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OPERATOR & PARTS MANUAL
PRO-CLASS HOIST

Airflo®

PRO-CLASS® SERIES HOIST

TABLE OF CONTENTS

PAGE #

TO THE OWNER / OPERATOR…….INSIDE FRONT COVER

CHECKLISTS…….....2

GENERAL INFORMATION……..3

SPECIFICATIONS INFORMATION ……... 3

DOUBLE ACTING PUMP …….…….3

WARNINGS……4-5

MOUNTING INSTRUCTIONS……..6-8

LUBRICATION POINTS……... 10

BODY PROP INSTALLATION AND OPERATION……... 11-12

TROUBLE SHOOTING……. 13-14

PARTS LISTING…… 15-16

CHECK LISTS

PRE-USE CHECK LIST

Before operating hoist, check the recommended maximum payload. DO NOT OVERLOAD THE HOIST!

☐ Read and understand all the safety CAUTION, WARNING and DANGER signs on the truck hoist and the pump unit.

☐ Check to make sure that the hoist body prop, pump / valve guard, ect. Are in place and operational before attempting to operate hoist.

GENERAL CHECK LIST BEFORE USE

☐ Before operating a loaded truck body, make sure the truck is on level, firm ground.

☐ Before operating the truck hoist, make sure the area is clear of other equipment and personnel.

☐ Check to make sure that the PTO is dis-engaged before driving the vehicle on the road.

☐ Operate the hoist controls from the cab during dumping operations. Release tailgate before lifting the body.

GENERAL INFORMATION

The purpose of this manual is to assist the owner / operator in maintaining and operating the Air-Flo Pro-Class® Series Hoist. Read it carefully before attempting operating, maintenance or repair.

GENERAL HOIST AND SUBFRAME SPECIFICATIONS

The PCS-20 sub-frame shall be of 7 GA. Mild Steel; The PCS-40 sub frame shall be formed of 7 ga. A572 grade 50 steel. The formed C Channel design shall be 4-1/4"High by 3" wide and welded at all joints. The sub-frame will incorporate the rear welded hinge pin for the dump body. The sub-frame shall also incorporate a hoist which shall be a combination of double arm and scissor design. The scissor hoist shall have a 5" x 20" lift cylinder with a 2" chromed rod that will ensure a dump angle of not less than 50 degrees.

NTEA RATING CHART

Class	Model	Length	Capacity
20	PCS-20	8'	11.7
		9'	10.1
40	PCS-40	10'	10.5
		11'	9.3

DOUBLE ACTING PUMP

The hoist assembly shall be powered by a 12 Volt DC with intermittent duty motor power unit. The unit shall have a hydraulic style pump with double acting solenoid operated valve. The relief valve shall be set at 3200 PSI for up pressure and max of 500 PSI for down pressure. It shall have an oil reservoir with a capacity large enough to provide sufficient oil supply for the unit.

WARNINGS

FAILURE TO OBEY THESE WARNINGS MAY LEAD TO SERIOUS INJURY OR DEATH!

- 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.

- Overloading of a truck can cause property damage, injury or death. Never exceed the gross vehicle weight (GVW) or the gross axle weight (GAW) rating of your vehicle.

- 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.

- 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.

- Malfunctioning equipment can cause property damage, injury or death. Always have faulty equipment repaired before continuing its use. If required, consult the manufacturer.

- Not installing or operating equipment correctly can cause component damage or an accident which may cause injury of death. Always install and operate equipment in accordance with manufacturer's instructions. Read and understand this manual fully before proceeding.

- The inadvertent shorting of the truck's electrical supply can cause a fire or equipment damage that could lead to injury or death. Always disconnect the vehicle battery prior to installing, servicing or repairing the pump.

- Never install a cable on a truck while the body is raised without first blocking, bracing, or propping the body up to prevent the body from inadvertently falling when the control valve lever is moved. A falling body could result in serious injury or death if the control valve lever is moved while someone is under the non-supported body.

WARNING

The hydraulic system supplied with a given hoist manufactured by Air-Flo Manufacturing is made up of components (pump, valves, reservoir, hoses, cylinder, ect.) that are designated 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 Air-Flo Manufacturing. 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 of Air-Flo Manufacturing's liability and warranty for a given hoist will be voided if it is determined by Air-Flo Manufacturing that substituted hydraulic components were used that were incompatible with those supplied by Air-Flo Manufacturing.

Several hoist parameters are given in the following table; these parameters are given as a general guide. To ensure component compatibility, consult Air-Flo Manufacturing.

HOIST MODEL	PCS - 20 / 40
"MAXIMUM" PRESSURE FOR RAISING PORTION OF DUMP CYCLE (PSI)	3200 PSI
"MAXIMUM" PRESSURE FOR LOWERING PORTION OF DUMP CYCLE (PSI)	500 PSI
"MAXIMUM" HYDRAULIC FLOW RATE (GPM)	6 GPM

MOUNTING INSTRUCTIONS FOR HOIST SUB FRAME

The Sub frame is normally mounted to the truck before attaching the body to it. The following instructions apply to both flat frame and humped frame installations. Position the sub frame with a minimum of 2" of clearance between the cab and the sub frame rails. The back of the frame rails should be a minimum of 2" behind the rear spring shackle. Mark the truck frame for cutting at the back of the sub frame rails. Make sure the marks for cutting the truck frame are accurate and even from side to side. The truck frame should not extend out past the sub frame. Trucks with humped frames may need some temporary blocking.

NOTE: On trucks with humped frames, the gap needs to be filled with square tubing between the truck frame and the sub frame.

CAUTION: Be careful of brake lines, wiring, fuel tank, ect. inside of truck frame when drilling.

WARNING: Before working under a raised empty body, make sure it is supported by the body prop.

1. Place the hoist into the sub frame and fasten with four ½" X 1 ½" hex cap screws, lock washers, nuts and eight flat washers. Align the saddle brackets of the hoist with the corresponding brackets in the sub frame to keep the hoist straight. See figure one.

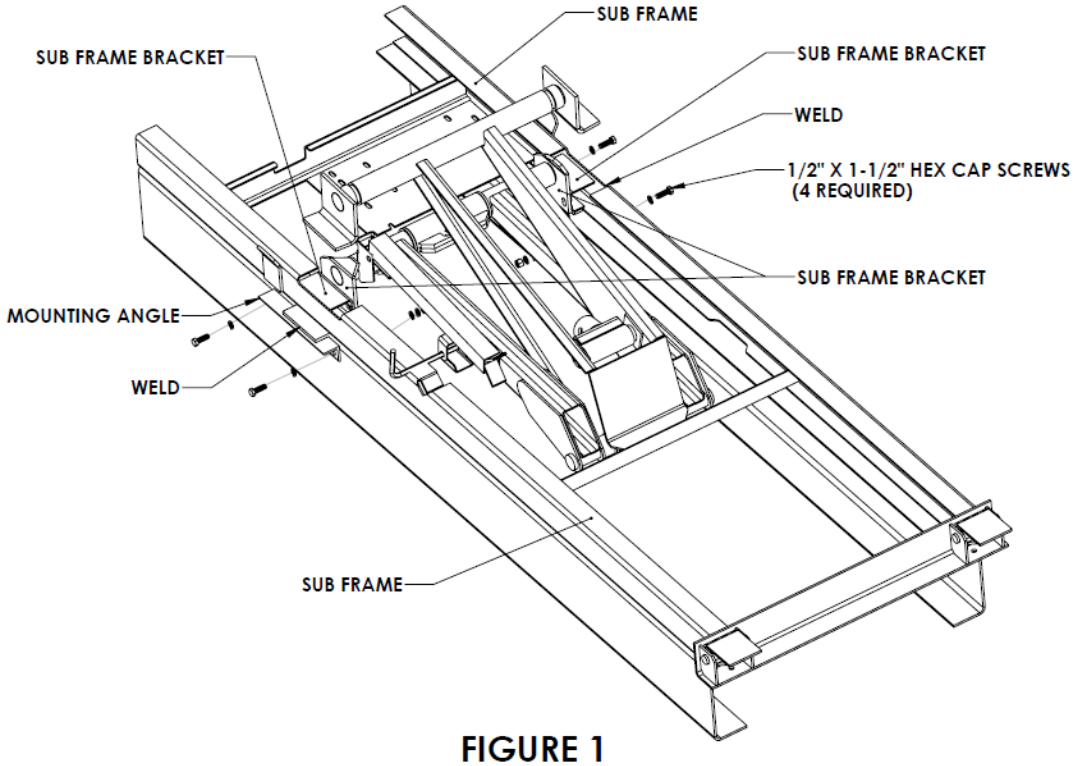


FIGURE 1

2. Position the hoist with the sub frame on the truck frame.

3. On each side of the sub frame, place a mounting angle under each saddle flat. Secure each mounting angle to the truck frame by drilling two 17/32" diameter holes and bolting the large mounting angle to the truck frame. Insert Grade 5 bolts through the sub frame and chassis frame. Install lock washers and nut. Lastly, weld each mounting angle to its respective saddle flat.

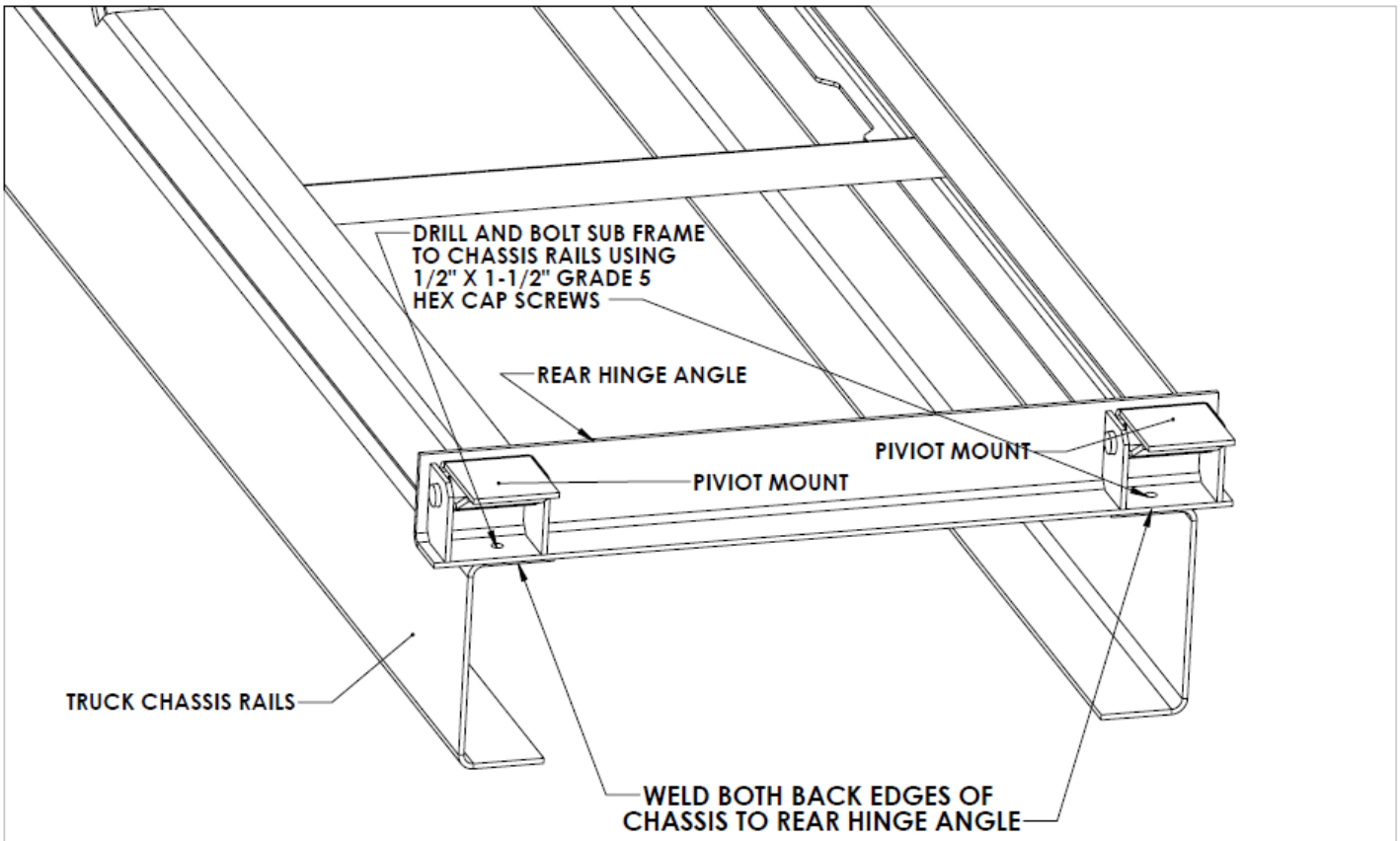


FIGURE 3

4. Attach the rear of the sub frame to the truck by welding the rear hinge angle to the chassis frame. Refer to figure #3.

NOTICE: Do not weld saddle flats or mounting angles to the truck frame.

All of the fasteners that are used in the previous steps are ½" X 1 ½" hex cap screws, flat washers, and lock nuts. All the ½" fasteners should be torqued to 90 foot pounds.

5. Cut the excess frame off behind the subframe rear hinge.

IMPORTANCE NOTICE: If the truck has fuel tanks located between the rails of the chassis, run the fill well spout between one of the subframe side rail cutouts for access to refueling the truck. If an alternate location is needed for locating the fill well spout other that the ones provided, cut a hole in the sub frame side rail at the preferred location. The hole must be completely contained in the web portion of the side rail, not be larger the 3", or disturb the top and bottom flanges.

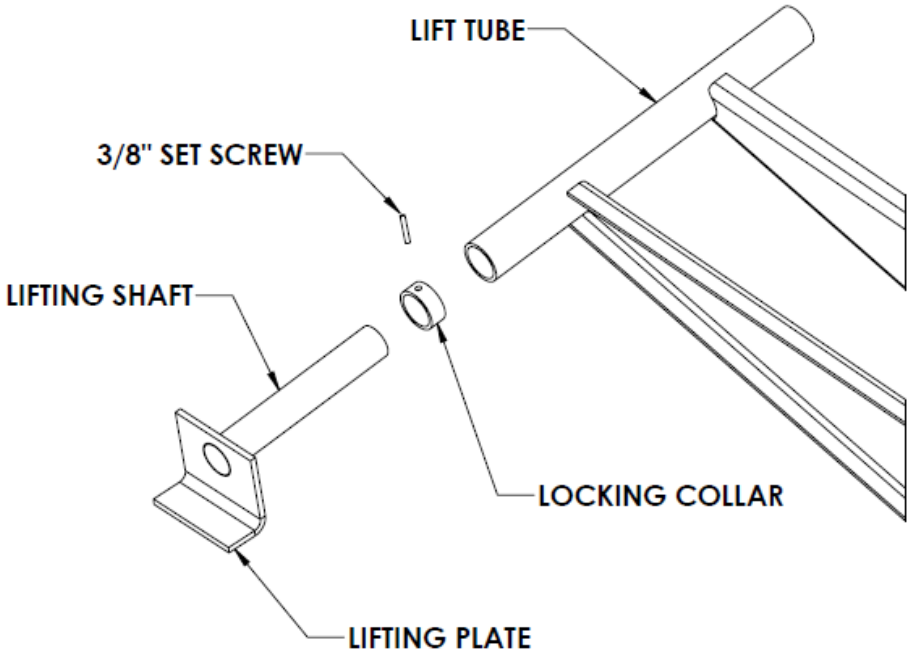


FIGURE 4

6. Place a lock collar onto each of the lifting shafts. Slide a lifting shaft with collar into each end of the hoist lifting tube. Refer to Figure 4.

7. Position the body onto the sub-frame.

8. Once the body is in position, weld the rear hinge brackets to the body long beams. See Figure 3.

9. Position both of the lifting brackets against the inside of the channel long beam of the body. To secure the bracket to the long beam, weld the lifting bracket as shown in figure 5. After the lifting bracket is secured, slide the lock collars against the hoist lifting tube and secure them in place by tightening the 3/8" set screw. Refer to figures 4 and 5. The set screw should be torqued to 23 foot pounds.

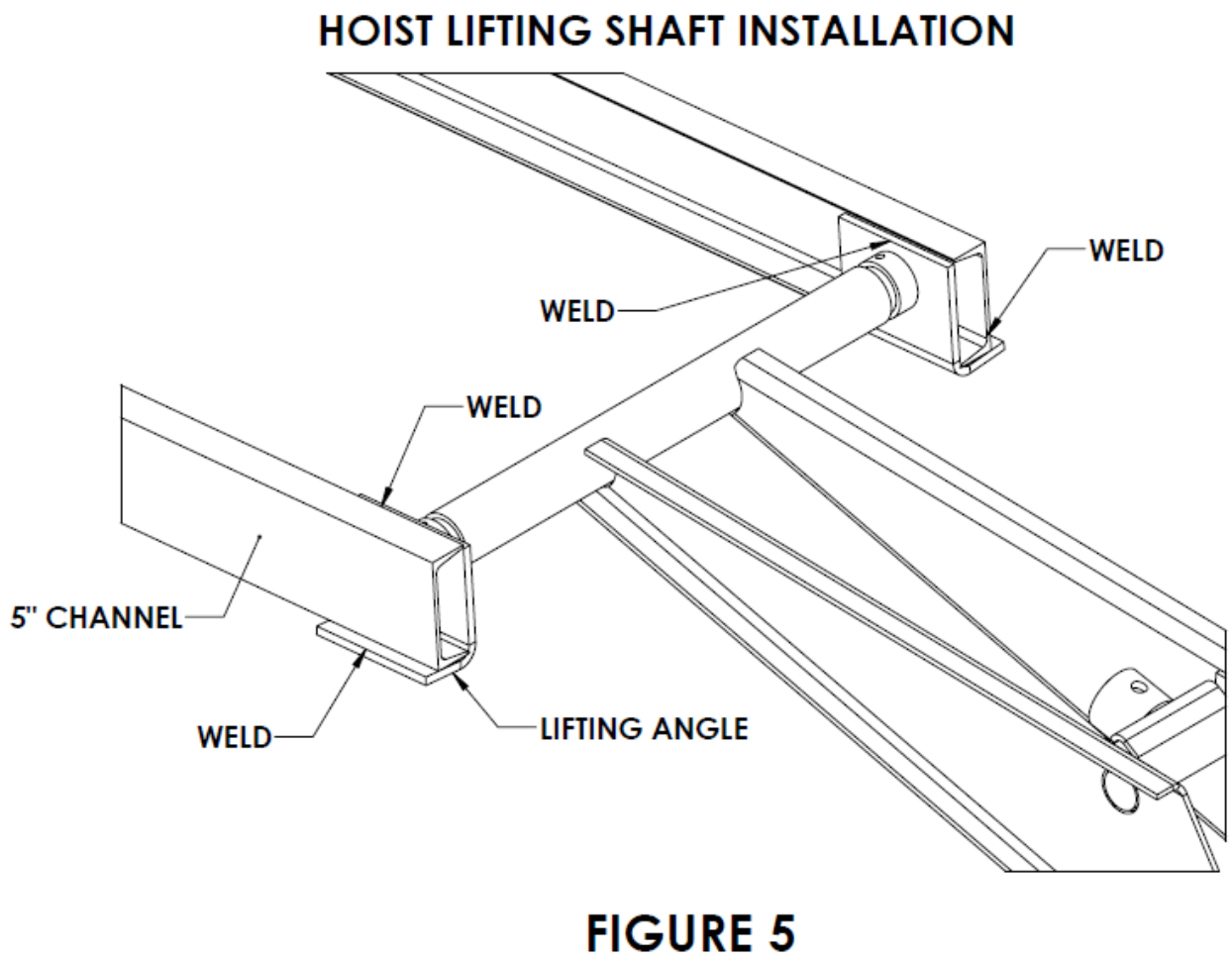
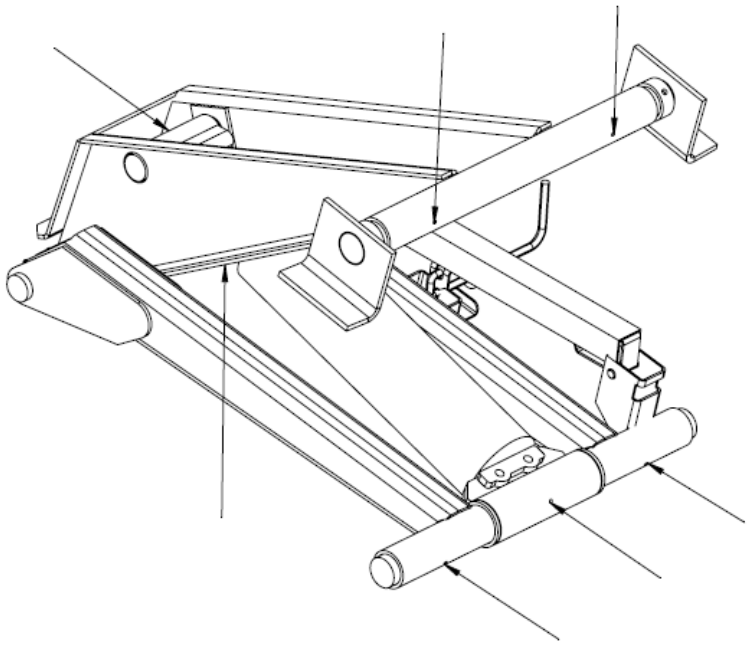


FIGURE 5

10. Install all the grease fittings when done. **MAKE SURE TO GREASE ALL THE FITTINGS AFTER INSTALLATION**. For the location of the grease fittings, refer to the lubrication points diagram.

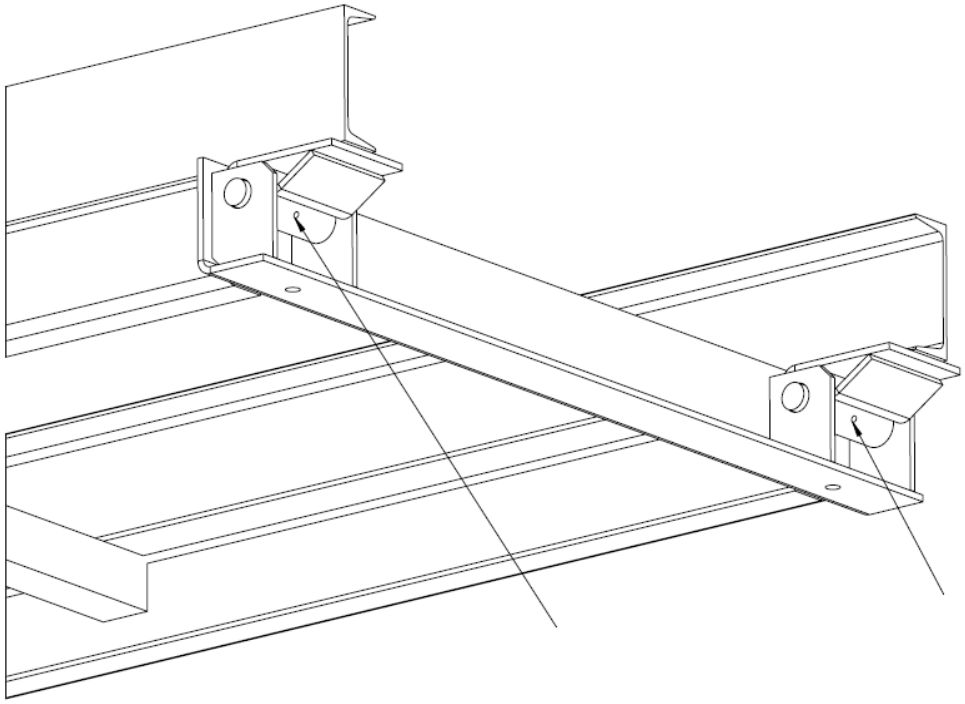
LUBRICATION POINTS

SCISSOR HOIST



POINTER ARROW REPRESENTS LOCATION OF ZERK FITTINGS

REAR HINGE



POINTER AROWS REPRESENT LOCATION OF ZERK FITTINGS.

BODY PROP INSTALLATION

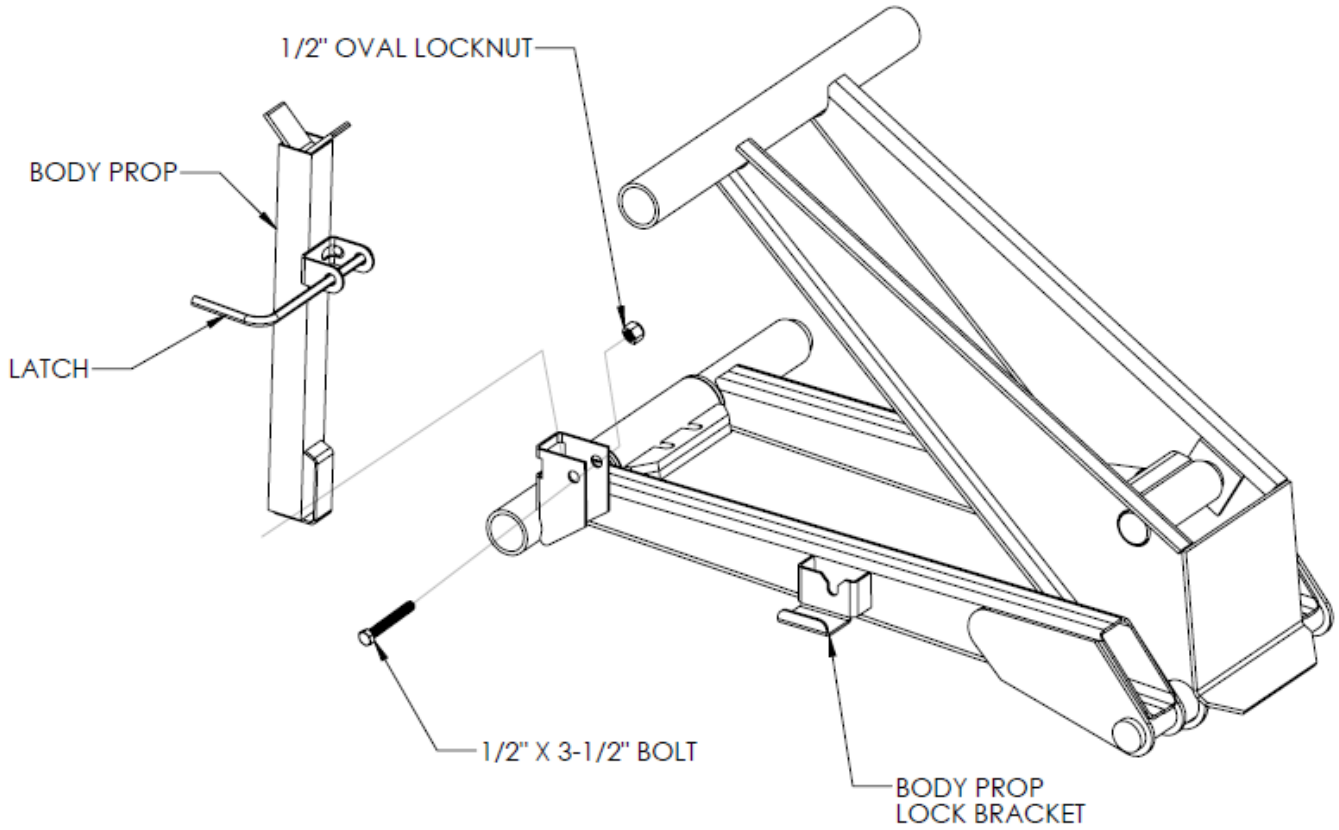
1. A body prop is supplied with every Air-Flo Hoist package kit.

2. Insert the Body Pro into the Body Prop bracket. Make sure the latch is lined up with the lock bracket.

3. Fasten the Body Prop to the Body Prop bracket with the ½" oval locknut and ½" X 3" bolt (supplied). Tighten locknut until prop binds when moved, and then back off the lock nut until prop slides freely.

4. With the handle pushed in, lower the prop to the down position, making sure the latch is resting in the lock bracket.

5. Rotate the handle until the hook locks against the bottom of the lock bracket.



BODY PROP USE INSTRUCTIONS

1. The Body Prop should be used whenever any activity is to be performed under a raised, empty body.

WARNING: NEVER USE THE BODY PROP TO SUPPORT A LOADED BODY!

2. To prop the raised body:

   A. Raise the body to a height slightly higher than the pump control knob is in the neutral position.

   B. Shut off all power to the unit, making sure the pump control knob is in the neutral position.

   C. Grab the prop from the latched position by turning the prop handle clockwise while pushing handle in.

   D. Move prop upwards into vertical position.

   E. Push down until prop locks into vertical position.

   F. Using the cab controls, lower the body slowly until upper cross beam of the hoist comes to rest on the hook of the prop.

WARNING: DO NOT POWER DOWN THE HOIST WHILE BODY PROP IS SUPPORTING THE BODY.

3. To lower the prop for operation of the truck, “Reverse” the steps above.

CAUTION: NEVER POSITION YOURSELF OR ALLOW OTHERS TO POSITION THEMSELVES UNDER A LOADED BODY.

TROUBLESHOOTING

WARNING: THE BODY PROP MUST BE USED BEFORE WORKING ON ANY RAISED BODY!

1. Hoist will not raise with load:

A. The load may be too heavy or too far forward.

1a. Reduce the load or re-distribute the load to the rear.

B. A hydraulic line may have a restriction or be damaged.

1b. Check for a damaged or pinched line. Replace or re-route line if necessary.

C. The valve may not be actuating properly.

1c. When engaged the valve must run a full stroke. Check the valve for damage or contamination. Clean valve or replace damaged valve if necessary.

2c. Check for wear on the pump control cable. Replace if necessary.

NOTICE: The pump control knob should return to the neutral position naturally, when knob is released.

D. The pump pressure may not be set correctly.

1d. The maximum output pressure should be 2500 PSI for the hoist.

2d. If the pump relief valve cannot be adjusted to meet the required specifications replace the pump.

2. Hoist will not lift load to top of cycle:

A. The oil level in the reservoir may be low.

1a. Check the level of the oil in the reservoir. Add oil to the reservoir if the oil level is lower than 2 inches from the top with the hoist in the closed position.

3. Hoist delays before beginning to lift:

A. The system may have air trapped in it.

1a. Run the hoist for a full cycle 6-7 times to remove all the air from the cylinder.

B. The pump may be inadvertently drawing air into the system.

1b. Check all the hoses and fittings to make sure that no Air is being drawn into the system. Tighten the fittings and hoses. Replace if necessary.

4. The hoist lifts slowly:

A. The flow rate of the pump may be too low.

1a. Clean the reservoir filter screen and breather cap if necessary.

2a. Check for severe bends in the pump suction hose. Replace if damaged or re-route.

B. The oil may be too thick.

1b. Replace with a lighter weight oil, preferably Dexron ATF (Automatic Transmission Fluid).

5. Load slowly descends while in hold position:

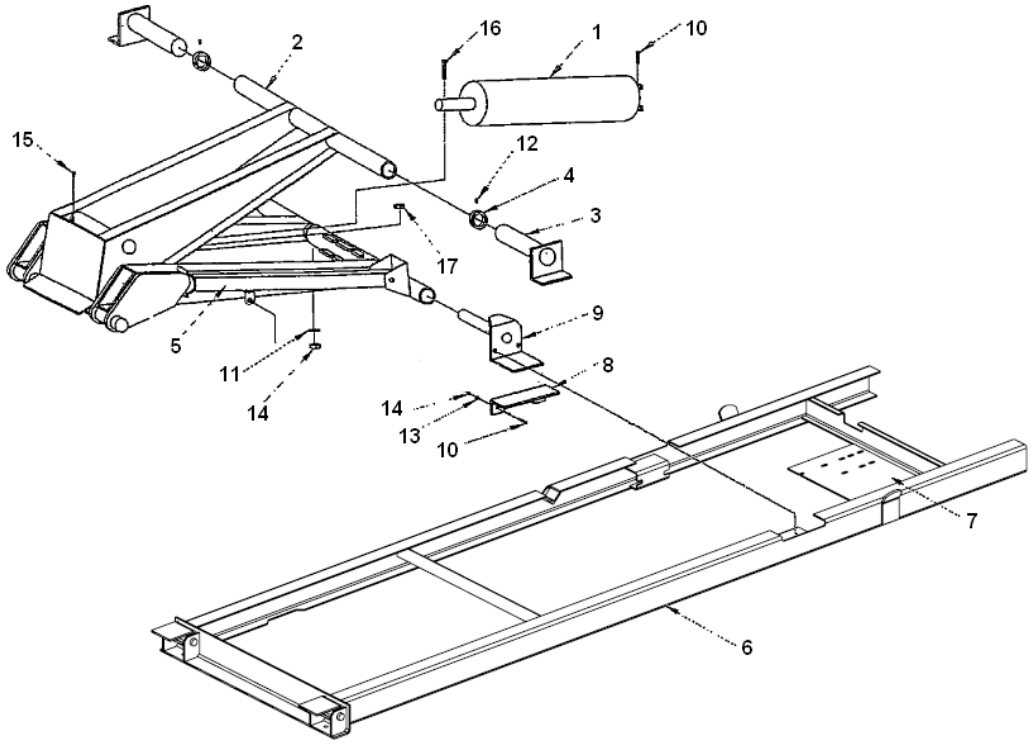
A. Oil may be leaking.

1a. The valve may be defective or worn. Replace if necessary.

2a. There may be an oil leak past the cylinder seals. Replace all of the seals or the cylinder if necessary.

3a. There may be an external leak. Inspect all the hoses, fittings, and the cylinder for any oil leaks. Repair or replace as needed.

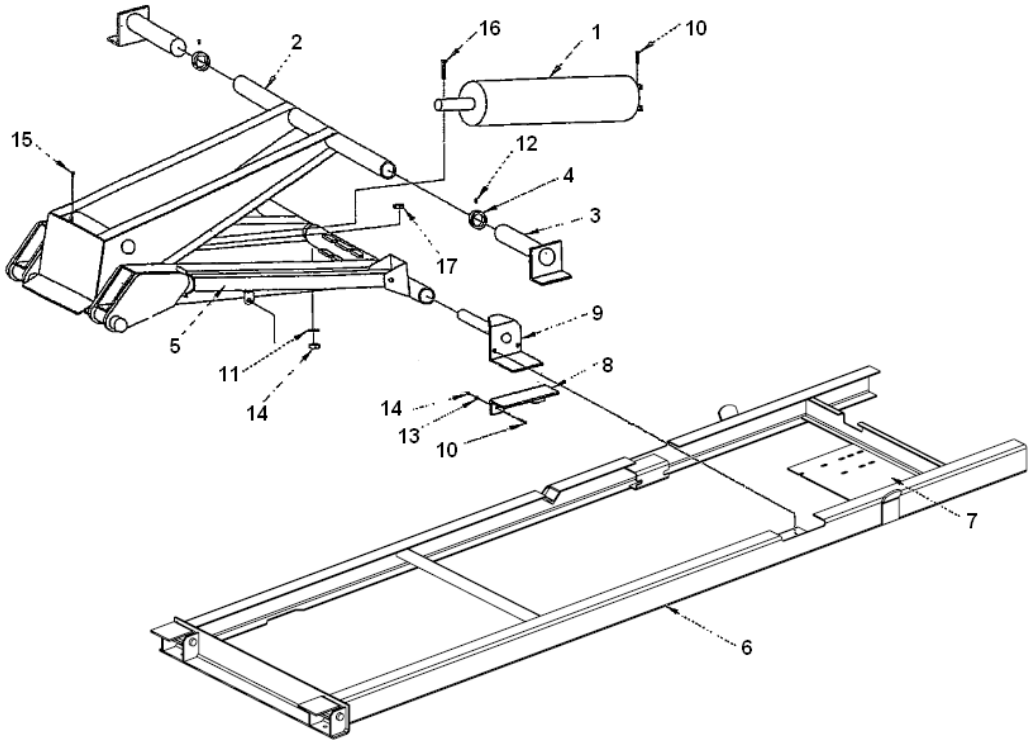
PARTS LIST



Airflo PCS – 20 HOIST with SUB FRAME FOR 8’ & 9’ UNITS

ITEM #	PART #	DESCRIPTION	REQ'D	ITEM #	PART #	DESCRIPTION	REQ'D
1	37058	HYDRAULIC CYLINDER 8'-9'	1	10	01032	1/2"-13 X 1-1/2" GRADE 5 BOLT	10
2	86416	PCS-20 SCISSOR HOIST ASSEM.	1	11	01399	1/2"-13 X 3-1/2" GRADE 8 BOLT	1
3	86032	LIFT SHAFTS	2	12	01134	3/8"-16 X 5/8" SQUARE HEAD SET SCREW	2
4	86035	LOCKING COLLAR	2	13	01049	1/2" FLAT WASHER	8
5	86014	BODY PROP	1	14	01337	1/2" NYLOCK NUT	11
6	86418	8-9' PCS-20 SUB FRAME	1	15	20005	1/4"-28 TAPERED THD 39/64 GREASE FITTING	4
7	86116	PUMP BRACKET	1	16	01139	5/8" X 4" GR. 8 HEX CAP	1
8	86034	MOUNTING BRACKET	2	17	01297	5/8" HEX LOCK NUT	1
9	86033	SADDLE BRACKET SET	1				

PARTS LIST



Airflo PCS – 40 HOIST with SUB FRAME FOR 10’ – 12’ UNITS

ITEM #	PART #	DESCRIPTION	REQ'D	ITEM #	PART #	DESCRIPTION	REQ'D
1	37024	HYDRAULIC CYLINDER 10'-12'	1	10	01032	1/2"-13 X 1-1/2" GRADE 5 BOLT	10
2	86016	PCS-40 SCISSOR HOIST ASSEM.	1	11	01399	1/2"-13 X 3-1/2" GRADE 8 BOLT	1
3	86032	LIFT SHAFTS	2	12	01134	3/8"-16 X 5/8" SQUARE HEAD SET SCREW	2
4	86035	LOCKING COLLAR	2	13	01049	1/2" FLAT WASHER	8
5	86014	BODY PROP	1	14	01337	1/2" NYLOCK NUT	11
6	86030	10-12' PCS-20 SUB FRAME	1	15	20005	1/4"-28 TAPERED THD 39/64 GREASE FITTING	4
7	86116	PUMP BRACKET	1	16	01139	5/8" X 4" GR. 8 HEX CAP	1
8	86034	MOUNTING BRACKET	2	17	01297	5/8" HEX LOCK NUT	1
9	86033	SADDLE BRACKET SET	1				