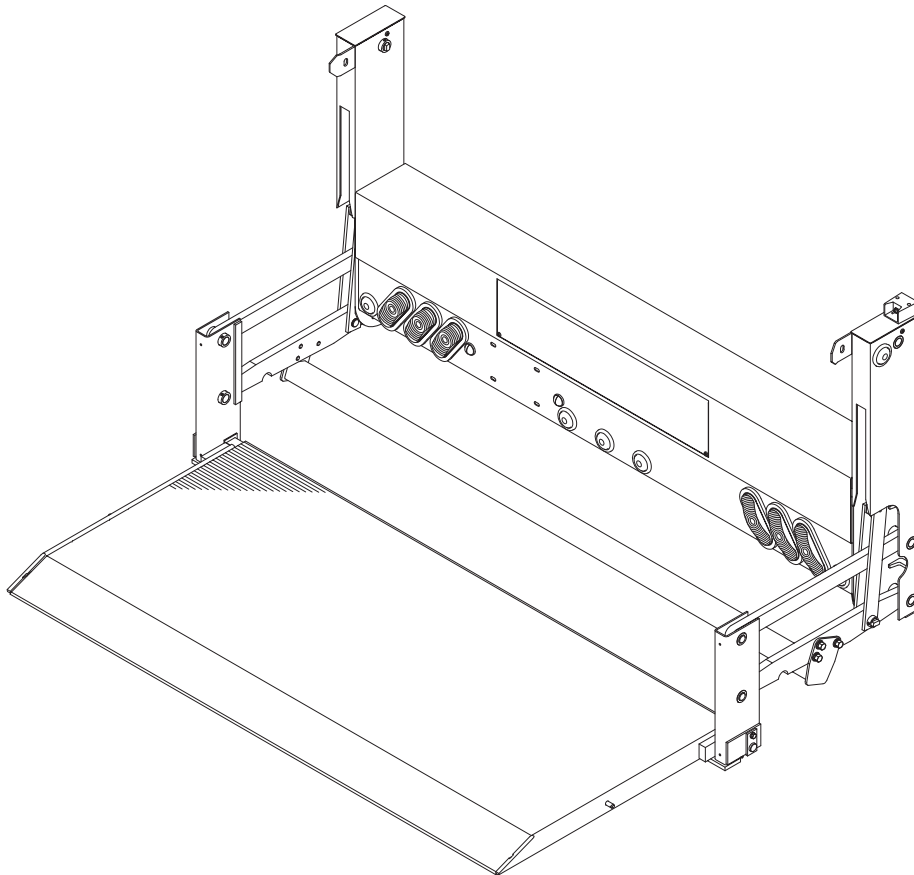


TOPLIFTER

Tailgates By THIEMAN

TT-16/20RM INSTALLATION INSTRUCTIONS

SHOWN WITH OPTIONAL ALUMINUM PLATFORM AND LIGHT KIT



IMPORTANT! KEEP IN VEHICLE!

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

NTEA
THE ASSOCIATION FOR THE WORK TRUCK INDUSTRY
MEMBER

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ATTENTION INSTALLERS:

Changes are made periodically in 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 TT16/20 series liftgate is designed for use on service bodies and flatbeds. The TT16/20 has a bed height range of 30 to 50 inches.

- All maximum mounting dimensions are shown with the vehicle empty;
All minimum mounting dimensions are shown with vehicle loaded.
- Check bed height when parked on level surface.

TRUCK OR TRAILER PREPARATION

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

INSTALLATION INSTRUCTIONS

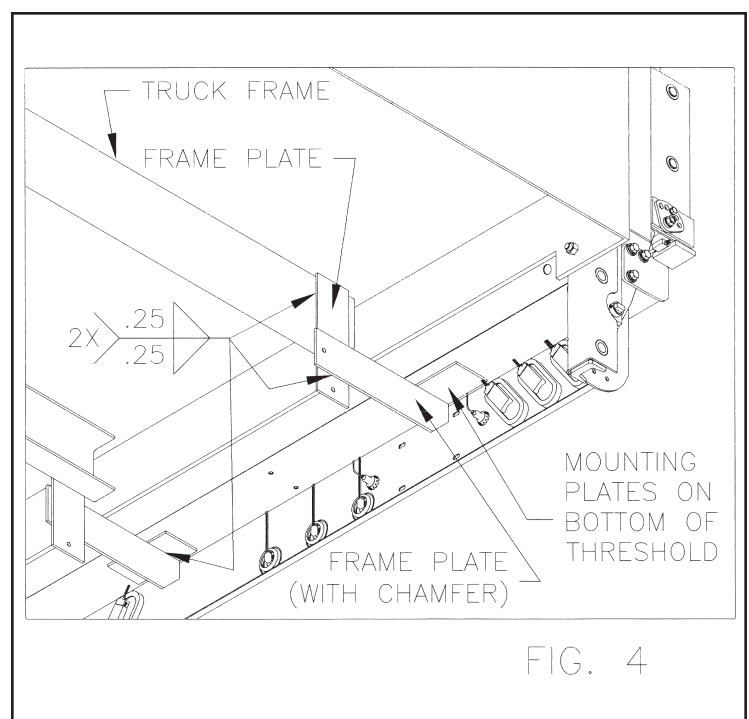
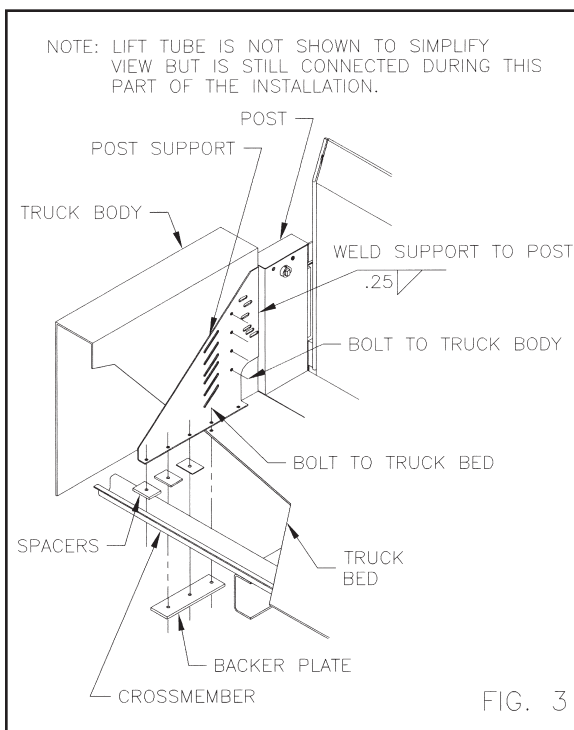
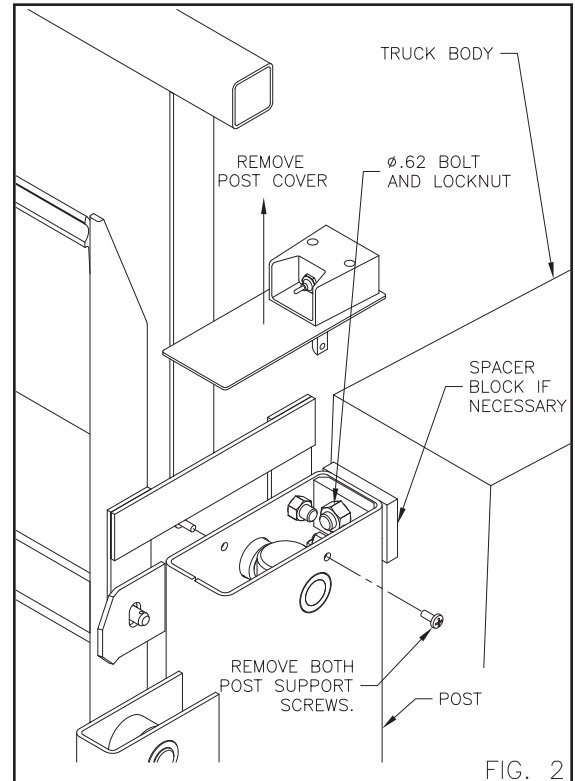
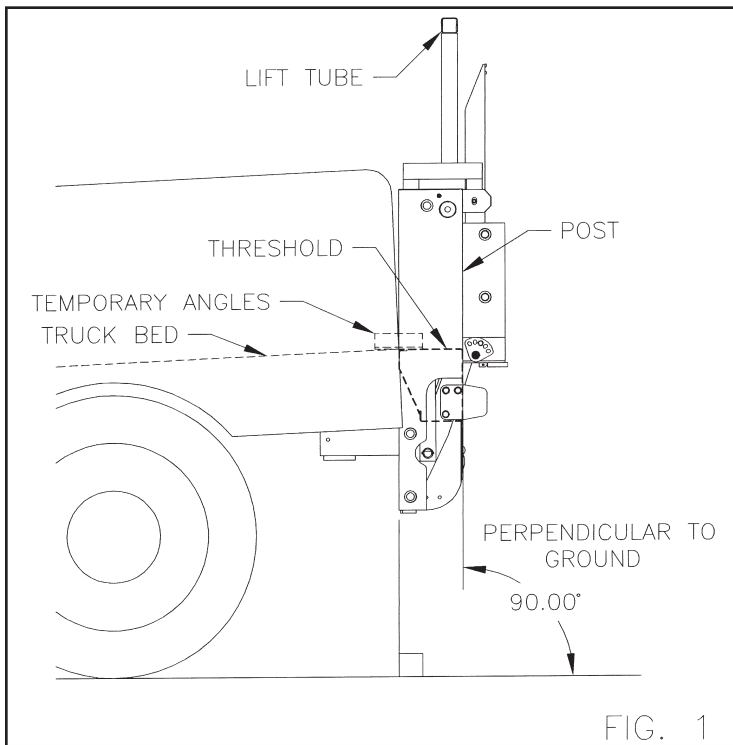
Step 1 Uncoil the battery cable found under the threshold.

Step 2 Using an overhead crane or lift truck, raise the liftgate with the lift tube provided until the liftgate threshold is level with the truck bed and the liftgate is centered on the back of the truck bed. Temporary angles may be tack welded on to the threshold to help locate and maintain this location. See figure 1.

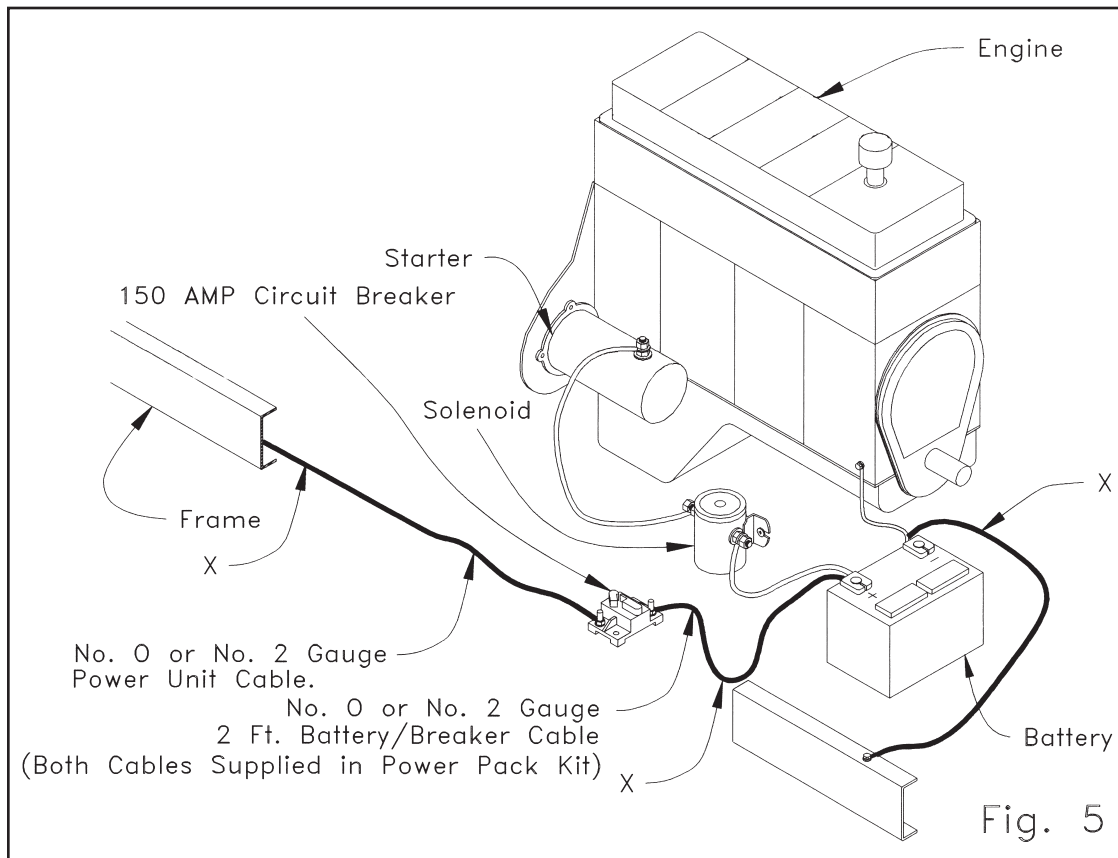
Step 3 With the liftgate centered, locate the posts in their vertical positions - perpendicular to the ground to insure the platform will level ride parallel to the ground. **DO NOT** square the posts with the truck bed because the truck bed may not be parallel to the ground. Make sure the threshold is tight against the rear of the truck bed while squaring the posts to the ground. See figure 1.

Step 4 Remove the two post cover screws and the post cover from the top of each post and use two .62" dia. Grade 5 bolts and locknuts and the holes provided in the back of the post to attach the top of each post to the rear of the truck body. Use spacers between the posts and the truck body if necessary to keep the posts perpendicular to the ground. Bolts must be put in from front to rear through the truck body and then through the posts. Bolts must be long enough to thread completely through the locknuts but short enough that they don't short out the toggle switch. See figure 2. If this type of installation does not work, the triangular post supports and backer plates provided can be used. Weld the post supports to the posts and bolt through the post supports, through the truck floor and finally through the backer plates. If necessary, spacers may be used between the post supports and the truck bed to keep the post perpendicular to the ground. Backer plates may be trimmed where bolts intersect crossmembers, but should be used with all other bolts which intersect the truck bed only. See figure 3.

Step 5 Weld the frame braces to the mounting plates on the bottom of the liftgate threshold and to the truck frame as shown in figure 4.



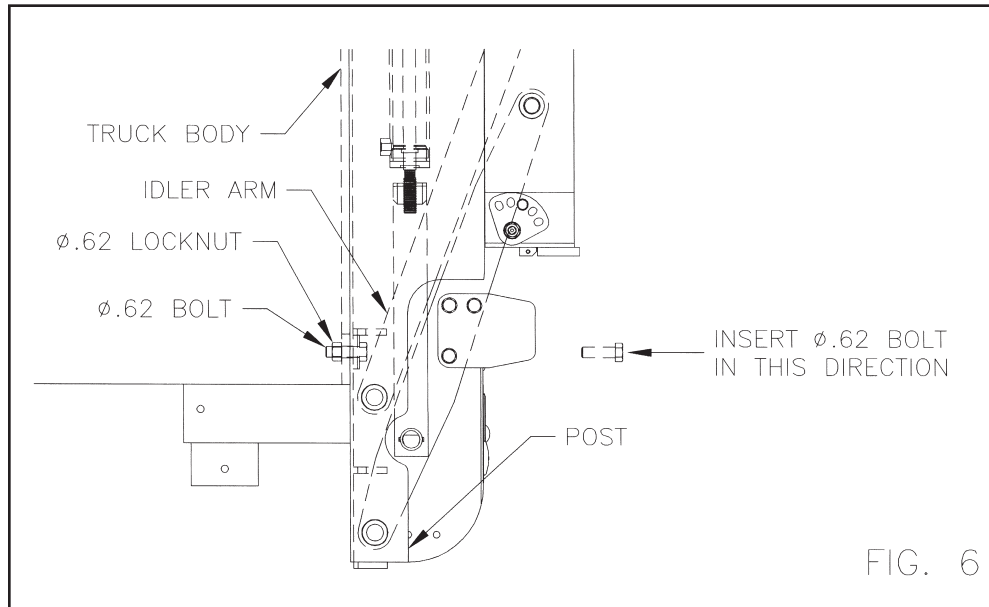
Step 6 Fasten the 150 AMP circuit breaker provided within 2 ft. of the truck battery. Route the battery cable from the liftgate toward the 150 AMP circuit breaker (Note: secure an extra 2 ft. of battery cable near the liftgate. This slack will allow the power unit to be removed from the gate easily in the future if servicing or replacement is required). AVOID SHARP CORNERS AND HIGH HEAT AREAS. Use cable clips provided to secure the cable to the truck frame every 2 ft. 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 battery terminal to the frame. Wire the breaker to the truck battery using the 2 ft. cable provided. See figure 5.



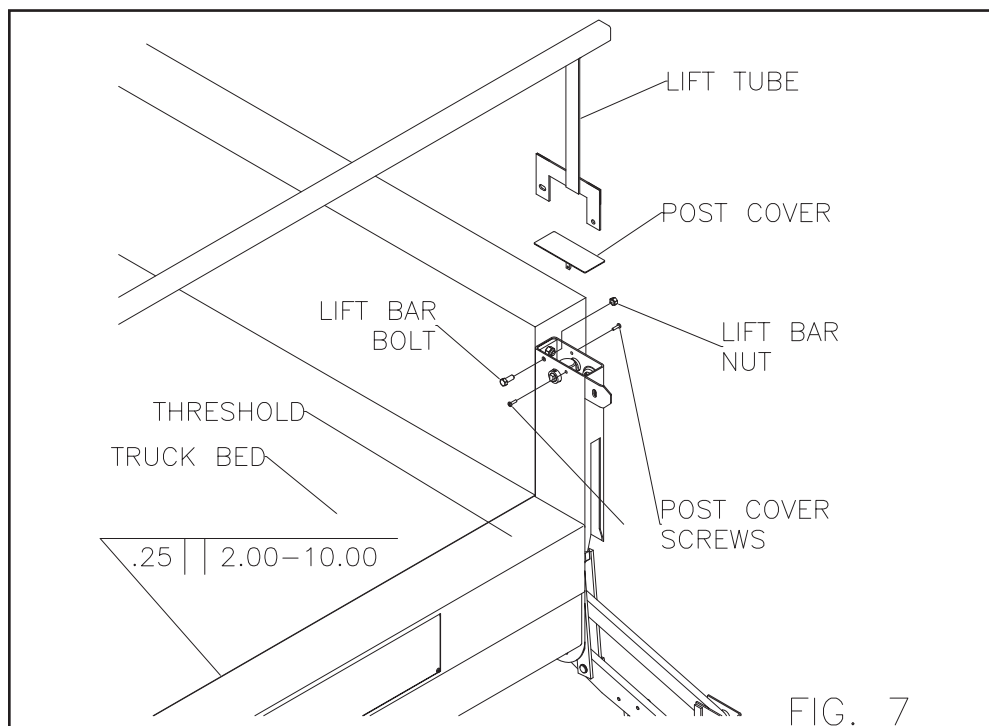
Step 7 Many late model trucks have battery connections as shown in Figure 5. The ground cable from the battery is connected directly to the engine block with only a light braided ground strap from the block to the chassis (either the body or the frame.) Where this is the case, the factory-installed wiring 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 Figure 5 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 8 With the power connected lower the platform completely to the ground.

Step 9 If the triangular post supports were used in step 5, proceed to step 10. If bolts were used to connect the top of the post to the truck body in step 5, use two .62" dia. bolts and locknuts and the holes provided in the back of the post to attach the lower portion of each liftgate post to the rear of the body. The bolts must be put in from the rear, through the holes in the post and through the truck body. There is only room for the head of the bolt in the post so make sure the bolt is turned correctly and do not use any washers between the bolt head and the post or the bolt head will interfere with the idler arm. This interference will not allow the liftgate to raise fully. See figure 6.

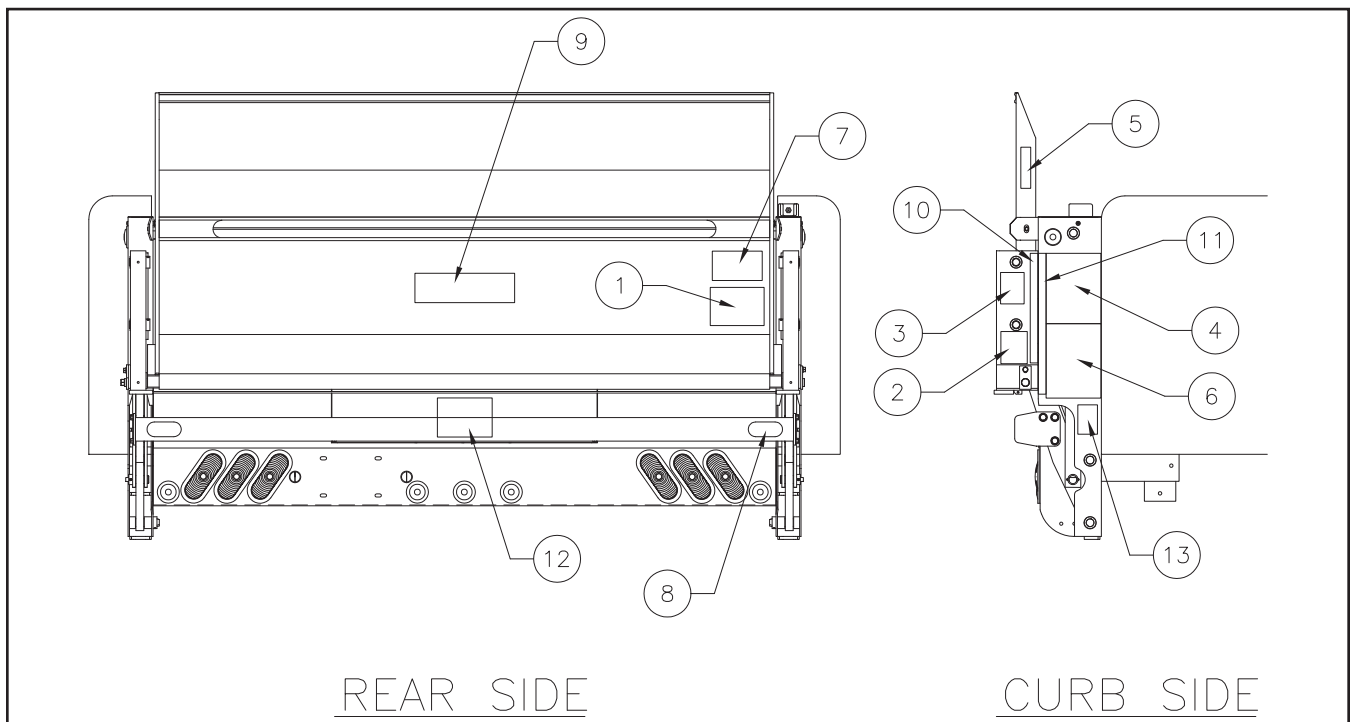


Step 10 Weld the liftgate threshold to the truck bed with 2" long welds on 10" centers as shown in figure 7. Remove the nuts and bolts which connect the lift tube to the posts and remove the lift tube. Replace the post covers and screws on each post. See figure 7.



- Step 11** The pump is located under the threshold and can be accessed by removing the cover plate. Remove the plug from the reservoir and replace with the breather cap provided.
- Step 12** With the liftgate lowered to the ground, check the oil level in the reservoir. It should be .50" from the top of reservoir and replace all covers.
- Step 13** Finish paint as required and apply decals in the appropriate locations as shown below. When painting, carefully grease or mask fittings and any exposed portion of the cylinder rod. If decals are previously applied simply remove premask after painting. These decals **MUST** be applied or all warranties are VOID!

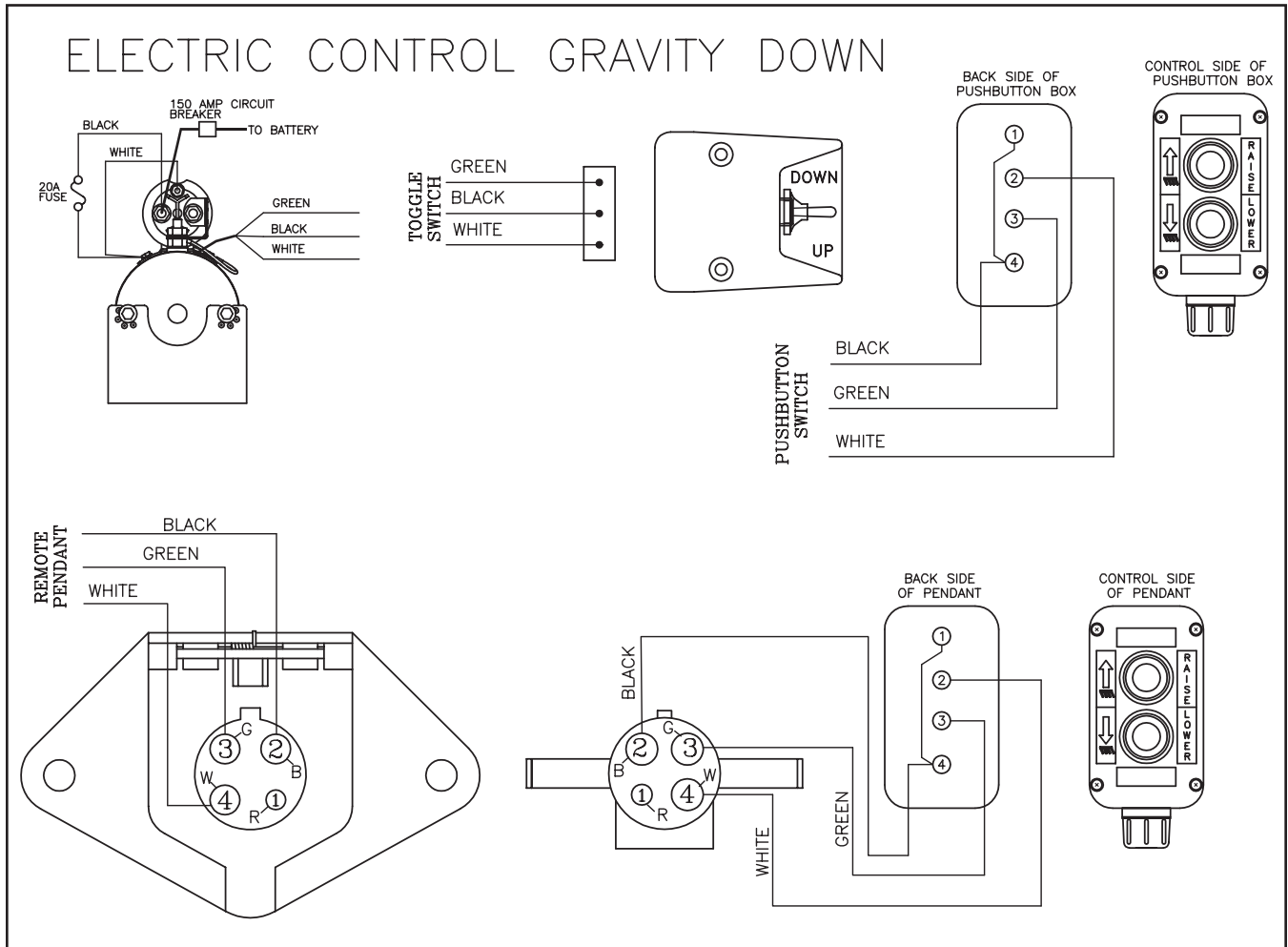
Item	Part Name	Part Number
1	Warning Decal-Off Center	4671050
2	PTO Decal	4650140
2	Fast Idle Decal	4650150
3	Danger Decal-No Riding	4609
4	Operating Decal	4650870
5	Capacity Decal-1600#	4650750
5	Capacity Decal-2000#	4650100
6	Warning Decal	4650530
7	Caution Decal-Working Area	4650770
8	Reflector (2)	5705
9	Thieman Nameplate	4650801
10	Hazard Marking Tape-Pivot	5760-002
11	Hazard Marking Tape-Frame	5760-003
12	Wiring Decal	4612
13	Warning Decal-High Pressure	4620



- Step 14** 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 15 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 (49CFR 571.108).

WIRING PICTORIAL



Step 16 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.

Step 17 (For Optional Lights Only). If your liftgate came with an optional light kit a wire harness has been included. The harness works for light systems with combined brake and turn or separate brake and turn. See the Light Wiring Pictorial for wiring instructions.

LIGHT WIRING PICTORIAL

