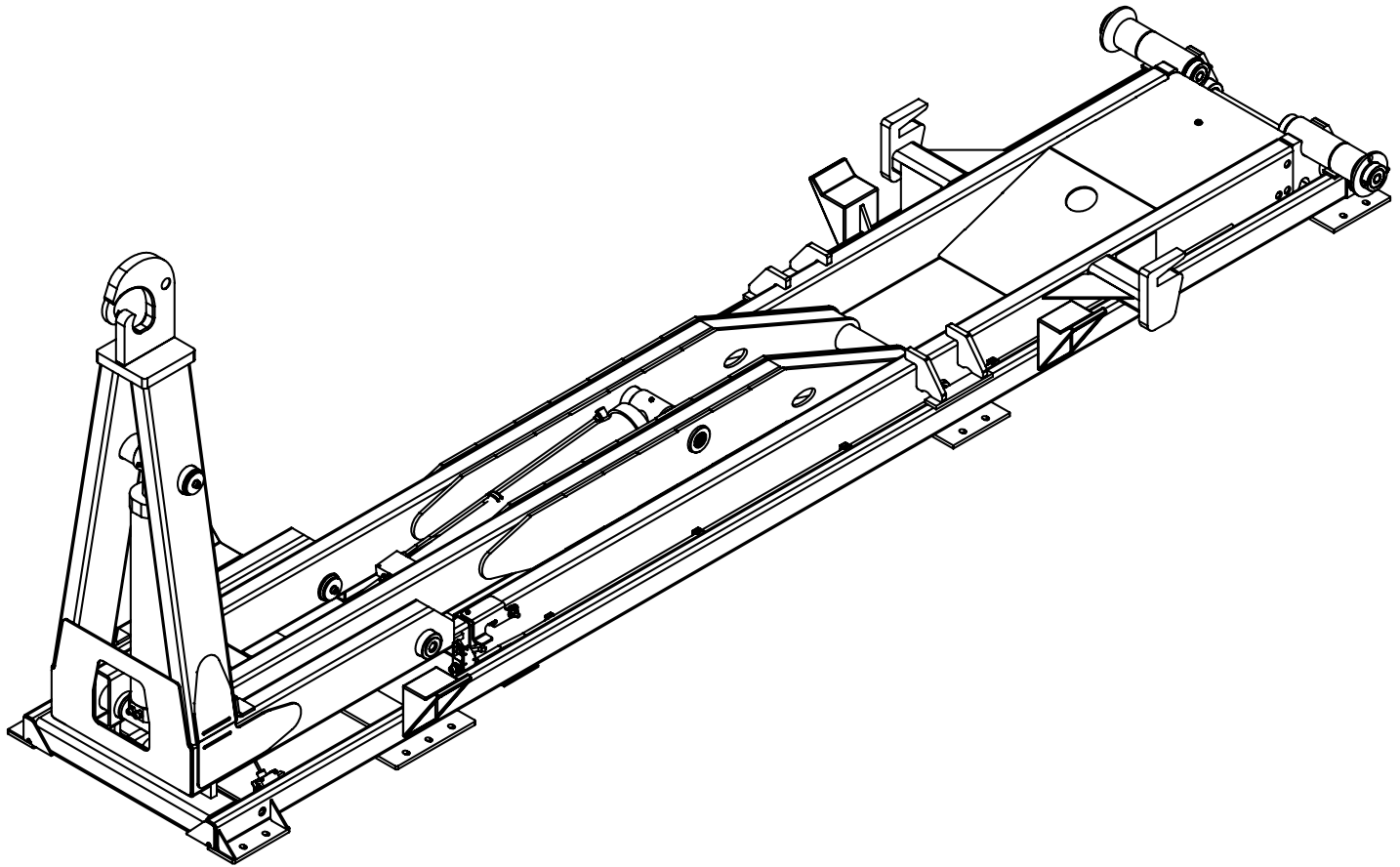




168-20-20 Shuttle Hooklift Owner's Manual

Installation • Assembly Drawings • Parts



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Model 168-20-20 Manual Revisions

Date of Revision	Section Revised	Description of Revision

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Introduction

A copy of this manual is provided with every hooklift 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 hooklift 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 General Shuttle Hooklift 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

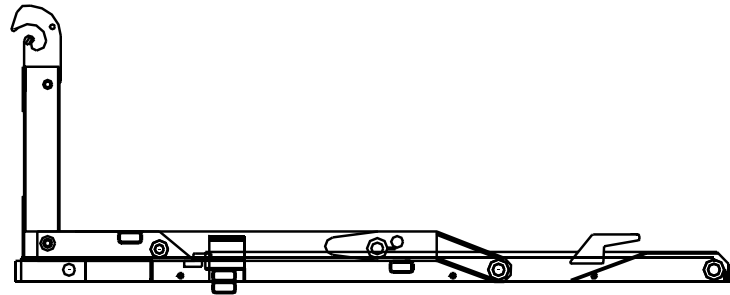
Warranty Information

warranty@stellarindustries.com

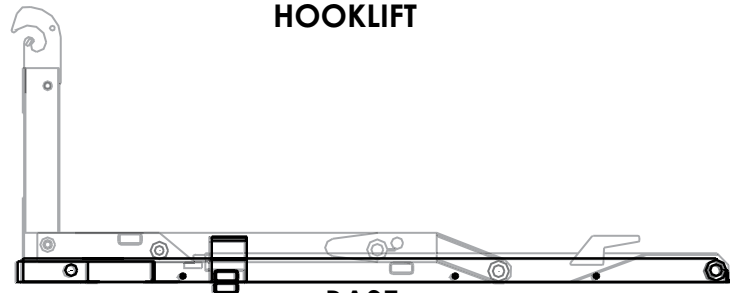
Hooklift Nomenclature

The Stellar® Shuttle is a hydraulic, body-loading device when mounted on a truck chassis. It can handle a multitude of bodies ranging from flatbeds to recycling containers and dump bodies.

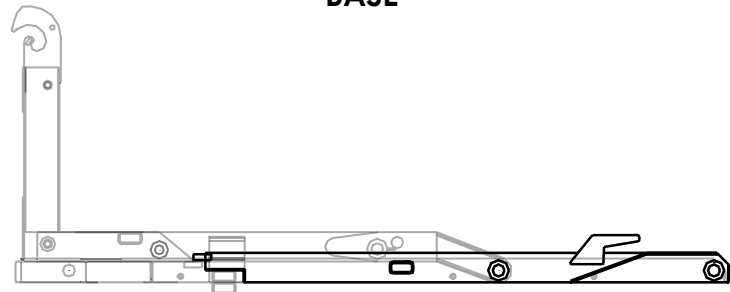
The Shuttle consists of four basic parts: the base, dump, secondary, and tilt sections. Please take the time to familiarize yourself with the various components. Knowing the proper terminology is necessary to get the full benefit of this manual.



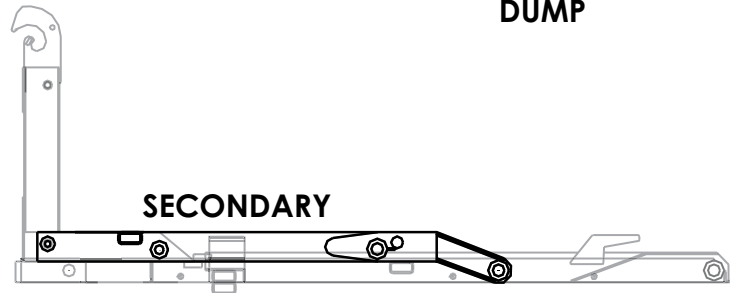
HOOKLIFT



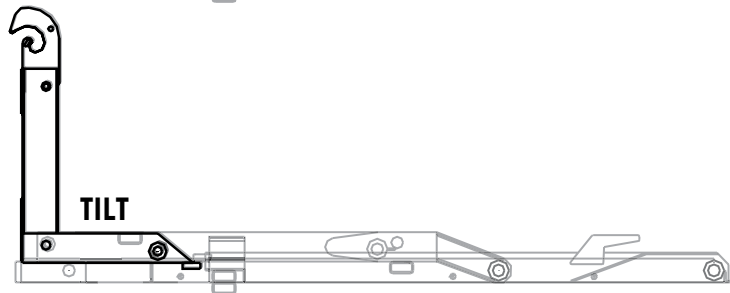
BASE



DUMP



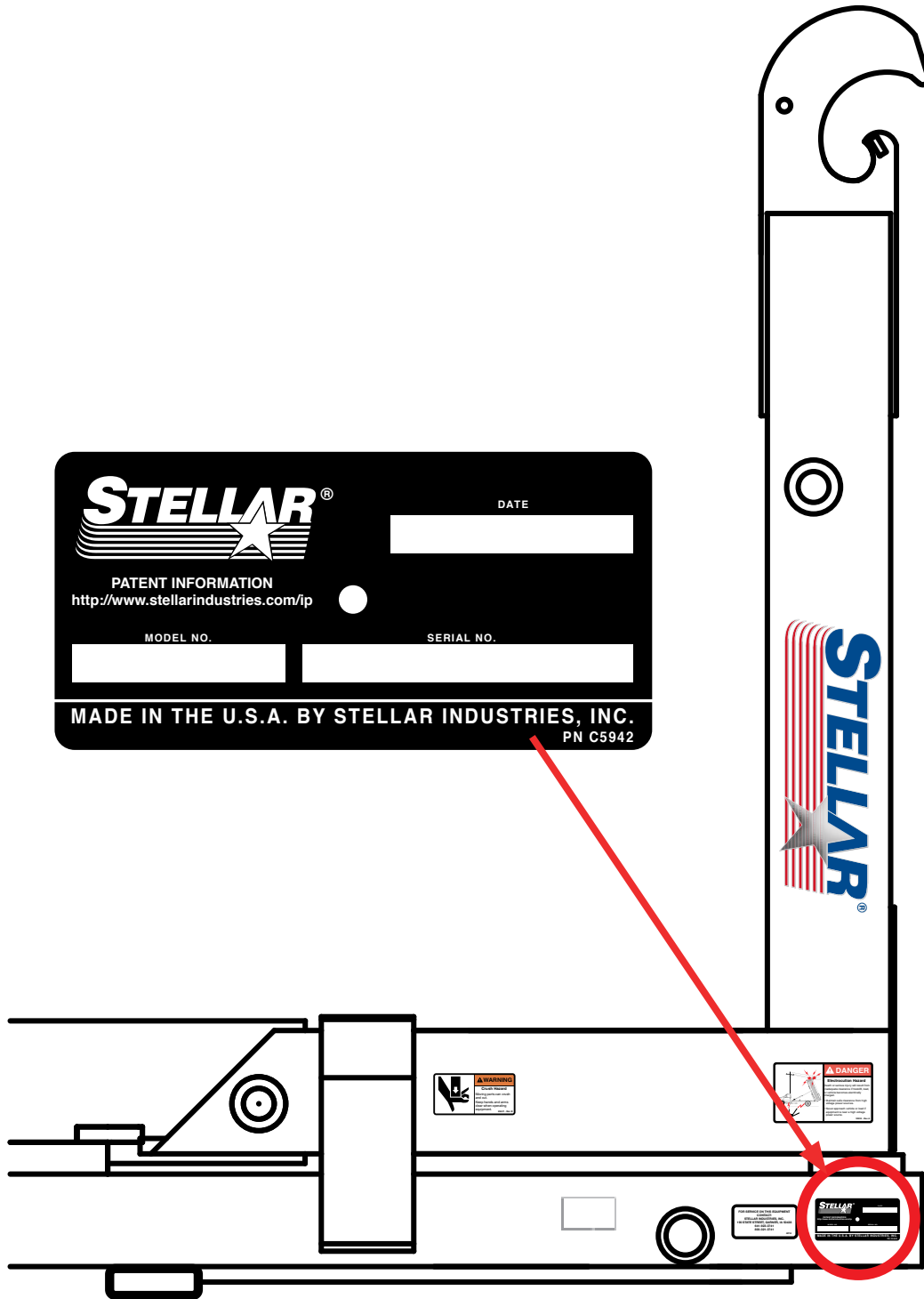
SECONDARY



TILT

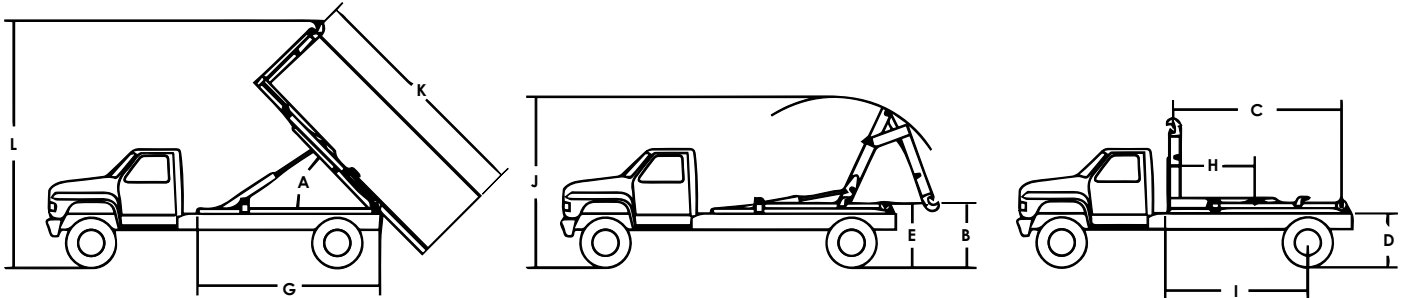
Serial Tag Location

The serial tag should be located on the right side (passenger side) of the base assembly:



Chapter 1 - Specifications

Model 168-20-20 Shuttle Specifications

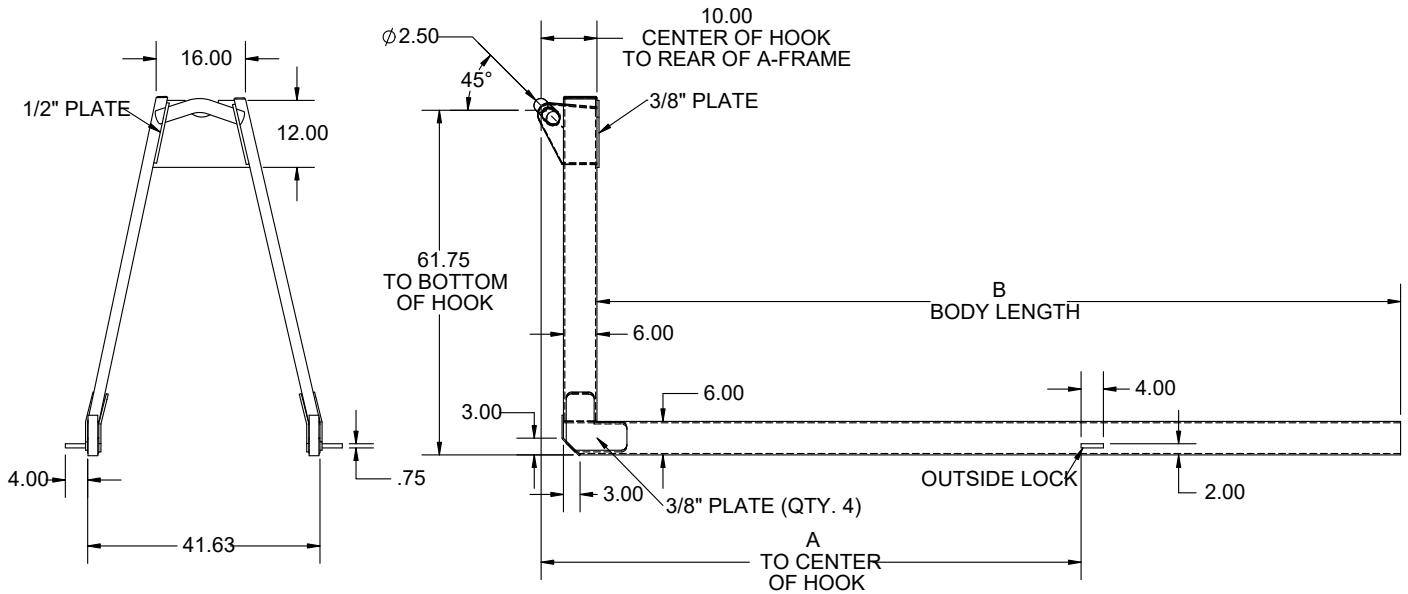


Model 168-20-20 Shuttle		
	Lifting/Dumping Capacity	20,000 lb (9,072 kg)
A	Dump Angle	50°
B	Lowest hook Height	43.56" (115 cm)
C	Effective Length	195" (495 cm)
D	Truck Frame Height	41" (104 cm)
E	Hooklift Height	50.38" (127.97 cm)
G	Hooklift Length	207" (526 cm)
H	Hooklift Center of Gravity	79" (201 cm)
I	Chassis Cab to Axle	168" to 180" (427 to 457 cm)
J	Max Height When Loading	173" (439 cm)
K	Longest Body to Dump	252" (640 cm)
L	Max Height when Dumping	248" (630 cm)
	Operating Pressure	4200 psi
	Hydraulic Flow	Not to exceed 16 GPM
	Shipping Weight	3,660 lb (1,660 kg)
	Hook Height	61.75" (156.85 cm)
	Shipping Dimensions (LxHxW)	207" x 82" x 47"
	Minimum Truck GVWR	25,000 (11,340)
	RBM	900,000
	Load Angle w/Shortest Body Length	29°
	Recommended Body Lengths*	16.5' to 19' (5.03 to 5.79 m)
	Recommended Flatbed Body Lengths**	to 21' (6.40 m)

* Assumes 3ft. overhang from center of rear roller pin.

** Assumes 5ft. overhang from center of rear roller pin - May require bumper and latch options.

Acceptable Subframe Dimensions - Model 168-20-20



NOTE: CAP ALL TUBE ENDS.
DRAWING FOR DIMENSIONAL PURPOSES ONLY

PN 138519			
PART	DESCRIPTION	A	B
8576	SKID 61.75HH 6X2 17' 156" OUTSIDE LOCK	156	204
8577	SKID 61.75HH 6X2 18' 156" OUTSIDE LOCK	156	216
8578	SKID 61.75HH 6X2 19' 156" OUTSIDE LOCK	156	228
REV. INITIAL RELEASE:REQ839			

Chapter 2 - Installation

General Installation

This chapter is designed to serve as a general guide for the installation of a Stellar® Shuttle 168-20-20 Hooklift. 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.

PTO and Pump installation instructions are provided by the corresponding manufacturers. For more information on which PTO and Pump fit your application, please contact your local Stellar Distributor or Stellar Customer Service.

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

NOTICE Do not weld or drill holes into the side wall of the base tubes.

Hooklift Mounting and Assembly

Study names and locations of the parts and familiarize yourself with the hooklift before starting the assembly. Reading the step-by-step instructions that follow will be helpful.

Assembly

Select an area for assembly that will be large enough to accommodate the completed unit. The surface of the work area should be as level as possible. Use the proper hand tools to ensure proper bolt tightness. Refer to the torque data chart in this chapter for the recommended torque values for different sizes of bolts.

Model Number

Know the model number of the Stellar® Hooklift being mounted. Use this model number whenever referring to the assembly or parts listing pages. The number is stamped on the name plate which is located on the front frame member.

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.

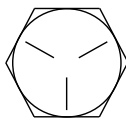
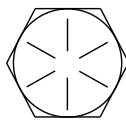
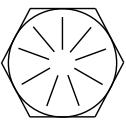
Therefore, the installer of Stellar® Hooklifts is considered one of the manufacturers of the vehicle. As such a manufacturer, the installer is responsible for compliance with all applicable federal and state regulations. They are required to certify that the vehicle is in compliance with the Federal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

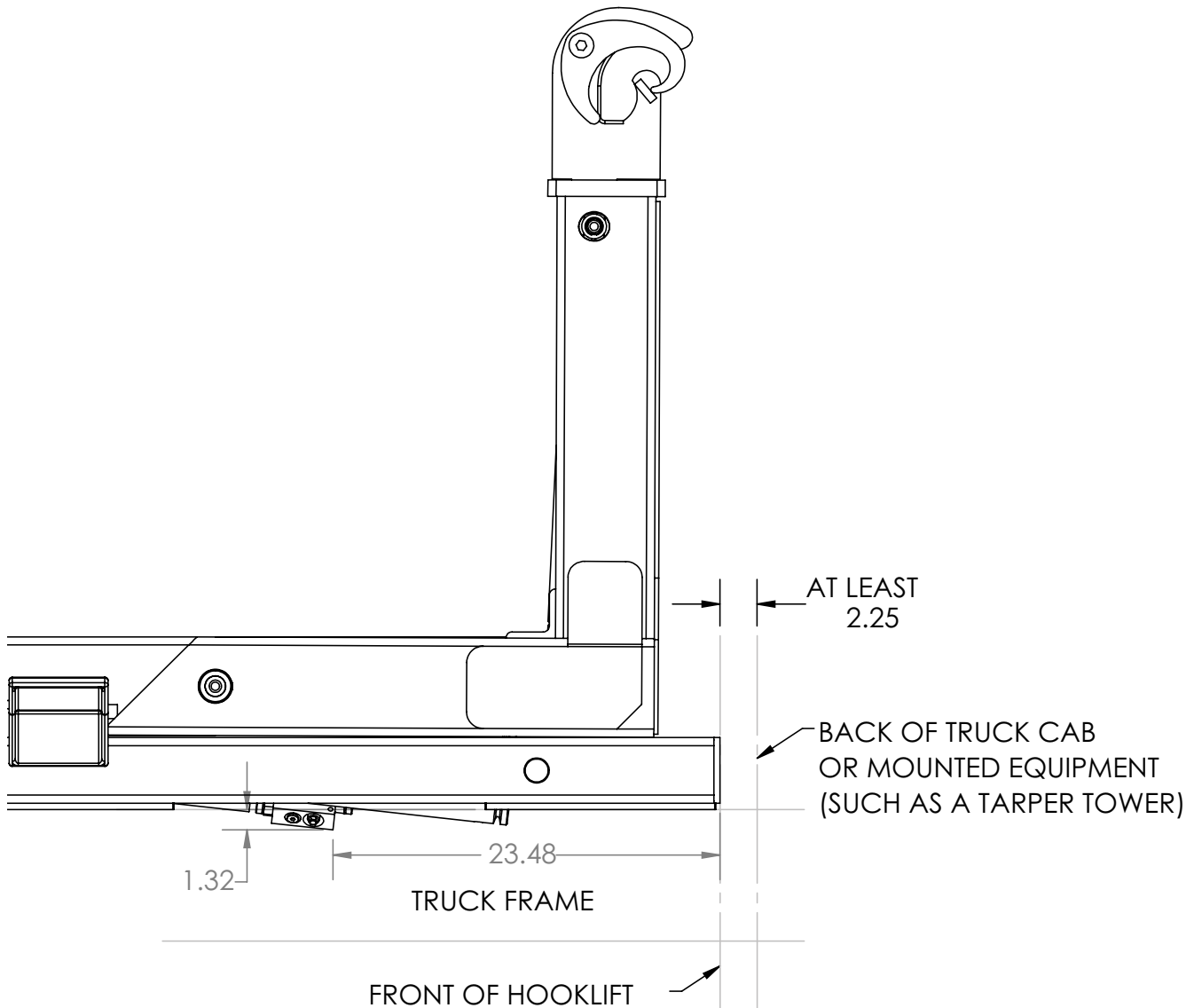
		GRADE 5		GRADE 8		GRADE 9
						
Size (DIA-TPI)	Bolt DIA (Inches)	Plain (Ft-Lb)	Plated (Ft-Lb)	Plain (Ft-Lb)	Plated (Ft-Lb)	Plated (Ft-Lb)
5/16-18	0.3125	17	13	25	18	22
3/8-16	0.3750	31	23	44	33	39
7/16-14	0.4375	49	37	70	52	63
1/2-13	0.5000	75	57	105	80	96
9/16-12	0.5625	110	82	155	115	139
5/8-11	0.6250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

Installation Note

Every hooklift installation is unique. However, certain guidelines exist that apply to every model. Listed below is a general set of chronological steps that may be followed when installing a Stellar Hooklift. If any questions arise during the installation process, feel free to contact your local dealer or Stellar Customer Service at 800-321-3741.

Step 1: Set the hooklift onto the truck frame.

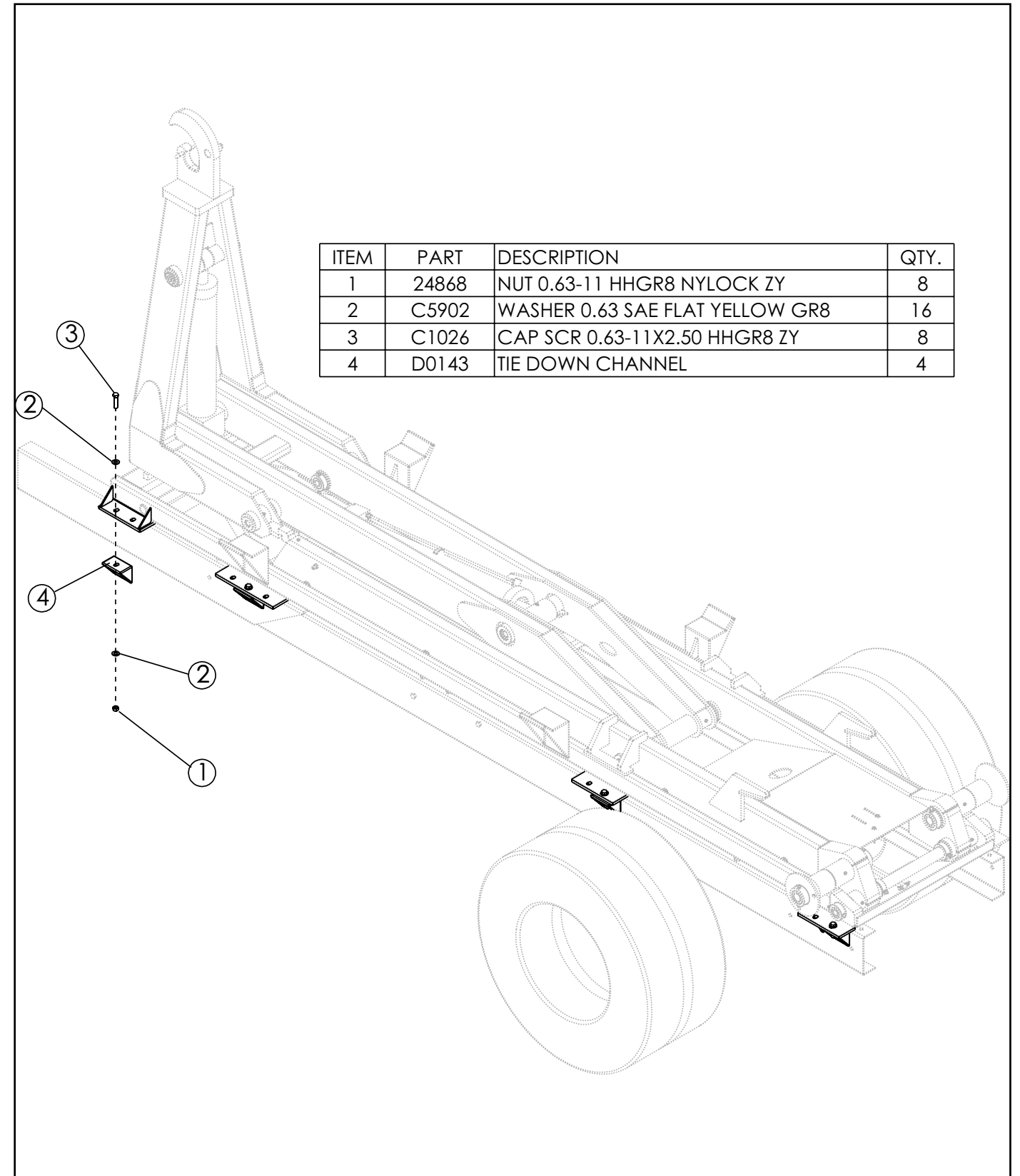
- Visually inspect the truck and look for any potential issues. For example: Clearance problems, cross members extending too high, insufficient room in front of the hooklift for tarpers, exhaust manifolds, etc., or insufficient room in the rear to allow for bumper selection. *Note: Stellar Industries recommends allowing 12" behind the start of clear truck frame for installation of a tarping system.*
- Be sure to square the hooklift on the truck frame to allow for proper measurement. The front of the hooklift needs to be at least 2.50" behind the cab or any equipment mounted behind the cab.



Step 2: Bolt tie-down castings to mounting plates.

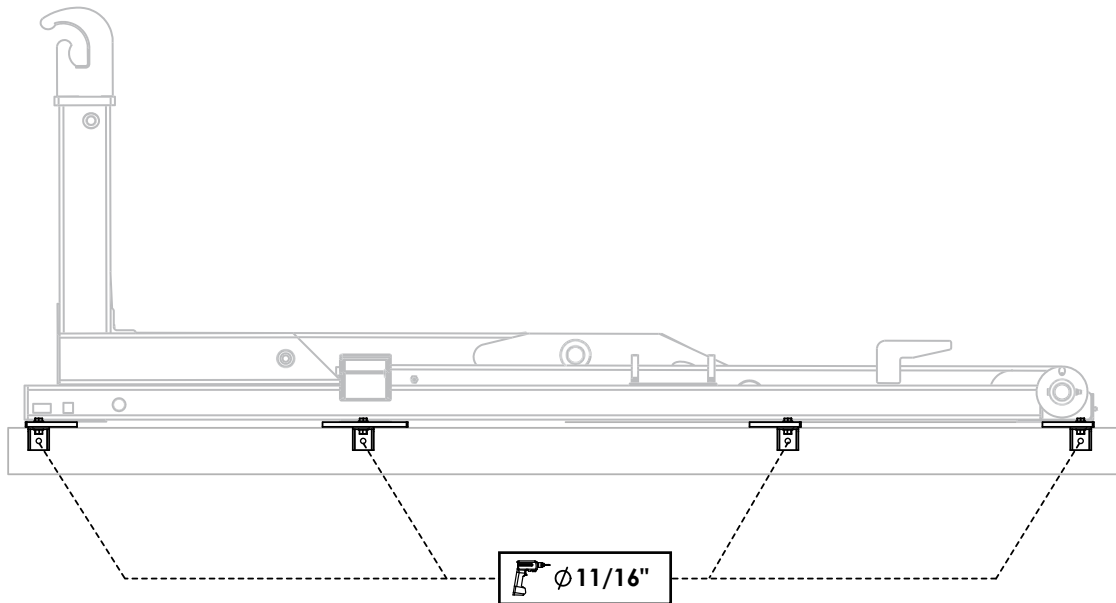
Bolt each tie-down casting to the underside of each mounting plate located on the outside of the main rails of the base (both sides):

Note: The mounting plates are designed with multiple slots to offer more flexibility in mounting locations. Additional holes may not be added.



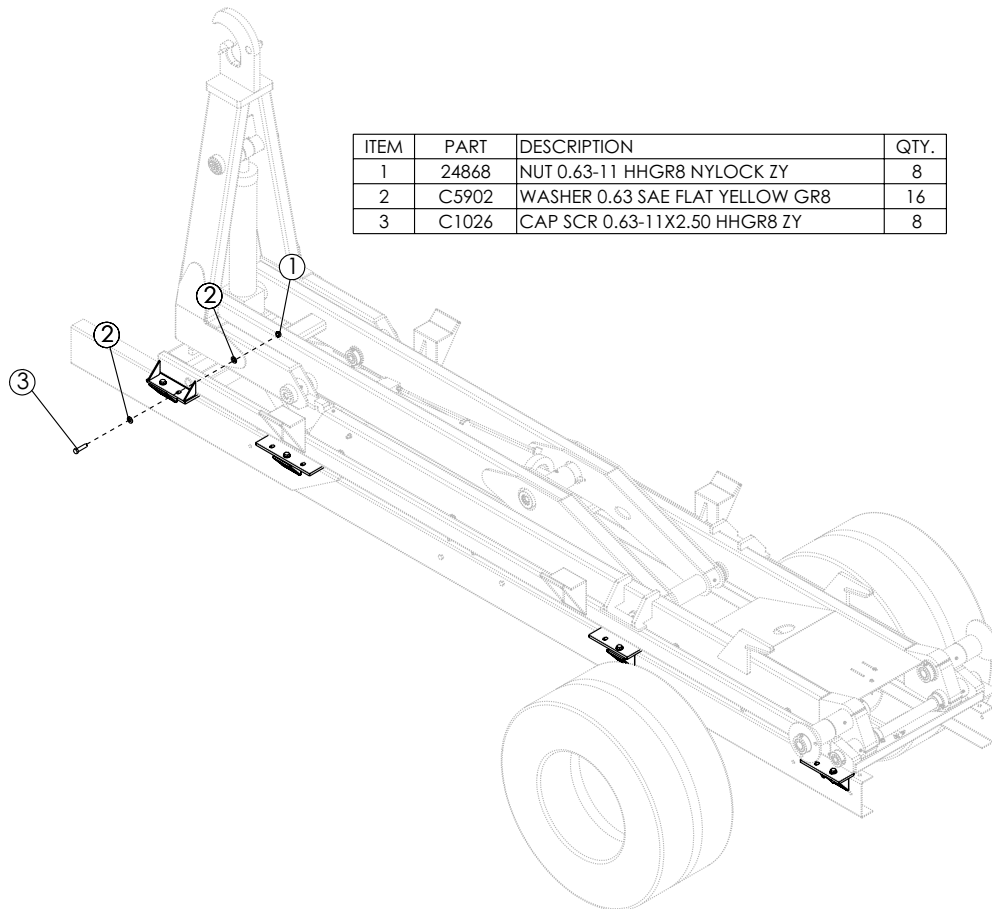
Step 3: Drill mounting holes into frame rail.

Using the holes in the tie-down castings as guides, drill 11/16" mounting holes through the truck frame as shown (both sides):



Step 4: Bolt tie-down castings to truck frame.

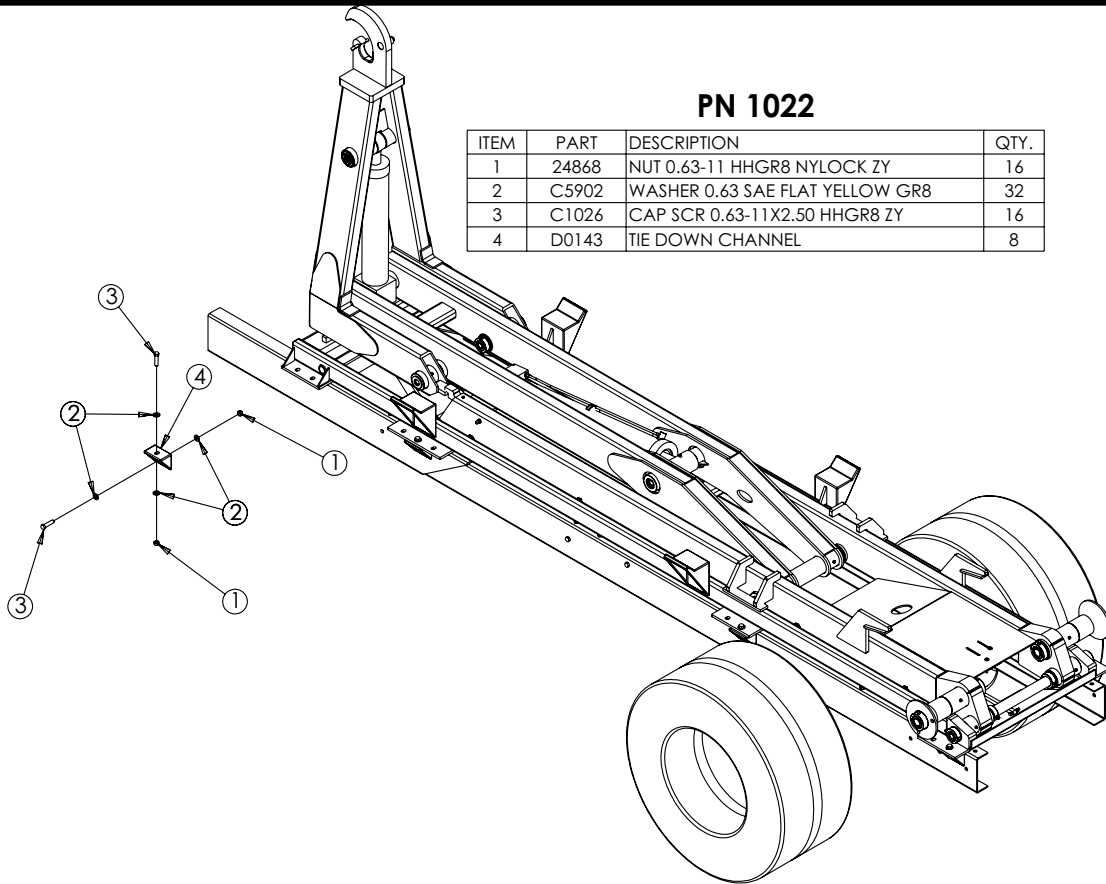
Bolt each tie-down angle to the truck frame (both sides):



Mounting Kit - PN 1022

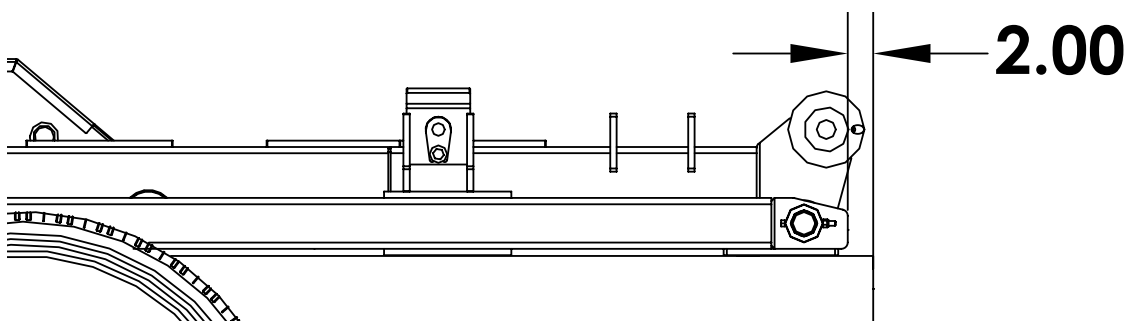
PN 1022

ITEM	PART	DESCRIPTION	QTY.
1	24868	NUT 0.63-11 HHGR8 NYLOCK ZY	16
2	C5902	WASHER 0.63 SAE FLAT YELLOW GR8	32
3	C1026	CAP SCR 0.63-11X2.50 HHGR8 ZY	16
4	D0143	TIE DOWN CHANNEL	8



Step 5: Install bumper.

- See NHTSA (National Highway Truck Safety Administration) Regulations for acceptable placement.
- Modify the truck frame as necessary so that it ends 2" from the rear of the hooklift.



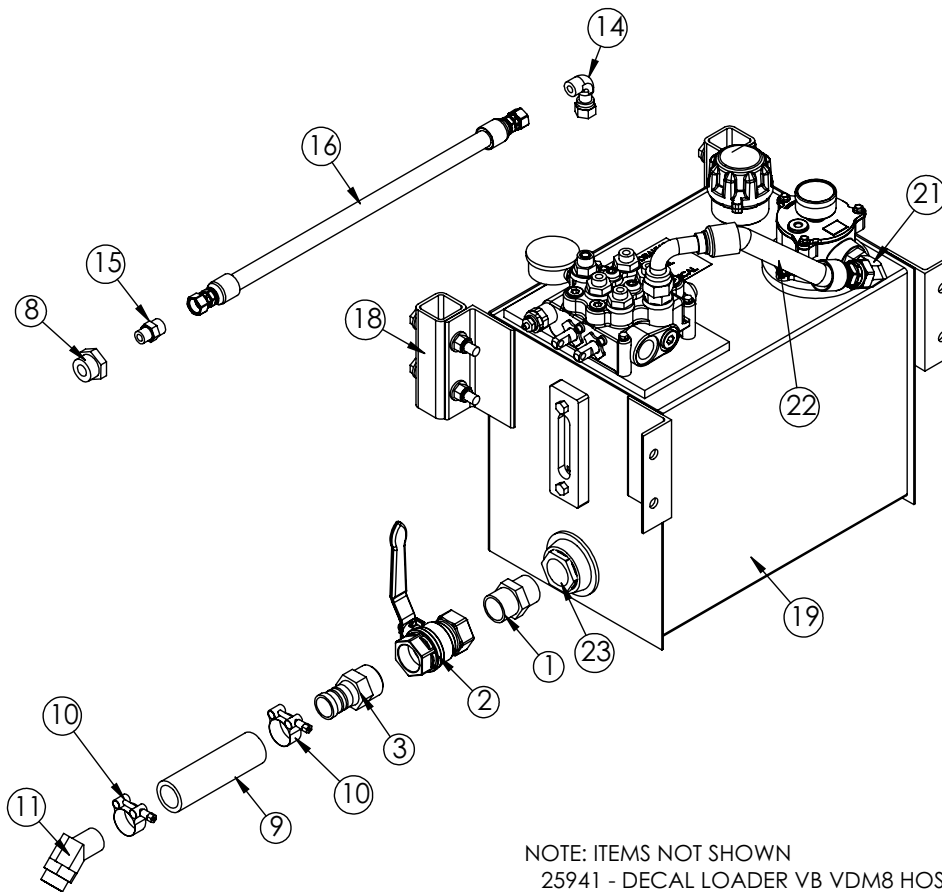
Step 6: Install taper tower (If applicable).

See brand specific installation instructions.

Step 7: Install hydraulic reservoir and valve bank.

- Before drilling and bolting to the frame, confirm adequate room for cable routing between in-cab controls and the valve bank. **Note: The top of the reservoir should not be above the truck frame. Refer to the Reservoir Assembly Drawings for details.**

Reservoir Assembly (Cable Controls) - PN 87078

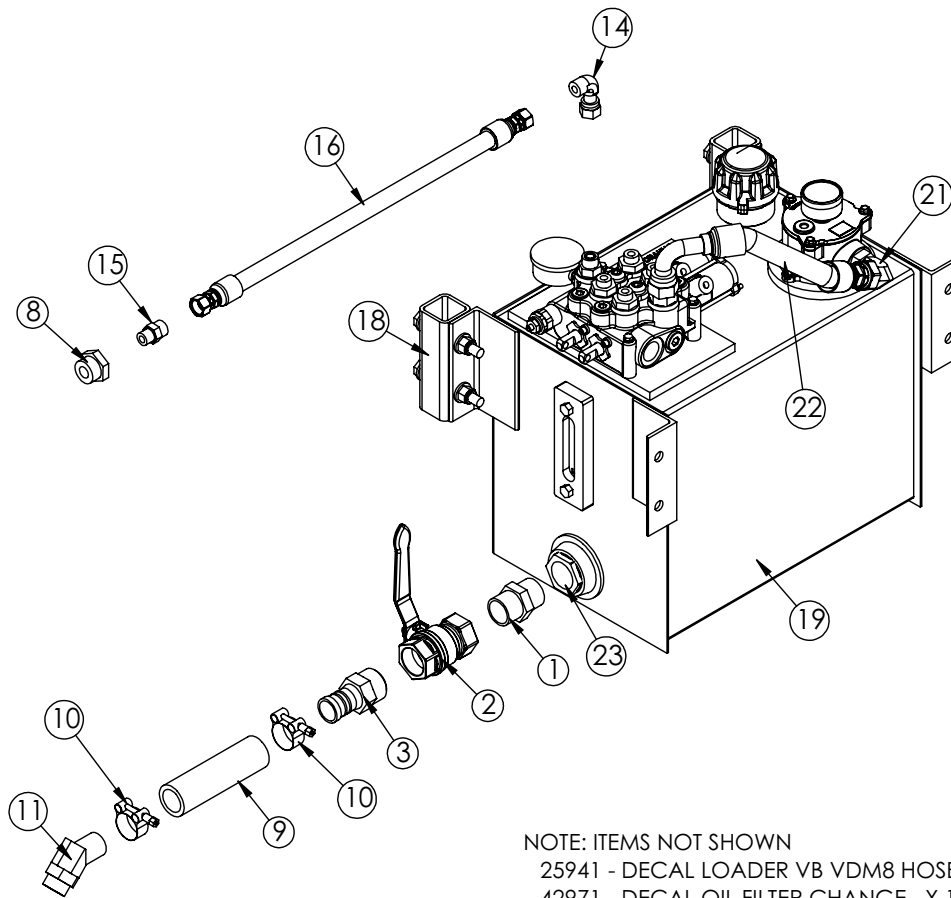


NOTE: ITEMS NOT SHOWN
 25941 - DECAL LOADER VB VDM8 HOSE LOCATION X 1
 42971 - DECAL OIL FILTER CHANGE X 1

PN 87078

ITEM	PART No.	DESCRIPTION	QTY.
01	1115	FTG 20-20 MP-MP HEX NIPPLE STRAIGHT	1
02	C5511	VALVE BALL 1.25	1
03	C2282	VALVE BALL 1.25	1
04	24611	VB 2-SECTION VDM8	1
05	0521	WASHER 0.25 LOCK	3
06	0339	CAP SCR 0.25-20X2.50 HHGR5	3
07	C1855	FTG 6-10 MFS-MORB STRAIGHT	4
08	D0549	FTG 16-8 MORB-FORB STRAIGHT REDUCER	1
09	17767	HOSE SUCT 1.25 10FT	1
10	C0075	HOSE CLAMP HC125	2
11	C4747	FTG 20-16 HB-MAORB 45	1
12	10094	GAUGE OIL LF 2.5" 0-5000 BM	1
13	25630	FTG 10-4 MORB-FP STRAIGHT	1
14	C2376	FTG 8-8 MFS-FFSS 90	1
15	1554	FTG 8-8 MFS-MORB STRAIGHT	1
16	31676	HOSE 0.50(471TC-JC-JC-8-8-8-120)	1
17	C2252	FTG 8-10 MFS-MORB STRAIGHT	1
18	84341	MNT KIT RSRVR 10GAL	1
19	86117	RSRVR ASM 10GAL K MODEL W/ TANK TOP FILTER	1
20	C2142	FTG 12-12 MFS-MORB STRAIGHT	1
21	C5968	FTG 12-12 MFS-MAORB 90	1
22	87077	HOSE 0.75(300PSI)-12FFSS SHORT-12FFSS 90 SHORT-7.50CL	1
23	C5552	FILTER STRAINER TFS-1220-0	1

Reservoir Assembly (Air Controls) - PN 87081

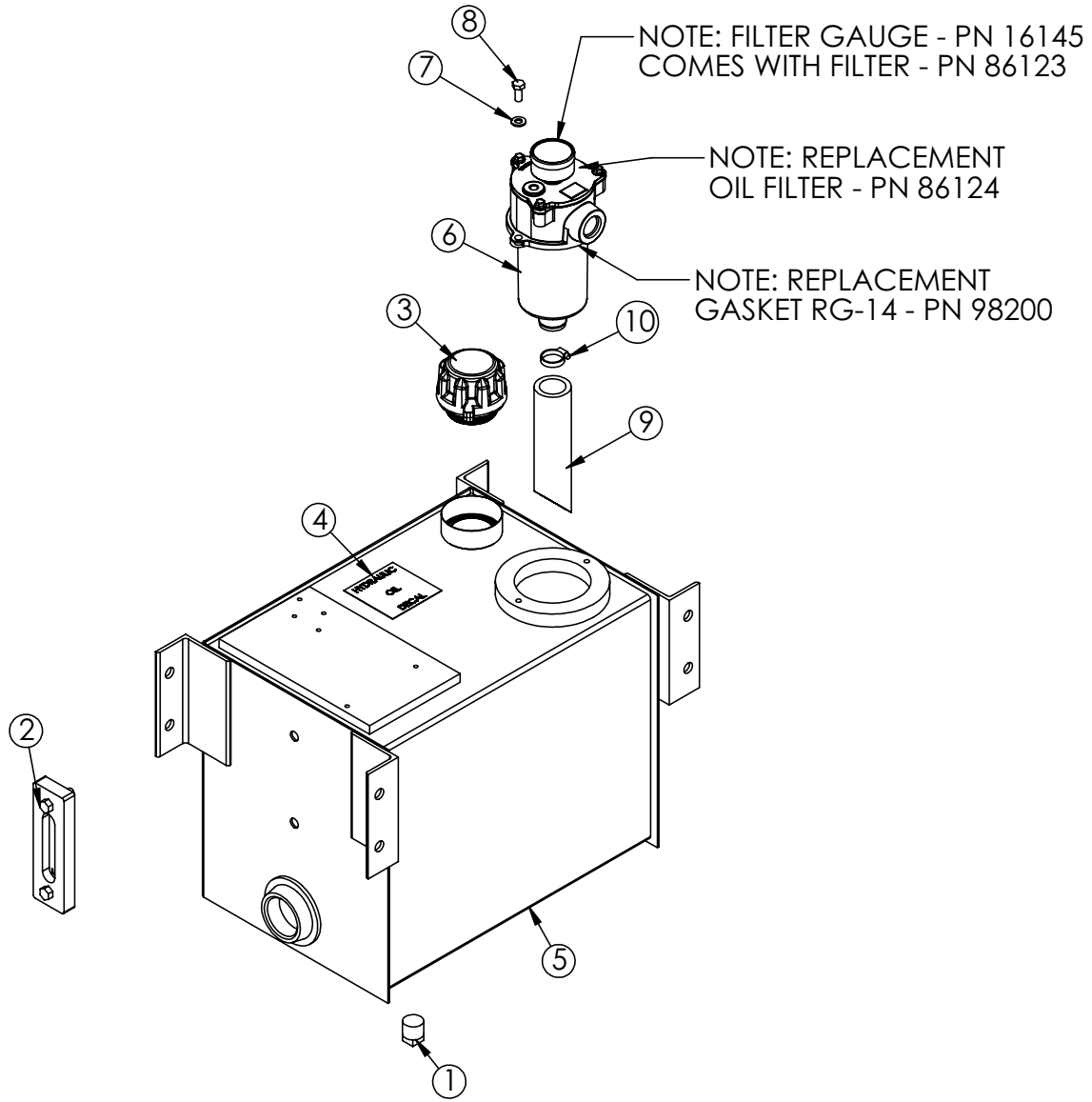


NOTE: ITEMS NOT SHOWN
 25941 - DECAL LOADER VB VDM8 HOSE LOCATION X 1
 42971 - DECAL OIL FILTER CHANGE X 1

PN 87081

ITEM	PART No.	DESCRIPTION	QTY.
01	1115	FTG 20-20 MP-MP HEX NIPPLE STRAIGHT	1
02	C5511	VALVE BALL 1.25	1
03	C2282	VALVE BALL 1.25	1
04	25940	VB 2-SECTION VDM8 W/AIR ACTUATORS	1
05	0521	WASHER 0.25 LOCK	3
06	0339	CAP SCR 0.25-20X2.50 HHGR5	3
07	C1855	FTG 6-10 MFS-MORB STRAIGHT	4
08	D0549	FTG 16-8 MORB-FORB STRAIGHT REDUCER	1
09	17767	HOSE SUCT 1.25 10FT	1
10	C0075	HOSE CLAMP HC125	2
11	C4747	FTG 20-16 HB-MAORB 45	1
12	10094	GAUGE OIL LF 2.5" 0-5000 BM	1
13	25630	FTG 10-4 MORB-FP STRAIGHT	1
14	C2376	FTG 8-8 MFS-FFSS 90	1
15	1554	FTG 8-8 MFS-MORB STRAIGHT	1
16	31676	HOSE 0.50(471TC-JC-JC-8-8-8-120)	1
17	C2252	FTG 8-10 MFS-MORB STRAIGHT	1
18	84341	MNT KIT RSRVR 10GAL	1
19	86117	RSRVR ASM 10GAL K MODEL W/ TANK TOP FILTER	1
20	C2142	FTG 12-12 MFS-MORB STRAIGHT	1
21	C5968	FTG 12-12 MFS-MAORB 90	1
22	87077	HOSE 0.75(300PSI)-12FFSS SHORT-12FFSS 90 SHORT-7.50CL	1
23	C5552	FILTER STRAINER TFS-1220-0	1

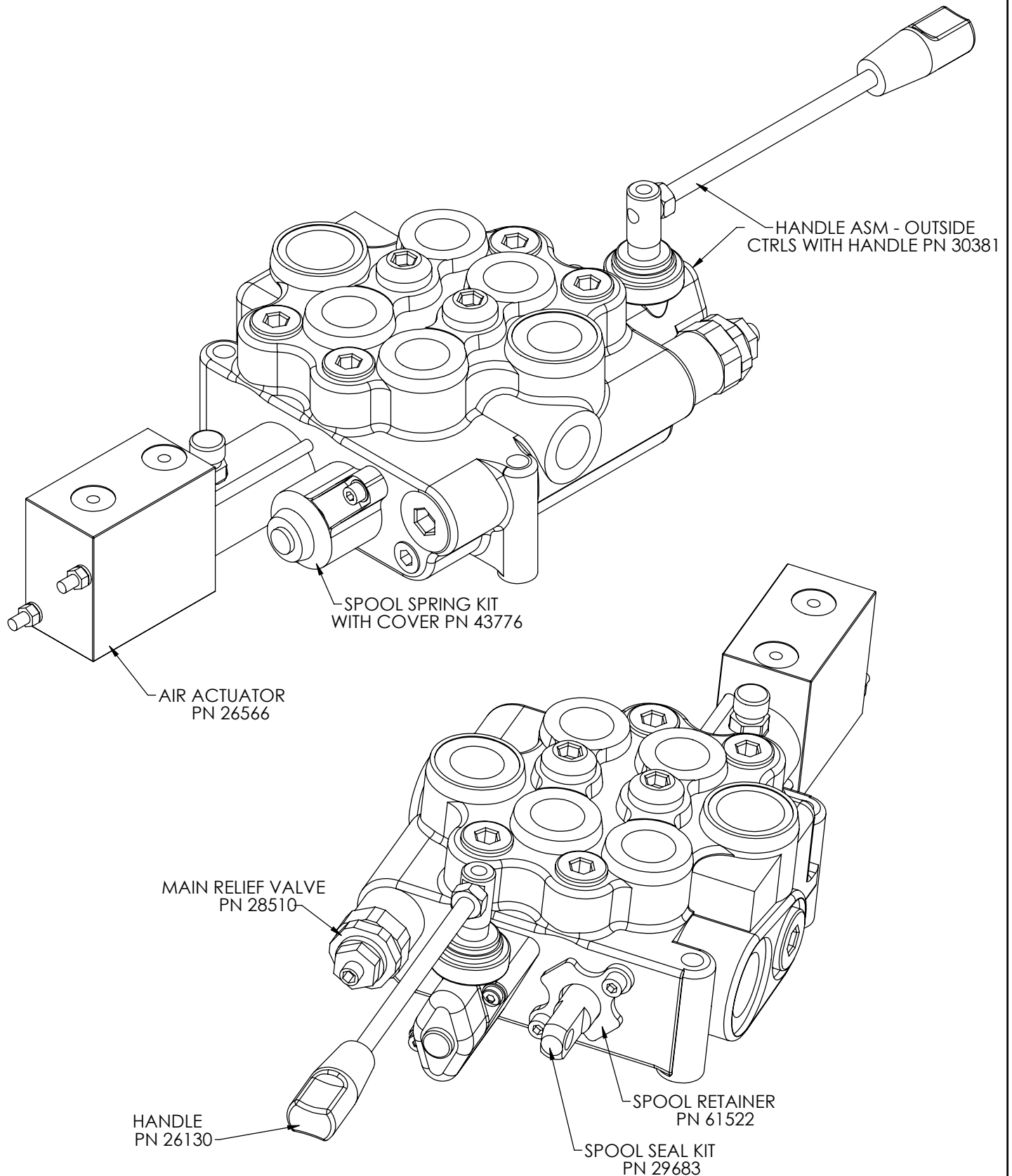
Reservoir Subassembly - PN 86117



PN 86117

ITEM	PART	DESCRIPTION	QTY.
1	C2126	MAGNETIC PLUG DRAIN 3/4"	1
2	15463	THERMO SIGHT GAUGE ZINGA SG-O5-A-T-N	1
3	73278	CAP FILL 1PSI ZINGA THREADED	1
4	13002	DECAL HYD OIL SPECIFICATION MOBIL	1
5	86118	RSRVR 10GAL K MODEL W/ TANK TOP FILTER	1
6	86123	FILTER TANK TOP SFM 12 SAE	1
7	5591	WASHER 0.31 SAE FLAT YELLOW GR8	2
8	0420	CAP SCR 0.31-18X0.75 HHGR5	2
9	86129	HOSE 1.25X7.50 DOWN TUBE	1
10	C4659	HOSE CLAMP #16 SS	1

Valve Bank Parts Drawing



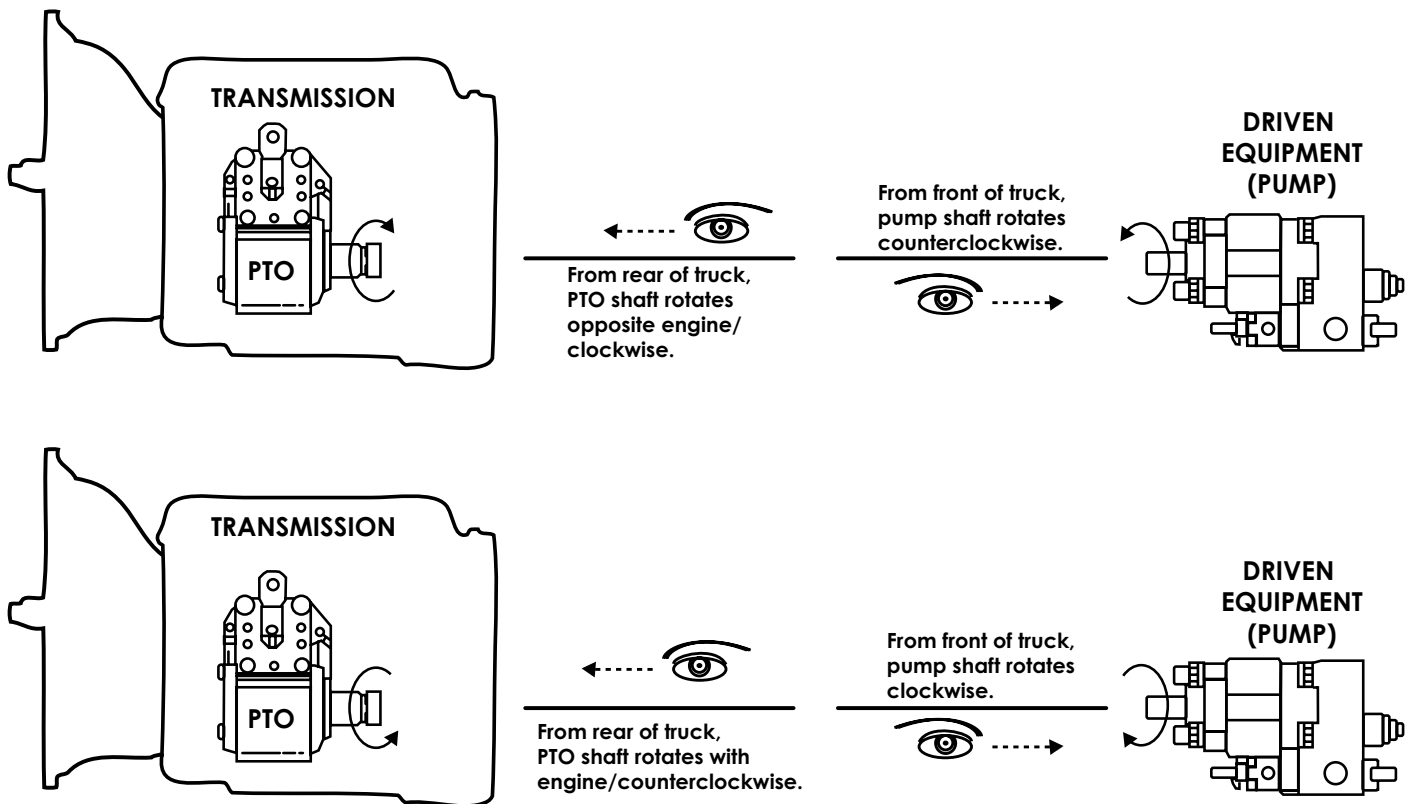
Step 8: Install PTO and pump.

- Before installing the pump to the PTO, always check the direction of the PTO output shaft to determine which direction the hydraulic pump needs to rotate to operate the equipment. If this is not determined prior to installing the hydraulic pump, the hydraulic pump may rotate in the incorrect direction and damage the front shaft seal.

PTO Direction of Rotation Tip:

Viewed by standing at the rear of the vehicle, looking forward at the PTO shaft, with the PTO shaft pointing toward the rear of the vehicle:

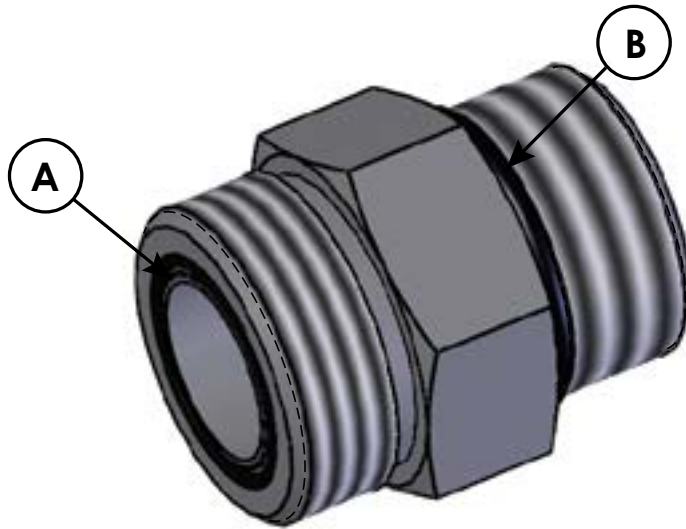
P.T.O.	Driven Equipment
Rotates Opposite Engine (looks "clockwise")	Driven equipment must rotate counterclockwise (also called left-hand rotation, "A" for anti-clockwise or C.C.W. for counter clockwise).
Rotates With Engine (looks "counterclockwise")	Driven equipment must rotate clockwise (also called right-hand rotation or "C" for clockwise).



Remember that the PTO is specified by looking from the rear of the truck to the front of the truck. The driven equipment (pump) is specified by looking from the front of the truck to the rear of the truck.

- Use the brand specific PTO/Pump installation instructions. If the directions are not quite clear, contact Stellar® Customer Service or consult with a hydraulic specialty house or company prior to installation.

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

Step 9: Route hydraulic hoses.

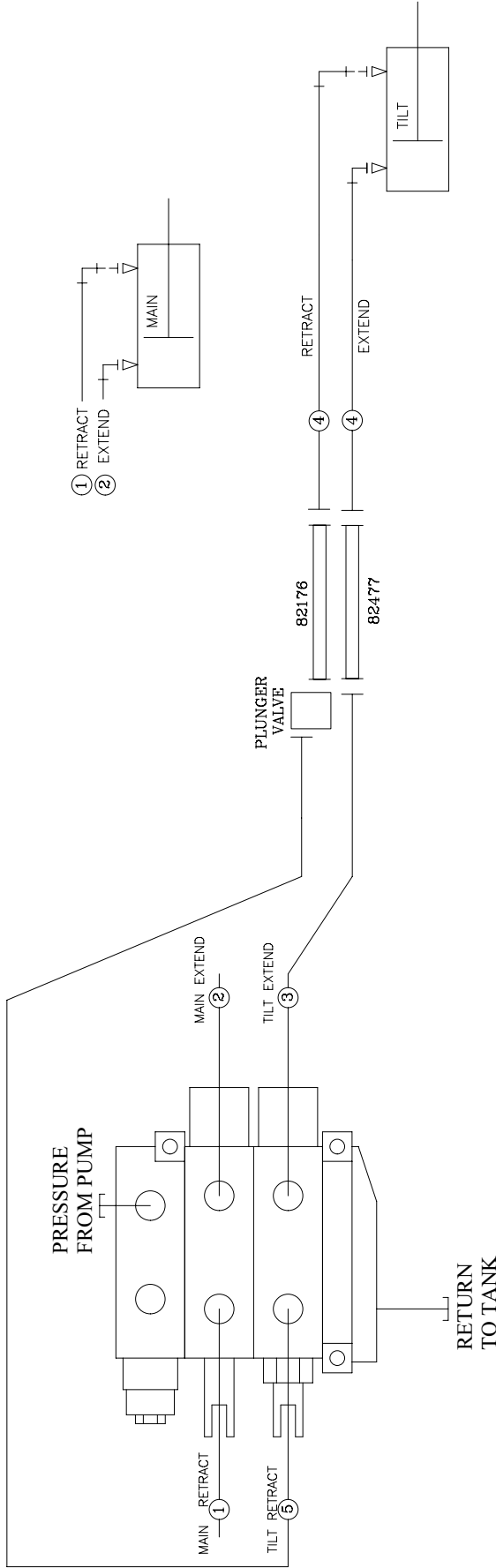
1. Route hose line from the reservoir to the pump (See hose kit drawing for details).
2. Route hose line from the pump to the valve bank (See hose kit drawing for details).
3. Route hose line from the valve bank to the reservoir (See hose kit drawing for details).
4. Route hose line from the valve bank and the hooklift (See hose kit drawing for details).

Note: If using the Power Beyond feature for additional function, see "Power Beyond VDM8 Valve" later in this chapter for further details.

Notes on hose line routing:

- Protect these lines with hose wrap when necessary.
- Keep these lines away from sharp edges.
- Keep these lines away from the exhaust or other temperature extreme items.
- Keep these lines away from the driveshaft or other moving items.

Hose Kit - PN 82424



- ① RETRACT
- ② EXTEND

ITEM	PART No.	DESCRIPTION	QTY
05	80263	HOSE 0.38(4200PSI)-6FFSS-6FFSS 90 LONG-90CL	1
04	82426	HOSE 0.38(4200PSI)-8MFS-6FFSS 90 SHORT-240CL	2
03	80265	HOSE 0.38(4200PSI)-8MFS-6FFSS 90 SHORT-90CL	1
02	42842	HOSE 0.38(4200PSI)-6FFSS SHORT-6FFSS 90 SHORT-90CL	1
01	86543	HOSE 0.38(4200PSI)-6FFSS SHORT-6FFSS 90 LONG-90CL	1

NOTE: SYSTEM PRESSURE IS 4200 P.S.I.

STELLAR #42842- 0.38(4200PSI)-6FFSS SHORT-6FFSS 90 SHORT-240CL
QTY - 1

FUNCTION: MAIN CYLINDER TO VB (MAIN EXTEND) ②

STELLAR #82426- 0.38(4200PSI)-8MFS-6FFSS 90 SHORT-240CL
QTY - 2

FUNCTION: PORT TUBES TO TILT CYLINDER ④

STELLAR #80265- 0.38(4200PSI)-8MFS-6FFSS 90 SHORT-90CL
QTY - 1

FUNCTION: PORT TUBE TO VB (TILT EXTEND) ③

STELLAR #80263- 0.38(4200PSI)-8FFSS SHORT-6FFSS 90 LONG-90CL
QTY - 1

FUNCTION: PLUNGER VALVE TO VB (TILT RETRACT) ⑤

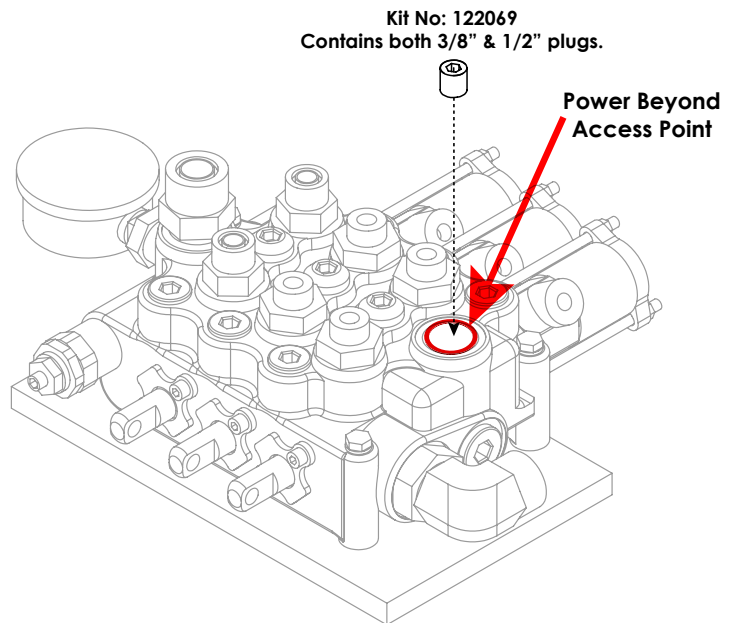
STELLAR #86543- 0.38(4200PSI)-6FFSS SHORT-6FFSS 90 LONG-90CL
QTY - 1

FUNCTION: MAIN CYLINDER TO VB (MAIN RETRACT) ①

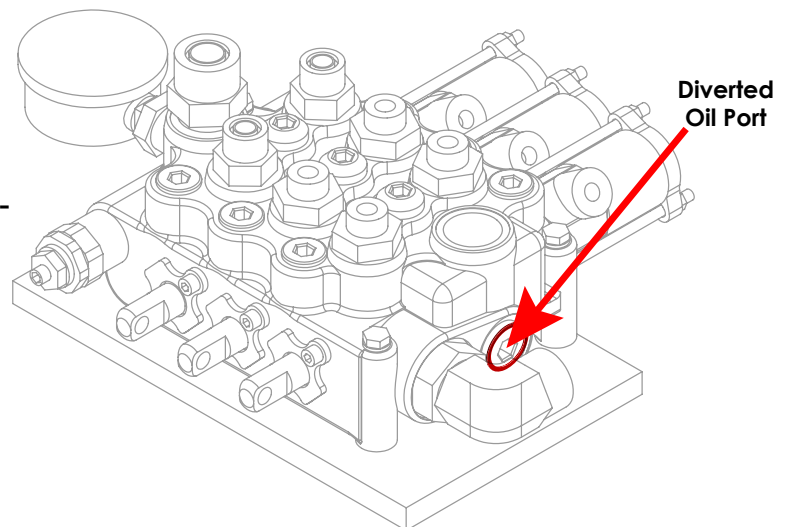
Power Beyond VDM8 Valve

These instructions are intended for correct installation of power beyond on a Salami VDM8 valve bank. If any hydraulic component is integrated after this valve the power beyond must be installed correctly, or serious damage may incur to the hydraulic system.

1. Remove cover / access plug to reveal the power beyond access point. Can also be used as the Return / Tank port.
2. Install one (either 1/2" or 3/8") plug from kit number:122069 into lower portion of cavity to activate the power beyond feature. Use thread sealer. (Tape sealers not recommended.)



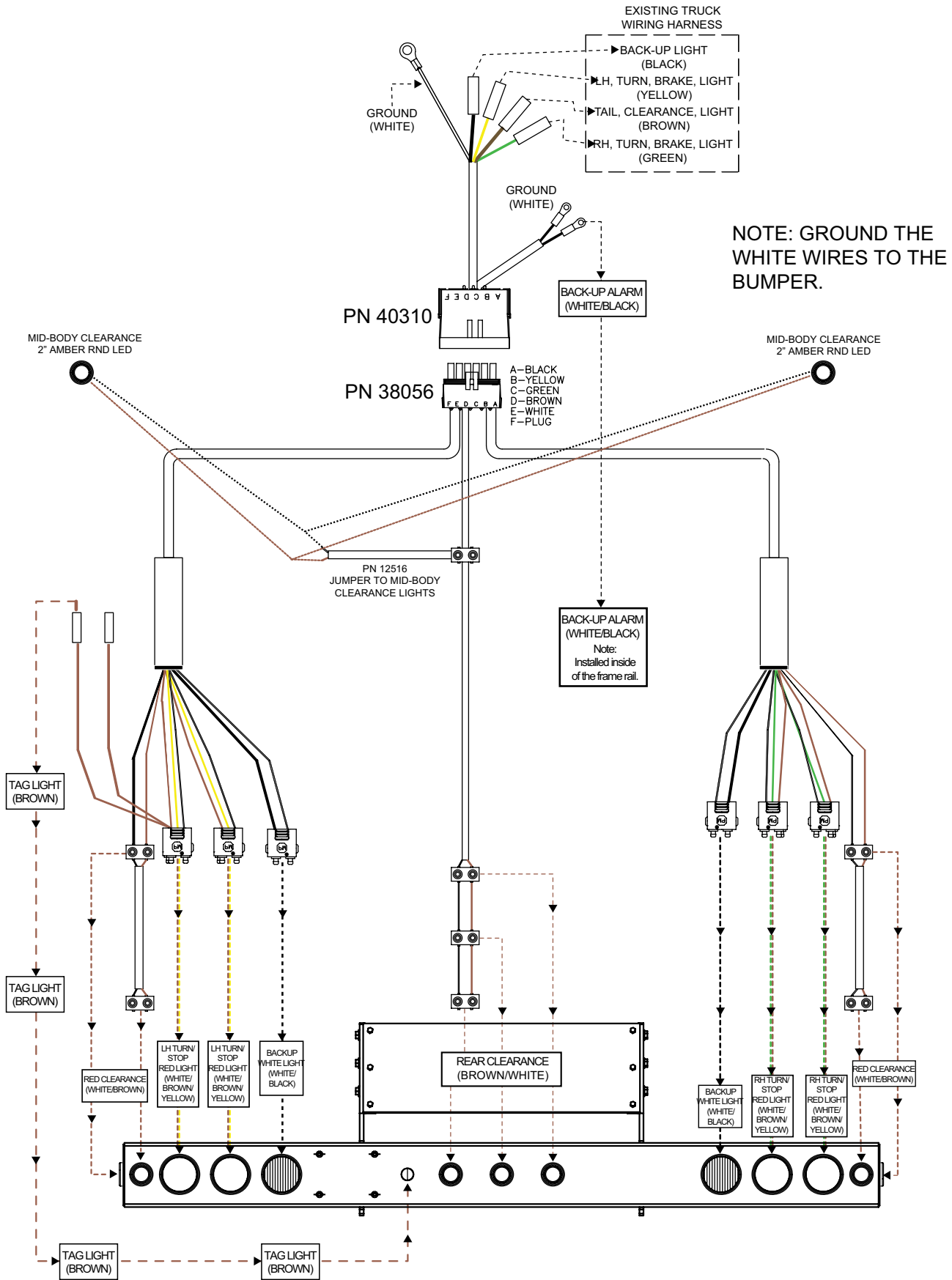
3. The Power Beyond feature is now activated and will divert oil to alternate system via the port shown.



NOTES:

- THE RETURN / TANK LINE MUST BE CONNECTED TO THE TOP OR THE SIDE PORT, LABELED "T".
- USING THE RETURN LINE TO RUN AUXILIARY EQUIPMENT WILL DIRECTLY RESULT IN A FAILURE, AND WILL NOT IN ANY CIRCUMSTANCE, BE COVERED UNDER WARRANTY.
- A STANDARD STELLAR® HOOKLIFT WILL HAVE 6 HYDRAULIC LINES ATTACHED TO THE VALVE. WITH POWER BEYOND ACTIVATED, THEY WILL HAVE 7 HYDRAULIC LINES ATTACHED TO THE VALVE.

Step 10: Route Electrical Components



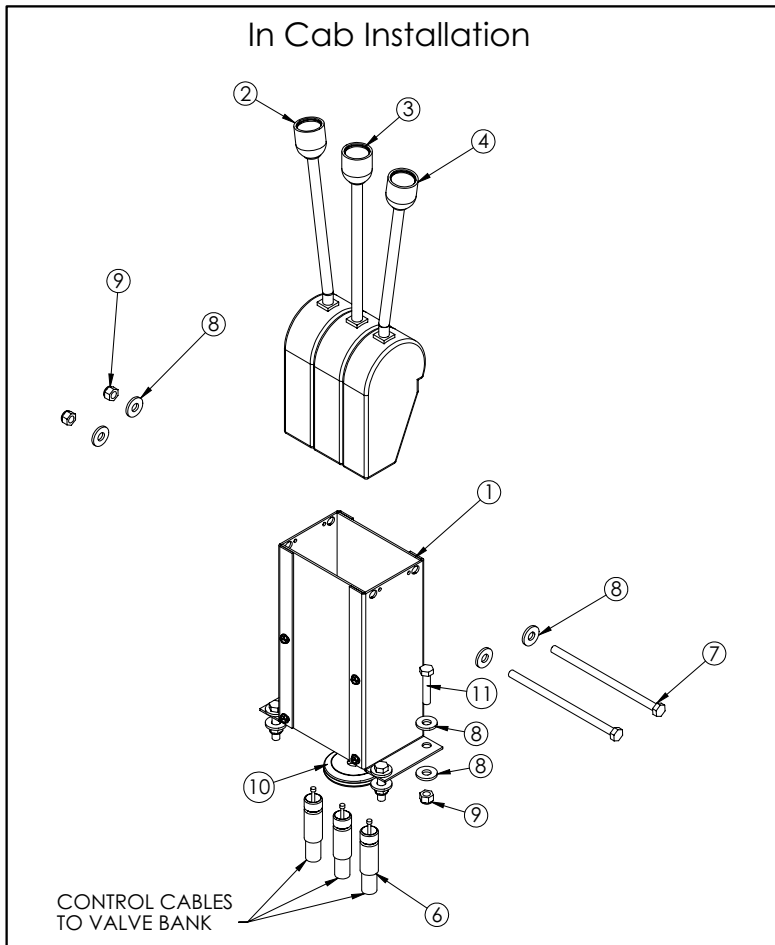
Step 11: Install cab and PTO controls.

- Use PTO brand specific installation instructions.
- For cab controls, see controller assembly drawing for details:

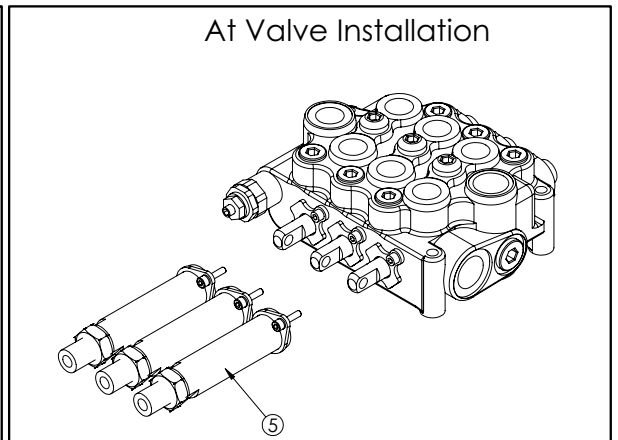
Cable Controls

	2 SECTION	3 SECTION
96 INCH	PN 50835	PN 50836
144 INCH	PN 53444	PN 53445
192 INCH	PN 50837	PN 50838

In Cab Installation



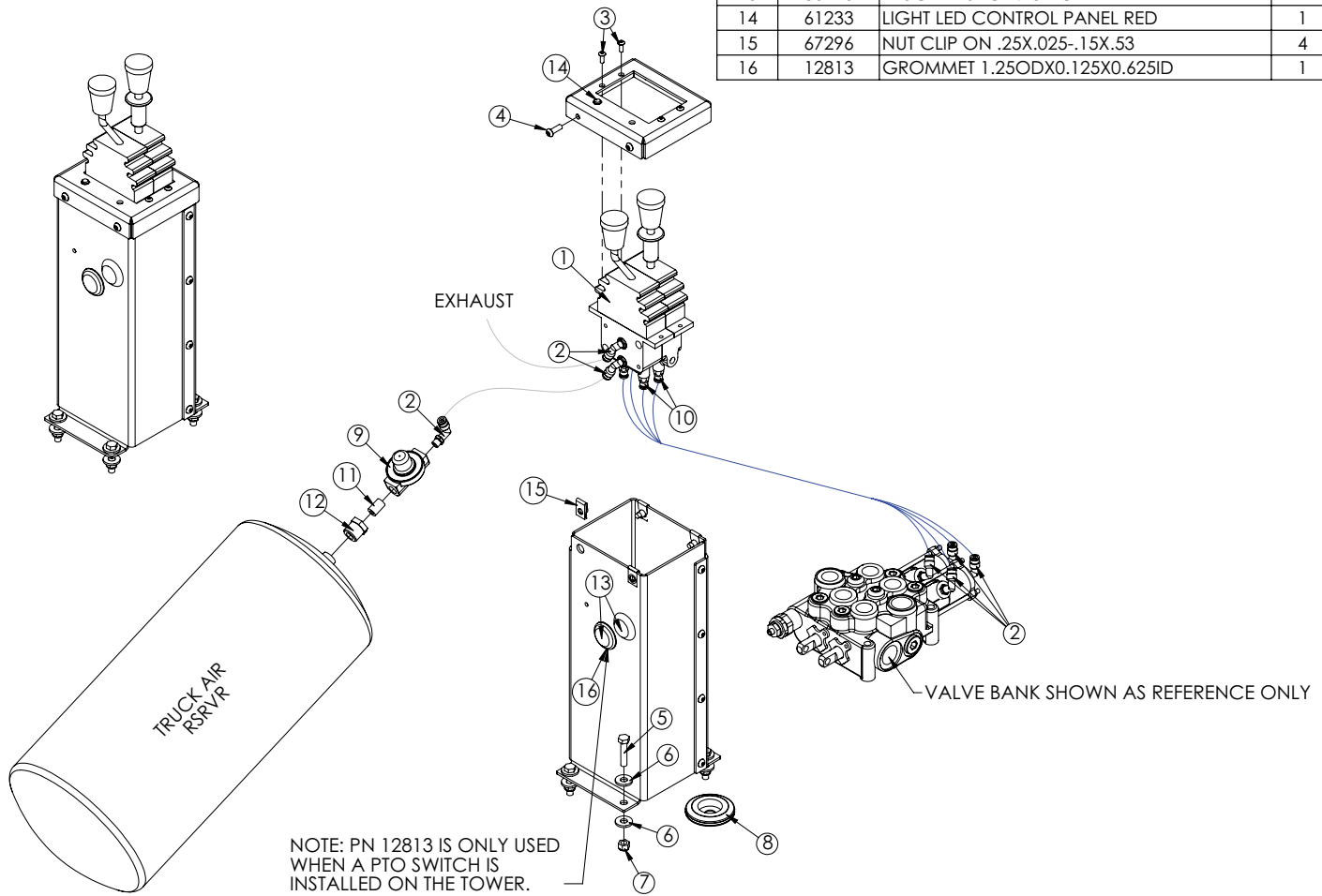
At Valve Installation



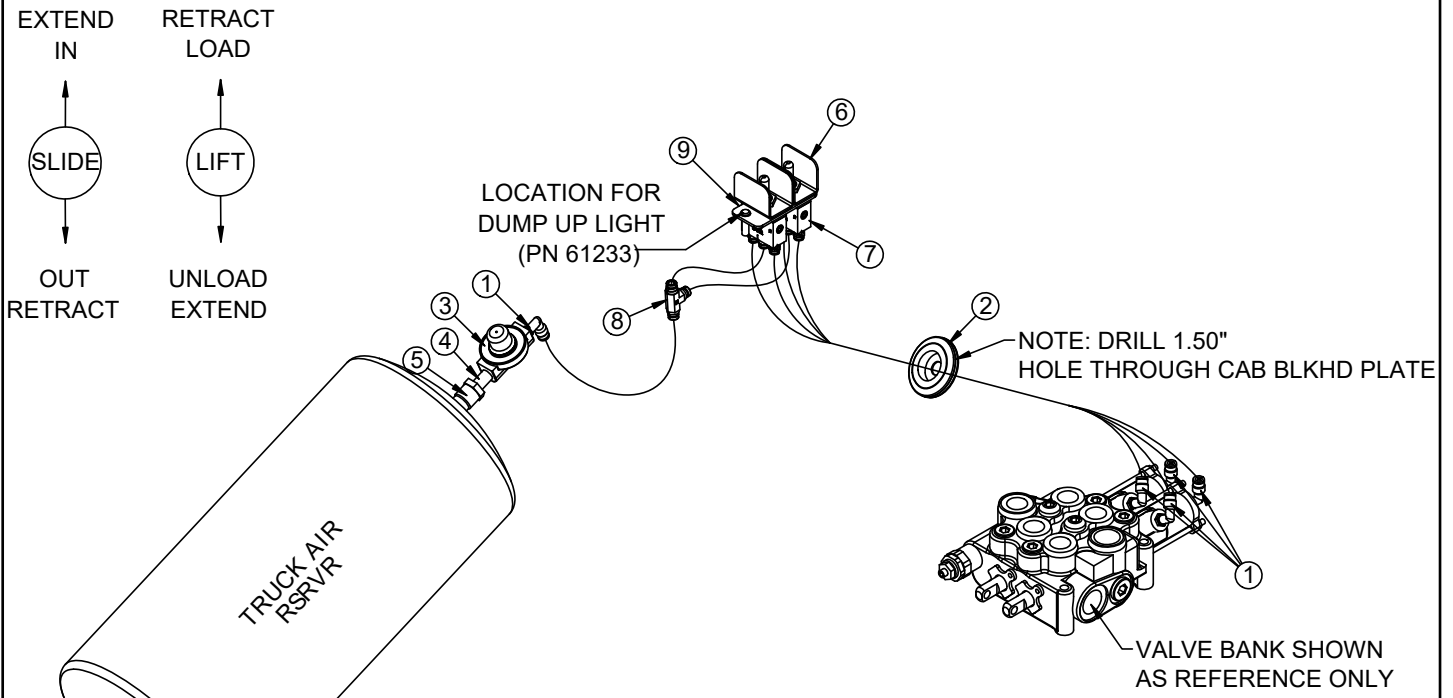
ITEM	PART	DESCRIPTION	QTY.
1	38351	VALVE CTRL CONSOLE 3LEVER RVC	1
2	37475	CTRL CNTR LOCK LEFT BEND	1
3	37476	CTRL CNTR LOCK NO BEND	1
4	37474	CTRL CNTR LOCK RIGHT BEND	1
5	37469	CABLE CONN. KIT FOR VD8A/VDM8	3
6	37471	CONTROL CABLE 96 IN WESCON	3
7	20057	CAP SCR 0.31-18X6.50 HHGR5	2
8	0343	WASHER 0.31 USS FLAT	12
9	0342	NUT 0.31-18 HHGR5 NYLOC	6
10	16948	GROMMET 2.50ODX0.125X0.25ID	1
11	0486	CAP SCR 0.31-18X1.50 HHGR5	4

Air Controls

ITEM	PART	DESCRIPTION	QTY.
1	41988	CTRL 2 BANK 4WAY AIR CNTR LOCK	1
2	45687	FTG 4-2 MP-PTC 90 BRASS 1169X4S	7
3	D1711	CAP SCR #10-24X0.50 BTNHD SS	4
4	C6021	CAP SCR 0.25-20X0.75 BTNHD SS	4
5	0486	CAP SCR 0.31-18X1.50 HHGR5	4
6	0343	WASHER 0.31 USS FLAT	8
7	0342	NUT 0.31-18 HHGR5 NYLOC	4
8	16948	GROMMET 2.50ODX0.125X0.25ID	1
9	35211	PTO AIR REGULATOR 378414	1
10	45333	FTG 4-2 PC DOT-MP STRAIGHT	4
11	C5934	FTG 4-4XCLOSE MP-MP NIPPLE STRAIGHT BLK	1
12	C1065	BUSHING 0.50X0.25 BLK	1
13	86116	PLUG PLASTIC 1.13 HOLE BLK	2
14	61233	LIGHT LED CONTROL PANEL RED	1
15	67296	NUT CLIP ON .25X.025-.15X.53	4
16	12813	GROMMET 1.25ODX0.125X0.625ID	1

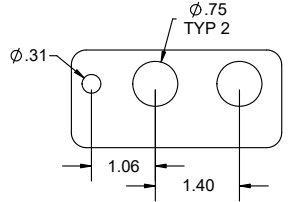


Air Controls - Isuzu - PN 125016



NOTE:
USE STENCIL (PN 122666) TO LOCATE HOLES FOR TOGGLE SWITCHES AND DUMP UP LIGHT. THEN DRILL HOLES PER DRAWING BELOW.

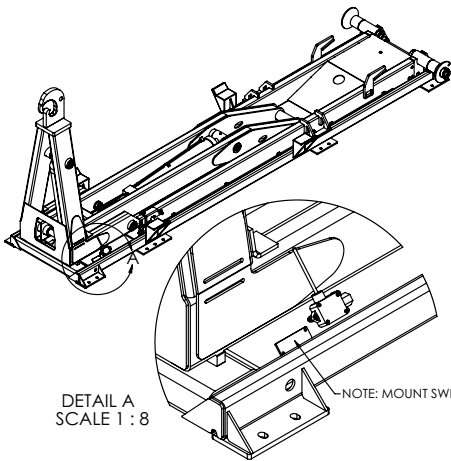
NOTE:
LOCATE (PN 125668 - DECAL CONTROLS SLIDER 2SEC ISUZU CAB) OR (PN 128012 - DECAL CONTROLS SHUTTLE 2SEC ISUZU CAB) HERE



ITEM	PART	DESCRIPTION	QTY.	ITEMS NOT SHOWN		
1	45687	FTG 4-2 MP-PTC 90 BRASS 1169X4S	5	PART	DESCRIPTION	QTY.
2	16948	GROMMET 2.50ODX1.50GDX0.13X0.56ID	1	D1810	TBE AIR SAEJ844 TYPE A .25 (RM)	110
3	35211	PTO AIR REGULATOR 378414	1	125668	DECAL CONTROLS SLIDER 2SEC ISUZU CAB	1
4	C5934	FTG 4-4XCLOSE MP-MP NIPPLE STRAIGHT BLK	1	128012	DECAL CONTROLS SHUTTLE 2SEC ISUZU CAB	1
5	C1065	BUSHING 0.50X0.25 BLK	1			
6	120864	GUARD FOR AIR TOGGLE VALVE APSCO VTS-1X	2			
7	122665	AIR TOGGLE VALVE APSCO VTS-1X	2			
8	106522	FTG 4-4-4 PTC-PTC-PTC TEE BRASS DOT	1			
9	122666	PLATE STENCIL AIR TOGGLES ISUZU FTR CONSOLE	1			

Step 12: Install Hoist Up Alarm - PN 83115

Install the hoist up alarm onto the base of the hooklift as shown:



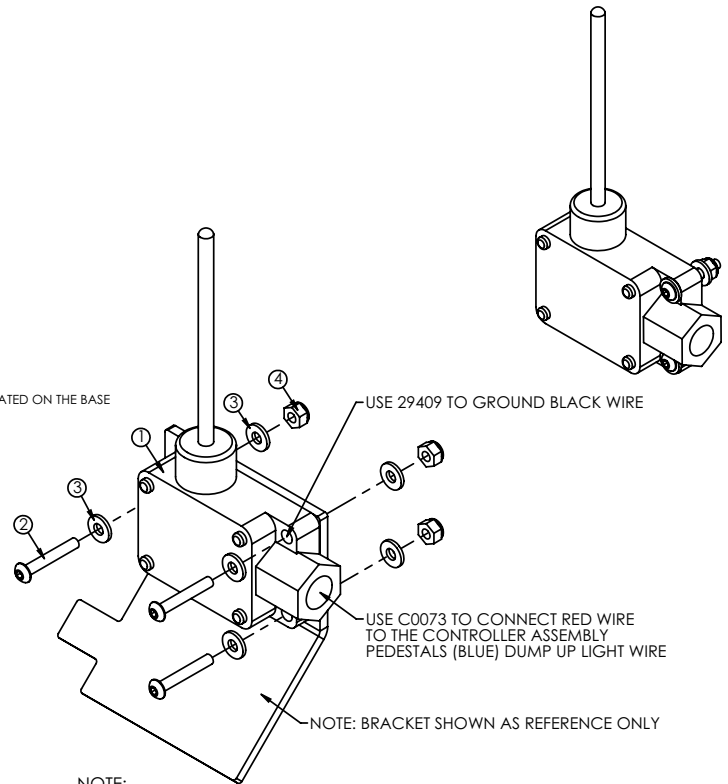
DETAIL A
SCALE 1 : 8

NOTE: MOUNT SWITCH ON BRACKET LOCATED ON THE BASE

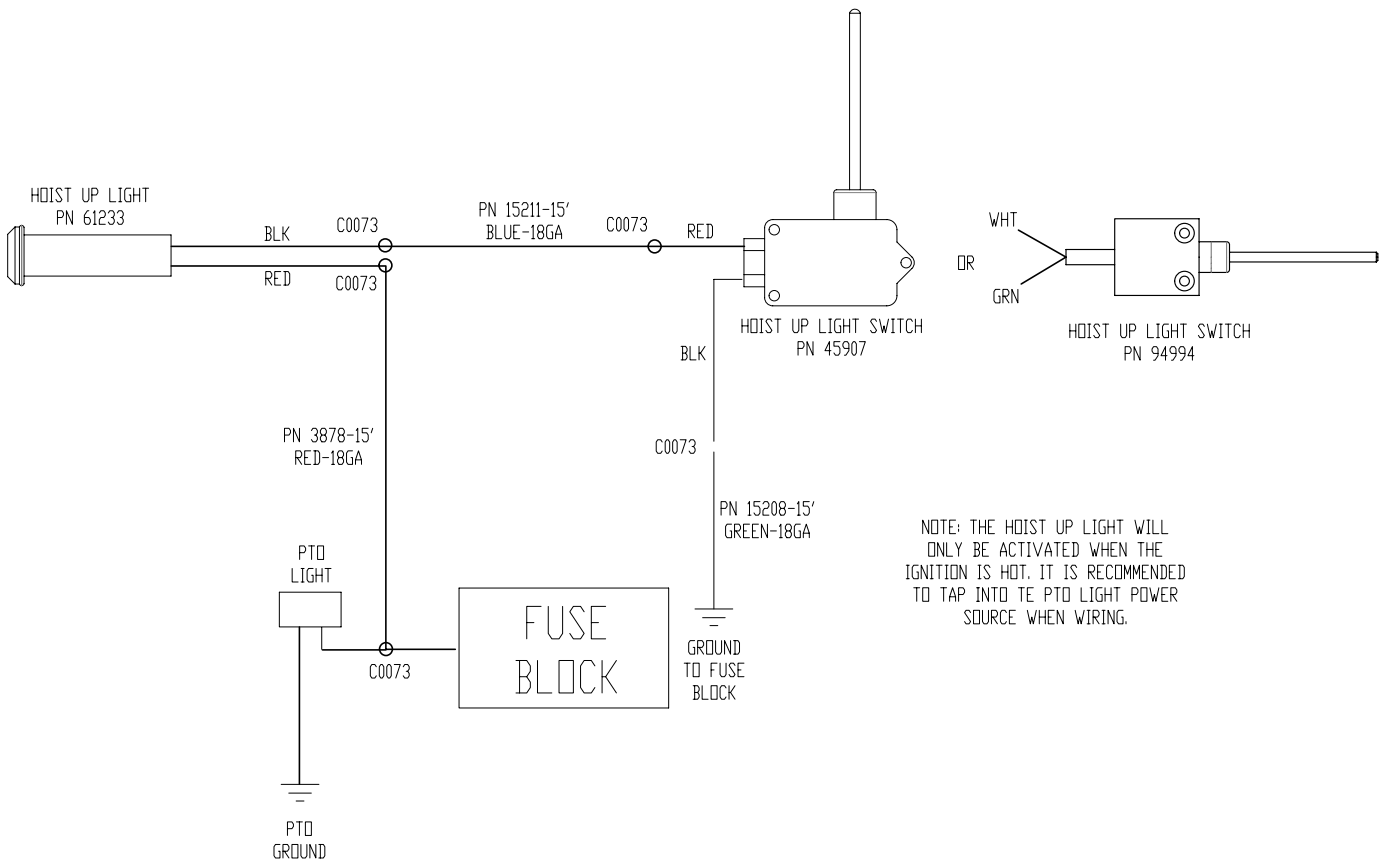
ITEM	PART	DESCRIPTION	QTY.
1	45907	SWITCH REMOTE KP60	1
2	30472	CAP SCR #10-24X1.25 BTNHD SS	3
3	D0178	WASHER #10 SAE FLAT	6
4	26034	NUT #10-24 HH NYLOC	3

ITEMS NOT SHOWN:

- C0073 - TERML 16-14 BUTT WATER TIGHT X 5
- 3878 - WIRE 18GA (RM) RED (PRIMARY) SAE J-1128 X 15FT
- 15211 - WIRE 18GA (RM) BLUE SAE J-1128 X 15FT
- 15208 - WIRE 18GA (RM) GREEN SAE J-1128 X 15FT
- 61233 - LIGHT LED CONTROL PANEL RED X 1
- 88324 - ELEC SCHEM CONTROL TOWER X 1



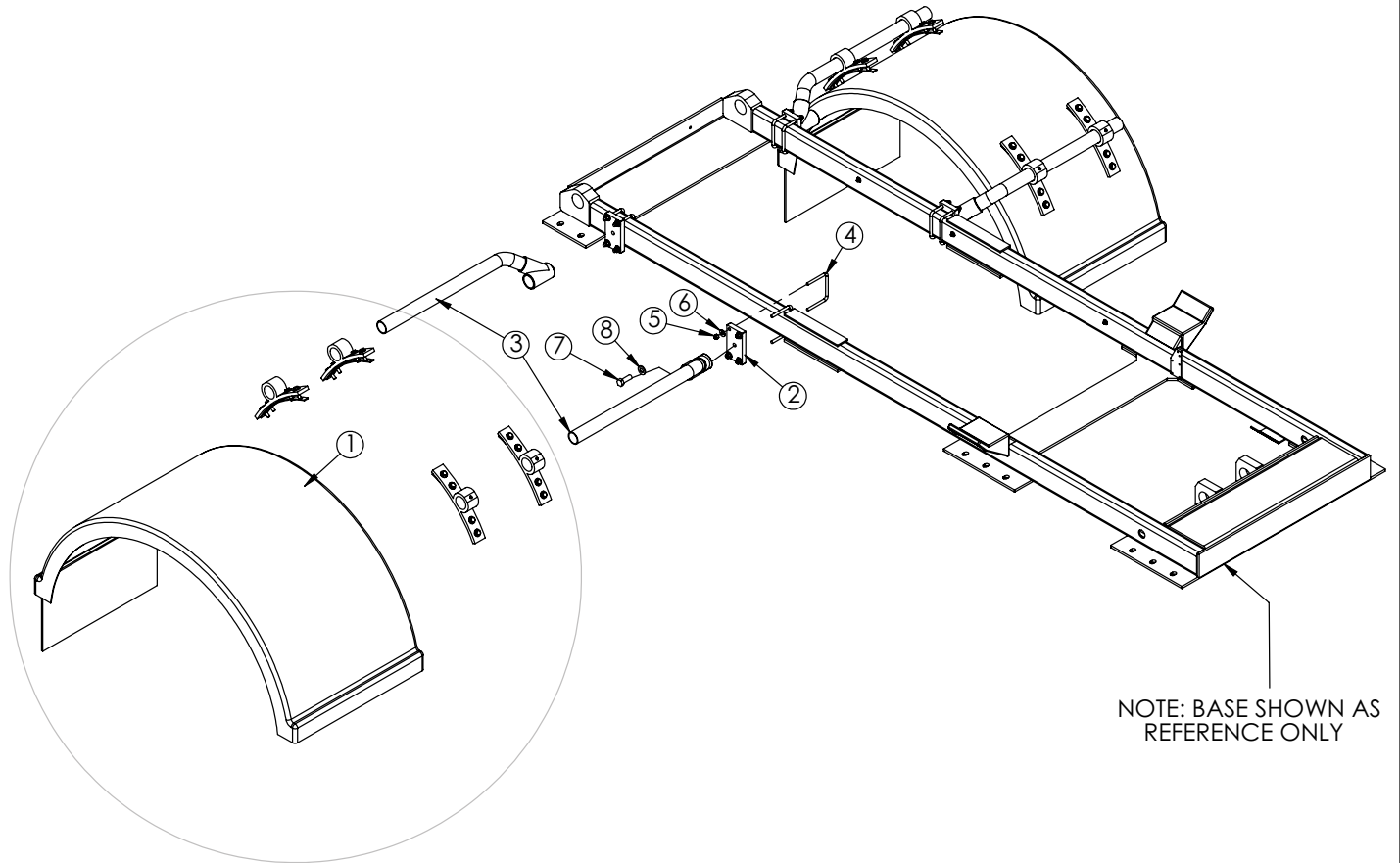
NOTE:
INSTALL DUMP UP LIGHT (PN 61233) IN CONTROL TOWER IF AIR CONTROLS AND IN DASH ON STREET SIDE OF STEERING WHEEL IF CABLE OR ELECTRIC CONTROLS.



Step 13: Install mud flaps and fenders.

Poly Fender Assembly - PN 6170

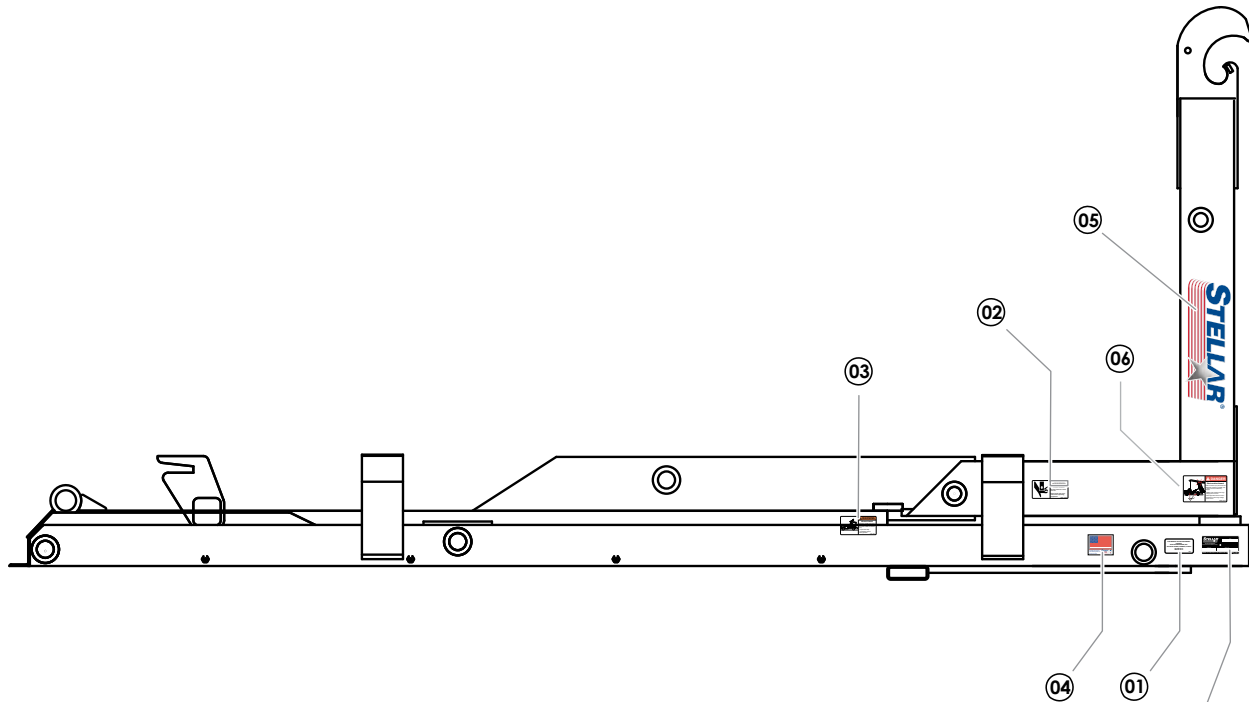
NOTE: WHEN FENDER ASSEMBLY IS USED WITH A SHUTTLE 32/34 OR SI710 THEN THE MOUNTING KIT (PN 5733) MUST BE MOUNTED TO THE TRUCK FRAME RAILS FOLLOWING THE PACKAGED INSTALLATION INSTRUCTIONS.



PN 6170

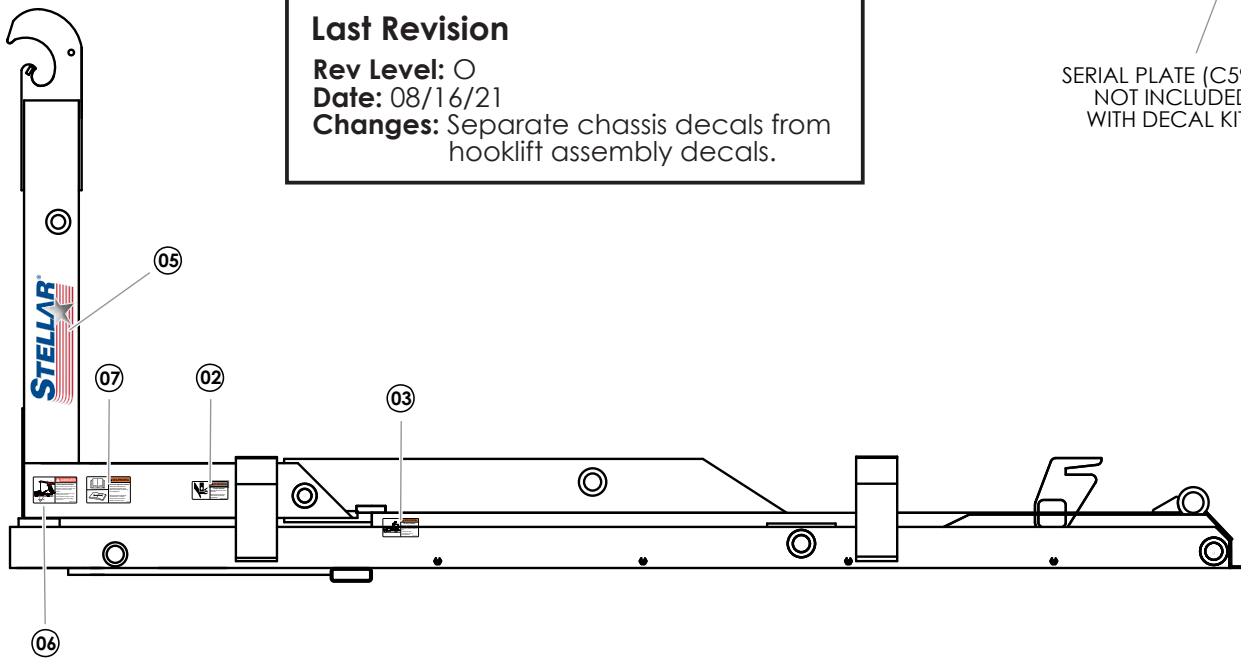
ITEM	PART	DESCRIPTION	QTY.
1	4467	FENDER(SINGLE) 2 TON PLASTIC W/7633	2
2	86004	FLAT 0.75X3.00X5.38 CR W/HOLES	4
3	5733	MTG KIT OFFSET POLY FENDER (FLEET)	2
4	80044	U BOLT 0.38X4.00X4.00 ZP	8
5	0347	NUT 0.38-16 HHGR5 NYLOC	16
6	0346	WASHER 0.38 USS FLAT	16
7	11693	CAP SCR 0.63-11X1.75 HHGR8	4
8	C5902	WASHER 0.63 SAE FLAT YELLOW GR8	4

Step 14A: Apply Hooklift Assembly Decals



Last Revision
Rev Level: 0
Date: 08/16/21
Changes: Separate chassis decals from hooklift assembly decals.

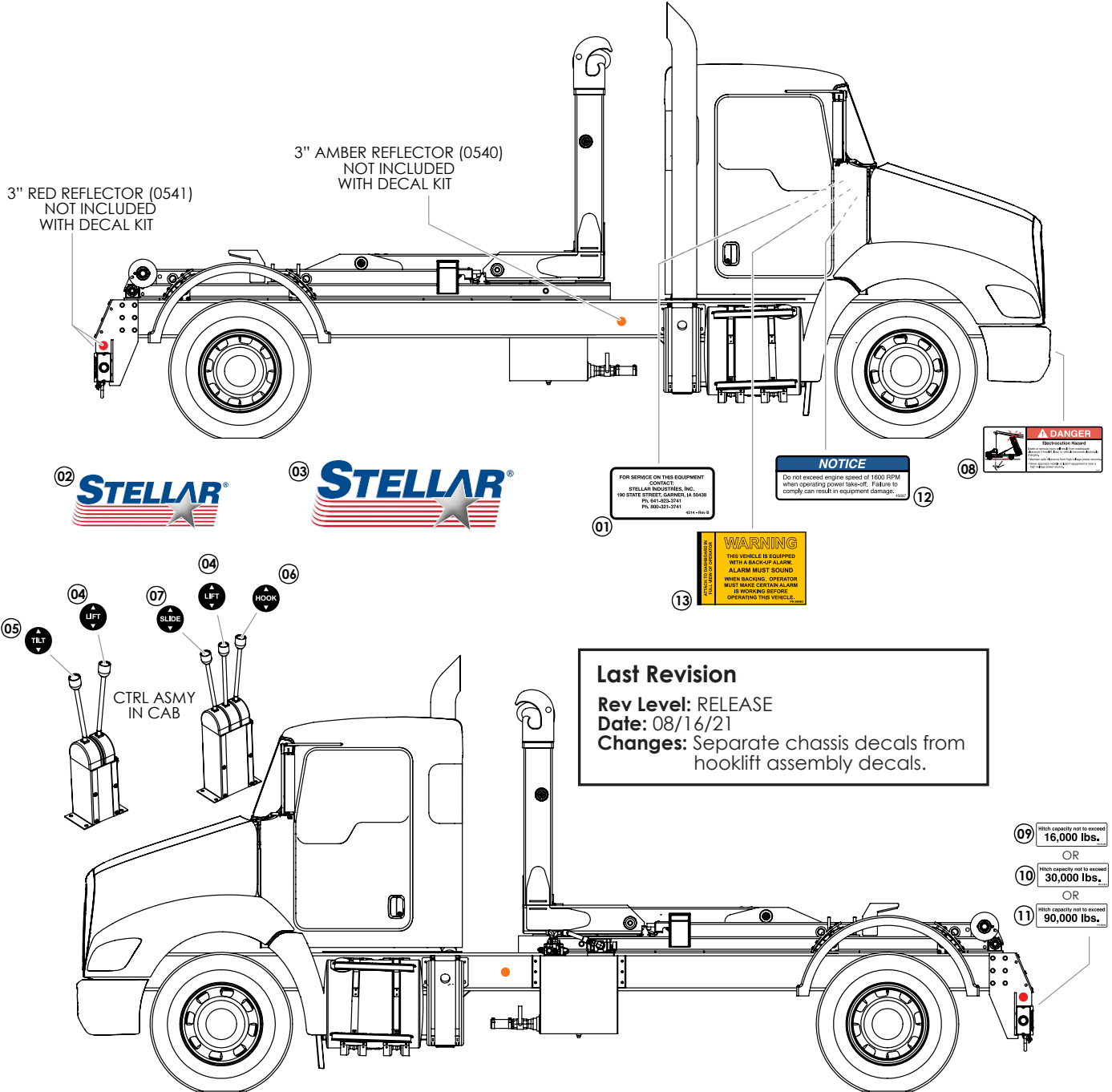
SERIAL PLATE (C5942)
 NOT INCLUDED
 WITH DECAL KIT



PN D0779

ITEM	PART No.	DESCRIPTION	QTY.
01	4214	DECAL CONTACT STELLAR	1
02	25627	DECAL WARNING CRUSH	2
03	26134	DECAL WARNING MISUSE TABS	2
04	35234	DECAL STELLAR MADE IN THE USA	1
05	52681	DECAL STELLAR LOGO 6.00X16.50	2
06	55832	DECAL DANGER ELECTROCUTION HOOK	2
07	68024	DECAL WARNING UNTRAINED OPERATOR	1

Step 14B: Apply Chassis Decals



Last Revision
 Rev Level: RELEASE
 Date: 08/16/21
 Changes: Separate chassis decals from hooklift assembly decals.

PN 121012

ITEM	PART No.	DESCRIPTION	SUGGESTED LOCATION	QTY.
01	4214	DECAL CONTACT STELLAR	IN CAB	1
02	53850	DECAL STELLAR LOGO 4.00X11.50	SHIPPED LOOSE - OPTIMAL PLACEMENT	1
03	52681	DECAL STELLAR LOGO 6.00X16.50	SHIPPED LOOSE - OPTIMAL PLACEMENT	1
04	39211	DECAL HOOKLIFT LEVER LIFT	CONTROL TOWER	2
05	39212	DECAL HOOKLIFT LEVER TILT	CONTROL TOWER	2
06	55414	DECAL HOOKLIFT LEVER HOOK	CONTROL TOWER	2
07	55754	DECAL HOOKLIFT LEVER SLIDE	CONTROL TOWER	2
08	79983	DECAL DANGER ELECTROCUTION	FRONT BUMPER - STREET SIDE OR REAR BUMPER - CURB SIDE	1
09	91220	DECAL HITCH CAPACITY 16K] SELECT APPROPRIATE CAPACITY; REAR BUMPER - ABOVE PINTLE LOCATION; DISCARD OTHERS	1
10	91219	DECAL HITCH CAPACITY 30K		1
11	68222	DECAL HITCH CAPACITY 90K		1
12	45697	ENGINE SPEED PTO CAUTION	IN CAB	1
13	69463	DECAL BACK-UP ALARM VERIFY	IN CAB	1

Step 15: Fill reservoir and activate hydraulic flow.

- Fill reservoir to site gauge, within 3" from the top (Roughly 10 Gallons). Note: ISO 32 hydraulic oil is recommended.
- When connections are secure, activate hydraulic flow by opening the ball valve on the bottom of the reservoir. This will allow oil to flow from the reservoir to the pump.

Step 16: Operate hooklift.

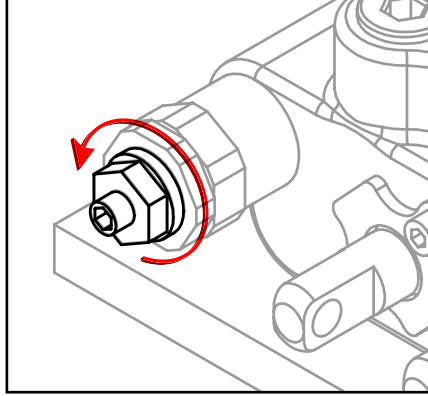
- **⚠ WARNING** Stellar® Hooklift operators must conform to the qualifications specified in the *Shuttle Hooklift Safety, Operation, Maintenance, Troubleshooting Manual*. Read and understand all manuals and safety signs before operating or servicing this equipment.
- Bleed the air out of the hydraulic system.
- Check the hydraulic oil level and add oil if needed. When checking hydraulic oil level, make certain that **all system cylinders** are fully retracted.
- Calibrate dump light system.
- Be sure to check all clearances.
- Be sure that relief pressure is no higher than 4200 PSI.

Set System Relief Pressure

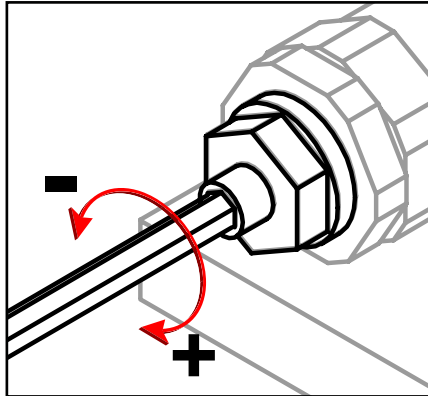
1. Engage the PTO. Run the PTO at 1200 RPM.

2. Push the lever labeled 'lift' until the boom bottoms out. Keep pushing the lever forward until the pressure is set.

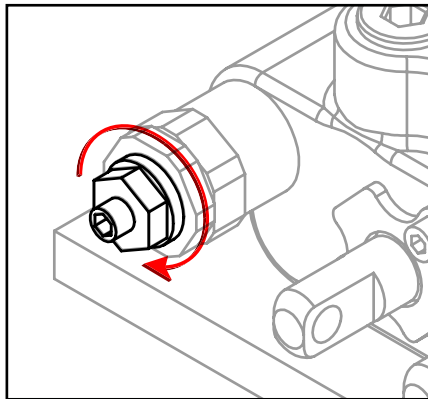
3. Locate the main relief valve and release the jam nut using a 13 mm wrench:



4. Adjust the system relief pressure using 4 mm allen wrench (See chart on previous page). Clockwise increases pressure, counter clockwise decreases pressure:



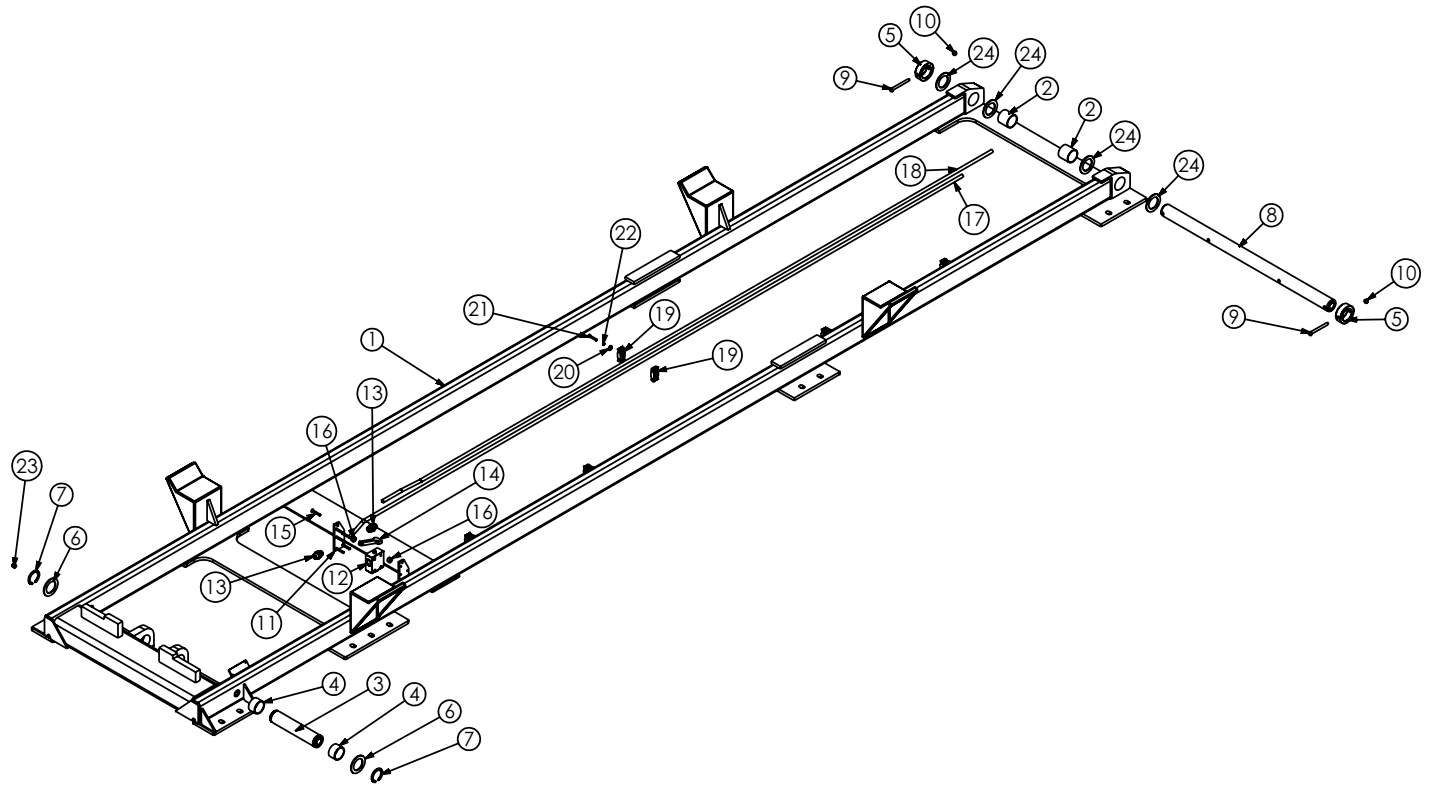
5. Once system pressure is set, tighten the jam nut to lock system pressure. Permanent thread lock should not be used:



6. Release all functions and disengage the PTO. Snap tamper cap into position over the jam nut. The break away clip will be destroyed if the cap is removed.

Chapter 3 - Assembly Drawings

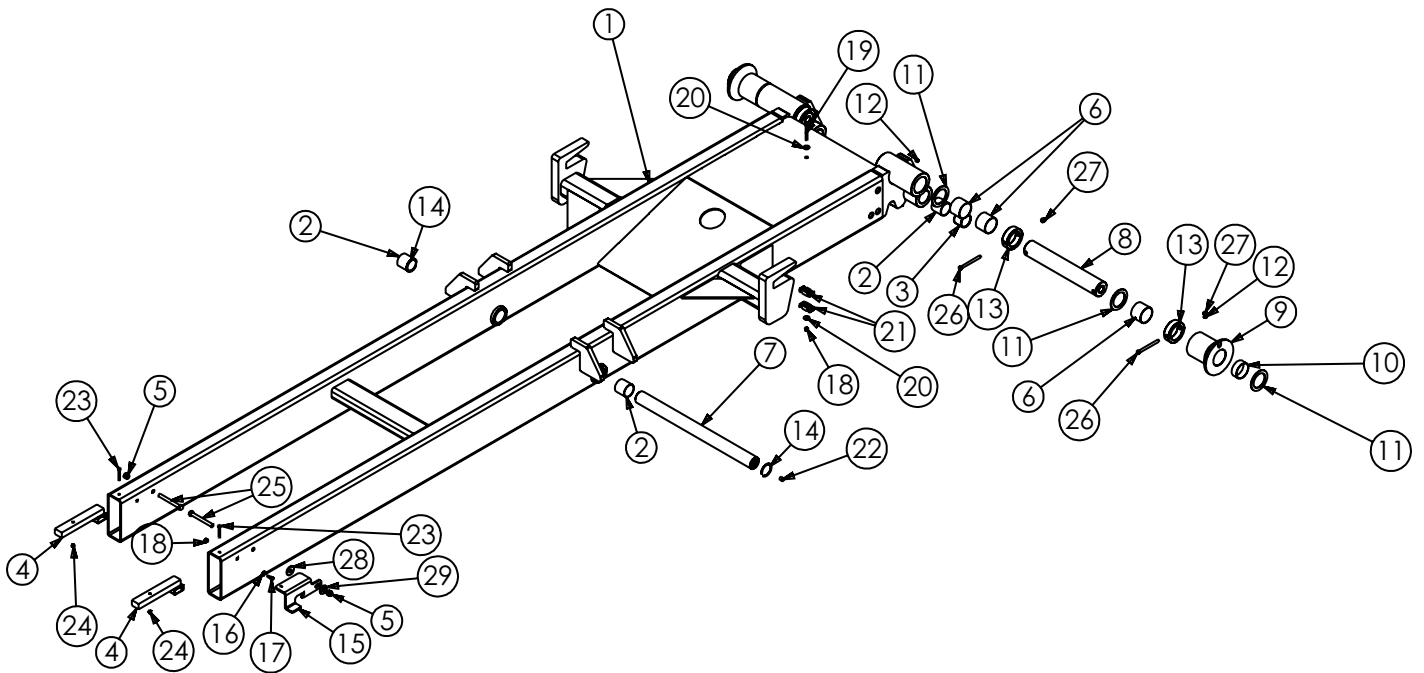
Base Assembly - PN 81710



PN 81710

ITEM	PART	DESCRIPTION	QTY
1	81708	BASE 168-20-20K GEN2	1
2	4381	BUSHING 32DXR32 2.00X2.00 GARLOCK	2
3	22220CR	PIN 2.00X9.75 SR	1
4	23699	BUSHING 32DXR20 2.00X1.25	2
5	22764	COLLAR 2.01X3.00X1.00 W/HOLE	2
6	0427	MACHY WASHER 2.00ID 10GA	2
7	0108	SNAP RING 2.00 7200-200	2
8	24617CR	PIN 2.00X36.44	1
9	0532	CAP SCR 0.38-16X3.75 HHGR5	2
10	0347	NUT 0.38-16 HH NYLOC	2
11	77784	PLATE MNT BRKT STOP SYSTEM CS HOLES	1
12	53853	VALVE PLUNGER VILLA HYD NORMALLY CLOSED	1
13	57735	FTG 8-8 MBSPP-MFS STRAIGHT	2
14	70293	LEVER PLUNGER VALVE FINGER	1
15	77785	CAP SCR 0.25-20X1.75 FSH	6
16	70294	COLLAR 0.28X0.75X0.38 UHMW	2
17	82177	TUBE ASM 0.50 168-20-20 TILT EXTEND YZ	1
18	82176	TUBE ASM 0.50 168-20-20 TILT RETRACT YZ	1
19	8622	CLAMP HOSE/TUBE AG-2	10
20	0340	WASHER 0.25 USS FLAT	5
21	0220	CAP SCR 0.25-20X1.50 HHGR5	5
22	0521	WASHER 0.25 LOCK	5
23	58052	SET SCREW 0.50-13X0.50	1
24	1546	THRUST WASHER 2.01DIA UHMW .12THK	4

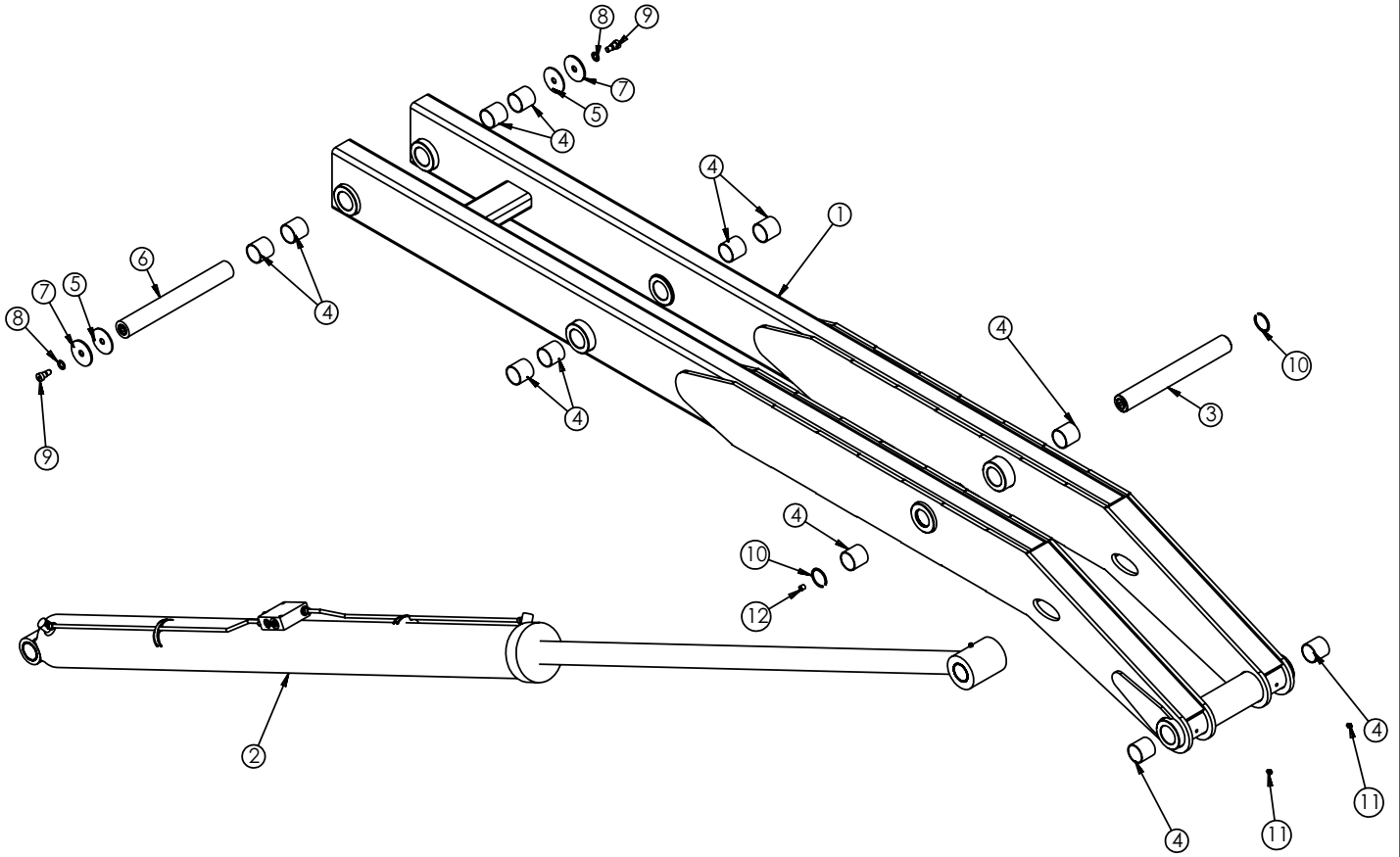
Dump Assembly - PN 81705



PN 81705

ITEM	PART	DESCRIPTION	QTY
1	81706	DUMP 168-20-20K GEN2	1
2	4381	BUSHING 32DXR32 2.00X2.00 GARLOCK	4
3	4380	BUSHING 32DXR24 2.00X1.50 GARLOCK	2
4	23301	TAB LOADER BREAK AWAY	2
5	C6106	NUT 0.50-13 HHGR5 NYLOC	2
6	0635	BUSHING 40DXR32 GARLOCK	6
7	22227CR	PIN 2.00X25.25	1
8	23931CR	PIN 2.50X15.75	2
9	21496	ROLLER 2.50X4.00X3.81X6.00	2
10	13343	BUSHING 40DXR16 GARLOCK	2
11	1547	THRUST WASHER 2.51DIA UHMW .12THK	6
12	c1592	ZERK 1/8 NPT STRAIGHT	6
13	23930	COLLAR 2.51X3.50X1.00	4
14	2257	SNAP RING INSIDE 2.00	2
15	65135	LEVER PLUNGER VALVE FORMED	1
16	0340	WASHER 0.25 USS FLAT	1
17	38263	CAP SCR 0.31-18X0.75 SH	1
18	0342	NUT 0.31-18 HHGR5 NYLOC	2
19	C0929	CAP SCR 0.31-18X2.75 HHGR5	1
20	0343	WASHER 0.31 USS FLAT	2
21	8622	CLAMP HOSE/TUBE AG-2	2
22	58052	SET SCREW 0.50-13X0.50	1
23	0481	CAP SCR 0.25-20X2.00 HHGR5	2
24	0333	NUT 0.25-20 HHGR5 NYLOC	2
25	0507	CAP SCR 0.50-13X4.50 HHGR5	2
26	32086	CAP SCR 0.38-16X4.25 HHGR5	4
27	0347	NUT 0.38-16 HHGR5 NYLOC	4
28	C4516	WASHER 0.56IDX1.50ODX0.13 THK NYLON	1
29	0352	WASHER 0.50 USS FLAT	1

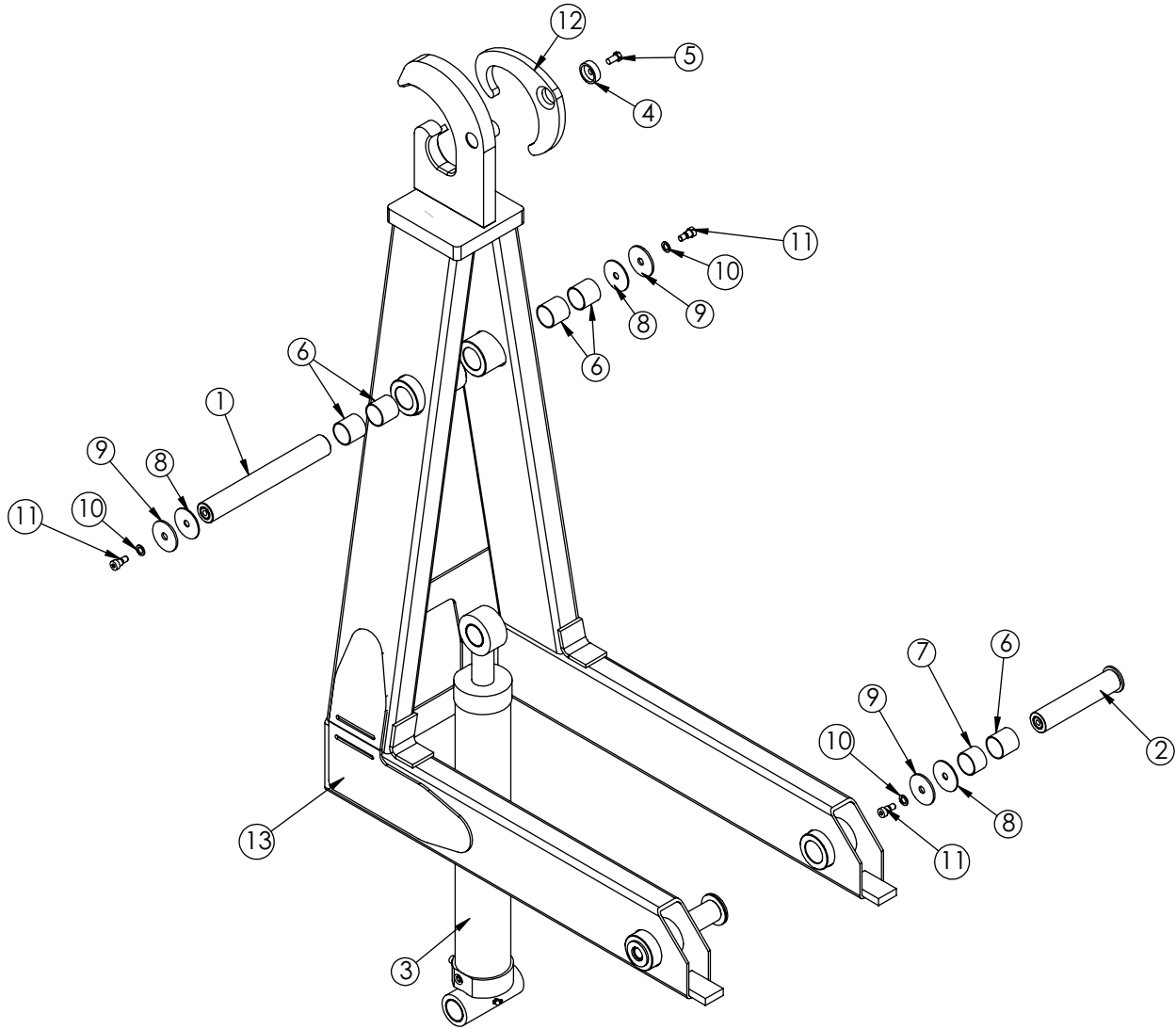
Secondary Assembly - PN 81702



PN 81702

ITEM	PART	DESCRIPTION	QTY
1	81703	SECONDARY 168-20-20K GEN2	1
2	21884	CYLINDER ASM 5.00X71.00 W/2.50 ROD	1
3	22286CR	PIN 2.00X16.00	1
4	4381	BUSHING 32DXR32 2.00X2.00 GARLOCK	12
5	12719	THRUST WASHER 0.64x3.00x0.125	2
6	9311CR	PIN 2.00X16.00 D&T	1
7	8454	PIN CAP 0.69x3.00x0.19 YZ	2
8	75007	THRUST WASHER 0.63X1.13X0.09 MTI-10	2
9	12673	BOLT SHOULDER 0.63X0.50 0.50-13X0.75	2
10	2257	SNAP RING INSIDE 2.00	2
11	c1592	ZERK 1/8 NPT STRAIGHT	2
12	58052	SET SCREW 0.50-13X0.50	1

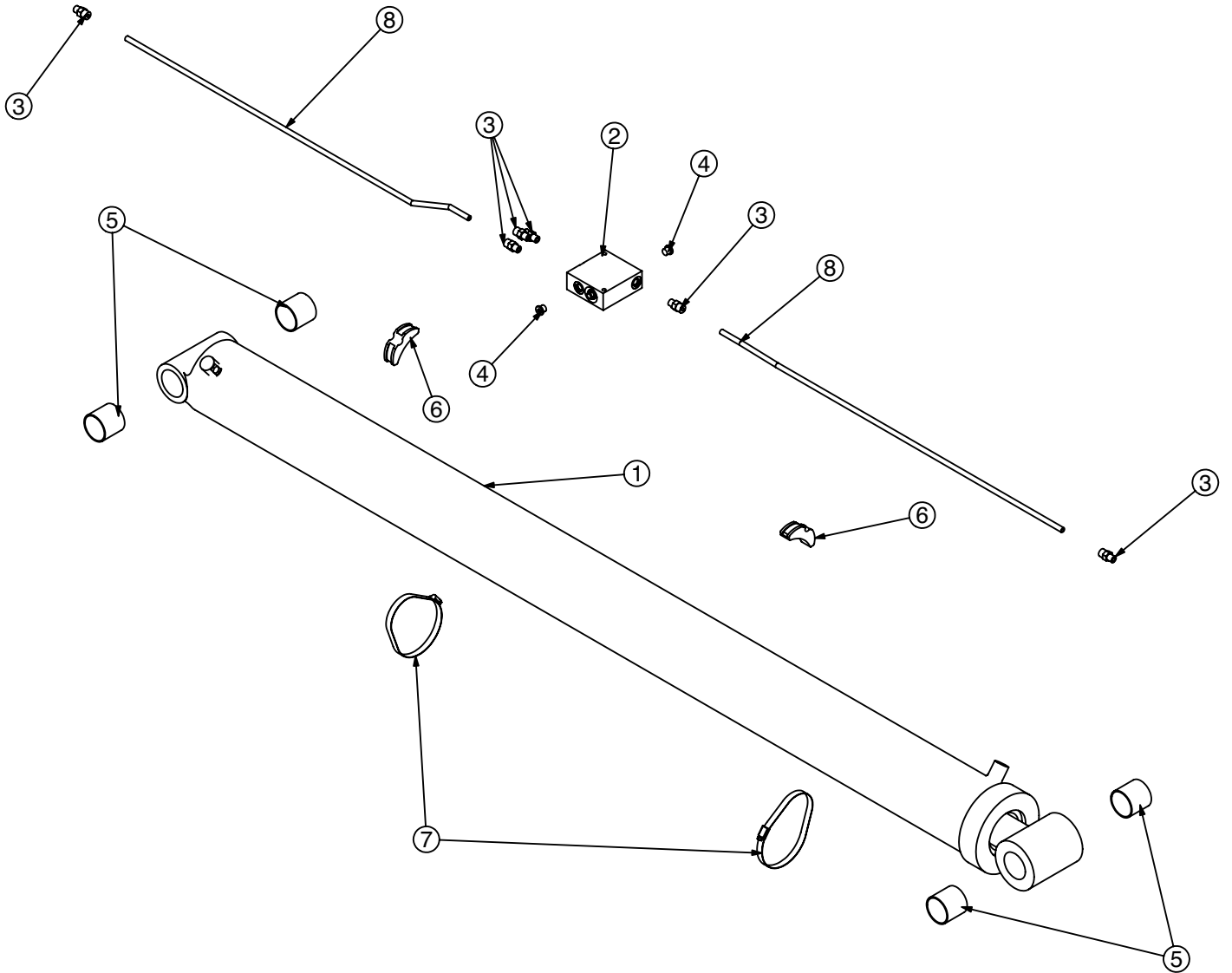
Tilt Assembly - PN 81698



PN 81698

ITEM	PART	DESCRIPTION	QTY
1	15985CR	PIN 2.00X15.06	1
2	23745CR	PIN WLDMT 2.00X9.50	2
3	23462	CYLINDER ASM 4.00X26.50	1
4	8818	PIN CAP 0.55X2.00X0.63 YZ	1
5	8457	CAP SCR 0.50-13X1.00 SS	1
6	4381	BUSHING 32DXR32 2.00X2.00 GARLOCK	6
7	4380	BUSHING 32DXR24 2.00X1.50 GARLOCK	2
8	12719	THRUST WASHER 0.64X3.00X0.125	4
9	8454	PIN CAP 0.69X3.00X0.19 YZ	4
10	75007	THRUST WASHER 0.63X1.13X0.09 MTI-10	4
11	12673	BOLT SHOULDER 0.63X0.50 0.50-13X0.75	4
12	28766	LATCH CS 40000K	1
13	81699	TILT 190-24-20K GEN2	1

Main Cylinder - PN 21884

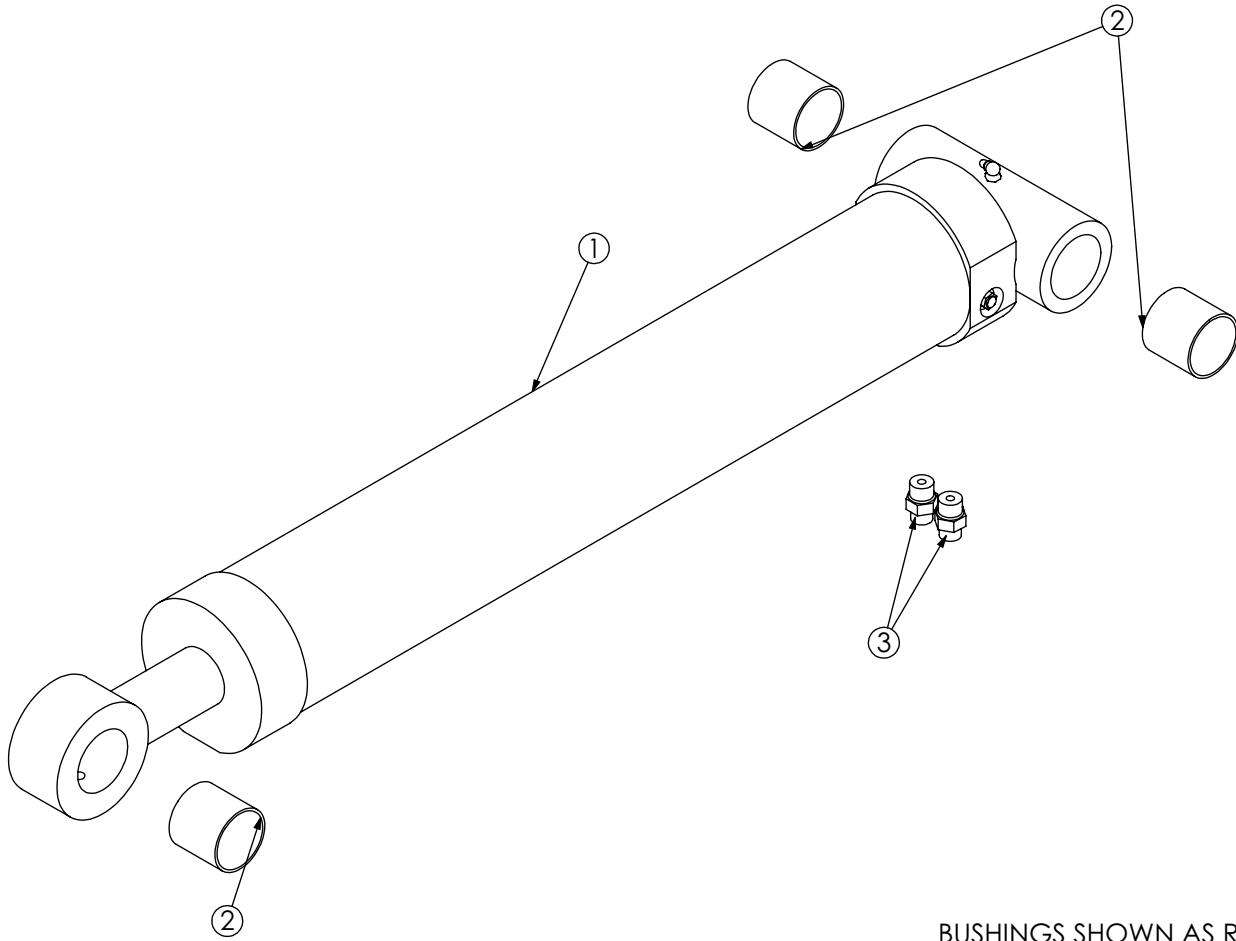


NOTE: BUSHINGS ARE SHOWN FOR REFERENCE

PN 21884

ITEM	PART	DESCRIPTION	QTY.
1	1894	CYLINDER 5.00X71.00 W/2.50 ROD	1
2	15822	MANIFOLD DOUBLE T11A 5000 PSI	1
3	0279	FTG ADAPT 6-F5OLO-S	6
4	C4961	PLUG STR HOLLOW HEX 0.38 6-HP5ON	2
5	4381	BUSHING 32DXR32 2.00X2.00 GARLOCK	4
6	18701	CLAMP PORT TUBE ZR518	2
7	19369	HOSE CLAMP 4.13-7.00 5416K38	2
8	21885	TUBE ASM 0.38 X 34.46	2

Tilt Cylinder - PN 23462



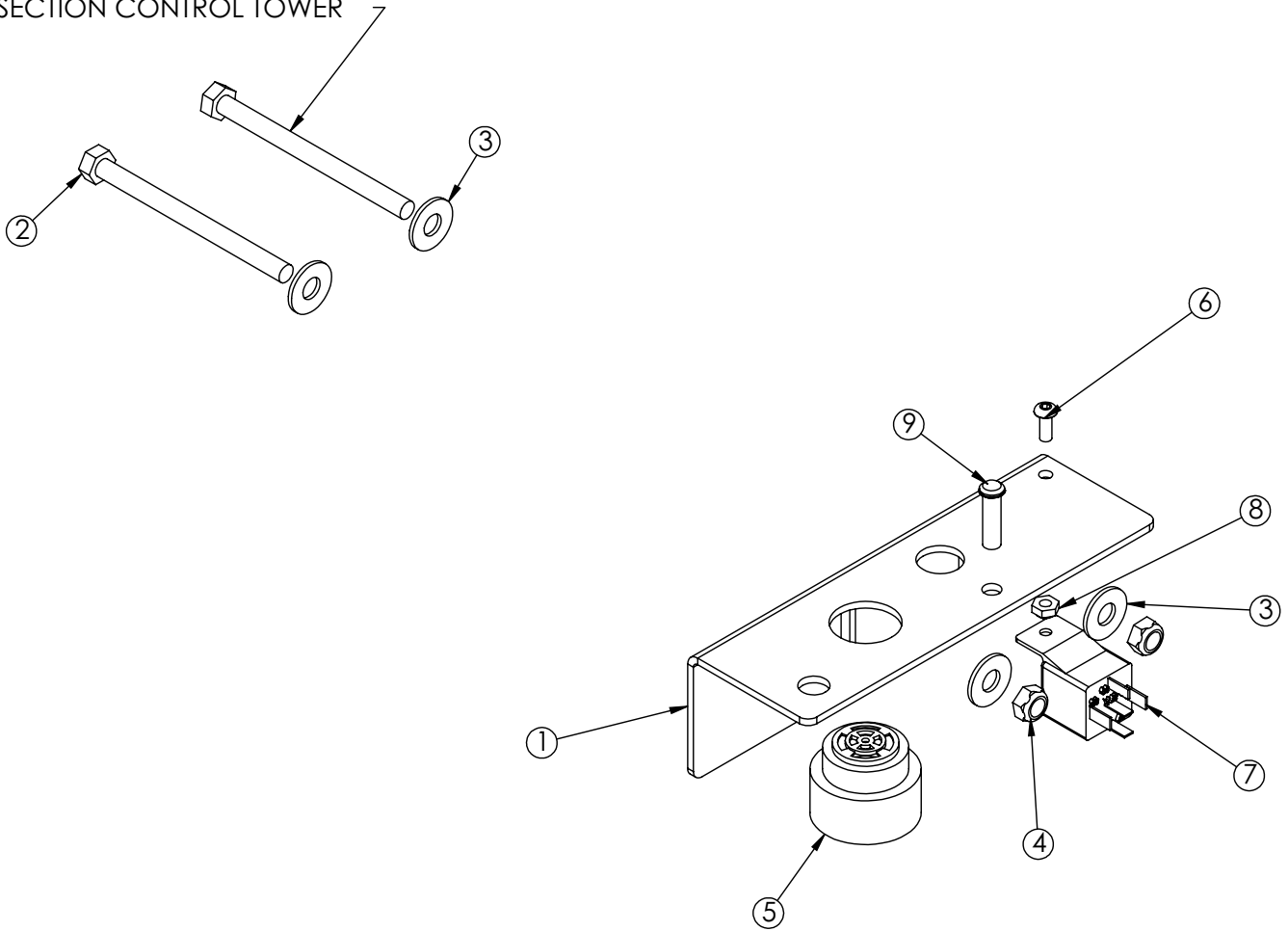
BUSHINGS SHOWN AS REFERENCE

PN 23462

ITEM	PART	DESCRIPTION	QTY.
1	0822	CYLINDER 4.00X26.50	1
2	4381	BUSHING 32DXR32 2.00X2.00 GARLOCK	3
3	C1854	FTG 6-8 MFS-MORB STRAIGHT	2

Optional Tab Alarm Kit - PN 43120

NOTE: USE PN 20057 WITH
3 SECTION CONTROL TOWER



PN 43120

ITEM	PART	DESCRIPTION	QTY.
1	26293	PLATE TAB ALARM MNT	1
2	0491	CAP SCR 0.31-18X4.00 HHGR5	2
3	0343	WASHER 0.31 USS FLAT ZINC	4
4	0342	NUT 0.31-18 HH NYLOC	2
5	26031	BACKUP ALARM PIEZO JAMECO 123537	1
6	D1711	CAP SCR #10-24X0.50 BTNHD SS	1
7	C6072	RELAY BOSCH 20-30 AMP	1
8	26034	NUT #10-24 HH NYLOC	1
9	61233	LIGHT LED CONTROL PANEL RED	1

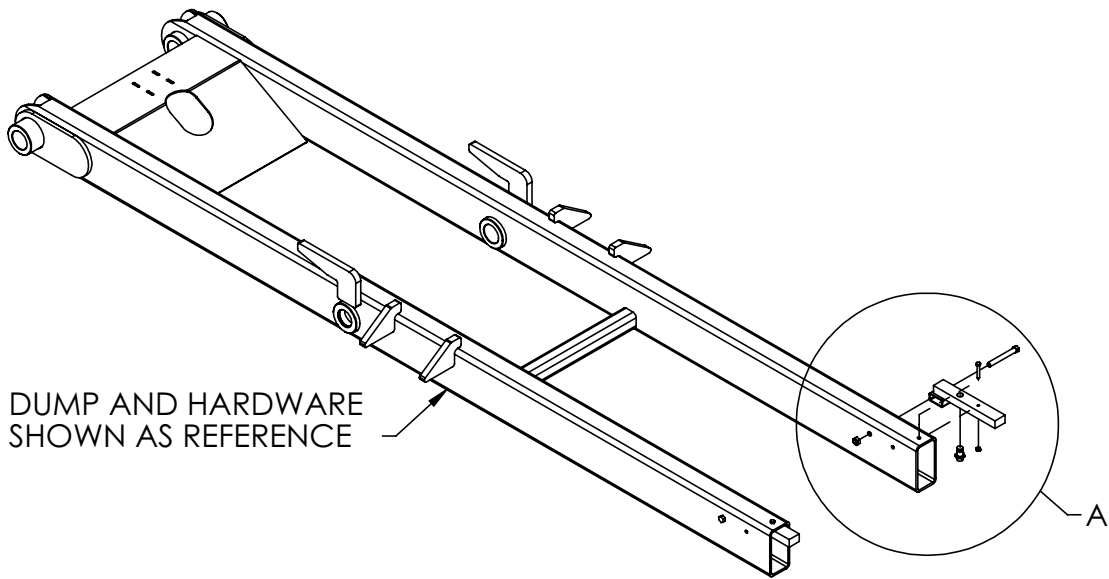
ITEMS NOT SHOWN:

97097 -INSTRUCTIONS TAB ALARM KIT X 1

NOTE:

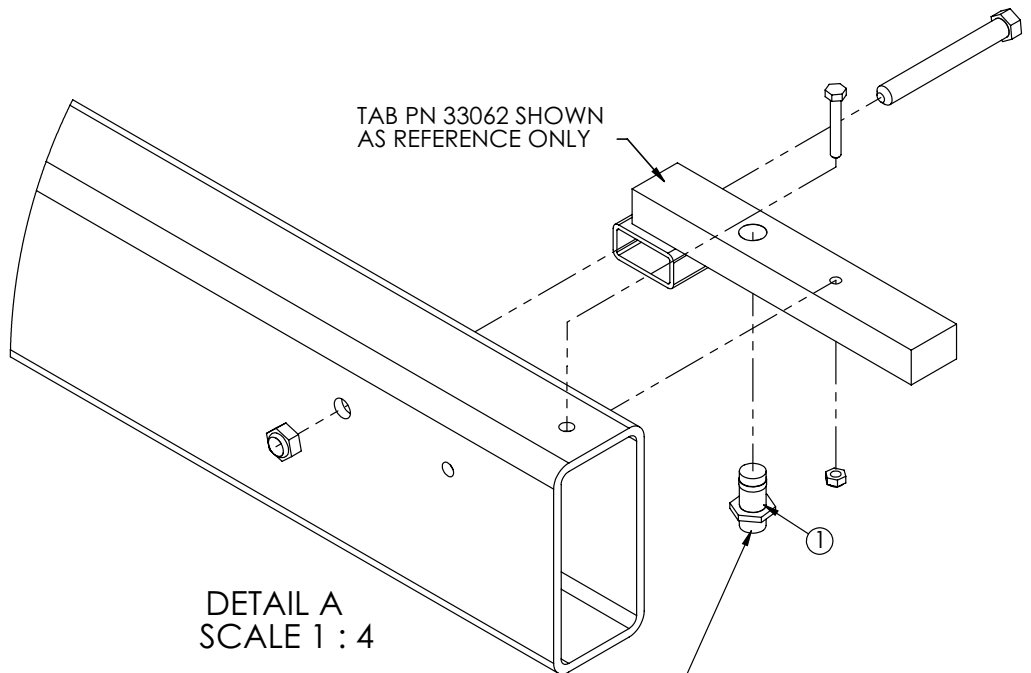
WHEN USED WITH AIR CONTROL TOWERS BRACKET (PN 26293) IS NOT
USED B/C COMPONENTS ARE TO BE INSTALLED IN TOWER ASSEMBLY

Optional Tab Alarm (cont.) - PN 43120



DUMP AND HARDWARE SHOWN AS REFERENCE

TAB PN 33062 SHOWN AS REFERENCE ONLY



DETAIL A
SCALE 1 : 4

TO SET TAB ALARM ADJUST TO BE JUST FLUSH THEN UNSCREW 1/4 TURN AND TIGHTEN LOCK NUT.

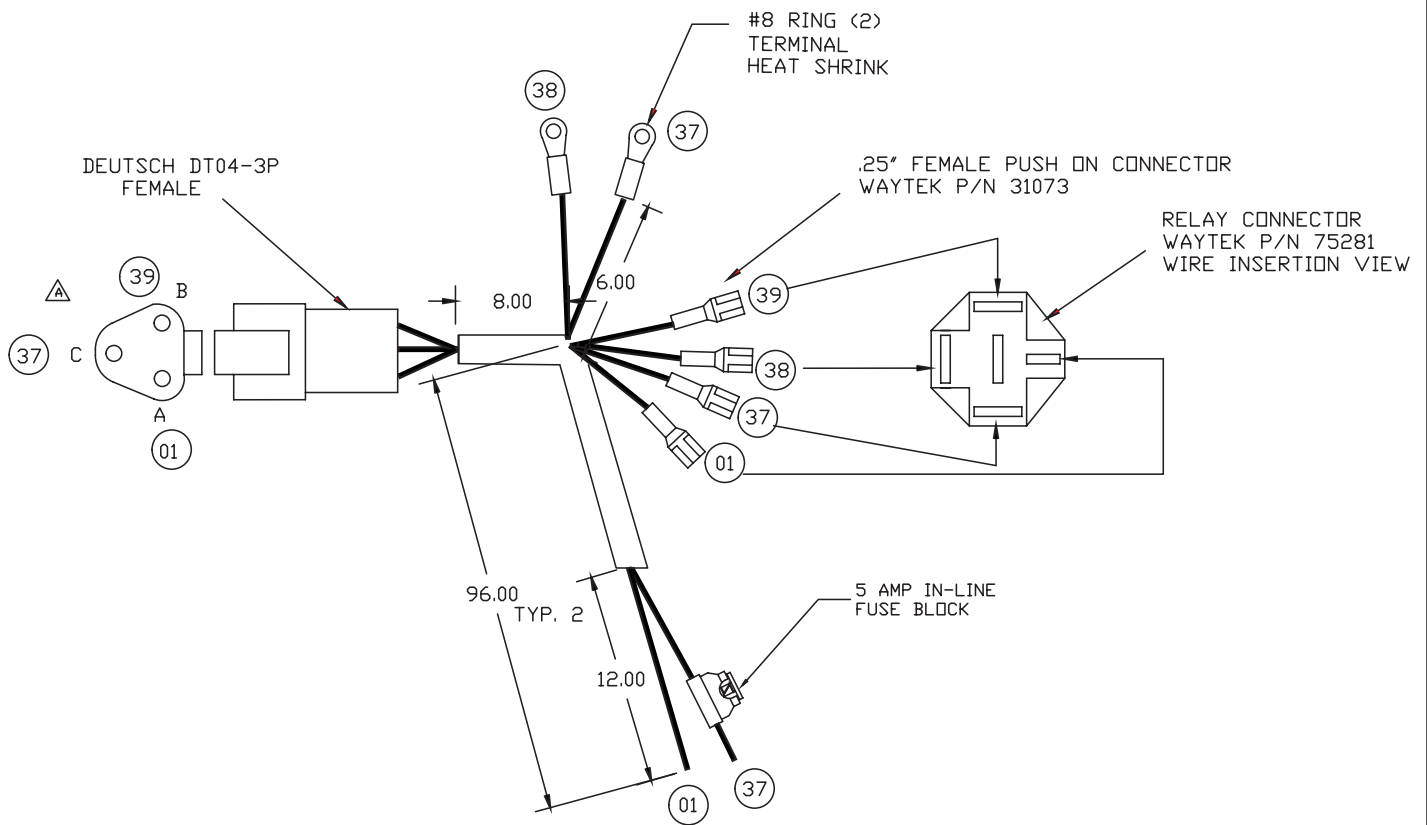
PN 43120

ITEM	PART	DESCRIPTION	QTY.
1	26287	SWITCH PROXIMITY CARLO GAVAZZI	1

NOTE: WIRE HARNESS PN 26416 RUNS FROM THE PROX SWITCH THROUGH THE BACK END OF THE DUMP TUBE AND OUT. FROM THERE THE HARNESS RUNS TO THE FRONT OF THE TRUCK ATTACHING TO THE BASE OR INBETWEEN THE TRUCK FRAME RAILS TO BE CONNECTED TO WIRE HARNESS PN 26291.

Optional Tab Alarm Wire Harness - PN 26291

- 1) ALL MEASUREMENTS ARE IN INCHES
- 2) ALL LOOM IS TO BE BRAIDED
- 3) EXCEPT WHERE NOTED ALL MEASUREMENTS ARE FROM THE BACK OF CONNECTORS TO THE CENTER OF HARNESS.
- 4) BRAIDING SHOULD BE 3' TO 4' BACK OF CONNECTORS EXCEPT WHERE NOTED SO THAT THE CIRCUIT STAMPS ON THE WIRE ARE READABLE.
- 5) ALL LEADS ARE TO BE 16GA AND 6 INCHES UNLESS OTHERWISE NOTED.

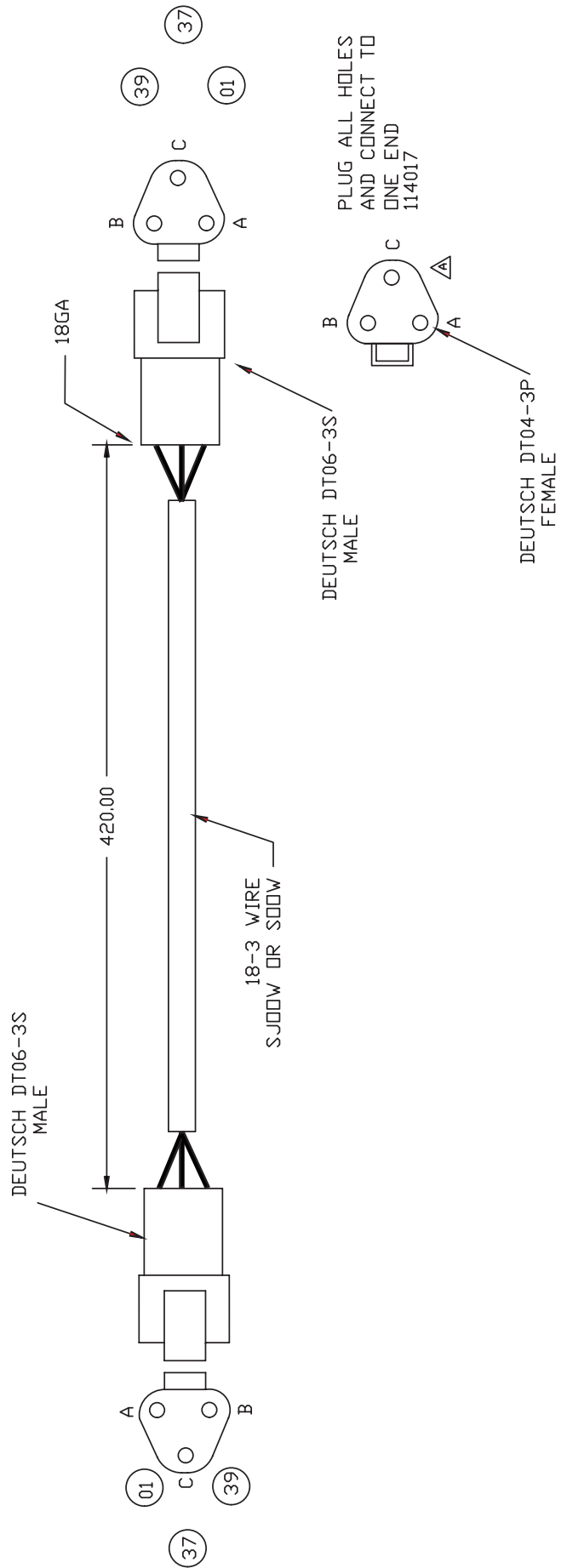


CIRCUIT #	CIRCUIT	WIRE GA	WIRE COLOR
01	GROUND	16GA	BLACK WITH WHITE TEXT
37	IGNITION	16GA	GREEN WITH WHITE TEXT
38	SAFETY GROUND	16GA	GREEN WITH WHITE TEXT
39	SAFETY SWITCH	16GA	GREEN WITH WHITE TEXT

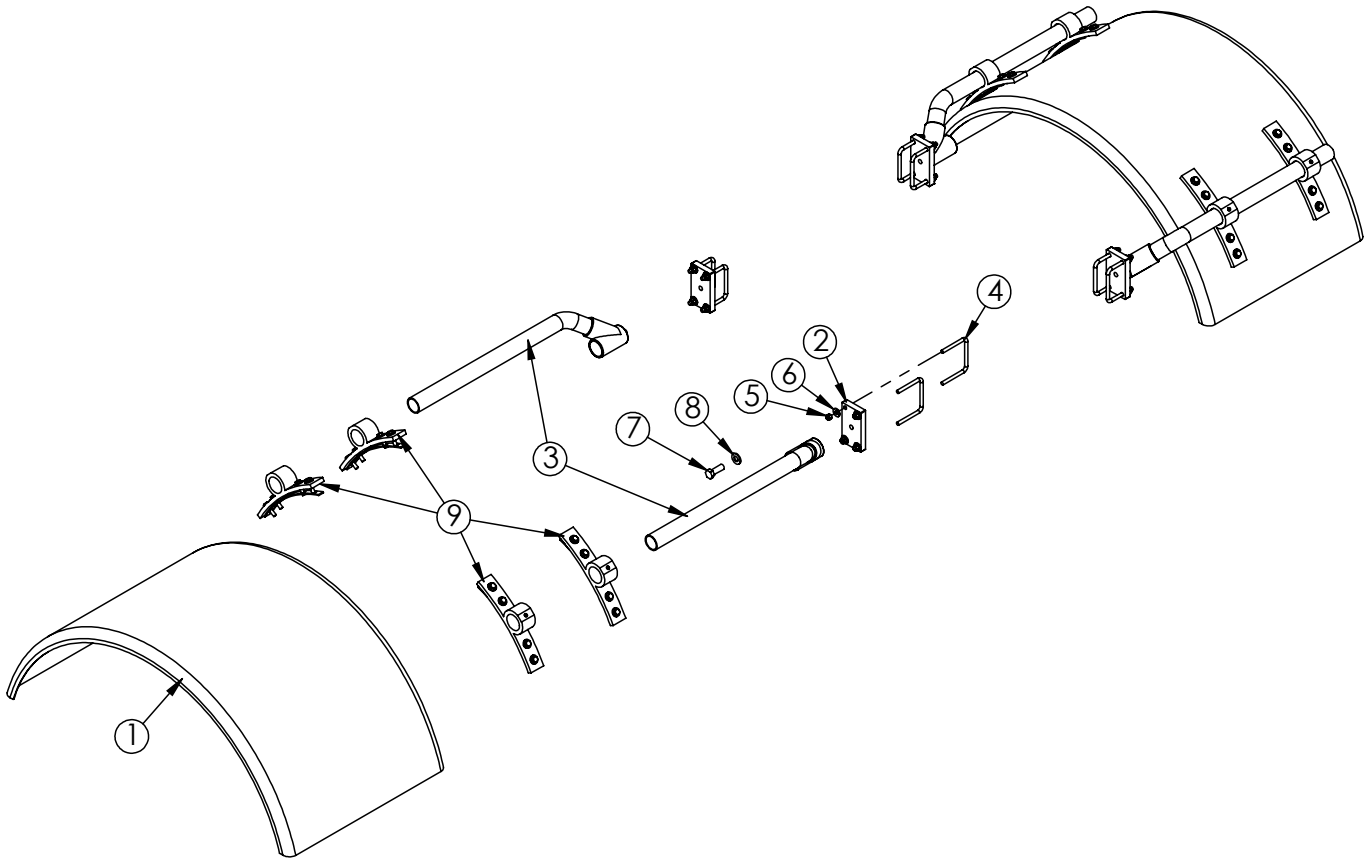
Optional Proximity Switch Wire Harness - PN 26416

CIRCUIT #	CIRCUIT	WIRE GA	WIRE COLOR
01	GROUND	18GA	BLACK
37	IGNITION	18GA	WHITE
39	SAFETY SWITCH	18GA	GREEN

- 1) ALL MEASUREMENTS ARE IN INCHES
- 3) EXCEPT WHERE NOTED ALL MEASUREMENTS ARE FROM THE BACK OF CONNECTORS TO THE CENTER OF HARNESS.
- 4) JACKET SHOULD BE 3" TO 4" BACK OF CONNECTORS



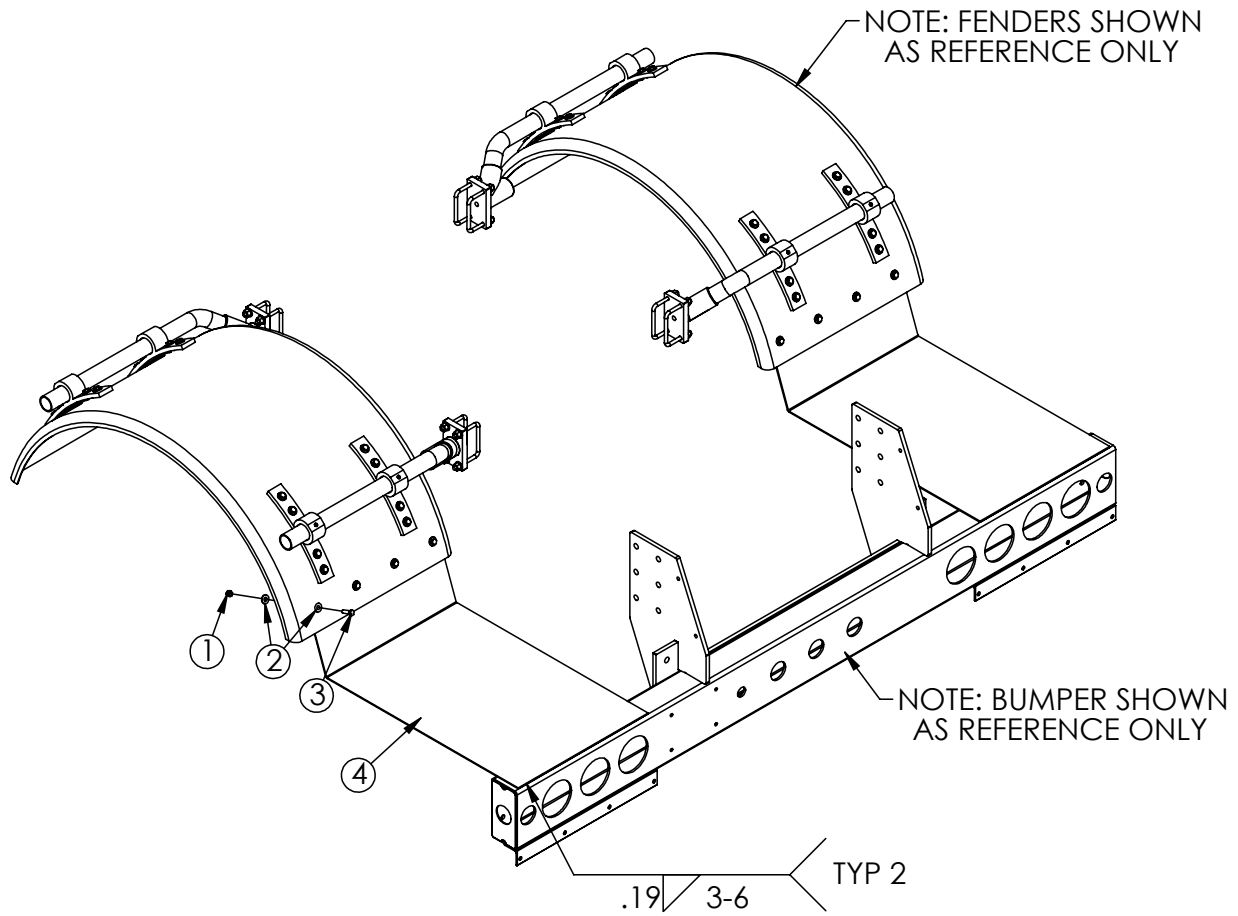
Optional Fender Kit - PN 116164



PN 116164

ITEM	PART No.	DESCRIPTION	QTY.
01	116165	FENDER SINGLE AL DPS CNE	2
02	86004	FLAT 0.75X3.00X5.38 CR W/HOLES PC BLACK	4
03	5733	MTG KIT OFFSET POLY FENDER (FLEET)	2
04	80044	U BOLT 0.38X4.00X4.00 ZP	8
05	0347	NUT 0.38-16 HHGR5 NYLOC	16
06	0346	WASHER 0.38 USS FLAT	16
07	11693	CAP SCR 0.63-11X1.75 HHGR8	4
08	C5902	WASHER 0.63 SAE FLAT YELLOW GR8	4
09	7633	FENDER MOUNT ASM KIT	2

Optional Threshold Plate Kit - PN 119066



PN 119066

ITEM	PART No.	DESCRIPTION	QTY.
01	0347	NUT 0.38-16 HHGR5 NYLOC	8
02	0346	WASHER 0.38 USS FLAT	16
03	0335	CAP SCR 0.38-16X1.25 HHGR5	8
04	116166	ANGLE FORMED 10GAX8.50X33.28X20.38	2



Subject to Change without Notification.
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