



Fuel Cell






INSTALLATION INSTRUCTIONS

Tools Required

- Floor Jack
- (4) Jack stands
- $\frac{9}{16}$ " Deep Socket
- $\frac{5}{8}$ " Socket
- $\frac{5}{8}$ " Wrench
- $\frac{5}{16}$ " Allen Key

Installation Instructions

FUEL LEVEL GAUGE CONNECTIONS

-  If the sender for some reason needs to be shortened, see "Shortening the sender" below, before calibrating.
 -  It is ok for the grounded outer tube of the sender to touch things in the tank. The inner tube, which may stick slightly out the bottom of the sender, should not be allowed to touch things, however, nor should the tubing be bent such that the inner tube touches the outer. Otherwise an 'always-Full' reading will result.
 -  If the following calibrations do not seem to be working, you almost certainly have a wiring problem or an incorrect sender. All senders are tested good at the factory before shipment. In particular, if the needle is moving backwards from what's described below, you have the wrong sender.
 -  Setting the Full adjustment requires the same type of fuel you will be using in your tank (not water). Use a container that is as tall or taller than the sender. A full 2 gallon or more gas can works well.
 -  Setting the Empty needs to be with the sender out of the tank to simulate empty.
1. Remove the sender from the fuel cell.
 2. Using a car battery or other 12 V source, connect the fuel level sender to 12V, a ground and the gauge. Unlike a float, the Fuel Safe electronic sender requires battery voltage to run the electronics:
 - Negative terminal connects to system ground.
 - Send terminal connects to the gauge's Send terminal
 - Positive terminal connects to ignition voltage. The sender draws about 0.02A at the Positive terminal. If your positive connection is unfused voltage, be sure to add a 1 amp or smaller fuse (1/4 amp ideal) to the line.
 2. Start calibrating the sender with both the Empty and Full adjustments on the sender completely clockwise, using a *small* screwdriver to avoid damaging the adjustments. They are single-turn

adjustments, so don't go past the stops. Your gauge reading should probably then be above Full, or at least above 1/2.

3. With the sender out of the cell in the air, bring the Empty adjustment slowly counter clock wise until the needle just stops moving downscale. This should be at or below the E mark. Then go slightly back upscale and down a few times, "rocking the Empty", to make sure you are right at the point where the needle stops moving down.
4. Put the sender in a full tank of fuel, or a full 2 gallon or more gas can.
5. Bring the Full adjustment slowly counter clock wise until the needle gets onto the Full mark. (Note: some gauges don't allow the needle to get above the Full mark. If so, bring the reading below the Full mark and then go back upscale until you just reach it. It would be a good idea in this case to "rock the Full" too).
6. Test the calibration by raising and lowering the sender in the tank.

SHORTENING THE SENDER



If for some reason your sender is too long for your tank, it can be shortened, but only to the lower end of its electronics range. The electronics ranges are: 6-12", 12-24" So if you have an 8" sender, that's from the 6-12" range and can be shortened to as little as 6" from flat bottom of head to end of tubing.

1. To shorten the sender, the outer tube should be cut with a tubing cutter or a hacksaw but has the problem of producing metal filings.
2. The inner tube can be nipped off with side cutters. It doesn't matter if the end of the inner tube gets pinched closed.
3. The sender must be recalibrated after it is cut.

FUEL CELL AND CAGE



Trial-fit the Fuel Cell Cage **WITHOUT** the cell in it to check all mounting points, and adjust accordingly if necessary. It may be necessary to adjust the straps on the cell and/or the rear 3/4" steel tube posts on the car's frame.

1. Jack the rear of the car up and place on jack stands.
2. Install the fuel neck from the Mustang tank in the fuel cell.
3. Mount the upper and lower body mount brackets to the frame/body. Do not fully tighten the brackets yet as it may be necessary to adjust the brackets (the lower bracket in particular) to align them with the fuel cell cage.



Upper Body Mount Bracket to Quick Jack Installation.



Lower Body/Cage Mount Bracket Installation showing Body Bolt and Upper Cage/Frame Bolt. Lower Cage Bolt not Visible.

4. The straps and/or frame mounts may need some adjustment. Again, run a trial fit without the cage without the cell in it first. Check to make sure the $\frac{5}{16}$ " bolts fit inside the brackets welded to the frame posts and the straps. If they are tight or don't fit at all clean out the holes with a $\frac{5}{16}$ " ream or drill.
5. Place the cage on top of the floor jack and use the jack to hold it in position. Placing a 2"x 6" or small sheet of plywood under the cage will help to stabilize it during installation.



Trial fitting of the cage without cell in place.

6. Attach the fuel cell straps to the front mounts with the $\frac{5}{16}$ " mounting nuts and bolts. After you trial fit the cage and make the final installation, the top of the strap should be flush against the flange welded to the frame (See photos below).



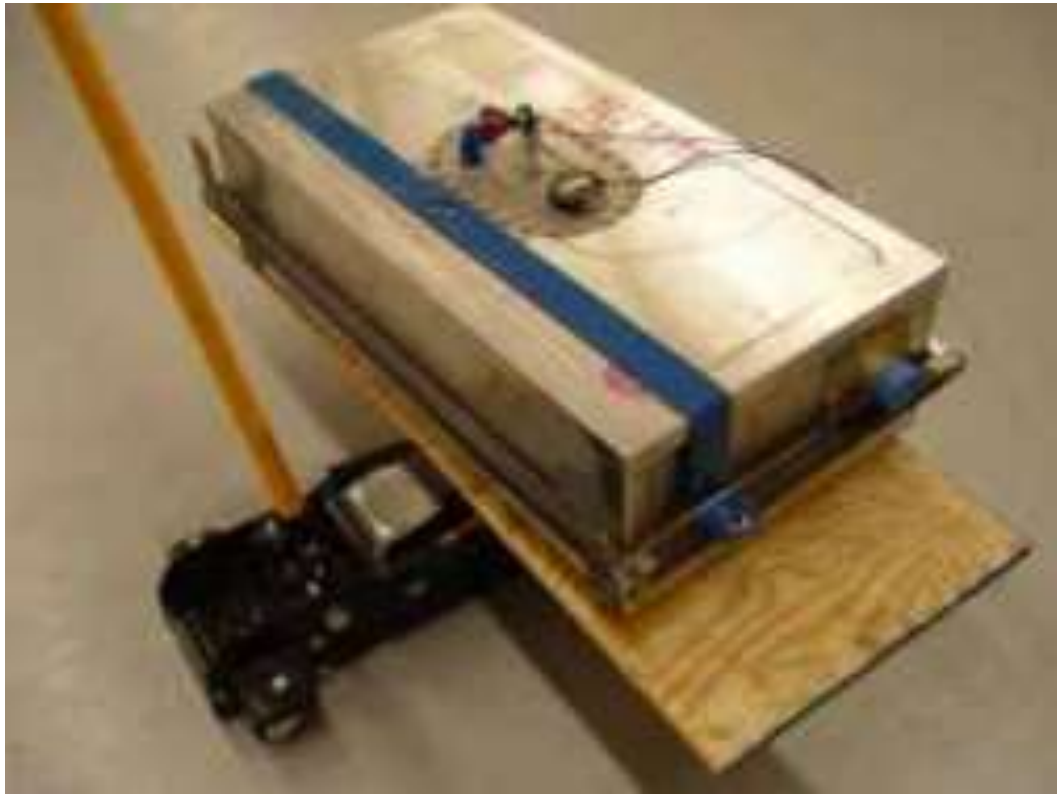
Front mount of Passenger side strap.



Front mount of Driver side strap.

7. Swing the cage toward the rear of the car and bolt it to the lower body mount bracket using hardware from the kit.
8. Once you are confident that all necessary adjustments have been made for the cage to fit tightly, remove the cage.

9. Place the cell inside the cage and place the upper strap on top of the cell and mount to the cage before raising the cell into position (See photo below). It is not necessary to have the bottom of the strap mount flush to the face of the tab on the side of the cage. The cage was designed to have a gap between the tab and the strap to keep tension on the cage, thus holding it in place.



Upper strap mounted to cage.

10. With the cell inside the cage, attach all of the lines to the tank, as they will be tough to reach once the cage has been installed. Another method would be to cut an access panel in the trunk floor aluminum, then install the connections. This also allows easy access for later service.
11. Following the same procedure as in the trial fit, raise the cage and mount it in place.
12. Use the shorter bolts provided instead of the ones originally mounted on the car. Do not fully tighten the bolts until you are sure that all of the brackets are aligned and the bolts will fit properly.



Some fuel cells will have a fine white powder in them from the factory. After running the car for a short time power may be reduced and it may be necessary to remove and clean the fine screen under the pickup filtering sock located on the fuel pump. It is also a good idea to change the main fuel filter at this time.