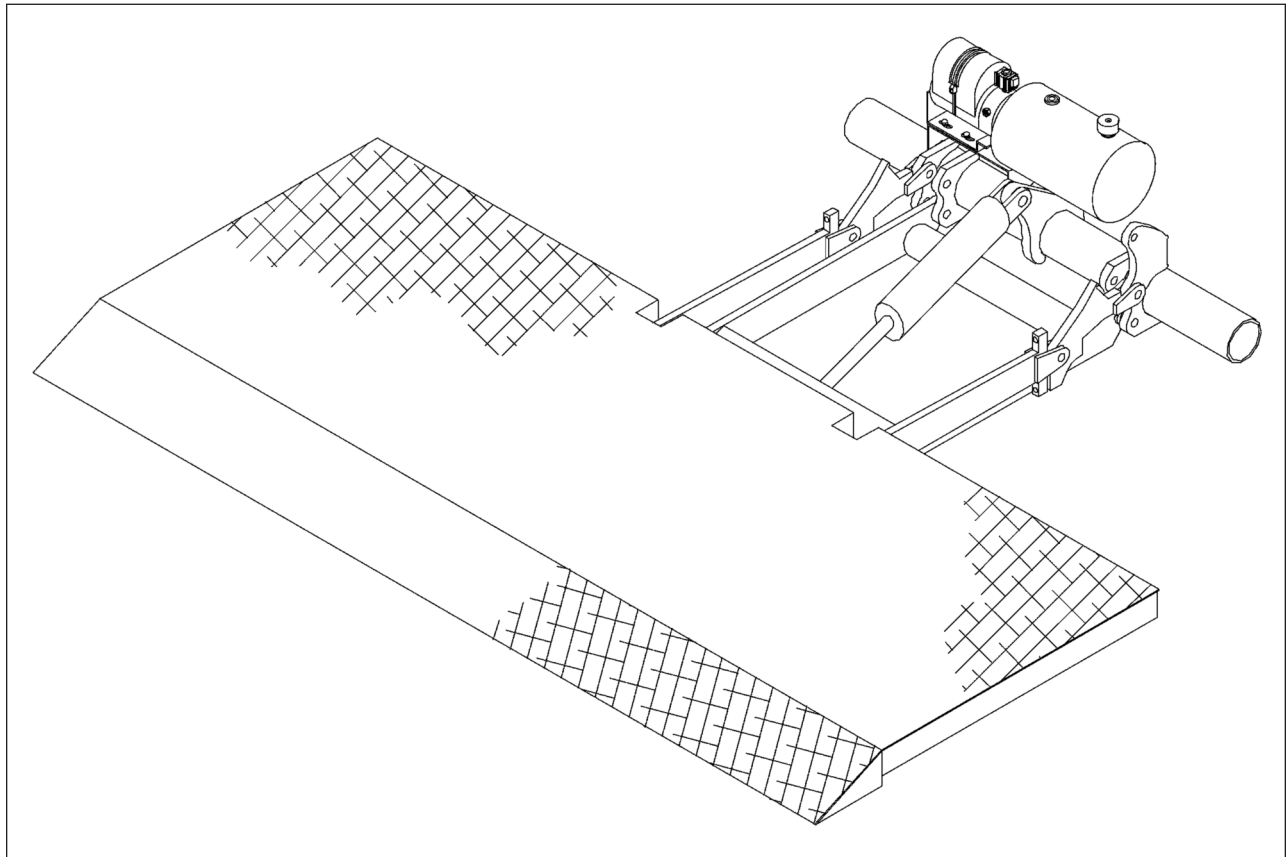


WEIGHTLIFTER

Tailgates By THIEMAN

TWL 125, 16, 20

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

TWL125, 16, 20

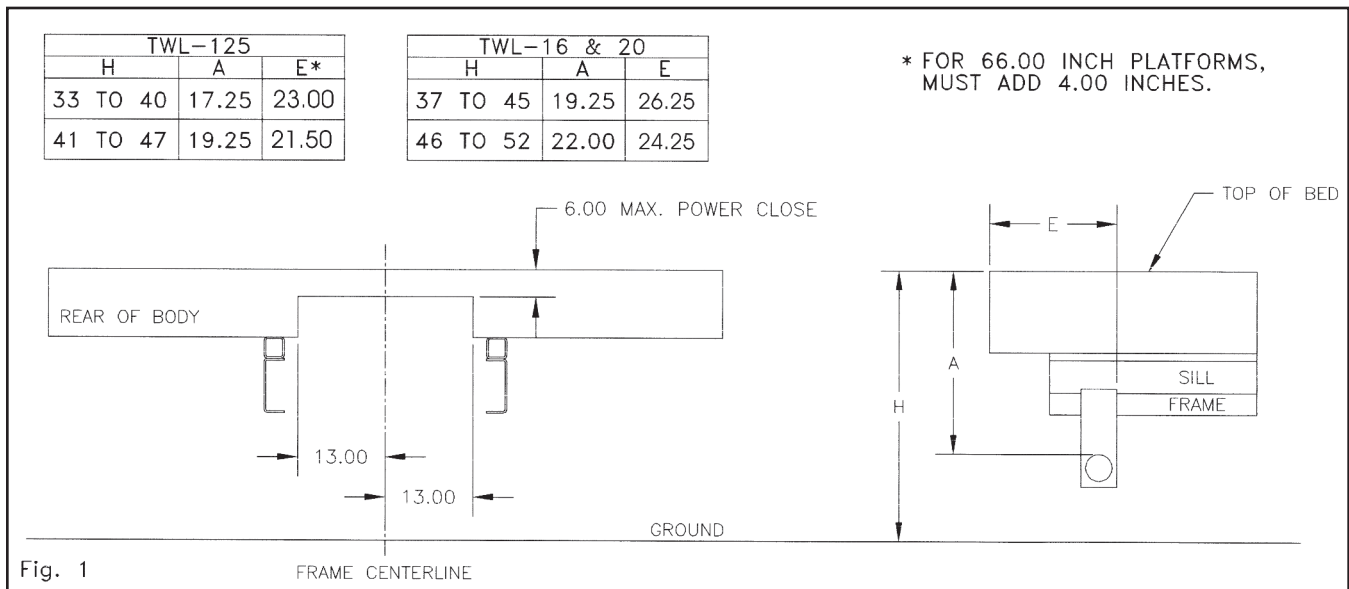
ATTENTION INSTALLERS:

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 TWL125, 16, 20's are conventional style liftgates for use on trucks and trailers. The standard bed height range for the TWL125 is 33" to 47" and for the TWL 16, 20's this range is 37" to 52".

NOTES:

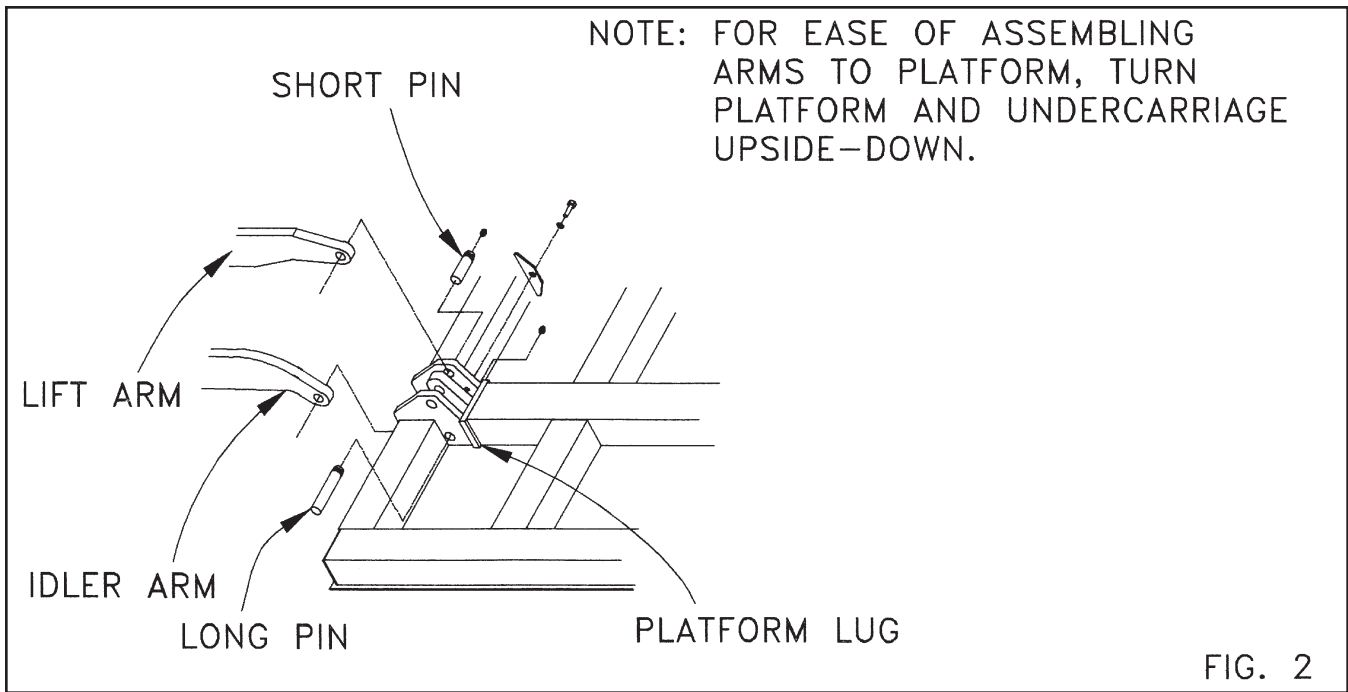
1. All maximum mounting dimensions are shown with the vehicle empty; all minimum mounting dimensions are shown with the vehicle loaded.
2. Check bed height when parked on a level surface.
3. Check "E" dimension for possible interference with spring hanger bracket before installation. See figure 1.



- A-Distance from top of trunnion tube to top of bed.
- E-Minimum distance needed for mounting plates.
- H-Distance from ground to bed height.

INSTALLATION INSTRUCTIONS

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

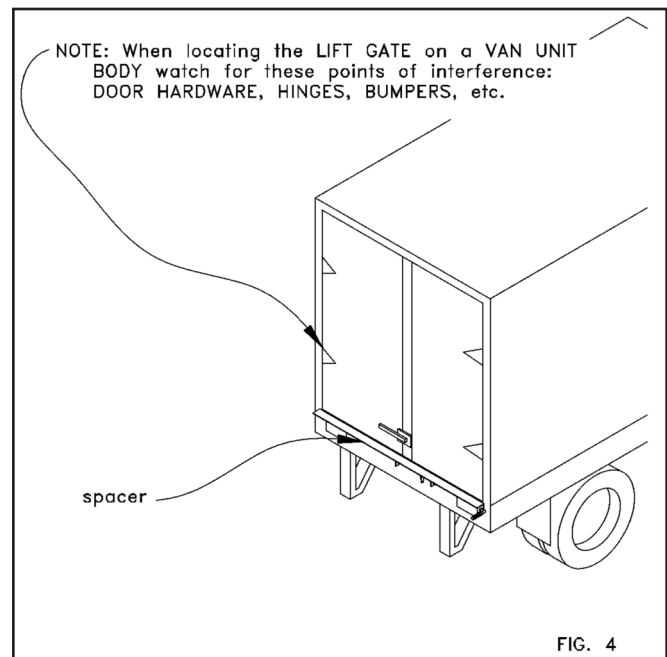
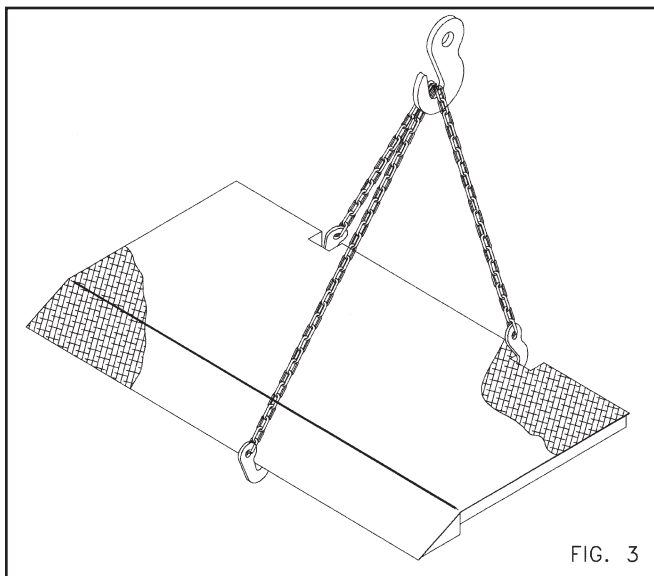


Step 2 Weld spacer to rear of truck at the same height as the truck bed except on 66.00 inch platforms where spacer is not used. For 78.00 and 84.00 inch platforms, the spacer needs trimmed to the platform width. Center on rear of truck.

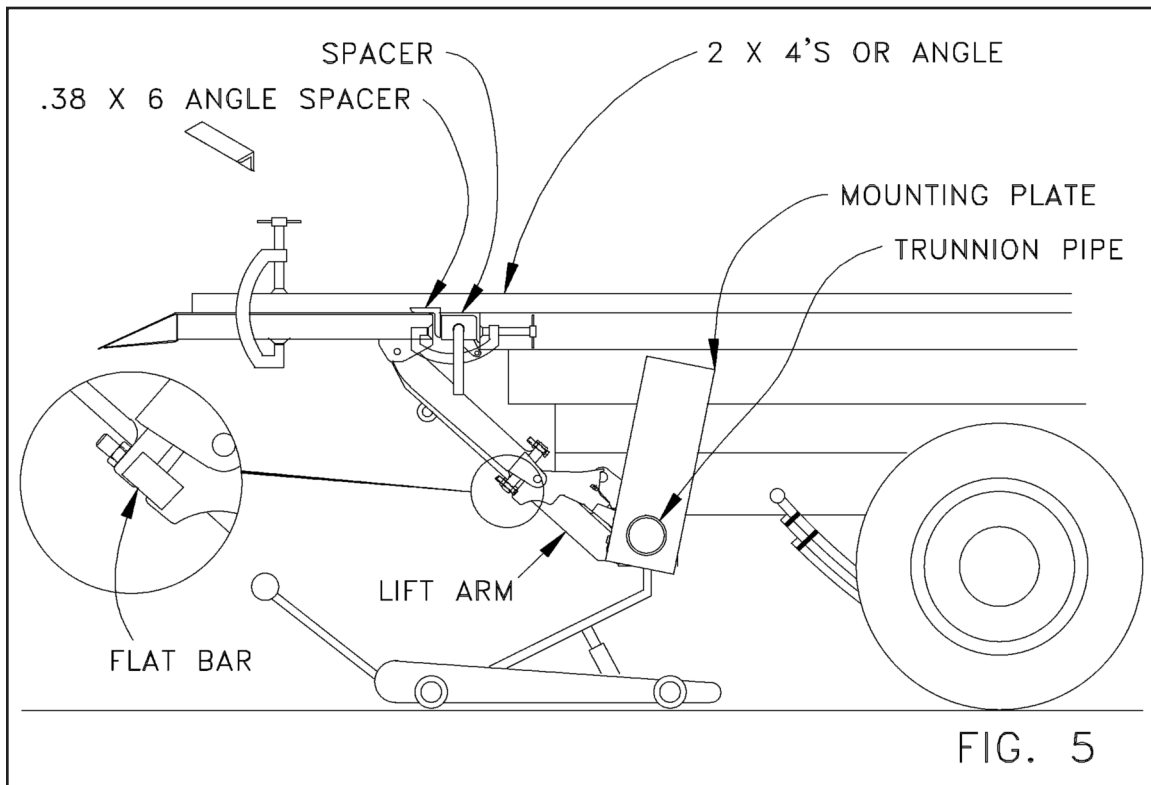
Step 3 With the undercarriage assembly on the floor, attach lift arms and idler arms to platform as shown in figure 2. Use SA bag number 3600070 which contains the pins.

Step 4 Attach platform to crane as shown in figure 3 or clamp platform to lift truck forks.

Step 5 Lift the entire assembly until the platform is the same height as the truck bed and move assembly towards truck body. Check body for clearance. See figure 4.



- Step 6** Place a .38" angle spacer between the platform and the spacer and clamp the platform to the rear of truck body so the top of the platform is flush with the truck bed as shown in figure 5. Make sure the platform is centered on rear of truck.
- Step 7** Weld a flat bar from the idler arm to the idler arm pivot to ensure the idler arms' square head adjustment bolts are touching the jointed idler arm pivots during the entire installation as shown in figure 5. Place a floor jack under the trunnion pipe and raise trunnion to the proper "A" dimension.
- Step 8** Angle mounting plates slightly toward the cab of the vehicle as shown in figure 5. Attach mounting plates to truck frame by means of grade 8 bolts or by .18" welds all around. Weld mounting plates to the trunnion pipe with welds completely around the pipe on both sides of each plate. See figure 8.



- Step 9** 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. 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.

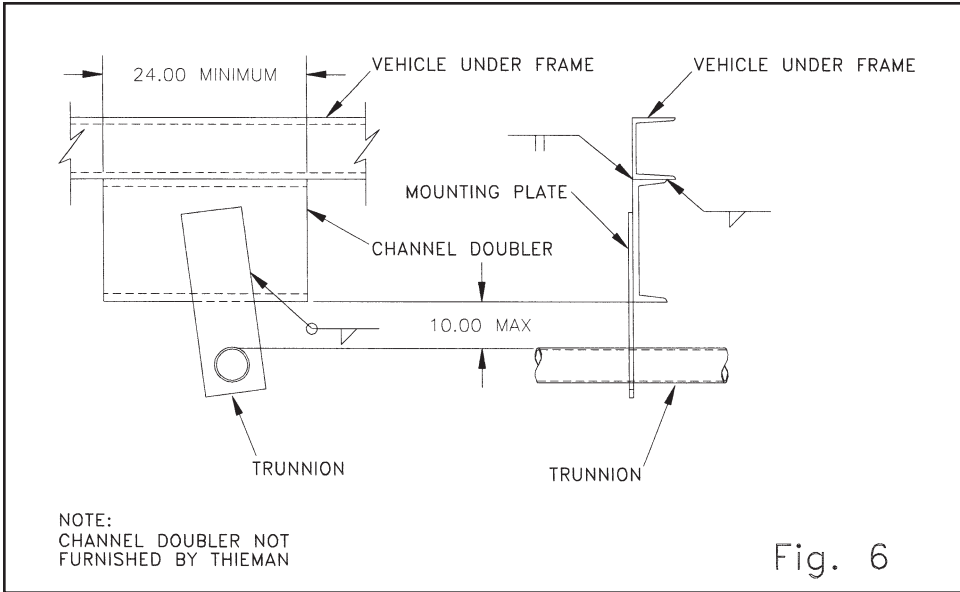


Fig. 6

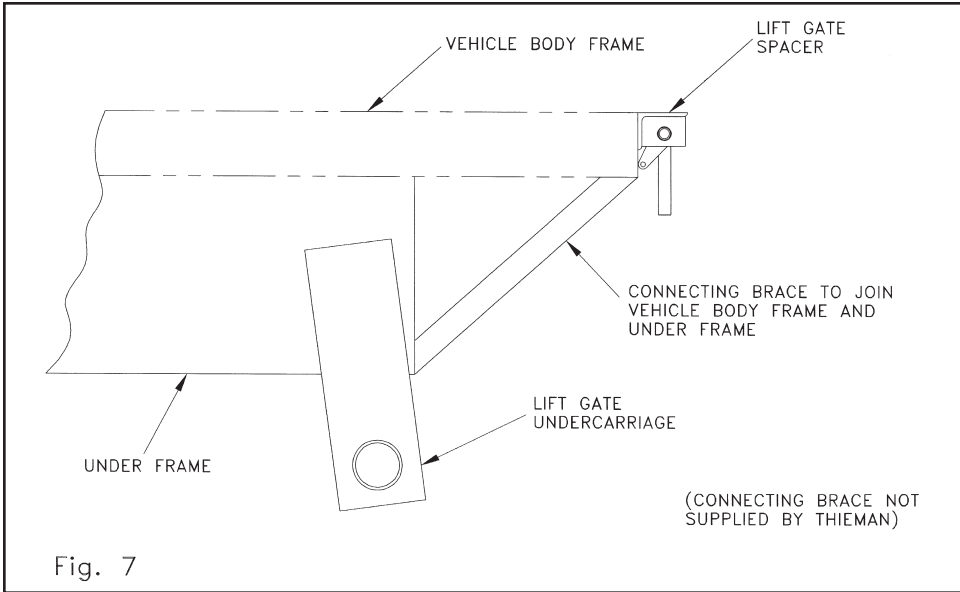


Fig. 7

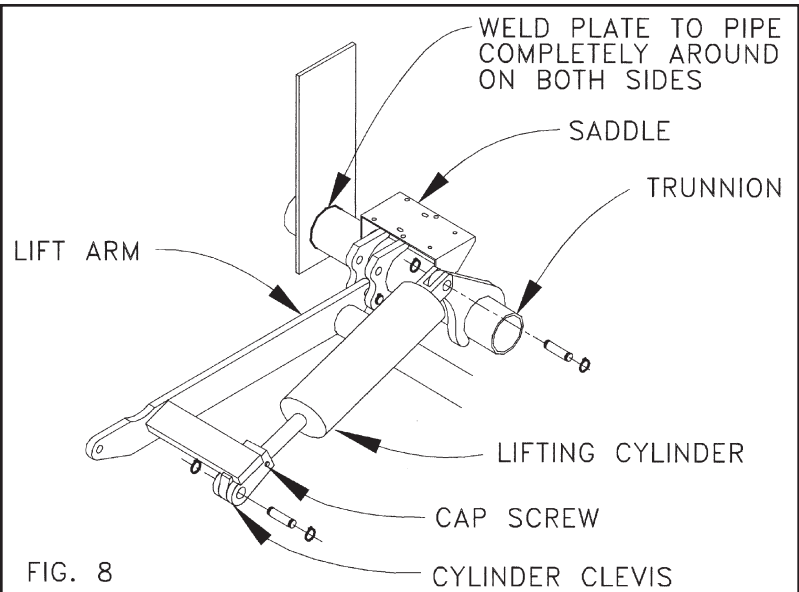


FIG. 8

Step 10 Connect butt end of lifting cylinder to trunnion lug using parts from SA bag marked 3630040 or 3630050. See figure 8.

Step 11 With the cylinder rod fully retracted into the cylinder housing, loosen the cap screw on the side of the cylinder clevis. Screw clevis out until holes in clevis line up with holes in lift arm's cylinder lug. See figure 8.

*****POWER UNIT INSTALLATION GUIDELINES*****

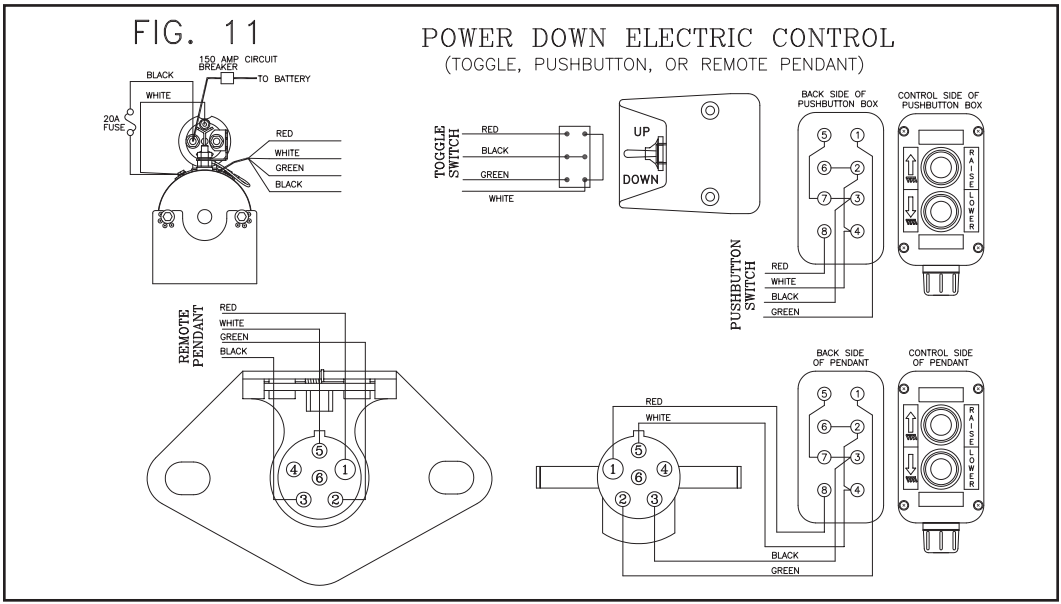
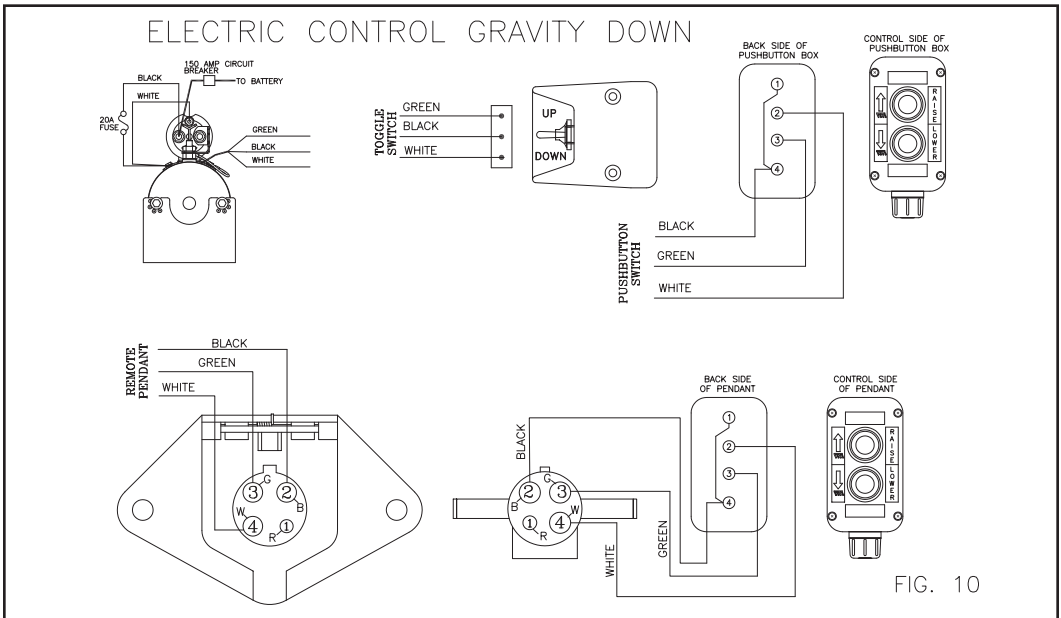
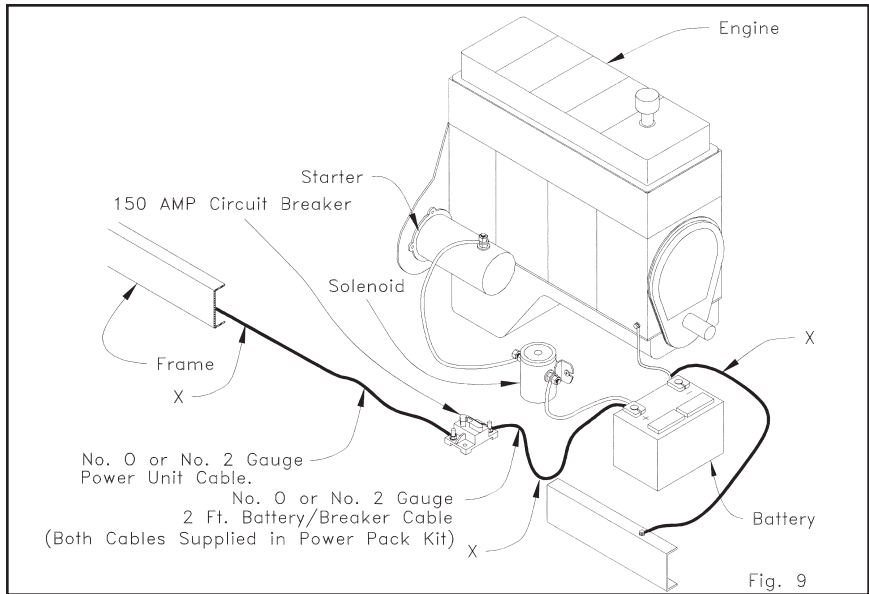
- A. The most common cause of hydraulic system malfunction or failure is the contamination of the hydraulic fluid.
- B. Our product suppliers have extensively cleaned and tested this product during all phases of manufacturing and assembly.
- C. The hoses, cylinders, and valves must be as thoroughly cleaned to prevent contamination.
- D. At the time of installation be certain all fittings, hoses, hose ends, and ports are clean and clear of dirt.
- E. Make sure the reservoir is filled to .50" from the top with DEXRON III.
- F. Squirt clean oil into the pressure port of the pump before making the connection to the cylinder or valve.
- G. Place the end of the pressure lines which is closest to the cylinder in a suitable clean container.
- H. Alternately start and stop the pump until a steady stream of oil comes out of the pressure line (see steps below for connecting the various electro-hydraulic power units).

Step 12 Many late model trucks have battery connections as shown in figure 9. 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
GRAVITY AND POWER DOWN**

Step 13 Bolt the power unit to the trunnion mounting bracket using the 3/8" hardware provided. The eight internal tooth lockwashers are to be located so they are in contact with the pump bracket & the trunnion pump mtg. bracket. Route control cord and mount the control (toggle, push button, or remote pendant) in a convenient location on the curb side. Use clips provided to support control cord every 18 inches. See figures 10 and 11 for wiring diagrams

Step 14 Install the fittings in the cylinder and pump. Install hoses and hose clamps and fill reservoir with Dexron III. Attach the ground cable to the tapped hole in the pump base labeled "GND" & trunnion mounting plates using the .38 hardware provided with the internal tooth lockwashers. See figures 12 and 13.



Step 15 Fasten the 150 AMP circuit breaker provided within 2 ft. of the truck battery. Route the battery cable from the liftgate toward 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 heavy ground cable from negative batter terminal to the frame. Wire the breaker to the truck battery using the 2 ft. cable provided. See figures 12 and 13.

Step 16 Operate the pump until the cylinder is filled with oil. After the air is forced out of the system, fully retract the cylinders. Remove the "C" clamps at this time.

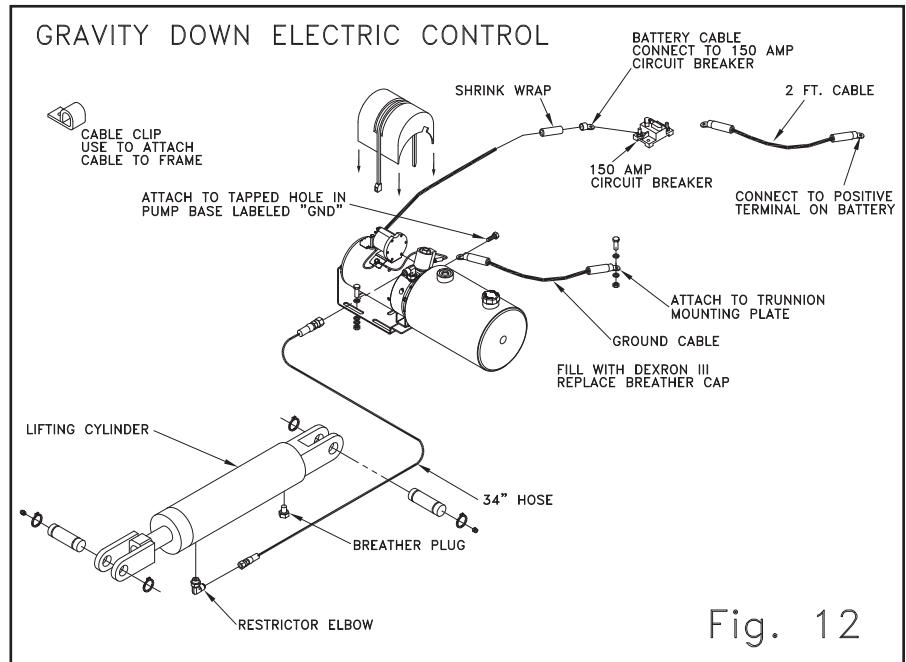


Fig. 12

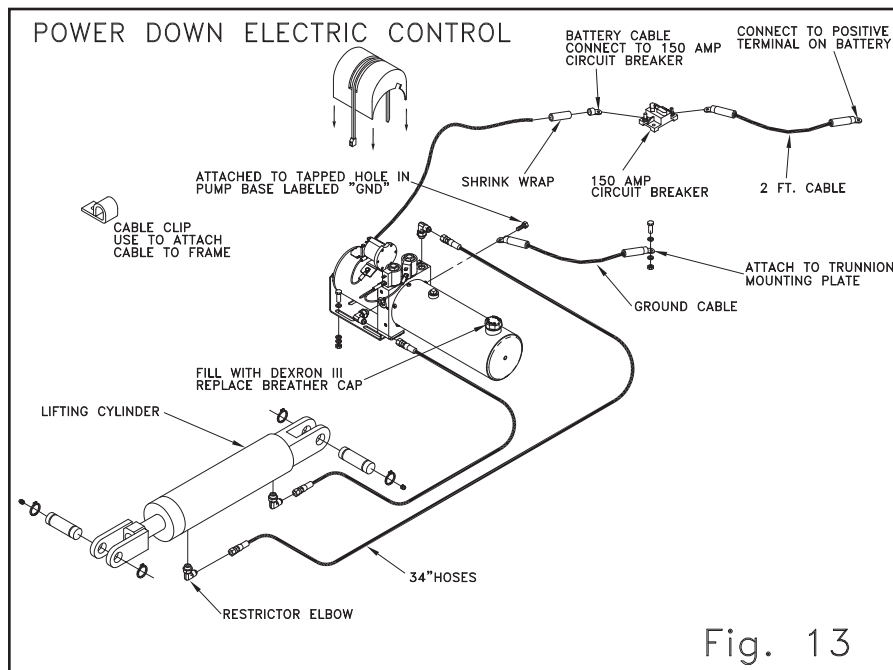
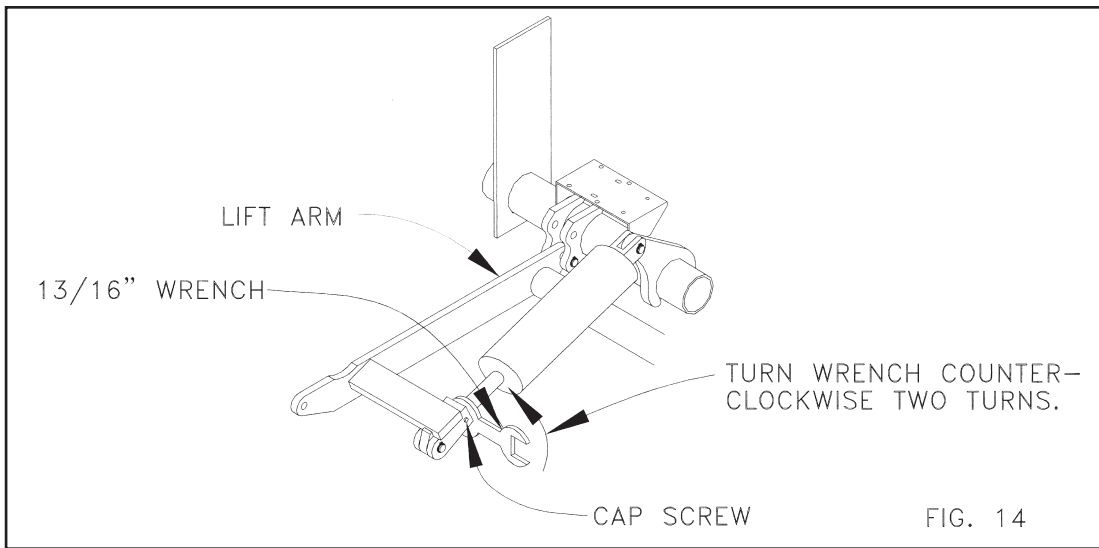
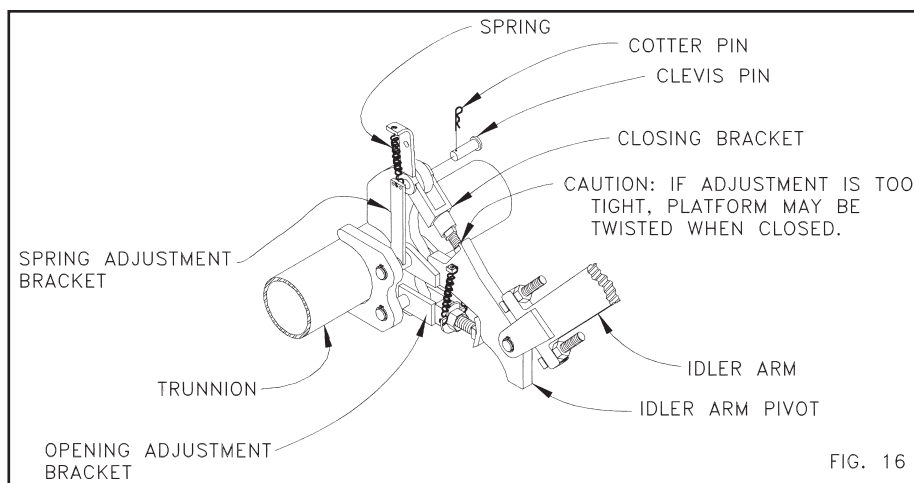
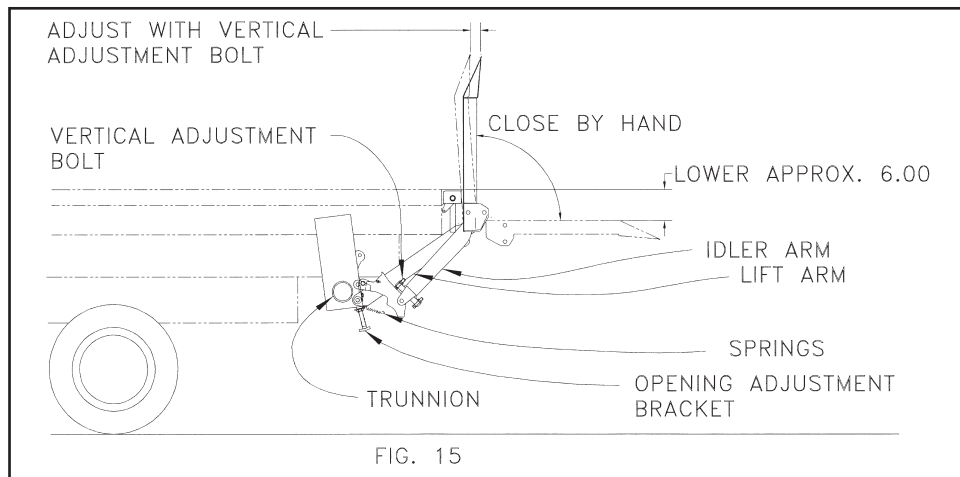


Fig. 13



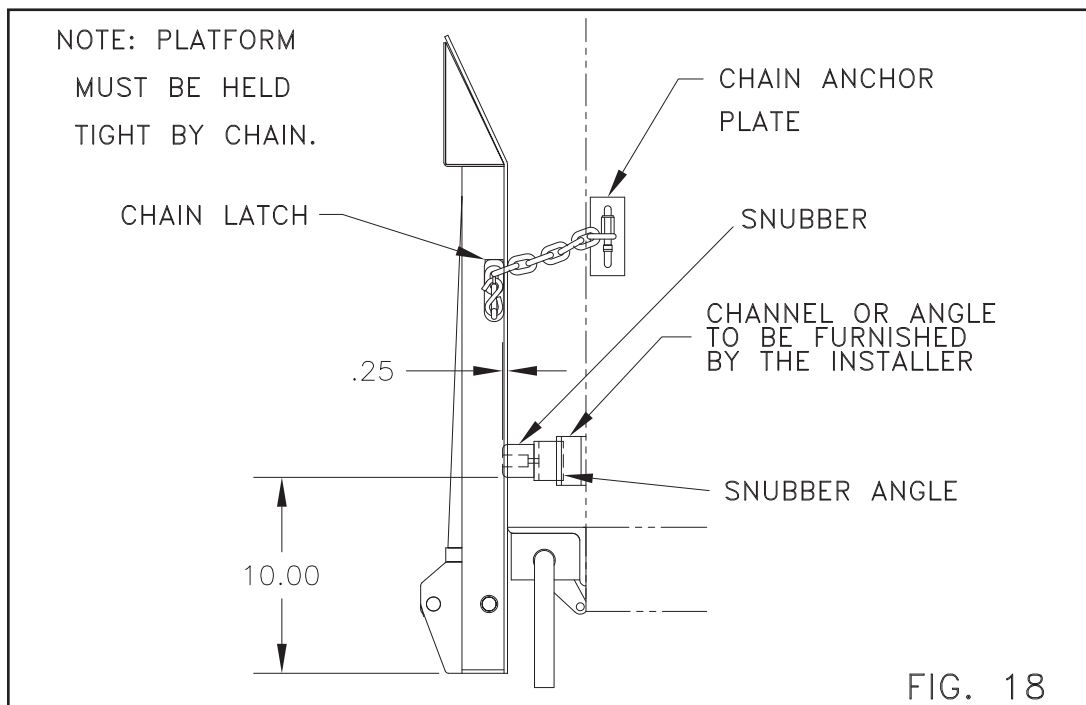
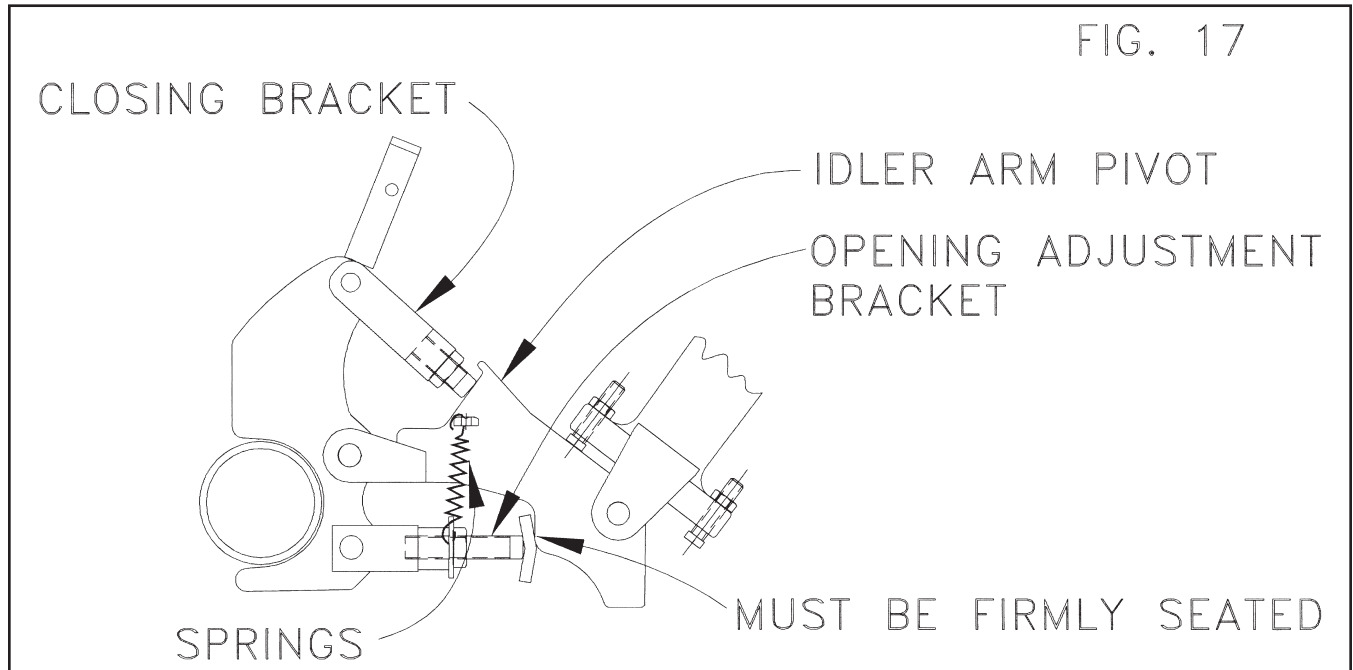
Step 17 Using a 13/16" wrench, turn piston rod into the cylinder clevis two full turns (piston rod has milled flats to accept wrench). Tighten set screw on cylinder clevis. See figure 14.

Step 18 Raise horizontal platform until it is approximately 6" below the truck bed. Fold platform to the vertical position using a crane or forklift and then raise platform back up so it is both vertical and snug against the rear of the spacer (or truck). Adjust set screw on top of idler arm to obtain a vertical position for the stowed platform. See figure 15.



Step 19 With platform fully raised and supported in a vertical position, install closing bracket using parts in installation kit. See figure 16.

Step 20 Engage closing lever by rotating it down toward idler arm pivot. Loosen nut and adjust closing lever bolt out until it is firmly seated against idler arm pivot. See figure 16.



Step 21 Loosen nut on opening adjustment bracket and screw stud out until it is firmly seated against idler arm pivot. Attach springs from opening adjustment bracket to the square nuts welded to the idler arm pivot as shown in figure 17.

Step 22 The TWL series liftgate comes with a standard snubber kit and stow chains to prevent excessive wear during transit. With platform in the stowed, vertical position, attach the chain anchor plate to the truck. Then locate and attach the chain latch to the platform so that the chain is tight when connected for transit. See figure 18.

	TWL 125		TWL 16/20	
Mounting Dim A	17.25	19.25	19.25	22.00
Linkage Length	18.75	17.88	22.72	21.94

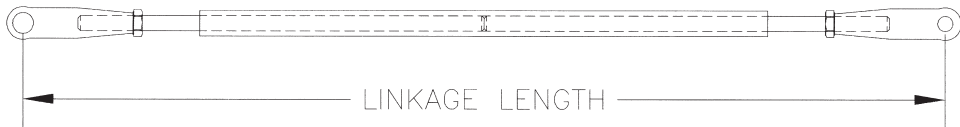


Fig. 19

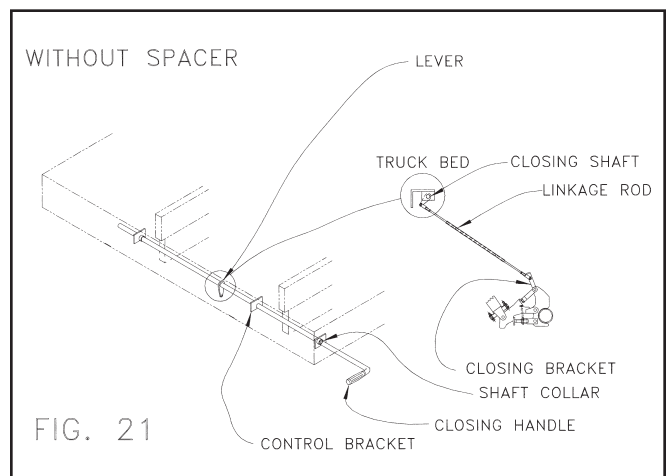
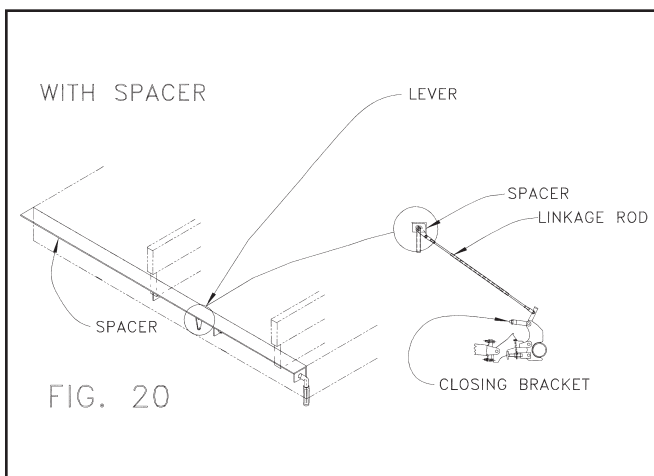
For 7832, 8432, and 9032:

Step 23 Set linkage rod length according to chart in figure 19. Threaded rod must be cut off for TWL 125 lengths. Connect linkage rod from the closing bracket (in disengaged position) to the lever on the closing handle. Adjust linkage rod so that lever contacts the spacer. Place closing handle in down position and weld lever to handle. See figure 20.

For 6626:

Step 24 With figure 21 as a guide, install control handle (shaft) in a convenient position for the operator, using the control brackets and collars supplied. Make sure the lever on the control shaft is positioned between the control brackets to allow its connection with the closing bracket.

Step 25 Connect linkage rod from the closing bracket to the lever on the closing handle. Try to obtain a 90° angle between the linkage rod and the lever on the closing handle. See step 30 for guidelines on assembling the linkage rod. Note proper clearance MUST be allowed because the closing handle will rotate 90° counterclockwise when moved from the engaged position for closing to the disengaged position for opening. See figure 21. Weld lever to handle.



Step 26 LINKAGE ROD ASSEMBLY - For 6626 - See figure 22.

Parts: 1-.38 Dia. Clevis Pin.....	(2)	of 8138078
2-Cotter Pin	(2)	of 8137185
3-Clevis	(2)	of 8144243
4-.38-24 Jam Nut.....	(2)	of 8124925
5-.38-24 Threaded Rod.....	(2)	of 5002210
6-.38 Dia. Pipe.....	(1)	of 2402000

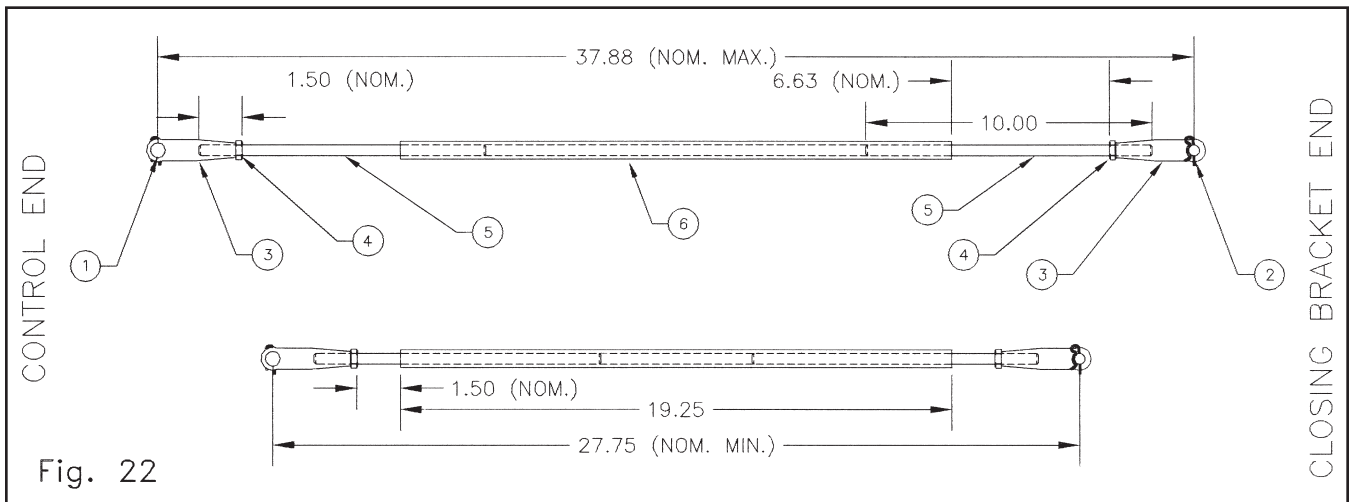
Step A Measure distance from lever on control shaft to closing bracket.

Step B Subtract 7.00" from this number. This is the maximum length the pipe can be.

Step C If the pipe is longer: than cut it off and weld the threaded rods to it protruding 2.50 inches from the pipe. The threaded rods may have to be cut off.

If the pipe is shorter: than subtract 21.62 inches from distance from lever to closing bracket and divide by two. Let this amount of threaded rod protrude from each end of the pipe and weld rod to the pipe.

Step D Place jam nuts and clevises on each end.

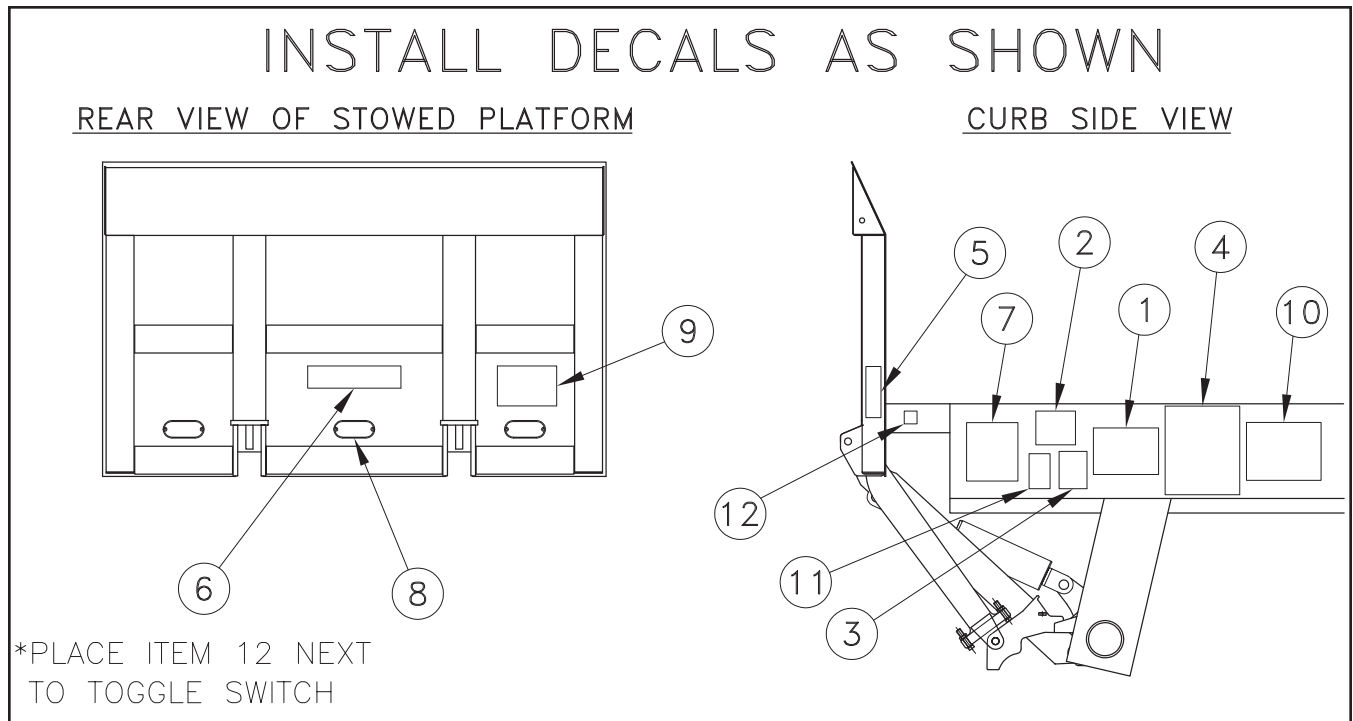


Step 27 Install breather cap on power unit. Install grease fittings and grease adequately. Oil all other moving parts. Review the entire installation with the power source disconnected. With the power connected again, check for possible interference of all moving parts. If interference occurs review the instructions and contact Thieman if the problem can not be eliminated.

Step 28 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 29 Finish paint as required and remove the pre-mask on the decals already applied and apply the remaining 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!**

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	4657
5	Capacity Decal-1250#	4650060
5	Capacity Decal-1600#	4650750
5	Capacity Decal-2000#	4650100
6	Thieman Nameplate	4650800
7	Urgent Warning Decal	4650530
8	Reflector (3)	5705
9	Caution Decal-Platform Area	4650770
10	Wiring Decal-Gravity Down Elec.	4612
10	Wiring Decal-Power Down Elec.	4614
11	Warning Decal	4620
12	Toggle Switch Decal	4650820



Step 30 It may be necessary to add Rear-End Protection on this installation. Check your local and state laws for requirements of FMCSR 49 CFR 393.86.

