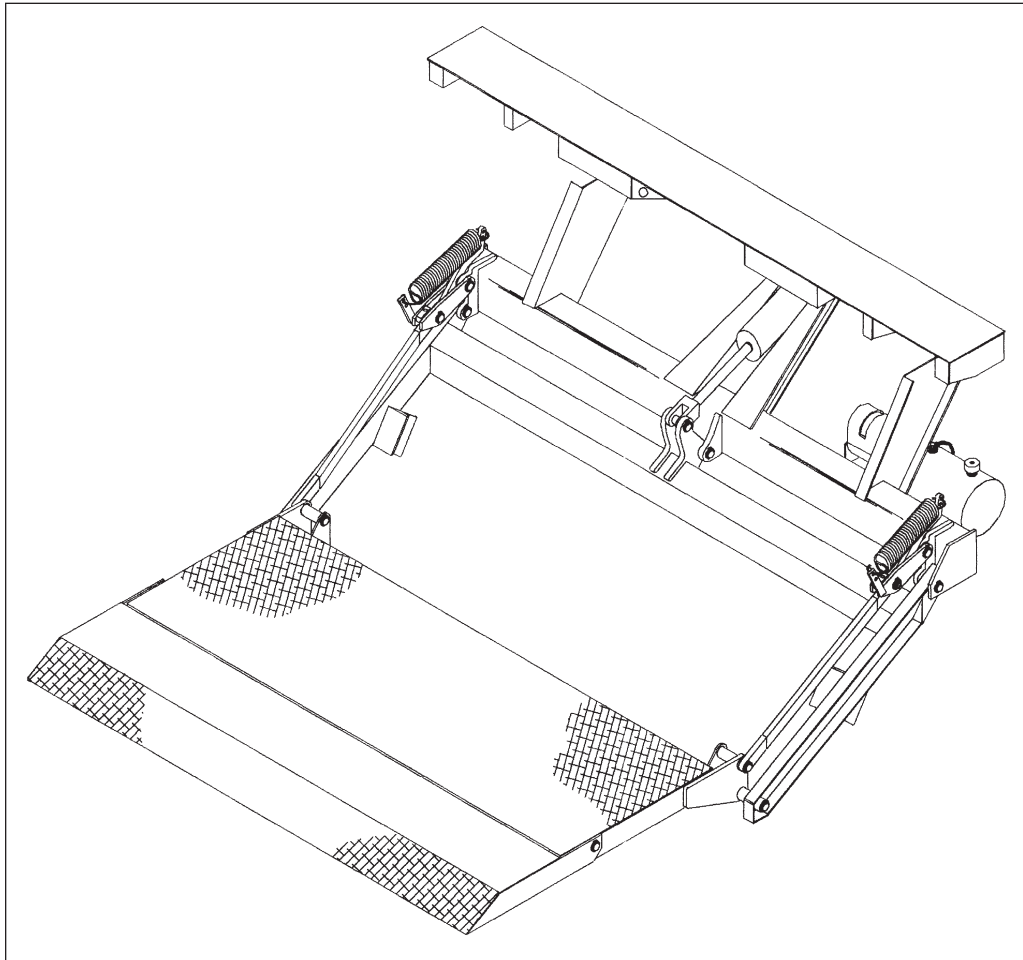


STOWAWAY

Tailgates By THIEMAN

FOR MODELS LST20, 25, 30 INSTALLATION INSTRUCTIONS



IMPORTANT! KEEP IN VEHICLE!

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



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ATTENTION INSTALLERS:

Changes are made periodically in the installation procedure to comply with engineering product changes. To ensure proper liftgate operation, it is *VERY IMPORTANT* to read and understand the installation instructions before attempting an installation. Serious damage or equipment failure could result from improper installation. This liftgate **MUST** be painted after installation and decals **MUST** be applied. Standard liftgates have a primer coat only and will not withstand harsh environments. **FAILURE** to paint this product and apply all decals will **VOID** all warranties!

The LST Liftgates are a stow-away style gate for use on trucks and trailers. The bed height range for the LST 20, 25, and 30 is 42 to 54 inches.

NOTES:

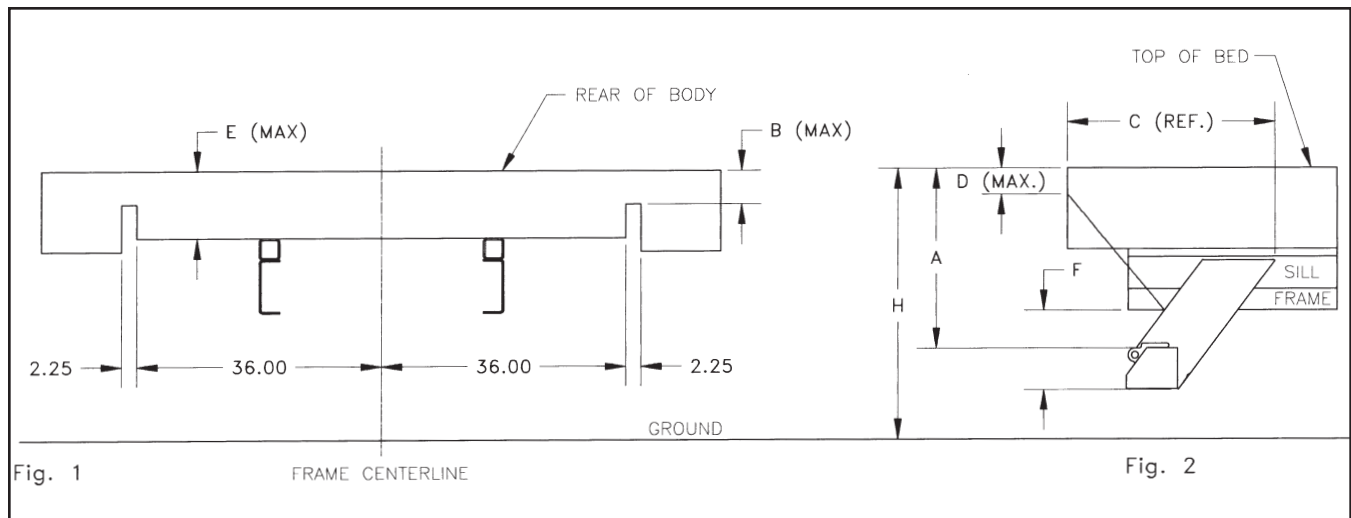
1. Tip of platform will touch ground on standard STOW-AWAY Tailgates, but not on gates designed for "level ride". "Ramp ride" is standard, "level ride" is built on special order only. **Do not disturb idler arm adjustment. It is pre-set at the factory. This adjustment is to compensate for wear only.**
2. All maximum mounting dimensions are shown with the vehicle empty.
3. All minimum mounting dimensions are shown with vehicle loaded.
4. Check bed height when parked on level surface.
5. Check "C" dimension for possible interference with spring hanger bracket. See Figure 2.

TRUCK OR TRAILER PREPARATION

Remove lights, safety bumper, dock bumpers, etc. that may interfere with installation.

INSTALLATION INSTRUCTIONS

Step 1 If necessary, notch rear of body as shown in Fig. 1. Check dimensions of "E" and "B".

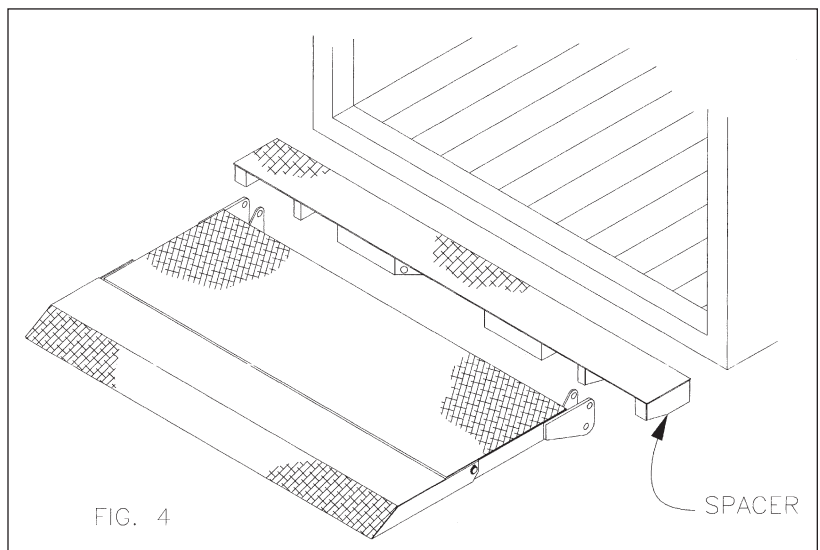
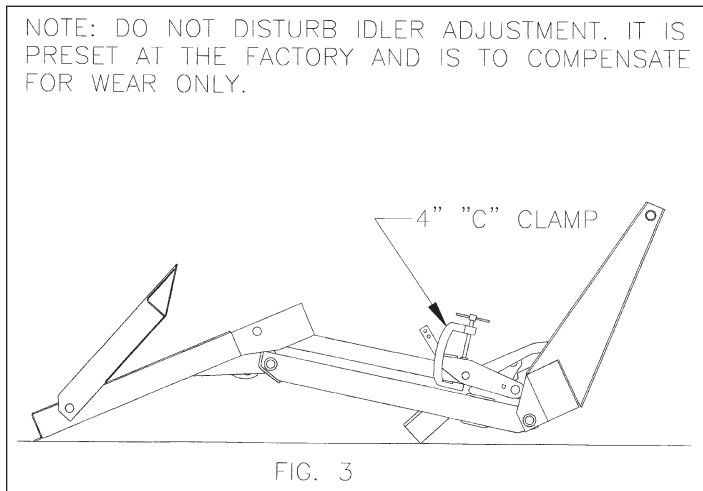


	LST 20	LST 25	LST 30			
H	A	B	C	D	E	F
42-46.99	20.00	3.00	39.00	9.00	6.50	11.50
47-50.99	22.00	4.50	37.50	10.00	8.12	11.50
51-54.00	24.00	5.50	35.00	11.00	9.75	11.50

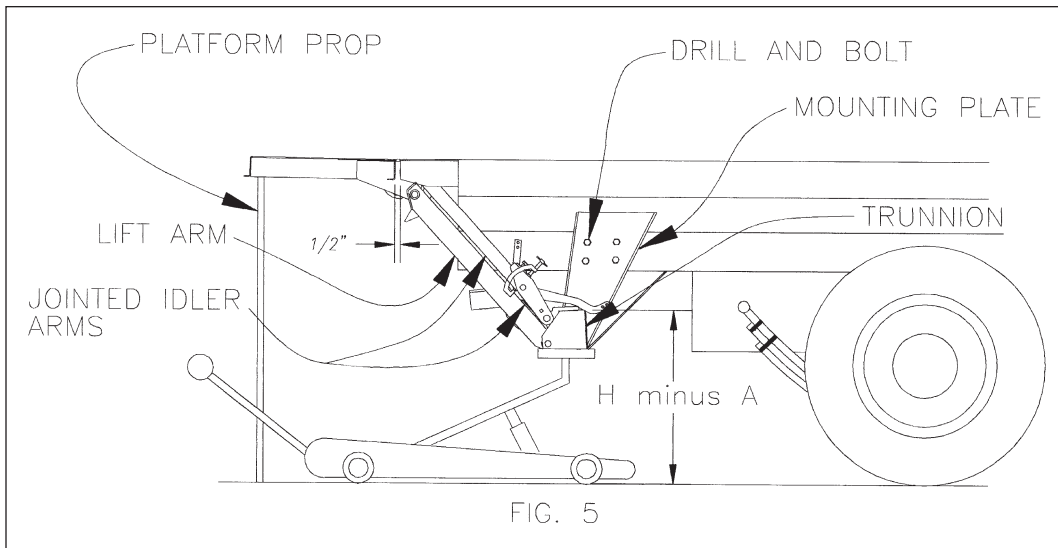
- A**-Distance from the top of bed to top of trunnion tube.
- B**-Slot in rear cross-member face for idler arm.
- C**-Dimension needed for spring hanger clearance.
- D**-Clearance needed for platform in closed position.
- E**-Rear face clearance needed for closed platform.
- F**-Distance from beginning of frame trim to bottom of mounting plate.
- H**-Distance from top of bed to ground.

Step 2 Center and level the spacer at the rear of the body and tack weld into position. See Figure 4.

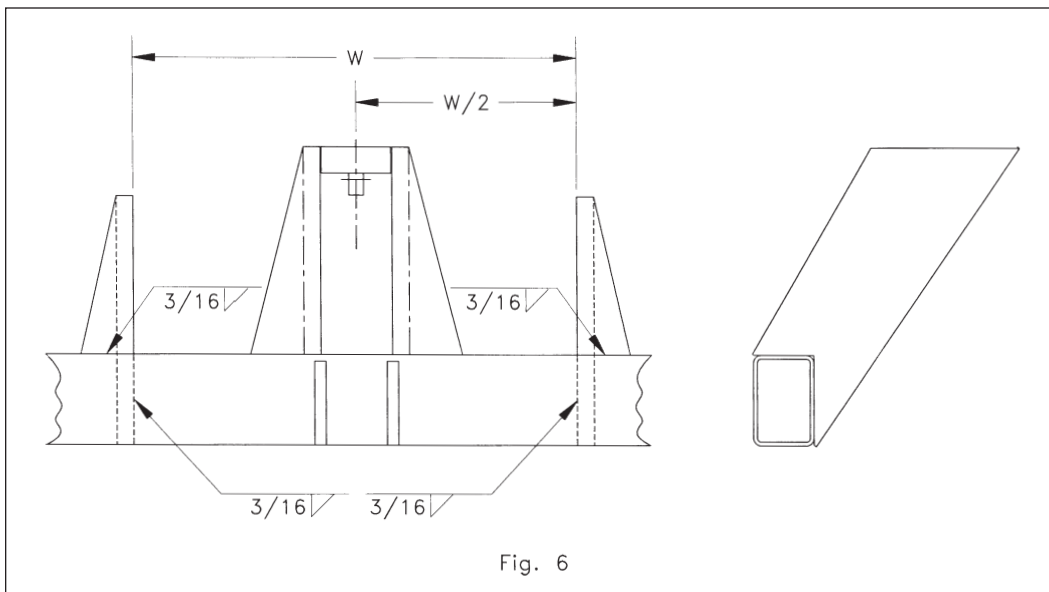
Step 3 Open platform as shown in Fig. 3, and use a forklift or crane and position the liftgate behind vehicle placing a .50" bar between the platform and the spacer. Jack trunnion into position. See chart above for proper "A" dimension.



Step 4 The jointed idler arms must be held together during the entire installation. Use a "C" clamp to hold them in place. See figures 3 & 5. It should be noted that the angle of the mounting plates varies as the location of the trunnion changes with respect to the bed.



Step 5 After the gate is in position, center the structure on the chassis frame. Clamp the mounting brackets to the frame and weld the brackets to the trunnion as shown in figure 6. Once the gate location is satisfactory, weld the brackets to the truck frame with 3/16" welds all around.



Step 6 Retract cylinder to minimum length. If cylinder and power unit are installed before gate is mounted, the lift arm end of cylinder ***MUST NOT BE ATTACHED!*** Cylinder length must match position of cylinder pivots after gate is mounted! Make certain cylinder is completely retracted. Loosen set screw on the side of the cylinder clevis. Screw clevis out until holes in clevis line up with mating holes in lift arm. Attach clevis to lift arm.

Step 7 *POWER UNIT INSTALLATION GUIDELINES!*****

1. The most common cause of hydraulic system malfunction or failure is contamination of the hydraulic fluid.
2. Our product suppliers have extensively cleaned and tested this product during all phases of manufacture and assembly.
3. The hoses, cylinders, and valves, must be as thoroughly cleaned to prevent contamination problems.
4. At all times of installation be certain all fittings, hoses and hose ends, and ports, are clean and clear of dirt. All fitting and hose openings should be closed or covered until time of installation.
5. Make sure the reservoir is at the correct level with the recommended oil.
6. Squirt clean oil into the pressure port of the pump before making the connection to the cylinder or valve.
7. Disconnect the pressure line as close to the cylinder as possible and place in a suitable clean container.
8. Alternately start and stop the pump until a steady stream of oil comes out of the pressure line.

Step 8 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 .75" of insulation from the end. Slide the heat shrink wrap over the cable and crimp the terminal to the cable. Apply heat to the shrink wrap to seal the cable to the terminal. 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 figures 9, 10, 13, and 14.

POWER TAKE-OFF

Step 9 Bolt valve and valve bracket to trunnion mounting bracket.

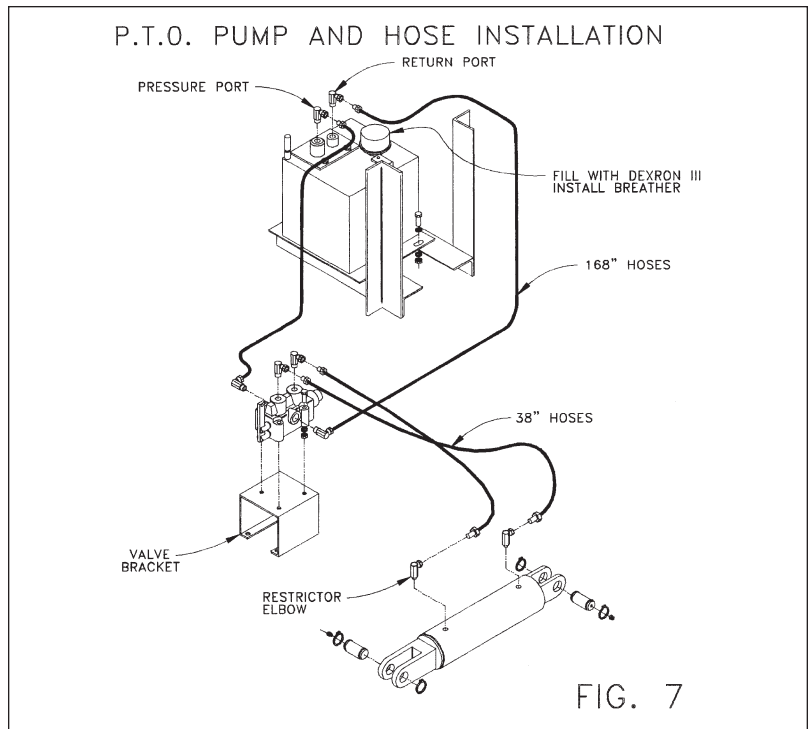
Step 10 Install P.T.O. drive line and pump (refer to separate installation sheet in P.T.O. pump carton.)

Step 11 Install fittings in the valve, cylinder, and the pump. Install hoses and hose clamps and fill reservoir with Dexron III. See figure 7.

Step 12 Gate can now be operated at valve. Operate lever until pump bypasses. Remove "C" clamps.

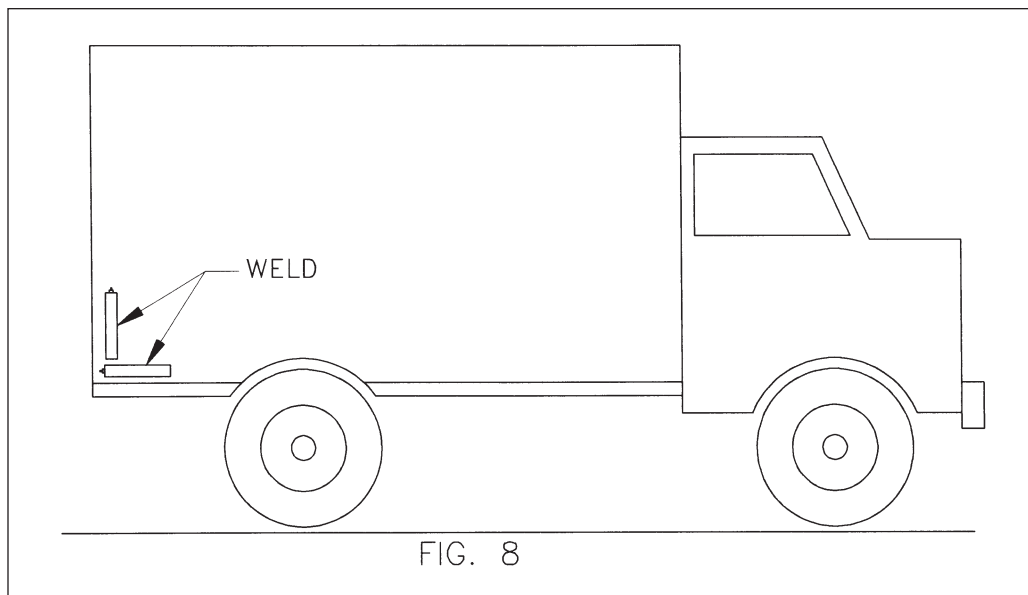
NOTE: The maximum relief pressure for the LST are as follows:

LST20-2650PSI LST30-2650PSI
LST25-2250PSI



ELECTRIC-HYDRAULIC POWER & GRAVITY DOWN

Step 13 Bolt the power unit to the saddle on the trunnion pipe using the 3/8" hardware provided. Mount toggle switch tube at rear of vehicle in a convenient location. See Fig. 8.



Step 14 Install fittings in the cylinder and the pump. Install hoses and hose clamps and fill reservoir with Dexron III. See figures 9 and 10. See Fig. 11 and 12 for wiring switches and be sure to add jumpers as shown. On gravity down units the flow control provided must be installed with arrow pointing back toward the power unit.

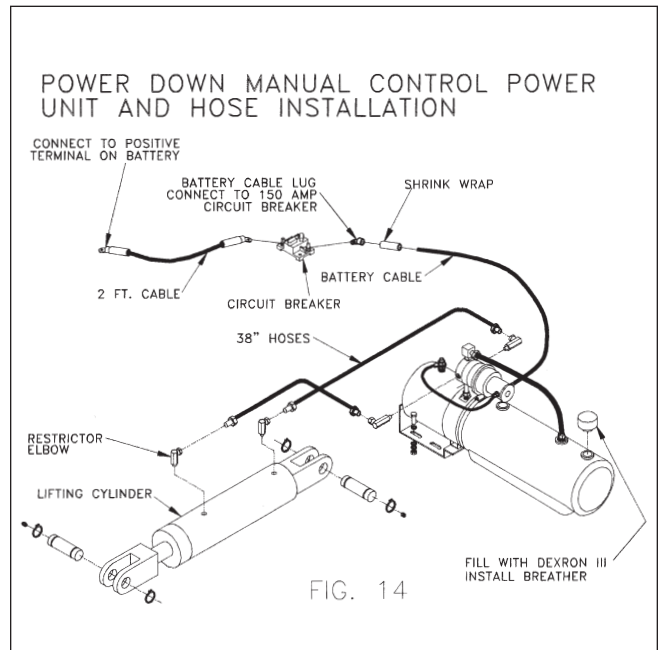
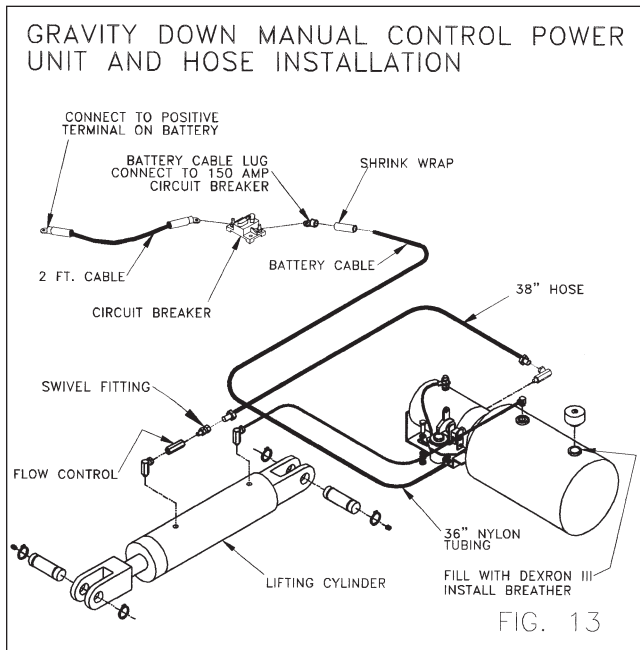
Step 15 Gate can now be operated at power unit. Operate pump until pump bypasses. Remove "C" clamps.

**MANUAL CONTROL
POWER & GRAVITY DOWN**

Step 16 Bolt the power unit to the saddle on the trunnion pipe using the 3/8" hardware provided.

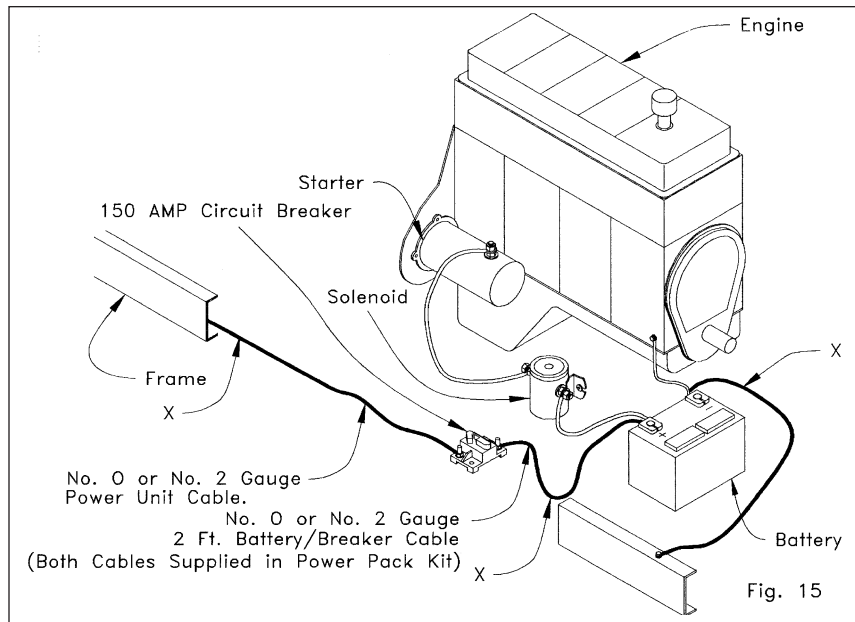
Step 17 Install fittings in the cylinder and the pump. Install hoses and hose clamps and fill reservoir with Dexron III. See figures 13 and 14. On gravity down units the flow control provided must be installed with the arrow pointing back toward the power unit.

Step 18 Gate can now be operated at power unit. Operate pump lever until pump bypasses. Remove "C" clamps.



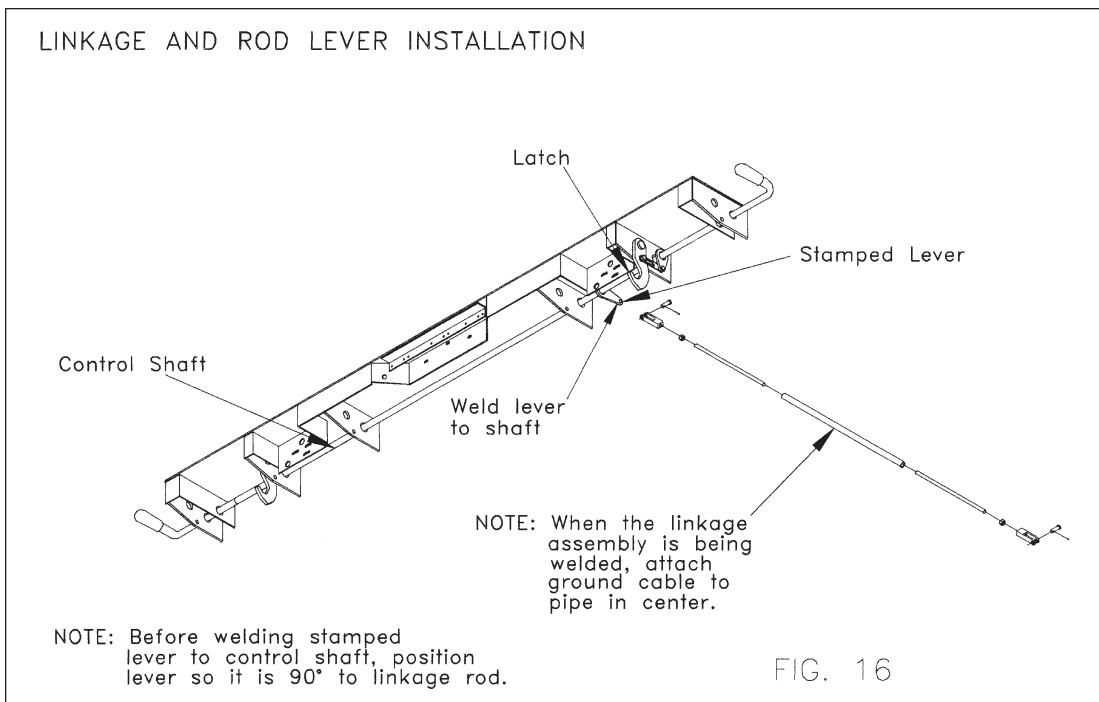
Step 19 Many late model trucks have battery connections as shown in Fig. 15. The ground cable from the battery is connected directly to the engine block with only a light braided ground strap from the block to the chassis (either the body or the frame.) Where this is the case, the factory-installed wiring usually does not provide an adequate ground circuit for battery-operated accessories, such as electric-hydraulic tailgates.

We recommend that the cables shown with an "X" in Fig. 15 be not less than No. 2 gauge wire, as supplied in the Power Pack Kit on all electric/hydraulic installations. Because of the high current draw (approximately 200 A) by hydraulic tailgates, we recommend that the alternator be a Heavy Duty type and the battery must have a 150 AMP minimum reserve capacity.



Step 20 Notch rear of body for linkage rod assembly. See Fig. 16.

Step 21 Attach linkage rod to pump or valve; assemble threaded rod and clevis and slide into linkage rod. Position linkage rod and lever on control shaft so that they are at a 90° angle. Position control handle so that the links that operate the latches are snug (bolt is at end of slot) and latches are in an engaged position. Weld lever to control handle and weld two parts of linkage rod together. Notch rear crossmember if necessary.
CAUTION! NEVER EXTEND THE LEVER ON THE CONTROL SHAFT! See Fig. 16.



Step 22 HEAVY DUTY CONTROL ROD INSTALLATIONS. NOTE: (Max.), (Min.), and (Nom.) dimensions are all dependant on mounting practice: which may vary slightly. Other dimensions are reference only. See figure 17.

PARTS:

- (1)-3/8 Dia. Clevis Pin.....(1)Req.8138078
- (2)-5/16 Dia. Clevis Pin.....(1)Req.8374592
- (3)-3/8 Dia. Clevis Pin.....(2)Req.8144243
- (4)-3/8-24 Jam Nut(2)Req.8124925
- (5)-3/8-24 Thrd. Rod 10"(2)Req.5002210
- (6)-3/8 Pipe x 19.25"(1)Req.2402000

NOTE: #1 Pin-At Control Shaft End. #2 Pin-At Power Unit or Valve End.

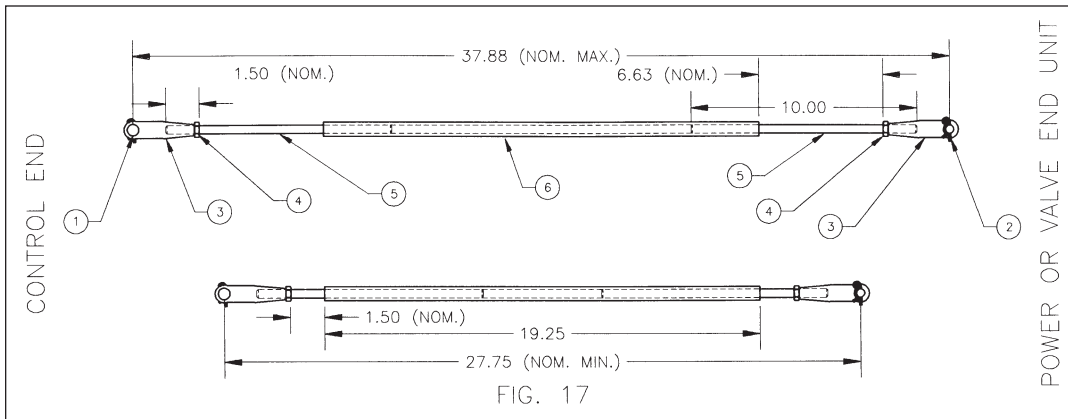
Step A: Measure distance from lever on control shaft to lever on power unit or valve.

Step B: Subtract 21.625 from this number and divide by two.

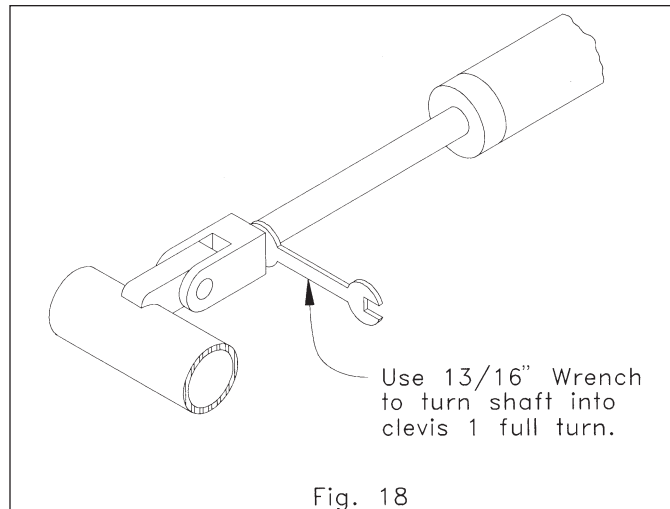
Step C: Let this amount of threaded rod protrude from each end of the pipe, and weld.

Step D: Place jam nuts and clevises on each end: adjust evenly to fit, and check to see that linkage operates satisfactorily in both directions.

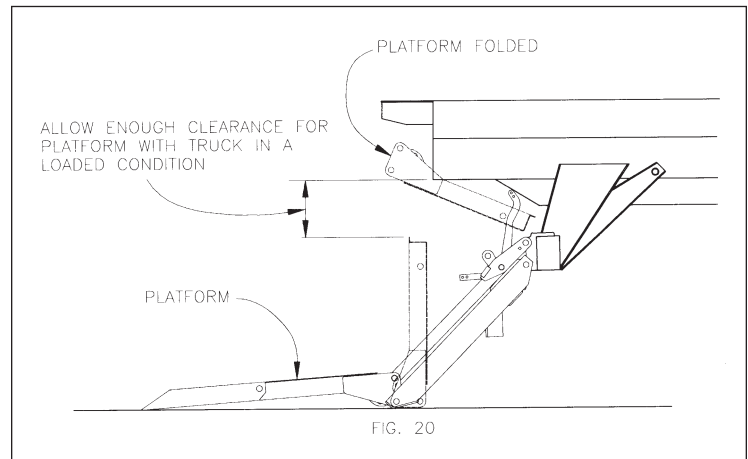
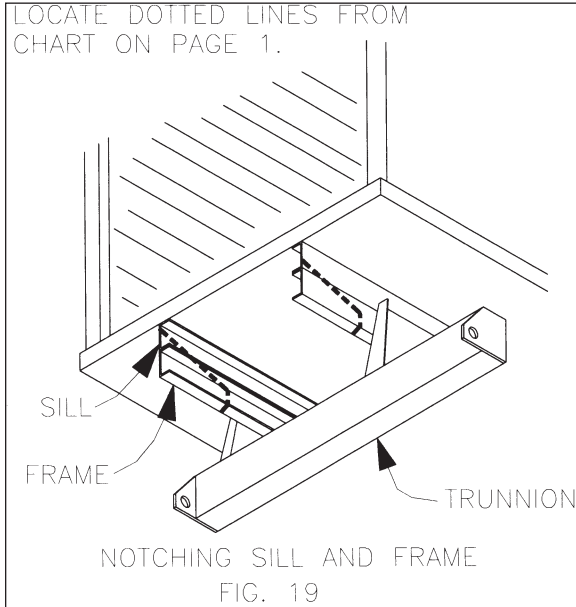
Step E: Lock jam nuts in place.



Step 23 Using a 13/16 wrench on the milled flats of the cylinder shaft, make the final adjustments by turning the shaft INTO the clevis for up, and OUT OF the clevis for down. After the platform and the spacer dock extension are level, turn the shaft into the clevis one full turn. See Fig. 18.



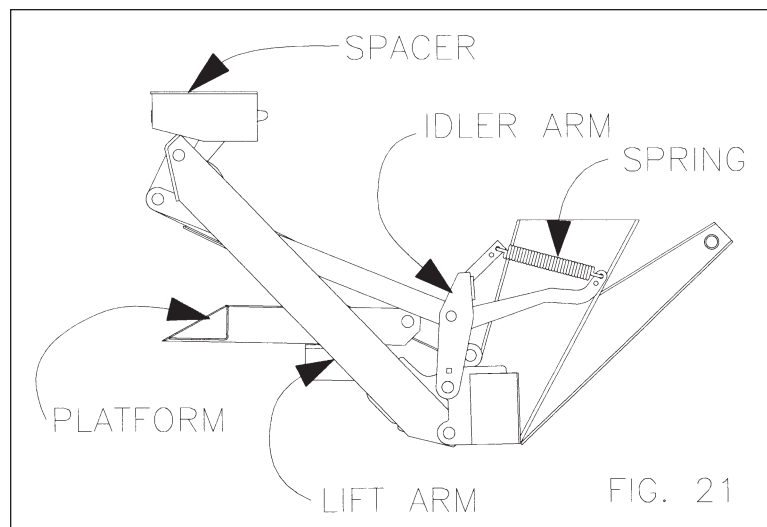
Step 24 Locate dotted lines on frame and sill, shown in Fig. 2. Remove any portion of frame or sill extending below these lines. See Fig. 19.



Step 25 Lift platform by rear edge to a vertical position and cautiously raise, allowing platform to fold under body. Sill and frame should clear platform by at least 1/2" when in the folded position. See Fig. 20. NOTE: When an extra low bed height, a platform of special design or a unique body structure is involved, additional trim operations may be necessary.

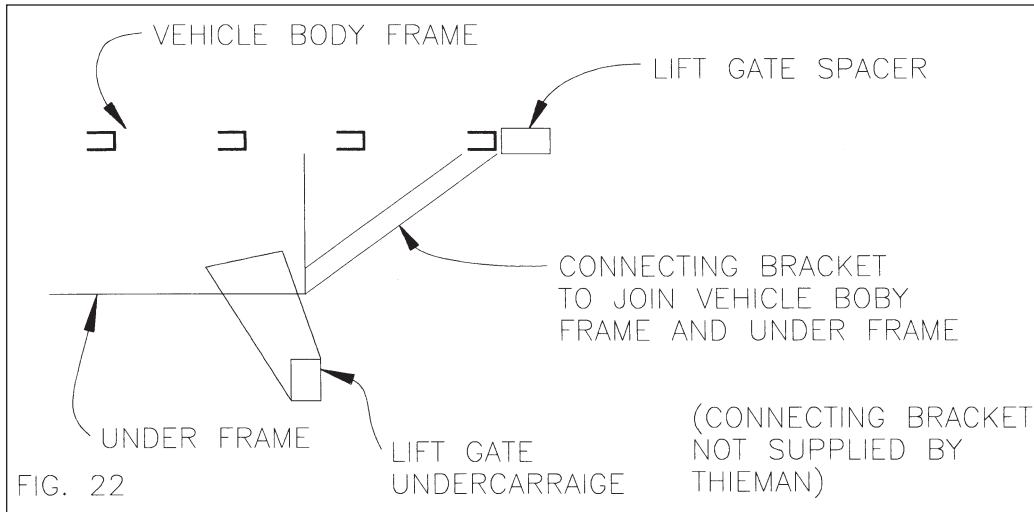
Step 26 Install grease fittings, grease or oil all moving parts.

Step 27 Place liftgate into stowed position. Attach springs as shown in Figure 21 for bed heights below 47.00". For all other bed heights, attach springs in the lower set of holes.



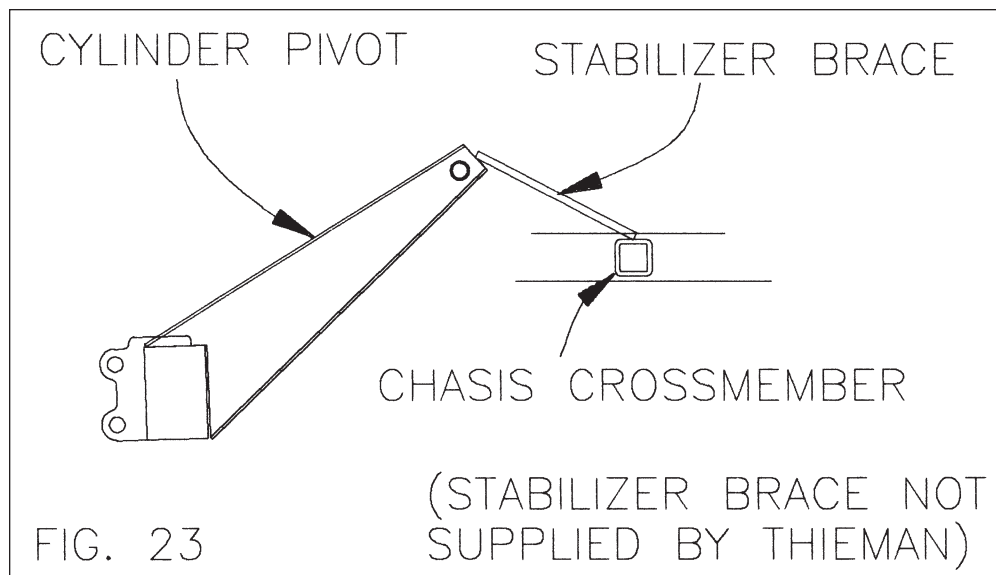
Step 28 On certain equipment such as lengthened van body, rebuilt trailer, altered vehicle, etc., where the under frame stops short of the end of the vehicle body frame, caution must be exercised when a gate is mounted.

While the mounting practice will not change, the end of the vehicle body frame and the underframe must be securely joined to discourage any independent movement when a load is being raised by the liftgate. See Fig. 22.



Step 29 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 Tailgates if the problem can not be eliminated.

Now observe the upper cylinder anchor in particular; under heavy loading this area will flex slightly, reflecting a feeling of the platform instability. This condition may be corrected by adding a stabilizer brace between the pivot and the first chassis cross member toward the front. See Fig. 23.



Step 30 After painting is complete, remove the pre-mask on decals already applied at the factory and apply the remaining decals in the appropriate locations as shown below. These decals **MUST** be applied and this liftgate **MUST** be painted or all warranties are **VOID!**

Item	Part Name	Part Number
1	Warning Decal-off center	4671050
2	PTO Decal	4650140
2	Fast Idle Decal	4650150
3	Danger Decal-no riding	4609
4	Operating Decal	4650030
4	Operating Decal-toggle	4603
5	Capacity Decal-1500#	4650070
5	Capacity Decal-2000#	4650100
5	Capacity Decal-2500#	4650110
5	Capacity Decal-3000#	4650120
6	Warning Decal-pinch point	4604
7	Warning Decal	4650530
8	Caution Decal-working area	4650770
9	Handle Decal	4605
10	Reflector(3)	5705
11	Wiring Decal - Gravity Down	4612
11	Wiring Decal - Power Down	4613
12	Warning Decal - High Pressure	4620

