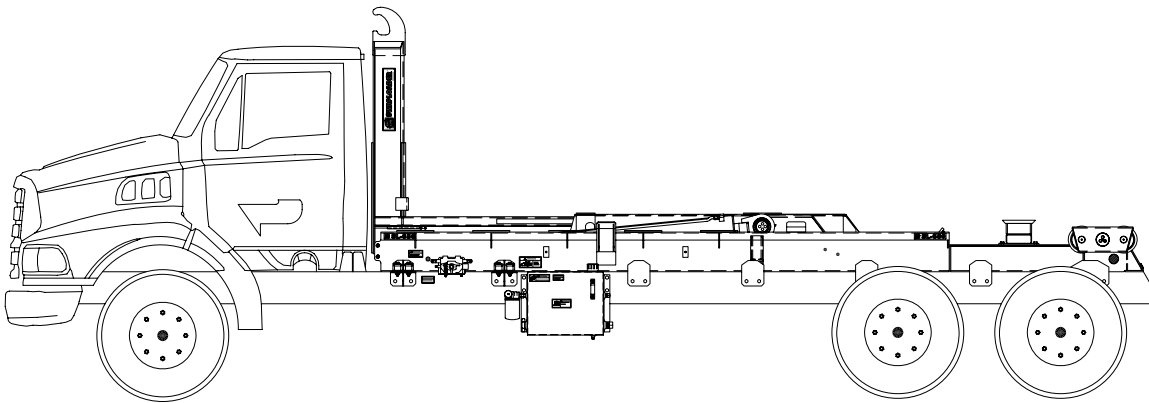




## Model SL-650

# Parts and Operations Manual



Hoist Serial Number: \_\_\_\_\_



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# INTRODUCTION

# SWAPLOADER U.S.A., LTD.

## TO THE CUSTOMER

Your new SwapLoader Hoist was carefully designed and manufactured to give years of dependable service. To keep it operating efficiently, read the instructions in this manual thoroughly. It contains detailed descriptions and instructions for the efficient operation and maintenance of your SwapLoader. Each section is clearly identified so you can easily find the information that you need. Read the Table of Contents to learn where each section is located. All instructions are recommended procedures only.



Throughout this manual you will come across "**Dangers**," "**Warnings**," or "**Cautions**" which will be carried out in bold type and preceded by the symbol as indicated to the left. Be certain to carefully read the message that follows to avoid the possibility of personal injury or machine damage.

Record your SwapLoader Hoist serial number in the appropriate space provided on the title page. Your SwapLoader dealer needs this information to give you prompt, efficient service when you order parts. It pays to rely on an authorized SwapLoader Distributor for your service needs. For the location of the Distributor nearest you, contact SwapLoader.

**NOTE:** It is SwapLoader's policy to constantly strive to improve SwapLoader products. The information, specifications, and illustrations in this publication are based on the information in effect at the time of approval for printing and publishing. SwapLoader therefore reserves the right to make changes in design and improvements whenever it is believed the efficiency of the unit will be improved without incurring any obligations to incorporate such improvements in any unit which has been shipped or is in service. It is recommended that users contact an authorized SwapLoader Distributor for the latest revisions.

## SWAPLOADER LIMITED WARRANTY STATEMENT

SwapLoader U.S.A., Ltd., (SwapLoader), warrants to the original purchaser of any new SwapLoader product sold by an authorized SwapLoader distributor or service center, that such products are free of defects in material and workmanship. All SwapLoader products with an original factory in-service date of August 1, 2023, or later qualify for warranty as defined in this Limited Warranty Statement.

		1 YEAR	4 YEAR	5 YEAR
		Not to extend beyond 24 months from the original factory ship date	Not to extend beyond 60 months from the original factory ship date	Not to extend beyond 72 months from the original factory ship date
HOIST	<b>Manufactured Components</b>			
	SwapLoader Manufactured Parts (excludes replacement or service parts) includes but not limited to:			
	<ul style="list-style-type: none"> <li>Weldments</li> <li>Pins</li> <li>Hardware</li> <li>Piece Parts</li> </ul>			
	Repair Labor	✓		
	<b>Vendor Supplied Components</b>			
	Cylinders		✓	
	Hoses		✓	
	Fittings		✓	
	Jib Lockout Valve		✓	
	Hydraulic Body Lock Cylinder		✓	
	Repair Labor	✓		

		1 YEAR	4 YEAR	5 YEAR
		Not to extend beyond 24 months from the original factory ship date	Not to extend beyond 60 months from the original factory ship date	Not to extend beyond 72 months from the original factory ship date
OPTIONS & ACCESSORIES	<b>Manufactured Components</b>			
	SwapLoader Manufactured Parts (excludes replacement or service parts) includes but not limited to:			
	<ul style="list-style-type: none"> <li>Bumpers</li> <li>Sub-Frames</li> <li>Stabilizers (structural)</li> <li>Dual Rollers</li> </ul>			
	Repair Labor	✓		
	<b>Vendor Supplied Components</b>			
	Includes but not limited to:			
	<ul style="list-style-type: none"> <li>Pumps</li> <li>EHVs</li> <li>Valves</li> <li>Controls</li> <li>Sensors</li> <li>Tanks</li> <li>Toolboxes</li> <li>Tarps</li> <li>Lights</li> <li>Fenders</li> <li>PTOs</li> <li>All vendor replacement parts</li> </ul>			
	Repair Labor			
	Reverts to Vendor Warranty			

**Coverage Start Date:**

- Derived from the completed warranty registration at [www.swaploader.com/warranty-registration/](http://www.swaploader.com/warranty-registration/). In the event warranty registration is not completed, the factory ship date will be used.
- Items under "hoists" or "manufactured components" on page 1 are allowed a 12-month period between factory shipment and in service date to account for distributor stock.

**Warranty Process:**

- Unless otherwise stated the following warranty process must be followed for repairs and/or replacement parts to be covered:
  - Prior to any parts orders or repair work, contact SwapLoader at 888-767-8000 or [warranty@swaploader.net](mailto:warranty@swaploader.net) to initiate a claim and pre-authorize repairs.
  - Distributor will then order replacement parts and SwapLoader will invoice the distributor for the replacement parts and freight.
  - After authorized repair is completed the distributor must submit a fully completed warranty claim form.
  - If required by SwapLoader, defective parts will be assigned an RGA (return goods authorization) number, and those parts must be returned freight prepaid with a copy of the RGA form within 30 days of repair or credit consideration will not be given.
  - Upon evaluation of the returned parts if warranty is approved credit will be issued to the appropriate distributor account for the approved warranty costs which may include parts, labor, and/or freight.
  - SwapLoader will, at its discretion, adjust labor credit to pre-authorized or known repair times for covered repairs or service.

**Warranty Limitations & Responsibilities:**

- Warranty service must be performed by a distributor or service center authorized by SwapLoader to sell and/or service SwapLoader products. Distributors or service centers will use only new or remanufactured parts or components furnished by SwapLoader U.S.A. LTD.
- Warranty service, repairs or returns must be pre-authorized by SwapLoader to be considered for credit.
- SwapLoader will, at its discretion, either repair defective parts or replace them with equivalent parts.
- SwapLoader will ship any replacement parts by the most economical, yet expedient means possible. Expedited freight delivery will be at the expense of the owner.
- Labor rates and credits are determined by the SwapLoader Distributor agreement.
- This warranty covers only defective material and workmanship. It does not cover depreciation or damage caused by normal wear and tear, accident, mishap, untrained operators, or improper or unintended use. The owner has the obligation of performing routine care and maintenance duties as stated in SwapLoader's written instructions, recommendations, and specifications. Any damage resulting from owner/operator failure to perform such duties shall void the coverage of this warranty. The cost of labor and supplies associated with routine maintenance will be paid by the owner.
- Warranty Registration must be submitted within 15 days of Retail Sale of SwapLoader hoist to [www.swaploader.com](http://www.swaploader.com). If unit has not been registered, then the warranty start date will revert to the original factory ship date. Warranty Registration is the ultimate responsibility of the owner. If the owner is unsure product registration has been completed, contact SwapLoader at 888-767-8000 or send email [sales@swaploader.net](mailto:sales@swaploader.net) to confirm.
- In no event will SwapLoader, the SwapLoader distributor or any company affiliated with SwapLoader be liable for business interruptions, costs of delay, or for any special, indirect, incidental, or consequential costs or damages. Such costs may include, but are not limited to:
 

<ul style="list-style-type: none"> <li>• loss of time</li> <li>• loss of revenue</li> <li>• loss of use</li> <li>• wages</li> <li>• salaries</li> </ul>	<ul style="list-style-type: none"> <li>• commissions</li> <li>• lodging</li> <li>• meals</li> <li>• towing</li> <li>• hydraulic fluid</li> </ul>	<ul style="list-style-type: none"> <li>• travel</li> <li>• mileage</li> <li>• any other incidental costs</li> </ul>
---	--	---
- Warranty shall not apply if the equipment is operated in abnormal conditions or operated at capacities more than factory ratings.
- Warranty is expressly void if the seal on the main relief control valve has been tampered with or broken.
- Warranty is expressly void if serial number plate or stamping is tampered with.
- Paint, plating, and coatings are not covered under this warranty policy.
- All products purchased by SwapLoader from outside vendors shall be covered by the warranty offered by that respective manufacturer unless defined otherwise on page 1.

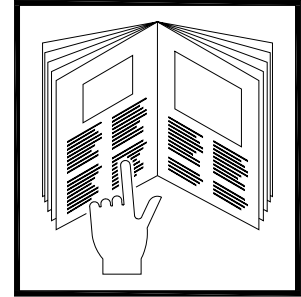
IT IS EXPRESSLY UNDERSTOOD AND AGREED THAT THERE ARE NO WARRANTIES MADE BY THE MANUFACTURER OR ITS AGENTS, REPRESENTATIVES OR DISTRIBUTORS, EITHER EXPRESSED, IMPLIED, OR IMPLIED BY LAW, EXCEPT THOSE EXPRESSLY STATED ABOVE IN THIS STANDARD LIMITED WARRANTY AGAINST DEFECTS IN MATERIAL AND WORKMANSHIP. THE MANUFACTURER AND ITS AGENTS, REPRESENTATIVES AND DISTRIBUTORS SPECIFICALLY DISCLAIM ANY IMPLIED WARRANTY OR MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE.



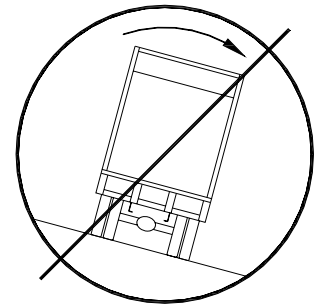


## SAFETY SUGGESTIONS

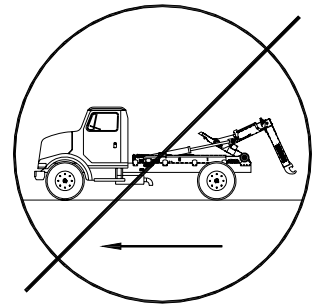
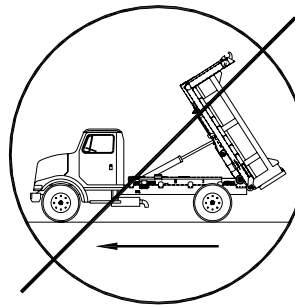
1. Do not operate or service this equipment until you have been properly trained and instructed in its use and have read the operation and service manual.



2. Do not operate this equipment on uneven ground.

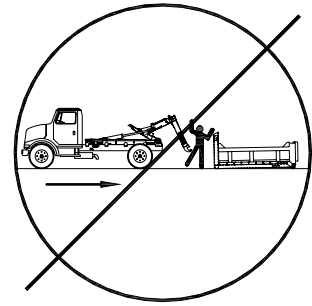


3. Do not drive with the hoist in the dump position or with the hook to the rear.

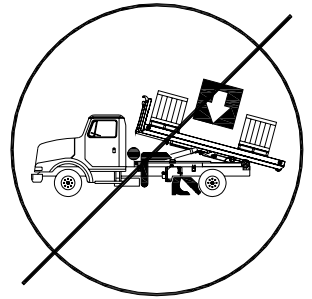


4. Do not exceed 1,500 Engine RPM when operating the Power Take Off (P.T.O.). Never leave the P.T.O. in gear while transporting.
5. The hoist must be used with containers that properly fit the hook and rear holddowns. The container specifications must match the hoist specifications.
6. Keep the containers and hoist in good working order. **DO NOT** use if repairs are needed. Perform periodic inspections and maintenance as required by the maintenance section of the operator's manual.

7. Make sure work area is clear of people and obstacles prior to dumping or unloading containers. SwapLoader strongly recommends that a back up alarm be installed on the truck chassis. The operation of the hook hoist is that the truck is backed up to the body to pick it up and so there is a potential pinch point between the body and the hook.

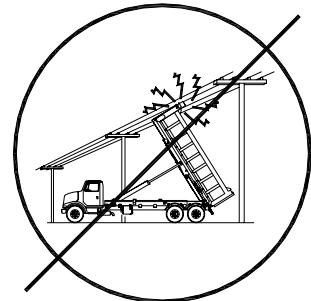


8. Any container, which is on the hoist, **MUST** be unloaded prior to performing any repairs or maintenance to the hoist. Also, **DO NOT** allow any person to work on or be under the hoist in a raised position without first installing adequate safety blocks to eliminate all possibility of the hoist accidentally lowering. SwapLoader strongly recommends that if possible the container should be dismounted from the hoist prior to performing any maintenance to the hoist.



9. It is the responsibility of the owner and/or installer to insure that any additional safety devices required by state or local codes are installed on the SwapLoader Hoist and/or Truck Chassis.

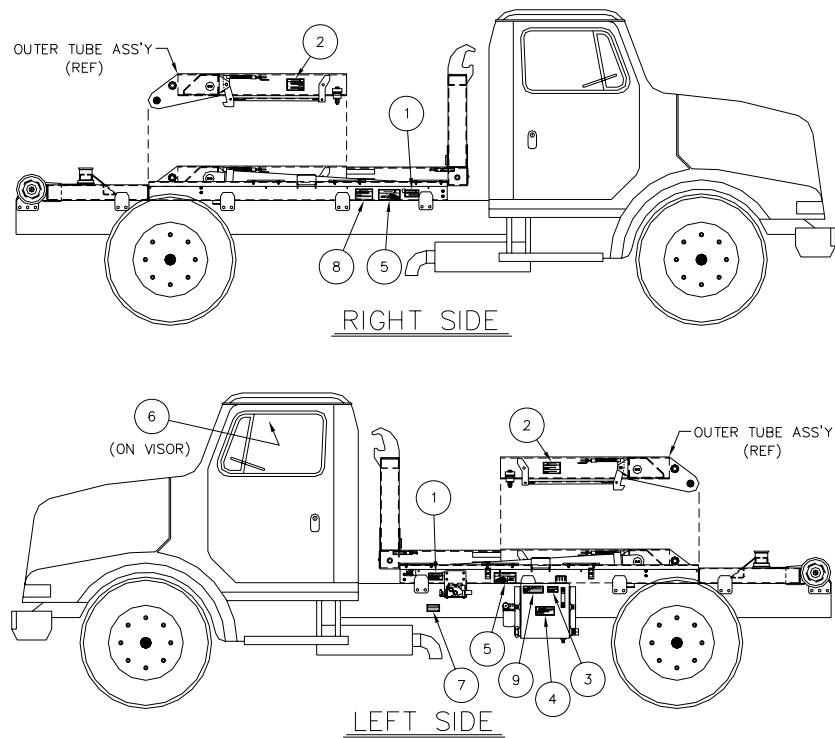
10. Keep away from overhead power lines. Serious injury or death can result from contact with electrical lines. Use care when operating hoist near electrical lines to avoid contact.



11. Avoid contact with high-pressure fluids. Escaping fluid under pressure can penetrate the skin causing serious injury. Avoid hazardous conditions by relieving pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure. Search for leaks with a piece of cardboard, while protecting hands and body from the high-pressure fluids.

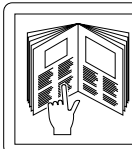


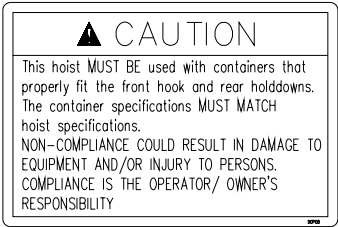
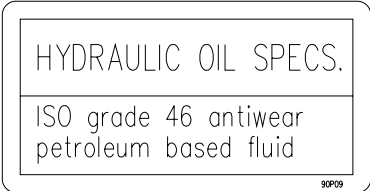
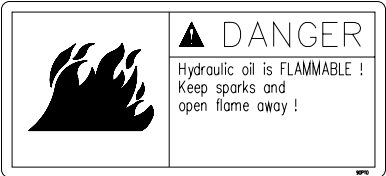
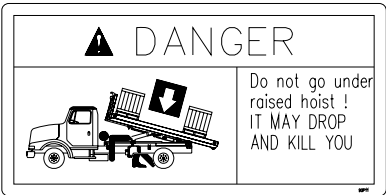
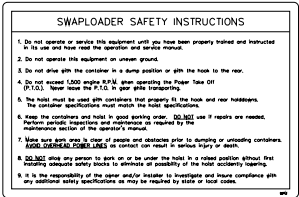
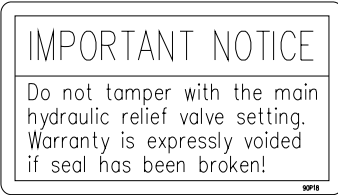
12. It is the responsibility of the owner to provide proper maintenance of the Safety Decals. Regular inspection and replacing of Safety Decals that have any fading or damage which would impair their function should be done (See the illustration on the following page for location of Safety Decals).

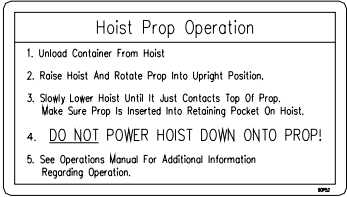
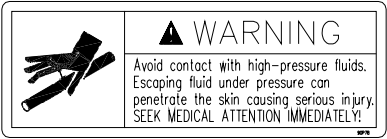


ITEM	QTY	P/N	DESCRIPTION
1	2	90P07	OPERATION & SERVICE MANUAL
2	2	90P08	HOIST-BODY SPECIFICATIONS
3	ONE	90P09	HYDRAULIC OIL SPECIFICATIONS
4	ONE	90P10	HYDRAULIC OIL FLAMMABLE
5	2	90P11	HOIST FALLING
6	ONE	90P13	SAFETY INSTRUCTIONS
7	ONE	90P18	RELIEF VALVE
8	ONE	90P52	PROP DECAL
9	ONE	90P78	HIGH-PRESSURE FLUID

The following is a list of all the Swaploader Safety Decals, and their part numbers. Please use when reordering replacement decals.

90P07 – OPERATIONS & SERVICE MANUAL	 <p><b>WARNING</b></p> <p>Do not operate or service this equipment until you have been properly trained and instructed in its use and have read the operation and service manual.</p>
-------------------------------------	---

90P08 – HOIST-BODY SPECIFICATIONS	
90P09 – HYDRAULIC OIL SPECIFICATIONS	
90P10 – HYDRAULIC OIL FLAMMABLE	
90P11 – HOIST FALLING	
90P13 – SWAPLOADER SAFETY INSTRUCTIONS	
90P18 – RELIEF VALVE	

<p>90P52 – PROP DECAL (OPTIONAL)</p>	 <p>The decal is titled "Hoist Prop Operation" and contains a five-step procedure:</p> <ol style="list-style-type: none"> <li>1. Unload Container From Hoist</li> <li>2. Raise Hoist And Rotate Prop Into Upright Position.</li> <li>3. Slowly Lower Hoist Until It Just Contacts Top Of Prop. Make Sure Prop Is Inserted Into Retaining Pocket On Hoist.</li> <li>4. <b>DO NOT POWER HOIST DOWN ONTO PROP!</b></li> <li>5. See Operations Manual For Additional Information Regarding Operation.</li> </ol> <p>A small "90P52" label is in the bottom right corner of the decal frame.</p>
<p>90P78 – HIGH-PRESSURE FLUID</p>	 <p>The decal features an illustration of a hand being pierced by a high-pressure fluid jet on the left. On the right, it includes a warning symbol (a triangle with an exclamation mark) and the following text:</p> <p><b>WARNING</b></p> <p>Avoid contact with high-pressure fluids. Escaping fluid under pressure can penetrate the skin causing serious injury. SEEK MEDICAL ATTENTION IMMEDIATELY!</p> <p>A small "90P78" label is in the bottom right corner of the decal frame.</p>



# INSTALLATION

## HOIST INSTALLATION TO TRUCK CHASSIS

1. Place the SL-650 hoist assembly on the truck chassis. The truck chassis mounting surface should be flat without any steps or protrusions. If necessary, shim bars need to be added to ensure a flat surface on which to support hoist. The truck chassis should meet the following minimum specifications (See Figures A):

RBM for each frame channel: 2,750,000 in.-lb.

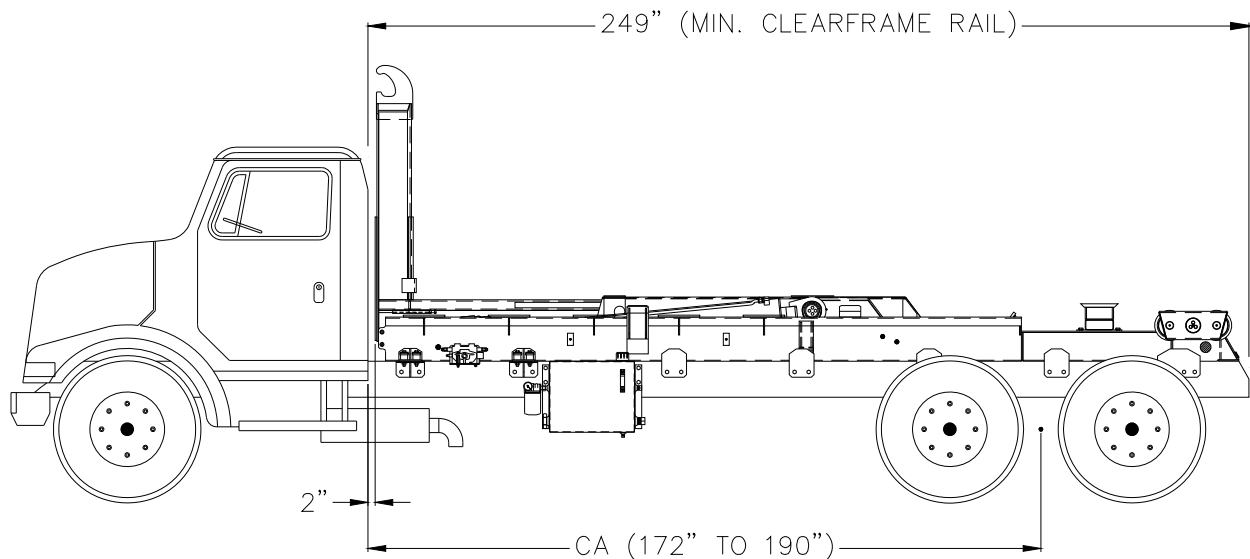
Total RBM: 5,500,000 in.-lb.

Minimum clear frame rail for mounting: 249" (See Fig. A)

Front Axle Cap: 16,000 lb. (Min)

Total Rear Axle Capacity: 38,000 lb. (Min)

CA Dim: 172" to 190" (190" preferred)



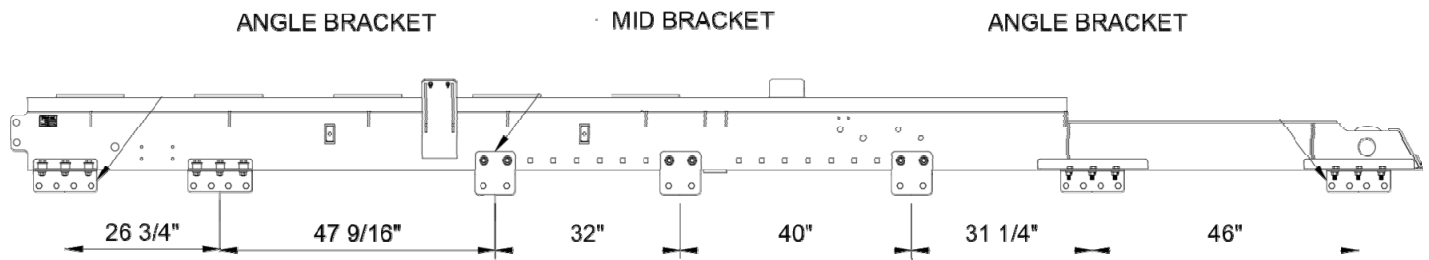
**Figure A**

**Note:** The above specifications are a minimum requirement. It is the responsibility of the owner/operator to ensure the completed chassis meets or exceeds all federal, state, and local regulations. Also, the hoist should not be used to lift and haul any load that exceeds the load rating of any of the individual components of the completed chassis (tires, axles, suspension, etc.)

The clear frame dimension indicated in the picture above allows for the overall length of the hoist plus 5 inches for cab clearance and rear light bar mounting. Extra frame length may be needed to allow for mounting additional accessories (e.g., Cab Guard, Tarper, Light Kit, Stabilizer, etc.). For example, when mounting a light kit on a truck with a long CA, check that the hoist and the light kit are positioned far enough back to eliminate any interference between the fender and the light kit. You should also consider the final weight distribution with regard to the bridge code when positioning the hoist.



2. There are two types of mount brackets used on the Model SL-650 hoist as indicated in Figure B or Drawing No. 44H91. They are the angle brackets (89H46), and the mid brackets (Pt. No. 89H51).

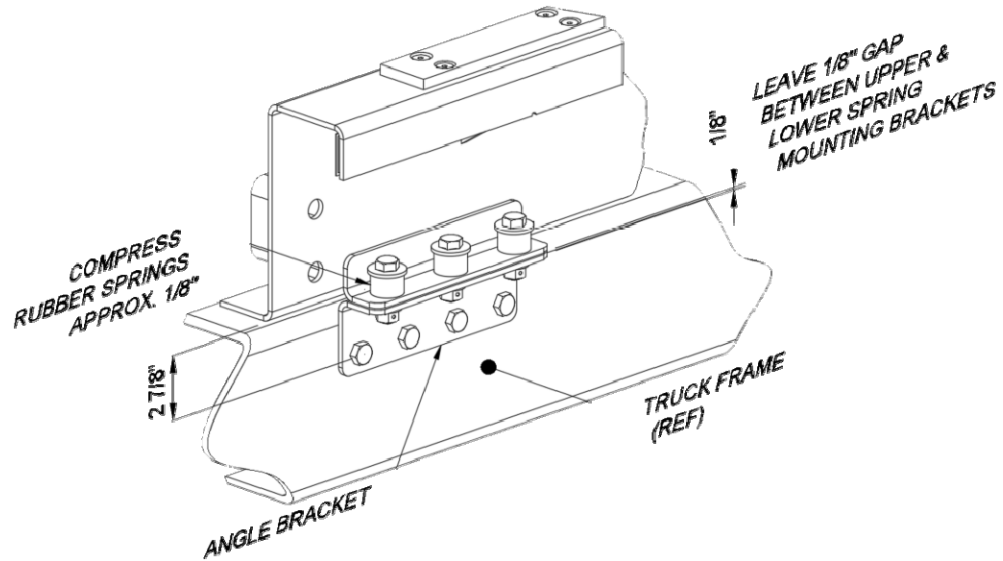


**Figure B**

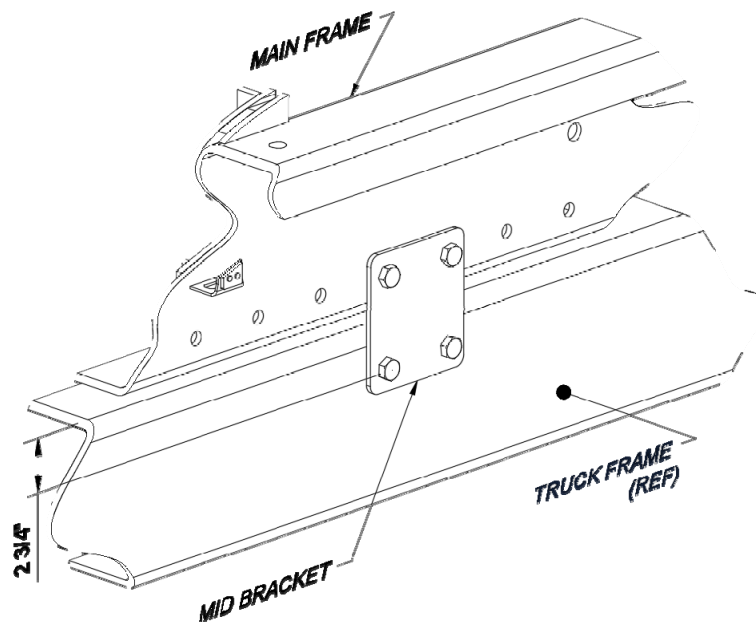
Locate the mount brackets on the side of the hoist as indicated in Figure B. These dimensions are flexible because of possible interference with chassis components. Also allow for mounting the control valve assembly and the hydraulic tank. You should consult the truck chassis supplier for any limitations regarding drilling mount holes in the truck chassis frame rails. Typically, the holes must be at least 2 3/4" from the top of the truck chassis rails, but may vary (reference figure C, D, & E).

Once the locations of the mount brackets have been determined, use the mount brackets as a template for marking the mounting holes in the truck chassis frame rails. Drill the 21/32 diameter holes required and attach the brackets to the truck chassis with the 5/8-inch diameter bolts, washers, and locking hex nuts provided. Torque to 220 ft.lbs.

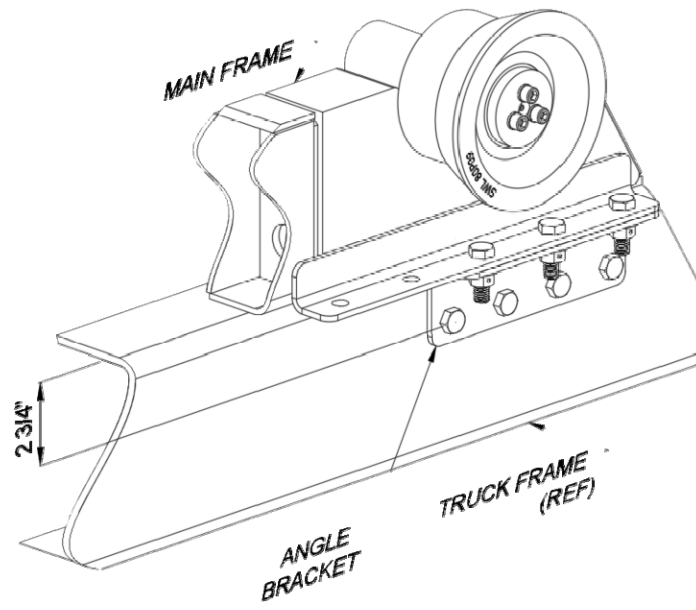
3. Bolt the mount brackets to the hoist main frame as indicated on Fig. C, D and E. You may need to modify the mount brackets or add shim plates to allow for variances in the width of the truck chassis as well as to allow for top rivets, stepped channels, etc.



**Figure C**



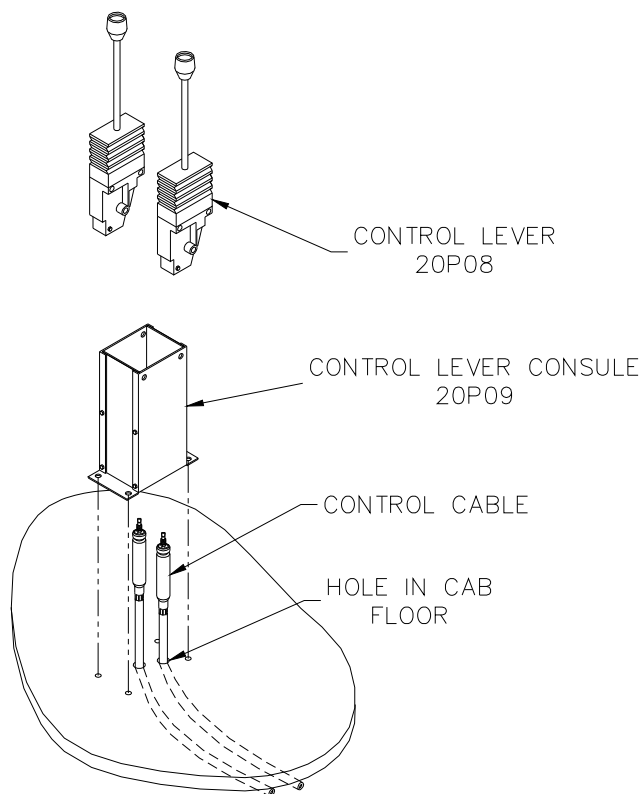
**Figure D**



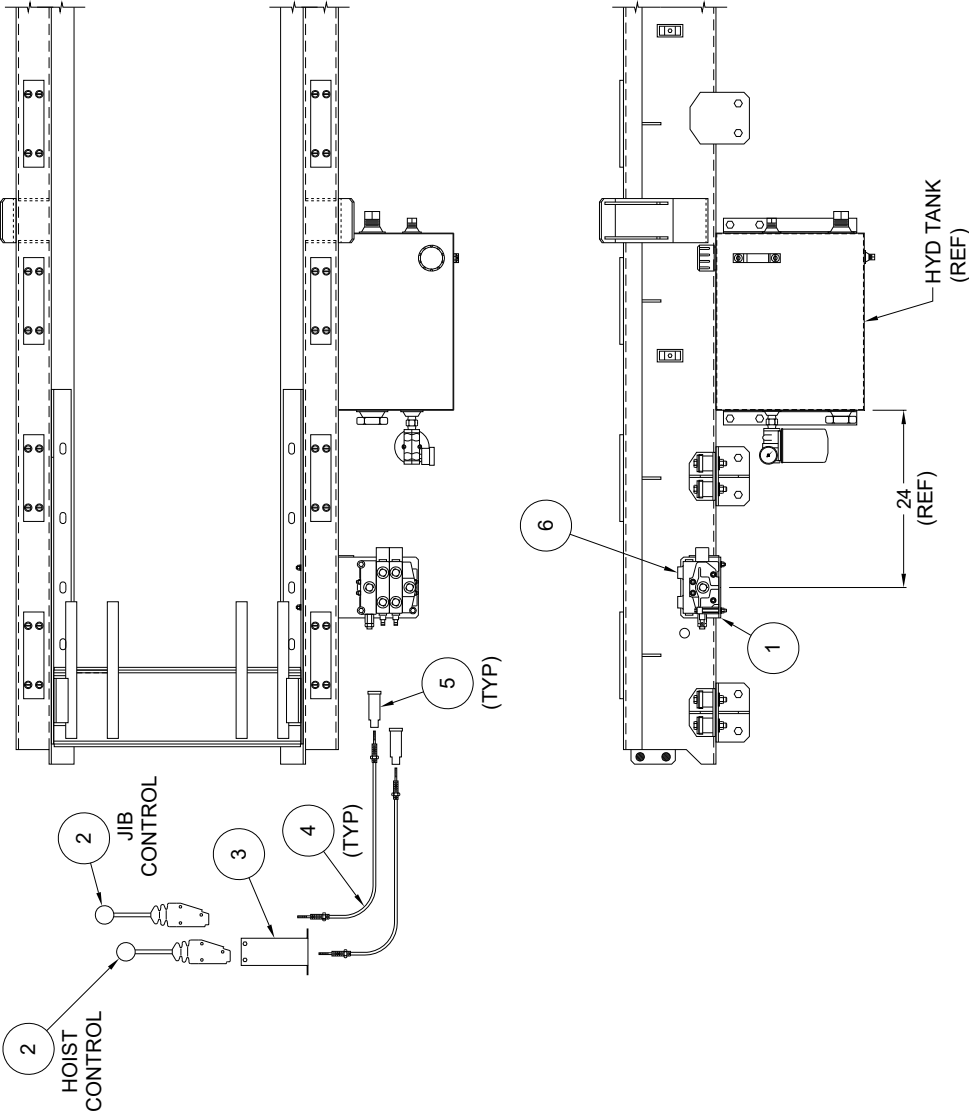
**Figure E**

## **CONTROLS INSTALLATION - MANUAL**

1. Attach the valve mount bracket (Pt. No. 40H43) to the mainframe as indicated on Dwg. No. 90H49 with the fasteners provided (See Drawing 43H03).
2. Mount the hydraulic control valve assembly (Pt. No. 20P59) to the valve mount bracket as shown on Drawing No. 90H49 with the fasteners provided.
3. Install the hydraulic adapters, connect the hydraulic tubing (Pt. No. 11P46), and connect the hydraulic hose assemblies (Pt. Nos. 11P56 and 11P57) to the control valve assembly as indicated on Drawing No. 91H11. The clamp assemblies that are provided in the Loose Parts Box should support the tubing (See Drawing 43H03).
4. Determine the best location in the cab for the control levers (Pt. No. 20P08). The location should be such that the controls can be easily reached while operating the truck. A control lever console (Pt. No. 20P09) is provided to facilitate the mounting of the control levers.
5. Assemble and install the control lever console (See diagram below). Typically, the console is fastened to the floor of the cab and the control cables are routed through additional holes drilled in the floor. Your particular installation may require that additional brackets be fabricated, or other modifications made.



PARTS LIST						
ITEM	QTY	P/N	DESCRIPTION		WT-lb/ea	REMARKS
1	ONE	40H43	VALVE MOUNT	BRACKET WDMT	13.13	
2	2	20P08	REMOTE VALVE	CONTROL HANDLE	2.80	
3	ONE	20P09	CONTROL HANDLE	MOUNT CONSOLE	4.05	
4	2	20P40	CONTROL CABLE	96" LG	2.00	
5	2	20P65	BONNET CONNECTION	KIT	0.50	
6	ONE	20P59	HYD VALVE	ASS'Y	46.00	
TOTAL					73.78	



NOTE:  
A 2 SECTION CONTROL VALVE ASS'Y IS  
SHOWN. A 3 SECTION CONTROL VALVE ASS'Y  
IS REQUIRED WHEN A STABILIZER IS UTILIZED

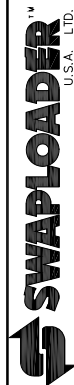


MANUAL CONTROL ASSY - 2 SECTION  
SL-505/545/650  
90H49 ~ REV A

ITEM	QTY	P/N	DESCRIPTION	WT -lb/eq	REMARKS
1	2	10P36	ADP, HYD MJIC / ORB 90°	0.40	6801-12
2	ONE	10P37	ADP, HYD MJIC / MP 90°	0.30	2501-4-4
3	ONE	10P38	ADP, HYD FMAJC CAP	0.10	304-C-4
4	2	10P78	T-BOLT CLAMP, 1 3/4Ø	0.15	TBC-1775
5	2	11P46	HYD TUBING - REAR	7.48	
6	ONE	11P56	HOSE ASS'Y 3/4 VHP x 28	2.36	
7	ONE	11P57	HOSE ASS'Y 3/4 VHP x 33	2.72	
8	2	11P62	ADP, HYD MJIC / ORB 1L 90°	0.40	6801-1L-12
9	2	11P65	ADP, HYD MJIC / FMAJC SVL 90°	0.40	6500-12
10	ONE	11P78	ADP, HYD MP / MP	0.70	5404-20
11	ONE	12P25	ADP, HYD HOSE INS / MP	0.60	ST-15
12	ONE	12P27	ADP, HYD HOSE INS / ORB 90°	0.70	4601-20-16
13	ONE	12P33	HOSE 1 1/4 LP x 36	2.37	
14	ONE	20P61	HYDRAULIC FILTER	4.50	
15	ONE	20P64	FILTER INDICATOR GAUGE	-	
16	ONE	20P86	HYDRAULIC TANK - 30 GAL	73.00	
				105.01	TOTAL



HYD TANK ASS'Y CONSISTS OF:  
TANK WELDMNT, TANK MOUNTED STRAINER,  
SIGHT GAUGE, FILLER/BREATHR CAP,  
MAGNETIC DRAIN PLUG, AND PORT PLUGS.



91H11

6. Attach the control cables to the control levers and route the cable through the holes in the cab. Install the control levers in the console. Levers should be installed such that when the levers are pushed forward the control cable is extended. See Drawing No. 90H49 (Manual Control Assembly) for control lever orientation.
7. Route the cables to the control valve location and attach them to the control valve with the bonnet connection kits provided (Pt. No. 20P65). See the following instruction sheet for installation procedures. The control cables supplied are 96 inches long. Your mounting may require different length control cables, which can be purchased locally or through Swaploader. Take proper care when routing the control cables, as a good cable path is essential for a proper operating system. Keep bends in the cable path to a minimum and be as generous as possible. Under no circumstances should any bend be tighter than an 8" radius. Protect the cable from heat above 225 degrees F. and avoid hot areas such as exhaust pipes, etc. Protect the cable from physical damages such as pinching or crushing, and do not use cable supports, which may crush or deform the cable. Allow room for flexing where the cable is attached to moving parts of the equipment, so that the cable is neither kinked nor stretched.

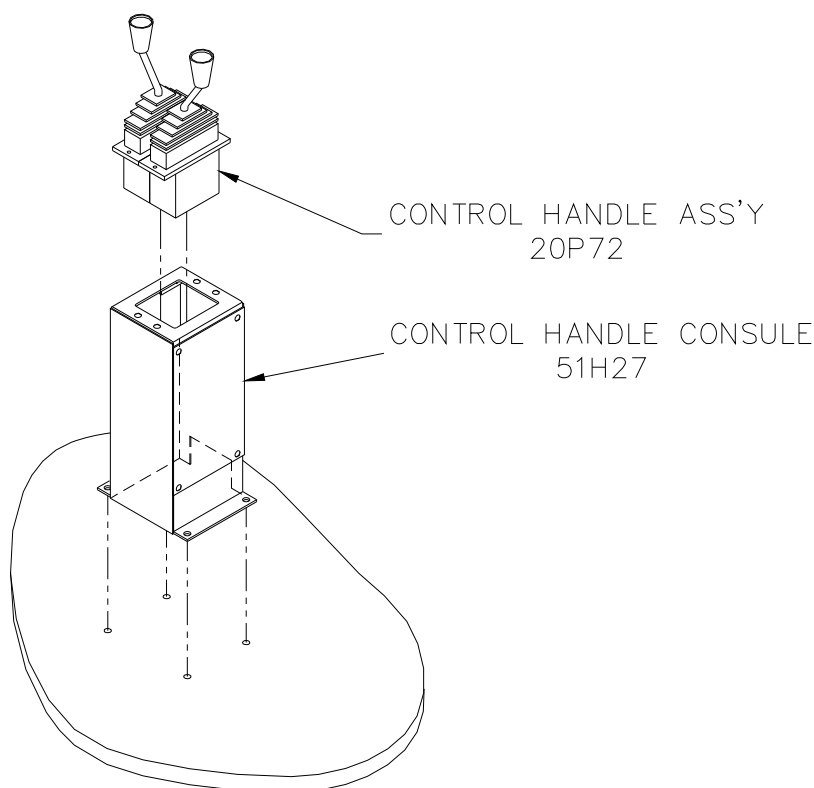
## **INSTALLATION PROCEDURE FOR A HYDRAULIC CONTROL CABLE TO HYDRAULIC VALVE WITH BONNET CONNECTION KIT**

1. Turn .750-16 UNF Jam Nut entire length of Threaded Hub back over the Cable. Place Flange onto Sleeve (large end first) and Flange onto Sleeve and turn Flange Adaptor / Flange / Sleeve Assembly entire length of Threaded Hub back over the Cable.
2. Turn .250-28 UNF Jam Nut onto Cable Threaded Rod until it bottoms.
3. Place Clevis of Threaded Rod and bottom against Jam Nut. Turn other .250-28 UNF Jam Nut onto Threaded Rod until it bottoms against Clevis. Align Clevis so it will mate with Spool Terminal Eye and secure Jam Nut against Clevis.
4. Slide the Clevis onto Terminal Eye on spool and align the holes. Insert Clevis Pin through yoke and Terminal Eye holes and secure Clevis Pin with Retaining Ring.
5. Now, with the Cable attached to the valve and control head, turn the Flange Adapter / Flange / Sleeve Assembly back onto the Threaded Hub until it is flush with the valve face. When turning on the Flange Adapter / Flange / Sleeve Assembly, make sure that the control head remains in the neutral position.
6. Tighten the .750-16 UNF Jam Nut against the Sleeve and lock in position.
7. Bring Flange into position on bolt assembly to valve housing.



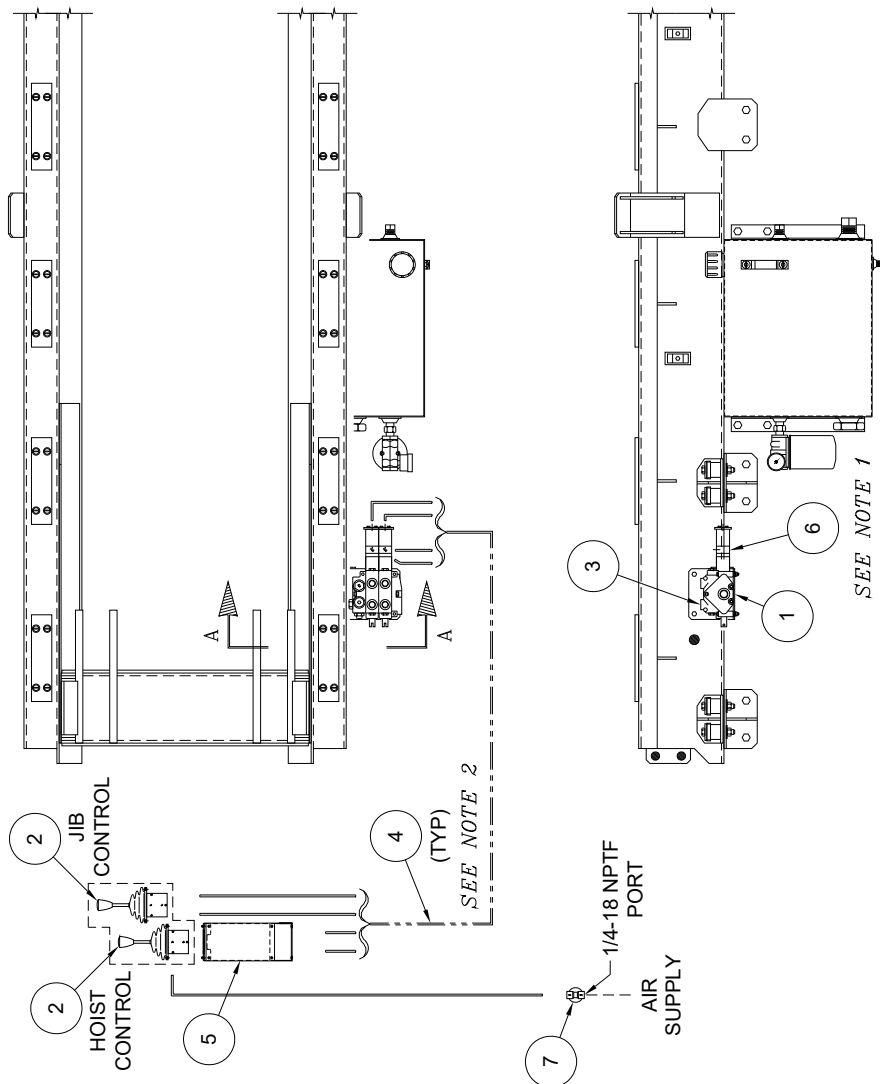
## **CONTROLS INSTALLATION - AIR SHIFT (OPTION)**

1. Attach the valve mount bracket (Pt. No. 40H43) to the mainframe as indicated on Drawing No. 90H47 with the fasteners provided (See Drawing 43H03).
2. Mount the hydraulic control valve assembly (Pt. No. 90H41) to the valve mount bracket as shown on Drawing No. 90H47 with the fasteners provided.
3. Install the hydraulic adapters and connect the hydraulic hose assemblies (Pt. Nos. 11P56 and 11P57) and the hydraulic tubing (Pt. No. 11P46) to the control valve assembly as indicated on Drawing No. 91H11. The clamp assemblies that are provided in the Loose Parts Box should support the tubing (See Drawing 43H03).
4. Determine the best location in the cab for the control handle assembly (Pt. No. 20P72). The location should be such that the controls can be easily reached while operating the truck. A control handle console (Pt. No. 51H27) is provided to facilitate the mounting of the control handles (See diagram below).




5. Install the air fittings and hose as shown on Drawing No. 90H44 (Air Circuit, Control Valve). An air pressure protection valve (Pt. No. 20P74) is provided so you can tap into the truck's air supply without jeopardizing the integrity of the air system. The air hose is provided in bulk length, which you can cut to length as required for running the air lines. Take care in routing the air lines and avoid hot areas such as exhaust pipes, etc.

PARTS LIST					
ITEM	QTY	P/N	DESCRIPTION	WT-lb/ea	REMARKS
1	ONE	40H43	VALVE MOUNT BRACKET	13.13	
2	ONE	20P72	CONTROL HANDLE ASS'Y	1.60	
3	ONE	20P59	HYD CONTROL VALVE ASS'Y	46.00	
4	ONE	12P94	AIR LINE KIT	1.40	
5	ONE	51H27	AIR CONTROL CONSOLE ASS'Y	6.23	
6	2	20P71	HYD VALVE SECTION AIR SHIFT KIT	1.50	
7	ONE	20P74	AIR PRESSURE PROTECTION VALVE	0.59	WM778A
				71.95	TOTAL



1. 20P71 AIR SHIFT KIT TO BE INSTALLED ON  
HYD CONTROL VALVE BY HOIST INSTALLER.  
REFERENCE INSTALLATION INSTRUCTIONS  
INCLUDED WITH THE AIR SHIFT KIT.



**SWAPLOADER™**  
U.S.A. LTD.

SL-505/545/650

90H47 ~ REV C



- 
- U.S.A. LTD.

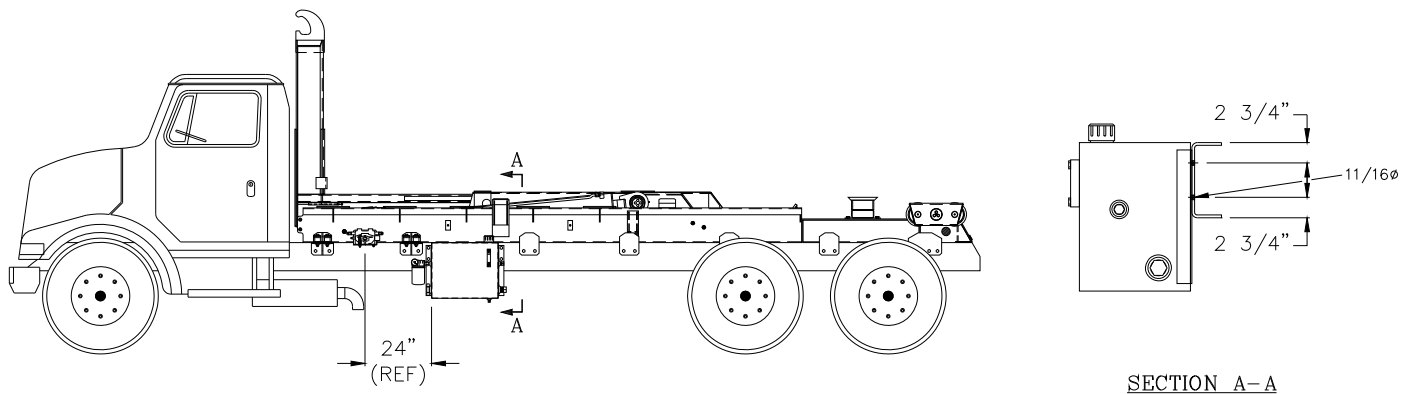
AIR CIRCUIT, CONTROL VALVE - 2 SECTION

SL-505/545/650

90H44 ~ REV B

## **HYDRAULIC TANK INSTALLATION**

1. Select a location to mount the hydraulic tank. Reference Figure F or Drawing No. 90H49 for the suggested location of the hydraulic tank to the rear of the control valve assembly on the left-hand side of the truck. The hydraulic hoses have been sized for the tank to be mounted in this general area. The tank can be located on the right-hand side or behind the cab, if necessary, which means longer hoses may be required.
2. Drill four (4) holes for 1/2-inch diameter bolts (provided) in the mount angle of the hydraulic tank (two per angle) and the frame rails of the truck chassis. Mount the hydraulic tank and install the hydraulic filter. Install the hydraulic return hose and the hose barb fitting between the filter and the control valve assembly as shown on Drawing No. 91H11. The hose length can be shortened if necessary. Secure the hose to the barb fittings with the hose clamps provided.



**Figure F**

## **P.T.O. SELECTION**

The next step is to select and install a direct drive type P.T.O. to the transmission. Please contact your local truck equipment representative for the correct unit sized on the following criteria:

P.T.O. Torque Rating:	260 ft.-lbs. (See Note 1)
Power at 1500 RPM:	73 H.P. (See Note 1)
Mount Flange (For Driveline Installation)	SAE C 4 Bolt
Hydraulic Pump Keyed Shaft Specifications:	1 ¼ Dia. w/ 5/16 keyway
Hydraulic Pump Rotation:	<b>L.H. As provided (See Note 2).</b> The hydraulic pump rotation can be reversed to R.H. by a qualified hydraulic technician or it can be sourced through Swaploader.
Ratio of Pump RPM to Engine RPM:	80% to 100%

**NOTE 1:** P.T.O. torque and power requirements are based on the unit operating at main relief pressure. Normal operating pressure will be less.

**NOTE 2:** P.T.O. output rotation will need to be R.H. (clockwise) as viewed looking at output flange of P.T.O. for a L.H. Pump.

**NOTE 3:** Do not operate pump at speeds over 1500 R.P.M.

**NOTE 4:** Always disengage the P.T.O. after each operating cycle.

## HOW TO IDENTIFY WHAT PUMP IS NEEDED

The SwapLoader factory supplied pump is a bushing style gear pump, because of the pressure requirements of the SwapLoader hooklift hoist. By design the bushing style pumps are single rotation (rotation specific).

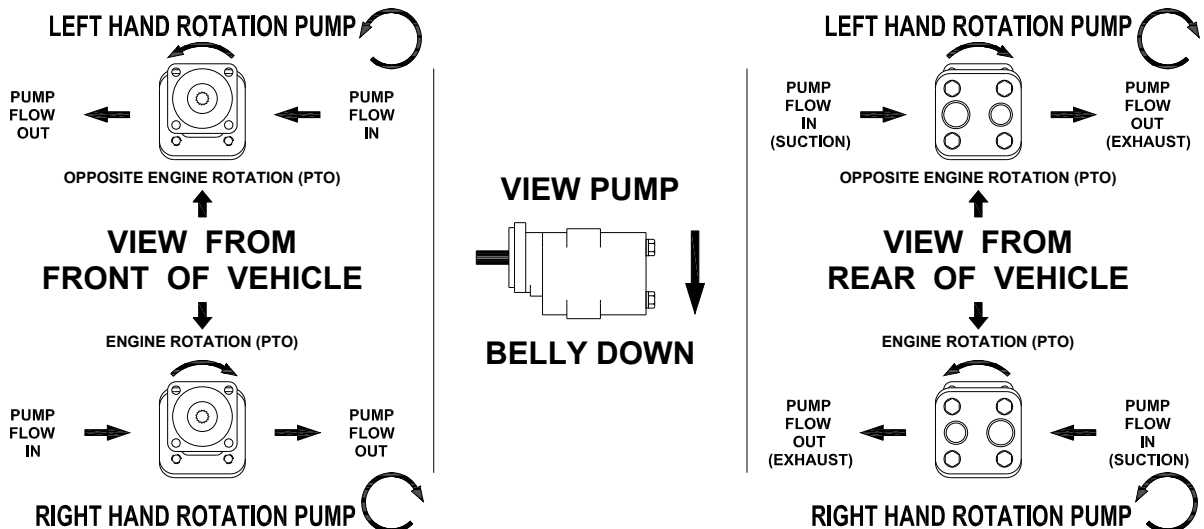
All SwapLoader hooklift hoists come standard with a CCW (left hand rotation pump), which will work for most manual transmission applications. For most automatic transmission applications, a CW (right hand rotation pump) is needed; call SwapLoader for price and availability. **NOTE: Consult the PTO supplier whenever uncertain about the correct pump rotation for a particular application.**

The table below lists the SwapLoader part number for both left- and right-hand rotation pumps for the SL-650 hoist model:

MODEL	L.H. Rotation Pump (standard)	R.H. Rotation Pump (special)
SL-650	20P85	21P34

## HOW TO IDENTIFY PUMP ROTATION

To better understand the effects of pump rotation we must consider the path that oil takes through the pump. Oil enters the pump through the inlet (suction) port, travels around the outside of the gears, and is forced out through the outlet (exhaust) port. Oil enters and exits the pump in the direction of its rotation.



Determine pump rotation by positioning the pump belly side down (see illustration above). Looking at the rear of the pump if the suction (largest) port is to the left side, then the pump is a CCW or left-hand rotation. If the suction (largest) port is on the right side, then the pump is CW or right-hand rotation.

## **PUMP INSTALLATION**

1. Install the hydraulic pump to the P.T.O. (Bolts are not provided).
2. Install the hydraulic fittings into ports on the hydraulic pump as shown on Drawing No. 91H09.
3. Connect the suction hose assembly to the hydraulic tank (1 1/2" I.D. hose) and route to the hydraulic pump in as short and straight line as possible. Be sure to route the hose clear of exhaust components and of the drive shaft. Extra hose is provided so the hose can be shortened to an appropriate length. Install the hose on the hose barb fittings at the tank and at the pump and secure with the hose clamps provided.

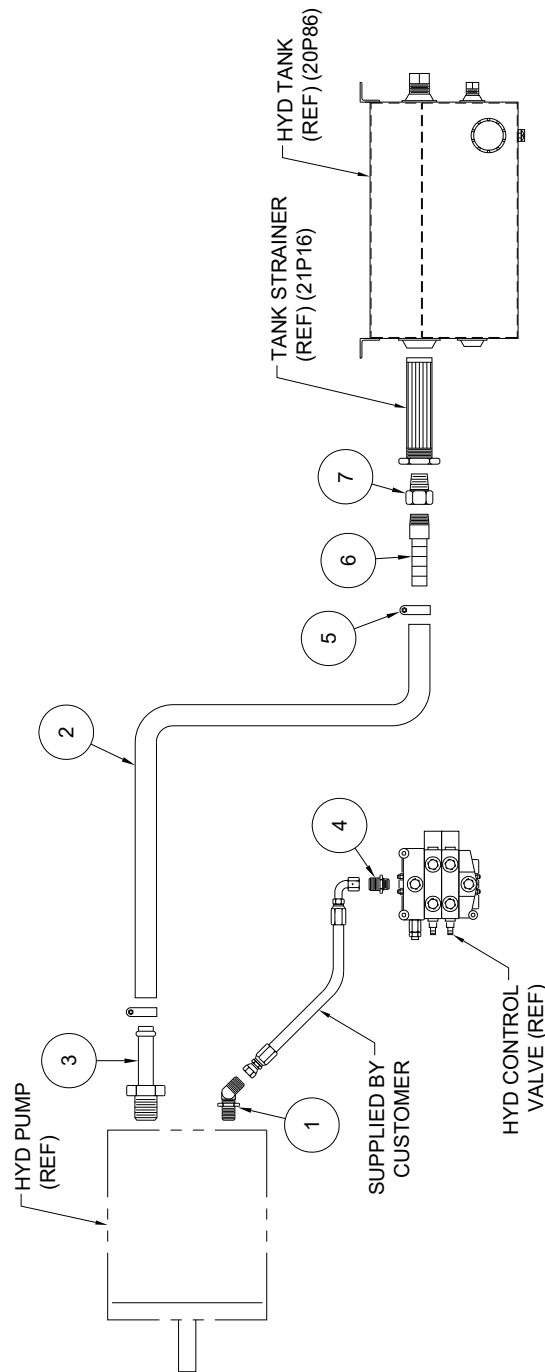
**NOTE: Prior to startup, this hose must be filled with oil.**

4. The pressure hose from the hydraulic pump to the control valve assembly is not supplied with the hoist as it must be made to the proper length. This hose must be purchased from a local hydraulic hose assembly supplier per the following specifications:

Hose I.D.:	1 inch
Working Pressure:	3500 PSI
Hose Fitting Threads:	SAE 37° (JIC) 1 5/16-12

5. Install the pressure hose as indicated. Tie up the pressure and suction hoses as necessary. Again, be sure the hoses are routed to avoid exhaust components and to stay clear of the drive shaft.

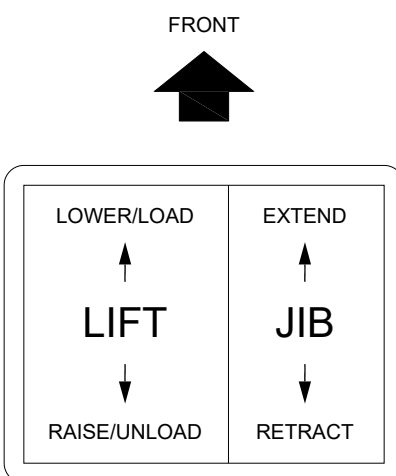
ITEM	QTY	P/N	DESCRIPTION	WT-lb/eq	REMARKS
1	ONE	10P31	ADP, HYD MJIC / ORB 45°	0.50	6802-16
2	ONE	11P71	HOSE 1 1/2 LP x 120	9.60	
3	ONE	11P72	ADP, HYD HOSE INS / ORB	0.60	4604-24-20
4	ONE	11P74	ADP, HYD MJIC / ORB	0.40	6400-16-12
5	2	11P77	T-BOLT CLAMP, 2ø	0.15	TBC-200
6	ONE	11P95	ADP, HYD HOSE INS / MP	0.40	STC-20
7	ONE	12P48	ADP, HYD MP / FP	0.60	2 x 1 1/2
				12.40	TOTAL





## **START UP PROCEDURE**

1. Fill the hydraulic tank with hydraulic oil (see oil specification in Maintenance Section.)
2. Prime the pump by loosening the clamp on the suction hose at the pump. Pull the hose back off the fitting till the air is bled from the line. Push the hose back on the fitting and retighten the clamp.
3. Engage the P.T.O. and run the pump at idle (700 to 900 RPM). Operate the cylinders at full stroke five to ten times to bleed the air from the lines and cylinders. The cylinders were filled with oil during testing at the factory, but some seepage may have occurred during shipping and installation. Refill the hydraulic tank, if needed, during this sequence and do not let the pump run without oil.
4. Check for leaks and tighten fittings as necessary.
5. Verify the movement of the control levers corresponds to the movement of the cylinders per the figure below.



6. Install all safety decals and product decals per Drawing No. 42H47 after final installation and painting have been completed. The factory prior to shipment of a hoist, will install some decals that have a premask layer. The premask will need to be removed after painting the hoist. It is very important when removing the premask not to pull the premask out and away from the decal at a 90° angle, but instead pull the premask straight down at a 180° angle to the decal surface. Should problems occur with the premask pulling the decal loose, wet the tack side of the premask with water via a spray bottle to weaken the adhesive bond, while pulling straight down on the premask.

7. Fill out pre-delivery checklist and warranty card and mail to SwapLoader U.S.A., Ltd.

**NOTE:** Failure to fill out and return warranty card within 15 days of installation may possibly void the warranty.

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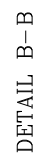
**CAUTION:** The SwapLoader hoist must be used with bodies or containers that properly fit the front hook and the rear hold-downs (See figure S288). If possible, pick up one of the containers that will actually be used with the SwapLoader hoist and verify the following:

- Outside dimensions of the long sills match the guiding rollers on the hoist.
  - The front hook dimensions are correct for the hoist.
  - The rear hold-downs of the container latch into the hold-downs on the hoist.
  - Check for any interference between the container and any part of the hoist (i.e.: Hydraulic tank, hydraulic tubing or hose, hydraulic valve, etc.)
-

THIS DRAWING PROVIDES THE CRITICAL SUBFRAME DIMENSIONS FOR COMPATIBILITY WITH THE SWAPLOADER HOOK LIFT HOIST. IT IS THE SUBFRAME SUPPLIER'S RESPONSIBILITY TO PROVIDE A SUBFRAME OF SUFFICIENT CAPACITY WHICH PROPERLY SUPPORTS THE BODY/CONTAINER WHEN USED WITH THE HOOK LIFT HOIST.



HOIST	DIM A	DIM B	DIM C
SL-375 / SL-505	156 3/8 IN [3972mm]	48 IN [1219mm]	229 IN [5817mm]
SL-330 / SL-400	125 3/8 IN [3185mm]	36 IN [915mm]	178 IN [4521mm]
SL-406	134 3/8 IN [3413mm]	48 IN [1219mm]	220 IN [5588mm]
SL-405 / SL-545	134 3/8 IN [3413mm]	48 IN [1219mm]	211 IN [5360mm]
SL-650 / SL-655	156 3/8 IN [3972mm]	48 IN [1219mm]	248 IN [6300mm]



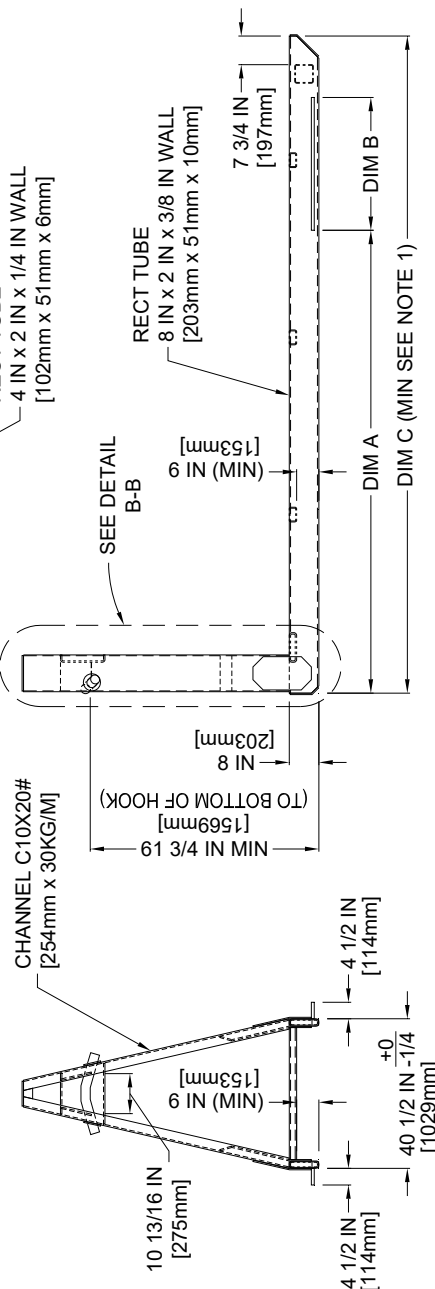
1. MIN LENGTH FOR JIB FULLY EXTENDED



## 400 SERIES SUBFRAME DIMENSIONS

(61-3/4" HOOK HEIGHT)

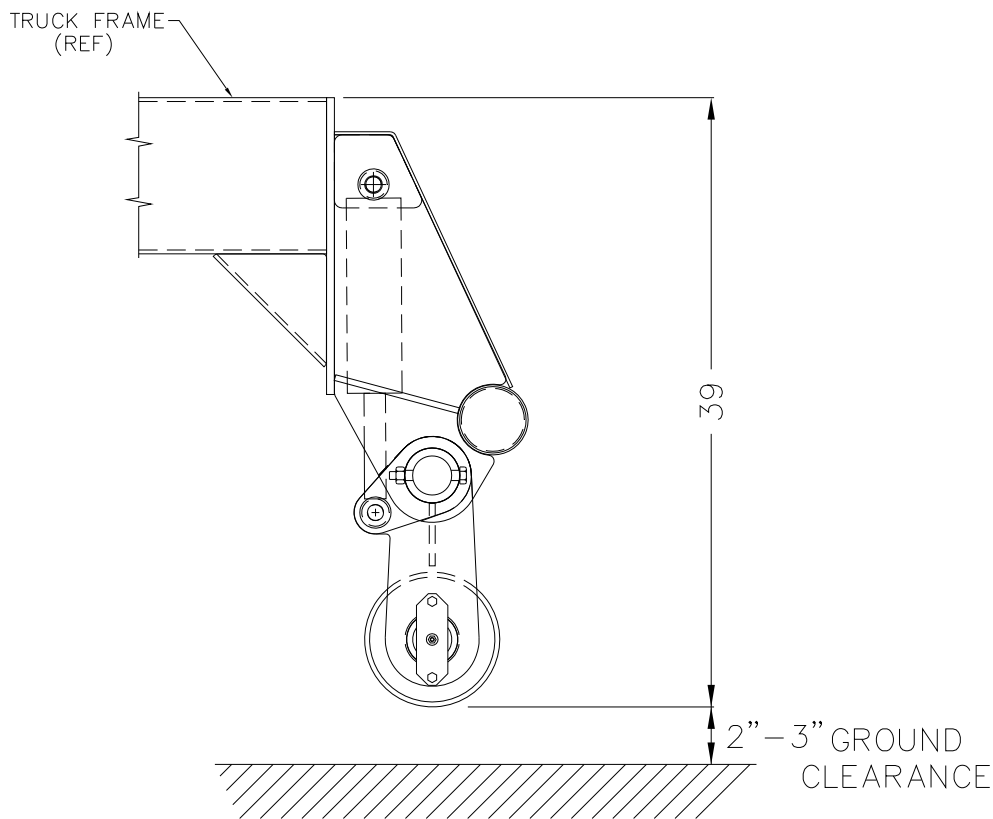
S-288 ~ REV D



$40 \frac{1}{2} \text{ IN} - \frac{1}{4}$   
[1029mm]

## **STABILIZER INSTALLATION (OPTION)**

1. The hoist installation for a unit with the stabilizer option is much the same as that for the standard unit except that a three-section hydraulic control valve is used. (See Drawing No. 90H50 for Manual Control or Drawing No. 90H48 for Air Controls for the correct installation and plumbing diagrams for a hoist with three control circuits in the Option section of the Parts List pages of the manual).
2. The following diagram gives the approximate position of the stabilizer roller from the top of the truck chassis frame rail with the mounts as provided by SwapLoader. When extended down, the roller should touch the ground only when the vehicle is loading a heavy container. Therefore, with the truck empty, leave 2 to 3 inches of clearance between the ground and the roller.



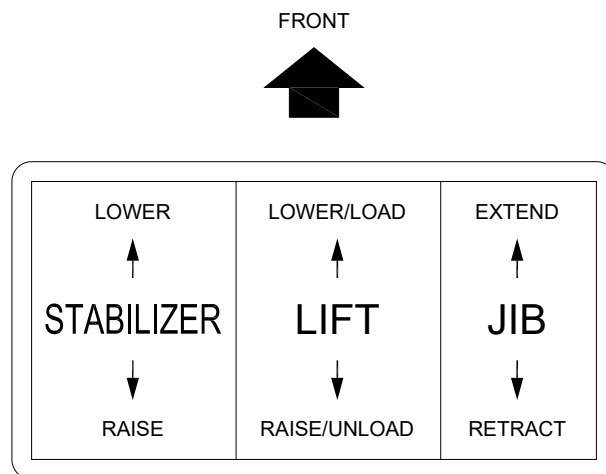
Also, you will need to check that when the roller is up in the transport position it does not interfere with any part of the rear axle, rear suspension, or brake components. If some interference will occur, you may slant the stabilizer mounting back from the vertical position until you leave sufficient clearance. This can be achieved by cutting the truck chassis frame rails off at an angle before installing the stabilizer mounts. Do not slant the mounting more than eight degrees (about a 14:2 pitch).

3. Once the required position of the stabilizer has been determined, install as shown on drawing 42H62 in the Options section of the hoist manual. *[Field weld size requirements are also indicated on drawing 42H62 in the Options section of the hoist manual.]*

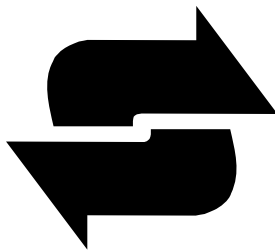
**Note:** Prior to any welding, consult the truck manufacturer for any special precautions that may need to be taken. Typically the batteries must be disconnected and the ground lead from the welder should be connected as close as possible to the part being welded to avoid the possibility of arching across bearings, gears, etc.

**Note:** The hoist mainframe is made from high strength low alloy steel. Use an appropriate welding process.

4. Install the hydraulic adapters and hoses from the three section hydraulic control valve to the hydraulic cylinder (Pt. No. 21P84) shown on drawings 42H62 & 90H83 in the Option section of the manual. Tie up all loose hoses as required. Be sure the hoses are routed to avoid exhaust components and all moving components of the rear axles.
5. After the start procedure has been completed on the hoist, verify that the movement of each control lever corresponds to the movement of the cylinders per the figure below.



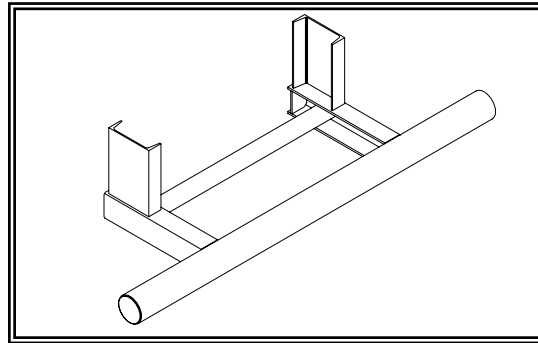
Operate the stabilizer through 5 to 8 cycles to remove the air from the hydraulic cylinders and lines.



An EFCO Company

# SWAPLOADER®

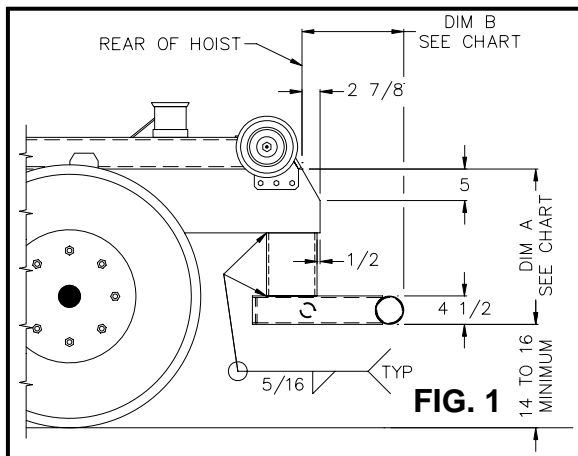
U.S.A. LTD.



## REAR BUMPER ASSEMBLY (52H11)

### INSTALLATION INSTRUCTIONS

1. Review all directions and diagrams provided before starting bumper installation.
2. Trim truck frame to indicated dimensions (See Fig. 1). These dimensions will facilitate the mounting of the rear light assembly if it is also being mounted.
3. Measure the distance from the bottom of the truck frame to the ground (NOTE: This should be performed on a level surface). Based this measurement and the dimensions in Fig. 1, the vertical channel [P/N: 63H94] may need to be modified in length to meet the Office of Motor Carrier Safety (OMCS) regulations. Regulation 393.86 requires that no bumper be located more than 30" off the ground when the truck is empty, and the end of the bumper should not be located more than 24" from the extreme rear of the vehicle, including truck bodies (See Fig. 2). Once the length has been determined for the vertical channels, weld them to the truck frame (See additional notes on next page).
4. Center the bumper weldment [P/N: 52H12] on the vertical channels [P/N: 63H94]. Position rear of bumper from rear of the hoist as indicated by the bumper location chart. This is crucial in order to ensure that the container longills do not contact the bumper during the dump cycle (See Fig. 1 & 2).



BUMPER LOCATION CHART								
DIM. A	DIM B. (Max)							
	SL-105	SL-145	SL-180	SL-220/222 & SL-240	SL-2418	SL-330 & SL-400	SL-406 & SL-505/545	SL-650
24 5/8"	13 1/2	15 3/4	15 1/4	17	14 1/4	14	16 1/2	18
22 5/8"	12 1/4	14 1/2	14	15 3/4	13	12 3/4	15	
20 5/8"	11	13	12 3/4	14 1/4	11 3/4			
18 5/8"	9 3/4	11 3/4	11 1/2					

*All Figures are for Illustration Purposes Only*

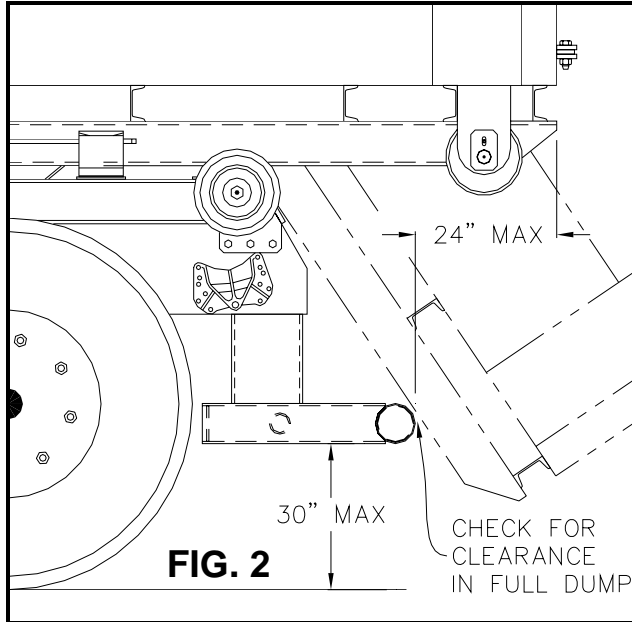
10/05/09

# REAR BUMPER ASSEMBLY

(52H11)

## INSTALLATION INSTRUCTIONS (continued)

5. Weld the bumper weldment to the vertical channels (See Fig. 1 & 3).

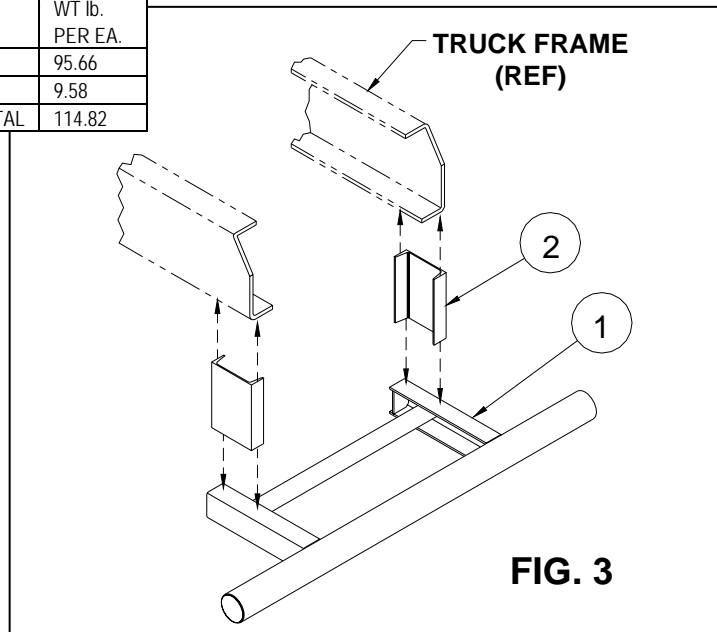


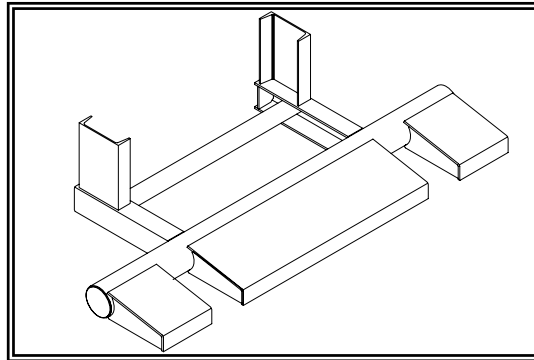
### ADDITIONAL NOTES:

1. Prior to any welding, consult the truck manufacture for any special precautions that may need to be taken. Typically the batteries must be disconnected and the ground lead from the welder should be as close to the part being welded to avoid the possibility of arcing across bearings, gears, etc.
2. All welds should be done utilizing a low hydrogen welding process.

### **MATERIAL LIST**

ITEM	QTY	P/N	DESCRIPTION	WT lb. PER EA.
1	1	52H12	REAR BUMPER WDMT	95.66
2	2	63H94	VERTICAL CHANNEL	9.58
TOTAL				114.82



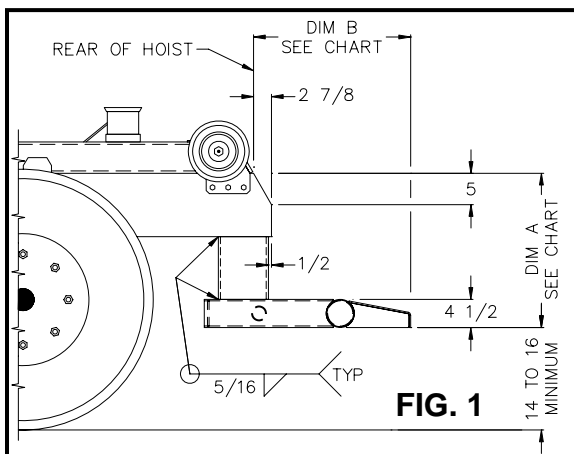


## REAR BUMPER ASS'Y w/ EXTENSIONS

(52H11 with 52H13 Extensions)

### INSTALLATION INSTRUCTIONS

1. Review all directions and diagrams provided before starting bumper installation.
2. Trim truck frame to indicated dimensions (See Fig. 1). These dimensions will facilitate the mounting of the rear light assembly if it is also being mounted.
3. Measure the distance from the bottom of the truck frame to the ground (NOTE: This should be performed on a level surface). Based this measurement and the dimensions in Fig. 1, the vertical channel [P/N: 63H94] may need to be modified in length to meet the Office of Motor Carrier Safety (OMCS) regulations. Regulation 393.86 requires that no bumper be located more than 30" off the ground when the truck is empty, and the end of the bumper should not be located more than 24" from the extreme rear of the vehicle, including truck bodies (See Fig. 2). Once the length has been determined for the vertical channels, weld them to the truck frame (See additional notes on next page).
4. Center the bumper weldment [P/N: 52H12] with factory installed extensions [ P/N: 52H13] on the vertical channels [P/N: 63H94]. Position rear of bumper from rear of the hoist as indicated by the bumper location chart. This is crucial in order to ensure that the container longills do not contact the bumper during the dump cycle (See Fig. 1 & 2).



BUMPER LOCATION CHART								
DIM. A	DIM B. (Max)							
	SL-105	SL-145	SL-180	SL-220/222 & SL-240	SL-2418	SL-330 & SL-400	SL-406 & SL-505/545	SL-650
24 5/8"	19 3/4	22 1/2	21 3/4	25 1/4	21 3/4	21 1/2 *	24 1/4 *	27
22 5/8"	18 1/2	21	20 1/2	23 3/4	20 1/2	20 *	22 3/4 *	
20 5/8"	17 1/4	19 1/2	19 1/4	22 1/4	19 1/4			
18 5/8"	16	18 1/4	18					

\* Dimensions assume 6" tall longills. For 8" tall longills add 2 1/4" to the dimension shown.

*All Figures are for Illustration Purposes Only*

05OCT09

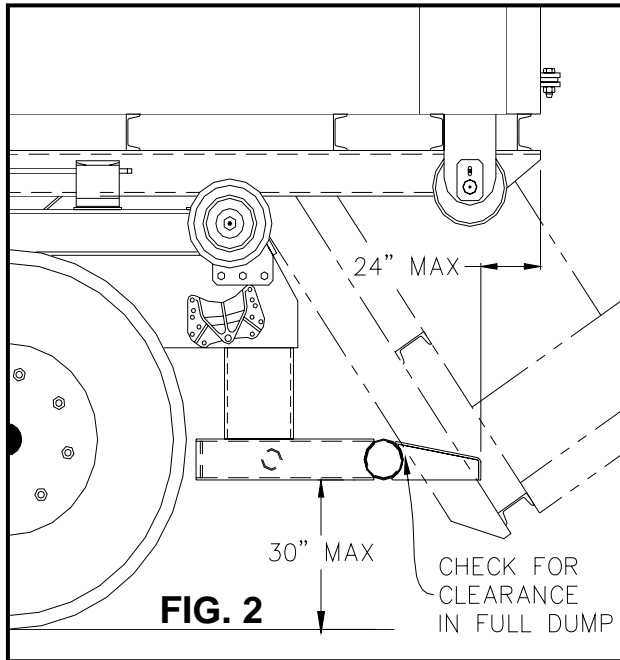


# REAR BUMPER ASS'Y w/ EXTENSIONS

(52H11 with 52H13 Extensions)

## INSTALLATION INSTRUCTIONS (continued)

5. Weld the bumper weldment to the vertical channels (See Fig. 1 & 3).

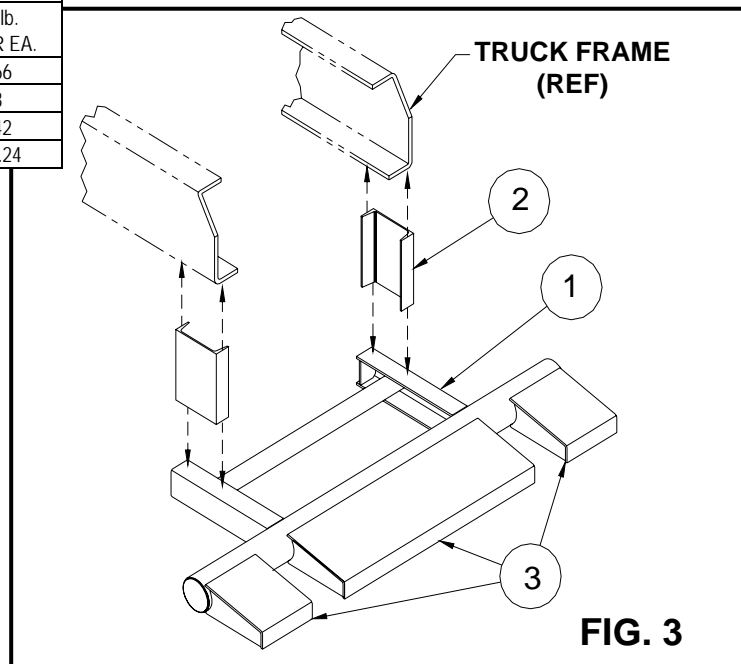


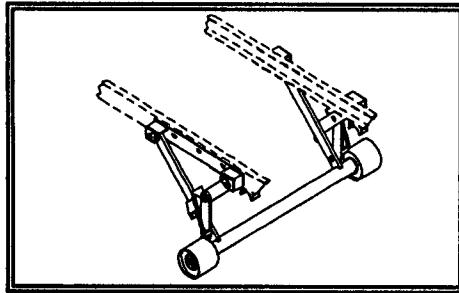
### ADDITIONAL NOTES:

1. Prior to any welding, consult the truck manufacture for any special precautions that may need to be taken. Typically the batteries must be disconnected and the ground lead from the welder should be as close to the part being welded to avoid the possibility of arcing across bearings, gears, etc.
2. All welds should be done utilizing a low hydrogen welding process.

### **MATERIAL LIST**

ITEM	QTY	P/N	DESCRIPTION	WT lb. PER EA.
1	1	52H12	REAR BUMPER WDMT	95.66
2	2	63H94	VERTICAL CHANNEL	9.58
3	1	52H13	REAR BUMPER EXTENSIONS	58.42
TOTAL				173.24

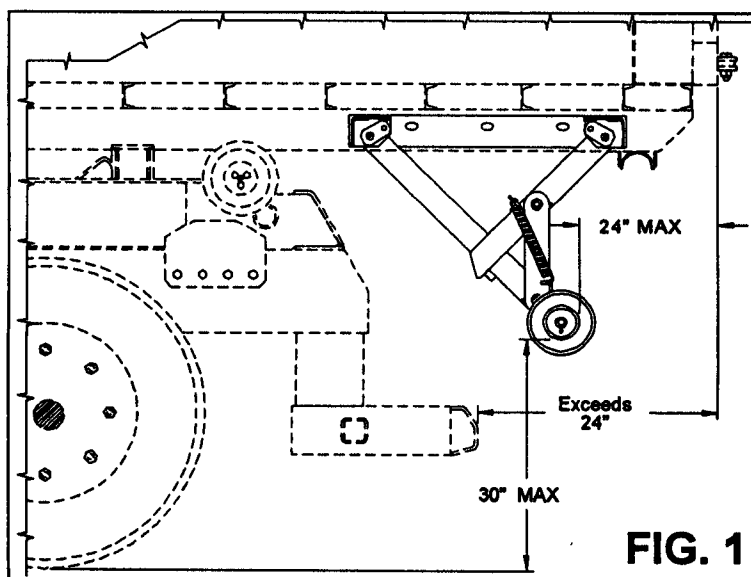




## BUMPER ASSEMBLY, DROP DOWN (51H11)

### INSTALLATION INSTRUCTIONS

1. Review all directions and diagrams provided before starting bumper installation. Typically, a drop down bumper is needed when the rear of the container extends beyond the back of the truck such that the distance between the truck bumper and container rear exceeds 24" (See Fig. 1). Office of Motor Carrier Safety (OMCS) Regulation 393.86 requires that no bumper be located more than 30" off the ground when the truck is empty, and the end of the bumper should not be located more than 24" from the extreme rear of the vehicle, including truck bodies (See Fig. 1).



# BUMPER ASSEMBLY, DROP DOWN (51H11)

## INSTALLATION INSTRUCTIONS (continued)

- Position drop down bumper on the longsills of the sub-frame (See Fig. 2 & 3). The mount brackets [Part No. 51H17] need to be positioned correctly to allow for sufficient room for bumper cradles [Part No. 51H19] (See Fig.2). Weld mount brackets onto the longsills of the sub-frame.
- Position bumper cradles [Part No. 51H19] on the longsills of the sub-frame. Check bumper cradles for squareness with respect to each other. The bumper tube [Part No.51H16] should come to rest within the bumper cradles when the container rests on the ground (See Fig. 2 & 3). Weld bumper cradles into place on longsills.

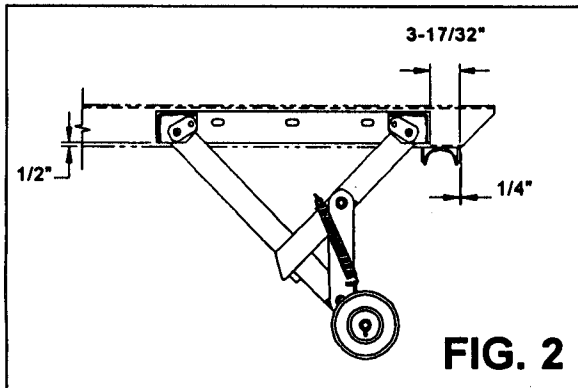


FIG. 2

### ADDITIONAL NOTES:

- Prior to any welding, consult the truck manufacturer for any special precautions that may need to be taken. Typically the batteries must be disconnected and the ground lead from the welder should be connected as close as possible to the part being welded to avoid the possibility of arcing across bearings, gears, etc.
- During installation of the bumper, check to make sure that the position of the bumper does not interfere with the loading and unloading of truck bodies.

MATERIAL LIST				
ITEM	QTY	P/N	DESCRIPTION	WT lb. PER EA.
1	1	51H12	LONG PIVOT ARM R.H.	16.08
2	1	51H13	LONG PIVOT ARM L.H.	16.08
3	1	51H14	SHORT PIVOT ARM R.H.	8.89
4	1	51H15	SHORT PIVOT ARM L.H.	8.89
5	1	51H16	BUMPER TUBE	113.05
6	2	51H17	MOUNT BRACKET	19.94
7	4	51H18	BUMPER PIN	1.12
8	2	51H19	BUMPER CRADLE	1.64
9	2	51H20	BUMPER ROLLER	27.07
10	6	01P06	3/4-10 SLOTTED HEX NUT	.22
11	6	00786	3/4 DIA. FLAT WASHER HT	.10
12	6	00P98	5/32 DIA. X 1-1/2 COTTER PIN	.01
13	4	00P03	3/8-16 X 3/4 HHCS	.11
14	4	00755	3/8 DIA. LOCK WASHER	.05
15	10	90P20	1/4-28 GREASE ZERK	.01
16	2	90P33	1-1/8 OD X 10 SPRING	.60
TOTAL				268.69

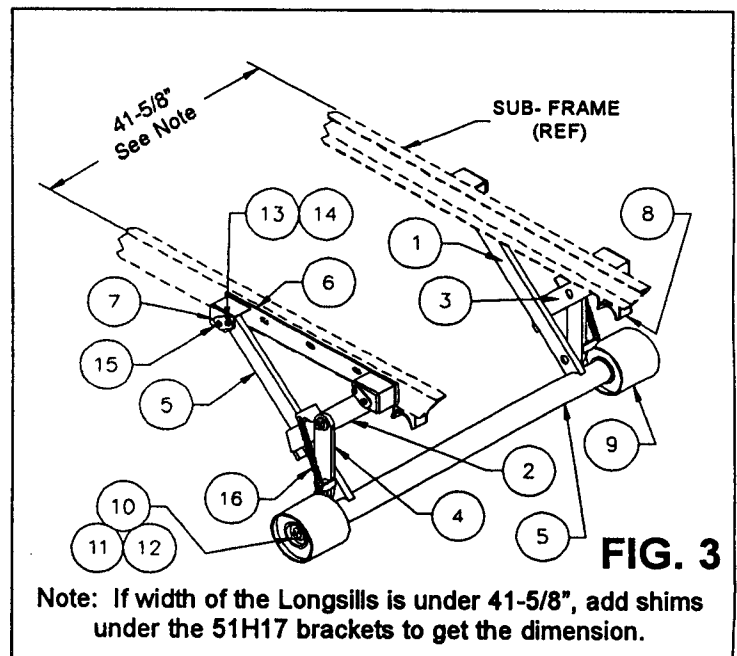
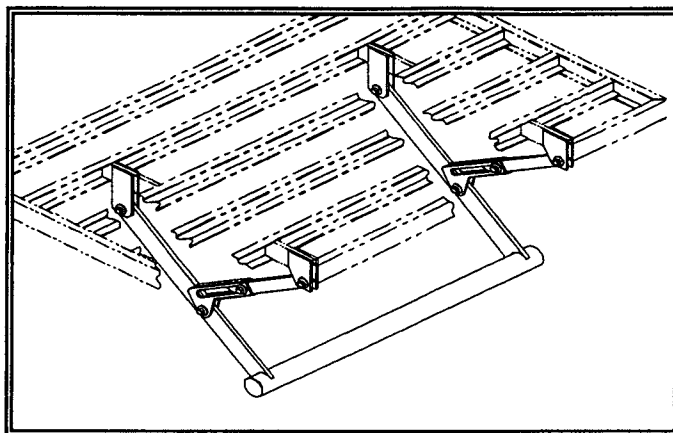


FIG. 3

Note: If width of the Longsills is under 41-5/8", add shims under the 51H17 brackets to get the dimension.



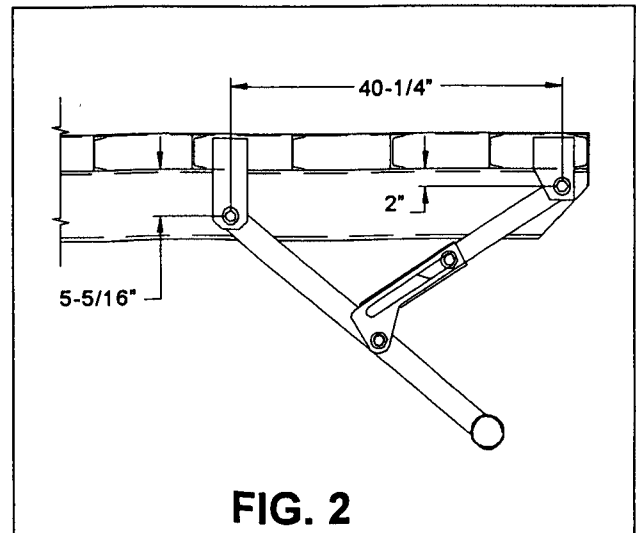
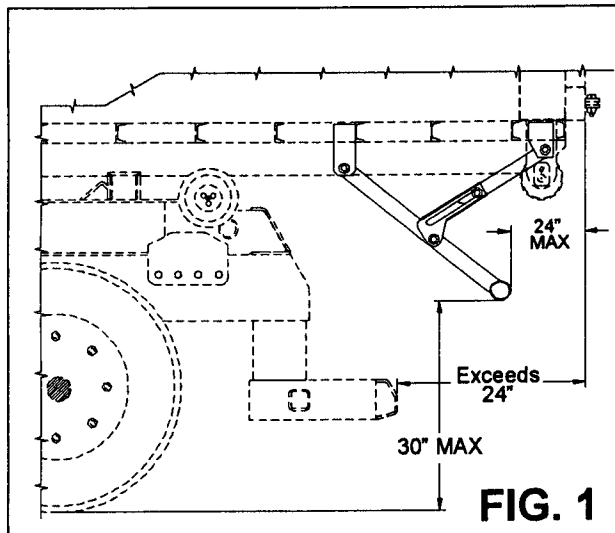
FOLDING BUMPER  
(51H44)

# FOLDING BUMPER

## (51H44)

### INSTALLATION INSTRUCTIONS

1. Review all directions and diagrams provided before starting bumper installation. Typically, a folding bumper is needed when the rear of the container extends beyond the back of the truck such that the distance between the truck bumper and container rear exceeds 24" (See Fig. 1). Office of Motor Carrier Safety (OMCS) Regulation 393.86 requires that no bumper be located more than 30" off the ground when the truck is empty, and the end of the bumper should not be located more than 24" from the extreme rear of the vehicle, including truck bodies (See Fig. 1). The folding bumper will need to be used in conjunction with the Roller Assembly [10H90] and Roller Mount Brackets Assembly [10H91] for the container to function properly.
2. Locate the best position for the support bars between the cross members. Fabricate four support bars out of 4" x 1" bar cut to the length needed to fit between the cross members (See Fig. 3). Figure 3 shows a width dimension of 56-1/2". This width can be adjusted if interference occurs with other items on the container, but cannot exceed the width of the bumper tube. Weld the four bars between the cross members.
3. Weld the front [62H87] and rear [62H88] brackets to the support bars. Be sure to maintain the dimensions as indicated so that the bumper folds properly (See Fig. 2 & 3).
4. Weld the Pivot arms [62H84] to the Bumper Tube Weldment [51H46]. Be sure to maintain the width dimension that was used to locate the support bars in Step 2.

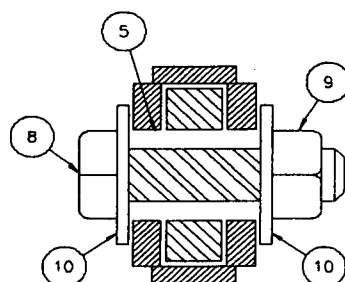


5. Assemble the Bumper Assembly to the Front and Rear Brackets (See Fig. 3). Refer to the Typical Bolted Connection (See Fig. 4) for all connections.
6. Raise the bumper into the folded position several times to ensure the mechanism works smoothly and freely.

MATERIAL LIST				
ITEM	QTY	P/N	DESCRIPTION	WT lb. PER EA.
1	2	51H45	SLIP BRACKET WDMT.	9.17
2	1	51H46	BUMPER TUBE WDMT.	47.83
3	2	62H84	PIVOT ARM	24.79
4	2	62H85	SLIDE ARM	10.67
5	8	62H86	BUSHING	.39
6	4	62H87	FRONT BRACKET	4.45
7	4	62H88	REAR BRACKET	3.16
8	8	01P15	3/4-10 X 3 HHCS GR-8	.56
9	8	00P72	3/4-10 LOCKING HEX NUT	.20
10	16	00774	3/4 DIA. FLAT WASHER	.05
TOTAL				177.53

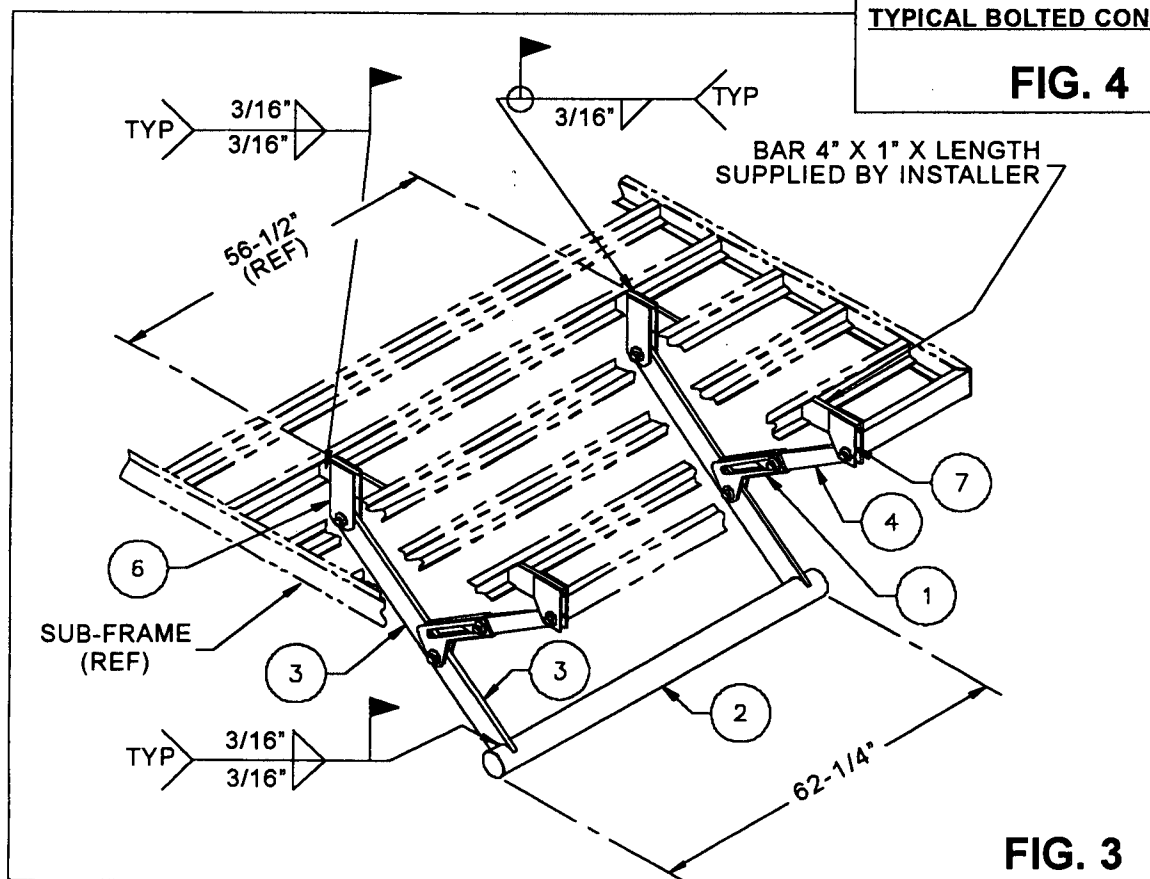
#### **ADDITIONAL NOTES:**

1. Prior to any welding, consult the truck manufacturer for any special precautions that may need to be taken. Typically the batteries must be disconnected and the ground lead from the welder should be connected as close as possible to the part being welded to avoid the possibility of arcing across bearings, gears, etc.
2. During installation of the bumper, check to make sure that the position of the bumper does not interfere with the loading and unloading of truck bodies.

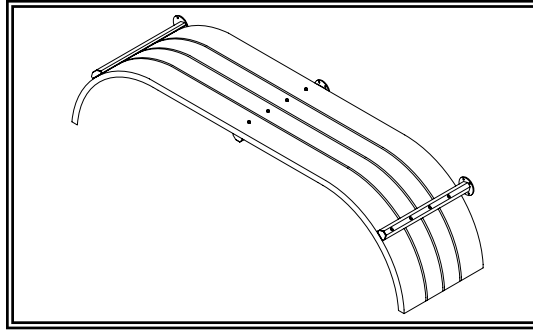


**TYPICAL BOLTED CONNECTION**

**FIG. 4**



**FIG. 3**

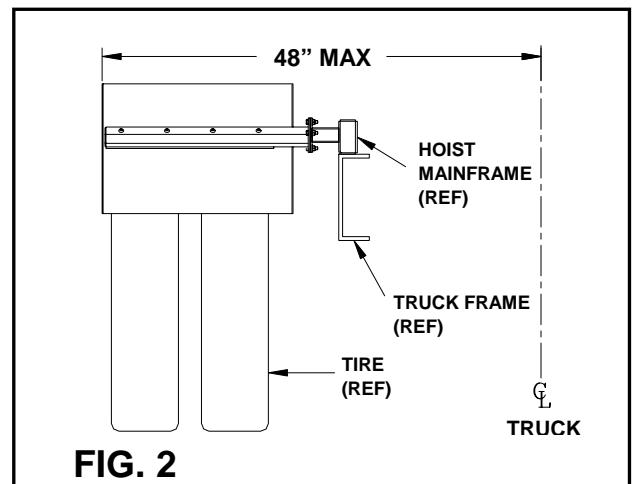
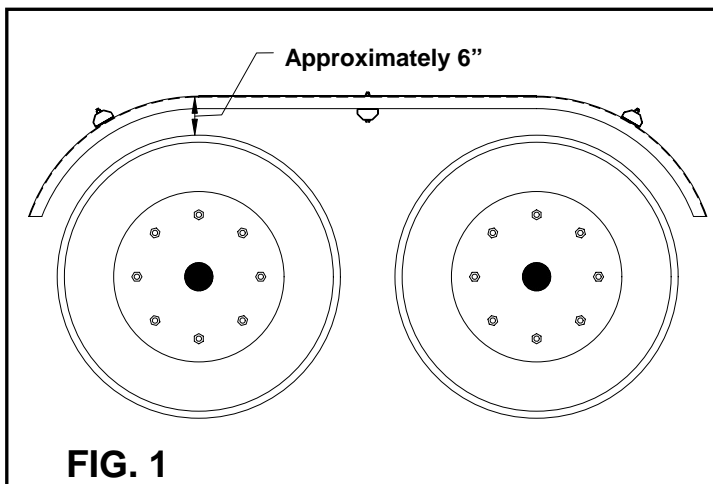


## FENDER ASSEMBLY, TANDEM AXLE

Steel (11H14)

### INSTALLATION INSTRUCTIONS

1. Review all directions and diagrams provided before starting fender installation.
2. Center fender above tire using block to maintain the proper height. Fender should be approximately 6" above tire to allow for suspension movement (See Fig. 1). A maximum width of 48" from center of the truck to the outside edge of the fender should be maintained (See Fig. 2).
3. Place fender bracket weldments [Part No. 10H74] on fender. Position the brackets to avoid any mounting obstacles on hoist and/or truck chassis.



*All Figures are for Illustration Purposes Only*

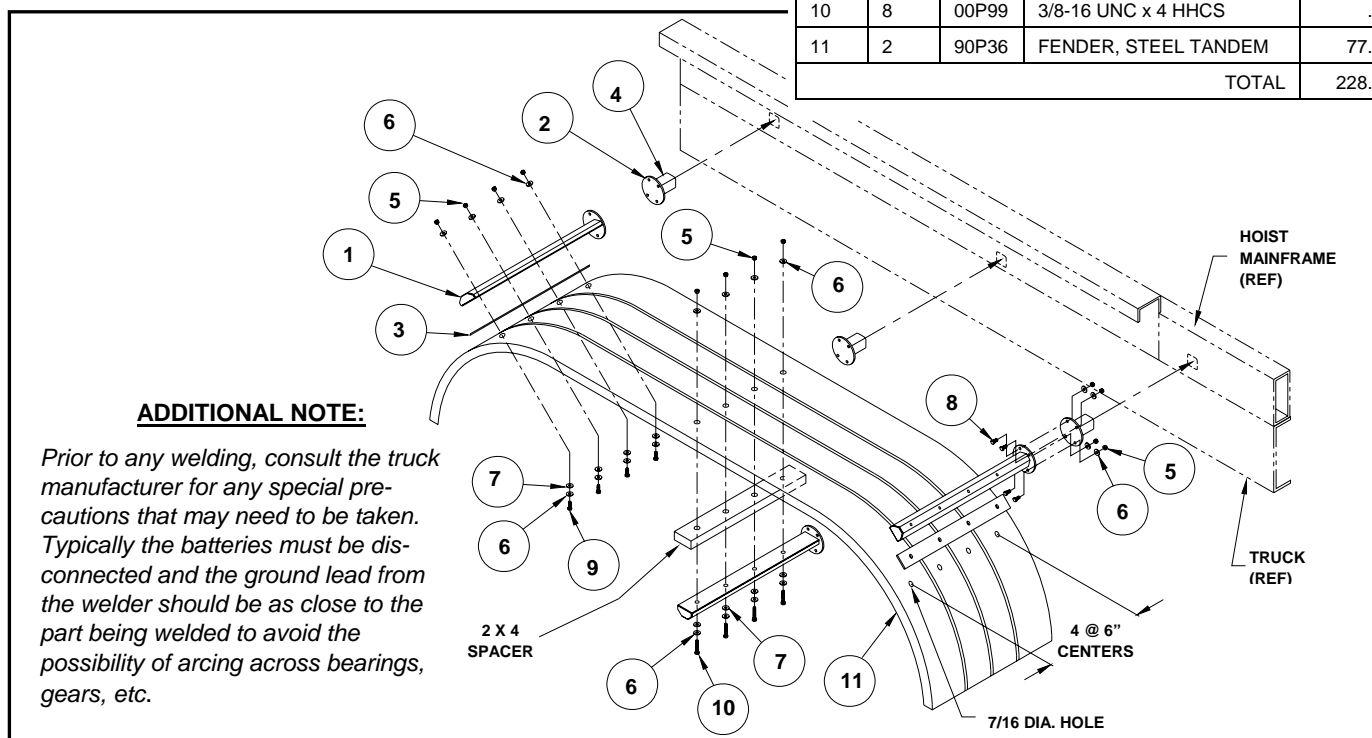
# FENDER ASSEMBLY, TANDEM AXLE

## Steel (11H14)

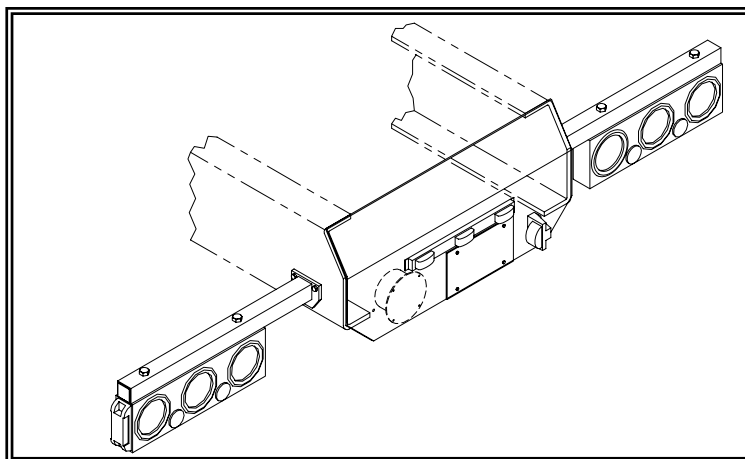
### INSTALLATION INSTRUCTIONS (continued)

4. Mark mounting holes through the fender bracket weldment onto the fender.  
Remove the bracket and drill 7/16" dia. Holes in fender (See FIG. 3).
5. Attach fender bracket weldments to fender using fasteners provided.
6. Weld mounting plates [Part No. 21H37] to fender tubes [Part No. 21H61].
7. Position fender tubes with mount plates on hoist mainframe; align with fender bracket weldments. (**NOTE:** Fender tube length may need to be modified to fit specific application.)
8. Weld fender tubes to hoist mainframe. If attaching the fender tubes to the truck chassis, an additional mount plate may need to be fabricated so the assembly can be bolted to the truck chassis.
9. Attach fender bracket weldment [Part No. 10H74] to mounting plate [Part No. 21H37] using fasteners provided (See FIG. 3).

MATERIAL LIST				
ITEM	QTY	P/N	DESCRIPTION	WT lb. PER EA.
1	6	10H74	FENDER BRACKET WDMT.	8.05
2	6	21H37	MOUNTING PLATE	1.09
3	6	21H42	RUBBER SPACER	.85
4	6	21H61	FENDER TUBE	1.26
5	48	00P34	3/8-16 UNC LOCKING NUT	.02
6	72	00771	3/8 DIA. FLAT WASHER	.05
7	24	00P78	3/8 DIA. NYLON WASHER	-
8	24	00P44	3/8-16 UNC X 1-1/2 HHCS	.07
9	16	01P21	3/8-16 UNC X 2-1/2 HHCS	.09
10	8	00P99	3/8-16 UNC x 4 HHCS	.11
11	2	90P36	FENDER, STEEL TANDEM	77.00
TOTAL				228.86







## REAR LIGHT BAR ASSEMBLY

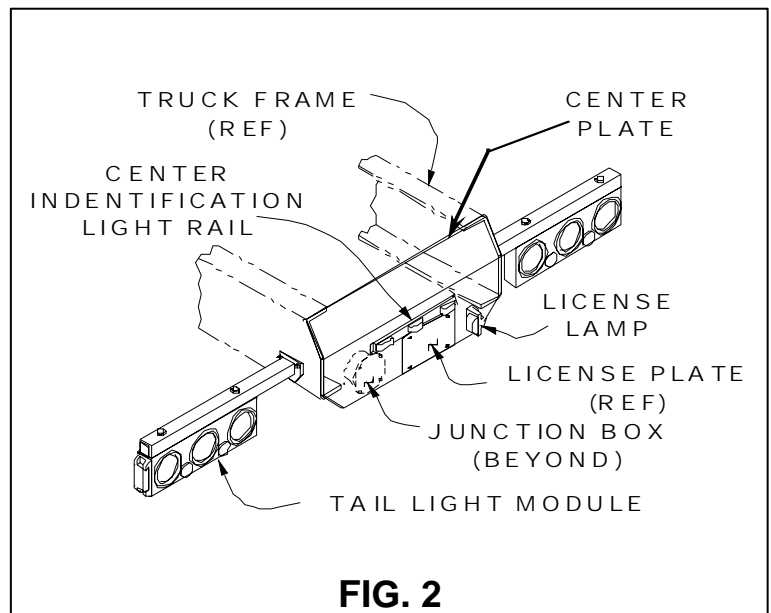
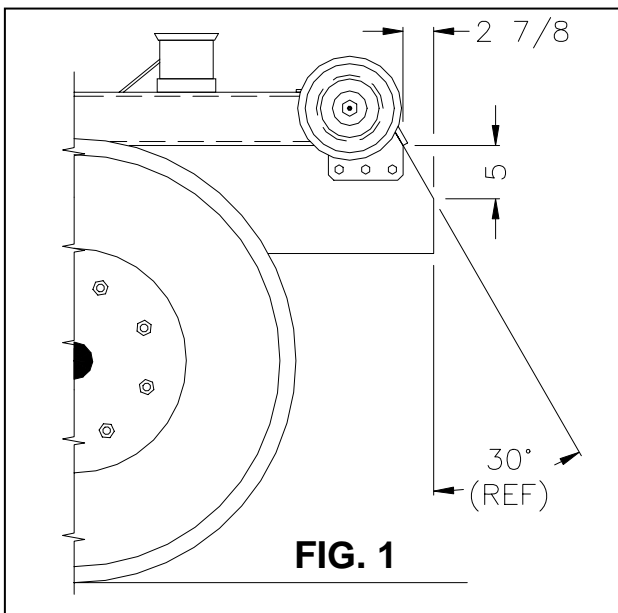
(51H68)

# REAR LIGHT BAR ASSEMBLY

((51H68))

## **INSTALLATION INSTRUCTIONS**

1. Review all directions and diagrams provided before starting rear light bar installation.
2. Trim truck frame to indicated dimensions (See Fig. 1). This step may have already been preformed if a bumper was previously installed.
3. Position center plate [Part No. 63H08] on the rear of the main frame. Weld center plate to truck frame (See Fig. 2 & Additional Notes).
4. Position stub light bar weldment [Part No. 51H69] on truck frame. Stub light bar weldment should be as high and as far back as possible on the truck frame to avoid interference with the bumper and fenders. It may be necessary to modify the stub light bar weldment to avoid interference. Drill mounting holes as required and mount using fasteners provided (See Fig. 3).
5. Attach the tail light module to the stub light bar weldments with the fasteners provided (See Fig. 3).
6. Mount the identification light bar at top center of the center plate [Part No. 63H08] using the fasteners provided (See Fig. 3).
7. Mount license lamp right of the license plate (See Fig. 2) using the fasteners provided (See Fig. 3).



# REAR LIGHT BAR ASSEMBLY

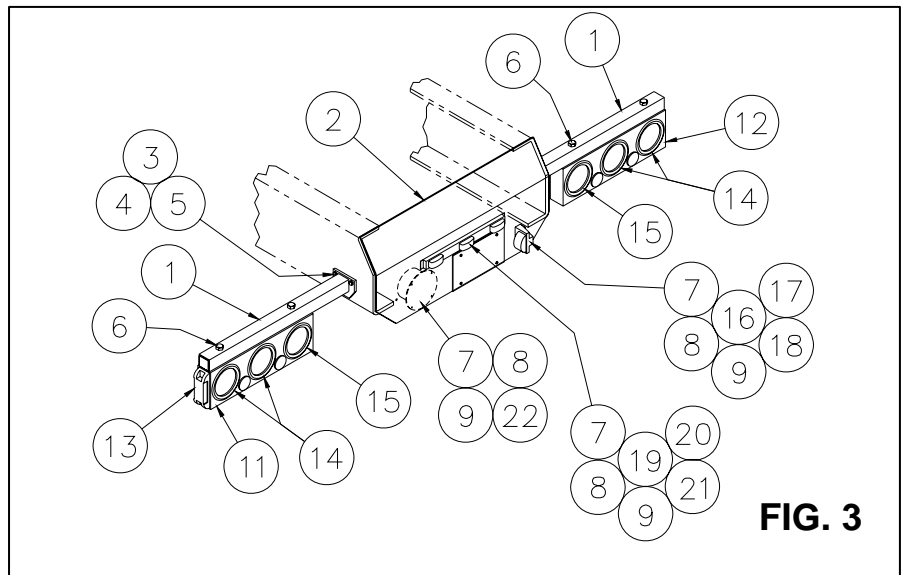
((51H68))

8. Mount junction box on the back left side of center plate (See Fig. 2), using the fasteners provided (See Fig. 3).
9. Route all wire harnesses into the junction box. Wire harnesses must enter the junction box through a compression fitting (Based on the size of the wire harness, choose a compression fitting with an appropriately sized grommet). Make wiring connections in junction box with wire harness from truck cab as indicated on wiring diagram (See Fig.4).

MATERIAL LIST				
ITEM	QTY.	P/N	DESCR.	WT. - lb. PER EACH
1	2	51H69	STUB LIGHT BAR WDMT.	7.87
2	ONE	63H08	CENTER PLATE	27.33
3	6	00P44	3/8-16 x 1 1/2 HHCS	0.07
4	6	00P34	3/8-16 LOCKING HEX NUT	0.02
5	6	00771	3/8 DIA FLAT WASHER	0.01
6	4	01P18	5/8-11 x 3 HHCS	0.35
7	8	00P81	#8-32 x 1 RND HD SCR	-
8	8	00P82	#8-32 HEX NUT	-
9	8	00P83	#8 LOCK WASHER	-
10	ONE	40P26	LIGHT KIT ASSEMBLY	23.00
11	REF	40P27	LEFT TAIL LIGHT MODULE WITH HARNESS	-
12	REF	40P28	RIGHT TAIL LIGHT MODULE WITH HARNESS	-
13	REF	40P29	SIDE MARKER LAMP	-
14	REF	40P30	STOP, TURN, & TAIL LAMP	-
15	REF	40P31	BACK-UP LAMP	-
16	REF	40P32	LICENSE LAMP ASSEMBLY (WITHOUT HARNESS)	-
17	REF	40P33	LICENSE LAMP	-
18	REF	40P34	LICENSE LAMP HARNESS	-
19	REF	40P35	IDENTIFICATION LIGHT BAR RAIL	-
20	REF	40P36	ID LIGHT BAR LAMP	-
21	REF	40P37	ID LIGHT BAR HARNESS	-
22	REF	40P38	JUNCTION BOX ASSEMBLY	-
TOTAL				68.07

## ADDITIONAL NOTES:

*Prior to any welding, consult the truck manufacture for any special precautions that may need to be taken. Typically the batteries must be disconnected and the ground lead from the welder should be as close to the part being welded to avoid the possibility of arcing across bearings, gears, etc.*



**FIG. 3**



1800 NE Broadway Avenue, Des Moines, Iowa, U.S.A. 50313-2644  
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# WIRE DIAGRAM

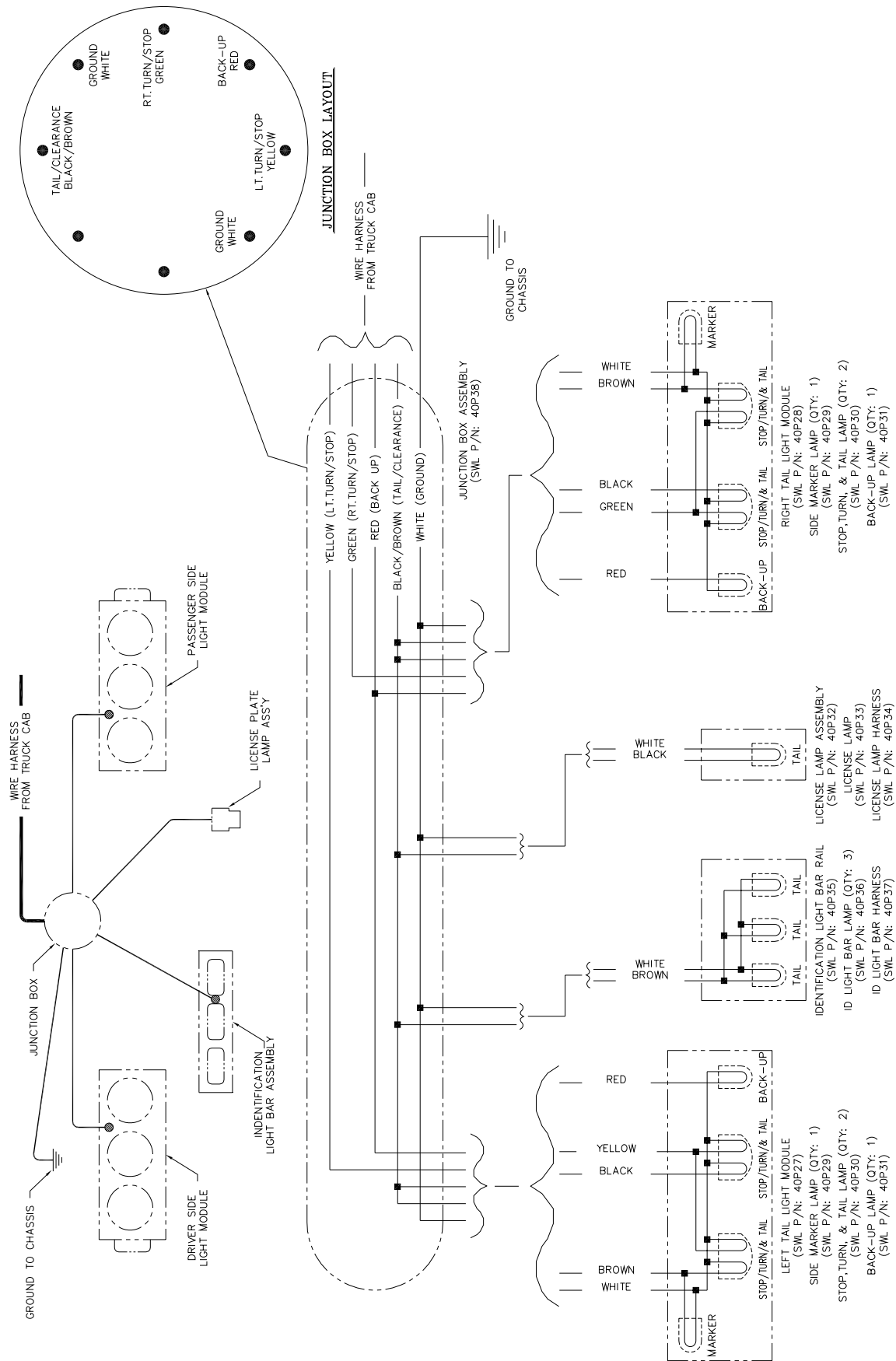
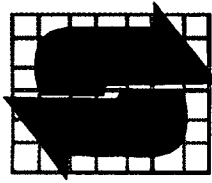
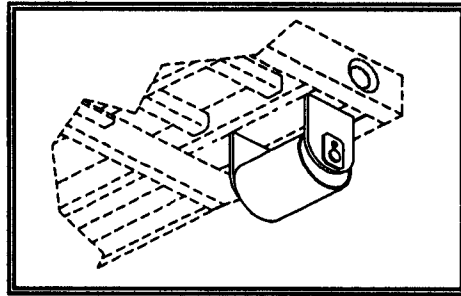


Fig. 4



# SWAPLOADER<sup>®</sup>

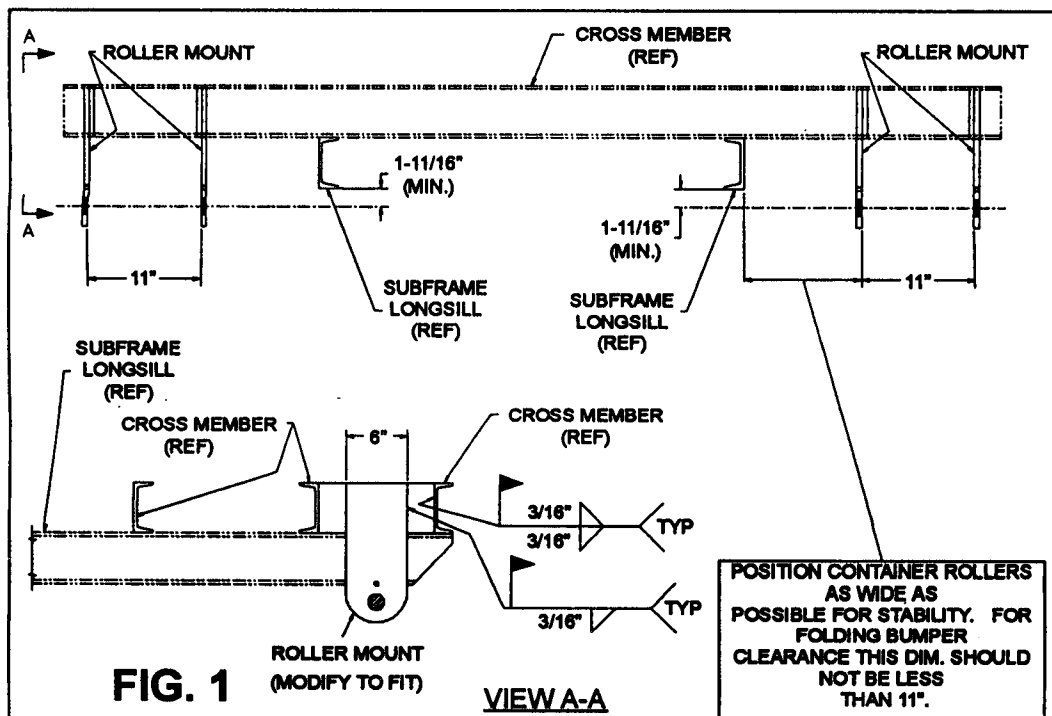
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## ROLLER & ROLLER MOUNT (10H90 & 10H91)

### INSTALLATION INSTRUCTIONS

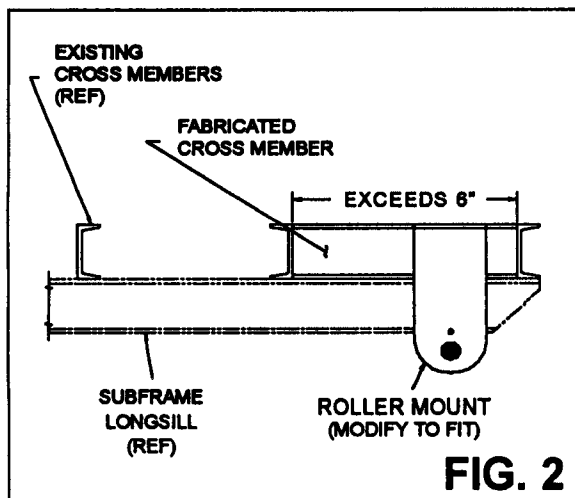
1. Review all directions and diagrams provided before starting the roller and roller mount installation.
2. Locate position for roller mount brackets [Part No. 32H03] between cross sills of the container. Rollers should be positioned as far back and as wide as possible for stability. For hoist and folding bumper clearance, do not place brackets any closer than 11" to the subframe longsill (See Fig.1). Also, the roller axle center line should be approximately 1-11/16" below the bottom of the subframe longsill for roller clearance (See Fig. 1).



# ROLLER & ROLLER MOUNT (10H90 & 10H91)

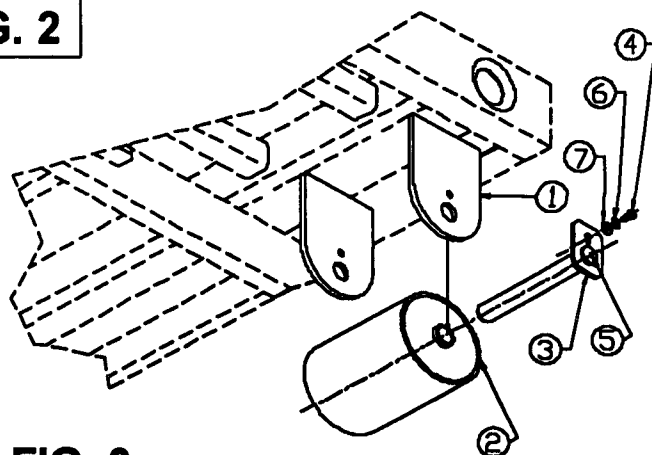
## INSTALLATION INSTRUCTIONS (continued)

3. Some modification to the roller mount bracket may be required for the roller mount to fit properly. If the existing container cross members are wider than 6", a fabricated support member of 1/2" plate or thicker will need to be added (See Fig. 2).
4. Once the mount brackets are located on the container, weld the roller mount brackets in place (See Fig. 1).
5. Install the roller [Part No. 10H12] between the brackets with the roller axle [Part No. 10H31] and the fasteners provided (See Fig. 3). Grease the rollers before use.

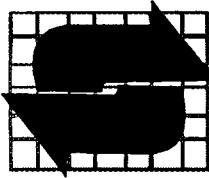


**FIG. 2**

MATERIAL LIST				
ITEM	QTY	P/N	DESCRIPTION	WT lb. PER EA.
1	4	32H03	ROLLER EAR	11.95
2	2	10H12	ROLLER WDMT.	39.78
3	2	10H31	ROLLER AXLE WDMT.	7.28
4	2	00P62	3/8-16 UNC X 1 BOLT	.05
5	2	90P03	1/8 NPT GREASE ZERK	.01
6	2	00755	3/8 DIA. LOCK WASHER	.01
7	2	00P36	3/8 DIA. WASHER H.T.	.10
TOTAL				142.26

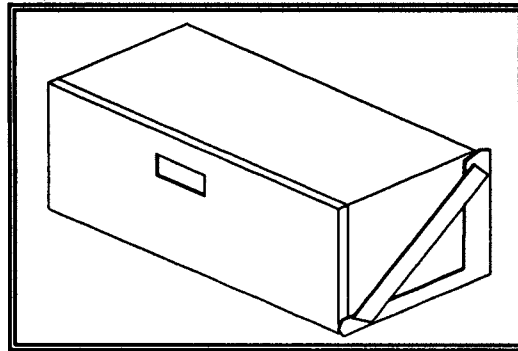


**FIG. 3**



# SWAPLOADER<sup>®</sup>

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## TOOLBOX

Aluminum (10H92) / Steel (11H12)

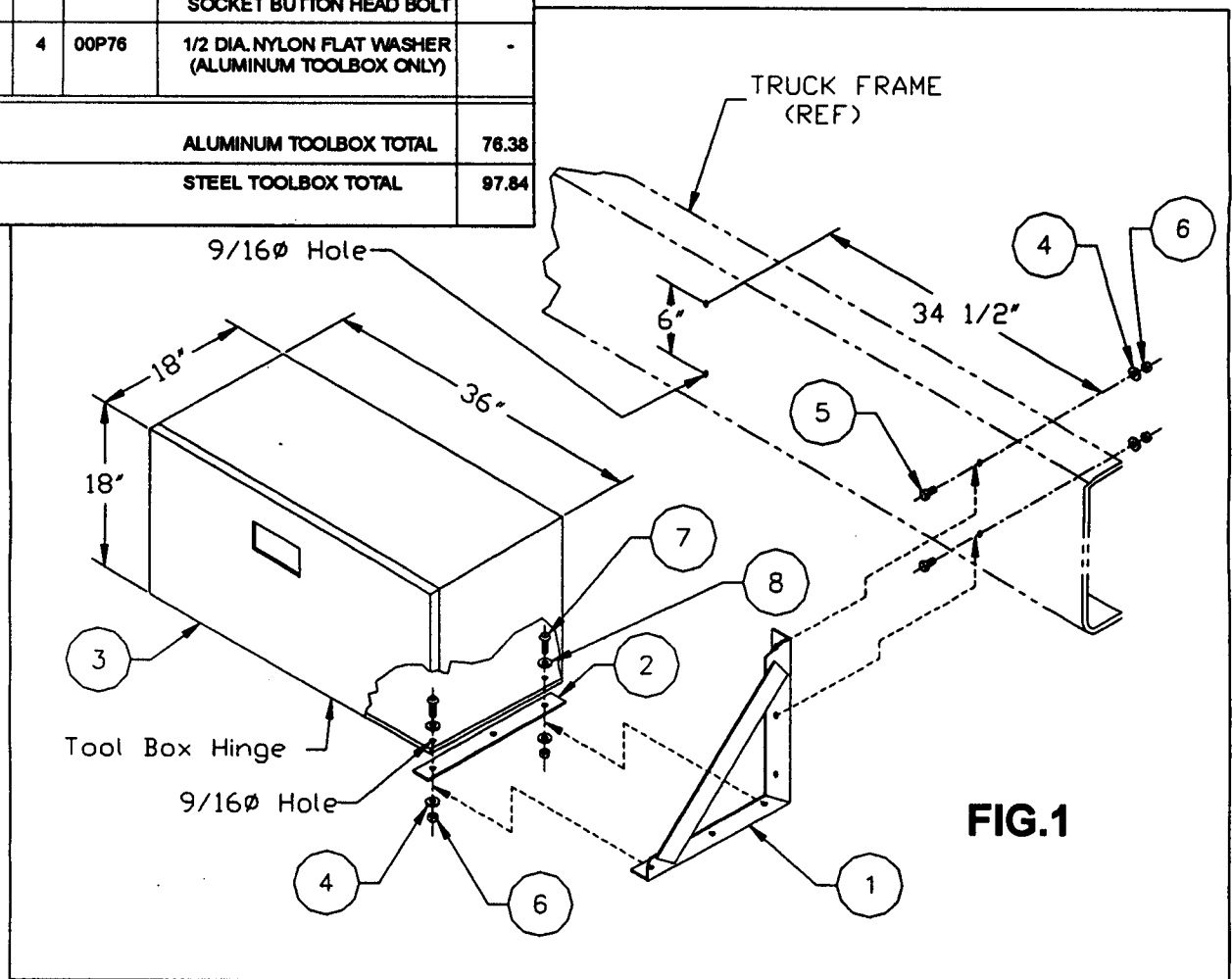
### INSTALLATION INSTRUCTIONS

1. Review all directions and diagrams provided before starting toolbox installation.
2. Position toolbox brackets [Part No. 10H88] on truck chassis.  
(NOTE: toolbox has an envelope of 18"x18"x36". See Fig. 1 for hole dimensions.)
3. Mark position of mounting holes through brackets onto truck chassis. Remove brackets and drill 9/16" dia. holes.
4. Mount toolbox brackets using fasteners provided (See Fig. 1).
5. Position toolbox [Part No. 90P27 or 90P37] on brackets. (NOTE: toolbox hinge should be on the forward, bottom edge.)
6. Mark position of mounting holes through brackets onto toolbox. Remove toolbox and drill 9/16" dia. holes.
7. Mount toolbox to brackets using fasteners provided (See Fig. 1).

# TOOLBOX

## Aluminum (10H92) / Steel (11H12)

MATERIAL LIST				
ITEM	QTY	P/N	DESCRIPTION	WT lb. PER EA.
1	2	10H88	18" TOOLBOX BRACKET	11.34
2	2	22H71	TOOLBOX RUBBER SPACER (ALUMINUM TOOLBOX ONLY)	.27
3	1		18 X 18 X 36 TOOLBOX	
		90P27	ALUMINUM TOOLBOX	50.00
		90P37	STEEL TOOLBOX	72.00
4	8	00784	1/2 DIA. FLAT WASHER H.T.	.07
5	4	00P15	1/2-13 UNC X 1-3/4 HEX HEAD BOLT	.23
6	8	00P35	1/2-13 UNC METAL LOCKING NUT	.15
7	4	00P75	1/2-13 UNC X 1-1/2 SOCKET BUTTON HEAD BOLT	.12
8	4	00P76	1/2 DIA. NYLON FLAT WASHER (ALUMINUM TOOLBOX ONLY)	-
ALUMINUM TOOLBOX TOTAL				76.38
STEEL TOOLBOX TOTAL				97.84







## PRE-DELIVERY CHECK LIST

### INSPECTOR'S INFORMATION

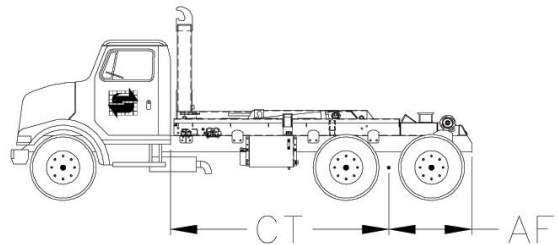
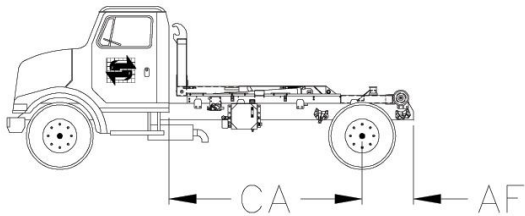
Inspected By: \_\_\_\_\_ Signature: \_\_\_\_\_  
Distributor: \_\_\_\_\_ Date Installed: \_\_\_\_\_  
Customer: \_\_\_\_\_ Date Inspected: \_\_\_\_\_

### I. COMPONENT INFORMATION

Hoist Model: \_\_\_\_\_  
Hoist Serial No.: \_\_\_\_\_  
Chassis VIN: \_\_\_\_\_  
Chassis Make & Model: \_\_\_\_\_  
Chassis GVWR: \_\_\_\_\_  
Chassis CA / CT: \_\_\_\_\_  
After Frame: \_\_\_\_\_

*Distance from rear of cab to the centerline of rear axle/tandem.*

*Distance from centerline of rear axle/tandem to rear of hoist.*



PTO Make: \_\_\_\_\_  
PTO Model: \_\_\_\_\_  
PTO Serial No.: \_\_\_\_\_  
PTO % of Engine RPM: \_\_\_\_\_  
  
Hyd. Pump Make: \_\_\_\_\_  
Hyd. Pump Model: \_\_\_\_\_  
Hyd. Pump Serial No.: \_\_\_\_\_

### II. INSTALLATION TO CHASSIS

Were there any problems installing the hoist to the truck chassis? ☐ YES ☐ NO

If yes, please describe: \_\_\_\_\_

- ☐ All bolts checked for proper tightness.
- ☐ Please include photos of the hoist installed on the truck chassis. Be sure to include at least one photo from each side of the chassis/hoist.



### III. CONTROLS

- ☐ Controls easy to operate from driver's seat.
- ☐ Movement of controls correct, per installation instructions.

### IV. HYDRAULIC INSTALLATION

- ☐ Correct hydraulic oil level in reservoir, per installation instructions.
- ☐ Inspected for leaks.

Any abnormal noise during hoist operation? ☐ YES ☐ NO

If yes, please describe: \_\_\_\_\_

**With engine operating @ 1,000 RPM, record the following information:**

Cycle time for dump mode: _____	Seconds Up _____	Seconds Down _____
Cycle time for load/unload mode: _____	Seconds to Unload _____	Seconds to Load _____
Filter pressure: _____	PSI _____	
Main pressure, controls in neutral: _____	PSI _____	
Main relief pressure when extending jib cylinder (bottomed out): _____	PSI _____	
Main relief pressure when extending lift cylinders (bottomed out): _____	PSI _____	

**NOTE:** Connect pressure gauge to fitting provided on the inlet section of the Hydraulic Control Valve (Ref. Part No. 10P37, fitting on Hydraulic Pump Circuit Drawing found in the Parts List section of the Hoist's Parts & Operations Manual).

### V. OPERATION

- ☐ Jib operates freely in both directions.
- ☐ Jib cannot be extended or retracted when raised in dump position or when pivot joint is tilted in unload position. Both safety hooks are fully engaged when jib is extended.
- ☐ Parts & Operations Manual is in the cab.
- ☐ Lubricate sliding jib and all grease zerks per installation instructions.

### VI. DECALS

- ☐ All safety decals and product decals installed per enclosed decal drawings (found attached to the inside of the hoist's Parts & Operations Manual cover or at the back of the Parts List section in the Manual).

Additional Comments: \_\_\_\_\_

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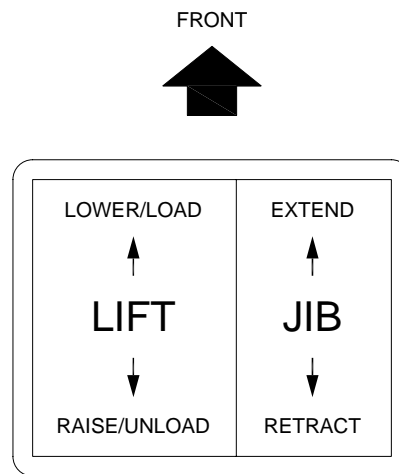
**OPERATION**

## OPERATING INSTRUCTIONS

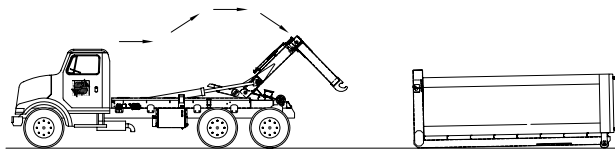
During all operations of the SwapLoader, the speed of the engine should be maintained at 1,000 to 1,200 RPM, assuming the ratio of the Power Take Off is about 100%.

### LOADING A CONTAINER

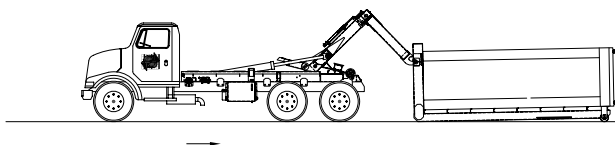
1. Engage the P.T.O. (Refer to P.T.O. manual for operation).



2. Retract the jib (right control lever backward). Then, tilt the arm backward (left control lever backward).



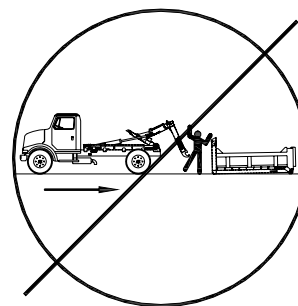
3. Make sure the work area in front of the container is clear of people and obstacles. Move the truck backwards until the hook engages the curved lifting bar of the container. **NEVER EXTEND THE JIB** to reach the proper catching height, rather tilt the arm.



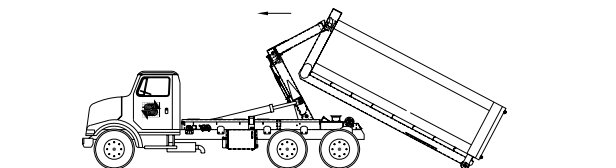


**WARNING:**

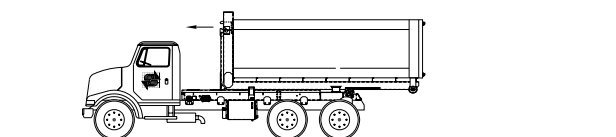
**Make sure work area is clear of people and obstacles prior to dumping or unloading containers. SwapLoader strongly recommends that a back up alarm be installed on the truck chassis. The operation of the hook hoist is that the truck is backed up to the body to pick it up and so there is a potential pinch point between the body and the hook.**



- 
4. Cycle the arm forward (left control lever forward), making sure the curved lifting bar is securely attached to the hook. Release the brakes of the truck and steer to correctly align the truck with the container. Watch the container rails to see that they come to rest centered on the rear rollers. Do not extend the jib during lifting.



5. When the container is resting on the frame, move the jib forward all the way to ensure the container is held in the body locks (right control lever forward). Disengage the P.T.O.



## **DUMPING**

1. Move the jib forward (right control forward) to ensure that the container is locked.
2. Extend the main lift cylinders (left control backward).



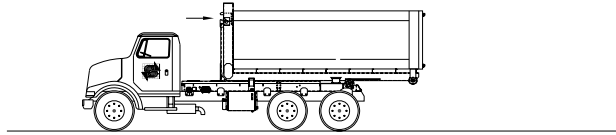
**CAUTION:**

**DO NOT RETRACT THE JIB WHILE DUMPING. Retracting the jib during dumping may unlock the mechanical jib latches which could allow the container to crash down onto the hoist and/or abruptly unload.**

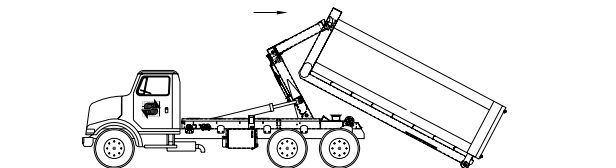
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## **PLACING A CONTAINER ON THE GROUND**

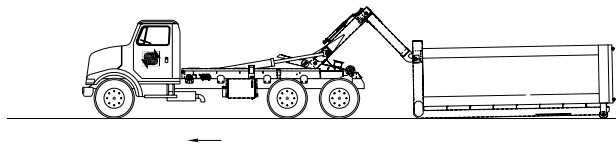
1. Move the sliding jib all the way back (right control backward) until mechanical jib latches unlock.



2. Tilt the arm backwards (left control backward). When the container touches the ground, release the brakes to free the truck for forward movement caused by the container.

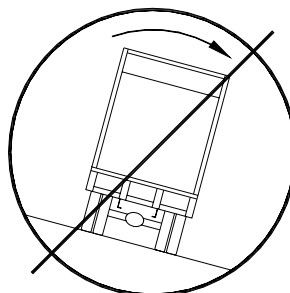


3. Rotate jib all the way till the container touches the ground. Pull away from container and rotate jib back into the transport position.



### **WARNING:**

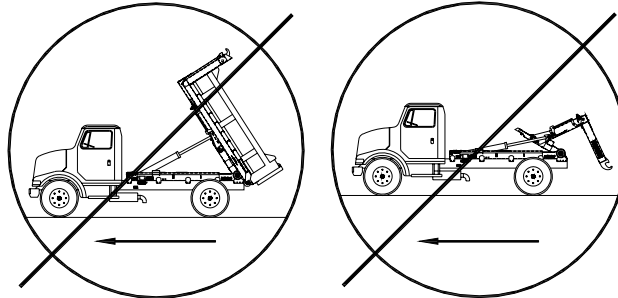
1. **DON'T OVER SPEED THE PUMP  
1,500 RPM MAXIMUM.**
2. **DON'T DUMP ON UNEVEN GROUND.**





**WARNING:**  
(CONTINUED)

3. **DON'T DRIVE WITH THE HOIST IN THE DUMP POSITION OR WITH THE HOOK TILTED BACK.**

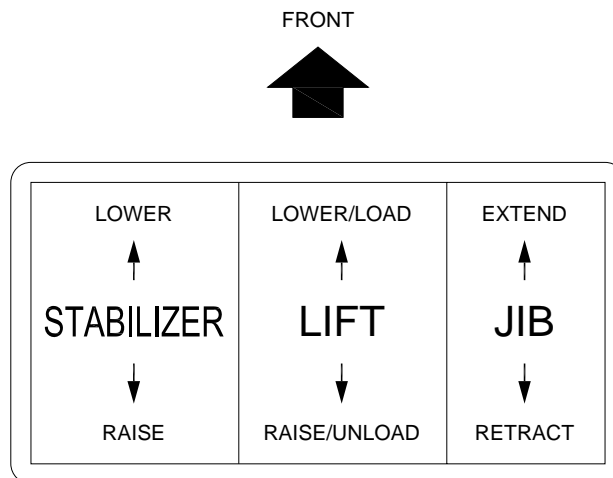


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## **OPERATING THE STABILIZER**

If loading or unloading a heavy container that would cause the front end of the truck to lift off the ground, then a stabilizer should be utilized if the unit is equipped with one.

When *Loading a Container* the stabilizer should be lowered between steps 3 & 4, while when *Placing the Container on the Ground* the stabilizer should be lowered between steps 1 & 2 (see the previous operating instructions on pages 3-1 to 3-3).



To lower the stabilizer, push forward on the left control lever until the roller is all the way down.

When finished with loading or unloading the container the stabilizer roller should be raised prior to disengaging the P.T.O. To raise the stabilizer, push backward on the left control lever until the roller is all the way up.



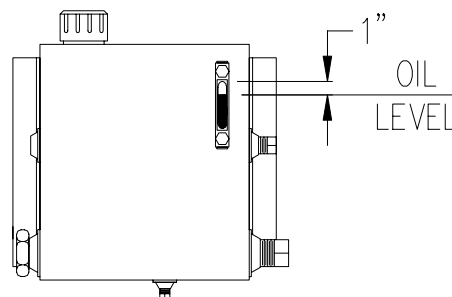


# MAINTENANCE

## **MAINTENANCE INSTRUCTIONS**

### **WEEKLY SERVICE - (50 OPERATIONS)**

1. Lubricate with grease (Refer to Lubrication Diagram)
  - Lifting hook on jib
  - Jib slide - top, bottom, and side guides
2. Check hydraulic oil level. With the hoist in the transport position (lift cylinders retracted and jib cylinder extended – see diagram on front cover) the oil level in the tank should read approximately one inch below the top of the glass sight on the temperature/sight gauge (see diagram ➔).
3. Check hydraulic hose and fittings for leaks. Also check hydraulic hose for wear. Repair and/or retighten as necessary.



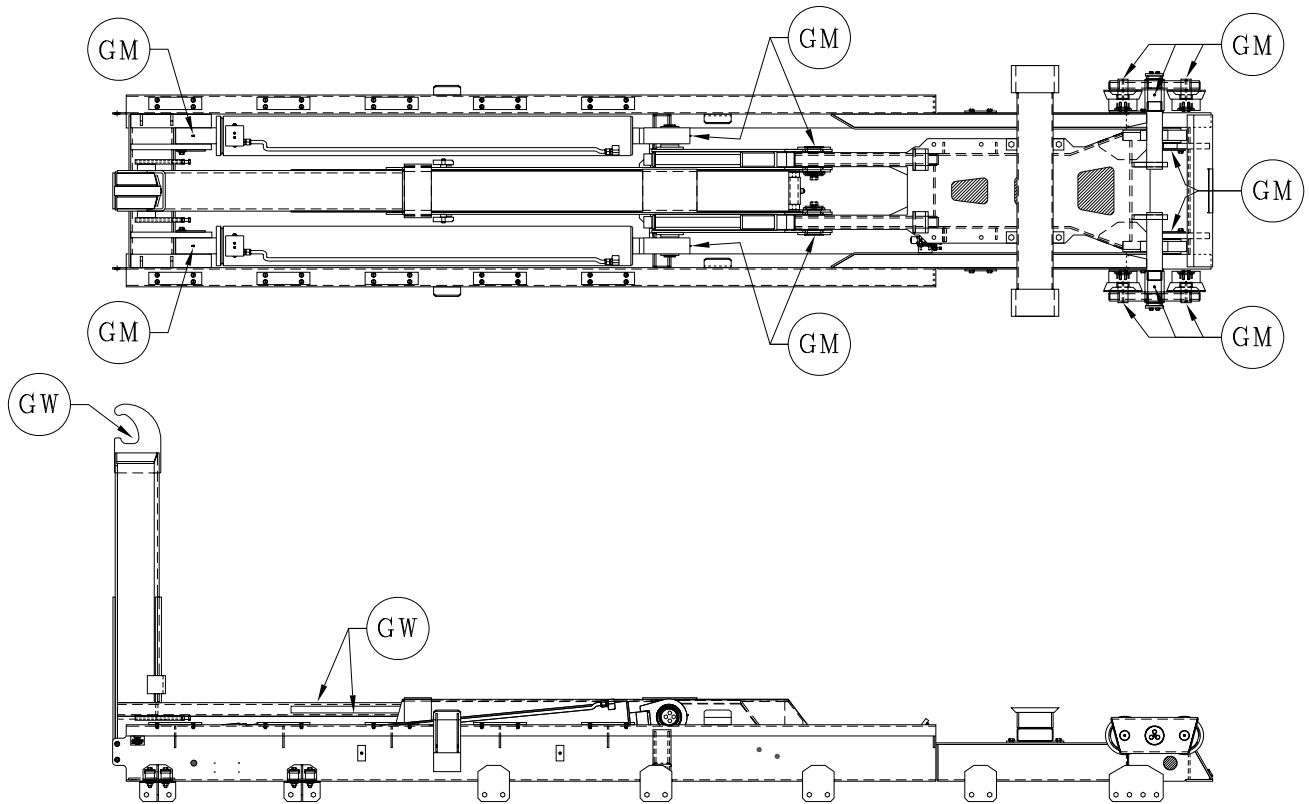
### **MONTHLY SERVICE - (200 OPERATIONS)**

1. Lubricate with grease (Refer to Lubrication Diagram)
  - Fittings on lift cylinders (quantity: 4)
  - Front pins on rear pivot joint weldment (quantity: 2)
  - Fittings on rear pivot pins, rollers, and dual roller mounts (quantity: 8)
2. Check all bolts and retighten as required.
3. Check adjustments on mast lock (safety latch) mechanism. Refer to the Mast Lock Inspection & Adjustment Instructions on page 4-7 of the maintenance section.
4. Check adjustments on the jib lockout valve. Refer to the Jib Lockout Valve Inspection & Adjustment Instructions on page 4-9 of the maintenance section.

### **YEARLY SERVICE**

1. Check for proper gapping on outer tube clamp assembly. Refer to the Outer Tube Clamp Inspection & Adjustment Instructions on page 4-13 of the maintenance section.
2. Change hydraulic oil, replace hydraulic filter element, and wash out suction strainer.
3. Check main relief valve setting. Refer to the Pressure Check Instructions on page 4-11 of the maintenance section. (Pressure should be 3,500 PSI minimum).

# LUBRICATION DIAGRAM



LEGEND	
GM	= GREASE MONTHLY
GW	= GREASE WEEKLY

## **HYDRAULIC OIL SPECIFICATION & INTERCHANGE CHART**

Select an ISO grade of Premium Anti-Wear Hydraulic Oil that is optimum for your location.

### **HYDRAULIC OIL SELECTION CHART**

ISO Grade	Ambient Temperature Range		Viscosity
	°F	°C	SUS @ 100 °F
32	-10 to 85	-23 to 29	150-170
46	10 to 110	-12 to 43	195-240

**NOTE 1:** Always consult your local hydraulic oil supplier for more information.

**NOTE 2:** Use caution when operating at or beyond the recommended temperature extremes.

**NOTE 3:** Do not operate the hooklift hoist when hydraulic oil temperature on tank gauge exceeds 160 °F (71 °C) as damage to hydraulic components can occur.

#### **ISO Grade 32**

Company Name	Brand Name & Grade
Castrol (BP)	Paradene 32AW
CITGO	A/W 32
Exxon	Nuto H 32
Mobil	DTE 24 (DTE 13)
Shell	Tellus 32
SUNOCO	Sun Vis 706 (816 WR)

#### **ISO Grade 46**

Company Name	Brand Name & Grade
Castrol (BP)	Paradene 46AW
CITGO	A/W 46
Exxon	Nuto H 46
Mobil	DTE 25 (DTE 15)
Shell	Tellus 46
SUNOCO	Sun Vis 747 (821 WR)

## **HYDRAULIC FILTER ELEMENT SPECIFICATIONS & INTERCHANGE CHART**

Element Size:	5.10 $\phi$ x 10.9"
Mounting Thread:	1 1/2-16 UN-2B
Filtration Rating:	10 micron (Nominal)
Flow Rating:	60 GPM

Company Name	Filter Part Number
Baldwin	BT-388-10
Can Flo	RSE60-10N
Case	D-130046
Donaldson	HSM6047
Fleetguard	R750-H-0825A
FPC	HF6711

Company Name	Filter Part Number
Hydac	0180MA010P
LHA	SPE60-10
Norman	610
Parker	927736
Wix	51860
Zinga *	LE-10

\* Brand of Element supplied from factory on hoist.

## GENERAL MAINTENANCE PARTS LIST

<u>PT. NO.</u>	<u>DESCRIPTION</u>
<b>21P75</b>	<b><u>HYDRAULIC CYLINDER 7 1/2<math>\phi</math> X 82 (Lift/Dump)</u></b>
21P80	LINE ASS'Y, HYDRAULIC CYLINDER
21P78	SEAL KIT, HYDRAULIC CYLINDER
21P17	HYDRAULIC VALVE CARTRIDGE, COUNTERBALANCE
* * * * *	
<b>21P76</b>	<b><u>HYDRAULIC CYLINDER 4<math>\phi</math> X 52 (Jib)</u></b>
21P79	SEAL KIT, HYDRAULIC CYLINDER
21P17	HYDRAULIC VALVE CARTRIDGE, COUNTERBALANCE
* * * * *	
<b>20P85</b>	<b><u>HYDRAULIC PUMP, GEAR (5.48 CID, L.H. ROT.) - Standard</u></b>
<b>21P34</b>	<b><u>HYDRAULIC PUMP, GEAR (5.48 CID, R.H. ROT.) - Optional</u></b>
20P94	SEAL KIT, HYDRAULIC PUMP
* * * * *	
<b>20P61</b>	<b><u>HYDRAULIC FILTER ASSEMBLY, 60 GPM</u></b>
20P66	HYDRAULIC FILTER ELEMENT
20P64	INDICATOR GAUGE, FILTER
* * * * *	
<b>20P86</b>	<b><u>HYDRAULIC TANK, 30 GALLON LS</u></b>
21P16	STRAINER, TANK MOUNTED - 50 GPM
20P96	SIGHT GAUGE, HYDRAULIC TANK
20P97	BREATHING CAP ASSEMBY, HYDRAULIC TANK
* * * * *	

**20P59            HYDRAULIC CONTROL VALVE, 2 SECT.**

21P18            HYDRAULIC RELIEF VALVE CARTRIDGE (3,500 PSI)

\* \* \* \* \*

**21P29            HYDRAULIC VALVE, 2-WAY**

21P39            SEAL KIT FOR 21P29

\* \* \* \* \*

**90P71            WEAR PAD, 12" - (Z-CHANNEL)**

00755            3/8 $\phi$  LOCK WASHER

00P14            3/8-16 HEX NUT

00P68            3/8-16 x 1 1/4 FL HD SCREW (SST)

\* \* \* \* \*

**80H35            CLAMP LINER – (OUTER TUBE)**

00P68            3/8-16 x 1 1/4 FL HD SCREW (BRASS)

\* \* \* \* \*

**60H11            WEAR BLOCK – (JIB)**

00P79            3/8-16 x 3/4 FL HD SCREW (BRASS)

\* \* \* \* \*

## REPLACEMENT BEARING LIST

<u>PT. NO.</u>	<u>DESCRIPTION</u>
<b>42H38</b>	<b><u>PIVOT PIN (FOR 42H45 PIVOT JOINT SUB-ASSEMBLY)</u></b>
50P20	ALUMINUM BRONZE BEARING; QTY: 1 PER PIN
	* * * * *
<b>40H84</b>	<b><u>MAIN PIVOT PIN (FOR 42H45 PIVOT JOINT SUB-ASSEMBLY)</u></b>
50P20	ALUMINUM BRONZE BEARING; QTY: 1 PER PIN
	* * * * *
<b>42H39</b>	<b><u>DUAL ROLLER MOUNT (FOR 42H45 PIVOT JOINT SUB-ASS'Y)</u></b>
86H10	BRONZE BEARING; QTY: 2 PER DUAL ROLLER MOUNT
	* * * * *
<b>80P09</b>	<b><u>ROLLER ASSEMBLY (FOR 42H45 PIVOT JOINT SUB-ASSEMBLY)</u></b>
23H07	BRONZE BEARING; QTY: 1 PER ROLLER
	* * * * *
<b>21P75</b>	<b><u>HYD CYLINDER 7-1/2<math>\phi</math> X 82 (FOR 42H43 MAINFRAME SUB-ASS'Y)</u></b>
SPL	CYLINDER BEARINGS; CONTACT SWAPLOADER
	* * * * *

## **MAST LOCK INSPECTION & ADJUSTMENT INSTRUCTIONS**

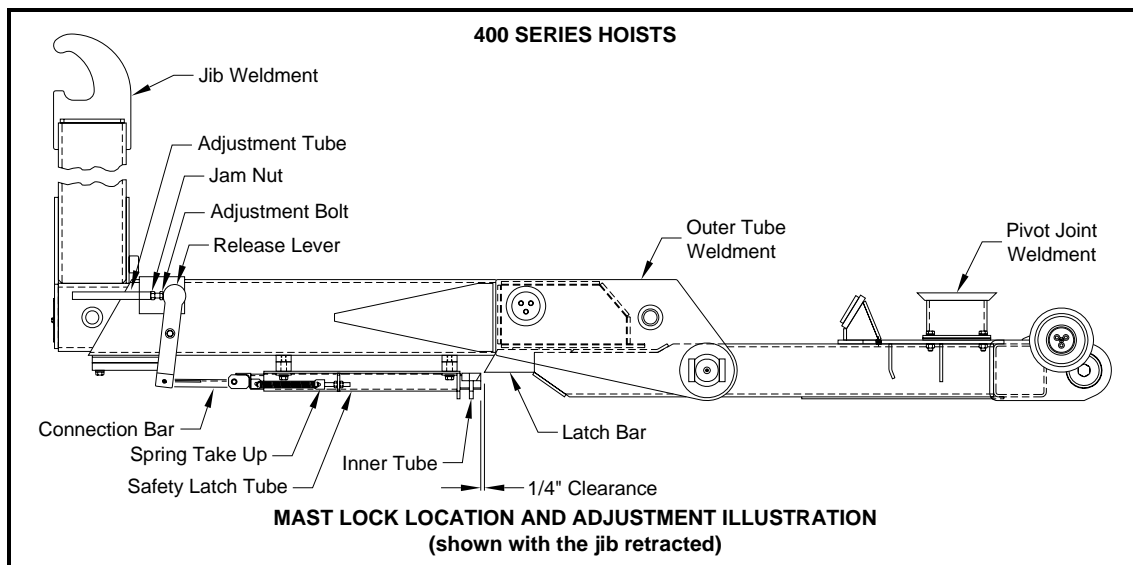
All SwapLoader hook-lift hoists come with a mast lock (safety latch) assembly that is located on the bottom side of the outer tube. When the jib is extended the mast lock then engages the latch bars (forks) on the pivot joint, making the jib, outer tube, and pivot joint into a continuous member for raising the container or body up into a dump mode.

With the jib fully retracted the mast lock then disengages the latch bars on the pivot joint allowing the hook-lift to enter into the mount-dismount cycle by pivoting around the front pins of the pivot joint. A properly adjusted mast lock will function smoothly and clear the latch bars on the pivot joint approximately a  $\frac{1}{4}$ " (see illustrations below).

### **INSPECTION**

The mast lock assembly comes adjusted from the factory and should provide years of trouble free operation, however there may come a time when an adjustment may be required. Prior to making any adjustments, SwapLoader recommends that you begin with inspecting all mast lock components for damage or wear (see illustrations below).

First inspect the adjustment tube and bolt on the jib; make sure nothing is missing or bent. Next, inspect the release lever and connection bar on the outer tube; look for any missing or bent components such as ears or pins. Finally, inspect the safety latch tube and inner tube (see illustration below); again make sure there are no missing or bent components such as ears, pins, or latches. Repair or replace any missing or bent components prior to making any adjustment to the mast lock assembly; refer to the mast lock (safety latch) assembly drawing for proper part numbers and identification of the components (See Drawing No. 42H46 in the Part List pages of the manual).





## **ADJUSTMENT**

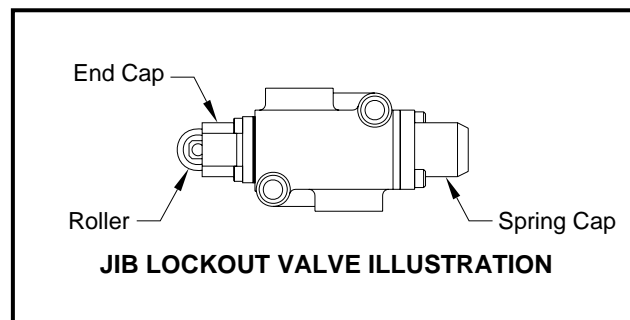
If after inspecting all mast lock components and making any necessary repairs the gap between the mast lock and latch bars on the pivot joint is still incorrect, then an adjustment will need to be made. Please complete the following steps:

1. Retract the telescopic jib until the cylinder completely bottoms out (fully retracted).
2. Inspect the gap between the mast lock latch and the latch bar on the pivot joint. Look for a clearance of approximately 1/4" (if not proceed to steps 3-5).
3. Loosen the jam nut on the adjustment bolt.
4. Turn the adjustment bolt; counter-clockwise to increase the gap or clockwise to decrease the gap.
5. Once the 1/4" clearance is achieved, then tighten the jam nut. Make sure to hold the adjustment bolt from turning when tightening the jam nut.

**Please contact your SwapLoader Distributor or SwapLoader USA should you have any questions regarding this procedure.**

## **JIB LOCKOUT VALVE INSPECTION & ADJUSTMENT INSTRUCTIONS**

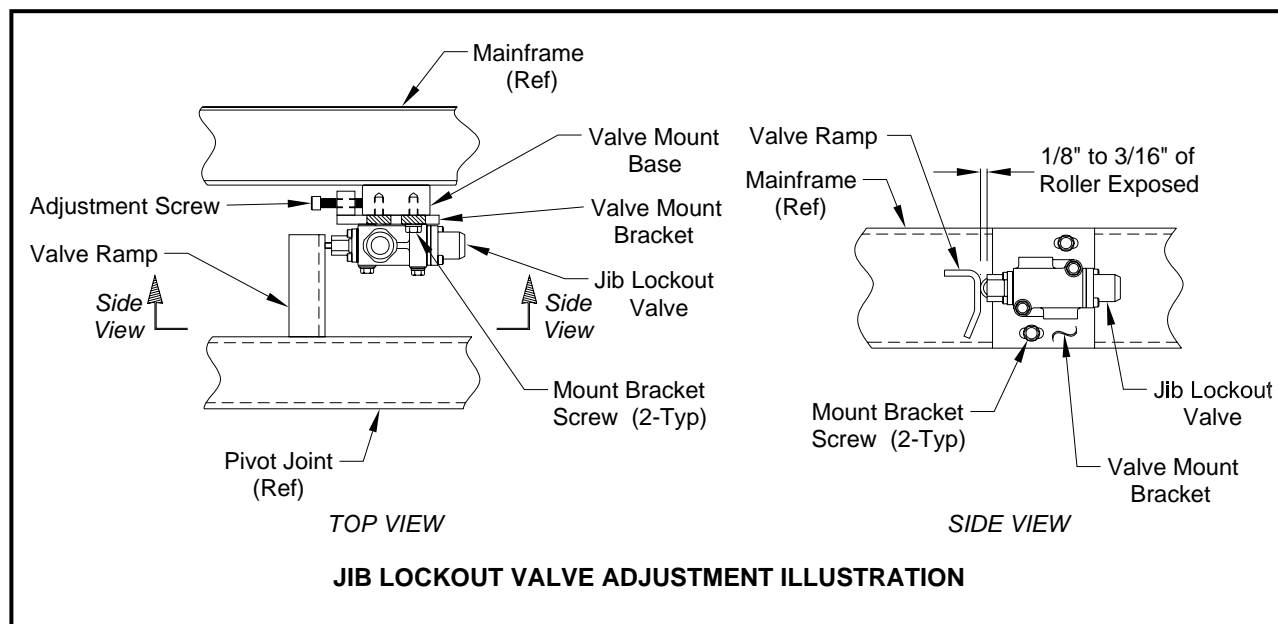
All SwapLoader hook-lift hoists have a jib lockout valve (see illustration below) to prevent accidental operation of the telescopic jib, while the hoist is up in a dump mode. Because the jib lockout valve can block the flow of hydraulic oil to the jib cylinder, should the valve come out of adjustment the telescopic jib may experience a reduction in extension or retraction speed to the point of stalling out.



### **INSPECTION**

When a noticeable loss in extension or retraction speed of the telescopic jib is experienced, the first step should be to inspect the jib lockout valve and valve mount ramp to ensure that they are adjusted properly and in good working order. The jib lockout valve is located on the inside rail of the hoist mainframe approximately two-thirds of the way back on the driver side of the hoist (see Drawing No. 42H43 in the Part List pages of the manual). Visually inspect the jib lockout valve roller and the condition of the valve ramp on the hoist pivot joint without a container on the hoist (see illustration on the next page); this is most easily performed with the hoist back in a dismount mode. If either part shows signs of wear or damage then replace or repair as needed.

With the jib lockout valve roller and valve ramp in good condition the next step is to check that the valve is positioned correctly with respect to the valve ramp. While looking at the roller end of the jib lockout valve, notice that the roller moves in and out of an end cap. With the hoist pivot joint in the down position, or horizontal to the hoist mainframe, the valve ramp should be in contact with the jib lockout valve roller. The roller should be depressed by the valve ramp so that 1/8" to 3/16" of the roller is exposed from the end cap (see illustrations above and on next page).



## **ADJUSTMENT**

Should the jib lockout valve need adjustment the first step will be to loosen the mount bracket screws (see illustration above). Reposition the jib lockout valve with respect to the valve ramp by turning the adjustment screw on the valve mount bracket as follows:

*Clockwise Adjustment* – Moves the jib lockout valve closer to the valve ramp

*Counter-Clockwise Adjustment* – Moves the jib lockout valve away from the valve ramp

Once the valve has been moved back into proper adjustment, then tighten up the mount bracket screws.

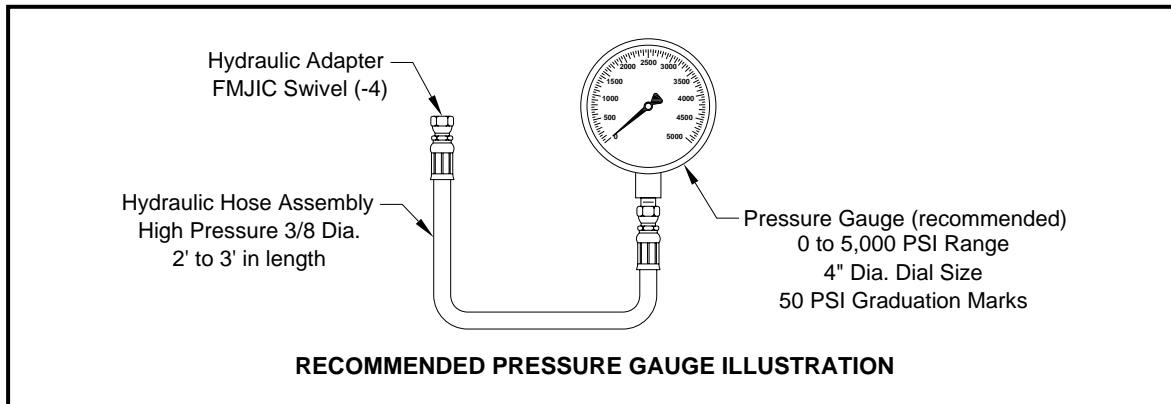
## **PART NUMBER & SPECIFICATION**

SwapLoader Pt. No.	Work Port Size	Spool Type	Pressure (Maximum)	Flow Rate (Maximum)
21P29	7/8-14 ORB (SAE 10)	2-Way, 2-Position N.C.	4,600 PSI (Nominal)	24 GPM (Nominal)

**Please contact your SwapLoader Distributor or SwapLoader USA should you have any questions regarding this procedure.**

## **PRESSURE CHECK INSTRUCTIONS**

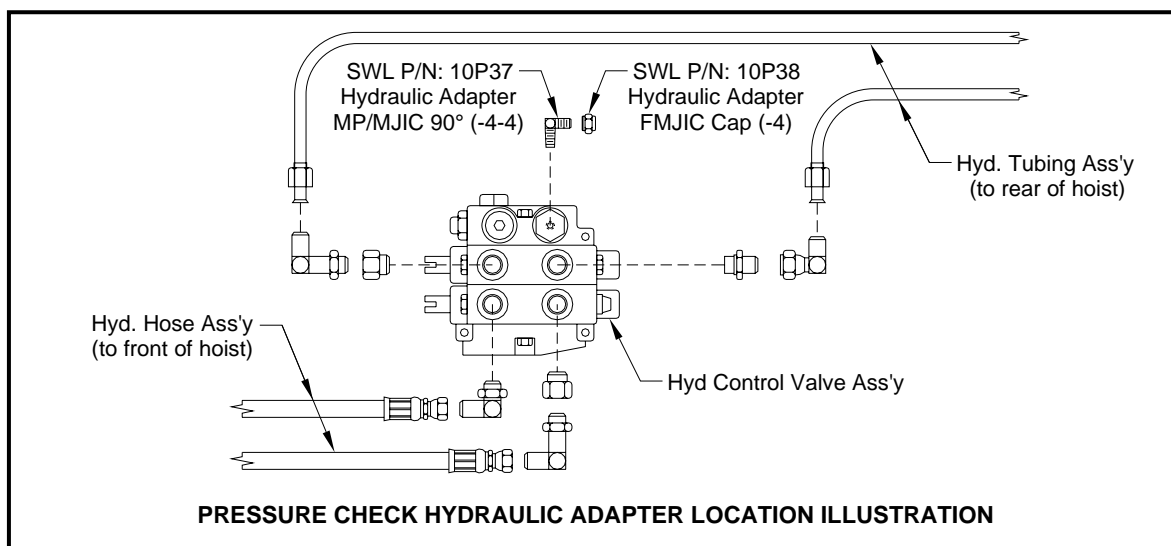
When performing a pressure check on a SwapLoader hook-lift hoist, we recommend that you use a calibrated pressure gauge that reads pressures up to 3,500 PSI (a 0 to 5,000 PSI range gauge is recommended). As a minimum, the gauge should have 100 PSI graduation marks (50 PSI is preferred), and a 3 inch diameter dial size (4 inch dial is preferred). The pressure gauge should be outfitted with a female JIC #4 hydraulic adapter; preferably located at the end of a 3/8 inch diameter high pressure hydraulic hose that is 2 to 3 foot in length (see illustration below).



Should you not be able to source a hydraulic gauge locally, SwapLoader can provide one at a reasonable cost (Hyd. Pressure Gauge & Hose Ass'y – Part No. 22P10).

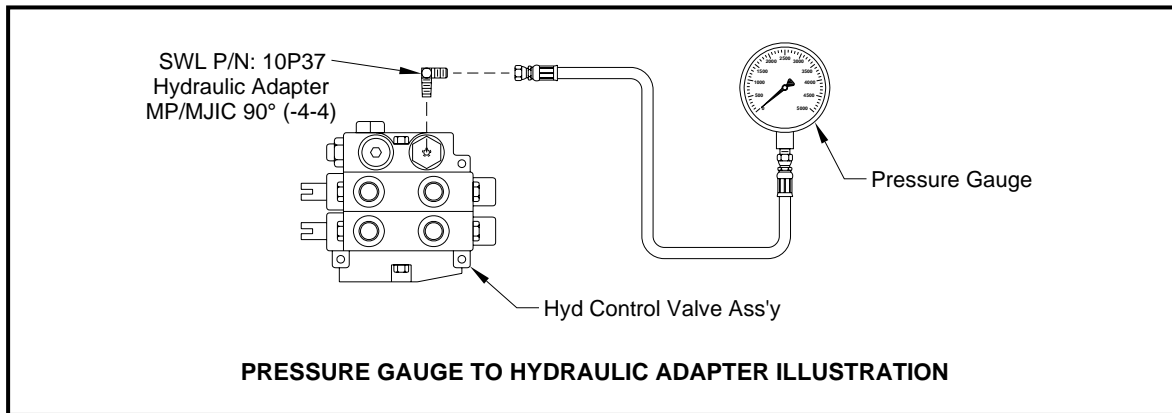
## **PRESSURE CHECK STEPS**

1. Locate the 90° male JIC #4 hydraulic adapter (SWL #10P37) found on the top of the hoist hydraulic control valve (see illustration below).

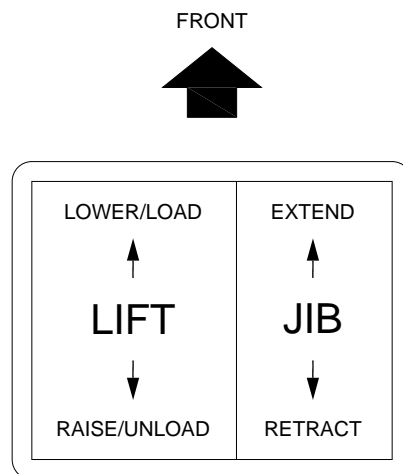


This 90° male #4 JIC hydraulic adapter is supplied by SwapLoader, and should be installed in the hydraulic control valve at the time of the hoist installation (see the hoist parts & operations manual).

2. Remove the female JIC #4 cap from the male JIC #4 adapter and attach the pressure gauge to the hydraulic control valve (see illustration below).



3. Start the truck and engage the P.T.O.
4. Push the lift (dump) circuit lever forward until the lift (dump) cylinders bottom out (see illustration below). Continue to push the lever forward until steps 5-6 are complete.



5. Check the gauge for the maximum developed system pressure. The SL-650 should have a reading of 3,500 PSI.
6. With the pressure check complete; release all functions and disengage the P.T.O.

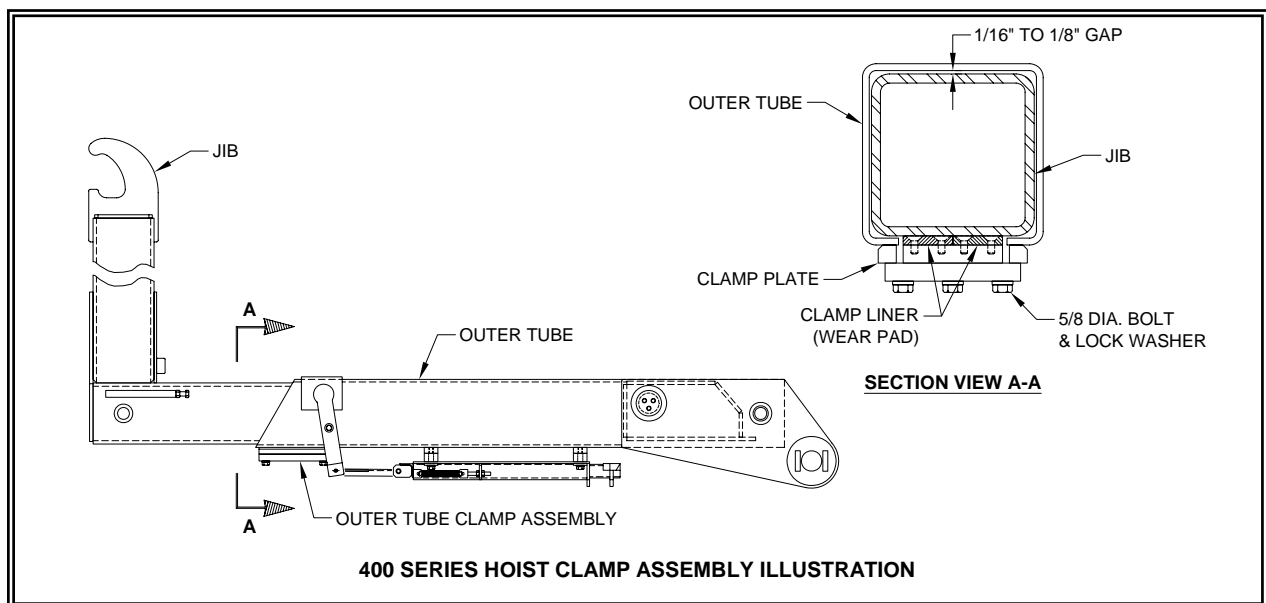
**Please contact your SwapLoader Distributor or SwapLoader USA should you have any questions regarding this procedure.**

## **OUTER TUBE CLAMP ASSEMBLY INSPECTION INSTRUCTIONS**

All SwapLoader hooklift hoists come equipped with an outer tube clamp assembly located on the bottom of the outer tube at the opening where the jib telescopes in and out (see illustration below). On SwapLoader 400 series hoist models the outer clamp assembly is fixed in height.

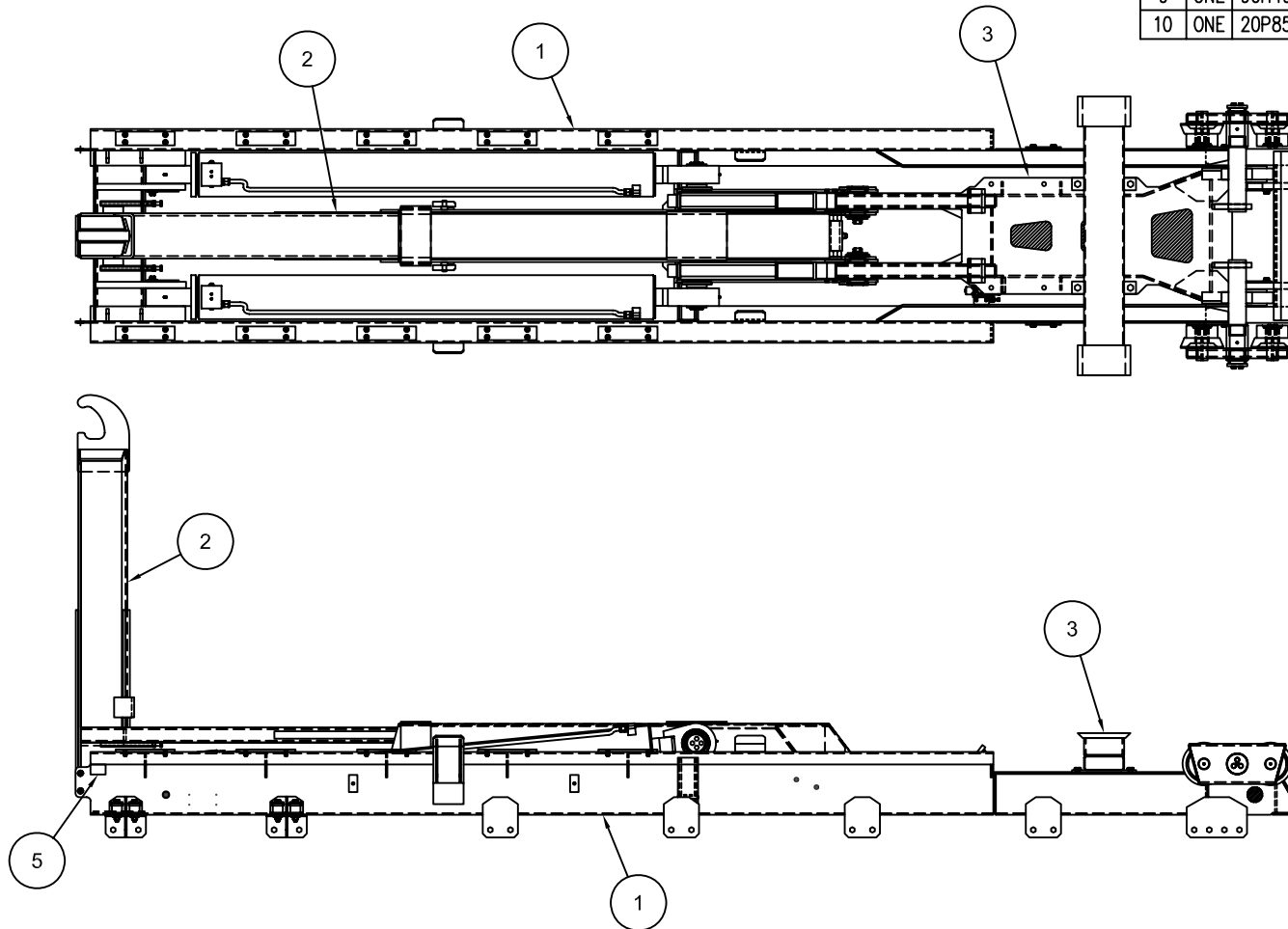
### **INSPECTION**


The illustration below is a typical hoist clamp assembly for the SwapLoader 400 series hoist models. For optimum performance out of your SwapLoader SL-650 hooklift the gap between the top of the jib horizontal tube and the top inside surface of the outer tube should be kept between 1/16" to 1/8" (see Section View A-A below). When a gap greater than 1/8" exists, since the clamp assembly has a fixed elevation, inspect the clamp liner, clamp plate, and fasteners for excessive wear or damage (see Section View A-A below). Replace parts as needed to bring the outer tube clamp assembly back to recommended specifications (see Drawing No. 42H44 in the Parts List pages of the manual).



# PARTS LIST

PARTS LIST					
ITEM	QTY	P/N	DESCRIPTION	WT-lb/ea	REMARKS
1	ONE	42H43	MAINFRAME SUB-ASS'Y	3522.82	
2	ONE	42H44	TELESCOPIC JIB SUB-ASS'Y	2687.04	
3	ONE	42H45	PIVOT JOINT SUB-ASS'Y	1396.77	
4	ONE	91H10	BASE HYDRAULIC ASSEMBLY	50.26	NOT SHOWN
5	ONE	90P79	SERIAL TAG	0.01	
6	ONE	43H03	HOIST INSTALLATION KIT	131.77	NOT SHOWN
7	ONE	91H11	CHASSIS TANK CIRCUIT	105.01	NOT SHOWN
8	ONE	91H09	PUMP CIRCUIT	12.40	NOT SHOWN
9	ONE	90H49	MANUAL CONTROL ASS'Y	73.78	NOT SHOWN
10	ONE	20P85	HYD PUMP, GEAR	61.00	NOT SHOWN
				8040.86	TOTAL

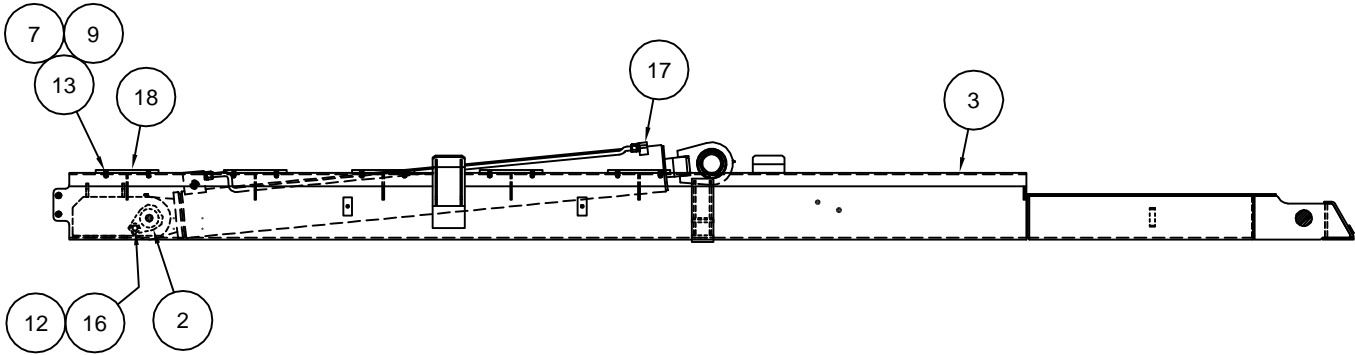
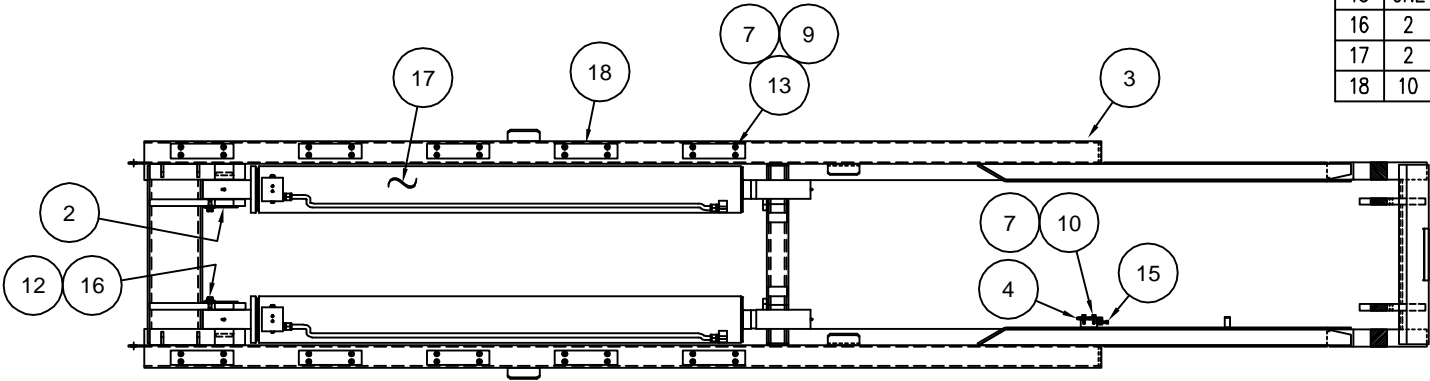




SWAPLOADER HOIST - BASE ASSY
SL-650
42H42 ~ REV A



DISC-LOCK WASHER TORQUE SPEC'S	
BOLT SIZE	SAE GR 8 ASS'Y TORQUE (FT-LBS)
3/8	50
7/16	80
1/2	120
5/8	230
3/4	380
7/8	400
1	400
NOTE: LUBRICATE BOLT THREADS BEFORE TORQUING THE ASSEMBLY	

PARTS LIST					
ITEM	QTY	P/N	DESCRIPTION	WT-lb/ea	REMARKS
1					
2	2	40H83	MAINFRAME PIN WELDMENT	18.66	
3	ONE	42H24	MAINFRAME WELDMENT	1701.47	
4	ONE	42H49	JIB LOCKOUT VALVE MOUNT	2.60	
5					
6					
7	42	00755	3/8Ø LOCK WASHER	0.05	
8					
9	40	00P14	3/8-16 HEX NUT	0.06	GR-8
10	2	00P32	3/8-16 x 1 1/4 SOC HD SCR	0.06	GR-8
11					
12	2	00P56	5/8-11 x 1 1/2 HHCS	0.29	GR-8
13	40	00P68	3/8-16 x 1 1/4 FL HD SCR	0.11	SST
14					
15	ONE	01P20	3/8-16 x 1 3/4 SOC HD SCR	0.07	GR-8
16	2	01P31	5/8Ø DISC-LOCK WASHER	0.03	
17	2	21P75	HYD CYLINDER 7 1/2Ø x 82	882.30	
18	10	90P71	12" WEAR BLOCK	0.71	
				3522.82	TOTAL





SWAPLOADER™

U.S.A. LTD.

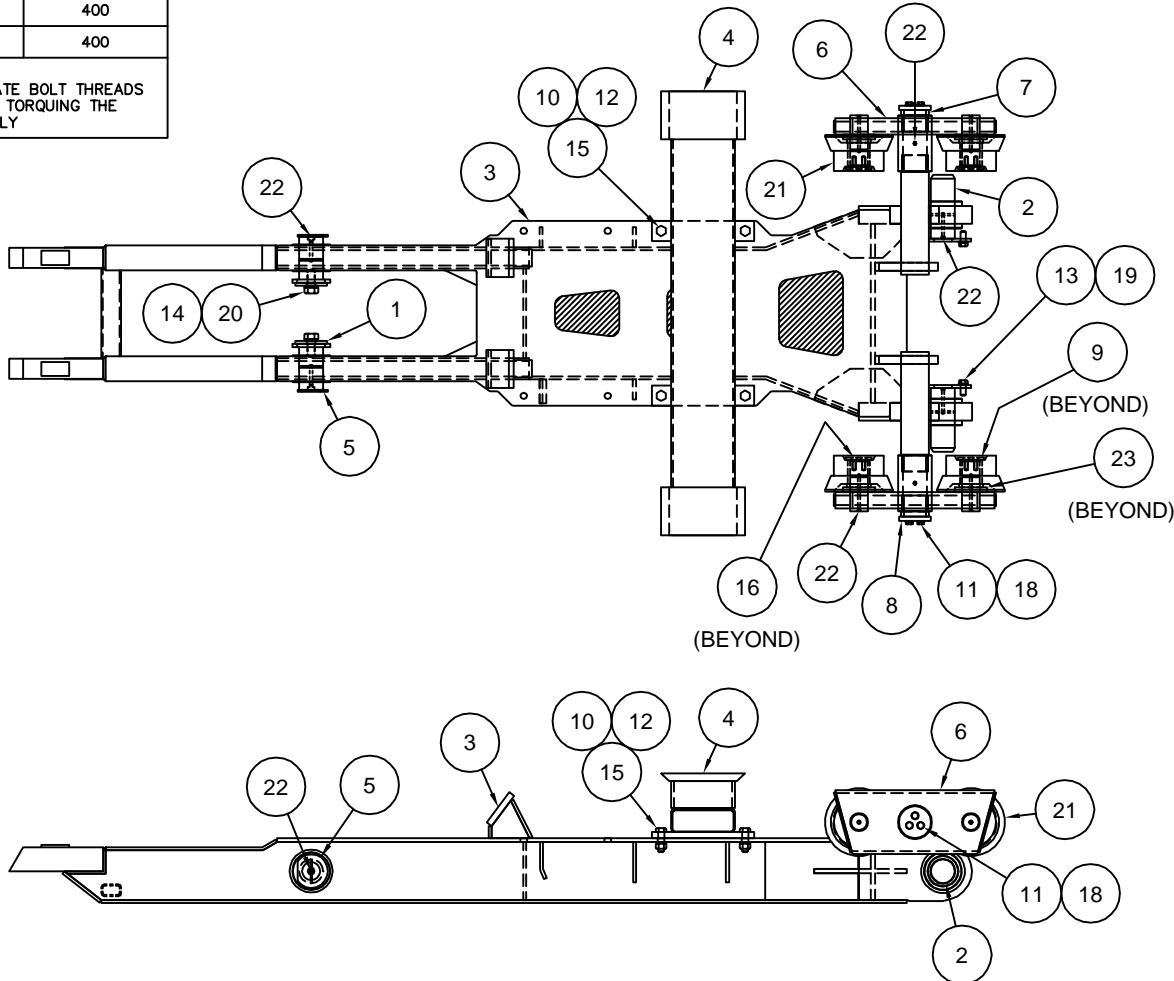
MAINFRAME SUB-ASSEMBLY

SL-650


42H43 ~ REV A

DISC-LOCK WASHER TORQUE SPEC'S	
BOLT SIZE	SAE GR 8 ASS'Y TORQUE (FT-LBS)
3/8	50
7/16	80
1/2	120
5/8	230
3/4	380
7/8	400
1	400

NOTE:  
LUBRICATE BOLT THREADS  
BEFORE TORQUING THE  
ASSEMBLY



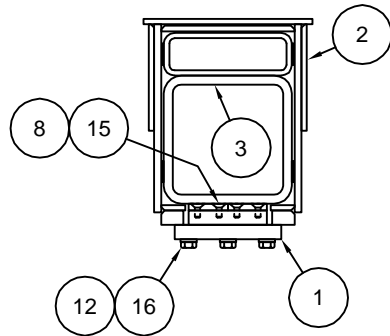
PARTS LIST					
ITEM	QTY	P/N	DESCRIPTION	WT-lb/ea	REMARKS
1	2	40H71	PIVOT CAP WELDMENT	2.25	
2	2	40H84	MAIN PIVOT PIN WELDMENT	17.64	
3	ONE	42H27	PIVOT JOINT WELDMENT	934.69	
4	ONE	42H28	BODY LOCK WELDMENT	137.58	
5	2	42H38	PIVOT PIN WELDMENT	11.61	
6	2	42H39	DUAL ROLLER MOUNT WDMT	43.82	
7	2	83H10	ROLLER SPACER	0.92	
8	2	83H11	ROLLER RETAINER	1.61	
9	4	86H22	ROLLER RETAINER	0.54	
10	4	00769	3/4" LOCK WASHER	0.05	
11	6	00P01	1/2-13 x 1 1/2 HHCS	0.21	GR-8
12	4	00P17	3/4-10 HEX NUT	0.20	GR-8
13	2	00P56	5/8-11 x 1 1/2 HHCS	0.29	GR-8
14	2	00P87	1-8 x 2 HHCS	0.70	GR-8
15	4	00P93	3/4-10 x 2 1/2 HHCS	0.50	GR-8
16	12	01P47	7/16-14 x 1 FL HD SOC SCR	0.05	
17					
18	6	01P30	1/2" DISC-LOCK WASHER	0.02	
19	2	01P31	5/8" DISC-LOCK WASHER	0.03	
20	2	01P34	1" DISC-LOCK WASHER	0.08	
21	4	80P09	ROLLER ASSEMBLY	39.26	
22	10	90P03	1/8 NPT ZERK STR	0.01	
23	4	86H28	ROLLER SPACER	1.62	
				1400.93	TOTAL

	PIVOT JOINT SUB-ASSEMBLY
	SL-650
	42H45 ~ REV D

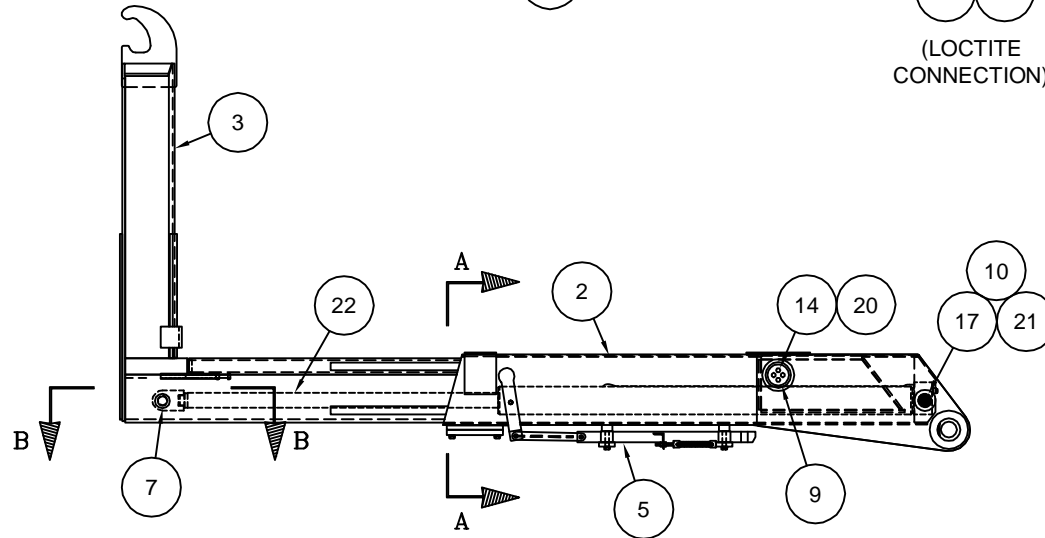
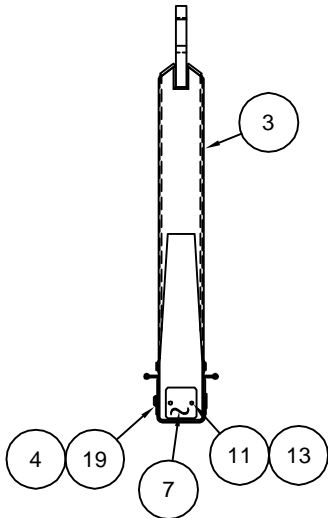
**DISC-LOCK WASHER  
TORQUE SPEC'S**

BOLT SIZE	SAE GR 8 ASS'Y TORQUE (FT-LBS)
3/8	50
7/16	80
1/2	120
5/8	230
3/4	380
7/8	400
1	400

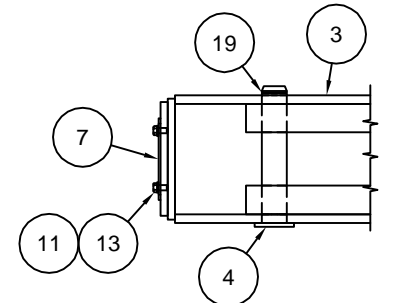
NOTE:  
LUBRICATE BOLT THREADS  
BEFORE TORQUING THE  
ASSEMBLY



**SECTION A-A**



**SECTION B-B**



**DETAIL C-C**

**PARTS LIST**

ITEM	QTY	P/N	DESCRIPTION	WT-lb/ea	REMARKS
1	ONE	40H44	CLAMP PLATE WELDMENT	29.97	
2	ONE	42H31	OUTER TUBE WELDMENT	911.79	
3	ONE	42H34	JIB WELDMENT	1256.80	
4	ONE	42H37	1 3/4" CYLINDER PIN WELDMENT	6.86	
5	ONE	42H46	SAFETY LATCH ASSEMBLY	140.62	
6	2	60H11	WEAR BLOCK	0.26	
7	ONE	62H11	JIB COVER PLATE	1.13	
8	2	80H35	CLAMP LINER	7.02	
9	2	82H51	CYLINDER RETAINER	1.64	
10	2	86H08	CYLINDER PIN TUBE	4.61	
11	2	00755	3/8" LOCK WASHER	0.01	
12	6	00767	5/8" LOCK WASHER	0.04	

ITEM	QTY	P/N	DESCRIPTION	WT-lb/ea	REMARKS
13	2	00P03	3/8-16 x 3/4 HHCS	0.04	GR-8
14	8	00P31	1/2-13 x 1 1/4 HHCS	0.12	GR-8
15	8	00P58	3/8-16 x 1 1/2 FL HD SCR	0.04	BRASS
16	6	00P69	5/8-11 x 2 HHCS	0.27	GR-8
17	ONE	00P72	3/4-10 x LOCKING HEX NUT	0.20	GR-C
18	8	00P79	3/8-16 x 3/4 FL HD SCR	0.01	BRASS
19	ONE	00P97	EXT RET RING FOR 1 3/4"	0.01	
20	8	01P30	1/2" DISC-LOCK WASHER	0.02	
21	ONE	01P36	3/4-10 x 9 1/2 HHCS	1.37	GR-8
22	ONE	21P76	HYD CYLINDER 4 1/2" x 52	341.10	
23					
24					

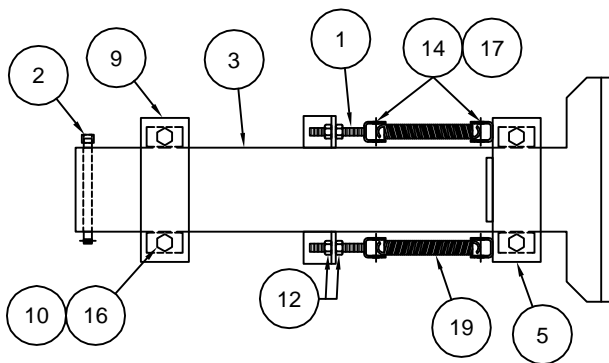
2730.13 TOTAL

**SWAPLOADER™**  
U.S.A. LTD.

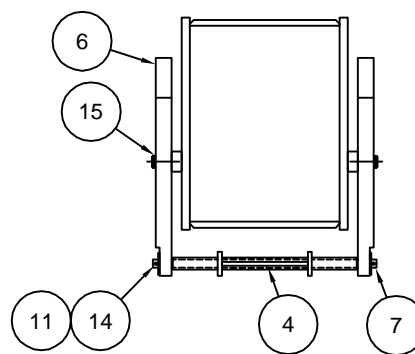
TELESCOPIC JIB SUB-ASSEMBLY

SL-650

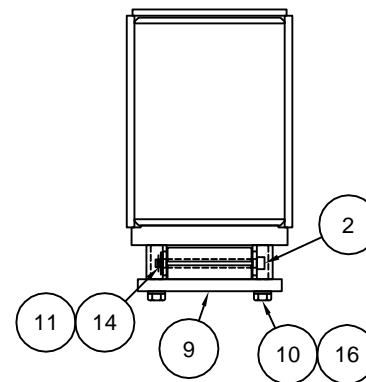
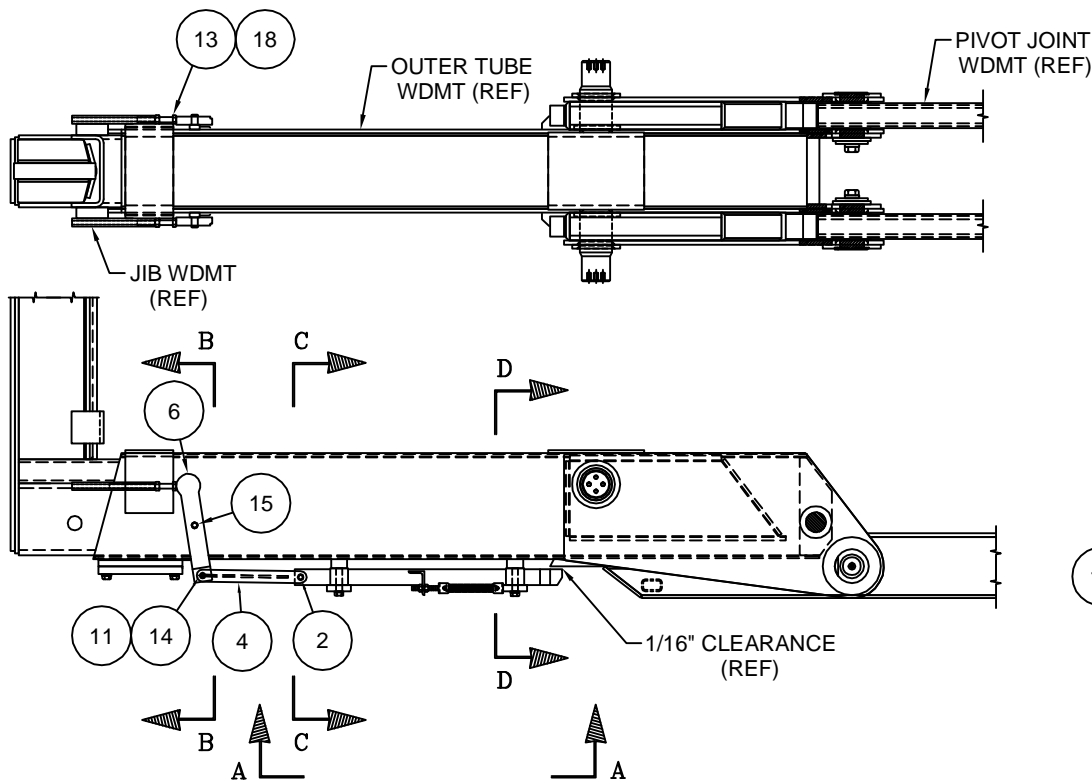
42H44



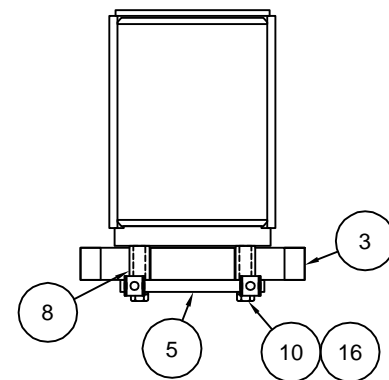
SECTION A-A



SECTION B-B



SECTION C-C



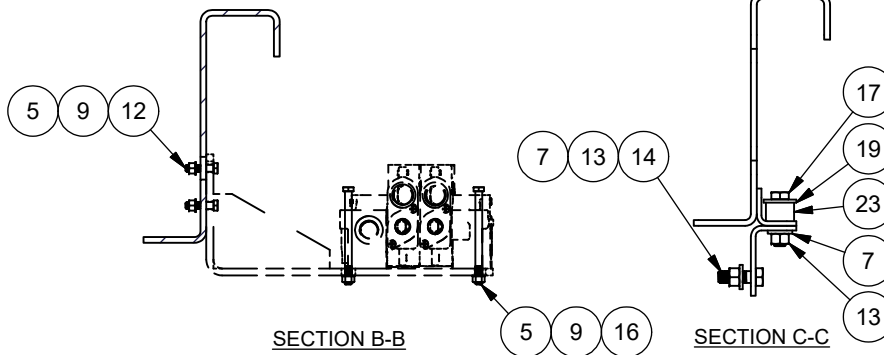
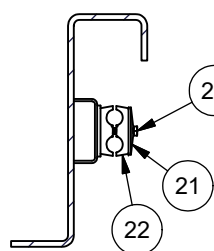
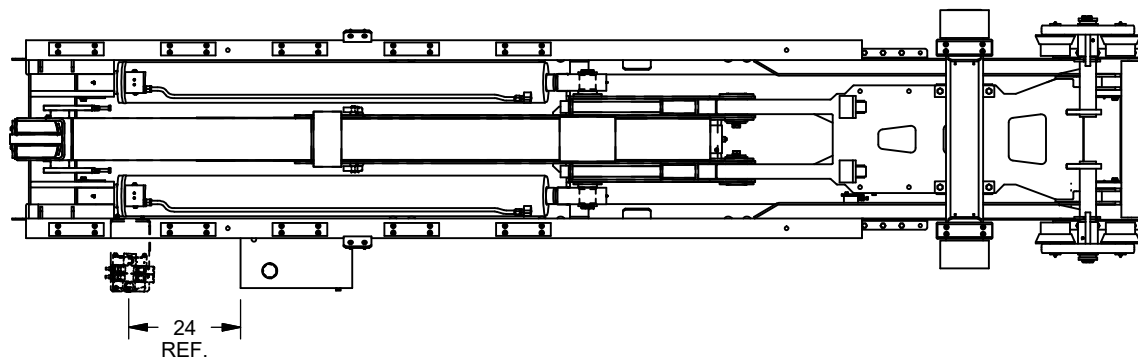
SECTION D-D



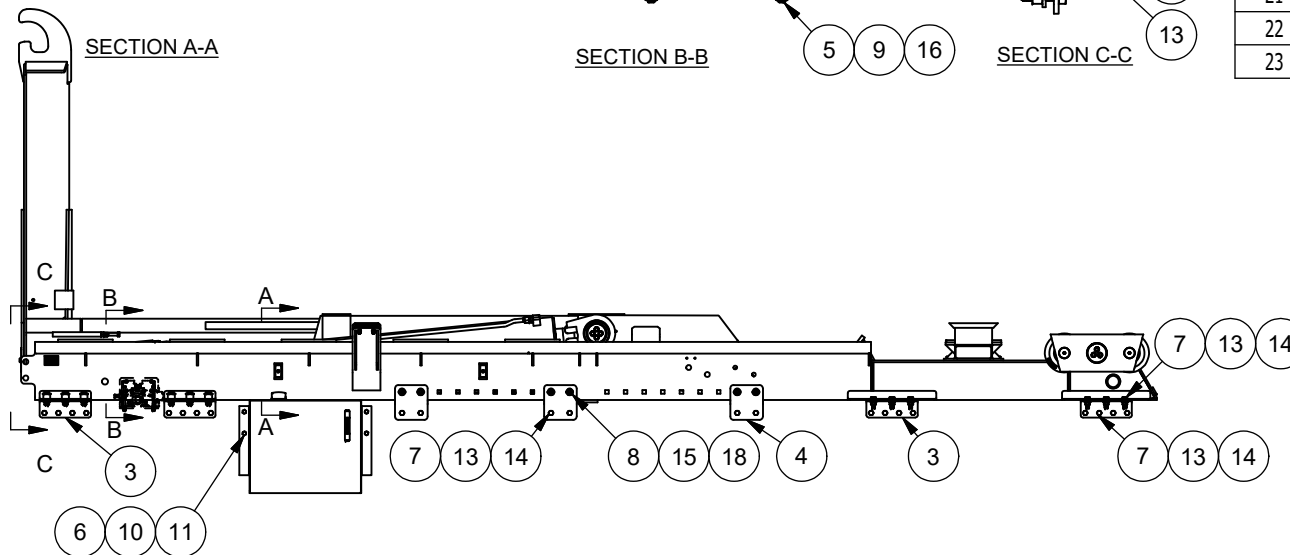
SAFETY LATCH ASSEMBLY

SL-650

42H46 ~ REV C



SECTION C-C



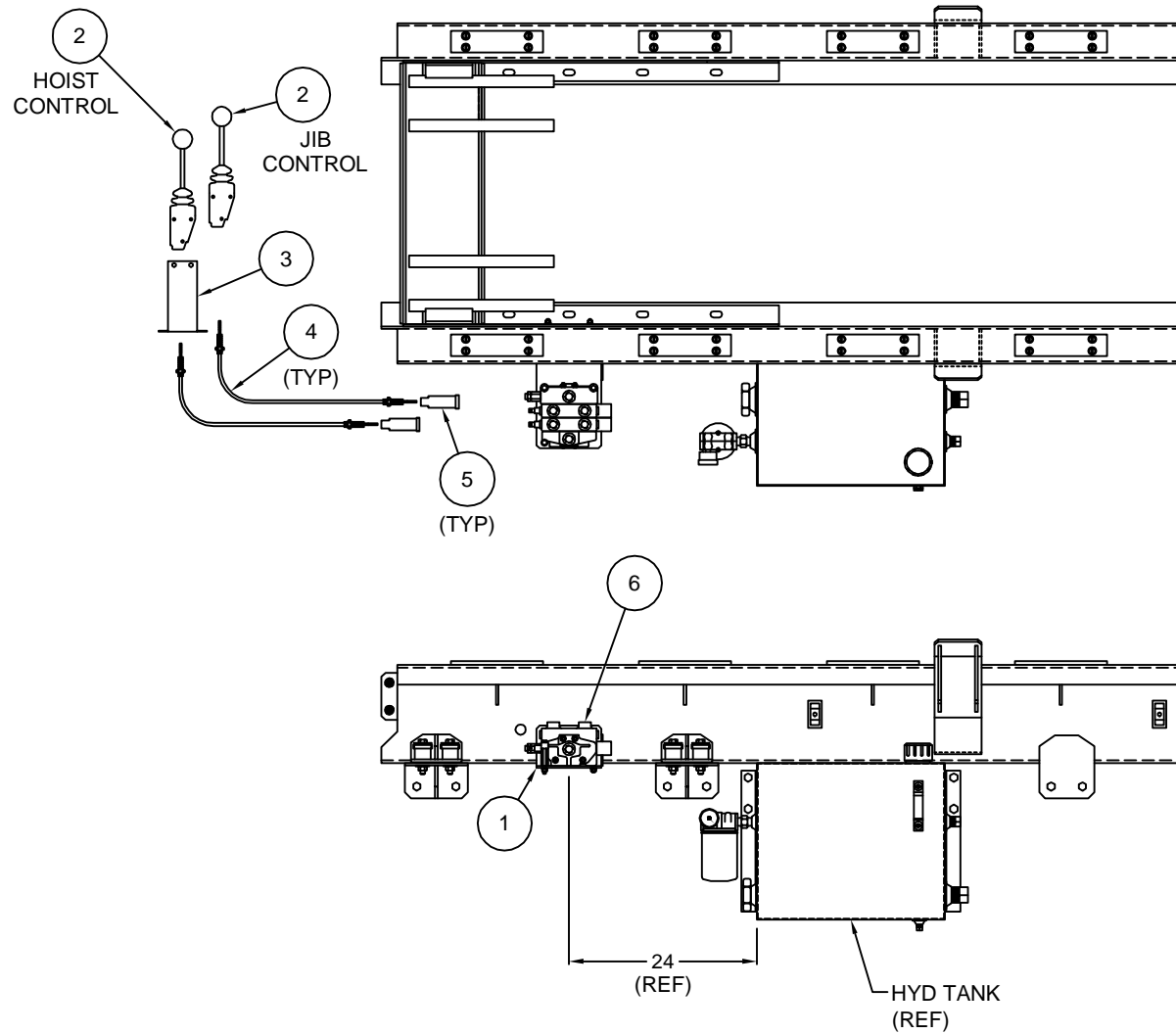
PARTS PER 44H91 ASSEMBLY

ITEM	QTY	PART #	DESCRIPTION	WT-lb./ea.
1	1	42H47	DECAL ASSEMBLY	0.00
2	1	42H48	PARTS & OPER. MANUAL	0.00
3	8	89H51	MNT BKT, 2-7/16 x 3-3/4 x 11	4.24
4	6	89H52	MNT BKT, 7 x 1/4 x 7-1/2	3.52
5	7	00755	WASHER, LOCK 3/8	0.03
6	4	00784	WASHER, FLAT 7/8 HT	0.03
7	68	00785	WASHER, FLAT 5/8 HT	0.05
8	12	00786	WASHER, FLAT 3/4 HT	0.06
9	7	00P14	NUT, HEX 3/8-16 UNC GR8	0.02
10	4	00P15	HHCS 1/2-13 UNC x 1-3/4 GR8	0.13
11	4	00P35	NUT, LOCK 1/2-13 UNC GRC	0.04
12	4	00P44	HHCS 3/8-16 UNC x 1-1/2 GR8	0.06
13	68	00P55	NUT, LOCK 5/8-11 UNC GR8	0.08
14	56	00P69	HHCS 5/8-11 UNC x 2 GR8	0.23
15	12	00P72	NUT, LOCK 3/4-10 UNC GR8	0.13
16	3	00P99	HHCS 3/8-16 UNC x 4 GR8	0.17
17	12	01P09	HHCS 5/8-11 UNC x 2-1/2 GR8	0.28
18	12	01P54	CAR 3/4-10 UNC x 2 GR5	0.36
19	12	02P11	WASHER, FLAT 5/8 USS	0.09
20	2	10P63	HHCS 5/16-18 UNC x 1-3/4 ZP	0.04
21	2	10P64	COVER PLATE, CLAMP 1/2	0.10
22	2	10P65	CLAMP ASSY, TWIN 7/8	0.07
23	12	91P54	SPRING, URETHANE	0.05
			101.91	TOTAL



## PARTS LIST

ITEM	QTY	P/N	DESCRIPTION	WT-lb/ea	REMARKS
1	ONE	40H43	VALVE MOUNT BRACKET WDMT	13.13	
2	2	20P08	REMOTE VALVE CONTROL HANDLE	2.80	
3	ONE	20P09	CONTROL HANDLE MOUNT CONSOLE	4.05	
4	2	20P40	CONTROL CABLE 96" LG	2.00	
5	2	20P65	BONNET CONNECTION KIT	0.50	
6	ONE	20P59	HYD VALVE ASS'Y	46.00	
				73.78	TOTAL



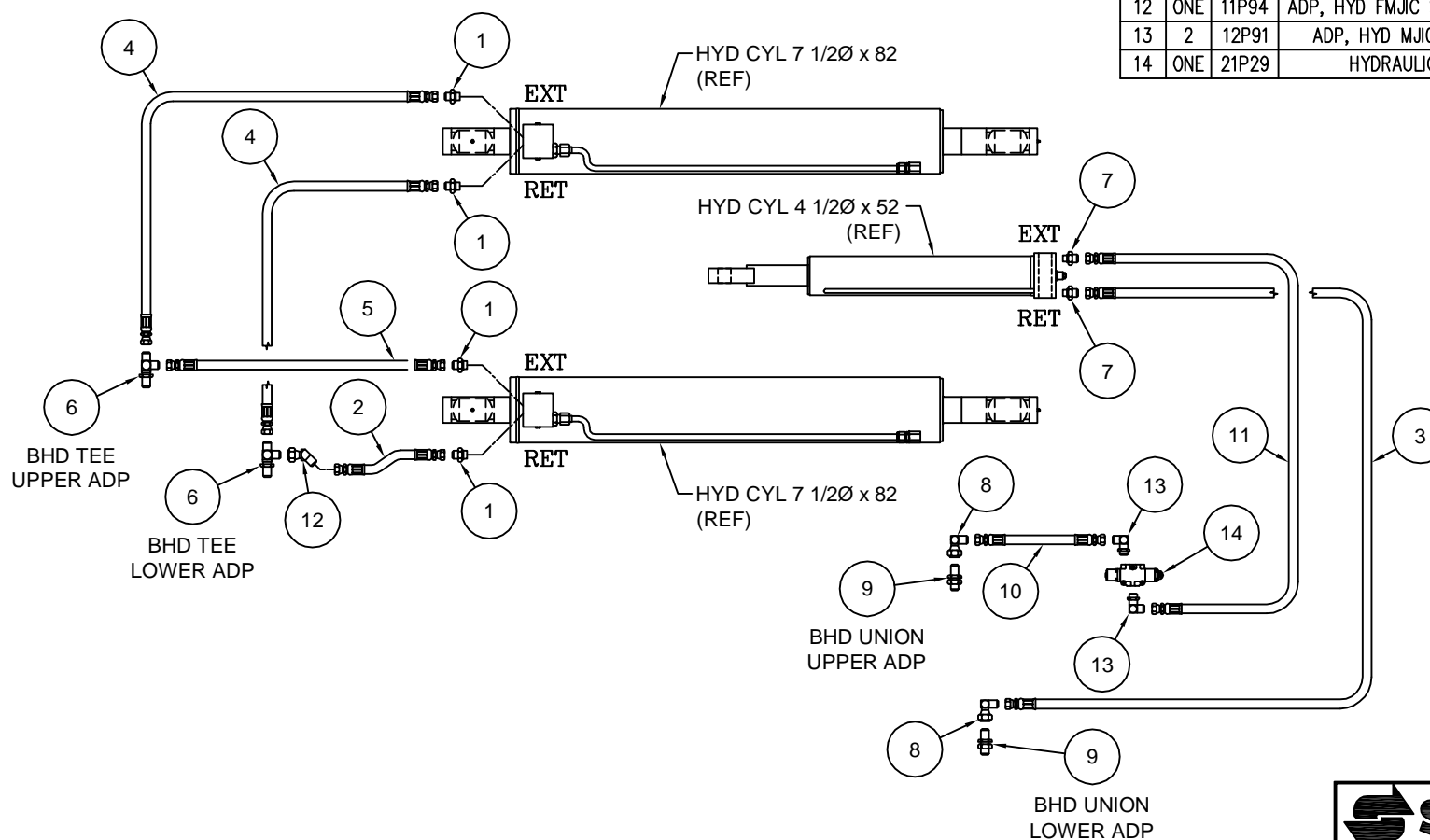
NOTE:  
A 2 SECTION CONTROL VALVE ASS'Y IS  
SHOWN. A 3 SECTION CONTROL VALVE ASS'Y  
IS REQUIRED WHEN A STABILIZER IS UTILIZED



MANUAL CONTROL ASS'Y - 2 SECTION

SL-505/545/650

90H49 ~ REV A



## PARTS LIST

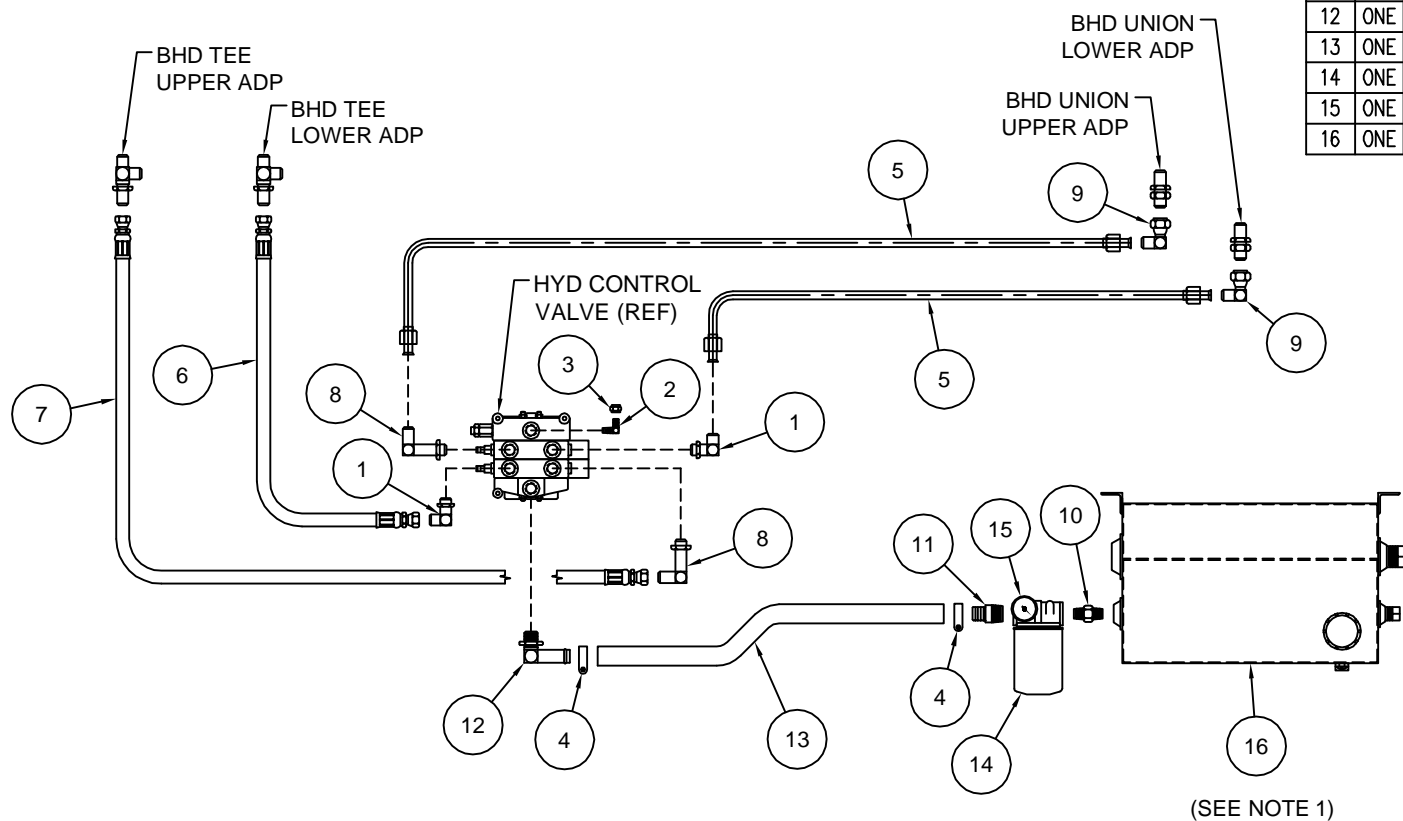
ITEM	QTY	P/N	DESCRIPTION	WT-lb/ea	REMARKS
1	4	10P90	ADP, HYD MJIC / ORB	0.30	6400-12
2	ONE	11P51	HOSE ASS'Y 3/4 VHP x 23	2.00	
3	ONE	11P55	HOSE ASS'Y 3/4 VHP x 192	14.25	
4	2	11P58	HOSE ASS'Y 3/4 VHP x 51	4.03	
5	ONE	11P59	HOSE ASS'Y 3/4 VHP x 24	2.07	
6	2	11P61	ADP, HYD MJIC BHD TEE	0.40	2704-LN-12
7	2	11P64	ADP, HYD MJIC / ORB	0.30	6400-12-10
8	2	11P65	ADP, HYD MJIC / FMJIC SVL 90°	0.40	6500-12
9	2	11P66	ADP, HYD MJIC BHD	0.40	2700-LN-12
10	ONE	11P67	HOSE ASS'Y 3/4 VHP x 38	3.08	
11	ONE	11P68	HOSE ASS'Y 3/4 VHP x 150	11.20	
12	ONE	11P94	ADP, HYD FMJIC SVL / MJIC 45°	0.40	6502-12
13	2	12P91	ADP, HYD MJIC / ORB 90°	0.40	6801-12-10
14	ONE	21P29	HYDRAULIC VALVE	4.20	
				50.26	TOTAL

**SWAPLOADER™**  
U.S.A. LTD.

HYD. SUB-ASS'Y - BASE CYLINDER CIRCUIT

SL-650

91H10



## PARTS LIST

ITEM	QTY	P/N	DESCRIPTION	WT-lb/ea	REMARKS
1	2	10P36	ADP, HYD MJIC / ORB 90°	0.40	6801-12
2	ONE	10P37	ADP, HYD MJIC / MP 90°	0.30	2501-4-4
3	ONE	10P38	ADP, HYD FMJIC CAP	0.10	304-C-4
4	2	10P78	T-BOLT CLAMP, 1 3/4Ø	0.15	TBC-175
5	2	11P46	HYD TUBING - REAR	7.48	
6	ONE	11P56	HOSE ASS'Y 3/4 VHP x 28	2.36	
7	ONE	11P57	HOSE ASS'Y 3/4 VHP x 33	2.72	
8	2	11P62	ADP, HYD MJIC / ORB LL 90°	0.40	6801-LL-12
9	2	11P65	ADP, HYD MJIC / FMJIC SVL 90°	0.40	6500-12
10	ONE	11P78	ADP, HYD MP / MP	0.70	5404-20
11	ONE	12P25	ADP, HYD HOSE INS / MP	0.60	ST-15
12	ONE	12P27	ADP, HYD HOSE INS / ORB 90°	0.70	4601-20-16
13	ONE	12P33	HOSE 1 1/4 LP x 36	2.37	
14	ONE	20P61	HYDRAULIC FILTER	4.50	
15	ONE	20P64	FILTER INDICATOR GAUGE	-	
16	ONE	20P86	HYDRAULIC TANK - 30 GAL	73.00	
				105.01	TOTAL

## NOTE:

HYD TANK ASS'Y CONSISTS OF:  
TANK WELDMENT, TANK MOUNTED STRAINER,  
SIGHT GAUGE, FILLER/BREATHING CAP,  
MAGNETIC DRAIN PLUG, AND PORT PLUGS.

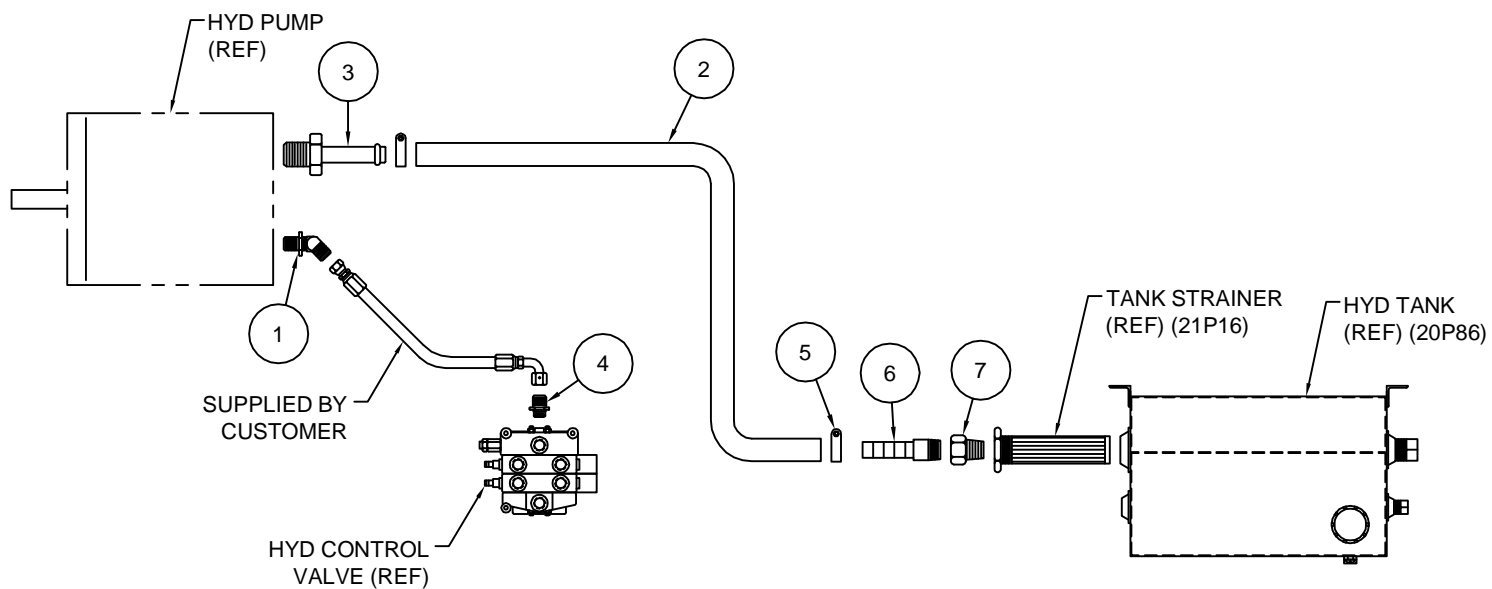


HYD. SUB-ASS'Y - CHASSIS TANK CIRCUIT

SL-650


91H11



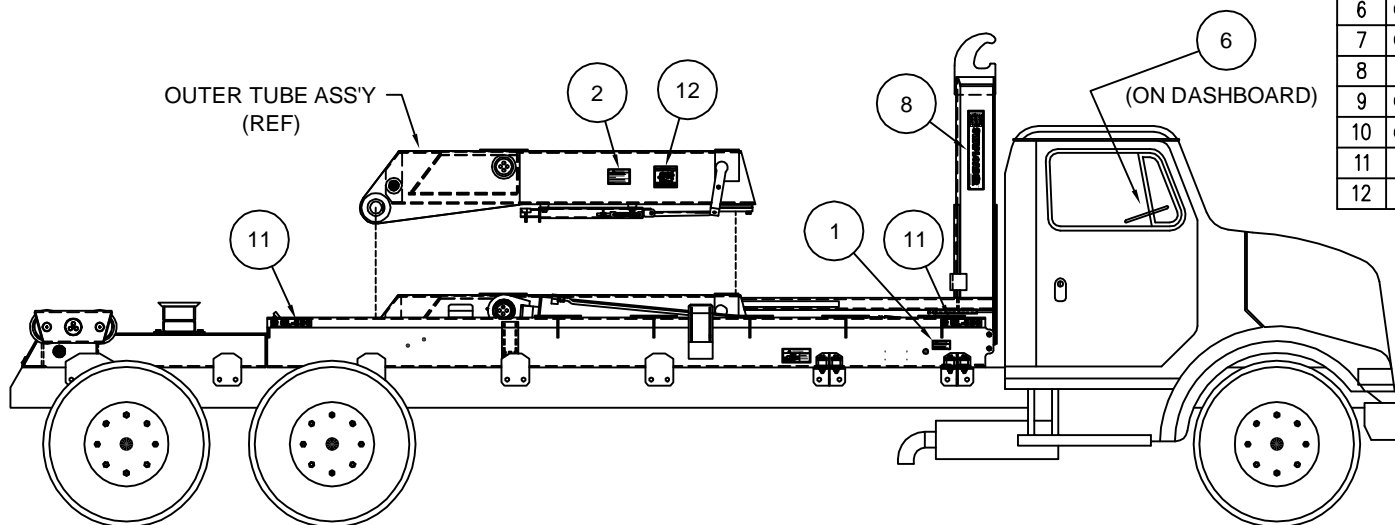


## PARTS LIST

ITEM	QTY	P/N	DESCRIPTION	WT-lb/ea	REMARKS
1	ONE	10P31	ADP, HYD MJIC / ORB 45°	0.50	6802-16
2	ONE	11P71	HOSE 1 1/2 LP x 120	9.60	
3	ONE	11P72	ADP, HYD HOSE INS / ORB	0.60	4604-24-20
4	ONE	11P74	ADP, HYD MJIC / ORB	0.40	6400-16-12
5	2	11P77	T-BOLT CLAMP, 2ø	0.15	TBC-200
6	ONE	11P95	ADP, HYD HOSE INS / MP	0.40	STC-20
7	ONE	12P48	ADP, HYD MP / FP	0.60	2 x 1 1/2
				12.40	TOTAL

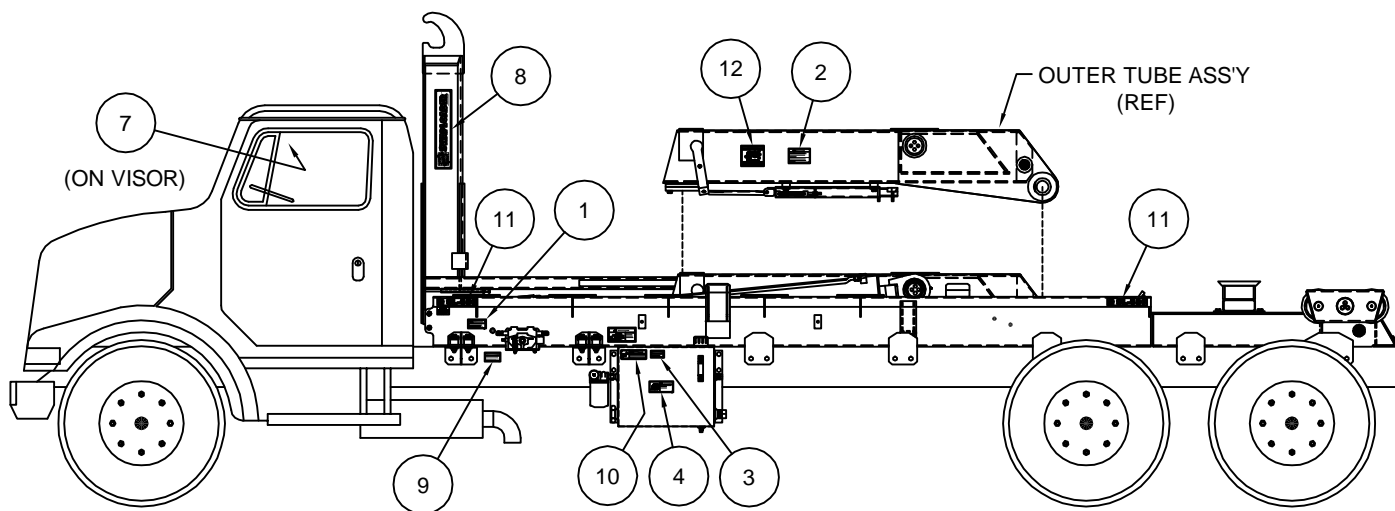
	
	HYD SUB-ASSY - PUMP CIRCUIT
	SL-505/545/650
	91H09

OUTER TUBE ASS'Y  
(REF)



RIGHT SIDE

(ON VISOR)



LEFT SIDE

## PARTS LIST

ITEM	QTY	P/N	DESCRIPTION	WT-lb/ea	REMARKS
1	2	90P07	OPR & SERV MANUAL		
2	2	90P08	HOIST-BODY SPEC		
3	ONE	90P09	HYD OIL SPEC		
4	ONE	90P10	HYD OIL FLAMMABLE		
5	2	90P11	HOIST FALLING		
6	ONE	90P12	LEVER CONTROL		
7	ONE	90P13	SAFETY INSTRUCTIONS		
8	2	90P14	SWAPLOADER - JIB		
9	ONE	90P18	RELIEF VALVE		
10	ONE	90P78	HIGH-PRESSURE FLUID		
11	4	90P80	SL-650		
12	2	91P06	LUBRICATION POINTS		
				TOTAL	

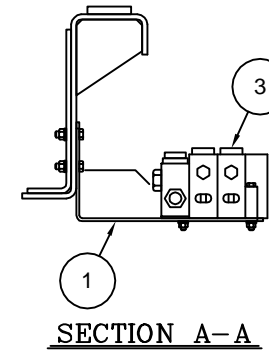
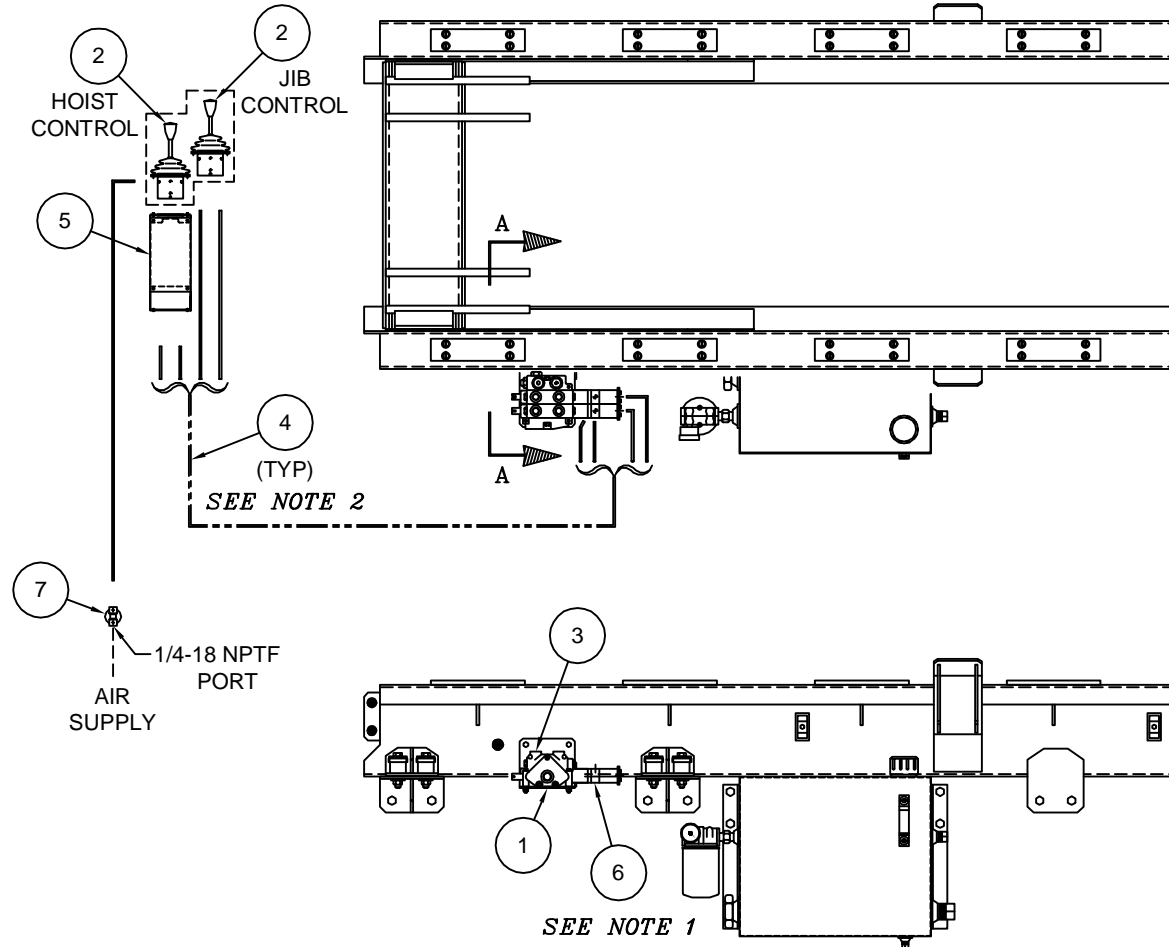

**SWAPLOADER™**  
U.S.A. LTD.

DECAL ASSEMBLY
SL-650
42H47 ~ REV A

# OPTIONS

## PARTS LIST

ITEM	QTY	P/N	DESCRIPTION	WT-lb/ea	REMARKS
1	ONE	40H43	VALVE MOUNT BRACKET	13.13	
2	ONE	20P72	CONTROL HANDLE ASS'Y	1.60	
3	ONE	20P59	HYD CONTROL VALVE ASS'Y	46.00	
4	ONE	12P94	AIR LINE KIT	1.40	
5	ONE	51H27	AIR CONTROL CONSOLE ASS'Y	6.23	
6	2	20P71	HYD VALVE SECTION AIR SHIFT KIT	1.50	
7	ONE	20P74	AIR PRESSURE PROTECTION VALVE	0.59	WM778A
				71.95	TOTAL



## NOTE:

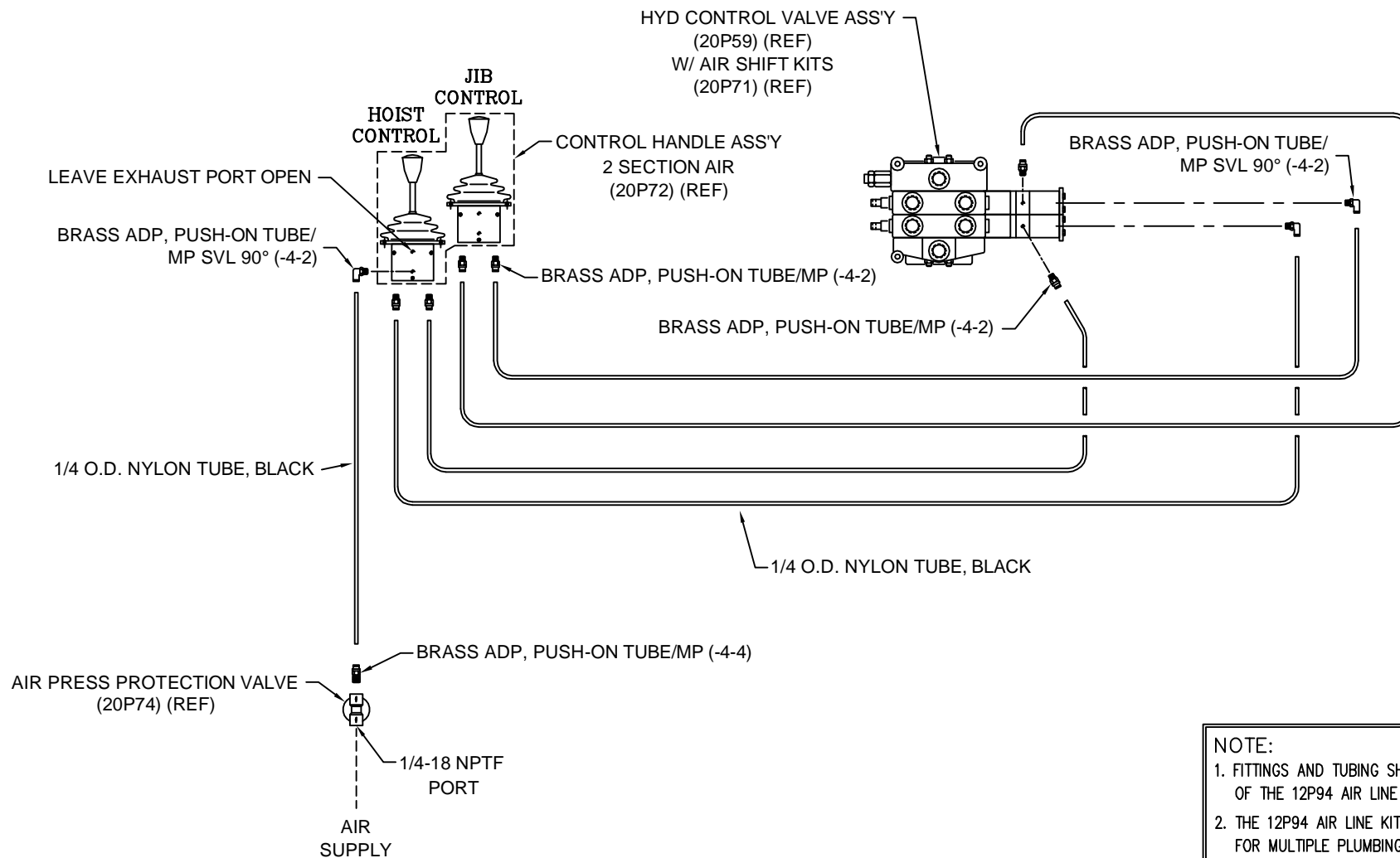
- 20P71 AIR SHIFT KIT TO BE INSTALLED ON HYD CONTROL VALVE BY HOIST INSTALLER. REFERENCE INSTALLATION INSTRUCTIONS INCLUDED WITH THE AIR SHIFT KIT.
- SEE DRAWING 90H44 FOR AIR SHIFT KIT PLUMBING DIAGRAM.



AIR CONTROL ASS'Y - 2 SECTION

SL-505/545/650

90H47 ~ REV C



**NOTE:**

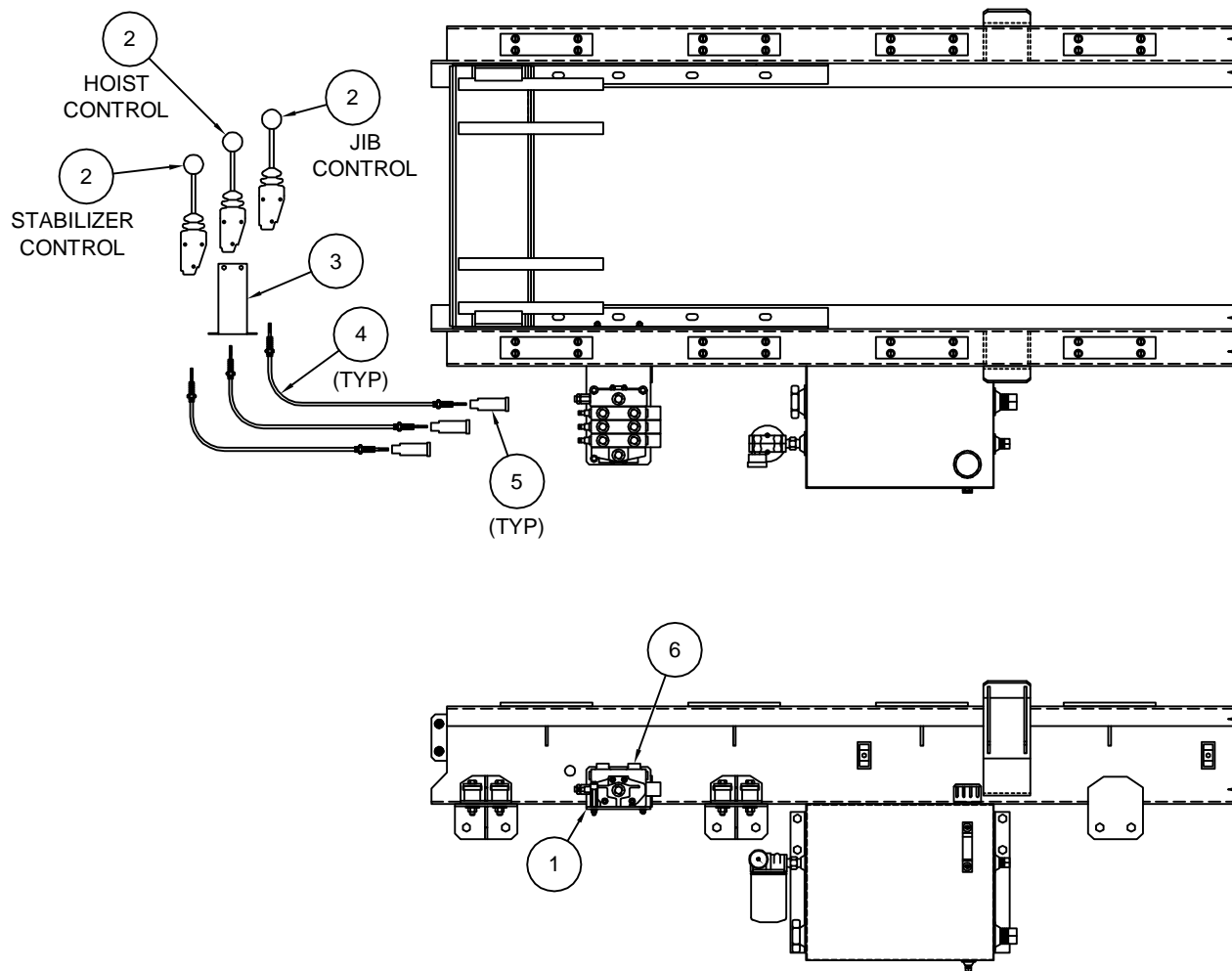
1. FITTINGS AND TUBING SHOWN ARE PART OF THE 12P94 AIR LINE KIT.
2. THE 12P94 AIR LINE KIT CONTAINS FITTINGS FOR MULTIPLE PLUMBING CONFIGURATIONS AND NOT ALL FITTINGS MAY BE UTILIZED.



**AIR CIRCUIT, CONTROL VALVE - 2 SECTION**

SL-505/545/650

90H44 ~ REV B



## PARTS LIST

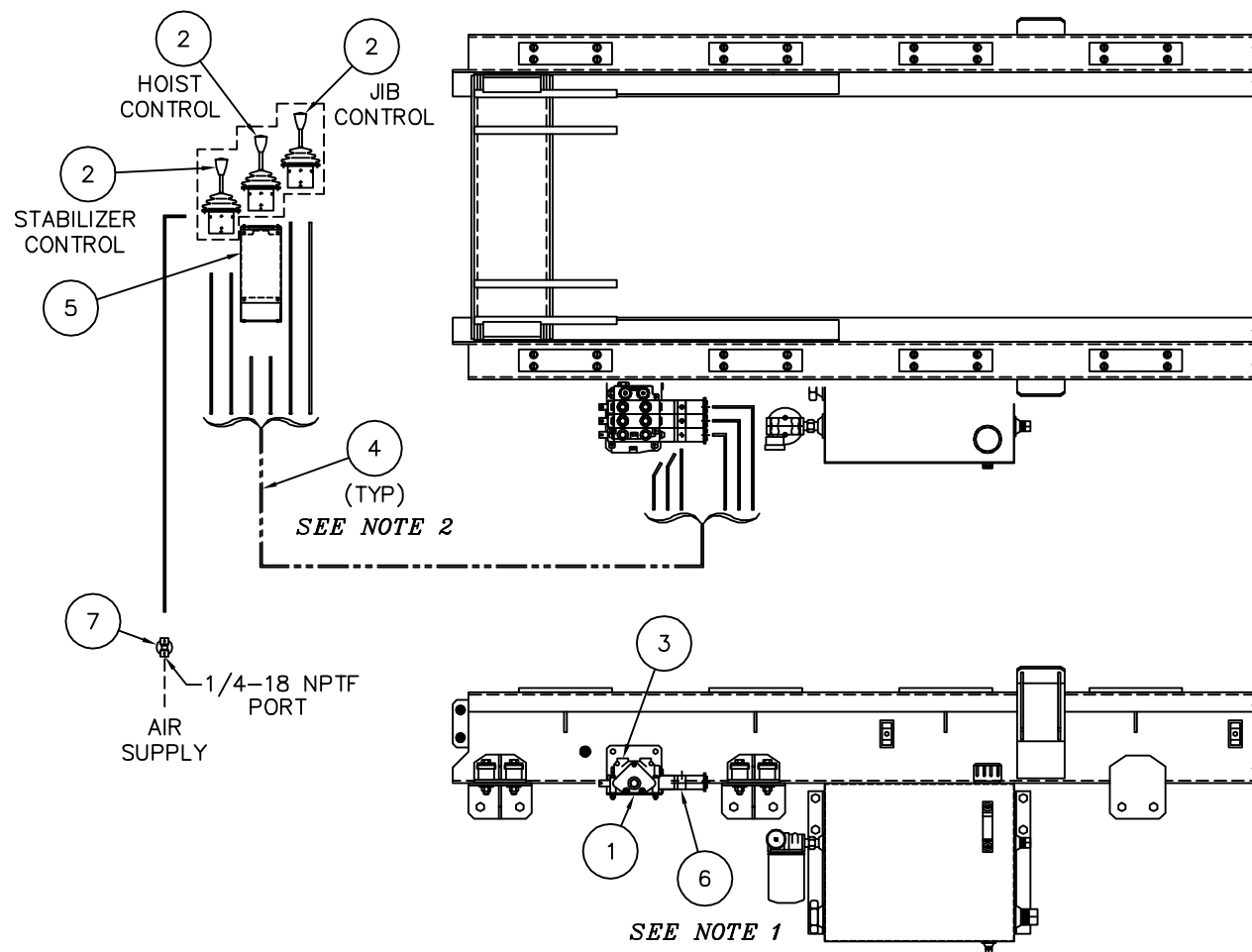
ITEM	QTY	P/N	DESCRIPTION	WT-lb/ea	REMARKS
1	ONE	40H58	VALVE MOUNT BRACKET WDMT	14.15	
2	3	20P08	REMOTE VALVE CONTROL HANDLE	2.80	
3	ONE	20P78	CONTROL HANDLE MOUNT CONSOLE	4.75	
4	3	20P40	CONTROL CABLE 96" LG	2.00	
5	3	20P65	BONNET CONNECTION KIT	0.50	
6	ONE	21P88	HYD VALVE ASS'Y, 3 SECTION	58.00	
				92.80	TOTAL

**SWAPLOADER™**  
U.S.A. LTD.

MANUAL CONTROL ASS'Y - 3 SECTION

SL-505/545/650

90H50 ~ REV B



## PARTS LIST

ITEM	QTY	P/N	DESCRIPTION	WT-lb/ea	REMARKS
1	ONE	40H58	VALVE MOUNT BRACKET	14.15	
2	ONE	20P73	CONTROL HANDLE ASS'Y	2.40	
3	ONE	21P88	HYD CONTROL VALVE ASS'Y	58.00	
4	ONE	12P94	AIR LINE KIT	1.40	
5	ONE	51H37	AIR CONTROL CONSOLE ASS'Y	6.96	
6	3	20P71	HYD VALVE SECTION AIR SHIFT KIT	1.50	
7	ONE	20P74	AIR PRESSURE PROTECTION VALVE	0.59	WM778A
				88.00	TOTAL

## NOTE:

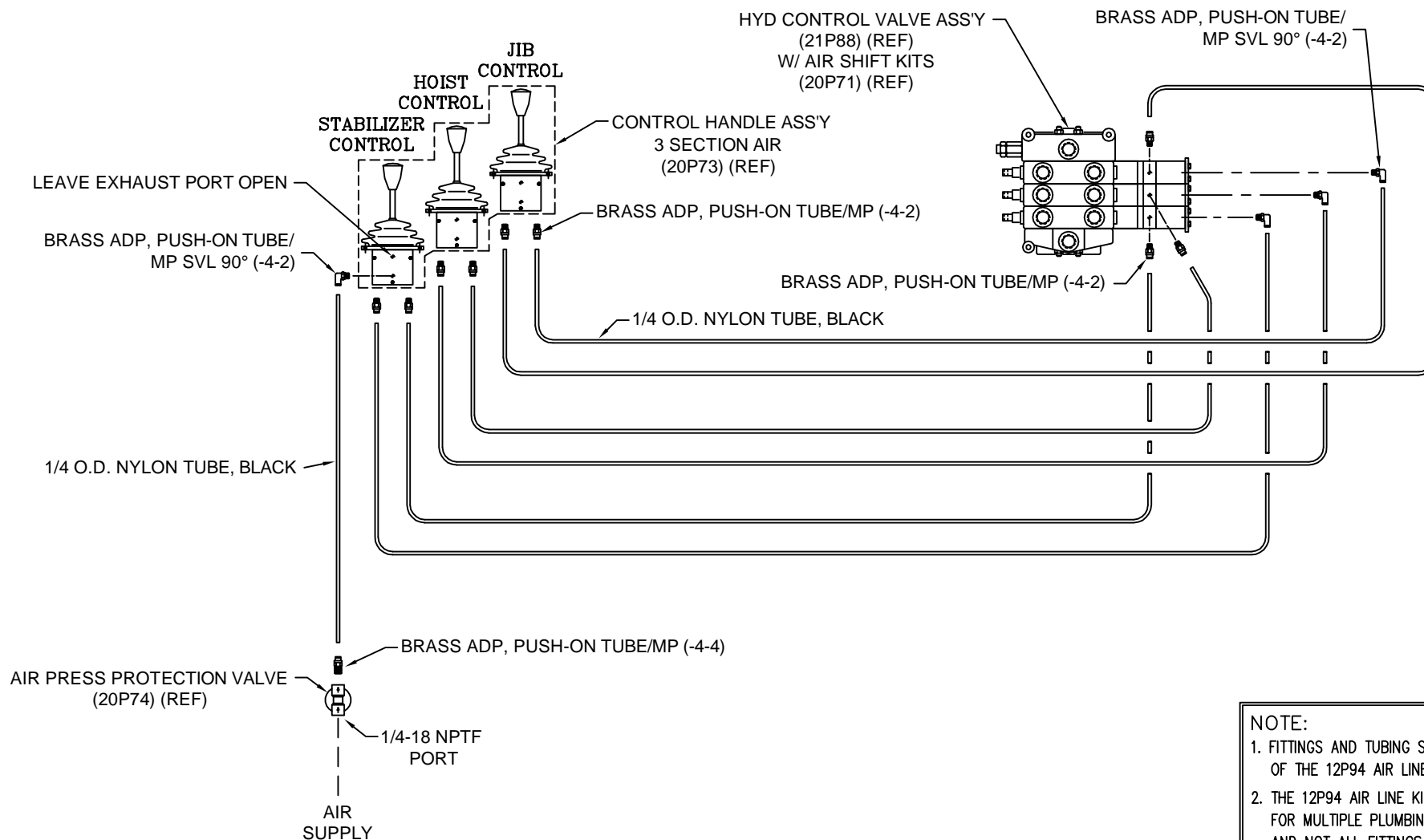
- 20P71 AIR SHIFT KIT TO BE INSTALLED ON HYD CONTROL VALVE BY HOIST INSTALLER. REFERENCE INSTALLATION INSTRUCTIONS INCLUDED WITH THE AIR SHIFT KIT.
- SEE DRAWING 90H45 FOR AIR SHIFT KIT PLUMBING DIAGRAM.



AIR CONTROL ASS'Y - 3 SECTION

SL-505/545/650

90H48 ~ REV C



**NOTE:**

1. FITTINGS AND TUBING SHOWN ARE PART OF THE 12P94 AIR LINE KIT.
2. THE 12P94 AIR LINE KIT CONTAINS FITTINGS FOR MULTIPLE PLUMBING CONFIGURATIONS AND NOT ALL FITTINGS MAY BE UTILIZED.

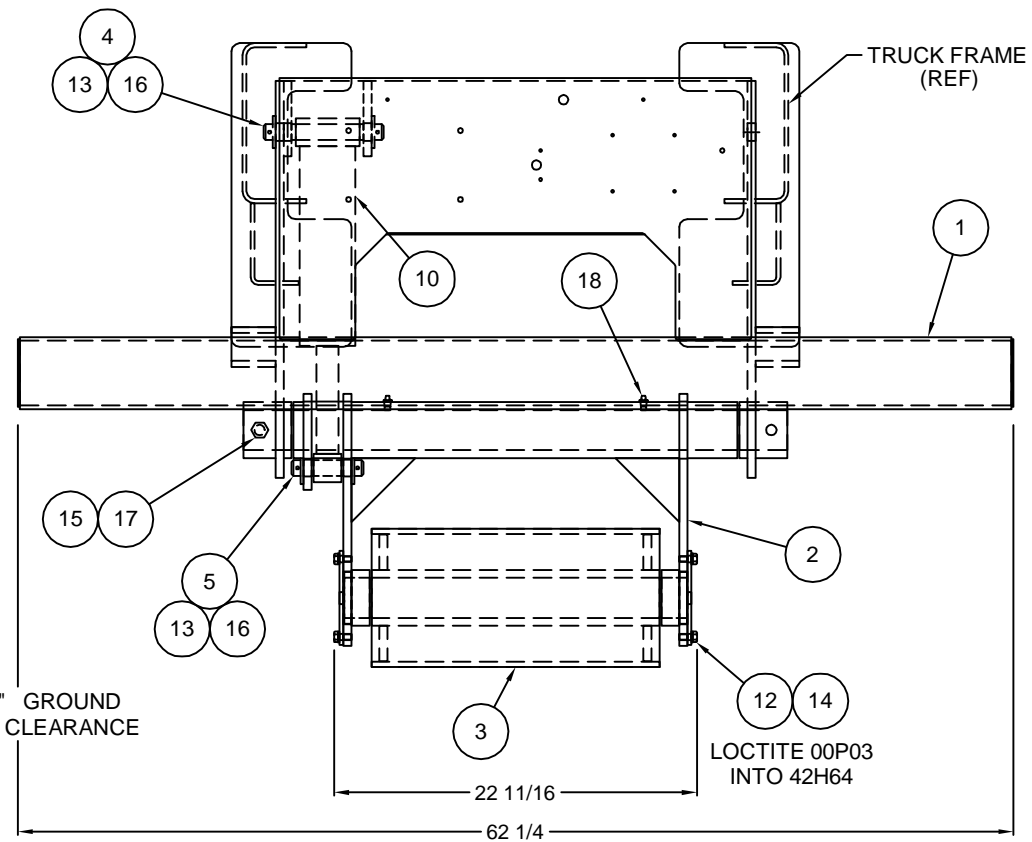
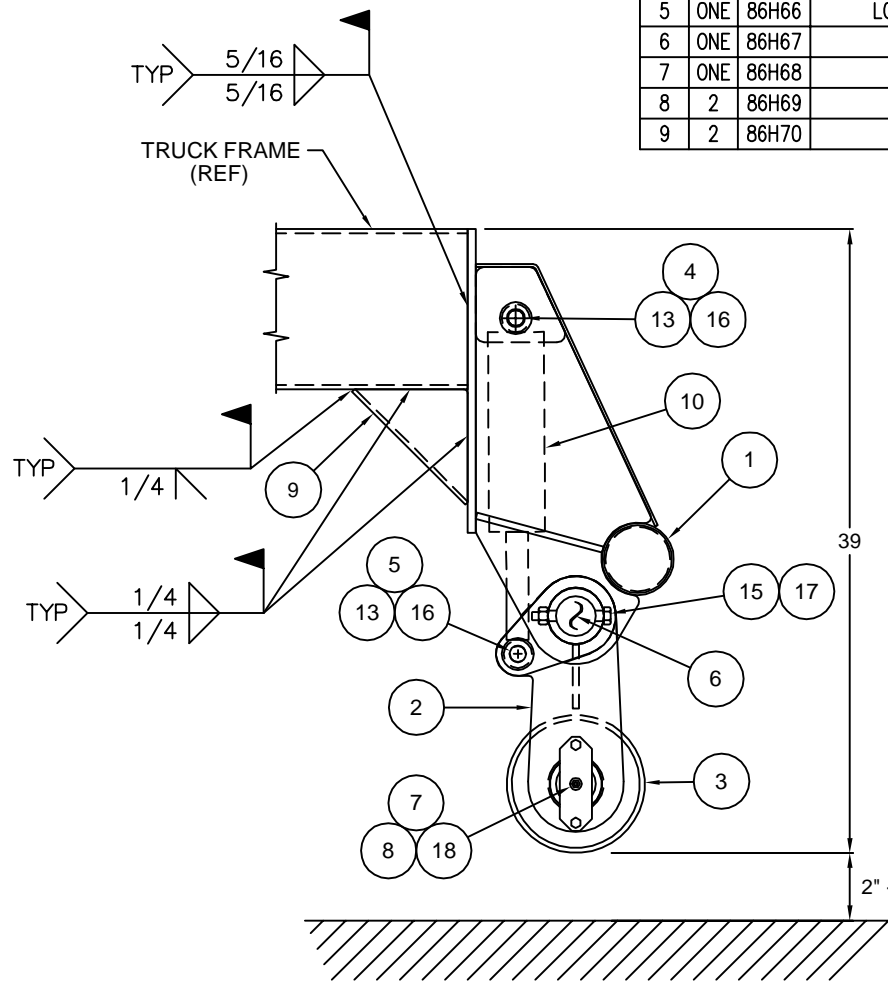


**AIR CIRCUIT, CONTROL VALVE - 3 SECTION**

SL-650

90H45 ~ REV B





## PARTS LIST

ITEM	QTY	P/N	DESCRIPTION	WT-lb/ea	REMARKS
1	ONE	42H63	STABILIZER MOUNT	180.02	
2	ONE	42H64	STABILIZER ARM	64.65	
3	ONE	42H65	STABILIZER ROLLER	78.10	
4	ONE	86H65	UPPER CYLINDER PIN	1.55	
5	ONE	86H66	LOWER CYLINDER PIN	0.88	
6	ONE	86H67	UPPER SHAFT	39.38	
7	ONE	86H68	LOWER SHAFT	26.20	
8	2	86H69	SHAFT RETAINER	0.71	
9	2	86H70	MOUNT GUSSET	3.74	

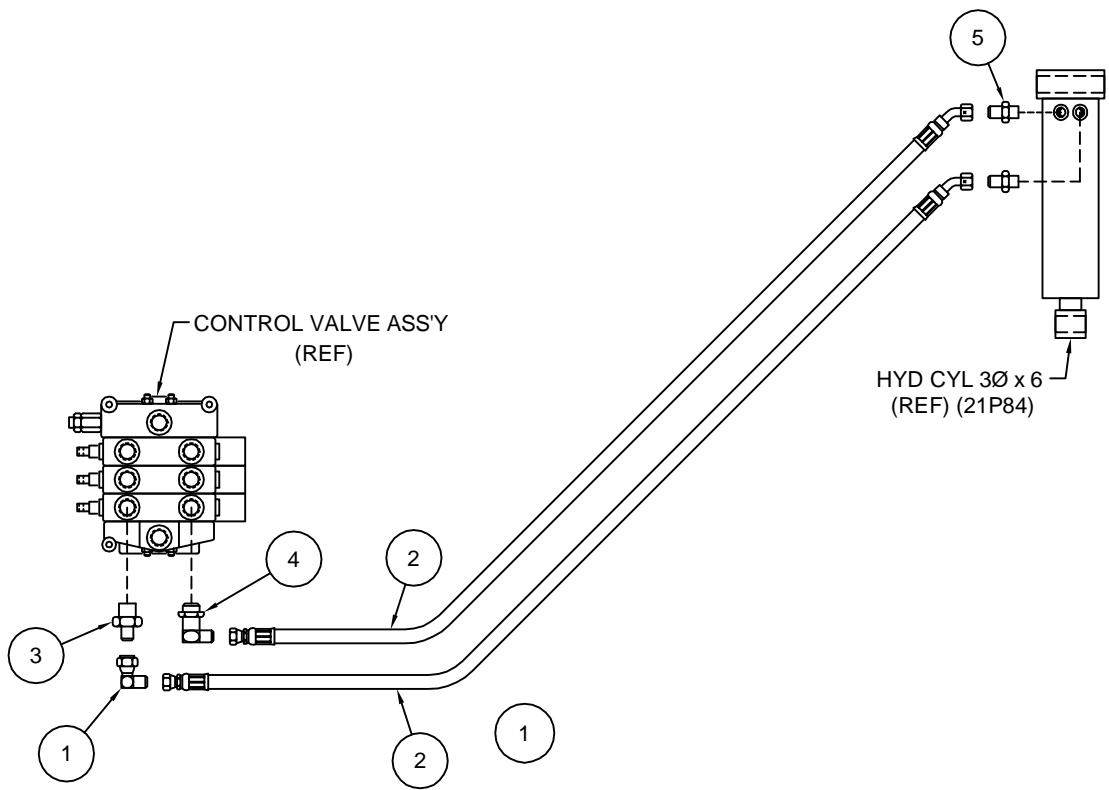
ITEM	QTY	P/N	DESCRIPTION	WT-lb/ea	REMARKS
10	ONE	21P84	HYDRAULIC CYLINDER 3ø x 6	35.00	
11	ONE	90H83	STABILIZER HYDRAULIC CIRCUIT	21.20	NOT SHOWN
12	4	00755	3/8ø LOCK WASHER	0.01	GR 8
13	4	00787	1ø FLAT WASHER H.T.	0.13	F-436
14	4	00P03	3/8-16 x 3/4 HHCS	0.04	GR 8
15	ONE	00P55	5/8-11 LOCKING HEX NUT	0.11	GR 8
16	4	00P98	5/32ø x 1 1/2 COTTER PIN	0.01	
17	ONE	01P39	5/8-11 x 4 1/2 HHCS	0.49	GR 8
18	4	90P03	1/8 NPT ZERK STR	0.01	
				457.28	TOTAL


**SWAPLOADER™**  
U.S.A. LTD.

STABILIZER  
FINAL ASSEMBLY  
42H62

PARTS LIST

ITEM	QTY	P/N	DESCRIPTION	WT-lb/ea	REMARKS
1	ONE	10P44	HYD ADP, MJIC / FMJIC SVL 90°	0.40	6500-8
2	2	11P87	HOSE ASS'Y 1/2 H.P. x 243 1/2	9.60	
3	ONE	11P83	HYD ADP, MJIC / ORB STR	0.40	6400-8-12
4	ONE	11P84	HYD ADP, MJIC / ORB 90°	0.40	6801-8-12
5	2	11P89	HYD ADP, MJIC / ORB STR	0.40	6400-8-6
				21.20	TOTAL



 **SWAPLOADER™**  
U.S.A. LTD.

HYDRAULIC SUB-ASSEMBLY

STABILIZER CIRCUIT

90H83





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