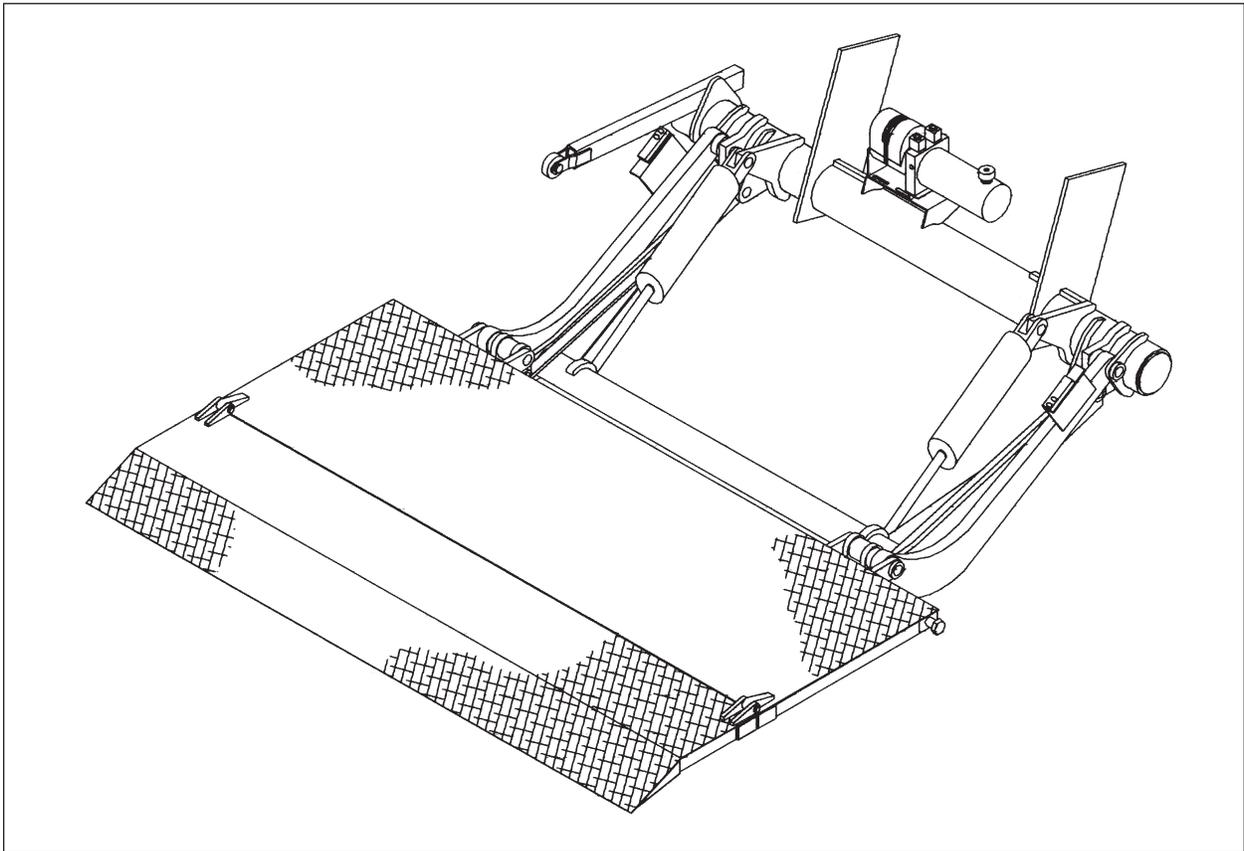


STOWAWAY

Tailgates By THIEMAN

Model ST-40

INSTALLATION INSTRUCTIONS



IMPORTANT! KEEP IN VEHICLE!

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



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ST-40

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!

NOTES:

1. The tip of the platform will touch the ground on standard ST series liftgates, but not on gates designed for "level ride." "Ramp ride is standard and "level ride" is built on special order only.
2. All maximum mounting dimensions are shown with the vehicle empty; All minimum mounting dimensions are shown with the vehicle loaded.
3. Check bed height when parked on a level surface.
4. Check "B" dimension for possible interference with spring hanger bracket. See figure 1.
5. Remove lights, safety bumper, dock bumpers, etc. that may interfere with installation.

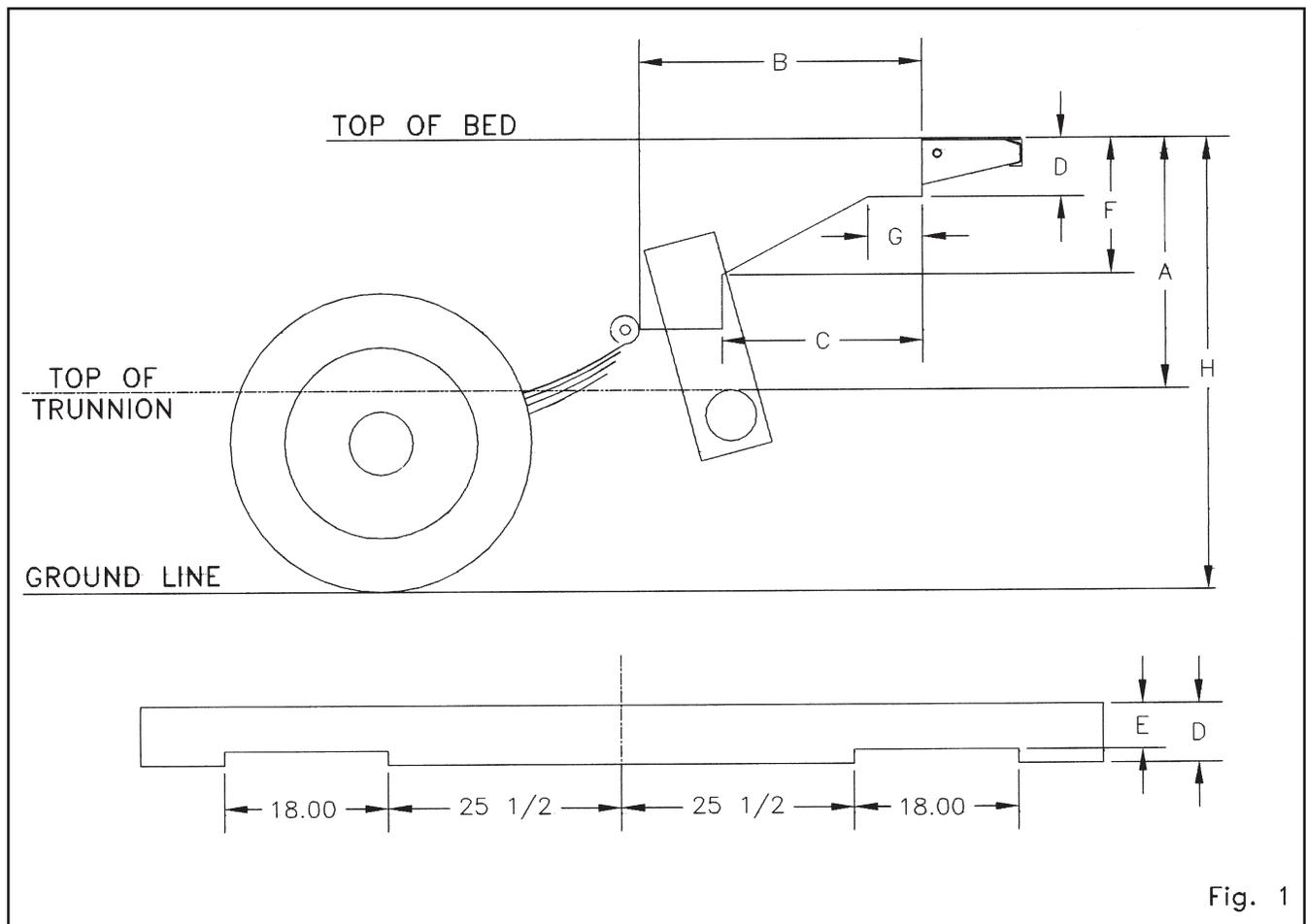


Fig. 1

INSTALLATION INSTRUCTIONS

Step 1 Remove banding from gate undercarriage. **DO NOT UNFOLD GATE.** Inspect for obvious shipping damage or missing parts.

Step 2 Remove wire from curb side spring bracket. See figure 2.

Step 3 Unfold gate on floor.

Step 4 If necessary, notch rear of body as shown in figure 1. Check dimensions of "E" and "B". See chart below.

MOUNTING DIMENSIONS-ST40

A	B	C	D	E	F	G	H
25.50	33.00	22.00	5.25	4.00	14.00	6.00	48.00-53.99
27.00	31.00	22.00	5.25	4.50	15.00	6.00	54.00-56.00

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

B-Distance needed for spring hanger clearance.

C-Distance needed for horizontal frame trim for stowing.

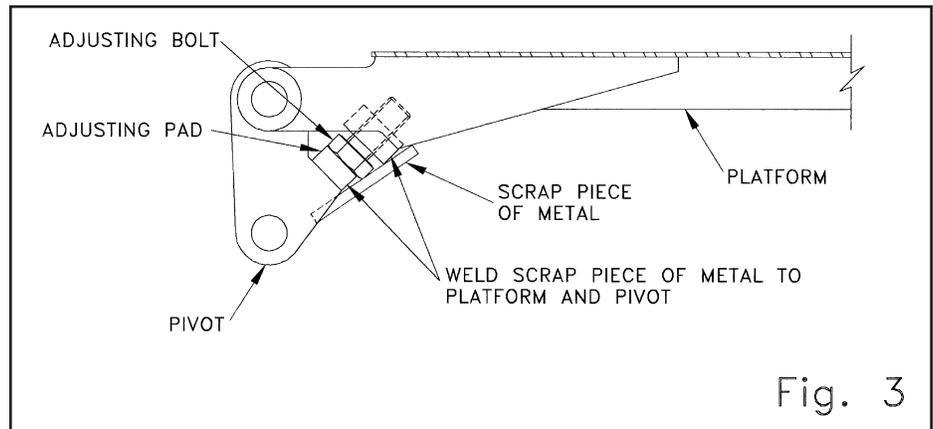
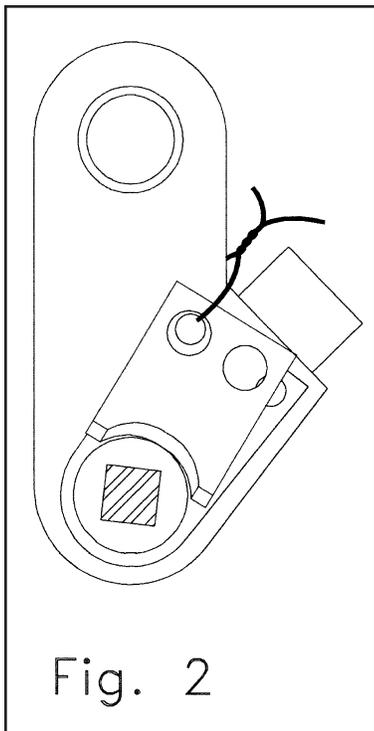
D-Frame trim for stowing gate.

E-Minimum rear face clearance for platform stowing.

F-Vertical frame trim for stowing gate.

G-Frame trim for stowing gate.

H-Distance from top of bed to ground.



- Step 5** Center the liftgate spacer which contains the stow latches on the rear of the truck with the top of the spacer deck plate even with the truck bed. Make sure that the spacer is level across the rear of the truck. If a bow exists in the spacer weld the highest point of the spacer even with the truck bed and then raise and weld the rest of the spacer to this same level. **THIS MUST BE DONE OR THE STOW LATCHES WON'T WORK PROPERLY AND THE PLATFORM WON'T MEET THE SPACER CORRECTLY.**
- Step 6** Raise the undercarriage in the center of the pivots points so the adjusting bolt and pad make firm contact. See figure 3.
- Step 7** Weld a scrap piece of metal between the platform and pivot adjusting pad on both sides to ensure these two surfaces make contact and remain so during the entire mounting procedure. **THE ADJUSTMENT BOLT AND PAD MUST REMAIN IN CONTACT THROUGHOUT THE INSTALLATION OR THE GATE WILL NOT WORK PROPERLY.** After the installation is complete the scrap pieces of metal will be removed so weld accordingly. If one side touches and the other does not, readjust the bolt that does not touch so it also makes contact.
- Step 8** Unpack hydraulic parts and examine them for damage. The majority of hydraulic systems are either 12VDC or PTO powered. The kit will contain appropriate parts for the power unit ordered. If a special power source or controls were ordered; special instructions will be provided with the parts.
- Step 9** Remove the cylinders from the box and turn the clevis out four turns. Attach the cylinder to the trunnion pivot only with the ports pointing downward; install the pins and retaining rings.

*****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. All fittings 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 the end in a suitable clean container.
8. Alternately start and stop the pump until a steady stream of oil comes out of the pressure line.

12VDC PUMP INSTALLATION INSTRUCTIONS

- Step 10** Bolt the power unit to the saddle on the trunnion pipe using the 3/8" hardware provided. The eight internal tooth lockwashers are to be located so they are in contact with the pump bracket and the trunnion pump mounting bracket. Mount the pushbutton or toggle control in a suitable location and use clamps provided to support control cord every 18 inches. See figure 5 for wiring diagrams and be sure to add jumpers as shown.
- Step 11** Install fittings in the valve, cylinders, and the pump. The arrow on the flow control valve must point towards the power unit. Install breather cap and connect hoses and hose clamps and fill reservoir with Dexron III. Attach the ground cable to the pump, the other end to the trunnion mounting bracket using the .38 hardware and internal tooth lockwashers provided. The flow control provided must be installed with the arrow pointing back toward the power unit. See figure 4.
- Step 12** Clamp installation fixture to the body extension and the truck bed. An "I" beam or angle iron may also be used.
- Step 13** Using a forklift or a crane, raise and center the platform and undercarriage up to the liftgate spacer as shown in figure 6. Temporarily weld a 1/2" thick bar between the platform and liftgate spacer on each side. These bars are used to align the stow bolts on the platform with the latches in the spacer and to provide room for adjusting the platform angle. Note that these bars must be removed after the installation is complete so weld accordingly. Cut a small post or similar item to the correct length and place it under the platform so that the platform and payload area are at the same height.

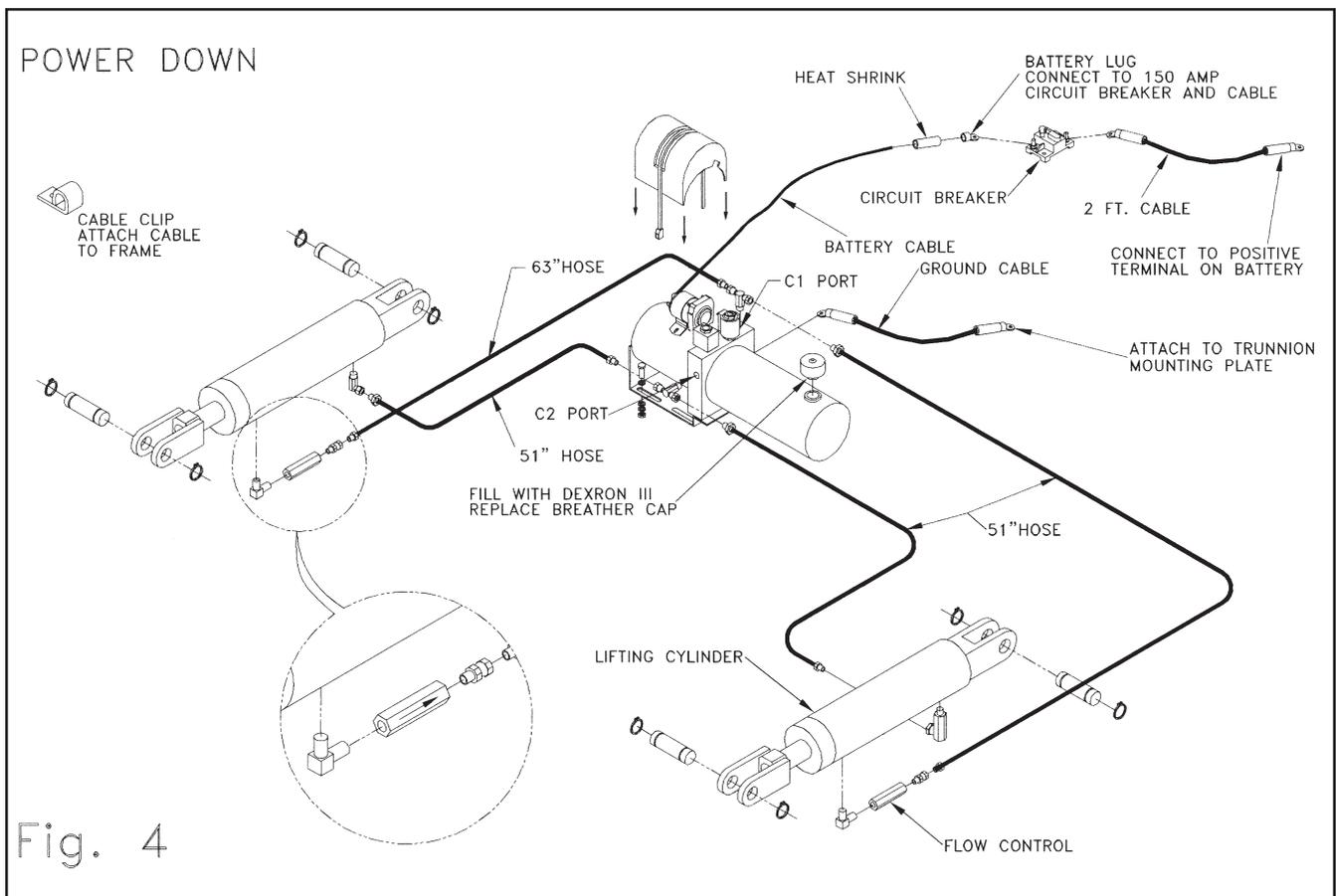
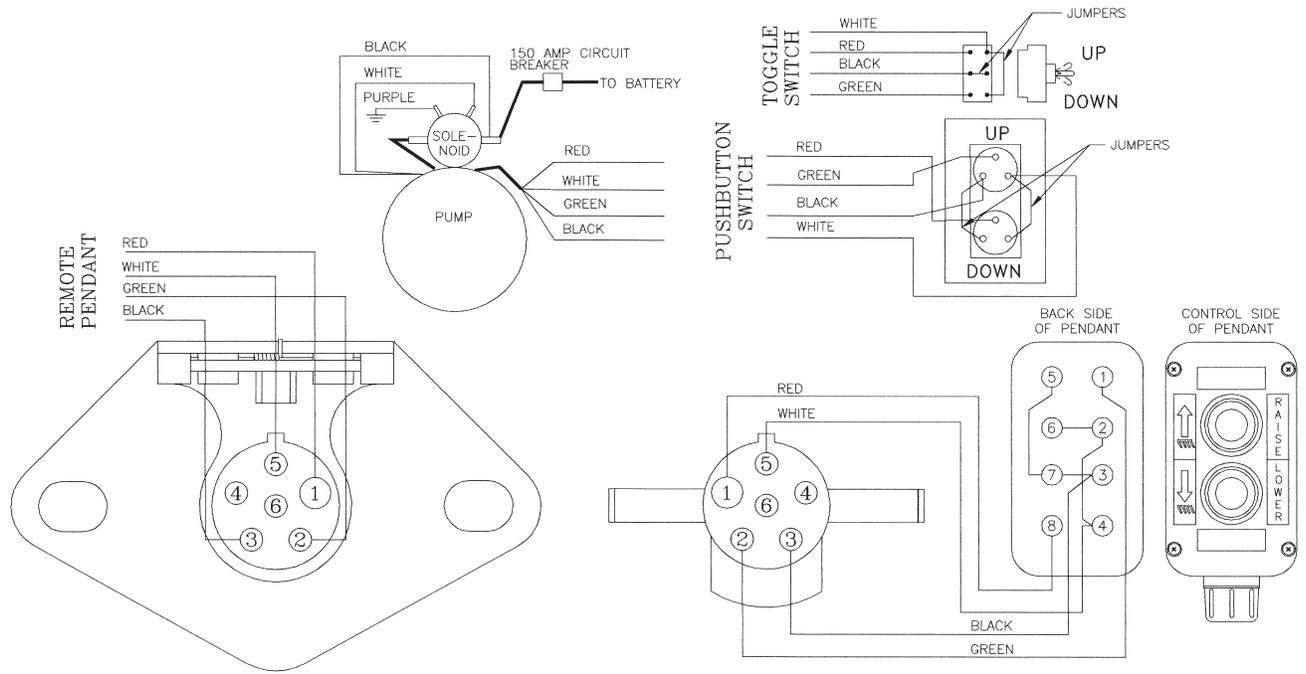


Fig. 4

FIG. 5

POWER DOWN ELECTRIC CONTROL
(TOGGLE, PUSHBUTTON, OR REMOTE PENDANT)



Step 14 Place barrels or other protective equipment under the platform so that the gate will not accidentally fall and injure someone.

Step 15 By means of a floor jack, raise the trunnion to the height indicated on the chart under "A". See figure 6.

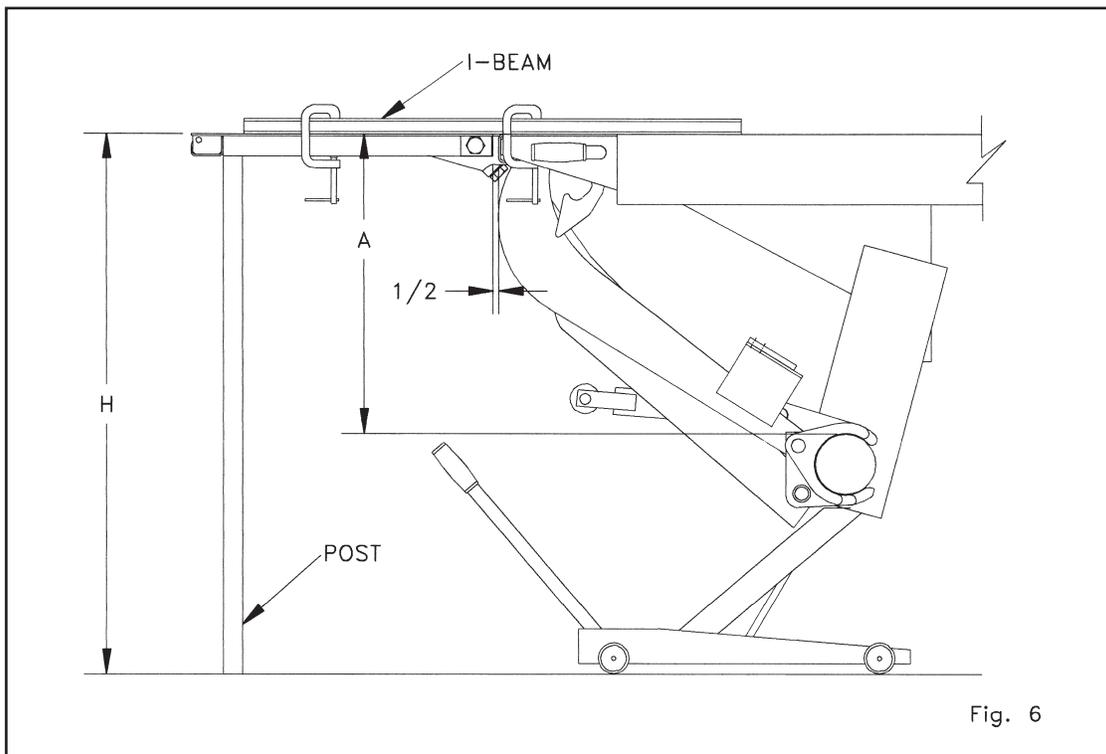
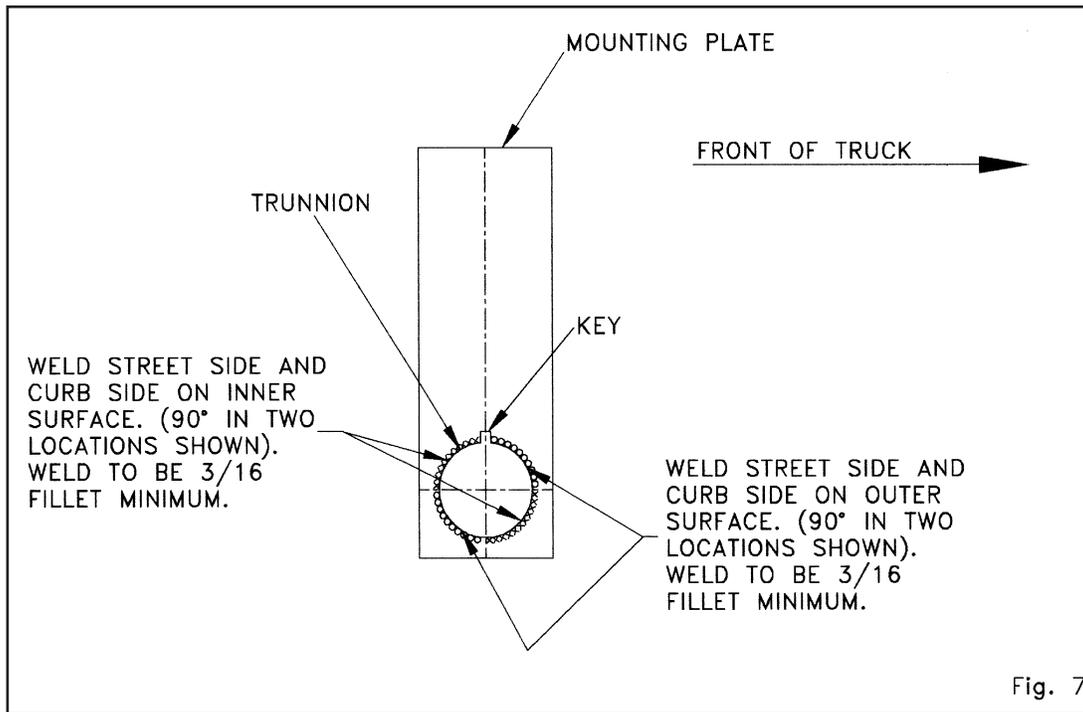
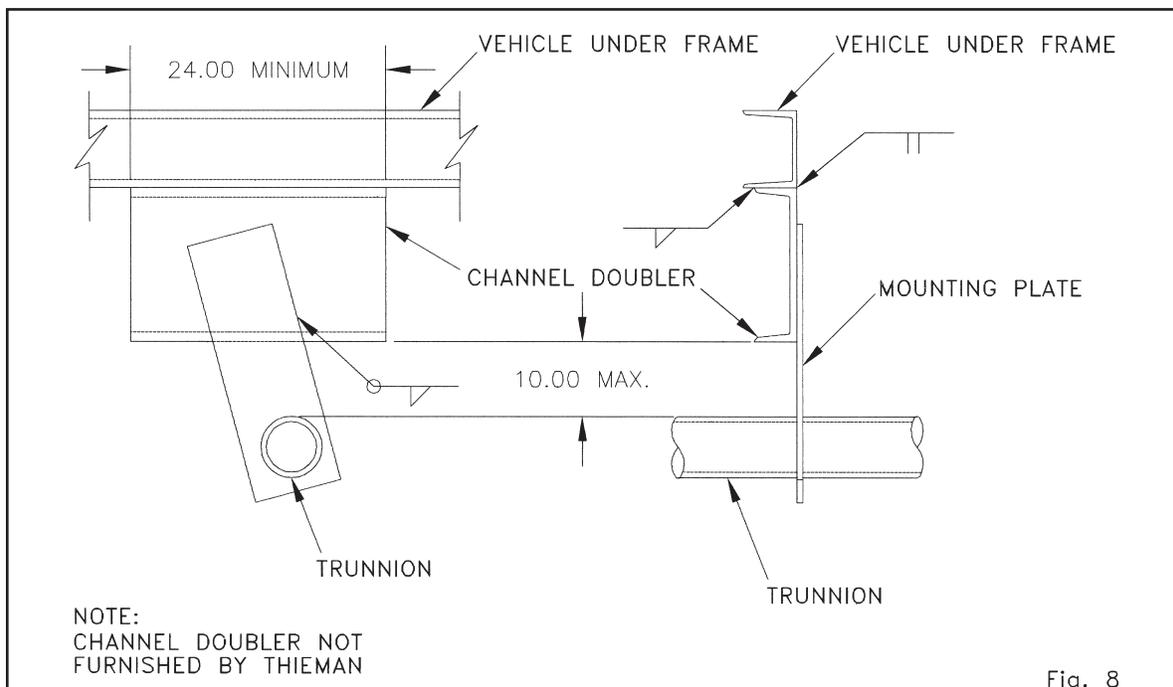


Fig. 6

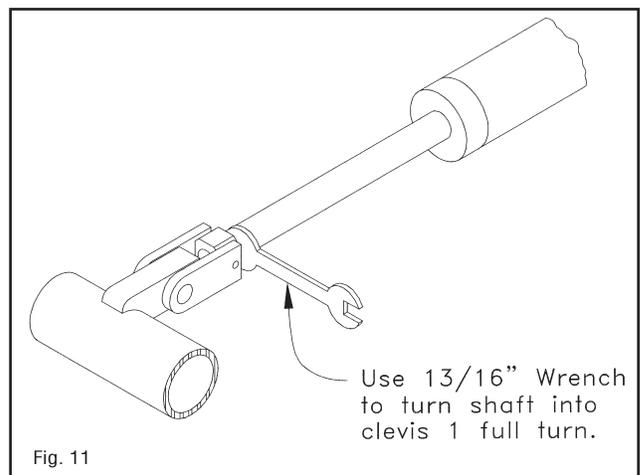
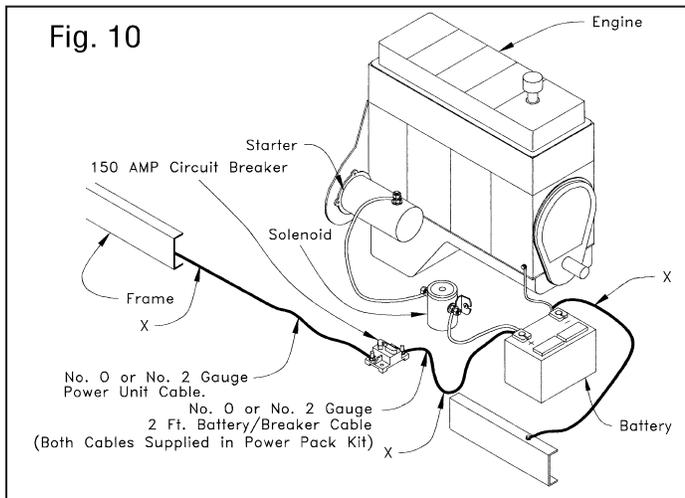
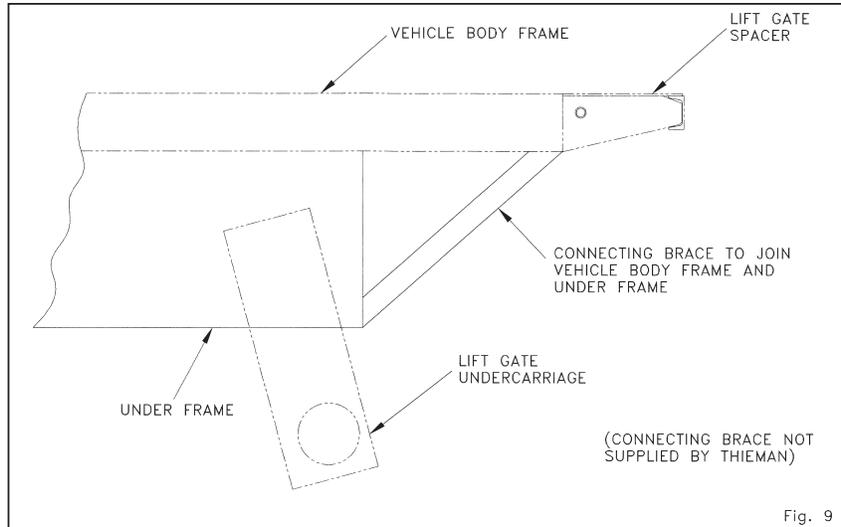


Step 16 Recheck all dimensions and if correct attach the mounting plates to the chassis by welding completely around the mounting plates using a 3/16" minimum fillet weld. See figure 8. NOTE: On installations where narrow under-frame members are used, the liftgate mounting plates will reach these frame members for mounting purposes; however, the space between the frame members and trunnion now becomes quite large. This lengthy unsupported area may contribute to an undesirable 'springiness' under continuous heavy loading. Many installers when faced with this problem extend the under-frame support on the mounting plate closer to the trunnion by adding a channel section under the existing frame member as shown in figure 8. Next, weld mounting plates to the trunnion using the method shown in figure 7.

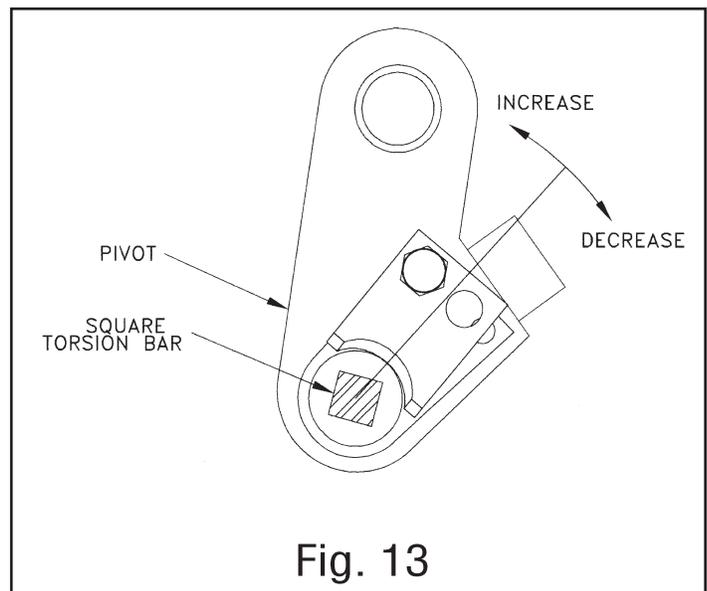
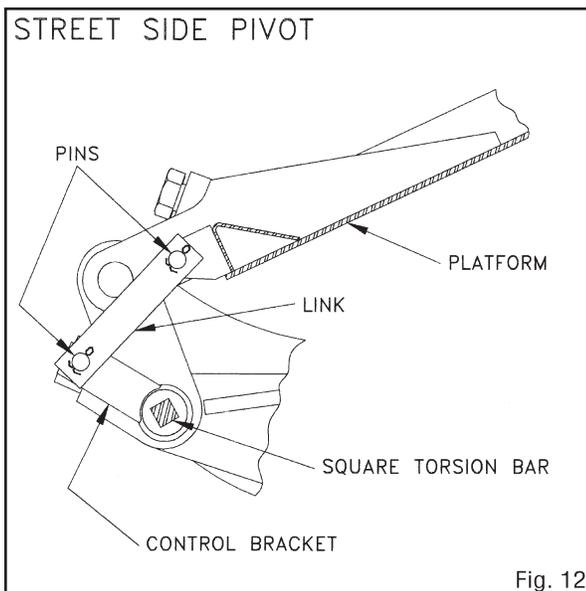


Step 17 On certain equipment such as a lengthened van body, rebuilt trailer, altered vehicle, etc., where the frame stops short of the end of the vehicle body frame extra support must be added to avoid any independent deflection. See figure 9 for bracing suggestions.

Step 18 Many late model trucks have battery connections as shown in figure 10. 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 usually does not provide an adequate ground circuit for operating battery powered liftgates. We recommend that the cables labeled with and "X" be not less than #2 gauge cable as supplied in the installation kit. 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.

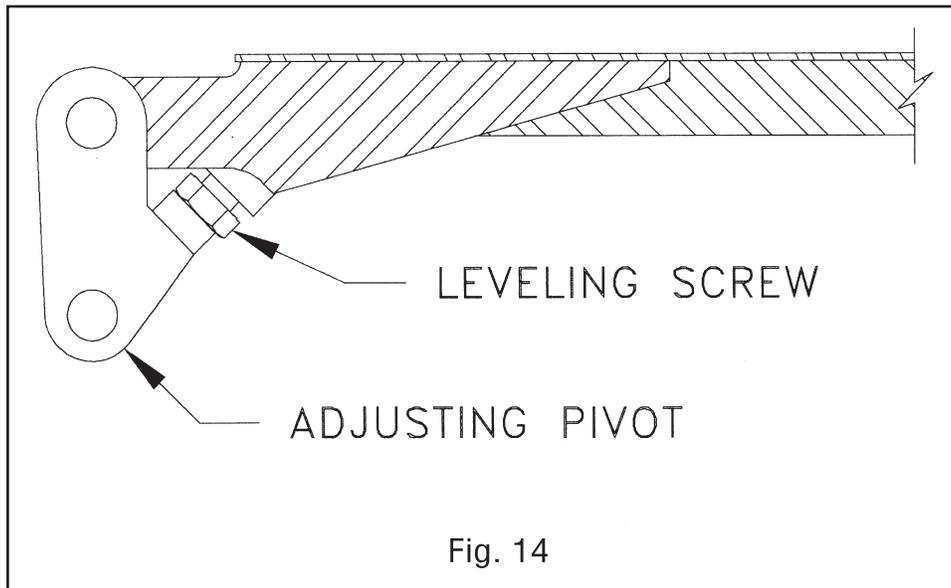


- Step 19** Fasten the 150 AMP circuit breaker provided within 2 ft. of the truck battery. Route the battery cable from the liftgate toward the 150 AMP breaker. **AVOID SHARP CORNERS AND HIGH HEAT AREAS.** Use cable clips provided to secure the cable to the truck frame every 2 feet. Cut the cable to 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 the 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 battery terminal to the frame. Wire the breaker to the truck battery using 2 ft. cable provided. See figure 10.
- Step 20** Hold the cylinder clevis up to the lug on the lift arm and with a 13/16" wrench turn the cylinder shaft until the holes line up. Install the pins and retaining rings. See figure 11.
- Step 21** Remove the clamps and "I" beams. Then the scrap pieces of metal which were added in step 7 can be removed from the platform and the adjusting pivots.

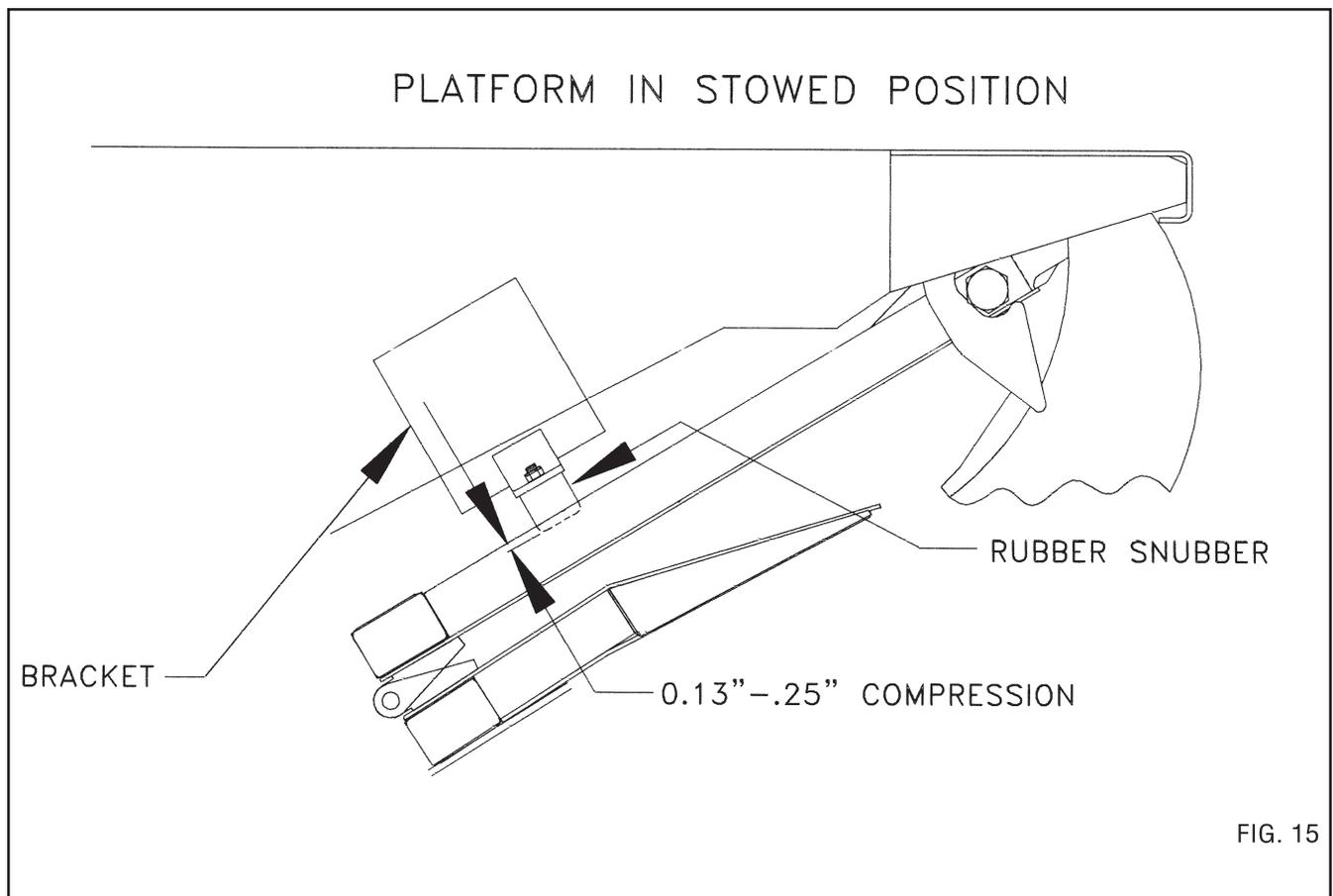


- Step 22** Check platform to determine if it is level with the truck bed. Adjust cylinder with a 13/16 wrench to reach the necessary height. After platform has been leveled with the bed, turn cylinder shaft into clevis one turn and tighten the set screw.
- Step 23** Remove the floor jack, post, and barrel from under the liftgate. Also remove the 1/2" thick bars which were added in step 16. Adjust each leveling screw so the platform has a slight angle approximately one inch higher at the ramp end when at bed.
- Step 24** Lower the platform from the stowed position until the arms are horizontal as shown in figure 12.
- Step 25** Bolt curb side spring bracket in place. See figure 13. If holes do not line up, use a crescent wrench to twist torsion bar. Lowering the liftarms below the horizontal level will help in adjusting to the higher torsion setting.
- Step 26** Lower platform and manually lift it back to a vertical position, noting how heavy it is. To increase or decrease the folding assist, rotate the curb side spring bracket as shown in figure 13.
- Step 27** Carefully fold platform for stowing purposes and slowly raise gate into a stowed position and check all areas for adequate clearances. Trim vehicle frame where interference is still evident. Check for interference of all moving parts. If interference occurs review the installation instructions and contact Thieman if the problem can not be eliminated.

Step 28 Lower the platform to the ground with a 200# weight on the platform. If the ramp tip of the platform strikes the floor before the bottom of the adjusting pivot, adjust the leveling screw out so the ramp tip and the pivot strike the ground at the same time. See figure 14.



Step 29 The ST40 series liftgate comes with two snubber kits as standard equipment to prevent excessive wear during transit. See figure 15 for mounting instructions.



Step 30 After painting is complete, remove the pre-mask on the decals already applied by Thieman 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	4671050
2	PTO Decal	4650140
2	Fast Idle Decal	4650150
3	Danger Decal	4609
4	Operating Decal	4606
5	Capacity Decal:4000#	4650130
6	Warning Decal	4604
7	Warning Decal	4650530
8	Caution Decal	4650770
9	Handle Decal	4605
10	Warning Decal-High Pressure	4620
11	Wiring Decal	4614

Step 31 Any lights that were removed or obstructed must be replaced or relocated in such a manner that the completed vehicle must be in compliance with FMVSS 108 (49 CFR 571.108).

Step 32 It may be necessary to add Rear End Protection on this installation. Check your local and state laws for requirements for FMCSR 49 CFR 393.86.

