Air*flo* Manufacturing Co., Inc.

OPERATOR
&
OWNERS MANUAL

Side-Tip Body

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Airflo

SIDE-TIP™

Multi-Purpose Dump Body

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WARNINGS & DANGERS

MOUNTING

Positioning on Truck Chassis

On your Air-Flo® Side-Tip™ Body, measure from the rear of the longitudinal to the center of the lift cylinder mounting pin. Subtract 12" (for the overhang). Use this final measurement to position cylinder frame by measuring from the center of the back of the hinge pin to the center of the cylinder frame.

Position the two (2) cylinder frame mounting angle irons (4" x 4" x 18 angles) at the cylinder frame mounting position. Drill three (3) 5/8" holes on each frame mounting angle iron through the truck chassis. Mount with hardened bolts.

FRAME ALIGNMENT

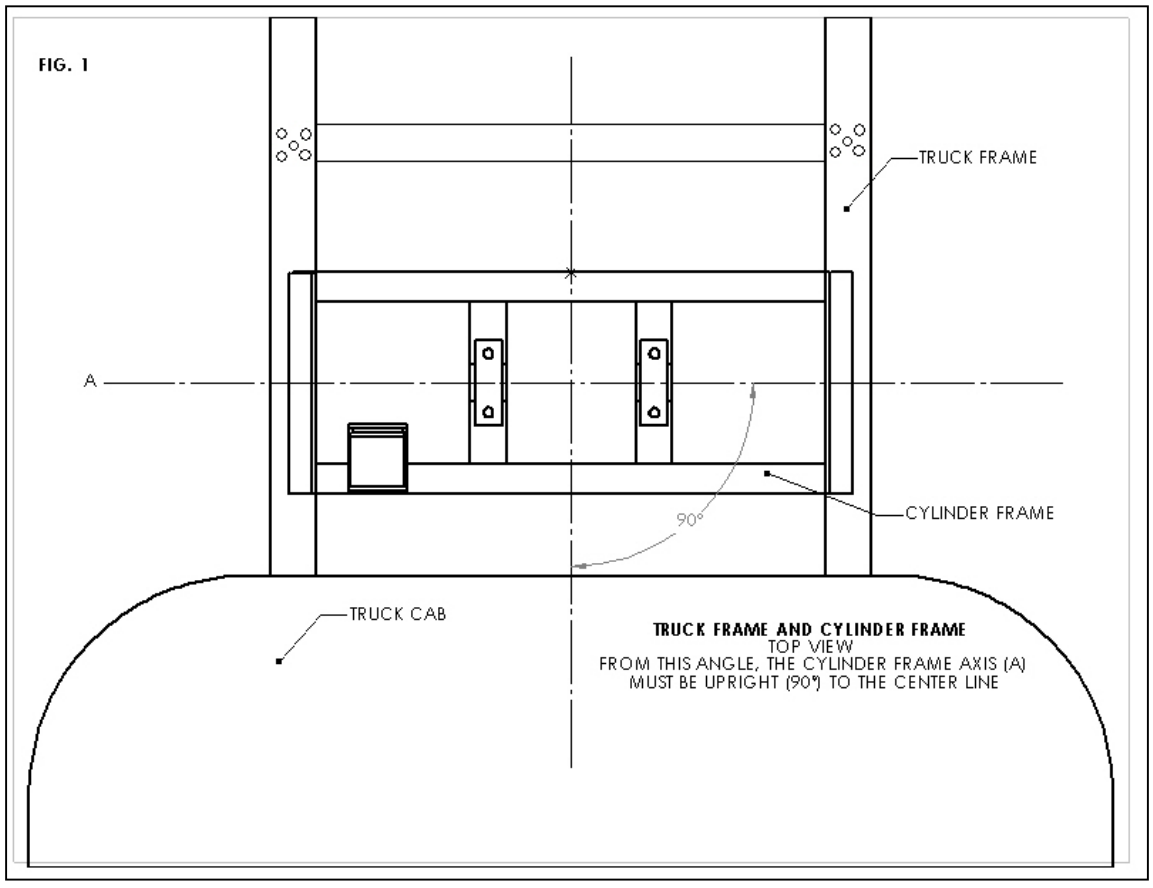
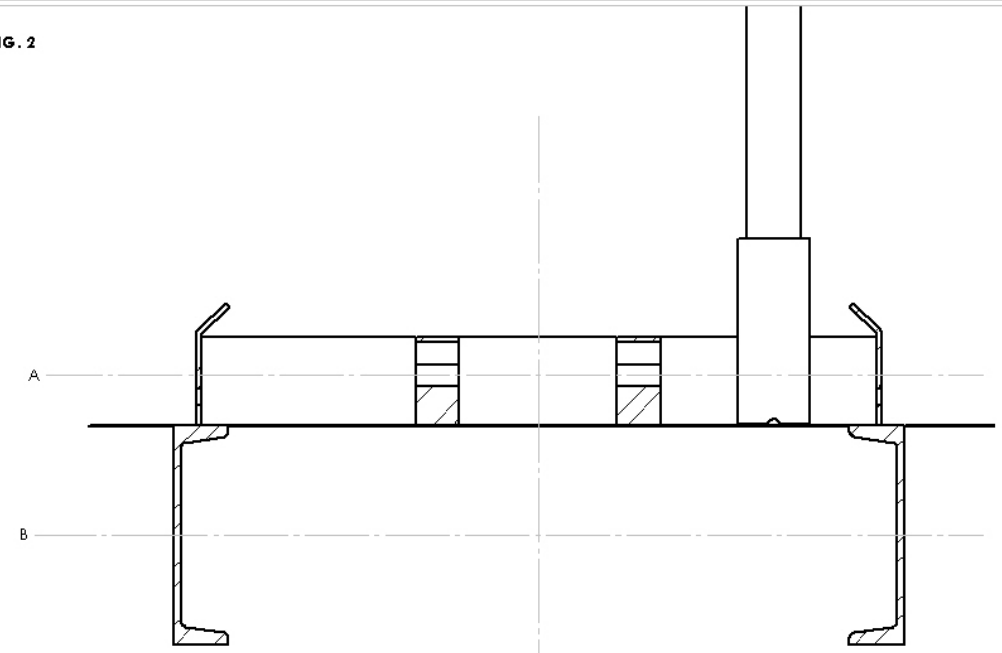


FIG. 2



TRUCK AND CYLINDER FRAME
FRONT VIEW
FROM THIS ANGLE THE CYLINDER FRAME
HORIZONTAL AXIS (A) MUST BE PARELL
TO THE TRUCK FRAME ORIZONTAL AXIS (B)

MOUNTING

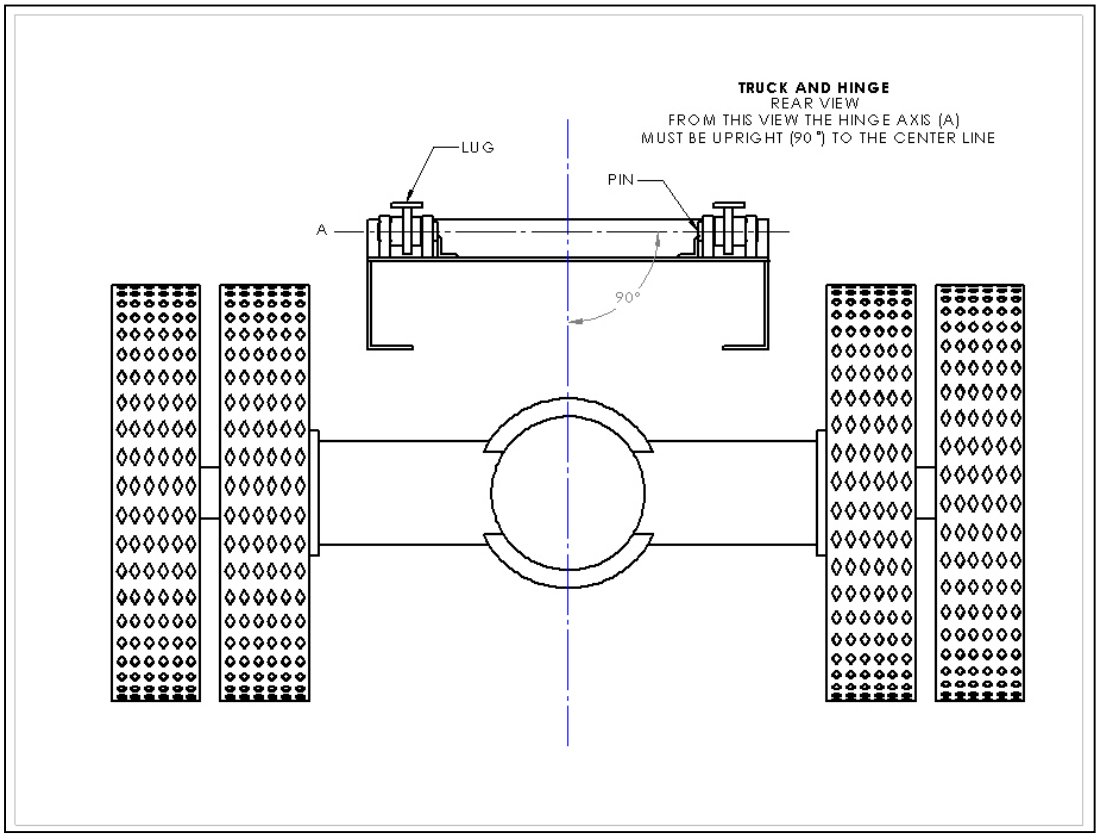
Back Hinge Mounting

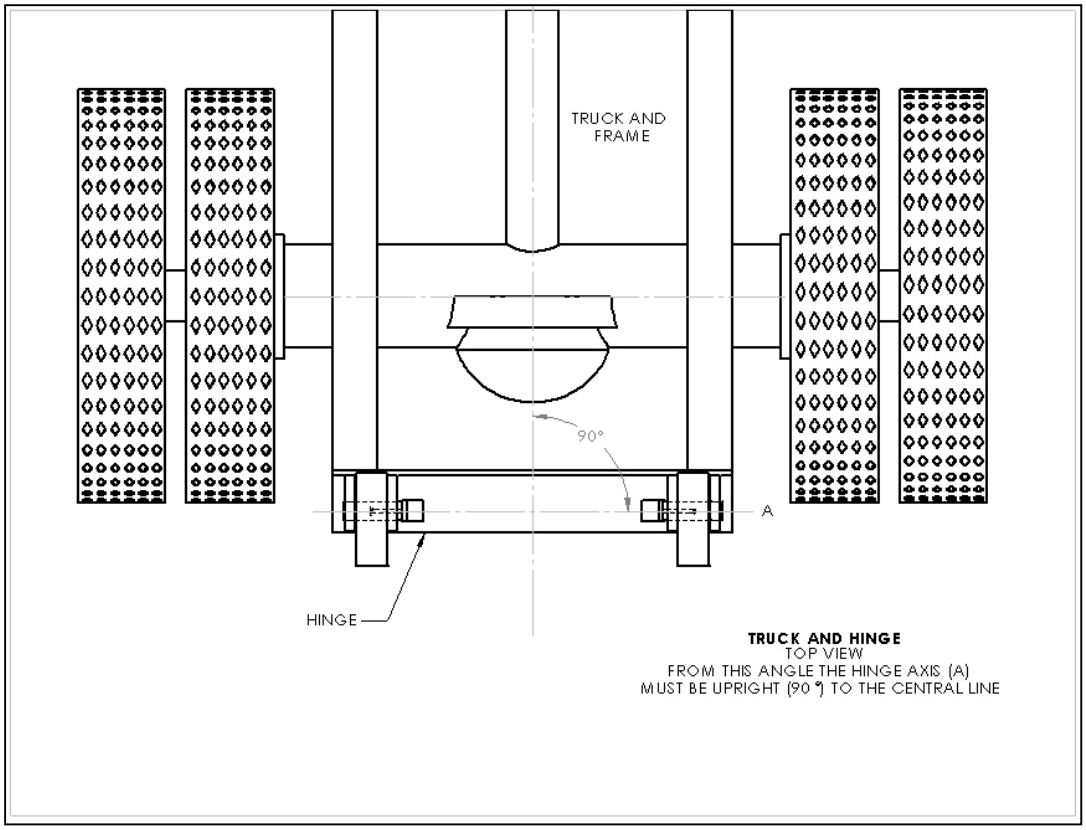
Position the back hinge to allow for a 12” overhang from the center of the hinge to the end of the longitudinals of the Side-Tip™ Body.

Cut into chassis to place the top of back hinge lug 3/8” above the truck chassis rails. This allows for a 3/8” x 3” flat stock runner for the body longitudinals to ride on.

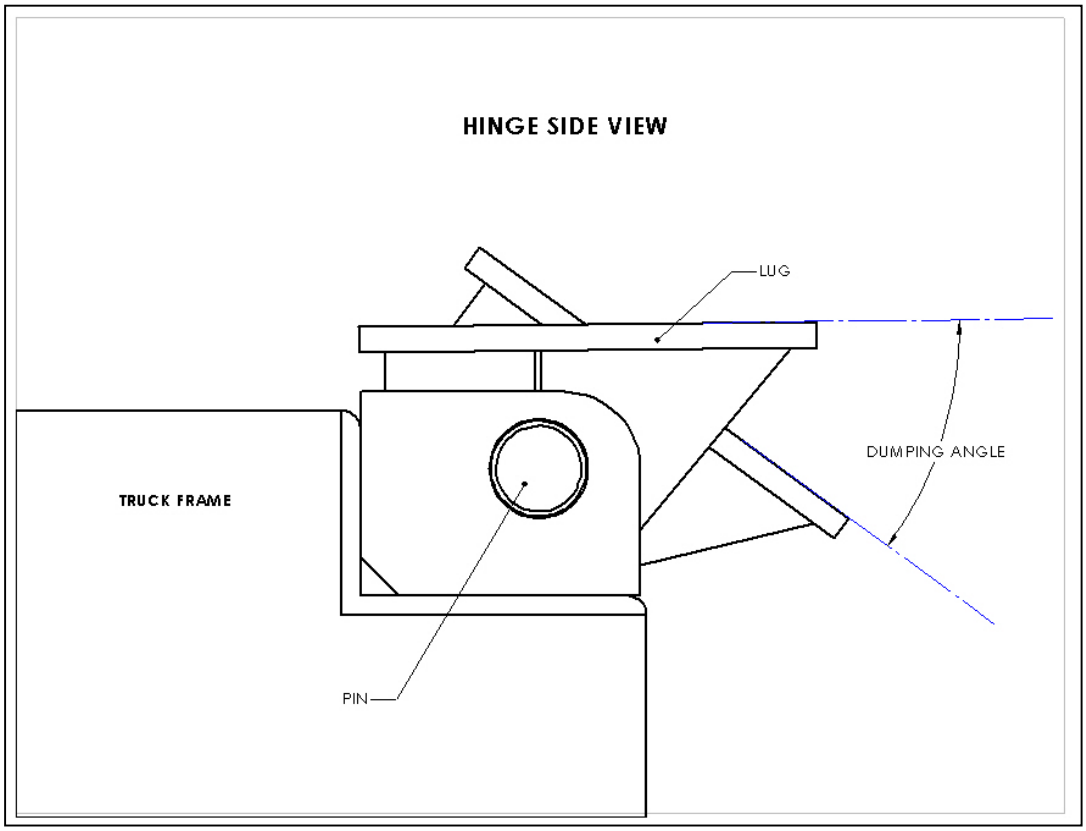
Weld both sides of the back hinge to the truck chassis on both the right and left rails.

BACK HINGE ALIGNMEMT





TRUCK AND HINGE
TOP VIEW
FROM THIS ANGLE THE HINGE AXIS (A)
MUST BE UPRIGHT (90 °) TO THE CENTRAL LINE



MOUNTING

Body Mounting

Place the body in position with 12" of overhang from the center of the hinge. Place a jack in position to lower the bottom of cylinder into position in the cylinder frame. Remove the cylinder pin lock caps in the cylinder frame. Carefully remove the safety chain over the cylinder and then lower it into place.

WARNING: Never work under a suspended body without first blocking under the body so it cannot fall down on you.

Place the cylinder lock caps back into place and tighten down with the hardened bolts provided.

Lower the body onto the truck chassis and full weld back hinge lugs to body longitudinals.

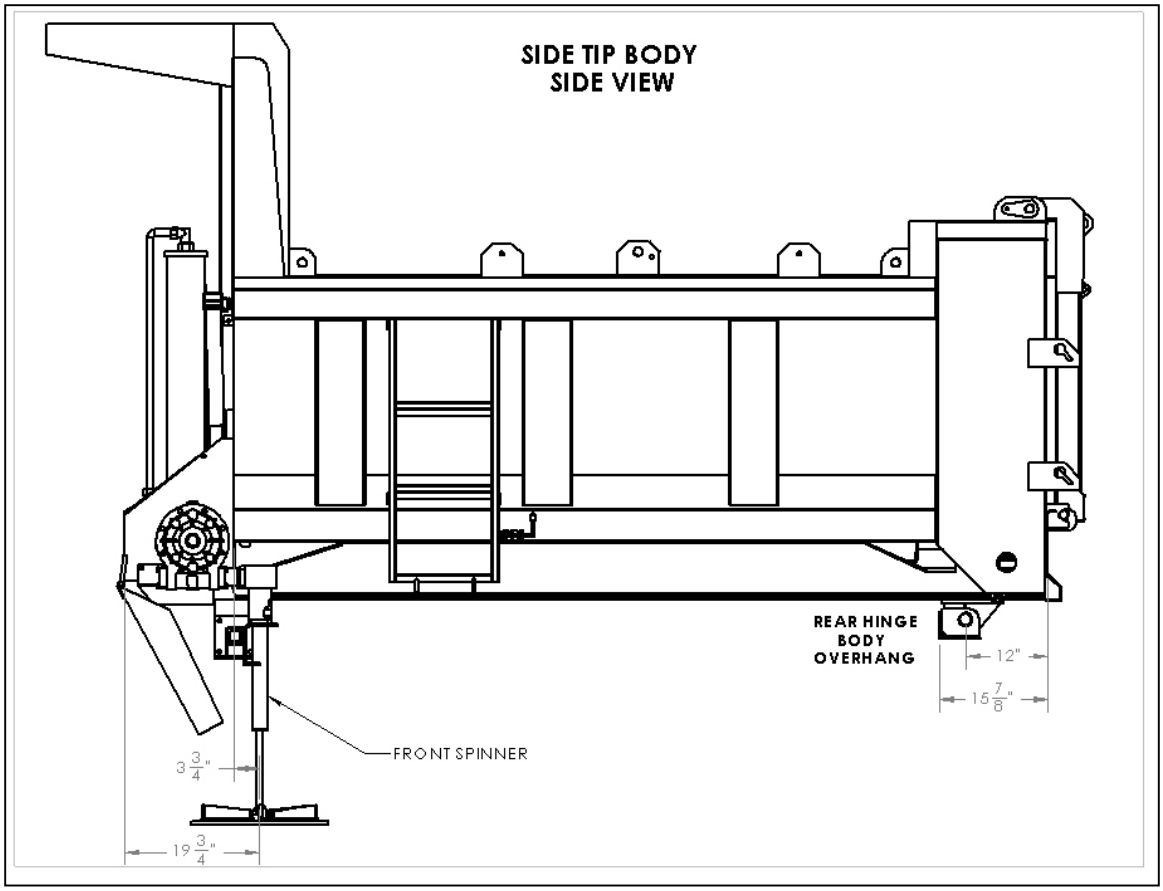
Installing Body Prop

Place the prop and mounting block in a convenient location towards the rear of the chassis. Drill the frame and mount the prop block with grade 8 bolts.

Raise the body until the prop extends past vertical. Mark this location and weld the upper block to the body longitudinal.

On the 13' – 15' Side-Tip bodies, two body props are provided. Mount the second prop directly across the chassis from the first prop.

WARNING: Never work under a raised body unless it is empty and then securely supported with a body prop. Two are required on 13' – 15' bodies.


SIDE TIP BODY
SIDE VIEW
REAR HINGE
BODY
OVERHANG
12"
15 7/8"
FRONT SPINNER
3 3/4"
19 3/4"

SIDE-TIP BODY PROP

The Air-Flo® Side-Tip™ Body has two body safety prop positions. A Floor Safety Prop and a Body Safety Prop(s).

CAUTION! MAKE SURE THE DUMP BODY IS EMPTY BEFORE USING SAFETY PROP(S)!

CAUTION! MAKE SURE THE SAFETY PROP(S) IS IN THE SAFETY POSITION BEFORE WORKING ON A RAISED BODY! (See Instruction "A" Below)

A) **Safety Position**

1) **Body Safety Prop(s)** (See Figure #2)

Note: 9' – 12' bodies have one (1) body safety prop while 13' – 15' bodies have two (2).

a) Take the pin off of its case and tilt the prop back towards the dump body.
b) Lift the dump body up to two (2) inches over the safety prop.
c) Let the dump body come down on the safety prop, make sure that the control valve is in the lock position.
d) Visually verify that:
    1. The safety prop is resting on the stop block
    2. The dump body is resting on the safety prop.

2) **Floor Safety Prop** (See Figure #1)

a) Lift the prop off of its resting position and tilt the prop in towards the lifting floor.
b) Lift the lifting floor up to two (2) inches over the safety prop.
c) Let the lifting floor come down with the safety prop placed into the safety prop receiver and make sure the control valve is in the lock position. ***CAUTION: The floor lifting cylinders are double acting. Do not force undue pressure onto the safety prop.***
d) Visually verify that:
    1. The safety prop is resting on the stop block
    2. The dump body is resting on the safety prop.

B) **Stowed Position**

1) **Body Safety Prop(s)** (see Figure #4)

Note: 9' – 12' bodies have one (1) body safety prop while 13' – 15' bodies have two (2).

a) Slightly lift the dump body over the safety prop, make sure that the control valve is locked
b) Tilt the safety prop towards front to vertical position and insert the pin in it's case.
c) Bring down the dump body.

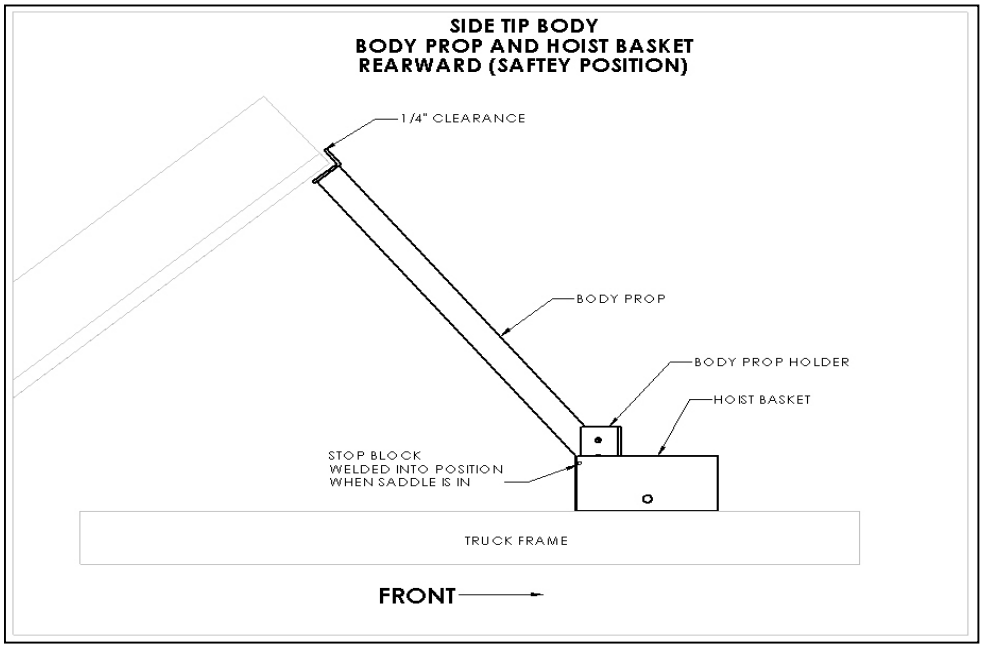
2) **Floor Safety Prop** (See figure #3)

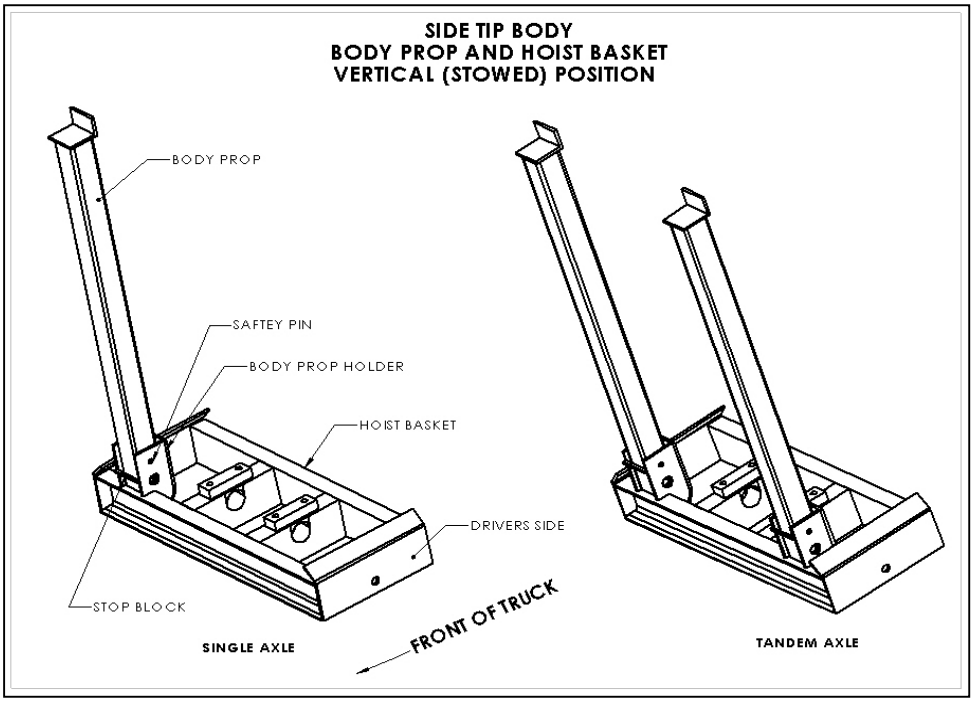
Note: 9' – 12' bodies have one (1) body safety prop while 13' – 15' bodies have two (2).

a) Slightly lift the lifting floor over the safety prop, make sure that the control valve is locked.

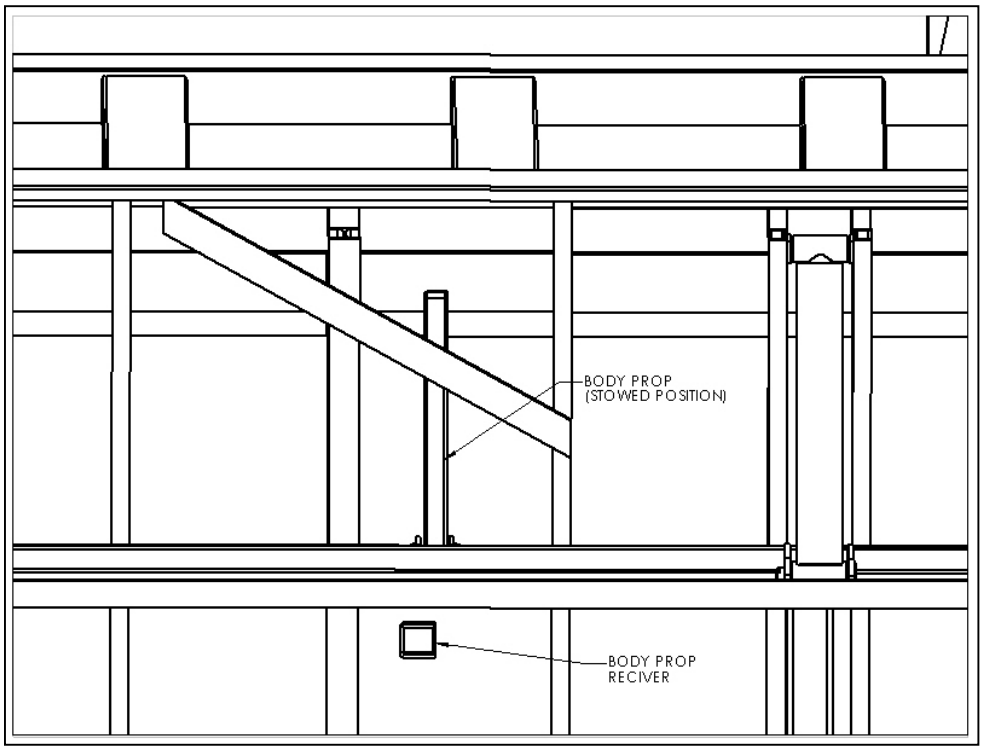
b) Tilt the safety prop towards the passenger side of the body onto its horizontal resting position.

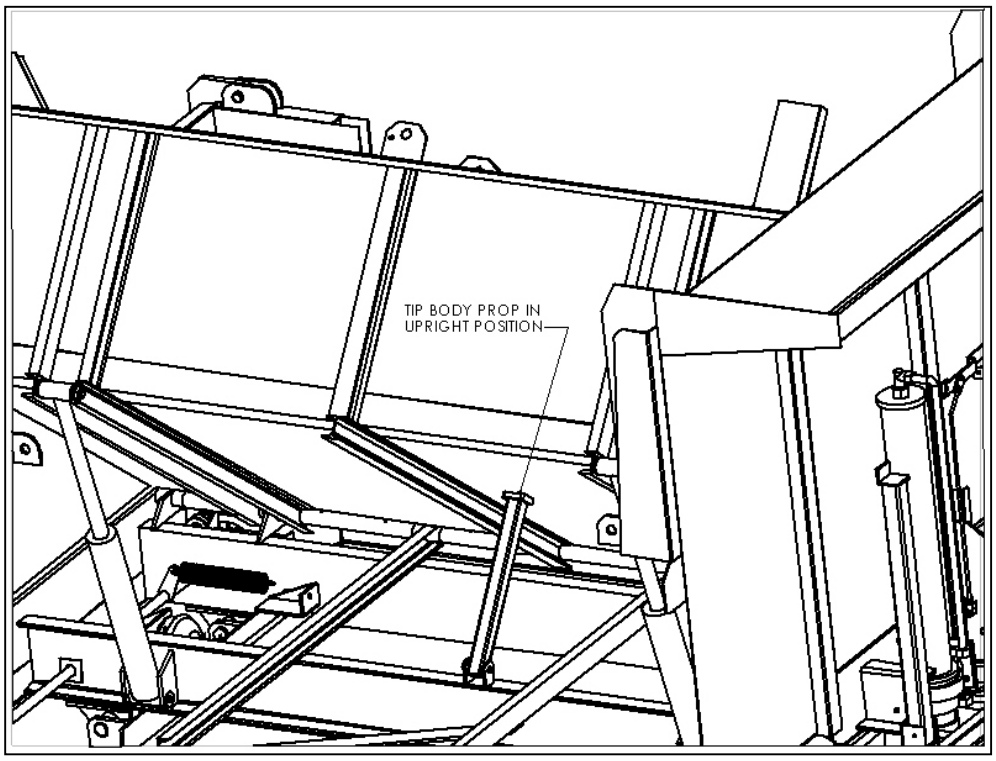
c) Bring down the lifting floor.





SIDE-TIP FLOOR SAFETY PROP





LUBRICATION & HYDRAULIC SYSTEM

Hydraulic Oil

Cleanliness in handling of the hydraulic oil cannot be stressed enough. To ensure maximum performance of the system, the oil must be kept in closed containers and handled with clean measures and funnels. Also, the original hydraulic oil filter must be changed after 50 hours of operation and then changed every 250 hours, thereafter. The oil in the system should be changed after every 1,000 hours of operation. Check the chart below for proper oil type to be used.

OIL WEIGHT	OPERATING TEMPERATURES
SAE 5 Hydraulic Oil	-10°F and Below
SAE 10 Hydraulic Oil	-10°F to 100°F
SAE 15 Hydraulic Oil	100°F and Above

Conveyor Gear Case

The oil in the gear case should be drained, flushed, and refilled with light oil after the first 100 hours of operation. After the initial 100 hour change, the oil should be changed every 2,000 hours or annually, whichever occurs first. Lubricate these gear cases with a non-corrosive type SAE 90 E.P Gear Oil conforming to MIL-L2105B multipurpose gear lubricating oil requirements with ambient temperatures from 40° to 100° Fahrenheit. Temperatures below 40° Fahrenheit require an SAE 80 E.P. lubricant, and above 100° Fahrenheit use an SAE 190 E.P. grade oil.

Ball Bearings

Periodically grease all ball bearings with a ball and bearing lithium based lubricant, with a viscosity which assures easy handling at prevailing temperatures.

Conveyor Chain

After spreading any corrosive material, or at least once a week, apply kerosene or penetrating oil to each link with the conveyor running. **Caution** must be observed when lubricating a running conveyor chain. Run the chain slowly and shutdown the spinner.

SIDE-TIP OPERATION

DUMP BODY OPERATION

The body is made to stand up to many years of heavy duty use. No special care is needed when loading material in the dump body. The chain is built into the floor in such a way as to be protected from material dropped on it.

Material as large as cobblestone can be dropped directly on to the chain without overstressing the barflights. Just open conveyor cover and pin in place. A hinged conveyor cover plate is supplied with each body for added protection and to help keep the chain clean when hauling material such as asphalt.

SPREADER OPERATION

No special conversion is necessary to convert the body to a spreader. The conveyor is always ready to convey material frontward for spreading or stockpiling. The spinner disc can remain mounted all year long with the use of an optional summer chute and the position of the spinner assembly will never restrict the dumping of material.

When spreading material, the outer body remains down on the truck chassis. Set the gate for the desired material flow. The inner floor and wall can be raised to move material to the conveyor located on the driver's side of the body. Effectively allowing all material to be conveyed out of the body.

WARNING: **Only the inner floor and inner wall and wall can be raised while the truck is on motion. Do not raise outer body while the truck is in motion. Stop the vehicle first and check above the outer body for obstruction clearance before raising. Failure to comply with these instructions could result in serious bodily injury or property damage.**

CAUTION: **On bodies built before stainless steel STB serial number #156 and carbon steel STB serial number #121: With the inner floor and wall raised or when raising the inner floor and wall, do not raise the outer body with the tailgate unlatched or do not unlatch the tailgate with the outer body raised. Failure to comply with this instruction can cause damage to the body.**

CONVEYOR CHAIN ADJUSTMENT

There is no need to raise the body to tighten the chain. Two grease cylinder take-ups are attached to the rear bearing slide plate. Inserting grease into cylinders will tighten the conveyor chain. Please make sure the take-ups are adjusted evenly. Do not over tighten the chain. Tighten just enough to take out slack in chain. Over tightening will cause premature wear on the sprockets, chain and bearings.

SIDE-TIP OPERATION

CONVEYOR CHAIN ADJUSTMENT

If all travel is used at rear chain take-up, the chain should be shortened.

To shorten the chain:

1. Run the chain master link pin to the extreme rear.
2. Relieve the tension on the chain.
3. Disconnect chain master link
4. Shorten the chain by removing links. Each link removed will give 1 ¼" of adjustment.
5. Re-assemble chain and adjust to specifications.

MAINTENANCE PROCEDURES

HOIST CYLINDER DISASSEMBLING INSTRUCTIONS

Step 1) Take the cylinder off the truck by:

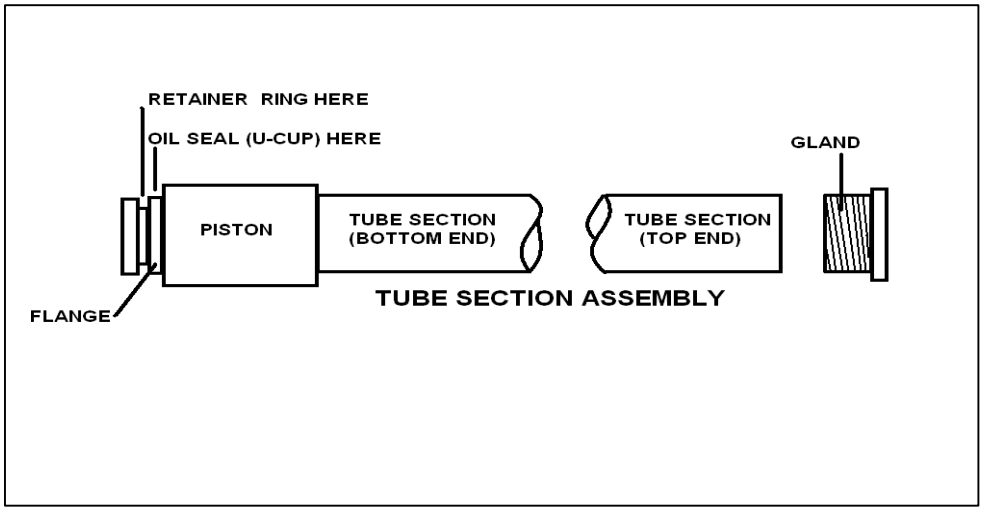
a) Unscrewing the nut at the top of the cylinder cover.

b) Relieving the base nut pins.

Step 2) At the upper part of each section, you will find three or four punched holes. These holes are surrounding the bronze locking pin for each gland. Drill a 3/16" hole through the locking pin to free the gland, clean the hole with air under pressure and unscrew it out. You may then remove the first section. For the remaining sections, follow the same procedure.

Step 3) Once the sections are disassembled, inspect them carefully and look for the following causes:

Cause	**Solution**
Seal is Damaged. (Scratched or broken)	Change part.
Piston is damaged. (Scratched or broken)	Change Cylinder Section.
Inside of Tube Section is Scratched or Rusty.	Tube Section has to be Honed.
Piston or Gland have Expanded or even overlapped do to Severe Collisions.	Change Parts Affected.



MAINTENANCE PROCEDURES

HOIST CYLINDER REASSEMBLING INSTRUCTIONS

Make sure before executing any of the following steps, that all of the tube sections are clean of any chips or any other non-desirable materials. See Page __, Fig. __

Step 1) Once all of the parts are replaced and ready to reassemble, grease all pistons before reinserting the sections.
CAUTION: Protect the gland threads with shims when inserting the sections.

Step 2) Screw the gland back in its place and drill a new 3/16" in. dia. hole at about one inch from the tube end. When you get to the bronze gland, continue for 1/16 of an inch. (Figure 1)

Step 3) Insert a bronze rod into the hole. You may use bronze welding wire without flux, class RCuZn-C, 3/16" in. dia. (Figure 2)

Step 4) With a metal saw, cut the rod at 1/8" in. from the tube. (Figure 3)

Step 5) Hammer the bronze pin in place. (Figure 4)

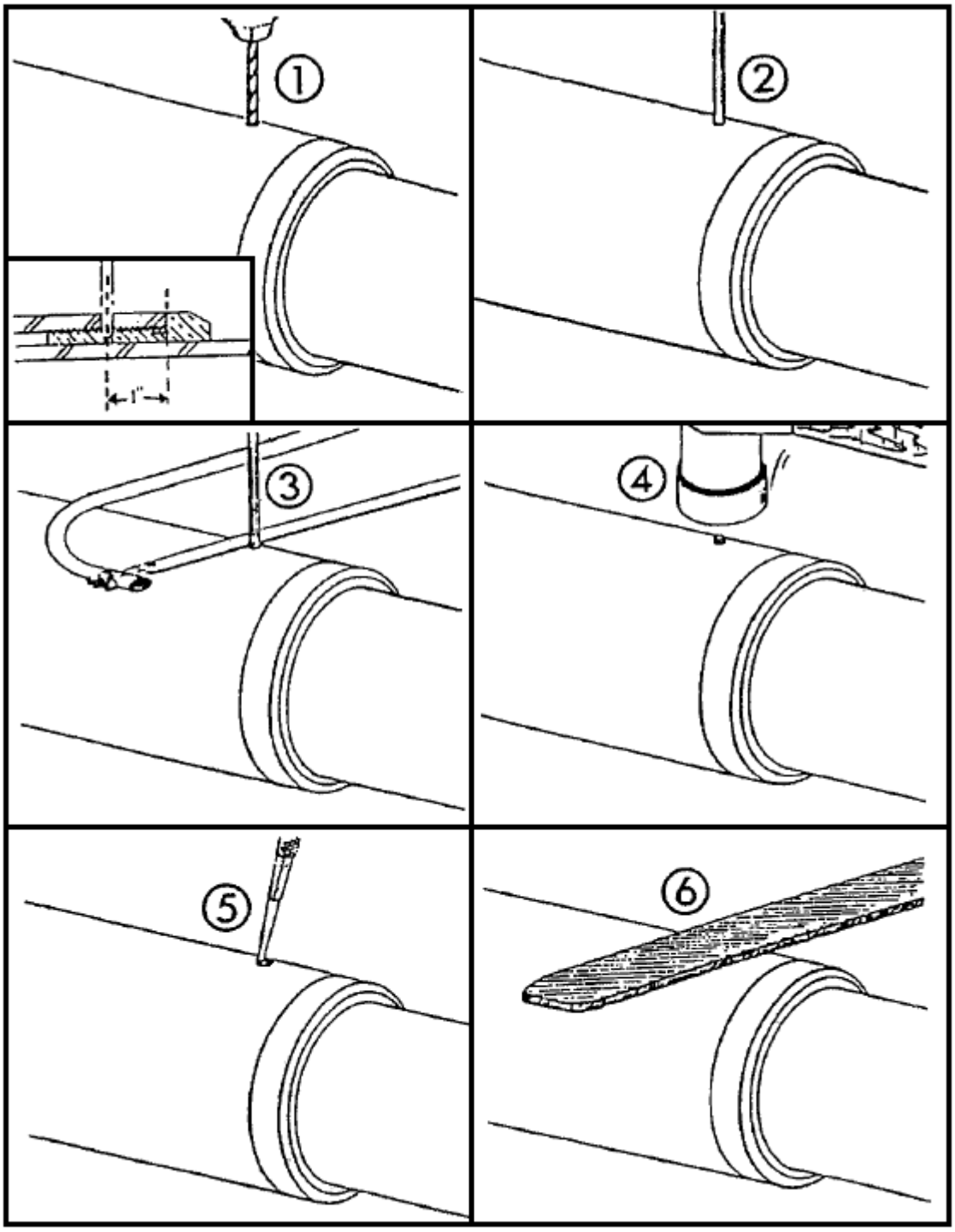
Step 6) Lock the pin in place by indenting three or four marks near the pin with a punch. (Figure 5)

Step 7) Smooth down the pin area using a file to avoid tearing off the external gland. (Figure 6)

Step 8) Once reassembled, put the cylinder back in place. Tighten the nut with a percussion gun to assure a safe grip.

TOLERANCES TABLE

Distance between piston and tube.	From 0.006 to 0.008 inch.
Distance between keeper ring and U-CUP.	Without any consequences.
Distance between gland and tube.	From 0.008 to 0.015 inch.


①
1"
②
③
④
⑤
⑥

DUMP BODY TROUBLE-SHOOTING GUIDE

NOTE: Before using the trouble shooting section, make sure that the following items have been verified:

- Oil Level.
- There are no leaks in the hydraulic circuit.
- You are using the recommended oil regarding the application (climate).
- Oil filter is clean.

TROUBLE	PROBABLE	SOLUTIONS
Loss of Oil Pressure.	-Relief valve is jammed open. -Pump malfunction.	-Clean or replace relief valve. -Replace used parts or pump.
Pump is noisy.	-Air is getting into the circuit. -Pump rotation RPM is too high.	-Look for air infiltrations. -Check the manufacturer's specifications. -Correct drive shaft alignment. -Replace used parts or pump.
Cylinder sections(s) is(are) staying open.	-The pump flow GPM is too high. Sections are knocking on each other when opening. -Pump rotation (RPM) is too high.	-Check with "The Chart" for the recommended pump. -Lower the engine RPM when unloading. -Install a stroke limiter device.
Cylinder leaks.	-Wrong alignment of frame or hinge.	-Realign as specified in the handbook. -Replace used parts.
Cylinder cover is scratching one or many sections.	-Wrong alignment of the frame or hinge.	-Realign as specified in the handbook.
One cylinder section refuses to come out.	-Piston or gland have expanded. -Pump pressure is too low.	-Change parts affected. -Readjust pump pressure.
Cylinder has a jumpy opening or closing.	-Oil tank is too small for the cylinder content. (Air is filling the cylinder) -One of the section's piston or gland is damaged.	-Check with "The Chart" for recommended tank. -Replace damaged pasts.

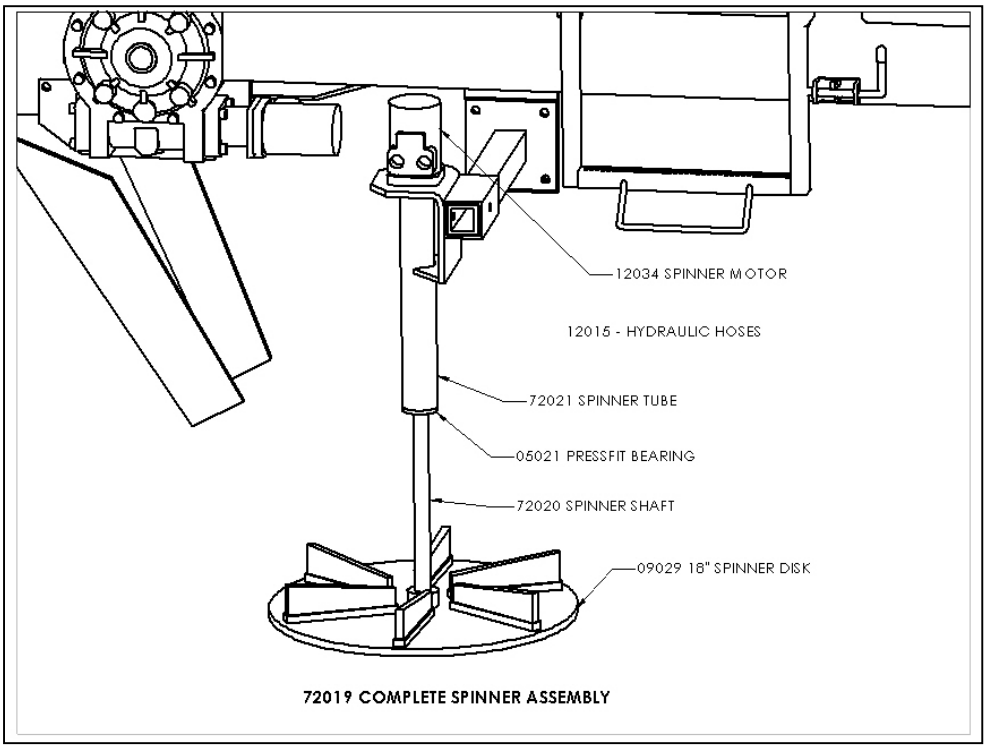
SPREADER TROUBLE-SHOOTING CHART

1) Pump cavitation recognized by excessive noise.	a) Air entering system through suction lines. b) Suction line kinked, twisted or too long. c) Inadequate size suction line. d) Oil too heavy. e) Excessive pump speed. Normal pump speed 800 To 1500 RPM.	a) Check line reservoir for possible leaks. b) Install suction line as short and straight as possible. c) Increase suction line size. d) Drain and replace with low viscosity non-detergent oil. e) Decrease PTO speed accordingly.
2) Slow operation of the chain and/or spinner.	a) Worn of defective pump. b) Worn or defective motor. c) Pump cavitation. d) Insufficient pump speed.	a) Repair or replace pump. b) Repair or replace motor. c) Refer to pump section. d) Increase PTO accordingly.
3) Erratic operation of the Chain and/or spinner.	a) Low oil. b) Worn or defective motor. c) Dirty, worn or defective flow control valve. d) Plugged filter. e) Relief valve setting to low. f) Pump cavitation. g) Air vent on reservoir tank is blocked.	a) Fill reservoir to a nine inch level. b) Repair or replace motor. c) Clean, repair, or replace flow control. d) Replace filter element and clean filter. e) Adjust relief valve for 1500 PSI f) Refer to pump section. g) Clean or replace vent cap to admit atmospheric pressure to inside the tank.
4) Auger and/or spinner will not operate.	a) Quick disconnects are dirty, damaged or improperly connected. b) Hose connections wrong.	a) Clean or replace and properly connect. b) Refer to illustration.

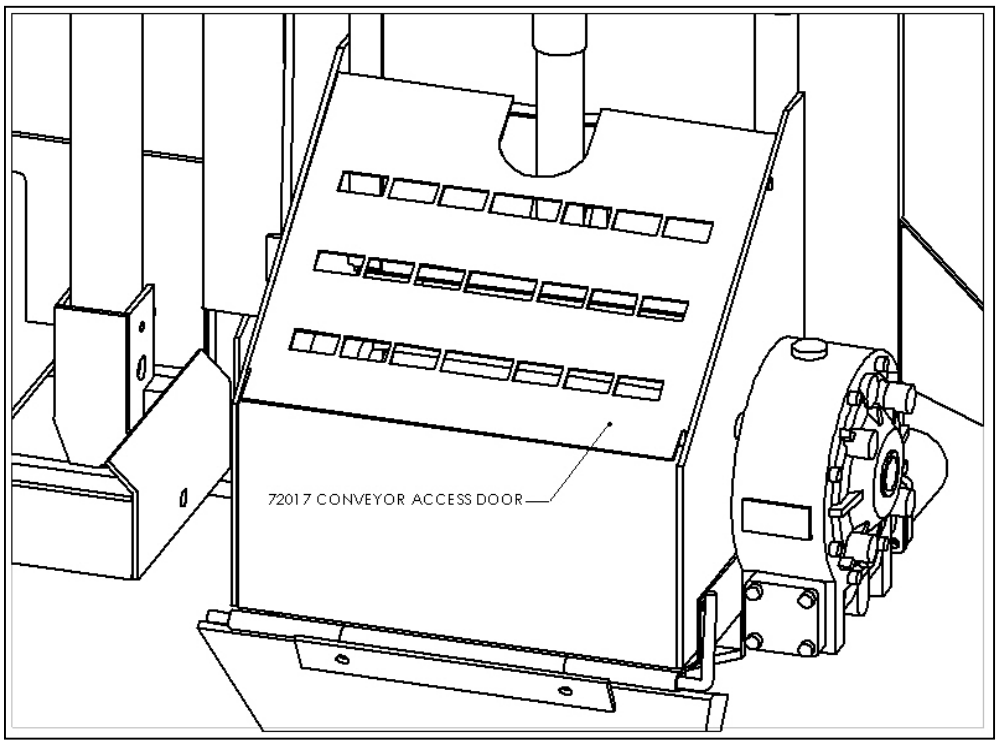
***Air-Flo** Spreader warranty does not cover unauthorized disassembly of Hydraulic or Electrical Components.

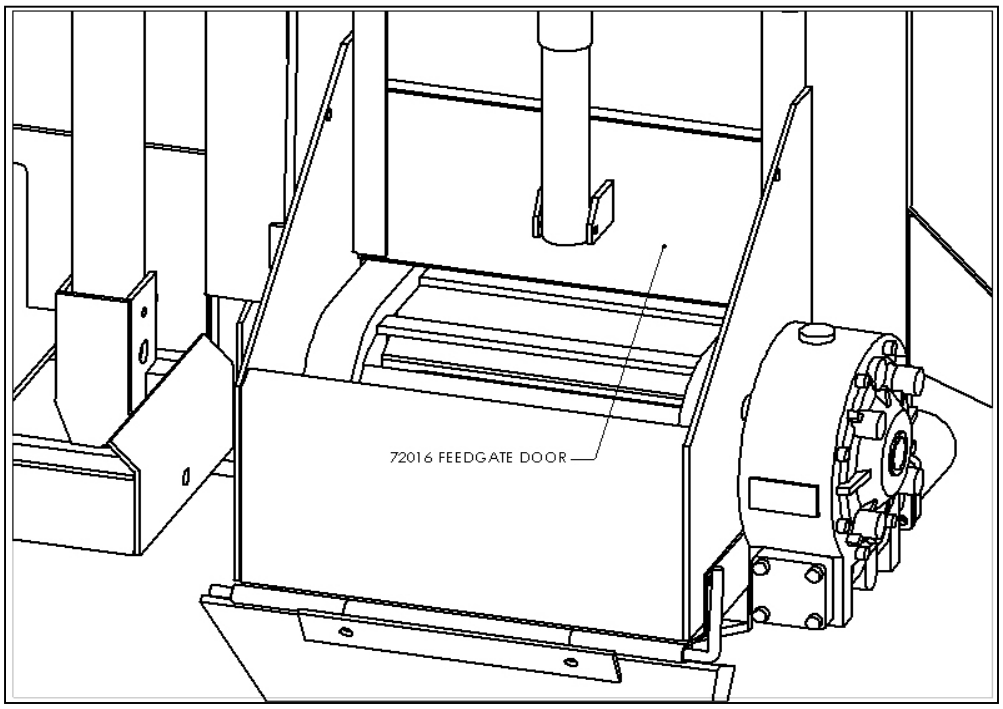
STANDARD HYDRAUILC SCHEMATIC

SPINNER & FEEDGATE ASSEMBLY

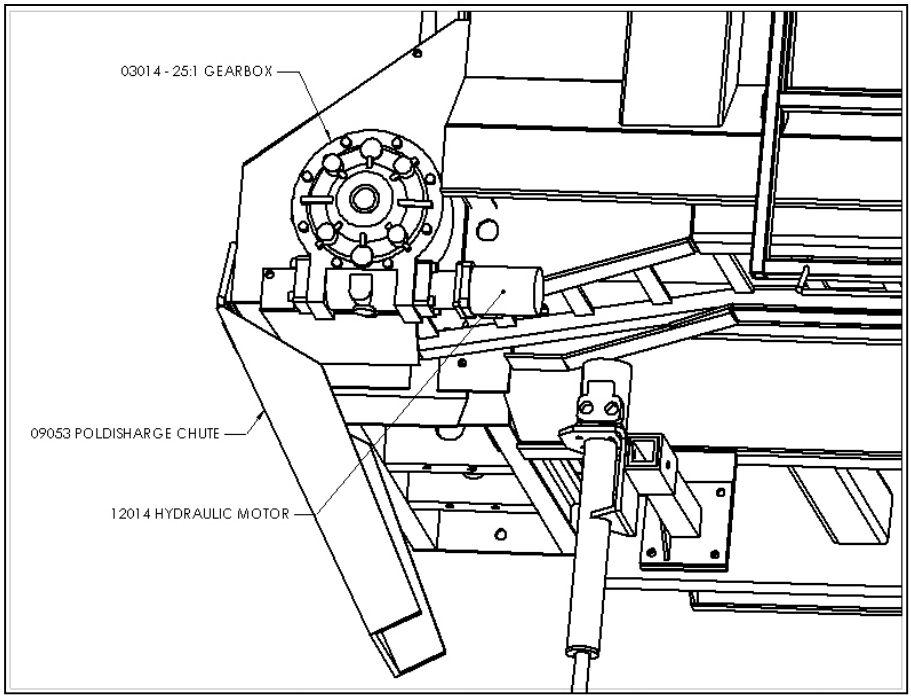


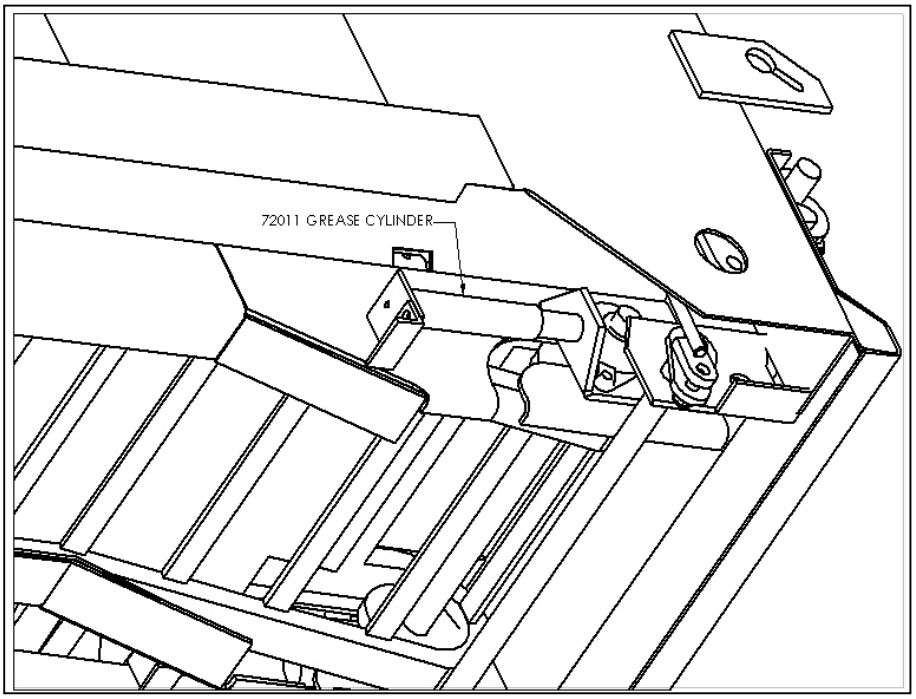
72019 COMPLETE SPINNER ASSEMBLY

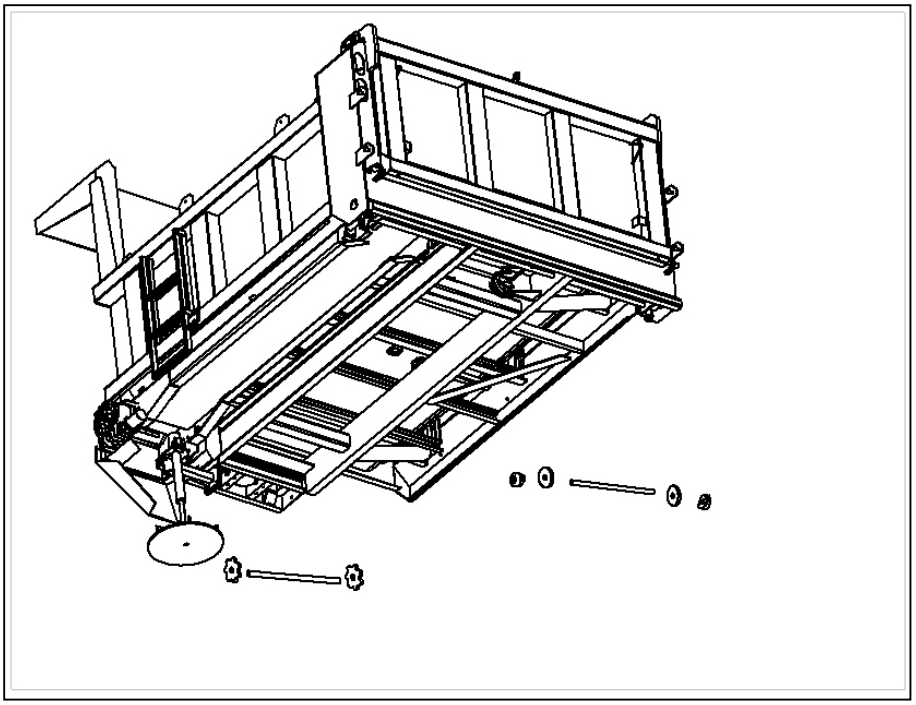


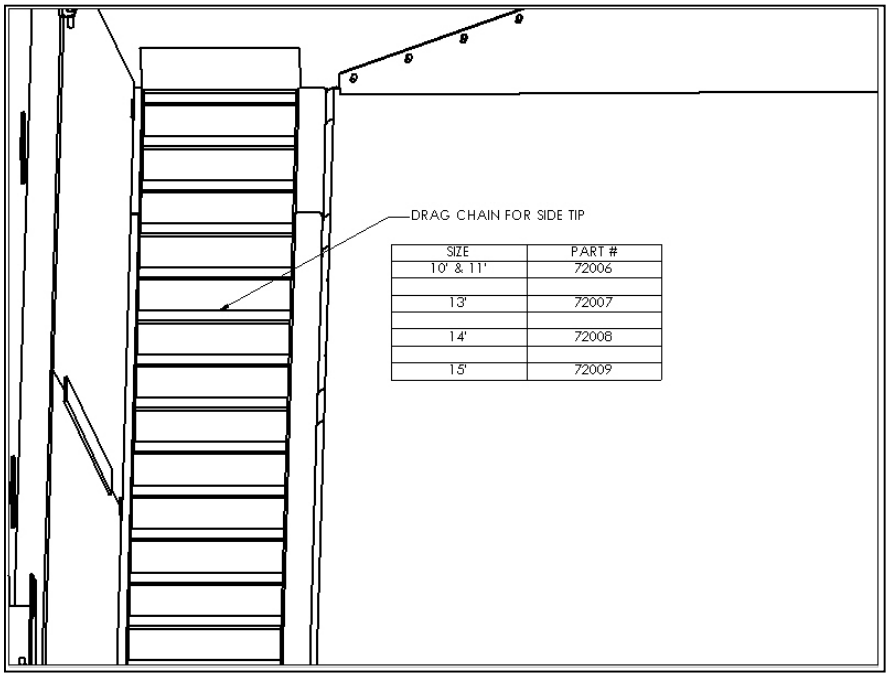

72016 FEEDGATE DOOR

CONVEYOR ASSEMBLY



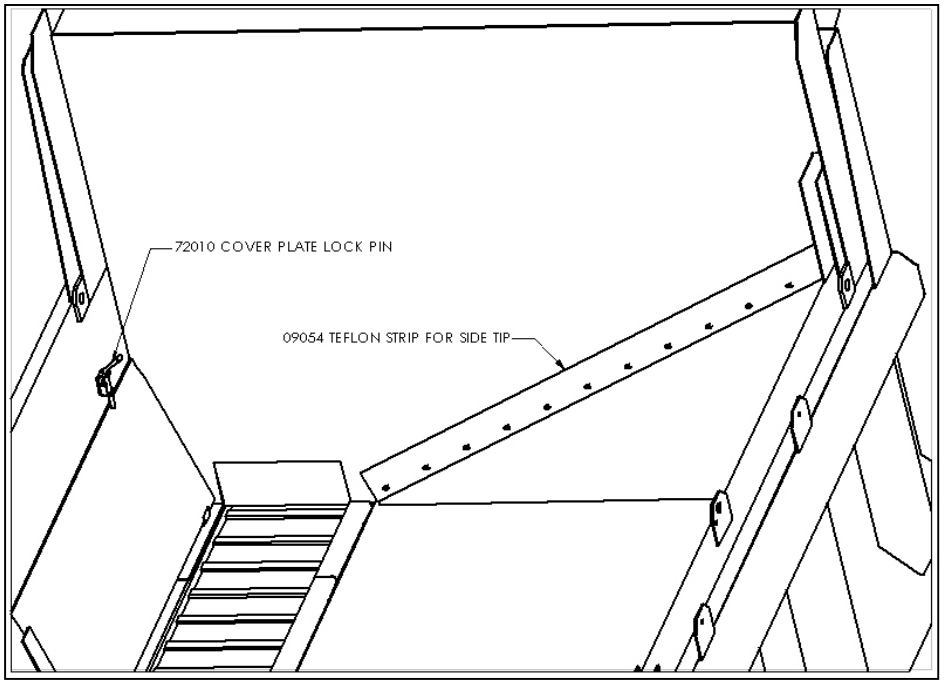


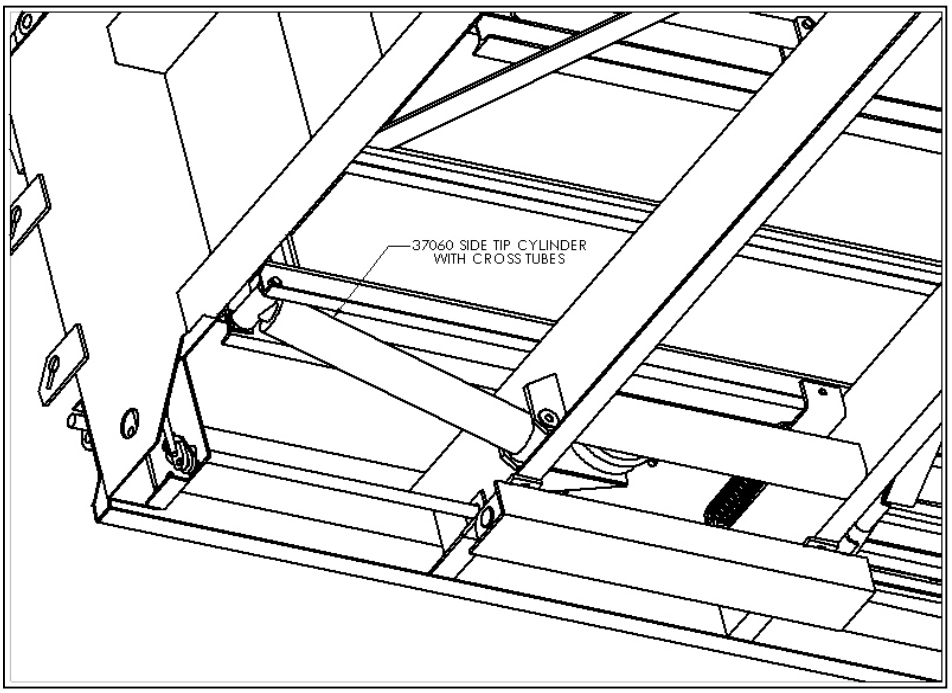




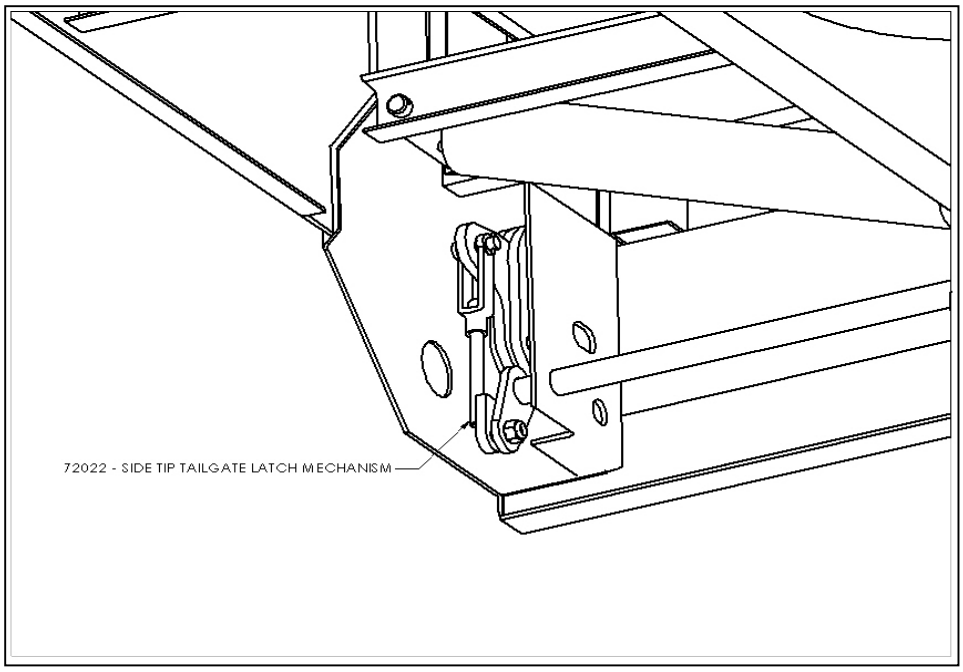
SIZE	PART #
10' & 11'	72006
13'	72007
14'	72008
15'	72009

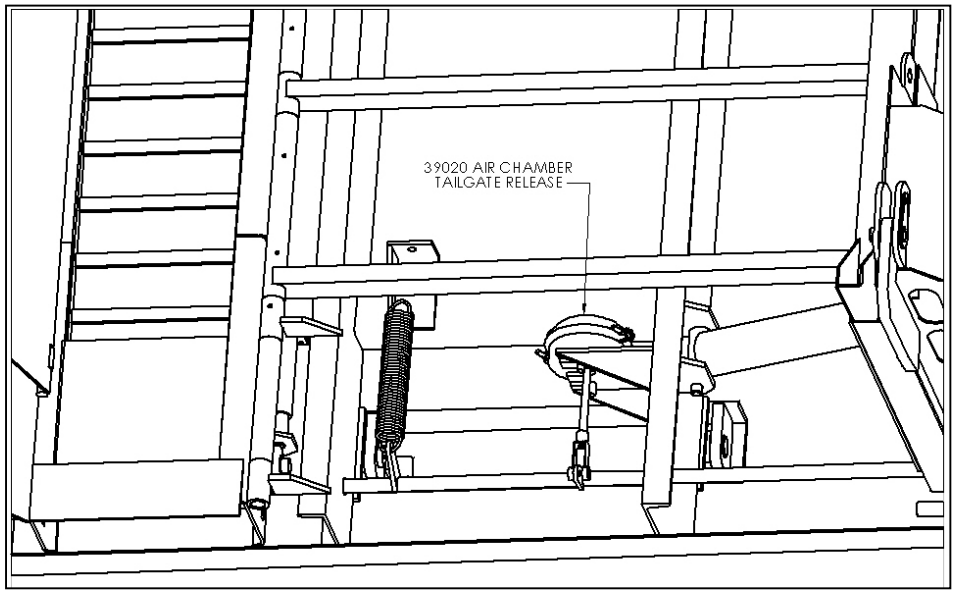
SIDE-TIP LIFTING FLOOR



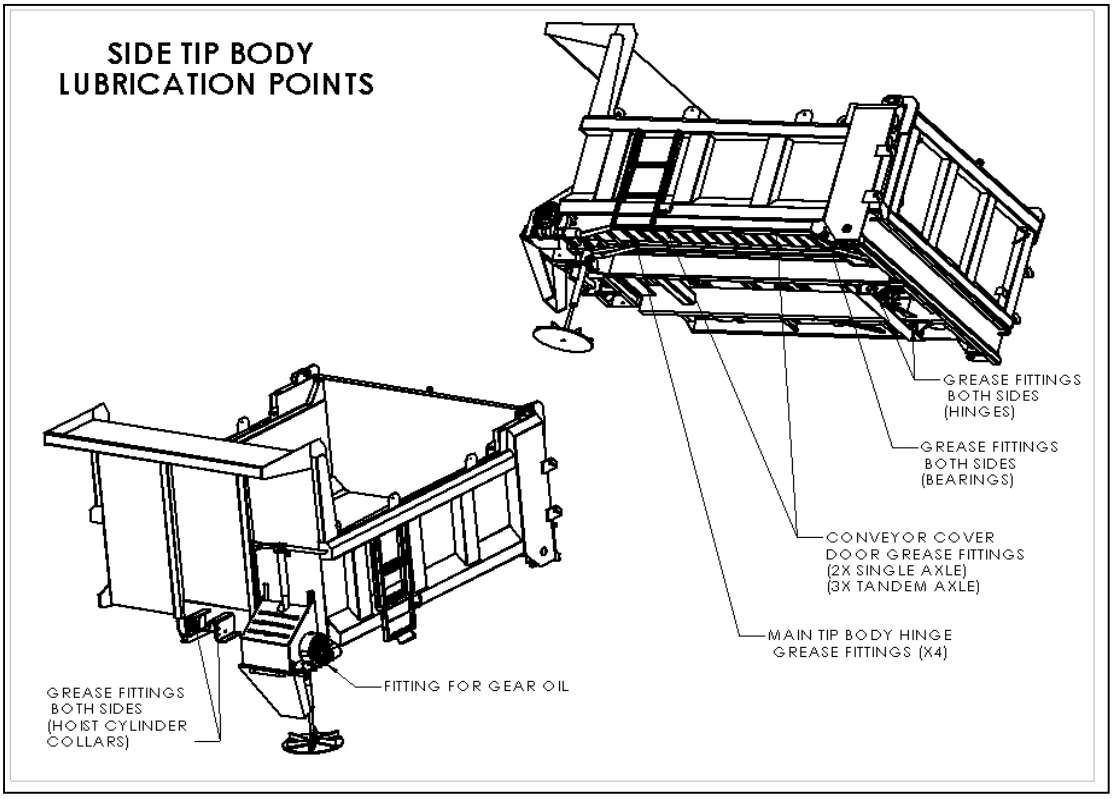


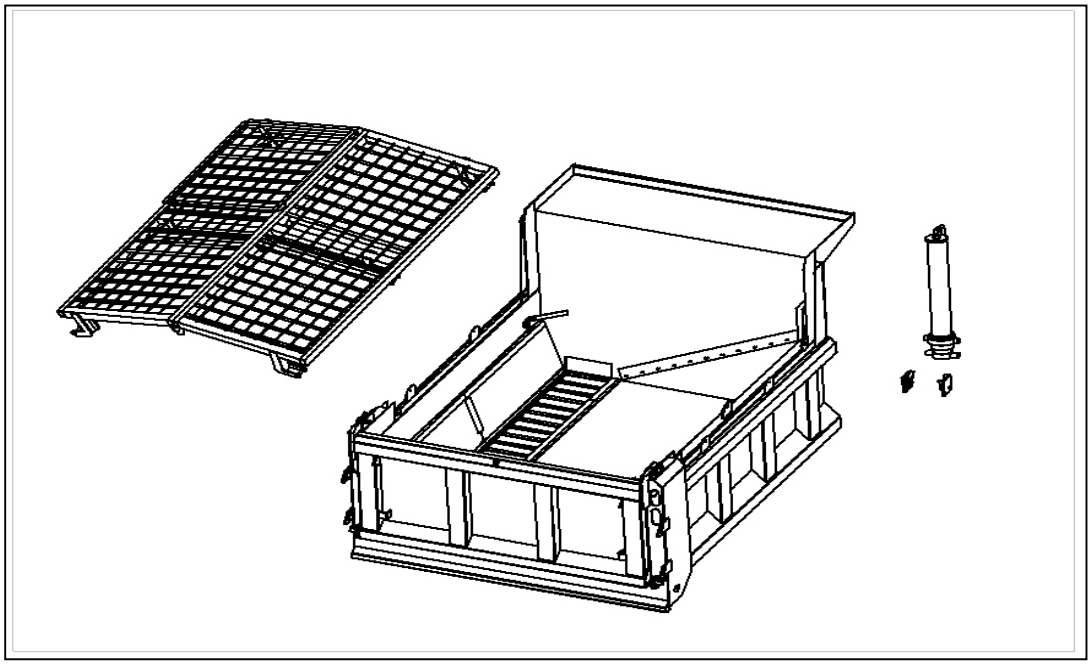
AIR TAILGATE RELEASE MECHANISM

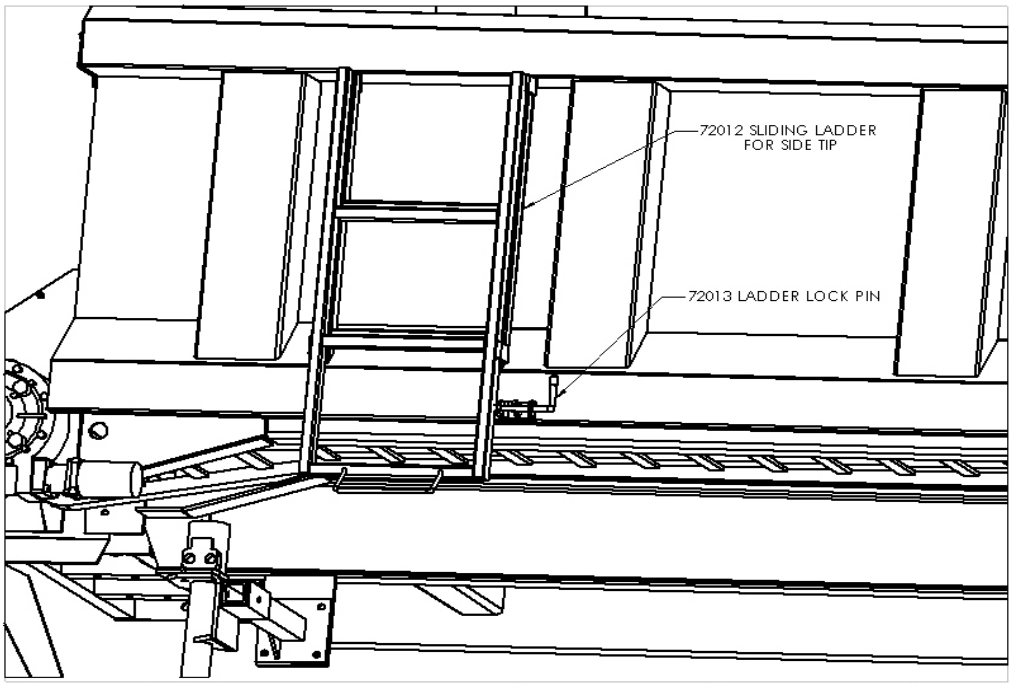




LUBE POINTS AND MISC. ILLUSTRATIONS






72012 SLIDING LADDER
FOR SIDE TIP
72013 LADDER LOCK PIN