



INDUSTRIAL PARK  
515 1ST STREET NORTH EAST  
RUGBY, ND 58368

**03 6077**

***SF-26B, SF-28A & SF-623  
SUBFRAME  
INSTALLATION  
AND OWNER'S  
MANUAL***

**FIRST EDITION:** February 14, 2000  
**LATEST EDITION:** 2nd, October 29, 2001



## **"CAUTION"**

The hydraulic system supplied with a given hoist manufactured by Rugby Manufacturing Co. is made up of components (pump, valves, reservoir, hoses, cylinder, etc.) that are designed to be compatible with each other.

If you substitute hydraulic components, it is your responsibility to BE SURE they are compatible with the other components supplied by Rugby Manufacturing Co.. Incompatible hydraulic components may cause failure of the hoist which in turn could damage the truck, damage other property, and cause human injury or death.

All Rugby Manufacturing Co.'s liability and warranty for a given hoist will be voided if it is determined by Rugby Manufacturing Co. that substituted hydraulic components were used that were incompatible with those supplied by Rugby Manufacturing Co.

Several hoist hydraulic parameters are given in the following table. These parameters are given as a general guide. To insure component compatibility consult Rugby Manufacturing Co.

<b><u>HOIST MODEL</u></b>	SF-26B SF-28A SF-623
<b><u>"MAXIMUM"</u></b> HYDRAULIC FLOW RATE (GPM)	9 GPM
<b><u>"MAXIMUM"</u></b> PRESSURE FOR RAISING PORTION OF DUMP CYCLE (PSI)	3200 PSI
<b><u>"MAXIMUM"</u></b> PRESSURE FOR LOWERING PORTION OF DUMP CYCLE (PSI)	1000 PSI

**IMPORTANT FACTS ABOUT THIS MANUAL**

**IMPORTANT**

The Rugby model SF-26B, SF-28A, and SF-623 hoists are installed with a sub-frame. The model LR-26B, LR-27B, LR-28A, and LR-623 hoists are installed without a sub-frame. If you are installing a LR-26B, LR-27B, LR-28A, or LR-623 hoist, without a subframe, this manual (part #03 6077) is the incorrect manual to use. The correct manual (part #03 5804) should be obtained and used. This manual (part #03 6077) covers only the installation of the hoist and sub-frame.

This manual **does not** cover the installation and operation of the body prop or body props. The installation and operation of the body prop or body props is covered in the manual #03 6034. The #03 6034 manual is included in every SF-26B, SF-28A, & SF-623 application sold by Rugby Manufacturing Co.

This manual (part #03 6077) **does not** cover the installation and operation of the hydraulic system. There are four different types of hydraulic systems available for some or all of the hoist models (SF-26B, SF-28A, or SF-623).

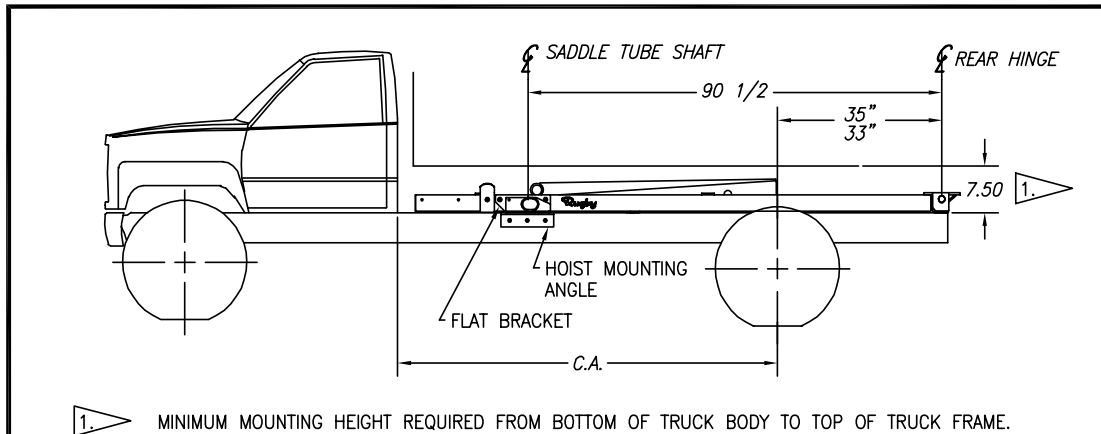
The four types of hydraulic systems and their respective installation and operation manuals are listed below:

Installation and Operation Manual Part Number	Type of Hydraulic System
03 5679	Drive shaft driven pump with push pull cable
03 5650	Direct Mount Pump with tower control
03 5669	Electric double acting with push button control
03 5670	Electric single acting with push button control

Depending on the type of hydraulic system purchased, one of the above manuals will be included in every SF-26B, SF-28A, or SF-623 sold by Rugby Manufacturing Co. Before installing one of the before mentioned hoists, be sure you have the proper manuals to do the job. If you do not have the correct manuals contact Rugby Manufacturing Co.

The following step-by-step instructions are to be followed as a general guideline when installing the SF-26B, SF-28A, or SF-623 hoist assembly:

- Warning:** Welding, oxy-fuel cutting, or grinding sparks can cause fuel to ignite which in turn can lead to injury or death. "**Always**" take adequate steps to avoid ignition of fuel from fuel tanks when welding, grinding, or oxy-fuel cutting during equipment installation.
- Warning:** Heat from the truck's exhaust system can cause hydraulic component failure and may lead to a fire which could cause injury or death. "**Always**" install equipment in locations where heat from the exhaust system will not damage any hydraulic component.
- Warning:** Being under a raised body can result in serious injury or death should the body inadvertently descend. "**Never**" position yourself or allow others to position themselves under a "**loaded**" body. "**Always**" prop the "**unloaded**" body up using the body prop or body props supplied. "**Remember**", body props are to be used only on an unloaded body.
- Warning:** Malfunctioning equipment can cause property damage, injury or death. "**Always**" have faulty equipment repaired before continuing its use. If required, consult the manufacturer.
- Warning:** Overloading of a truck can cause truck component damage, or an accident which may cause injury or death. "**Never**" exceed the gross vehicle weight (GVW) or the gross axle weight (GAW) rating of your vehicle.
- Warning:** Not installing or operating equipment correctly can cause component damage, or an accident which may cause injury or death. "**Always**" install and operate equipment in accordance with manufacturer's instructions. Read and understand this manual fully before proceeding.

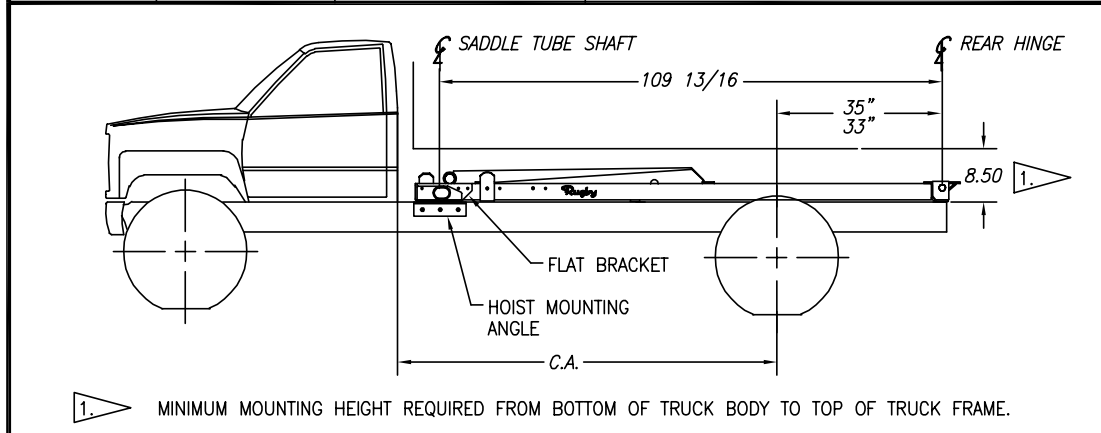


**SF-26B SUBFRAME APPLICATION CHART**

BODY LENGTH	REAR OVERHANG	SF-26B CAP. 50° DUMP
10'	0 IN.	12.5 Ton
12'	24 IN.	15.6 Ton
12'	12 IN.	12.5 Ton
12'	0 IN.	10.4 Ton
14'	24 IN.	12.5 Ton
14'	12 IN.	10.4 Ton
14'	0 IN.	8.9 Ton

Capacities are based on water level, non-diminishing loads. Because of variations in truck equipment and cab axles (CA) the data contained in this sheet is provided only as a general guide. The values in the adjacent table are in accordance with NTEA rating procedures.

**SF-26B**  
DUMP CLASS 50  
TABLE A  
FIGURE 1

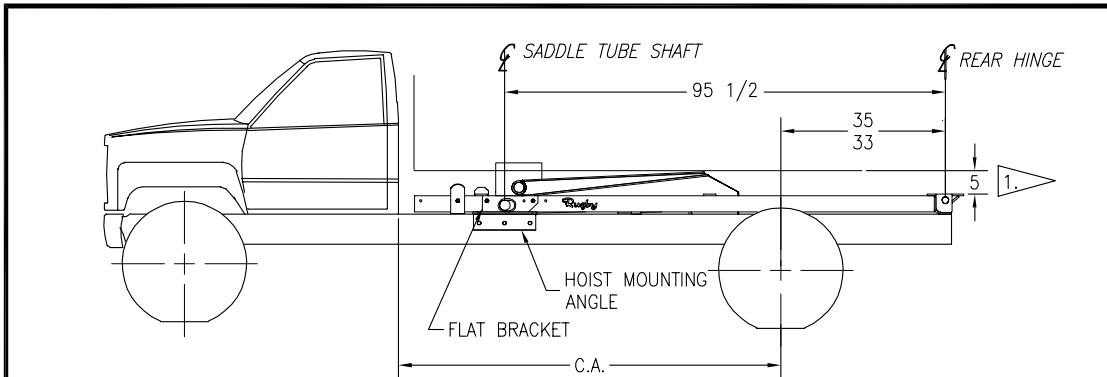


**SF-28A SUBFRAME APPLICATION CHART**

BODY LENGTH	REAR OVERHANG	SF-28A CAPACITY 55° DUMP
10'	0 IN.	14.9 Ton
12'	24 IN.	18.6 Ton
12'	12 IN.	14.9 Ton
12'	0 IN.	12.4 Ton
14'	24 IN.	14.9 Ton
14'	12 IN.	12.4 Ton
14'	0 IN.	10.6 Ton

Capacities are based on water level, non-diminishing loads. Because of variations in truck equipment and cab axles (CA) the data contained in this sheet is provided only as a general guide. The values in the adjacent table are in accordance with NTEA rating procedures.

**SF-28A**  
DUMP CLASS 60  
TABLE A  
FIGURE 1



1. MINIMUM LONGSILL HEIGHT.

**SF-623 SUBFRAME APPLICATION CHART**

BODY LENGTH	REAR OVERHANG	SF-623 CAP. 50' DUMP
10'	6 IN.	17.8 Ton
12'	6 IN.	14.6 Ton
13'	18 IN.	16.0 Ton
13'	24 IN.	17.8 Ton
13'	42 IN.	26.7 Ton
14'	18 IN.	14.6 Ton
14'	30 IN.	17.8 Ton
14'	36 IN.	20.0 Ton
16'	18 IN.	12.3 Ton
16'	24 IN.	13.3 Ton
16'	42 IN.	17.8 Ton
18'	18 IN.	10.7 Ton
18'	30 IN.	12.3 Ton
18'	42 IN.	14.6 Ton

Capacities are based on water level, non-diminishing loads. Because of variations in truck equipment and cab axles (CA) the data contained in this sheet is provided only as a general guide. The values in the adjacent table are in accordance with NTEA rating procedures.

**SF-623**  
DUMP CLASS 50  
TABLE A  
FIGURE 1

- 1) If a SF-26B hoist is to be mounted in this sub-frame, first bolt the two flat brackets to the sub-frame as shown in figure 1 SF-26B. Next, position the hoist saddle so that it lines up with the flat edge of the flat bracket. This will give a mounting distance of 90-1/2in. from the centerline of the hoist saddle shaft to the centerline of the sub-frame rear hinge.

If a SF-28A hoist is to be mounted in this sub-frame, first bolt the two flat brackets to the sub-frame as shown in figure 1 SF-28A. Next, position the hoist saddle so that it lines up with the flat edge of the flat bracket. This will give a mounting distance of 109-13/16in. from the centerline of the hoist saddle shaft to the centerline of the sub-frame rear hinge.

If a SF-623 hoist is to be mounted in this sub-frame, first bolt the two flat brackets to the sub-frame as shown in figure 1 SF-623. Next, position the hoist saddle so that it lines up with the flat edge of the flat bracket. This will give a mounting distance of 95-1/2in. from the centerline of the hoist saddle shaft to the centerline of the sub-frame rear hinge.

Ensure that the hoist and sub-frame are positioned squarely on the truck frame before performing any welding.

**WARNING:** Failure to position either the SF-26B, SF-28A, or SF-623 at the proper sub-frame mounting point could cause the hoist to function improperly, leading to possible hoist, body or equipment damage.

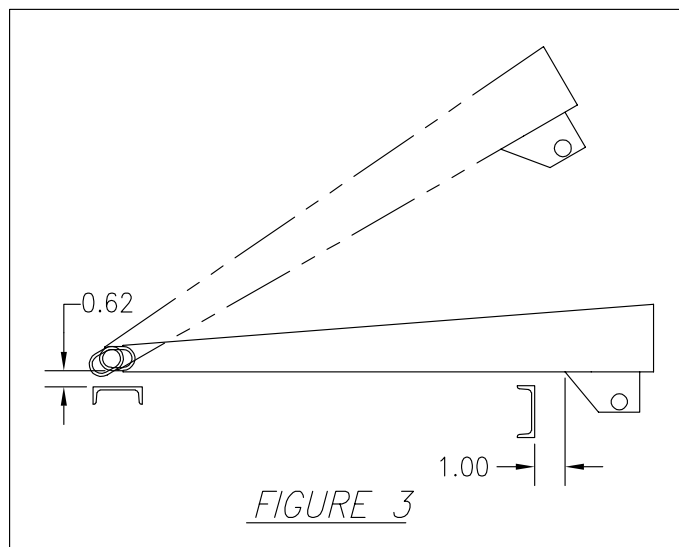
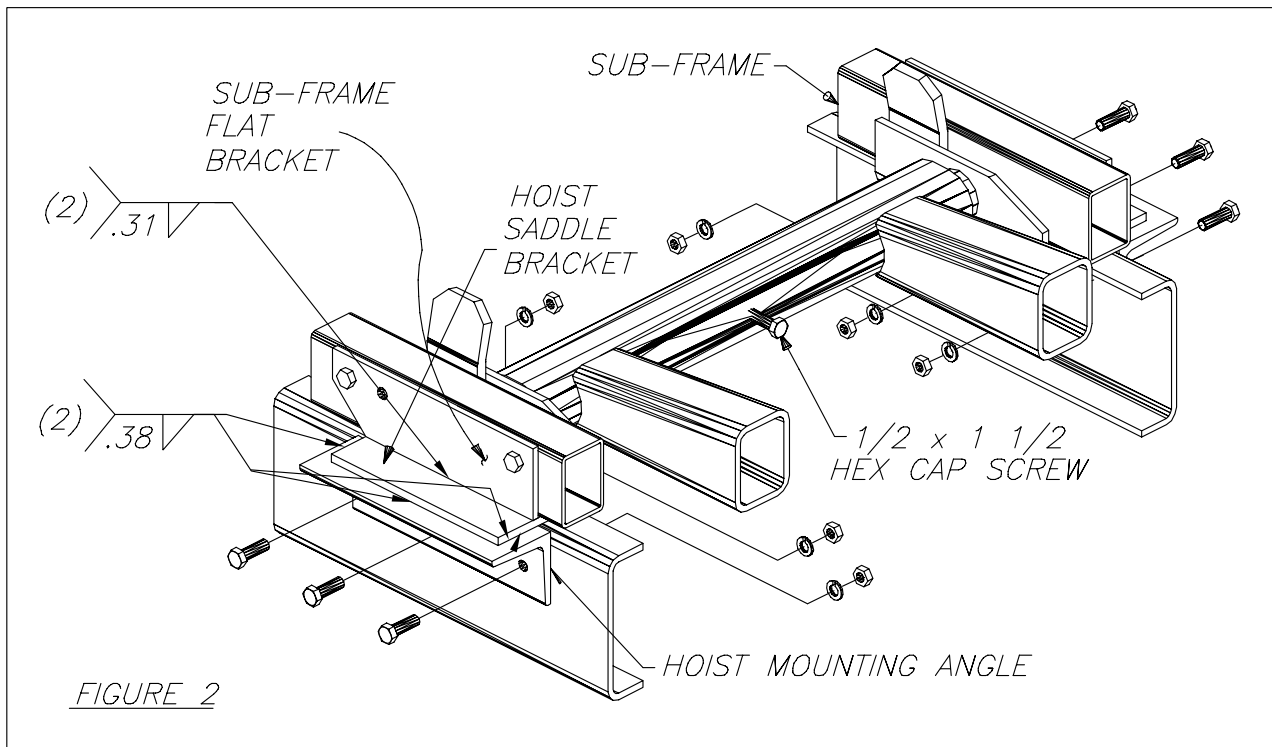
**WARNING:** During the first degrees of the dump cycle, the hoist lower link will move forward. Therefore, it is important to keep the areas illustrated in Fig. 3 open to allow this hoist movement. Failure to do this will cause the hoist to not operate as intended and may damage the hoist and/or other truck components.

- 2) Attach the sub-frame flat brackets to the sub-frame using 1/2 x 4" bolts, lock washers, and nuts. Refer to Fig. 2.
- 3) Attach the sub-frame guide plates to the subframe using 1/2 x 4" bolts, lock washers, and nuts. The guide plate should be installed in the next available hole forward of the flat bracket for the SF-26B and SF-623. It should be installed in the next available hole rearward of the flat bracket for SF-28A. Refer to Fig. 1.
- 4) With the hoist in position, attach the sub-frame to the hoist by welding each of the two sub-frame flat brackets to each of the two hoist saddle brackets. Refer to Fig. 2.

**NOTE:** If hoist saddle brackets (shown in Fig. 2) need to be rotated so as to set flat on the truck frame, loosen the 1/2" X 1 1/2" hex cap screw illustrated in Fig. 2. This will free the saddle brackets so they can be rotated. Once the saddle brackets are in place, retighten the screw.

- 5) Position a hoist mounting angle, with three holes, under the saddle bracket located on each side of the hoist. Secure each large mounting angle to the truck frame by drilling three 17/32" dia. holes and bolting the mounting angle to the truck frame. Use 1/2 x 1-1/2" bolts, lock washers, and nuts. Finally, weld each mounting angle to its respective saddle bracket. Refer to Fig. 2.

**NOTE:** DO NOT WELD ON THE TRUCK FRAME IN THE SADDLE AREA.

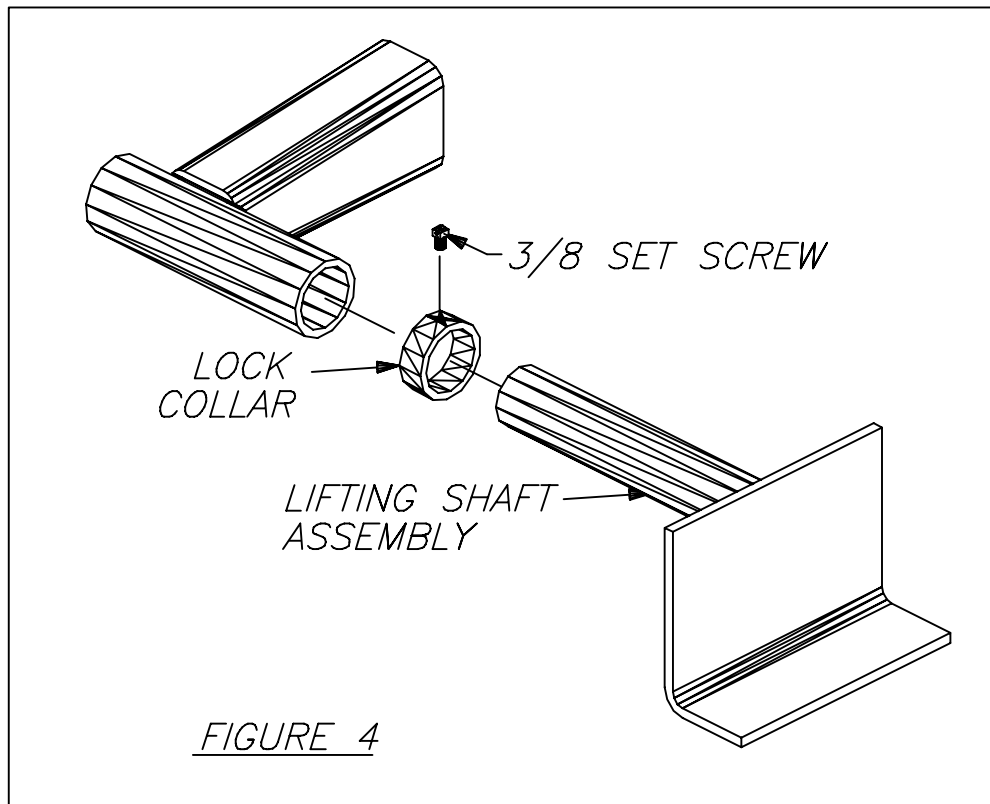




- 6) Cut off the excess truck frame behind the sub-frame rear hinge. Weld the sub-frame rear hinge to the truck frame on both sides.

**NOTE:** The sub-frame model hoists are designed to set on the truck frame, as shown in Fig. 1. If a cross member or some other obstacle in the truck frame interferes with the rear end of the hoist, the rear end of the hoist can be raised to clear the obstacle. The raising of the hoist rear end will not effect the lifting capacity, but raising the rear end of the hoist will raise the mounting height, i.e. larger truck body long sills will be required or some cross sill notching will have to be done.

- 7) Install each of two lifting shaft as illustrated in Fig. 4.



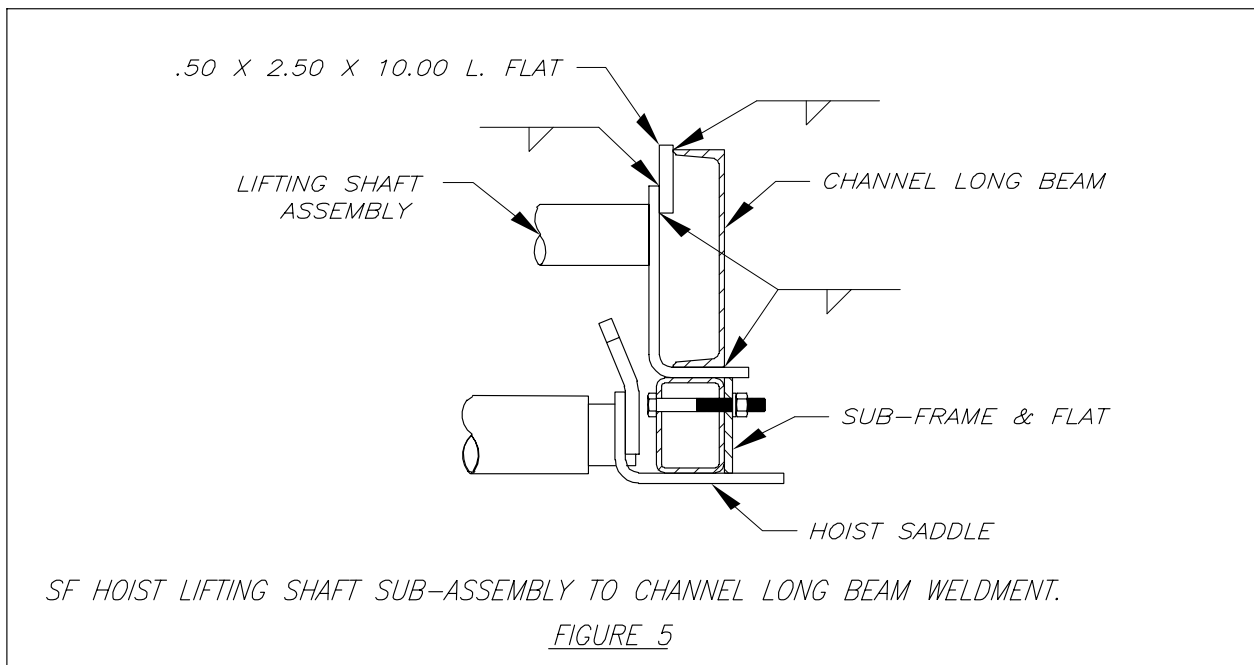
- 8) Position truck body on sub-frame.

**NOTE:** A clearance of at least 2" is required between the truck cab and the closest point on the truck body.

- 9) Attach each rear hinge bracket to a long beam by welding all edges where the rear hinge bracket contacts the long beam.

**WARNING:** The saddle tube is oblong, allowing the hoist to slide front to back. This is part of the anti-kickup design. Before performing the next step, the hoist must be pushed back as far as possible by tightening the 1/2" x 1-1/2" screw shown in Fig. 2. Failure to do so will cause the "anti-kickup device" to function improperly, causing damage to the hoist, truck body, and/or other truck components.

- 10) Position a lifting shaft assembly next to each channel long beam. Two 1/2" X 2 1/2" X 10" flats are supplied with each hoist. Weld a lift shaft to each channel long beam. Refer to Fig. 5. With the lift shafts secured, slide the lock collars against the lifting tube and lock them by tightening the set screws. Refer to Fig. 4.



- 11) Remove the 1/2" x 1 1/2" hex cap screw from the saddle tube that is illustrated in Fig. 2. Plug hole with the plastic plug supplied.

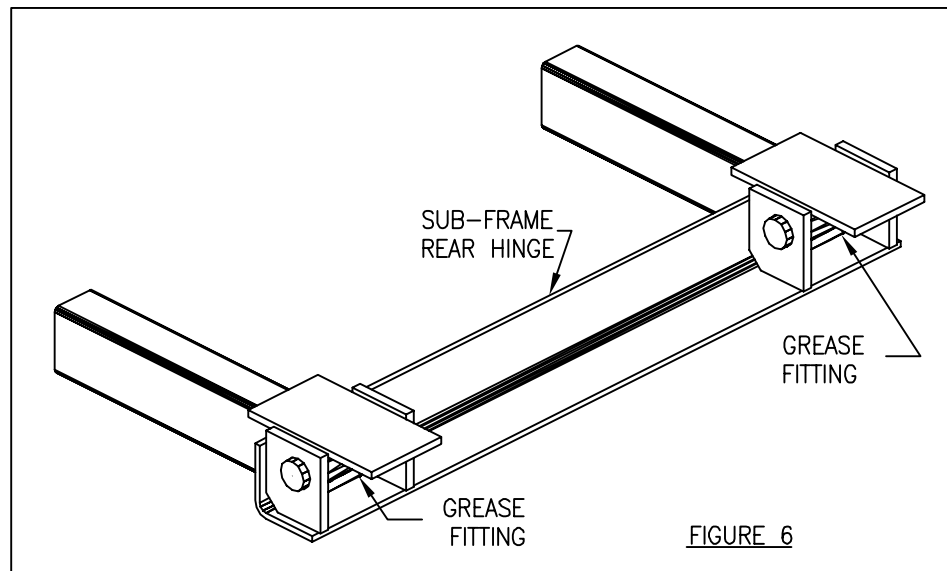
**WARNING:** After the hoist is fastened to both the truck frame and the body, it is important to remove the 1/2" x 1 1/2" hex cap screw, as failure to do this will prevent the before mentioned "anti-kick up device" from functioning, and could cause damage to the hoist and/or other truck components.

- 12) Install body prop or body props per separate instructions (part #03 6034) included with this hoist.

**NOTE:** Before operating the hoist, read and understand the correct operation procedures for the type of hydraulic system this hoist has. Refer to page 3 of the manual for the correct operation manual part number.

**WARNING:** If it is necessary to work on the hoist or body while in the raised position, ALWAYS work under an unloaded body securely blocked up with body prop or body props.

**LUBRICATION:** Install and grease the two grease fittings in the sub-frame. Refer to Fig. 6 for locations of these grease fittings.



Install and grease the 10 grease fittings in the hoist frame itself. Refer to Fig. 7 for grease fitting locations for SF-26A, SF-28A, or SF-623.

All grease fittings should be greased periodically or at least every time the truck itself is greased.

Check the oil level in the pump reservoir every time the oil is changed in the truck engine. **REMEMBER TO KEEP THE OIL CLEAN.** An annual oil change can prevent contaminants from ruining your pump and hoist cylinder.

**FIGURE 7**

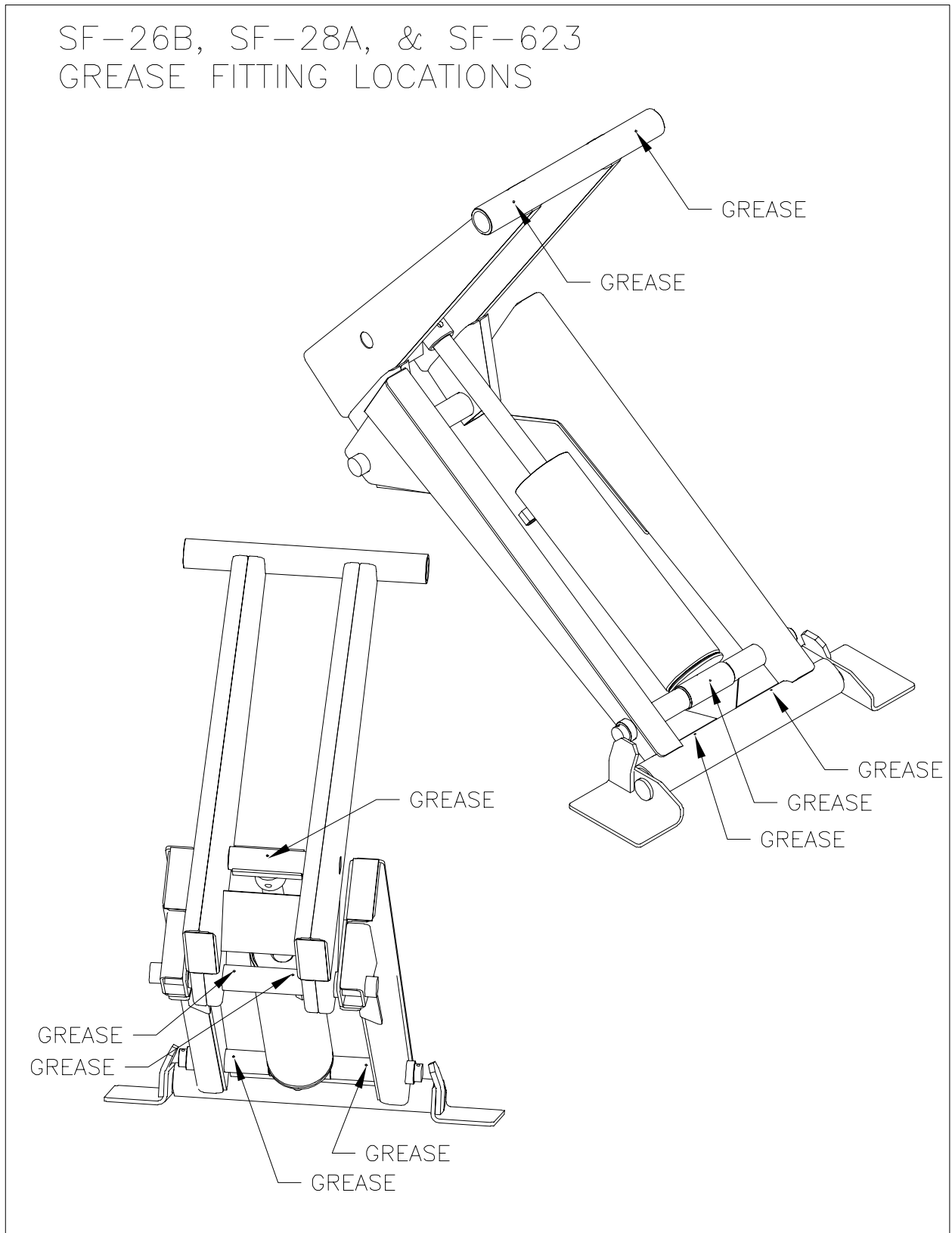
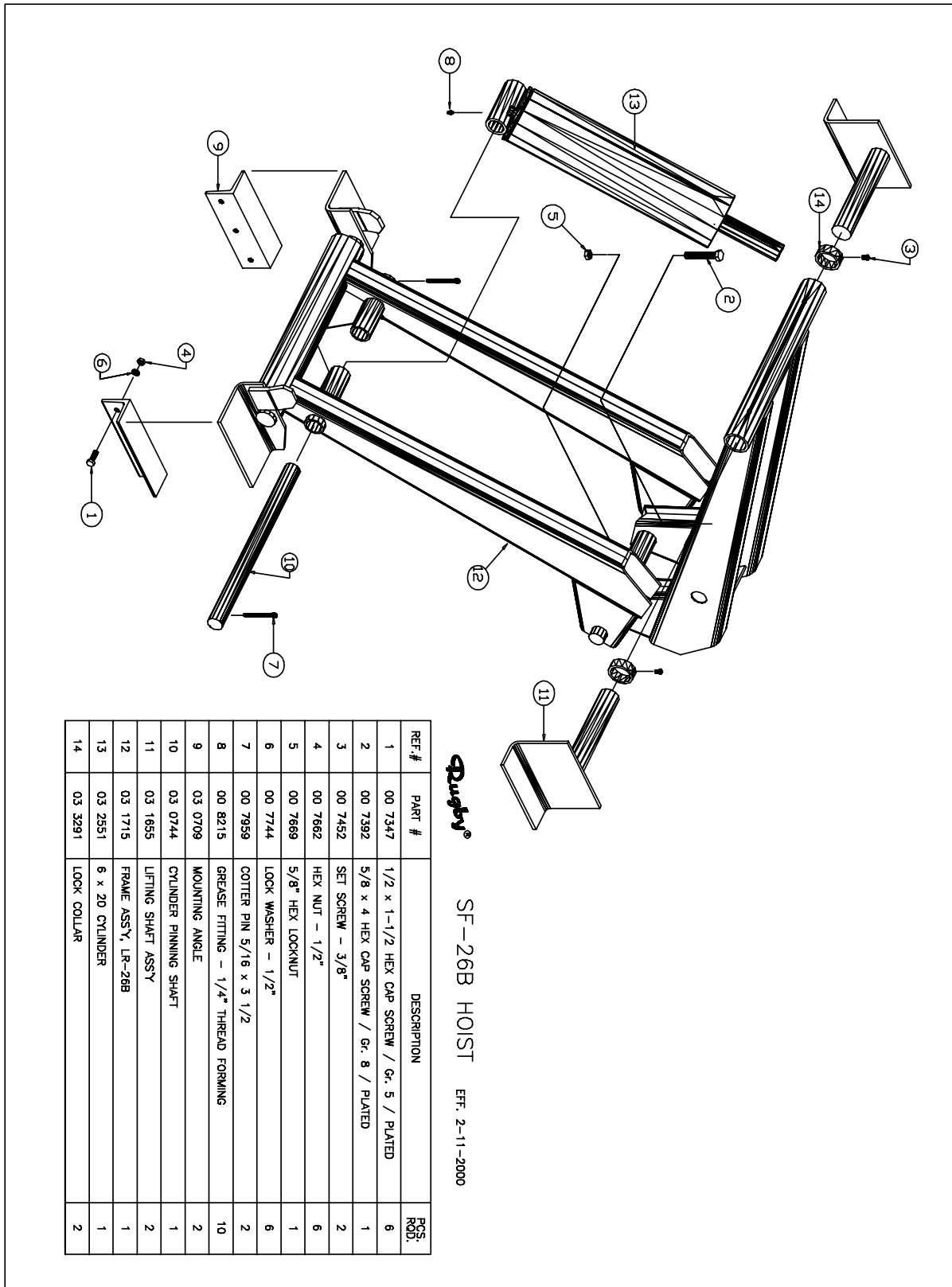


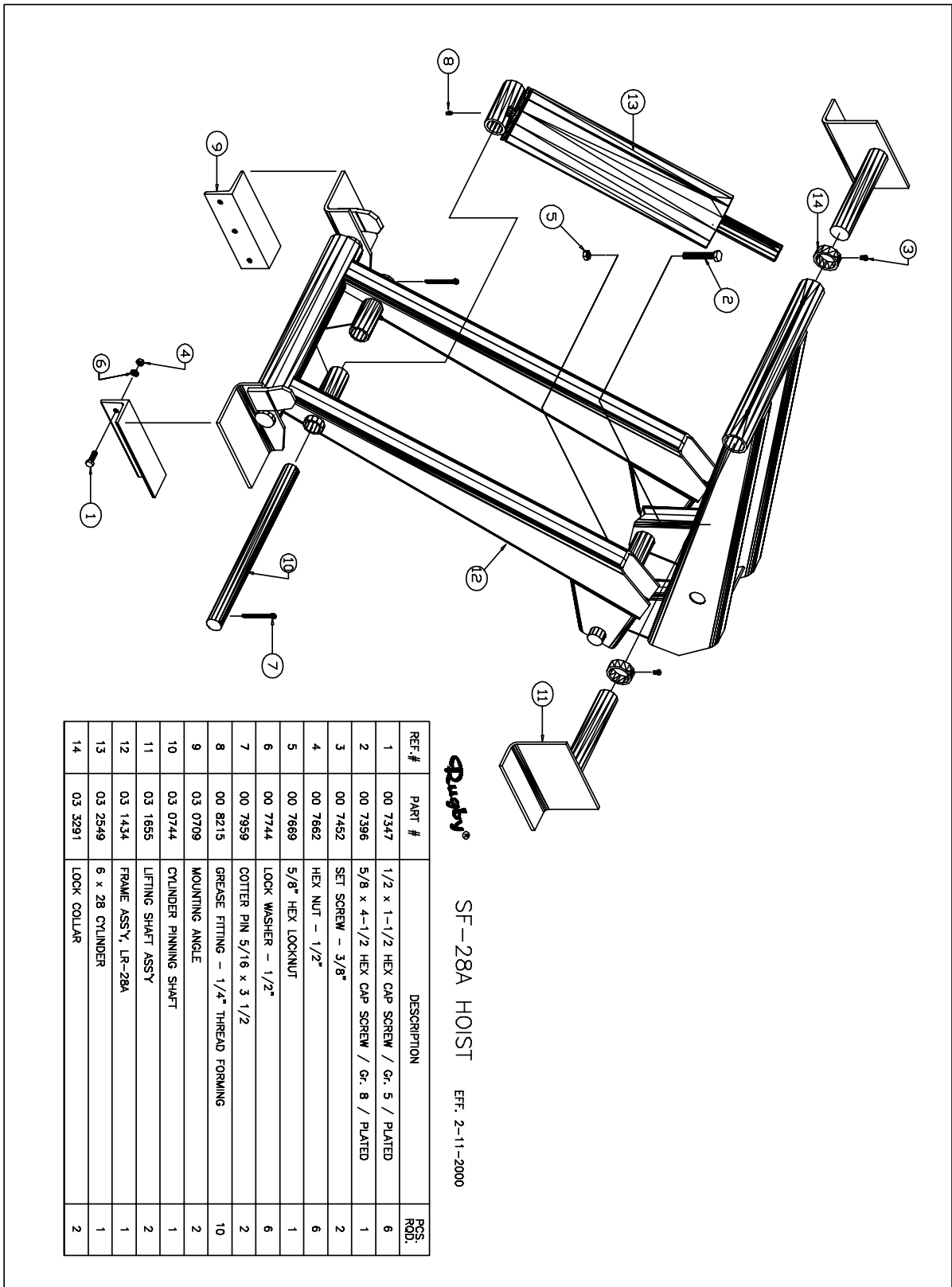
FIGURE 8



SF-26B HOIST EFF. 2-11-2000

REF. #	PART #	DESCRIPTION	PCS. REQ.
1	00 7347	1/2 x 1-1/2 HEX CAP SCREW / Gr. 5 / PLATED	6
2	00 7392	5/8 x 4 HEX CAP SCREW / Gr. 8 / PLATED	1
3	00 7452	SET SCREW - 3/8"	2
4	00 7662	HEX NUT - 1/2"	6
5	00 7669	5/8" HEX LOCKNUT	1
6	00 7744	LOCK WASHER - 1/2"	6
7	00 7959	COTTER PIN 5/16 x 3 1/2	2
8	00 8215	GREASE FITTING - 1/4" THREAD FORMING	10
9	03 0709	MOUNTING ANGLE	2
10	03 0744	CYLINDER PINNING SHAFT	1
11	03 1655	LIFTING SHAFT ASSY	2
12	03 1715	FRAME ASSY, LR-26B	1
13	03 2551	6 x 20 CYLINDER	1
14	03 3291	LOCK COLLAR	2

**FIGURE 9**



SF-28A HOIST

EFF. 2-11-2000

REF. #	PART #	DESCRIPTION	PCS. REQ.
1	00 7347	1/2 x 1-1/2 HEX CAP SCREW / Gr. 5 / PLATED	6
2	00 7396	5/8 x 4-1/2 HEX CAP SCREW / Gr. 8 / PLATED	1
3	00 7452	SET SCREW - 3/8"	2
4	00 7662	HEX NUT - 1/2"	6
5	00 7689	5/8" HEX LOCKNUT	1
6	00 7744	LOCK WASHER - 1/2"	6
7	00 7959	COTTER PIN 5/16 x 3 1/2	2
8	00 8215	GREASE FITTING - 1/4" THREAD FORMING	10
9	03 0709	MOUNTING ANGLE	2
10	03 0744	CYLINDER PINNING SHAFT	1
11	03 1655	LIFTING SHAFT ASS'Y	2
12	03 1434	FRAME ASS'Y, LR-28A	1
13	03 2549	6 x 28 CYLINDER	1
14	03 3291	LOOK COLLAR	2

**FIGURE 10**

