM	PART No.	DESCRIPTION	QTY

NOTE: USE HOSE PROTECTOR P/N 4043 OVER ALL HOSES

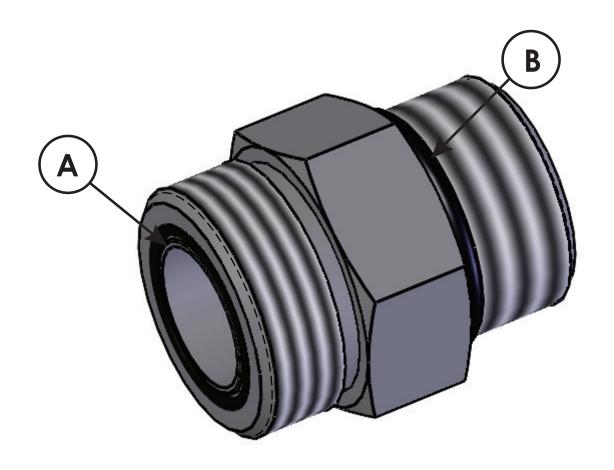


PN 77897

ITEM	PART	DESCRIPTION	QTY.
1	77896	POWER UNIT 12V 2.5GPM 4 GAL RSRVR	1
2	D0790	WASHER 0.50 SAE FLAT YELLOW GR8	8
3	8833	CAP SCR 0.50-13X2.00 HHGR8	4
4	5468	NUT 0.50-13 HHGR8 NYLOC	4
5	C6162	FTG 12-12 MP-MP HEX NIPPLE STRAIGHT	1
6	C6226	FILTER HEAD	1
7	C6227	FILTER SHORT	1
8	16145	GAUGE PRES FILTER SERVICE CI20	1
9	53485	FTG 12-6 MP-FP REDUCER BUSHING	1
10	77898	FTG 6-6 MJ-MP STRAIGHT	1

NOTE: ALL PARTS TO BE SHIPPED LOOSE

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

Stability Procedure

Definition of Stability for the Stellar® Telescopic Crane Products:

A truck is stable until the load cannot be lifted off the ground with the winch, without tipping over the truck. Every Stellar® Crane installed must be tested for stability to determine the actual load capacity of the final truck package. The actual test data must be recorded and supplied with the truck at the time of in-service and should be kept with the truck at all times. The following procedure will test the truck package for stability and will provide a stability capacity chart. The load limit information shown on the stability capacity chart is formulated on 85% tipping.

Set Up:

- 1. Locate the truck on a test course in position for loading and engage travel brakes.
- 2. Set stabilizers so that they make contact with firm, level footing.
- 3. Operate the crane under partial load to assure operator proficiency and proper machine function.
- 4. Put the radio into Stability Test Mode:
 - A. Push the bottom four switches up and hold until all lights come on (approximately 5 seconds.)



- B. At this point, the crane will have enough capacity to handle the weight for the stability test.
- C. The radio will timeout of stability mode after 30 minutes or when the E-Stop button is pushed.

Note: The radio can only be put into stability mode five times. After that, the radio would have to be returned to Stellar to be reprogrammed to allow additional stability testing. All other radio functions will work properly even if stability mode is not available.

Stability Procedure Continued...

30°

30

ZONE

180°

150°

ZONE 8

ZONE 7

120°

ZONE 6

ZONE 2

ZONE 3

ZONE 4

60°

ZONE 5

TC33 Stability Data		
Model	Max Horiz. Reach	Test Weight
TC38	19.7 ft (6.0 m)	1,445 lbs

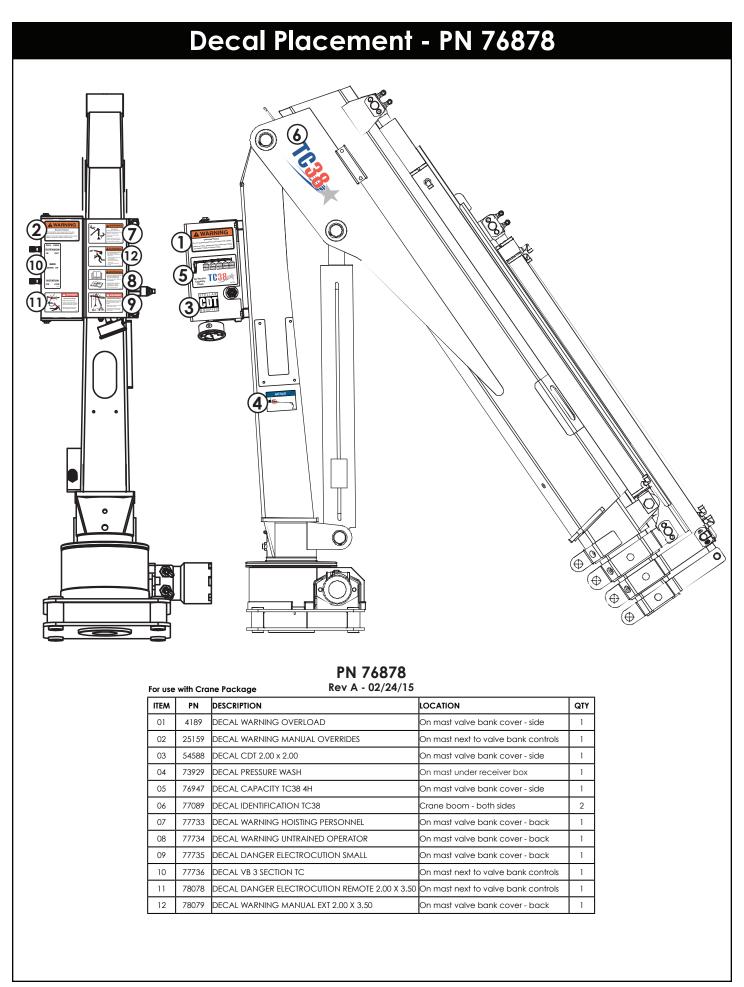
Test Procedure

- 1. Rotate the crane into Zone 1 position.
- 2. With the crane fully retracted and the boom horizontal, winch the test weight off the ground. Note: Keep weight within six inches of the ground at all times.
- 3. Extend the boom outward until full extension has been reached or until the truck becomes unstable (Again, use the winch to keep the weight within six inches of the ground.)
- 4. If the boom goes full extension without becoming unstable, the crane is termed stable for this zone and 100% can be written in the Zone 1 data box.
- 5. If the truck becomes unstable prior to going full extension, retract the boom until the truck becomes stable and measure the horizontal reach in this position (center of rotation to boom tip). This is the stable horizontal reach for this zone. Stable horizontal reach divided by Maximum horizontal reach multiplied by 100 equals the percentage of rated capacity for this zone. Use the following formula to determine the percentage of rated capacity:

Stable Horizontal Reach X 100 = Percentage of Rated Capacity Max Horizontal Reach

- 6. Record this number in the data box for Zone 1. This is the revised capacity due to stability for this zone.
- 7. Repeat this procedure for each zone until the worksheet is completed.
- 8. This is the revised capacity based on stability of this package.

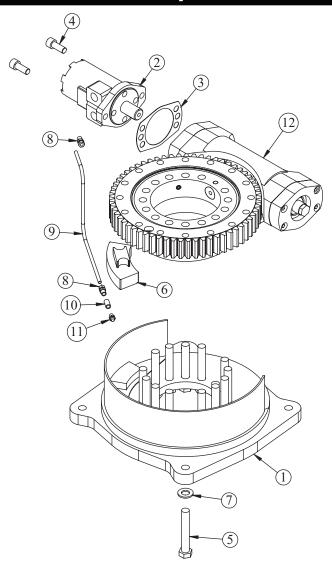
Stellar® Cranes are shipped with a load level indicator that is used to determine if the truck is level (side to side) before using the crane to pick/move a load. This level should be installed in the isolated crane compartment of the body. If level indicator is missing or damaged, please contact Stellar Customer Support for a replacement.



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Chapter 3 - Assembly Drawings

Base Assembly - PN 90744

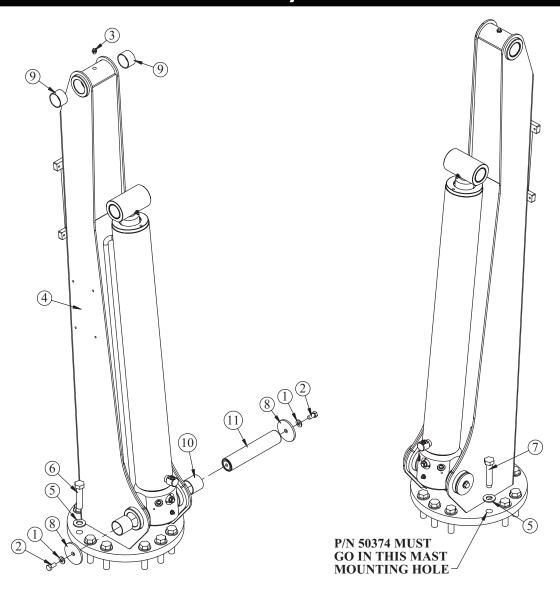


PART	DESCRIPTION	QTY.
90745	BASE TC38	1
D1204	ROTATION MOTOR 5520	1
21151	GASKET MOTOR 008-10056-1	1
D1307	CAP SCR 0.50-13X1.25 SHGR8 W/ RED PATCH	2
16655	CAP SCR 0.63-11X4.00 HHGR9	14
71897	STOP SLIDING EC4000/EC5000 KINEMATICS	1
16733	WASHER 0.63 FLAT GR9	14
D1345	FTG CPRSN 0.12NPT/0.25 TUBE	2
D1810	TBE AIR SAEJ844 TYPE A .25 (RM)	2.5
22161	FTG 2-2 FP-FP COUPLER STRAIGHT BRASS	1
56589	ZERK 1/8 NPT STRAIGHT LONG THREAD	1
69735	BEARING SWING DRIVE 9 IN EC4000/5000 KINEMATICS	1
	90745 D1204 21151 D1307 16655 71897 16733 D1345 D1810 22161 56589	90745 BASE TC38 D1204 ROTATION MOTOR 5520 21151 GASKET MOTOR 008-10056-1 D1307 CAP SCR 0.50-13X1.25 SHGR8 W/ RED PATCH 16655 CAP SCR 0.63-11X4.00 HHGR9 71897 STOP SLIDING EC4000/EC5000 KINEMATICS 16733 WASHER 0.63 FLAT GR9 D1345 FTG CPRSN 0.12NPT/0.25 TUBE D1810 TBE AIR SAEJ844 TYPE A .25 (RM) 22161 FTG 2-2 FP-FP COUPLER STRAIGHT BRASS 56589 ZERK 1/8 NPT STRAIGHT LONG THREAD

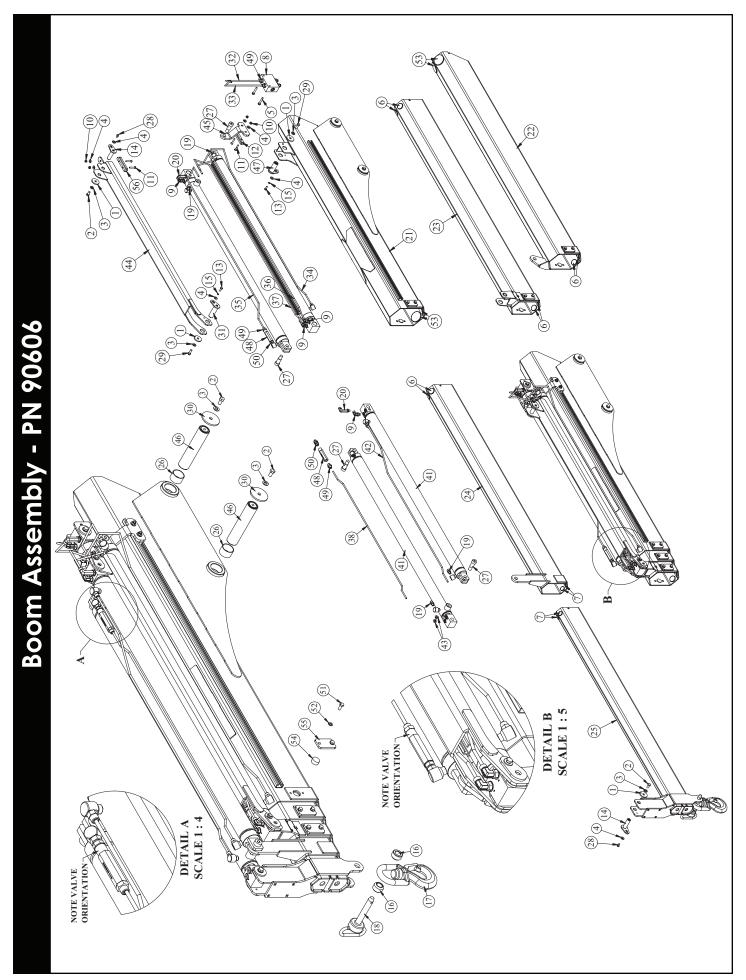
Gear Bearing Assembly - PN 69735

ITEM	PART	DESCRIPTION	QTY.
1	67866	BEARING AND SEAL KIT 9IN/14IN/17IN TTB KNMTS AFTER 2006	1
2	77739	WORM EC4000/EC5000 KNMTS	1
3	67864	END CAP 9IN/14IN/17/IN/25IN KNMTS AFTER 2006	1
4	67863	SHIM KIT 6000 KINEMATICS W17B02 AFTER 2006	1

Mast Assembly - PN 90747



ITEM	PART	DESCRIPTION	QTY.
1	C6353	WASHER 0.38 SAE FLAT YELLOW GR8	2
2	9843	CAP SCR 0.38-16X0.75 HHGR8	2
3	c1592	ZERK 1/8 NPT STRAIGHT	1
4	90748	MAST TC38	1
5	C5902	WASHER 0.63 SAE FLAT YELLOW GR8	12
6	50375	CAP SCR 0.63-11X2.75 HHGR8	11
7	50374	CAP SCR 0.63-11X3.09 MOD EC4000	1
8	7403	PIN CAP 0.44X2.50X0.19 YZ	2
9	16067	BUSHING BPC24DXR16 1.50X1.00	2
10	0067	BUSHING BPC24DXR24 1.50X1.50	2
11	89807CR	PIN 1.50X7.50 D&T	1
12	90930	CYLINDER 3.50X26.75	1



Page 24 | Stellar® TC38 Telescopic Crane Owner's Manual

Boom Bill - PN 90606

