



## Gas Tank Skid Plate Installation Instructions for 1999-2004 Jeep® WJ Grand Cherokee

Thank you for purchasing your new Skid Row Offroad gas tank skid plate. It is designed to give you peace of mind while traversing even the toughest trails.

Your skid plate package should come complete with the following parts:

1. (1) Gas Tank Skid Plate
2. (1) Driver's Side Mounting Bracket
3. (1) Passenger Side Mounting Bracket
4. (2) Gas Tank Retaining Straps
5. (6) 3/8-16 UNC x 1" Carriage Head Bolts
6. (2) 3/8-16 UNC x .75" Carriage Head Bolts
7. (2) 3/8-16 UNC x 1.50" Carriage Head Bolts
8. (8) 3/8-16 UNC Hex Nuts
9. (8) 3/8" Lock Washers
10. (8) 3/8" Flat Washer
11. (2) 1/4-20 UNC x .75 Hex Head Bolts
12. (2) 1/4-20 UNC Hex Nuts
13. (2) 1/4" Flat Washers
14. (2) 1/4" Lock Washers
15. (2) 3/16" Thick Spacers
16. (4) Plastic Push Pins
17. (1) 6" Black Plastic Zip Tie



**It is highly recommended that your Jeep's gas tank is nearly empty before starting the installation in order to make the gas tank lighter and easier to work with.**

**If you raise the vehicle to work on it, be sure to place jack stands under the vehicle before working underneath it!**

**WARNING: THE FUEL SYSTEM IS UNDER CONSTANT PRESSURE EVEN WITH THE ENGINE OFF. ALL FUEL PRESSURE MUST BE RELEASED BEFORE REMOVING GAS TANK.**

**WORK IN A WELL VENTILATED AREA. FUEL PRESSURE RELEASE**

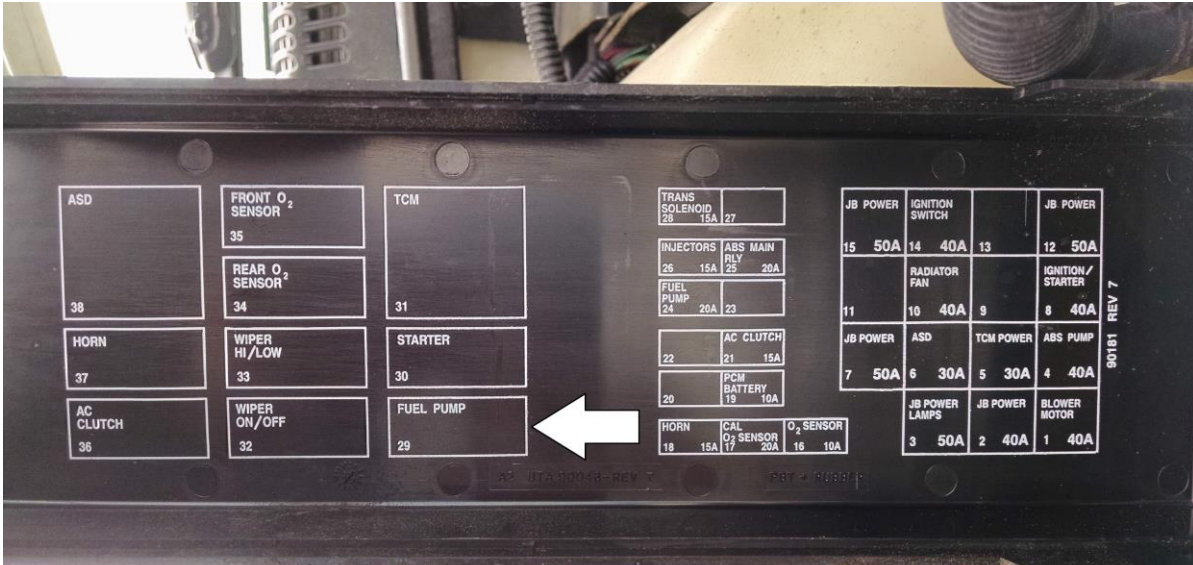
To release the fuel pressure, follow these simple steps:

**Step 1:** Remove the gas cap.

**Step 2:** Remove the fuel pump relay from the Power Distribution Center in the engine compartment. The location of the relay is noted on the underside of the cover and is noted in the photos below.

**Step 3:** Start and run the engine until it stalls.

**Step 4:** Try restarting the engine. If it no longer starts, the fuel pressure has been released.



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Again, it is highly recommended that your Jeep's gas tank is nearly empty before starting the installation in order to make the gas tank lighter and easier to lift.

### DRAINING OF GAS TANK

If you do need to drain the gas tank, the quickest method is by draining it through the tank vent fitting. Follow these simple steps:

**Step 1:** Release pressure from the fuel system as described above.

**Step 2:** Disconnect the negative battery cable from the battery.

**Step 3:** Lift and support vehicle using sturdy jack stands.

**Step 4:** From the front of the gas tank, loosen the clamp on the fuel vent hose at the fuel tank end of the hose and then remove the hose from the tank fitting.

**Step 5:** Insert a length of 3/8" OD, thin-wall, clear tubing into the gas tank vent fitting.

**Step 6:** Either siphon or pump the remaining gasoline into an approved gas can or cans. If using a pump, make sure the pump is specifically designed for pumping gasoline and that it cannot create a spark.

**Step 7:** Once the gas tank is empty, you can start removing it following the steps below.

### GAS TANK REMOVAL

**Step 1:** Disconnect the negative battery cable from the battery.

**Step 2:** Lift and support vehicle using sturdy jack stands.

**Step 3:** Remove the rear tow hooks.

**Step 4:** Remove the trailer hitch.

**Step 5:** Remove the four clips that hold the plastic rear bumper cover to the gas tank skid plate.

**Step 6:** Remove the two mounting bolts that hold the heat shield to the gas tank skid plate on the passenger side near the exhaust pipe. **Remember, you will be re-using the heat shield as it protects the plastic gas tank from the hot exhaust pipe.**

**TIP:** You may find it easier to reach the fuel filter/pressure regulator in order to disconnect it if you remove the driver's side, rear tire first.

**Step 7:** Disconnect the fuel pressure hose at the engine side of the fuel filter/pressure regulator. You can leave the filter/regulator attached to the hoses from the gas tank. However, this is also a good time to replace it, especially if it's never been done before. You will also need to remove the two bolts that hold the filter/regulator to the body.

**ALTERNATIVE Step 7:** You can also disconnect the two hoses from the gas tank side of the filter/regulator and leave it attached to the body. We've simply found it easier to remove the one engine side hose, rather than the two gas tank side hoses.

**TIP: Removing the hose connectors from the filter/regulator.**

- There are several types of fuel line connectors used on Jeep vehicles. Our test vehicles used Two-Tab Type Fittings on the engine-side of the filter/regulator.
  - Clean fitting of any dirt (mud!) before disassembly.
  - We recommend spraying the fitting with penetrating oil or WD-40 prior to attempting to disconnect it.
- A. **Single-Tab Type Fitting:** This type of fitting is equipped with a single pull tab. The tab is removable. After the tab is removed, the quick-connect fitting can be separated from the fuel filter.
- (a) Press release tab on side of fitting to release pull tab. **If release tab is not pressed prior to releasing pull tab, pull tab will be damaged.**
  - (b) While pressing the release tab on side of fitting, use a flat blade screwdriver to pry up the pull tab.
  - (c) Raise the pull tab until it separates from quick connect fitting.
- B. **Two-Tab Type Fitting:** This type of fitting is equipped with tabs located on both sides of the fitting. The tabs are supplied for disconnecting the quick-connect fitting from the filter.

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(a) To disconnect the quick-connect fitting, squeeze plastic retainer tabs against sides of the quick-connect fitting with your fingers. Tool use is not required for removal and may damage the plastic retainer.

(b) Pull the fitting from fuel filter.

(c) The plastic retainer will remain on filter after the fitting is disconnected. The o-rings and spacer will remain in the quick-connect fitting connector body.

C. **Plastic Retainer Ring Type Fitting:** This type of fitting can be identified by the use of a full round plastic retainer ring that is usually black in color.

(a) To release fuel system filter from quick connect fitting, firmly push the fitting towards filter while firmly pushing the plastic retainer ring into the fitting. With the plastic ring depressed, pull the fitting from the filter/regulator. **The plastic retainer ring must be pressed squarely into fitting body. If this retainer is cocked during removal, it may be difficult to disconnect fitting. Use an open-end wrench on shoulder of plastic retainer ring to aid in disconnection.**

(b) After disconnecting, the plastic retainer ring will stay with the quick-connect fitting connector body.

(c) Inspect fitting the connector body, plastic retainer ring and fuel system component for damage. Replace if needed.

**TIP:** Since gas is definitely going to spill, have a rag or some oil-dry handy to clean up the mess. You could also put a tray below to catch the gas to minimize the mess or use a rag around the lines to catch any fuel that spills. Another thing that can help reduce the amount spilled would be to have a small 3/8" rubber cap ready to put over the end of the filter/regulator. A short length of 3/8" rubber hose with a bolt stuck in it can work, too.

**Step 8:** Disconnect the EVAP canister vent hose near the front of the gas tank.

**Step 9:** Disconnect the fuel pump electrical connector at the front of the gas tank. Note that the electrical connector is attached to the body.

**Step 10:** Cut the zip tie holding the rear axle vent hose to gas tank vent hose.

**Step 11:** Loosen the fill and vent hose clamps at the gas tank and disconnect the hoses from the gas tank. This was the easiest method on a 2004 model.

**ALTERNATIVE Step 11:** You can also remove the hoses from the filler tubes on the body. This was the easiest method on a 1999 model.

**Step 12:** Place a hydraulic jack or a large, strong friend under the bottom of the gas tank.

**Step 13:** Remove the skid plate mounting bolts using an 18mm socket. In case you need replacements, these bolts are M12 x 1.75 x 35mm.

**Step 14:** Carefully lower the gas tank making sure that nothing is hanging up.

**Step 15:** Remove the two gas tank strap nuts and the straps. Then remove the gas tank from the skid plate.

**Step 16:** Discard the old, factory skid plate or sell it for scrap.

## GAS TANK / SKID PLATE INSTALLATION

**Step 1:** Remove the mounting brackets and straps from the bottom of the skid plate.

**Step 2:** Loosely assemble the brackets to the sides of the skid plate. The driver's side of the skid uses the bracket with the U-shaped relief for the hoses. The passenger's side has a square hole cut through it. Install the mounting brackets using (6) of the 3/8-16UNC x 1" carriage bolts. The heads of the carriage bolts belong on the inside of the skid plate. The mounting brackets will mount to the outside of the skid plate with the actual mounting flanges pointing toward the outside of the vehicle. Then install the 3/8" flat washer, lock washer, and hex nut snugly, but do not tighten fully. This will allow you to move the mounting brackets in order to align with the holes in the frame.

**NOTE:** If you are using an aftermarket hitch with the receiver below the plastic bumper cover, you may need extra clearance. Use the short, 3/8-16 UNC x .75 carriage bolts in the rearmost mounting holes on each side.

**Step 3:** Place the gas tank into the new Skid Row Offroad skid plate.

**Step 4:** Install the gas tank retaining straps into the openings at the front of the skid plate. Using the two 3/8-16 UNC x 1.25" carriage head bolts, flat washers, lock washers, and hex nuts attach the straps at the rear lip of the skid plate. Make sure there are no hoses or wires caught under the straps and then tighten both bolts.

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**Step 5:** Using a floor jack raise the gas tank skid plate into place making sure it fits into the spare tire well area. Make sure that no hoses or wires are pinched.

**Step 6:** Install the (8) M12x1.75 x 30mm bolts into the chassis, but do not tighten fully.

**Step 7:** Make sure that there is clearance at the front of the gas tank/skid plate assembly for the suspension by pushing the skid plate rearward.

**Step 8:** Re-install the hitch and/or rear tow hooks at this time.

**Step 9:** Tighten the (8) M12x1.75 mounting bolts to 60 ft-lbs (81N-M).

**Step 10:** Reattach the exhaust shield to the skid plate using the ¼-20UNC x .75 hex bolts, flat washers, lock washers, and hex nuts. **Do not leave the exhaust shield off! The gas tank is plastic and the heat from the exhaust pipe can damage the tank.** Once the shield has been reattached, tighten all the bolts.

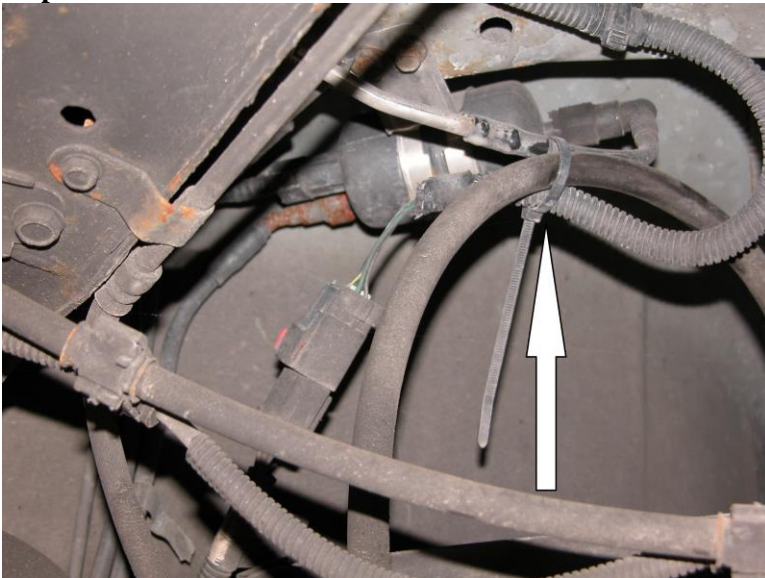
**Step 11:** Re-install the fuel fill and vent hoses.

**Step 12:** Connect the fuel pump electrical connector near front of tank.

**Step 13:** Connect fuel lines to fuel filter/regulator and bolt it back onto the vehicle if it was removed.

**Step 14:** Connect the EVAP hose near front of tank.

**Step 15:** Position the rear axle vent hose and install the new 6" zip tie as shown below.



**Step 16:** Re-attach the rear bumper cover to the skid plate using the (4) plastic push pins.

**Step 17:** Re-connect the negative battery cable to battery and start the engine to pressurize the fuel system and then shut it off.

**Step 18: IMPORTANT!!** Check for leaks!!

**Step 19:** If there are no leaks and everything has been tightened, then you're done, and ready to hit the trail!!

We hope you enjoy your new Skid Row Offroad gas tank skid plate!

Sincerely,

*Your friends at Skid Row Offroad*

**Skid Row Offroad**  
100 Creek Road, Carlisle, PA 17013  
Phone 717-701-8315

[www.SkidRowOffroad.com](http://www.SkidRowOffroad.com)



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