Before installing this liftgate, please observe the Vehicle Loading Limitations. These loading limitations are outlined in the Vehicle Owner's Manual and the Safety Compliance Certification Label located on the drivers door pillar.
Preparing the Gate

1. **Measure** the body opening, the overall width, and the bed height of the truck (Figure 1). Make sure you have the correct model of liftgate for your application.

2. **Remove** banding from the palletized gate. Watch for loose or shifting parts. Leave liftgate in folded position on shipping pallet.

3. **Remove** the snubber kit parts from the liftgate frame (Figure 2).

4. **Verify** parts list (Table 1) and inspect for missing or damaged parts (Figure 2).

![Figure 1: Body measurements.](image1)

**Note 1:** 40" Minimum bed height for a 50" deep platform.
45" Minimum bed height for a 60" deep platform.
**Note 2:** Dimension varies with bed height.

**Table 1: Parts List.**

<table>
<thead>
<tr>
<th>QTY</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Lifgate</td>
</tr>
<tr>
<td>2</td>
<td>Trunion Tube Mounting Plate</td>
</tr>
<tr>
<td>1</td>
<td>Bed Extension</td>
</tr>
<tr>
<td>2</td>
<td>Bed Extension Braces</td>
</tr>
<tr>
<td>1</td>
<td>Mounting Kit</td>
</tr>
</tbody>
</table>

![Figure 2: Part identification.](image2)
Preparing the Truck

1. Park truck on flat and level work surface for liftgate installation.
2. Disconnect the truck battery.
3. Measure the truck frame for liftgate clearance using the layout chart (Figure 3).
4. Trim the truck frame as needed to provide platform clearance.

Note: On certain bodies such as a lengthened van body or rebuilt trailer, where the frame stops short of the end of the body, extra support may be added to minimize undesirable deflection under heavy load.

![Frame Trim Dimensions](image)

Figure 3: Frame trim dimensions.

Positioning the Bed Extension on the Truck

1. Center the bed extension on the rear of the body.
2. Position the bed extension against the body with the top surface flush with the body floor and level with the ground.
3. Tack Weld bed extension into position with several one inch welds.
4. Verify that the top surface of the bed extension is level.

![Bed Extension](image)

Figure 4: Bed extension.
Positioning the Liftgate on the Truck

1. **Remove** banding and packaging fastening gate to pallet.

2. **Attach** 12 volts from a battery to the liftgate power cables (no battery chargers).

3. **Power** the control on.

4. **Raise** the liftgate using toggle switch to make sure liftgate is completely raised into the tagged cylinder stops (Figure 5). These stops will be removed later in the mounting process.

   **CAUTION:** The platform will be heavy in the next step without the torsion springs wound.

5. **Unfold** the platform.

6. **Lift** the liftgate with a forklift or overhead lift (Figure 6 or Figure 7).
   Use C-clamps with wood blocks to prevent damaging the platform edge.

7. **Verify** that the platform is fully rotated against the platform shims and there is no gap (Figure 5).

8. **Center** the liftgate platform on the bed extension.

9. **Position** the liftgate platform against the rear of the bed extension, flush with the top surface.
   The platform will be about 3/16" below the top surface of a heavy duty bed extension.

10. **Place** a jack under the trunion tube to aid in positioning the liftgate (Figure 7).

   **Note:** A minimum of 15" of trunion tube ground clearance is required when the truck suspension is loaded.

11. For 50" platforms on trucks with less than 45" of bed height: **Operate** the liftgate lowering function to obtain 16"-17" between the trunion tube and ground (see previous note).

12. **Position** the liftgate so that the trunion pivot plates are square with the ground and the platform taper is 1"-2" higher than the rear edge near the truck body (Figure 7).

13. **Prepare** the mounting surfaces of the truck frame for welding.
    The surfaces should be free of paint and excess rust.

14. **Position** the trunion tube mounting plates on the trunion tube.
    The mounting plates should be on the outside of the truck frame (Figure 7).

15. **Tack Weld** the trunion tube mounting plates to the trunion tube and truck frame using 3/8" fillet welds, 1" long (Figure 7).

16. **Remove** the forklift or overhead lift.
Positioning the Liftgate on the Truck (continued)

17. Remove the 3/8" bolt, washers, nut, and washer plate from each lift arm (Figure 8).

18. Carefully Lower the platform, checking for proper operation and that the taper comes to within 1/2" of the ground.

19. Move the upper arm tube assembly to the alternate mounting holes if it contacts the ground. (Figure 9).
   This may only be required on trucks with low bed heights.

20. Remove the tagged cylinder stops from each cylinder (Figures 5 & 10).
    This must be done with the gate lowered.

   CAUTION: The platform will be heavy in the next step without the torsion springs wound.

21. Fold the folding extension and main platform.

22. Raise the liftgate into stowed position, checking for clearance between platform and truck frame.

23. Install a 3/8" x 3-1/2" hex head bolt and lock nut in each coil spring holder (Figure 9). The platform must be in the stowed position so that the springs will engage as the platform is lowered.

24. Open and Close platform several times, checking adjustment of roller arm (Figure 11).
    Extend the position of the arm to make opening the platform easier, as needed.

25. Cover and Protect hydraulic hoses, wiring, and painted surfaces from welding heat and sparks in the next step.

26. Finish Weld the trunion tube mounting plates to tube and frame with 3/8" fillets all around (Figure 7).

27. Finish Weld bed extension with 3" long 1/4" fillet welds every 12" across width.

28. Weld the snubber kit in position so that the platform will compress the rubber pads 1/8" when the platform is stowed (Figure 12).
Finishing Gate Installation

1. **Attach** bed extension braces to the bottom of the bed extension steps with supplied 1/2” bolts and lock nuts (Figure 7).

2. **Position** the tops of the braces under the body floor. Material may need to be added under floor to provide structure for welding.

3. **Tack Weld** bed extension braces into position.

4. **Adjust** bottom step height.

5. **Verify** that all bolted joints on the bed extension are tight.

6. **Position** and **Attach** the control box on the rear of the truck using the supplied paper template (Figure 7).

7. **Route** the control wire to the pump box.

8. **Connect** the control wire to the pump box circuit board (Figure 15).

9. **Verify** proper latch chain operation (Figure 13).

10. **Remove** the pump box cover (Figure 14).

11. **Verify** that the vent plug is installed in the pump reservoir (Figure 14).

Note: The hydraulic system has already been filled with the proper amount of hydraulic oil so do not add any oil at this time.

12. **Install** the "Do's and Do Not's" decal in a highly visible area of the vehicle cab. This decal is with the Owner’s/Operator’s Manual.

Preparing the Gate for Wiring

1. **Attach** 12 volts from a battery to the liftgate power cables (no battery chargers).

2. **Lower** the liftgate to the ground.

3. **Remove** the contents from the liftgate mounting kit.

4. **Remove** the short 4GA power cables attached to the power unit.

5. **Install** the 2GA power cable from the mounting kit on the power unit (Figure 15).

Routing the Power Cables

1. **Install** the circuit breaker near the battery, leaving enough room for the power cables to be installed and so that the circuit breaker can easily be reset.

2. **Route** the power cables along the frame to the battery. Follow the Tommy Gate Recommended Electrical Wiring Guidelines.

3. **Pull** the excess cable beyond the battery.

4. **Separate** the positive(+) and negative(-) leads.

5. **Cut** the positive(+) lead to the length required to reach the auxiliary (AUX) terminal of the circuit breaker.

6. **Cut** the remaining pos.(+) lead long enough to reach from the circuit breaker battery (BAT) terminal to the pos.(+) battery terminal.
Routing the Power Cables (continued)

7. Cut the negative (-) lead to the length required to reach the negative battery terminal.

**IMPORTANT:** The pump and motor unit for this lift can require up to 205 amps of electrical power at 12 volts D.C. Be sure that the negative (-) ground lead is connected to the negative (-) terminal of the vehicle battery.

8. Install the copper lugs on all required ends.

9. Connect the circuit breaker and battery as outlined in the *Tommy Gate Recommended Electrical Wiring Guidelines* and wiring diagram (Figure 14).

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**PLEASE READ AND FOLLOW ALL DIRECTIONS BEFORE PROCEEDING!!!**

**NOTE!!!** IF GATES ARE NOT WIRED IN ACCORDANCE WITH THIS DIAGRAM YOUR WARRANTY WILL BE VOID.

**WELDING NOTE!!!** DISCONNECT ALL BATTERY CABLES. ALWAYS DISCONNECT THE GROUND CABLE FIRST. ATTACH THE WELDING GROUND TO THE TRUCK RATHER THAN THE LIFTGATE.

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Figure 15: Wiring diagram.
Testing the Operation of the Liftgate

**CAUTION:** Keep all foreign objects (body parts, tools, load weights, etc) away from the liftgate main assembly and away from pinch points at all times when operating the liftgate.

1. **Check** operation of the safety control for proper lift operation. Be sure the control shuts off automatically after 5 minutes of not being used.

2. **Raise** and **Lower** the unloaded platform on a flat surface looking for proper operating speed and alignment with the ground.

3. **Load** the platform with the rated capacity and **Measure** the time necessary to raise the platform. The platform should raise at roughly 2-3 inches per second.

4. **Examine** the platform for any downward creep.

5. **Time** the lowering operation with the platform still loaded. The platform should descend at roughly 4-7 inches per second.

6. **Remove** the load from the platform and **Examine** the liftgate and vehicle for any problems such as hydraulic oil leaks, loose wiring, etc.

7. **Reinstall** the pump cover. Use the 3/8" lock nuts supplied in the mounting kit along with the 3/8" bolts that were removed previously.

8. **Close** and **Latch** the platform folding extension.

9. **Raise** and **Latch** the liftgate latch chain (Figure 16).

10. **Install** the padlock into the hole in the latch handle (Figure 16).

11. **Place** Owner's / Operator's Manual and padlock keys in the vehicle.

![Figure 16: Chain latch and padlock location.](image)

Painting the Liftgate (if needed)

Your Tommy Gate has been primed with a gray polyurethane and painted with a black semi-gloss polyurethane topcoat to protect it from the environment. No additional paint is required unless shipping or installation damage or outdoor storage exposure has deteriorated the Tommy Gate paint. **Tommy Gate will not be responsible for shipping or installation damage or outdoor storage exposure that has marred or otherwise deteriorated the Tommy Gate paint.**

If you need to refinish the liftgate you should do the following.

1. **Remove** any dirt, oil, grease, salt, or other contamination by washing with a mild detergent solution.

2. **Rinse** thoroughly with fresh water and allow to dry.

3. **Lightly Scuff Sand** the Tommy Gate topcoat.

4. **Sand** and **Spot Prime** any area of the Tommy Gate paint that shows signs of damage or deterioration.

5. **Mask** off all safety decals, cylinder shafts and vents before painting.

**WARNING:** Paint overspray on the cylinder shaft(s) or vent(s) will damage the cylinder seals and void warranty.

6. After proper cleaning and surface preparation, **Apply** desired finish coat per paint manufacturer's recommendations.

7. **Remove** the masking from the safety decals and cylinders.

8. **Check** to ensure that all decals are clean and legible. Additional decals are available from the factory, if needed.
WIRE ROUTING
(1) When routing wires, avoid heat (above 180°F), abrasion, vibration, metal edges, screws, and trim fasteners. If such routings are not possible, protective devices must be used. If wires must cross a metal edge, the edge should be covered with a protective shield and the wiring fastened within 3 inches on each side of the edge.
(2) Grommets must be used where wires pass through holes in sheet metal, castings, and/or frame rails. Do not bend wires in a radius smaller than 10 times the wire diameter.
(3) Routing wires into areas exposed to wheel wash should be avoided. If this cannot be avoided protective shields are required to protect the wires from stones, ice, salt and water damage. Provide a drip loop to prevent moisture from being conducted into switches, relays, circuit breakers, and fuses.
(4) Wires should be supported every 18 inches with plastic zip ties or rubber-lined clips.
(5) Wires must be routed to clear moving parts by at least 3 inches unless positively fastened or protected by a conduit. If wiring must be routed between two members where relative motion can occur, the wiring should be secured to each member, with enough wire slack to allow flexing without damage to the wire.
(6) Maintain at least a 6 inch clearance from exhaust system components. If this is not possible, high temperature insulation and heat shields are required. Existing OEM heat shields, insulation, and wire shielding must be maintained.
(7) Do not route or attach electrical wires to fuel lines. Route electrical wires at least 1-1/2 inches away from the engine.

BATTERY, WIRE, TERMINALS, AND CONNECTORS
(1) Wire attachments at the battery must be protected from tension loads so there is no undue strain on the battery terminals. Wires should be routed down rather than horizontally from the terminals with no sharp bends adjacent to the connections.
(2) Battery power for your Tommy Gate should come directly from the battery through the supplied circuit breaker or fuse. The circuit breaker or fuse should be installed as close to the battery as possible.
(3) Do not splice battery cables. If splicing is necessary, the most durable splice joint will be bare metal barrel crimped, flow-soldered and covered with adhesive lined heat shrink tubing. Strip the wire ends making sure that individual conductor strands are not damaged. Use only rosin core solder, proper crimping tools, and wire with a gauge at least equivalent to the circuit being lengthened. Do not use electrical tape.
(4) Battery cable terminals will be bare metal barrel crimped or flow-soldered and covered with adhesive lined heat shrink tubing.
(5) Use wire connectors with locking features such as positive locking, inertia locking, bolt together, and soft mold-over with locking external retainers.

GENERAL
(1) All frame contact areas must be wire brushed to bare metal, free of paint, dirt, and grease. Frame connections must be made using hardened flat washers under the bolt head and lock nuts. Corrosion preventive grease or compound is to be applied to the terminal area of the frame connection.
(2) Frame cross members are not recommended as part of the ground return.
(3) All circuit breakers and fuses should be located in one easily serviceable location with a means provided for identification of circuit function and current rating. Do not put circuit breakers or fuses in the vehicle cab.
(4) Before welding to the chassis disconnect the battery. Also disconnect the power train, engine, valve, and transmission control modules.
(5) Do not alter vehicle ignition, starting, and/or charging systems. Do not reroute engine compartment wiring.
(6) Full copper circuitry and standardized polarity grounds are recommended.
(7) Never increase the rating of a factory installed fuse or circuit breaker.
(8) Disconnect the battery negative (ground) wire prior to any vehicle modification.

Following the above guidelines will provide you with years of trouble free service. Failing to incorporate the above guidelines will result in a voided warranty. Non-compliance with the guidelines above may result in a failure of electrical components, shutdown of engines, loss of backup brake systems, and the possibility of fire.