

Preparing the Gate

1. **Remove** the mounting hardware which is banded to the liftgate.
2. **Verify** mounting kit (Figure 1 and Table 1).

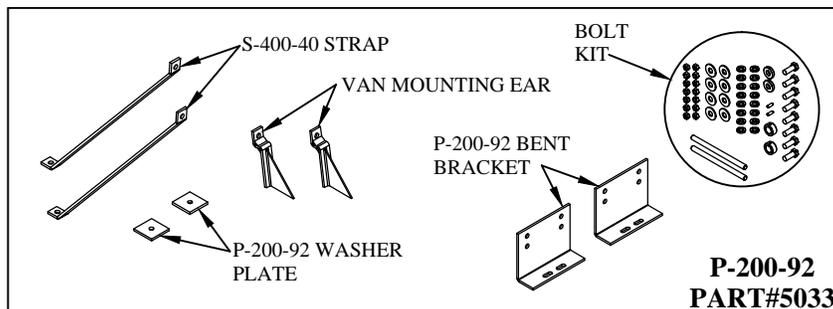


Figure 1: Part Identification.

Table 1: Parts List.

QTY.	PART NO.	DESCRIPTION
1	1099	P-200-92 Bolt Bag Kit
2	11467	P-200-92 Bent Bracket
2	9891	P-200-92 Van Mounting Ear
2	9438	S-400-40 Strap
2	6959	P-200-92 Washer Plate

Preparing the Van

1. **Support** the rear bumper and hitch to keep them from falling while removing the mounting bolts.
2. **Remove** the hitch, if equipped.
3. **Remove** the rear bumper and bumper mounting brackets.

Note: The hitch and rear bumper cannot be remounted after the liftgate is installed.

4. **Select** the set of holes that position the bracket approximately 11-1/4" below the bottom of the van doors (Figure 2).
5. **Attach** each P-200-92 bracket to the van frame with (2) 1/2"x1-1/4" bolts, (2) 1/2" flat washers, (2) 1/2" lock washers, and (2) 1/2" nuts (Figure 2).

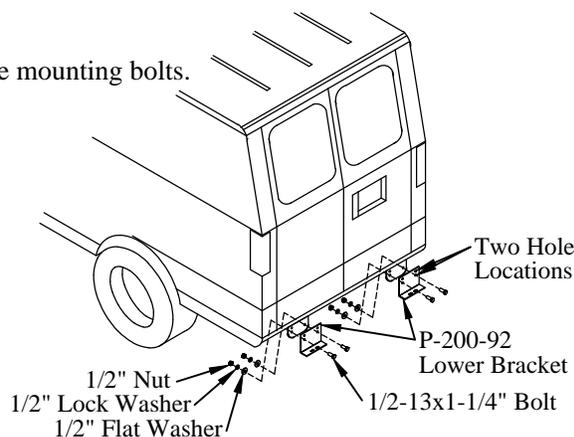


Figure 2: P-200-92 lower bracket location.

Installing the Liftgate

1. **Position** the Tommy Lift on the lower brackets. The liftgate should be:
 - Aligned with spare tire tube.
 - Centered on the van.
 - Below the rear doors.
 - In a vertical position (level with the ground).
2. **Attach** the liftgate to each bracket with a 1/2" x 1-1/4" bolt and 1/2" lock washer. Nuts have been welded to the inside of the liftgate to accept the bolts (Figure 3).
3. **Position** the two mounting ears on top of the uprights (Figure 4).
4. **Rotate** the ears to match the contour of the van (Figure 4). Leave a 1/4" gap between each ear and the van body for the nylon washer.
5. **Cover and Protect** the van's paint and the liftgate lift cables and wiring before welding.
6. **Weld** the mounting ears securely to the top of the uprights. See welding note by Figure 4.
7. **Check** for obstructions before drilling in the next step.
8. **Drill** two (2) 1/2" diameter holes through the van body using the holes in the mounting ears as a guide (Figure 4).

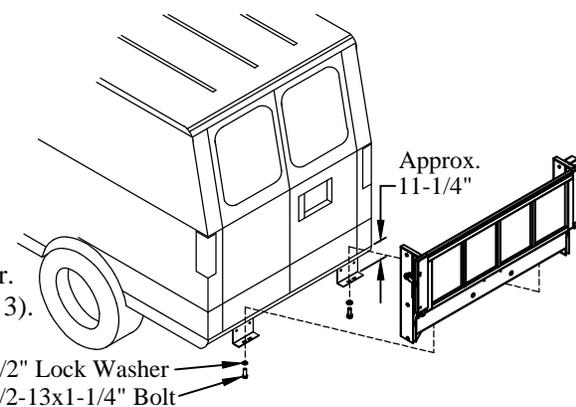


Figure 3: P-200-92 lower bracket location.

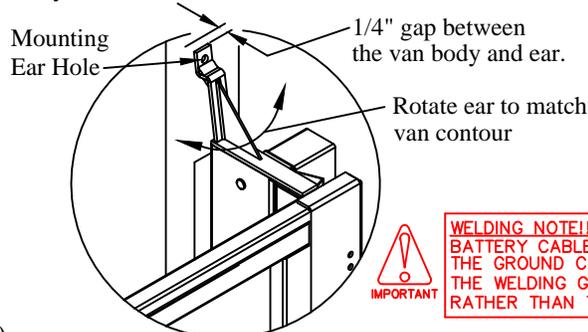


Figure 4: P-200-92 mounting ear position.



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

Installing the Liftgate (continued)

9. Place a 1/2" lock washer and 1/2" nut on each 1/2"x7-1/2" ear bolt (Figure 5).

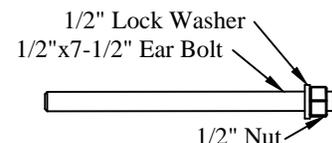


Figure 5: Mounting ear bolt.

10. Insert each ear bolt through a mounting ear, nylon washer, and the outer van wall (Figure 6).

11. Install a 1/2" flat washer, lock washer, two (2) nuts, lock washer, and flat washer on each ear bolt, in between the van walls (Figure 6).

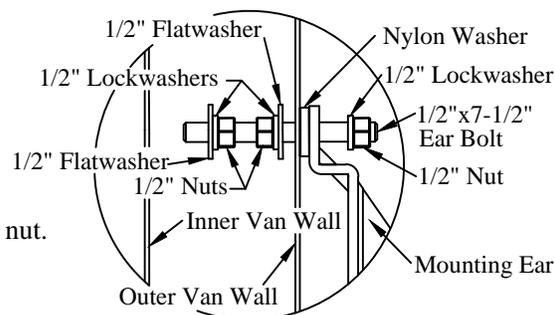


Figure 6: Mounting ear bolt hardware.

12. Insert each ear bolt through the inner van wall (Figure 7).

13. Place an S-400-40 mounting strap on each ear bolt (Figure 8).

The angle of the bends in the strap should match the van's inner wall and floor.

14. Attach the mounting strap to the 1/2"x7-1/2" ear bolt with a 1/2" lock washer and nut.

15. Finger Tighten the (total of 8) inner and outer 1/2" nuts (Figure 9).

This configuration will keep the inner and outer walls of the van from crushing when tightening and provide some protection if the user backs into something accidentally with the gate.

16. Check for obstructions before drilling in the next step.

17. Drill a 1/2" hole in the van floor for each mounting strap using the mounting strap hole as a guide (Figure 10).

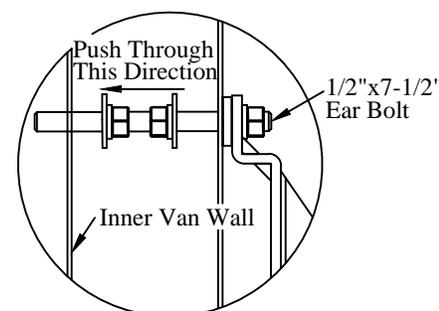


Figure 7: Mounting ear bolt hardware.

18. Attach the mounting strap to the van floor (Figure 10).

Use a 1/2"x 1-1/4" bolt on top and a 1/4"x2-1/2"x2-1/2" flat plate, 1/2" lock washer, and nut under the van floor.

19. Tighten all bolts and nuts to 75 foot pounds, if possible.

Be careful not to dent or crease the exterior body panel when tightening the exterior nut on the ear bolts.

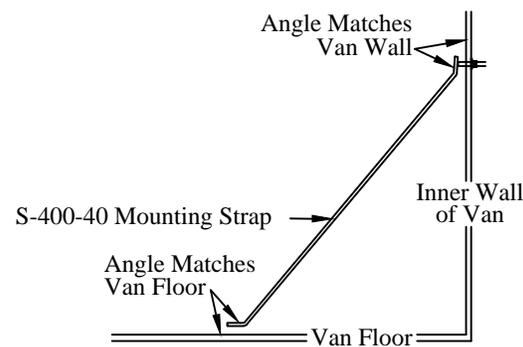


Figure 8: S-400-40 mounting strap position.

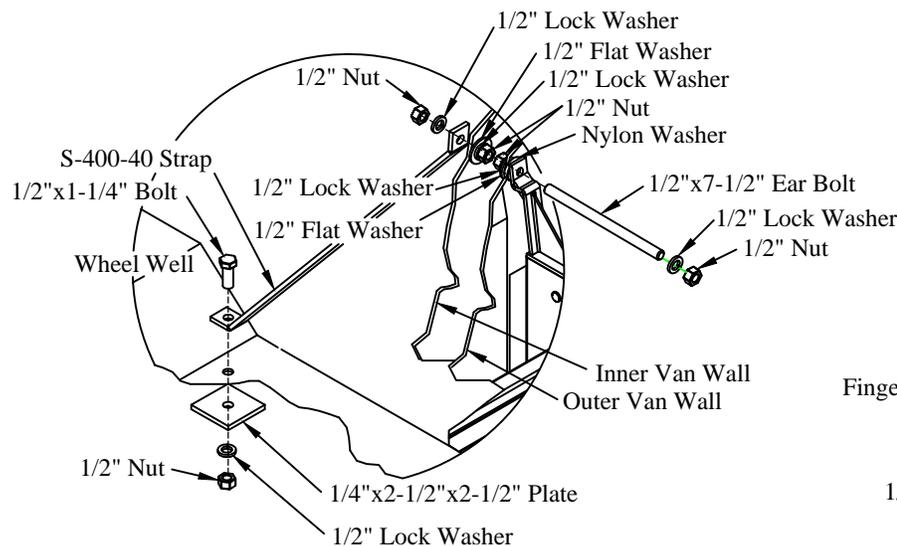


Figure 10: Mounting strap hardware assembled.

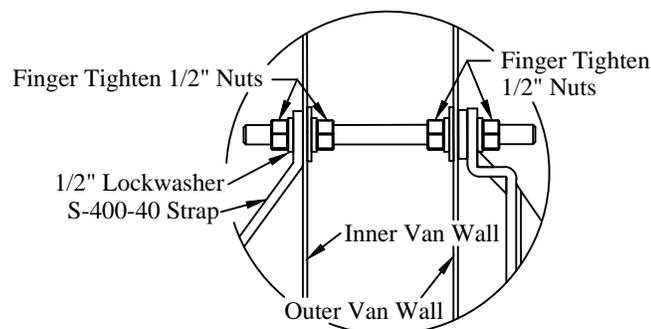


Figure 9: Mounting ear bolt hardware assembled.

Modifying the Door Stop

Note: Modify the van's door stops to prevent the doors from contacting the liftgate. For 2009 and newer vans follow the instructions below.

1. **Position** the rear doors so that they do not contact the liftgate (Figure 11).
2. **Remove** the interior pannels (if equipped) to expose the door check assembly (Figure 11).
3. **Install** the set screws in the door stop (Figure 12).
4. **Install** the door stop over the door check assembly arm (Figure 12).
5. Loosely **Tighten** the set screw (Figure 13).
6. **Verify** that the doors do not contact the lift gate when in the raised and lowered positions.
7. **Tighten** the set screw.
8. **Replace** the interior pannel, if previously removed.

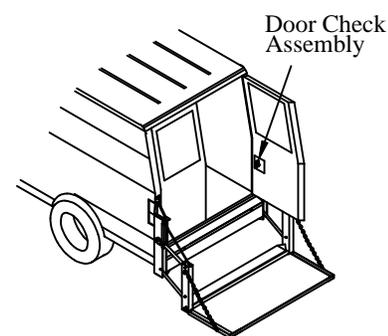


Figure 11: Door check assembly location.

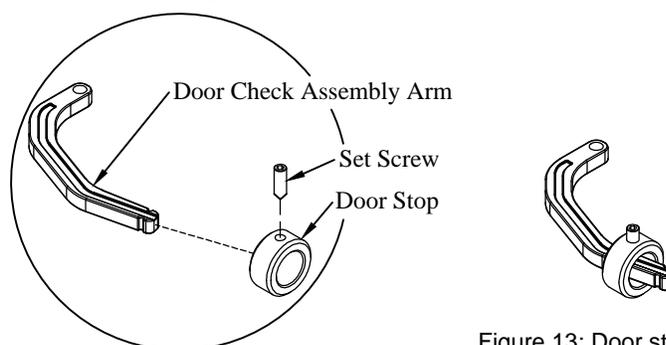


Figure 12: Door stop installation.

Figure 13: Door stop installed.

Checking the Spare Tire Access

1. **Remove** the box cover by removing the 5/16" hex head nuts or bolts.
2. **Verify** spare tire access operation by inserting the spare tire crank rod through the access hole (Figure 14).
3. **Reinstall** the box cover.

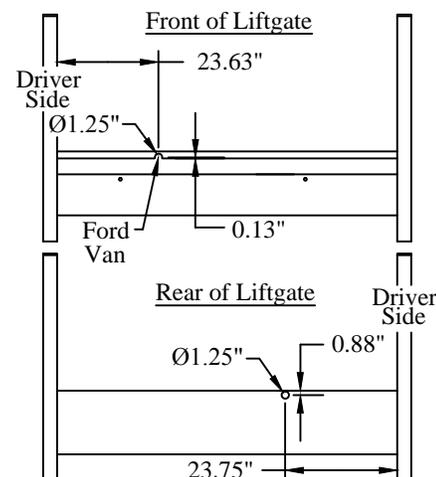


Figure 14: Spare tire access.

Preparing the Gate for Wiring

1. **Attach** 12 volts from a battery to the liftgate power cables (no battery chargers).
2. **Push** the hidden "Power On" switch (Figure 16). The amber "Power On" LED will illuminate.
3. **Push** the hidden "Liftgate Activated" switch twice within one second. The red "Liftgate Activated" LED will illuminate.

Note: With both lights on, the liftgate can be raised or lowered. If not used for 90 seconds, the control will automatically shut off.

4. **Push** the toggle switch down to lower the liftgate to the ground.
5. **Remove** the box cover by removing the 5/16" hex head bolts or nuts (Figure 15).

6. **Remove** the following from inside the liftgate mainframe:

- Owner/Operator Manual
- License plate lights
- (1) Vent plug
- (2) Latch balls with studs
- (1) 150 Amp manual reset circuit breaker
- (4) Copper lugs
- (2) License plate nuts and screws
- (1) Padlock with keys
- (1) Drop away pin

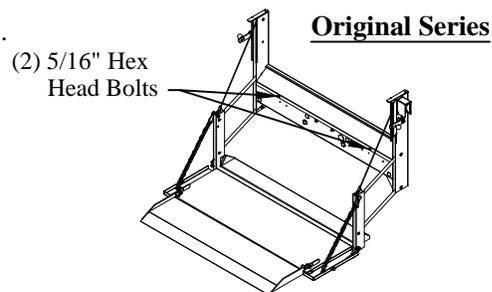


Figure 15: Box cover locations.

Routing the Power Cables

1. **Install** the circuit breaker on the vehicle fender, firewall, or other location inside the engine compartment away from moving parts. Leave enough room for the power cables to be installed and so that the circuit breaker can easily be reset.
2. **Loosen** the strain relief on the back of the liftgate mainframe.
3. **Pull** the power cable (coiled up in the liftgate mainframe) carefully through the strain relief. Leave approximately two (2) inches of slack inside the liftgate mainframe.
4. **Tighten** the strain relief.
5. **Route** the power cables along the frame to the battery following the *Tommy Gate Recommended Electrical Wiring Guidelines*.
6. **Pull** the excess cable beyond the battery.
7. **Separate** the positive(+) and negative(-) leads.
8. **Cut** the positive(+) lead to the length required to reach the auxilliary (AUX) terminal of the circuit breaker.
9. **Cut** the remaining pos.(+) lead long enough to reach from the circuit breaker battery (BAT) terminal to the pos.(+) battery terminal.
10. **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.

11. **Install** the copper lugs on all required ends.
12. **Connect** the circuit breaker and battery as outlined in the *Tommy Gate Recommended Electrical Wiring Guidelines* and wiring diagram (Figure 16).

Routing the Power Cables (continued)

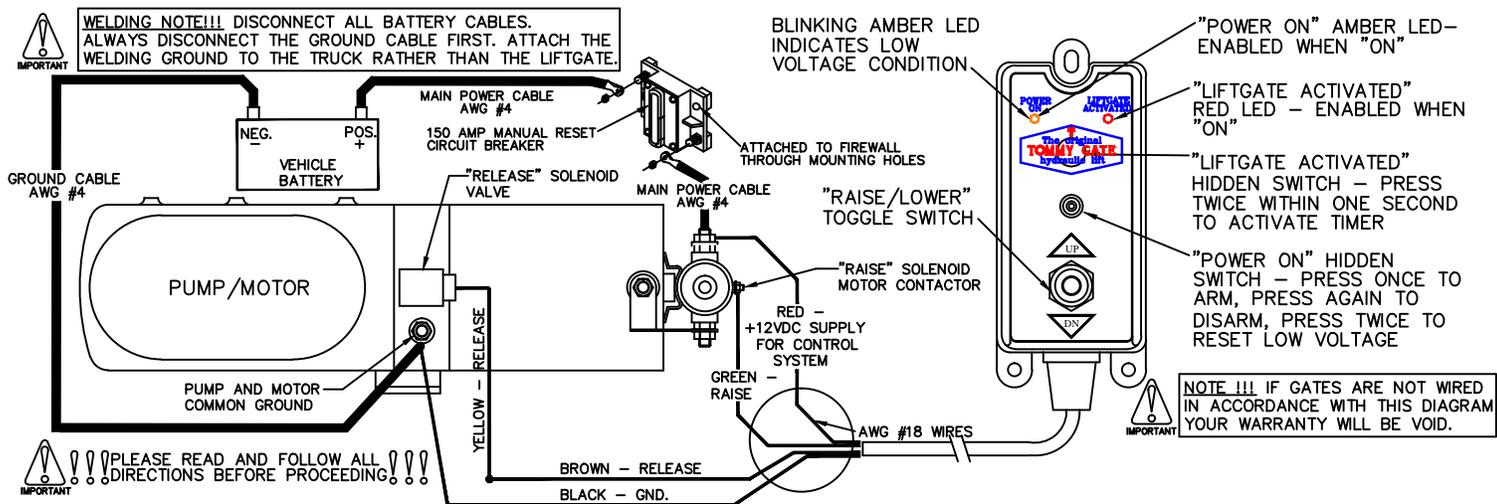


Figure 16: Wiring diagram.

Finishing the Liftgate Installation

1. **Install** the two (2) knobs on the platform latches (Figure 17).
2. **Unscrew** the solid plastic plug from the pump reservoir and **install** the vent plug provided (Figure 18).
Note: The hydraulic system has already been filled with the proper amount of hydraulic oil so **do not** add any oil at this time.

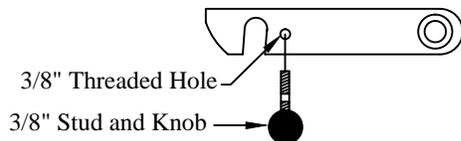


Figure 17: Original Series platform latch knob.

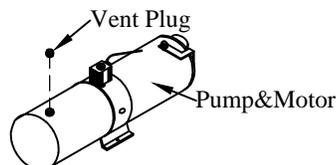


Figure 18: Vent plug.

3. **Install** the two (2) square plastic insert nuts for the license plate into the square holes on the liftgate.
4. **Install** the license plate using the two (2) stainless steel screws provided.
5. **Install** the license plate light(s) into the holes provided.
6. **Connect** the license plate lights to the vehicle's wiring following the *Tommy Gate Recommended Electrical Wiring Guidelines*. The license plate light wire(s) can be run through the strain relief in the back of the liftgate.

Note: Additional wire may need to be spliced into the license plate light circuit to reach the connection point.

Note: All electrical splices should be heat shrunk for corrosion protection.

7. **Install** the "Do's and Do Not's" decal in a highly visible area in the vehicle cab.
This decal is with the Owner's / Operator's Manual.
8. **Reinstall** the spare tire, if previously removed.

Testing the Operation of the Liftgate

CAUTION: Keep all foreign objects (body parts, tools, load weights, etc) out of the liftgate mainframe 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 90 seconds 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 load should descend at roughly 7-9 inches per second.
6. **Remove** the load from the platform
7. **Examine** the liftgate and vehicle for any problems such as hydraulic oil leaks, loose wiring, etc.
8. **Reinstall** the box cover.
9. **Close** and **Latch** the platform.
10. **Lock** the padlock through the hole in the platform or latch pin (Figure 19).
11. **Place** Owner's / Operator's Manual and padlock keys in the vehicle.

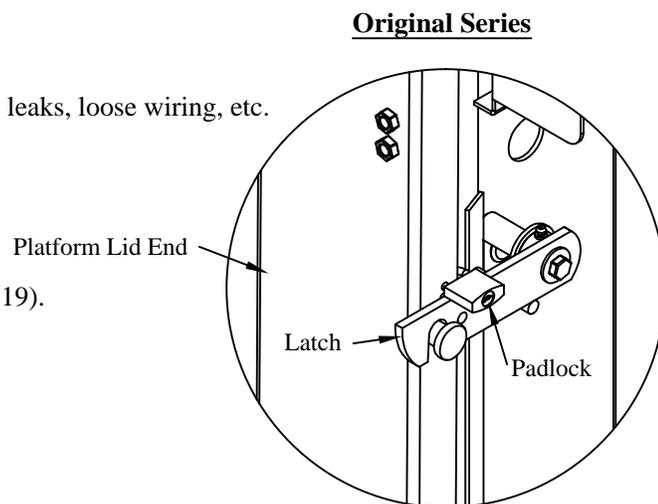


Figure 19: Padlock location.

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.