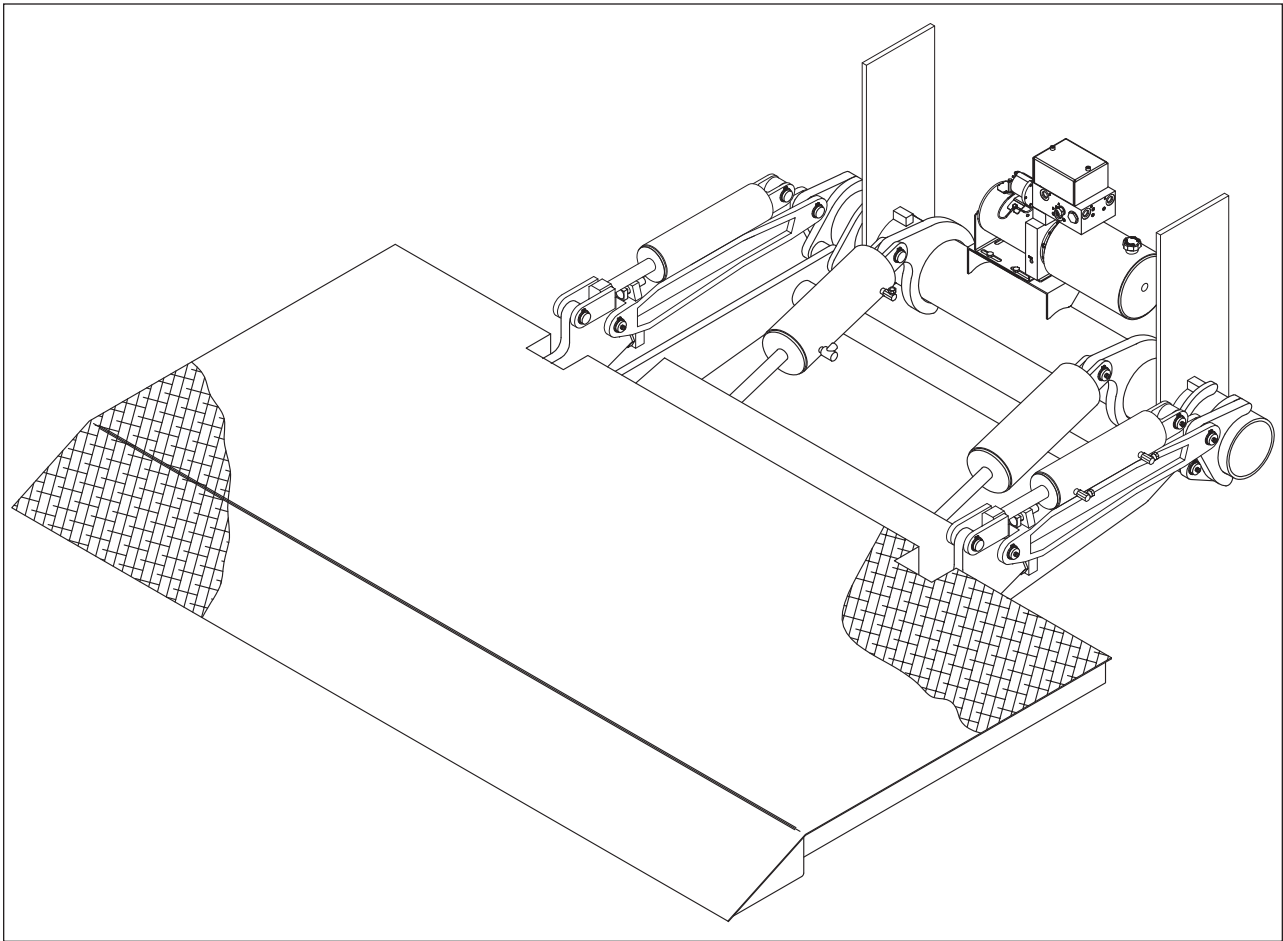


WEIGHTLIFTER

Tailgates By THIEMAN

WT20, 30 & 40 INSTALLATION INSTRUCTIONS



IMPORTANT! KEEP IN VEHICLE!

PLEASE READ AND UNDERSTAND THE CONTENTS OF THIS
MANUAL BEFORE OPERATING THE EQUIPMENT.

THIEMAN
TAILGATES, INC.

600 East Wayne Street
Celina, Ohio 45822

Phone: 419-586-7727 Fax: 419-586-9724

NTEA
THE ASSOCIATION FOR THE WORK TRUCK INDUSTRY
MEMBER

WT20, 30, 40

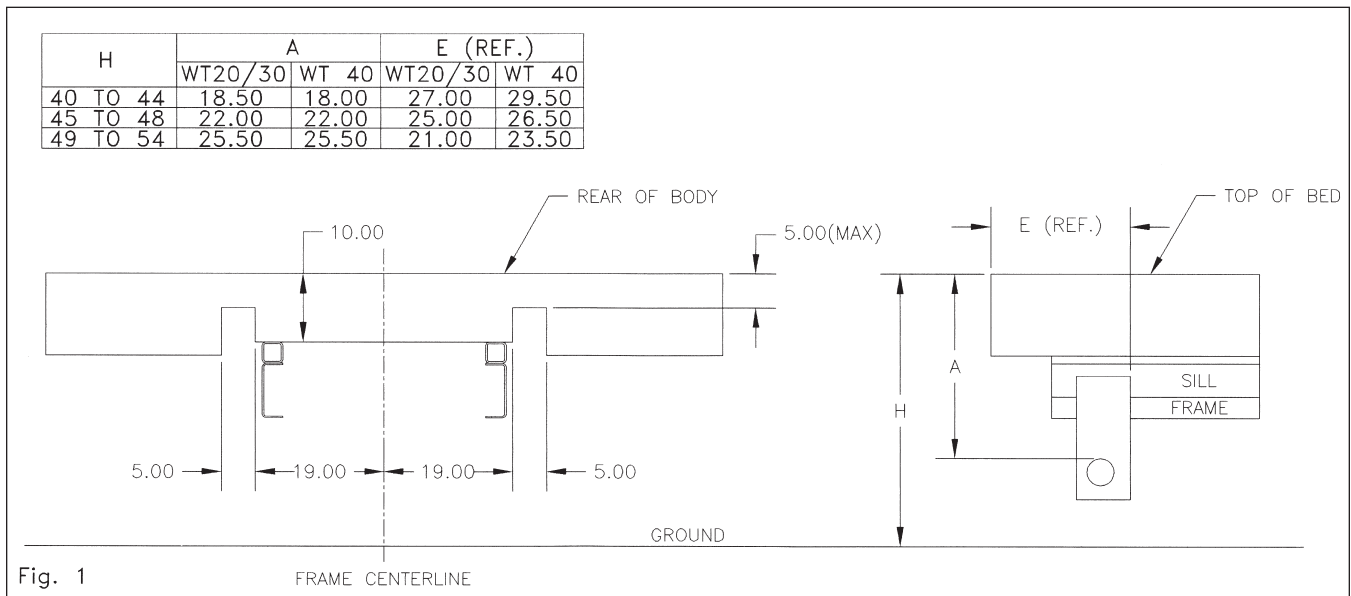
ATTENTION INSTALLERS:

Changes are made periodically to the installation procedure to comply with engineering changes. To ensure proper liftgate operation, it is **VERY IMPORTANT** to read and understand the installation instructions before attempting an installation. Installers also **MUST** read and understand the liftgate's Owner's Manual before installing the liftgate, so they can operate the liftgate safely as required during different stages of the installation process. **NEVER** perform a modification on the liftgate, which is not specifically covered in this manual or which is unauthorized by Thieman. Modifications may result in failure of the liftgate and may create hazards for liftgate installers, operators, or maintainers. Serious damage, equipment failure, or operator injury could result from improper installation. This equipment **MUST** have all decals applied properly. **FAILURE** to apply all decals properly will **VOID** all warranties! Any installer with questions or doubts should contact Thieman before proceeding.

The WT20, 30, 40's are conventional style liftgates for use on trucks and trailers which have a bed height range of 40" to 54".

NOTES:

1. All maximum mounting dimensions are shown with the vehicle empty; all minimum mounting dimensions are shown with the vehicle loaded.
2. Check bed height when parked on a level surface.
3. Check "E" dimension for possible interference with spring hanger bracket before installation. See figure 1.



A-Distance from top of trunnion tube to top of bed.

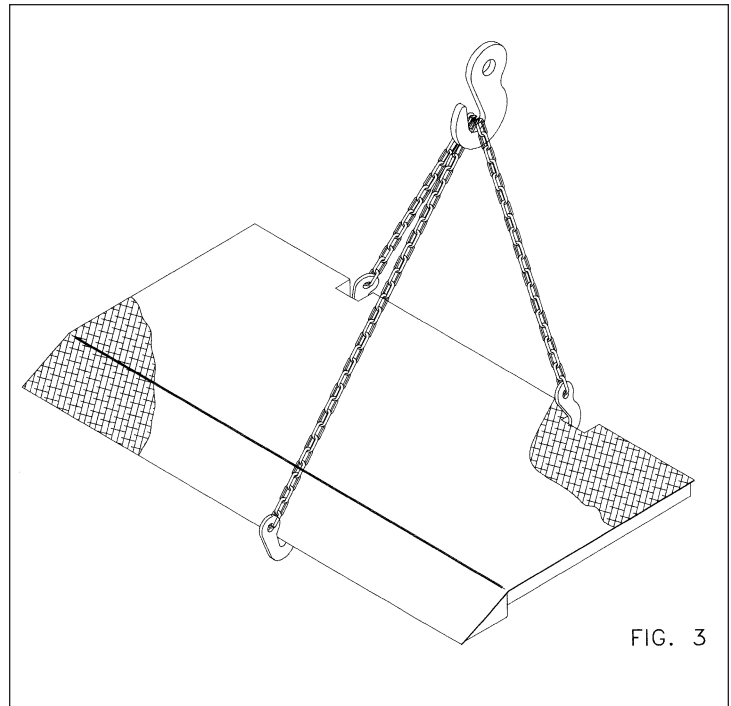
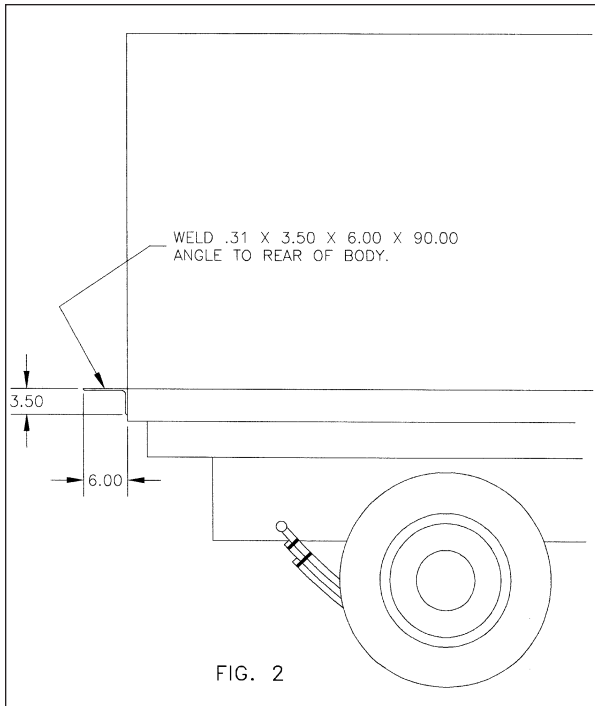
E-Minimum distance needed for mounting plates, (Reference dimension only - not intended for mounting purposes).

H-Distance from ground to bed height.

INSTALLATION INSTRUCTIONS

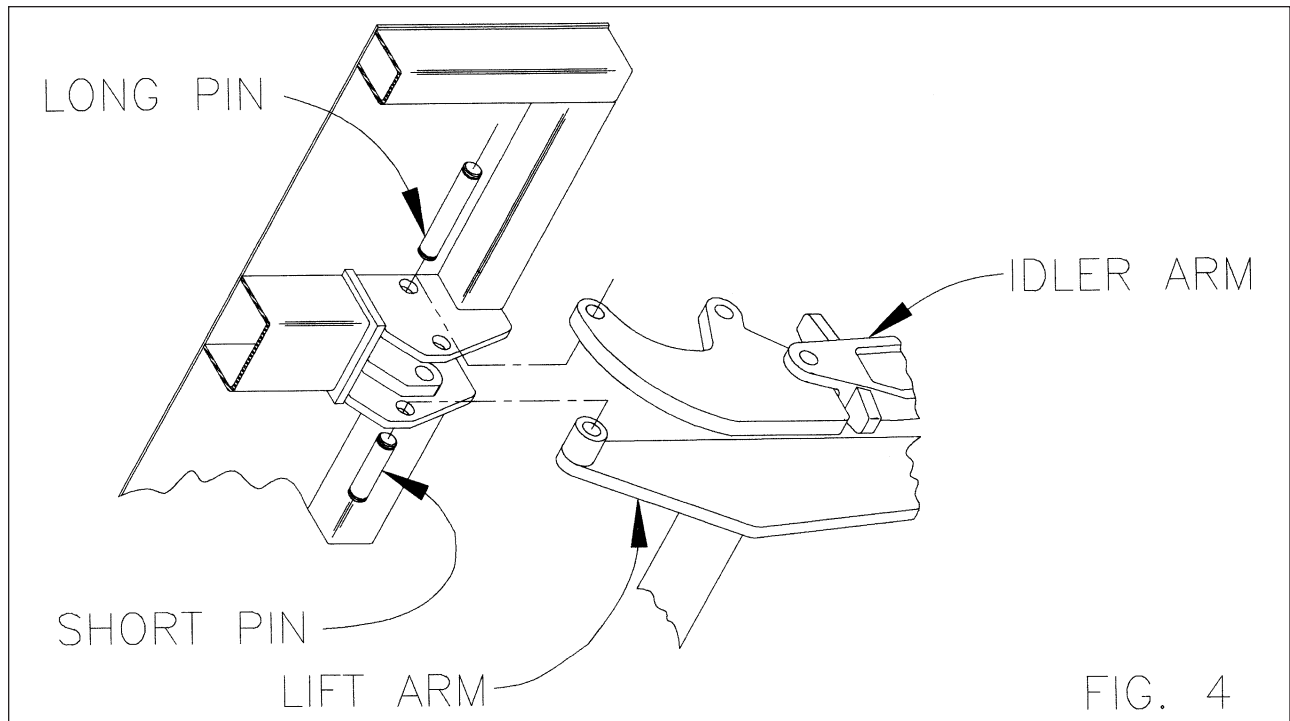
Step 1 Notch rear of body as shown in Figure 1 if necessary.

Step 2 Weld angle iron to rear of body as shown in Figure 2.



Step 3 Attach platform to crane as shown in figure 3 or clamp platform to lift truck forks.

Step 4 With the undercarriage assembly on the floor, attach lift arms and idler arms to platform as shown in figure 4. Use SA bag number 3600030 which contains the pins.



Step 5 Lift entire assembly and center on rear of truck. Place .50" spacers between platform and spacer angle. Clamp the platform to the rear of the body. See figure 5.

Step 6 Weld a flat bar from the idler arm to the idler arm pivot to insure the jointed idler arms are touching during the entire installation. Place a floor jack under the lift arm tube and raise trunnion to the proper "A" dimension. See figure 5.

Step 7 Attach mounting plates to truck frame by means of (6) .625" grade 8 bolts or by .18" welds all around. Weld the mounting plates to the trunnion tube with .18" welds all around on both sides of the mounting plate.

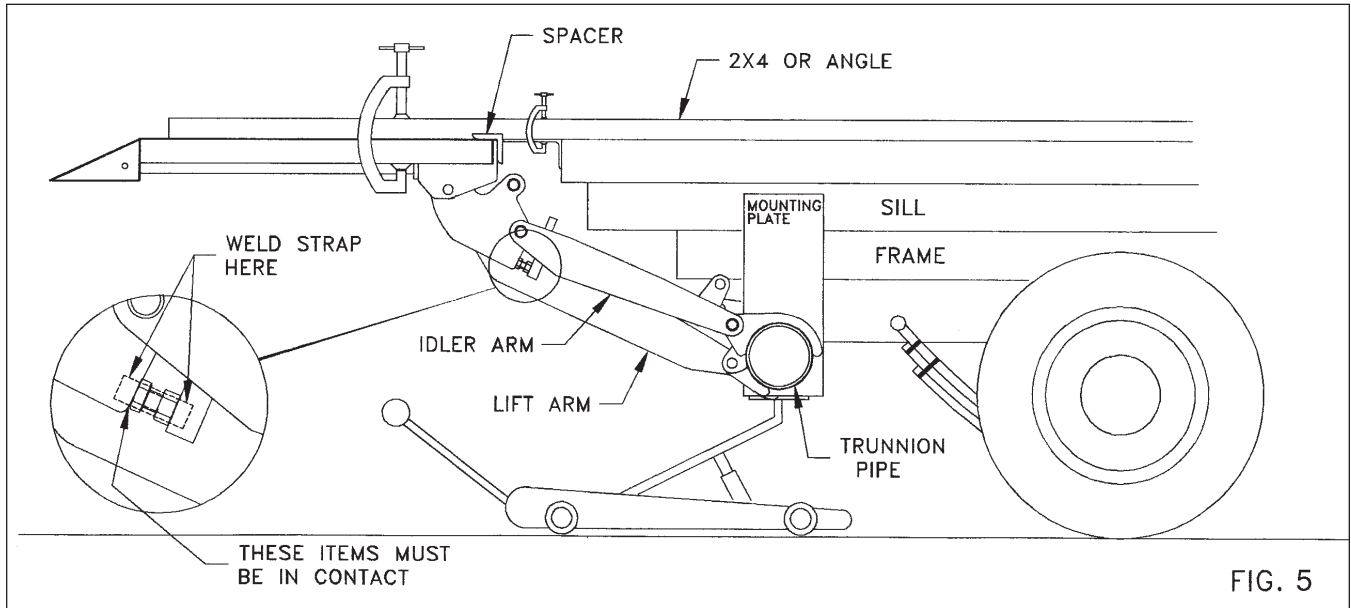
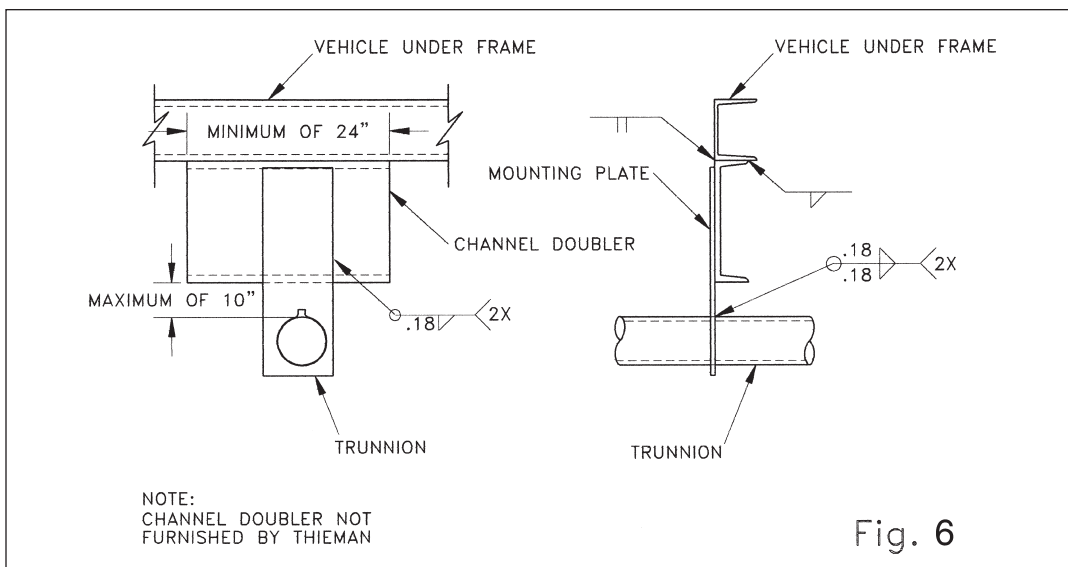


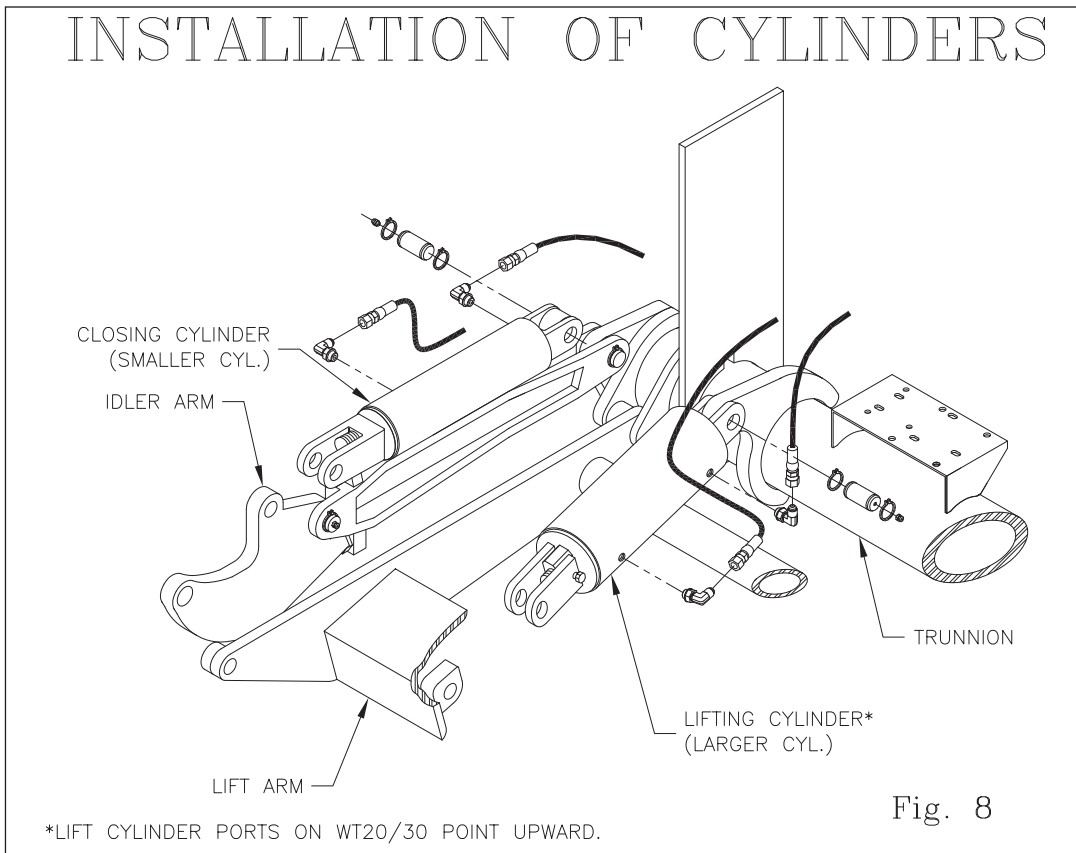
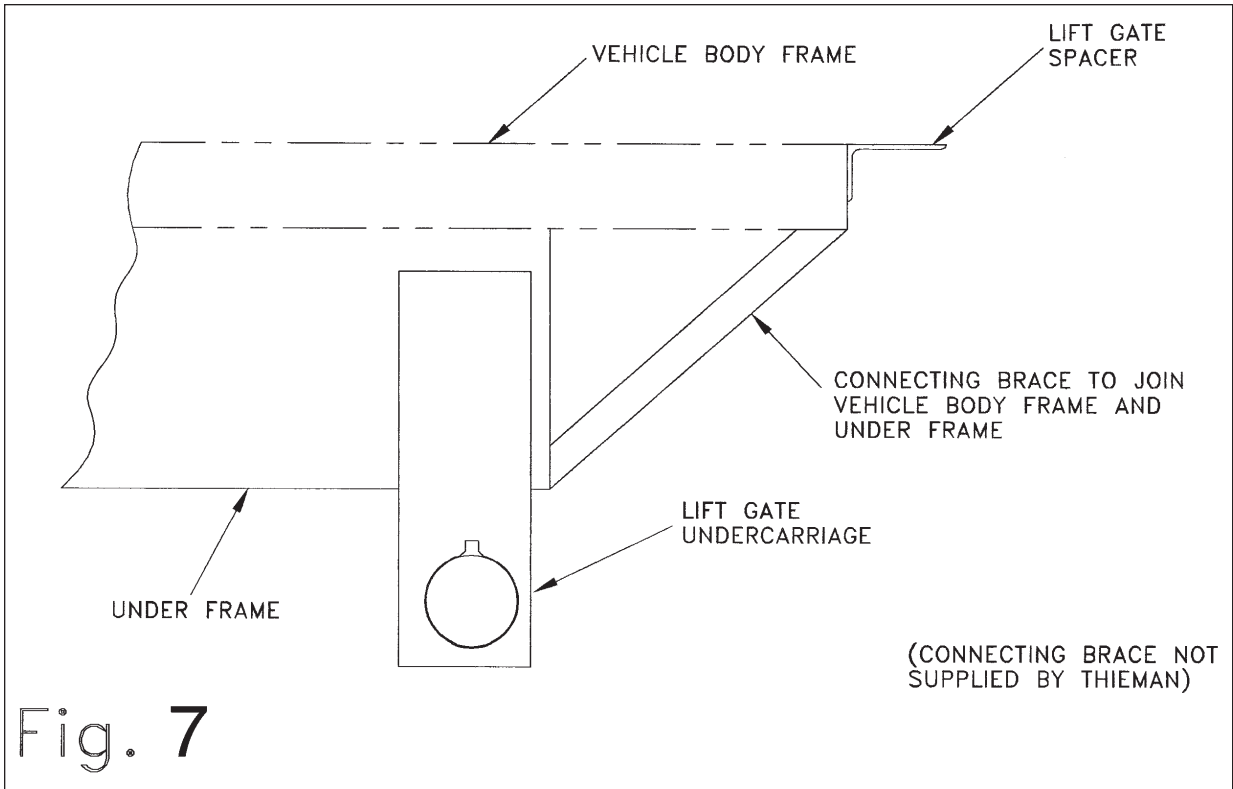
FIG. 5

Step 8 On installations where narrow underframe members are used, the liftgate mounting plates will reach these frame members for mounting purposes; however, the space between the frame members and trunnion now becomes quite large. This lengthy unsupported area may contribute to undesirable springiness under heavy loading. Many installers when faced with this problem extend the underframe support on the mounting plate closer to the trunnion by adding a channel section under the existing frame member as shown in figure 6. On certain equipment such as a lengthened van body, rebuilt trailer or other altered vehicle, where the underframe stops short of the end of the vehicle body frame, extra support must be added to avoid any independent deflection. See figure 7 for bracing suggestions.



NOTE:
CHANNEL DOUBLER NOT
FURNISHED BY THIEMAN

Fig. 6



Step 9 Mount lifting cylinders and closing cylinders (on liftgates with power close) to trunnion as shown in figure 8.

- PTO MANUAL CLOSE - STEP 10
- PTO POWER CLOSE - STEP 17
- ELECTRIC CONTROL MANUAL CLOSE - STEP 22
- ELECTRIC CONTROL POWER CLOSE - STEP 29

POWER UNIT INSTALLATION GUIDELINES

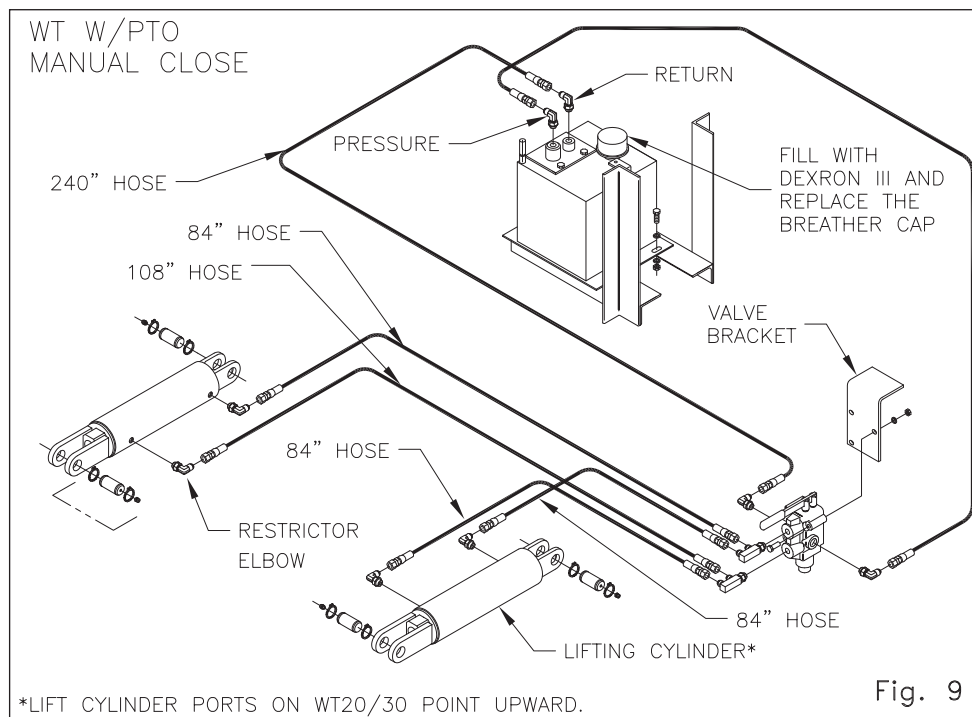
1. The most common cause of hydraulic system malfunction or failure is the contamination of the hydraulic fluid.
2. Our product suppliers have extensively cleaned and tested this product during all phases of manufacturing and assembly.
3. The hoses, cylinders, and valves must be as thoroughly cleaned to prevent contamination.
4. At the time of installation be certain all fittings, hoses, hose ends, and ports are clean and clear of dirt.
5. Make sure the reservoir is filled to .50" from the top with DEXRON III.
6. Squirt clean oil into the pressure port of the pump before making the connection to the cylinder or valve.
7. Place the end of the pressure lines which is closest to the cylinder in a suitable clean container.
8. Alternately start and stop the pump until a steady stream of oil comes out of the pressure line.

PTO MANUAL CLOSE

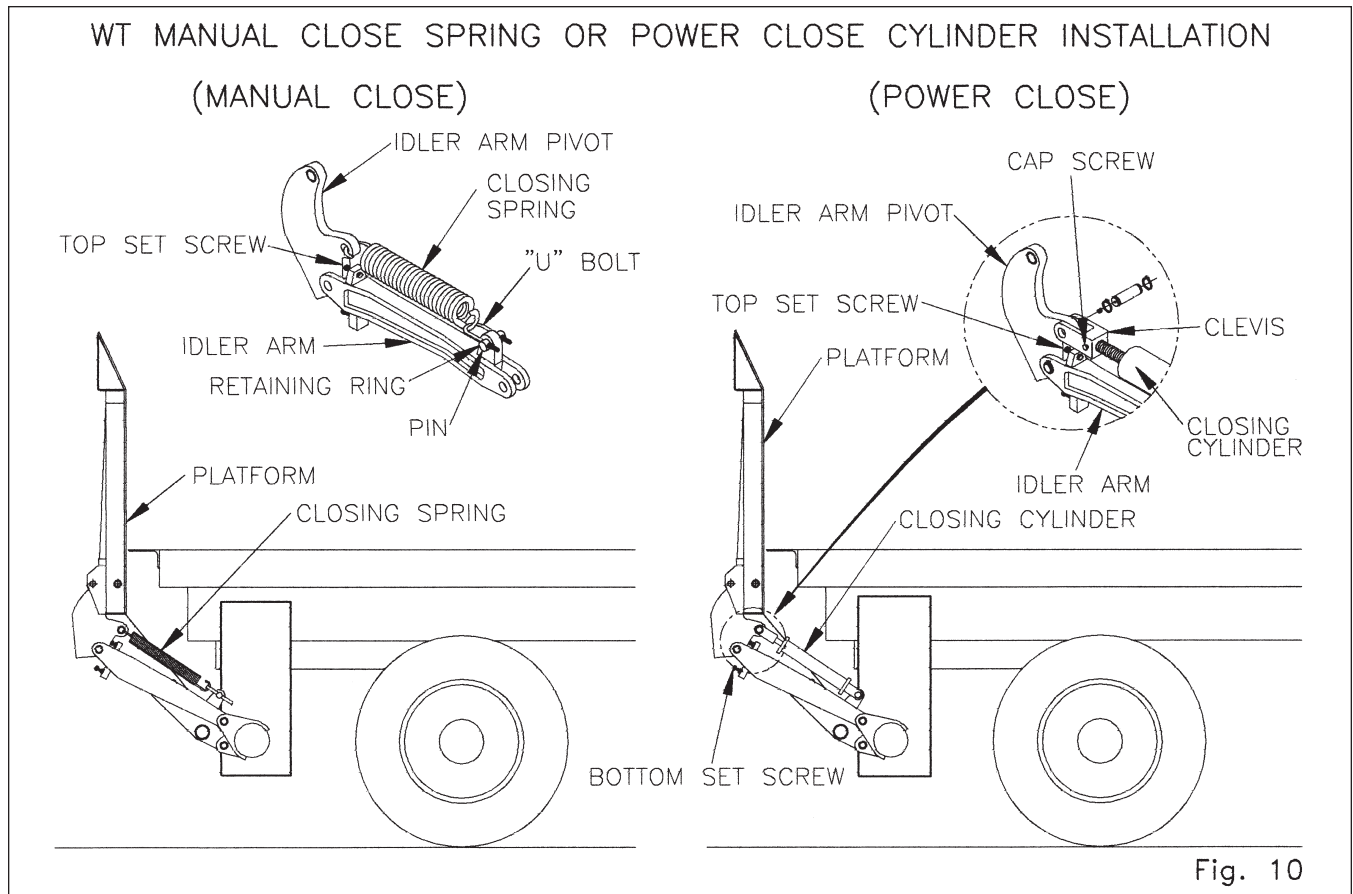
Step 10 Mount valve and valve bracket in a convenient location on the curb side.

Step 11 Install PTO driveline and pump (refer to separate installation sheet in PTO pump carton).

Step 12 Install fittings in the valve and pump. Install hoses and hose clamps and fill reservoir with Dexron III. See figure 9.



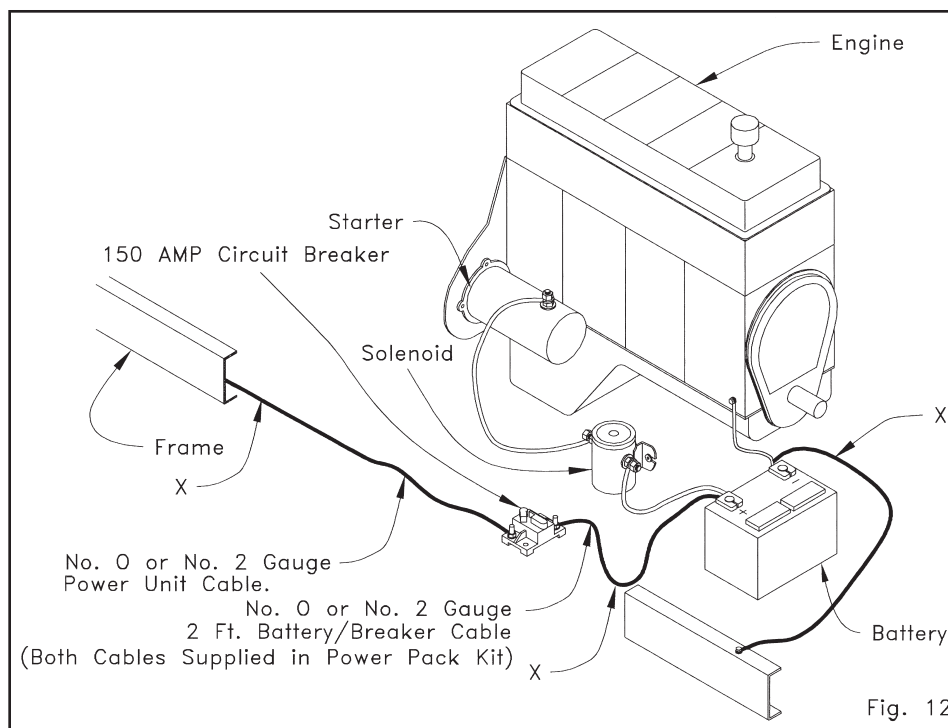
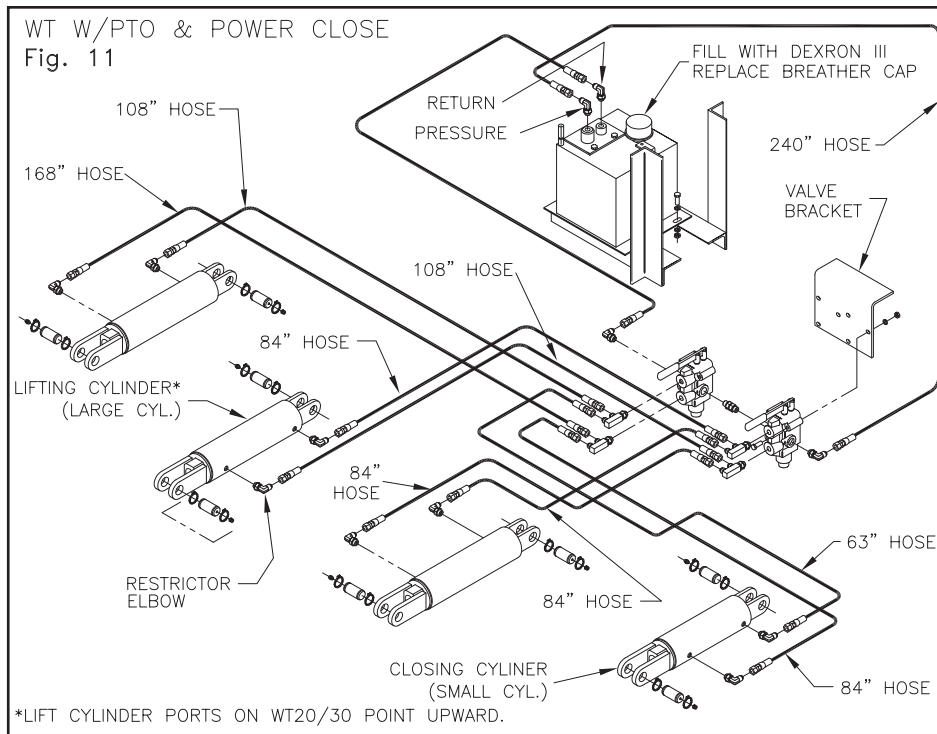
- Step 13** With PTO pump operating, actuate valve until the cylinders are filled with oil. After air is forced out of the system, fully retract the cylinders.
- Step 14** Raise platform to bed height. Manually close platform using a crane or forklift and adjust set screw on top side of idler arm to obtain a vertical position of the platform.
- Step 15** Attach one end of the spring to the idler arm pivot and attach the other end to the U-bolt. See figure 10.
- Step 16** To adjust spring tension, open platform to a horizontal position and lower to the ground. Tighten both springs evenly until toe of platform begins to raise. Back off one and a half turns on each U-bolt. Proceed to step 33.



PTO POWER CLOSE

- Step 17** Mount valves and valve bracket in a convenient location on the curb side.
- Step 18** Install PTO driveline and pump (refer to separate installation sheet in PTO pump carton).
- Step 19** Install fittings in the valves and pump. Install hoses and hose clamps and fill reservoir with Dexron III. See figure 11.
- Step 20** With PTO pump operating, actuate valve until the cylinders are filled with oil. After air is forced out of the system, fully retract the cylinders. Proceed to step 33.

NOTE: The maximum relief pressure for the WT is 1500PSI for all models.



Step 21 Many late model trucks have battery connections as shown in figure 12. The ground cable from the battery may be connected directly to the engine block with only a light braided ground strap connecting the block to the chassis. Where this is the case, the factory installed cable does not provide an adequate ground circuit for operating battery powered liftgates. We recommend that the cables labeled with an "X" be not less than #2 gauge cable. Also because of the high current draw (approximately 200A) we recommend that the alternator be a heavy duty type and the battery must have a 150 AMP minimum reserve capacity.

ELECTRIC CONTROL MANUAL CLOSE

- Step 22** Mount the power unit to the bracket on the top of the trunnion tube. The eight internal tooth lockwashers are to be located so they are in contact with the pump bracket and the trunnion pump mounting bracket. Route control cord and mount the toggle switch control in a convenient location on the curb side.
- Step 23** Install fittings in the pump and cylinders. Install hoses and hose clamps and fill reservoir with Dexron III. See figure 13.
- Step 24** Fasten the 150 Amp breaker provided within 2 ft. of the truck battery. Route the battery cable from the liftgate to the 150 AMP breaker. **AVOID SHARP CORNERS AND HIGH HEAT AREAS.** Use cable clips provided to secure the cable to the truck frame every 2 feet. Cut the cable to the desired length and strip .88" of insulation from the end. Slide the pre-cut heat shrink over the end of the cable. Secure the cable lug in a vise and apply heat to the connector and insert the cable as the solder melts. Allow connector to cool and install the heat shrink. Attach this end to one terminal on the 150 amp circuit breaker. Install the ground cable from the negative battery terminal to the frame. Attach one end of the 2 ft. cable provided to the positive terminal of the battery and the other end to the vacant terminal of the breaker. See figure 13. Attach the ground cable to the tapped hole on the pump base labeled "GND", the other end to the trunnion mounting bracket using the .38" hardware and internal tooth lockwashers provided.
- Step 25** Operate the pump until the cylinders are filled with oil. After the air is forced out of the system, fully retract the cylinders.
- Step 26** Raise platform to bed height. Manually close platform using a crane or forklift and adjust set screw on top side of idler arm to obtain a vertical position of the platform.
- Step 27** Attach one end of the spring to the idler arm pivot and attach the other end to the U-bolt. See figure 10.
- Step 28** To adjust spring tension, open platform to a horizontal position and lower to the ground. Tighten both springs evenly until toe of platform begins to raise. Back off one and a half turns on each U-bolt. Proceed to step 36.

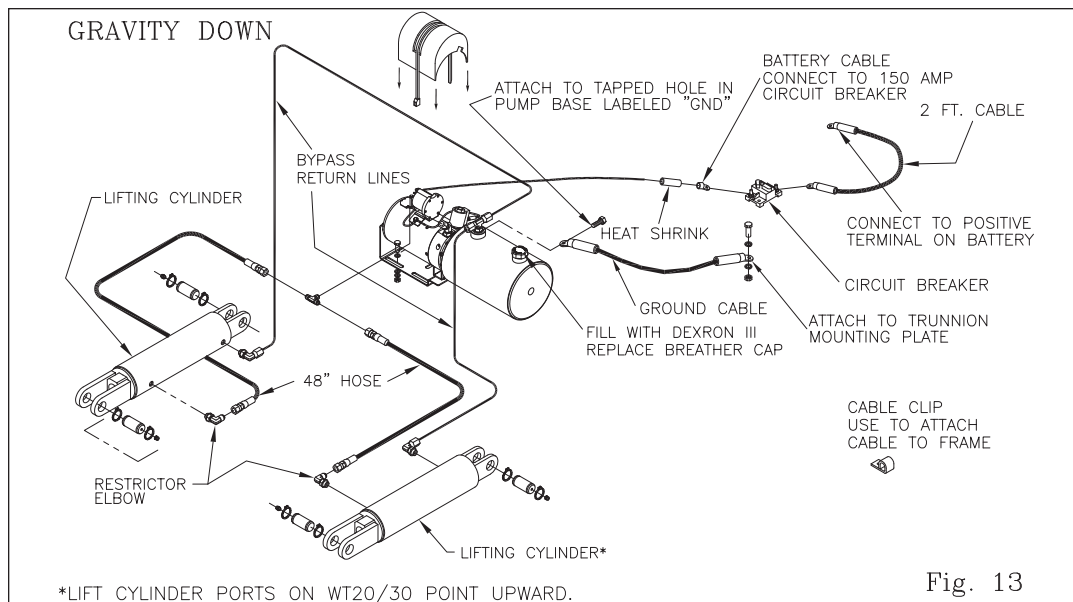


Fig. 13

ELECTRIC CONTROL POWER CLOSE

- Step 29** Mount the power unit to the bracket on the top of the trunnion tube. The eight internal tooth lockwashers are to be located so they are in contact with the pump bracket and the trunnion pump mounting bracket. Route control cord and mount the control box in a convenient location on the curb side.
- Step 30** Install fittings in the pump and cylinders. Install hoses and hose clamps and fill reservoir with Dexron III. See figure 14.
- Step 31** Fasten the 150 Amp breaker provided within 2 ft. of the truck battery. Route the battery cable from the liftgate to the 150 AMP breaker. **AVOID SHARP CORNERS AND HIGH HEAT AREAS.** Use cable clips provided to secure the cable to the truck frame every 2 feet. Cut the cable to the desired length and strip .88" of insulation from the end. Slide the pre-cut heat and shrink over the end of the cable. Secure the cable lug in a vise and apply heat to the connector and insert the cable as the solder melts. Allow connector to cool and install the heat shrink. Install the ground cable from the negative battery terminal to the frame. Attach one end of the 2 ft. cable provided to the positive terminal of the battery and the other end to the vacant terminal of the breaker. Attach the ground cable to the tapped hole in the pump base labeled "GND", the other end to the trunnion mounting bracket using the .38" hardware and internal tooth lockwashers provided. See figure 14.
- Step 32** Operate the pump until the cylinders are filled with oil. After the air is forced out of the system, fully retract the cylinders.
- Step 33** With the lift cylinders fully retracted, loosen the set screw on the clevis and screw the clevis in or out until the holes line up with the holes in the lift arm. Install the pins and retaining rings as required.
- Step 34** Raise platform to bed height. Manually close platform using a crane or forklift and adjust set screw on top side of idler arm to obtain a vertical position of the platform. With the closing cylinder fully retracted, screw clevis in or out until the holes line up with those in the idler arm pivot. Unfold the platform and adjust the bottom set screws so that the platform is level at bed height. See figure 10.

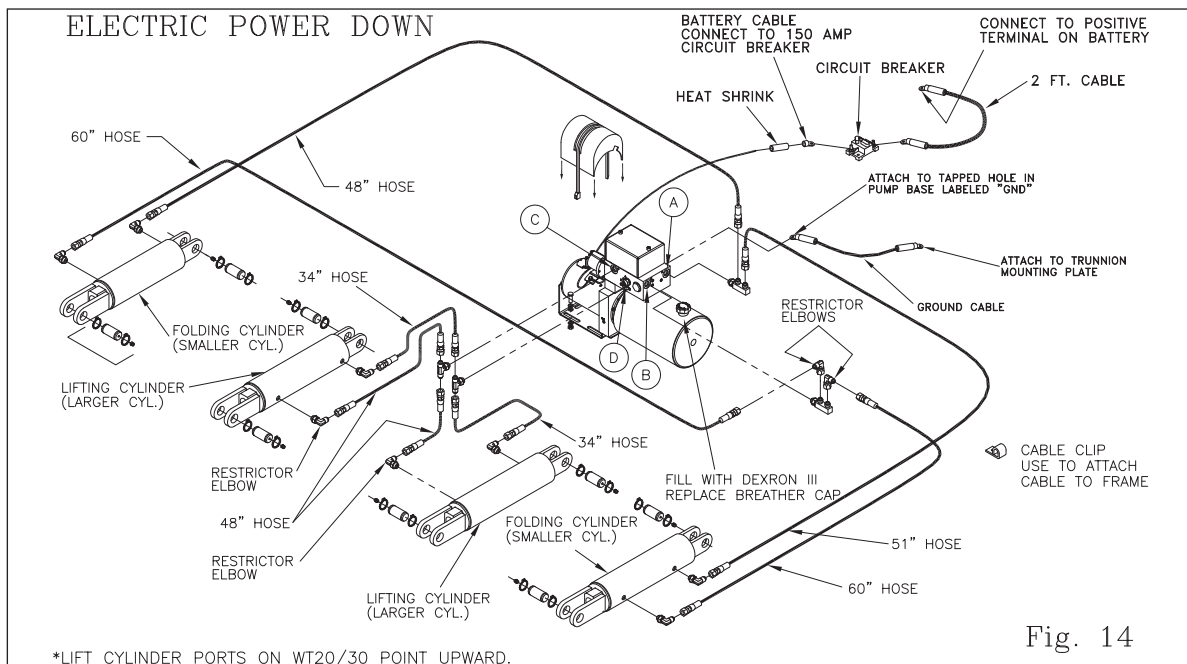
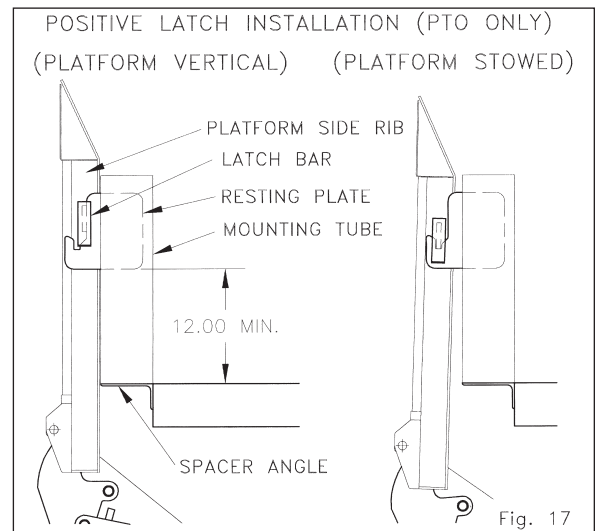
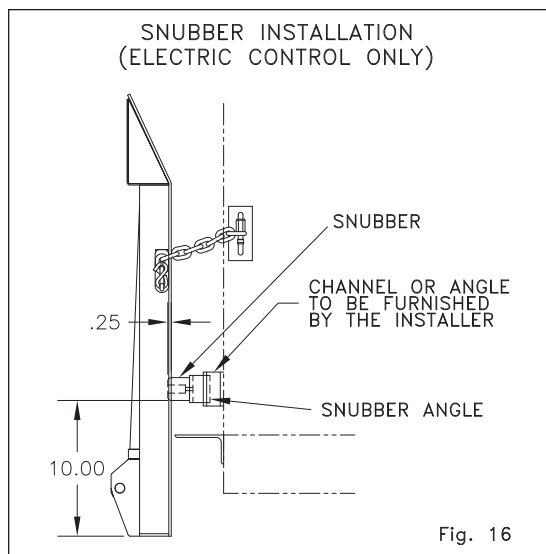
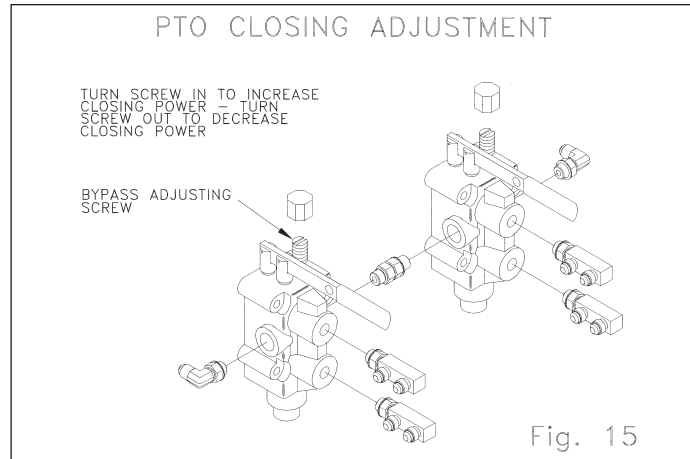


Fig. 14

Step 35 On PTO models with power fold only, adjust the bypass screw so the system has just enough pressure to close. See figure 15.

Step 36 The WT series liftgate with electric control comes with a standard snubber kit and stow chains to prevent excessive wear during transport. See figure 16. The PTO powered WT series liftgate comes standard with positive stow latches to prevent wear and drift during transport. See figure 17. See steps 38 thru 45 for positive latch installation.

Step 37 Install breather cap on power unit. Install grease fittings and grease adequately. Oil all other moving parts.



POSITIVE LATCH INSTALLATION (PTO ONLY)

Step 38 With the platform in the horizontal position, raise the platform level with the truck bed.

Step 39 Fold the platform to the vertical position. See figure 17.

Step 40 Center the latch bars horizontally on the side ribs. Tack weld latch bars high enough to just clear the hooks on each resting plate. Note 12.00 min. dimension.

Step 41 Tack weld the mounting tube to spacer angle and body if present, with the 6.00 side of the tube flush and parallel with the 6.00 leg of the spacer angle. See figure 17. The tubes must be located across the spacer angle in such a way that when the resting plates are welded to the inside surfaces of the tubes, the resting plates come between the platform and the formed plates welded to the end of the latch bars.

- Step 42** Locate the resting plates' front edges flush with the cab-facing surface of each latch bar. Locate the bottom edges of the resting plates a minimum of 12.00 above the truck bed and tack weld to the mounting tubes.
- Step 43** Lower the gate with the platform in the vertical position to make sure the latch bar sets securely in the resting plate's notch on each side of the gate. See the stowed platform in figure 17.
- Step 44** Raise gate completely again.
- Step 45** UNFOLD and FOLD platform to make sure the latch bars clear the resting plates. Reposition any parts if necessary. When all operations are successful and gate is stowing properly, weld all of the positive latch parts in place permanently.
- Step 46** Thieman recommends that the installer perform a weight test of the liftgate to check the welds or mounting bolts and the structural integrity of the body or frame of the truck or trailer. The load used should be the maximum weight rating of the particular liftgate with the weight centrally located on the platform. A minimum of 20 cycles should be made to insure the integrity of the mounting.
- Step 47** Finish paint as required and apply decals in the appropriate locations as shown below. When painting, carefully grease or mask fittings and exposed portion of the piston rod. The decals **MUST** be applied or all warranties are VOID!
- Step 48** It may be necessary to add Rear-end Protection on this installation. Check your local state laws for requirements of FMCSR 49 CFR 393.86.

Item	Part Name	Part Number
1	Warning Decal-off center	4671050
2	Fast Idle Decal	4650150
2	PTO Decal	4650140
3	Danger Decal-no riding	4609
4	Operating Decal	4611
5	Capacity Decal-2000#	4650100
5	Capacity Decal-3000#	4650120
5	Capacity Decal-4000#	4650130
6	Thieman Nameplate	4650800
7	Urgent Warning Decal	4650530
8	Reflector (3)	5705
9	Caution Decal-Platform Area	4650770
10	Wiring Decal-Gravity Down	4612
10	Wiring Decal-Power Down	4618
11	Warning Decal-High Pressure	4620

