Please read before installing:

This modification allows you to use the air space designed into the tank to allow for fuel expansion. If you fill your truck with fuel until you can see fuel in the filler neck on a hot summer day and then park your truck in the sun, there will be no place for the expanding fuel to go. This may cause fuel to leak. Use common sense when you fill your truck to the fill neck. This modification will probably void the warranty on your fuel tank. This modification has not been crash tested. If you have any doubts about whether you should attempt this installation and drill a hole in your fuel tank, I will refund the purchase price of the kit when the kit is returned to me minus the shipping. If you decide to sell the truck in the future, please inform the new owner about this modification so they know about the need for fuel to expand during hot temperatures. Make this modification at your own risk.

Recommended tools:

-- 15 mm deep socket

-- 8” extension

-- Socket universal joint

-- 15mm closed end ratcheting wrench (not needed if you have a deep 15mm socket)

(Short bed trucks don’t have the center drive shaft support around the forward tank strap bolt, so the closed end ratcheting wrench and universal joint for the deep socket won't be needed.)

-- Large adjustable wrenches, pipe wrenches, Channel-Lock pliers, or strap wrenches for the large bulkhead fitting.

-- Utility knife

-- Screwdriver

-- Blocks, hydraulic floor jacks, or an ATV jack to help lower tank.

-- Rubber mallet

-- 1 3/8ths” (one and three eighths) hole saw and drill

-- Empty whipped cream tub or similar

-- Plastic zip ties

-- Epoxy to lock threads -OR- Super glue and Silicone

Instructions:

There are pics of the various parts of the install under the Spooled-up reader's rigs section of the TDR. You can access this by using the link below:

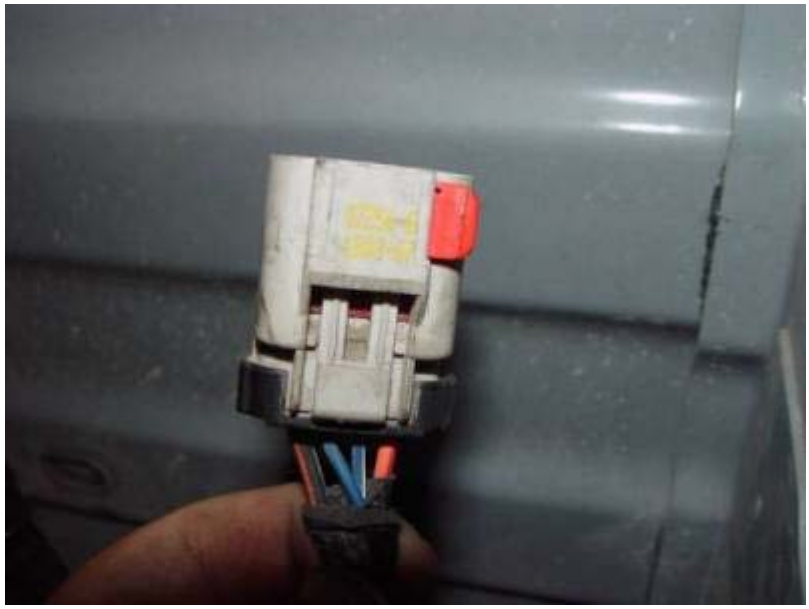
http://www.tdr1.com/user_gallery/displaygallery.php

1. **Make sure you have nearly an empty tank. Taking the Distance to empty down to zero is recommended. I drove 20 miles after I hit zero and had about two inches of fuel in the bottom of the tank.**

2. **Two wheel drive trucks should be jacked up and jackstands installed so you can slide the tank out from under the truck in step 7.**

3. **Disconnect the fuel filler and vent hose from the filler neck. Loosen the tank strap nuts. On the forward tank strap nut, I reached through the drive shaft support with the 15mm closed end ratcheting wrench to loosen the nut enough to get a universal joint and a deep socket on it (This won't be necessary with a short bed). A normal deep socket can be used if it is not fully seated on the extension. This will allow it to bite just enough of the nut to loosen it. Loosen the nuts to the bottom of the threads (do not remove nuts yet!) and disconnect the 2 fuel lines and electrical connector on top of the tank. You may get access to the lines through the fender well area also. You will have to remove the fender liners (if you have them) if you want to go this route.**

4. **To disconnect the electrical connector: Slide the red colored tab towards the rear of the truck to unlock. DO NOT REMOVE THE RED TAB. This will re-lock the connector in place. Push down on the tab on top of the connector near where the wires enter the connector. It won't move much. Pull and wiggle the connector while pushing on the tab and it will slide off. If you need a better look at the connector, look behind the driver's side battery. There are two similar connectors there. See pic below and in the link on page 1.**



5. **Disconnect the fuel lines. The fuel lines have quick-connect fittings. Squeeze the 2 tabs together as you push the fuel line off. These lines are different sizes, so they cannot be put back on the wrong barb. These lines can be tricky to remove and re-install. It might be a good idea to see how they go back on right after you take them off. The tabs must line up with the expanded sides on the female end of the fuel line. The expanded sides can be located by the holes on the side of the female end of the fuel line. See the figure below of the fuel line quick disconnect. In the figure below, you squeeze (1) together, as you push (2) off the barb. (1) will remain on the barb and can rotate freely on the barb. It must be rotated to line up with (2) when re-installing. There is a fuel line barb that is between the electrical connector and the most rearward fuel line (see pic under step 9) On some trucks, the line is twisted just enough that it is very difficult to get your fingers in there to release it. You may be able to get it off easier if you use a cable tie, wire, or fishing line and wrap it around the clips (1) and squeeze them while you push the fitting off.**

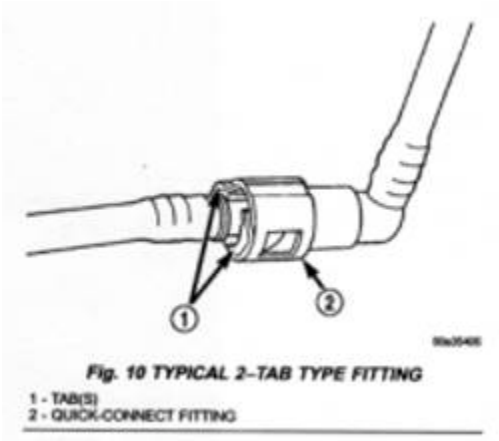


Fig. 10 TYPICAL 2–TAB TYPE FITTING

1 - TAB(S)
2 - QUICK-CONNECT FITTING

6. **IMPORTANT:** Before lowering the tank, check the area where the bulkhead fitting will mount and make sure there is no cross member that will interfere with the fitting. Mark the tank with chalk, masking tape, or other means so you know where the cross members are and where the clear area above the rear part of the tank is. Once the hole is drilled, you can't go back and do this step!

7. The tank straps lift up and out of the frame brackets. Lower the tank to the ground and slide it out from underneath the truck.

8. Clean the area around the white ring nut and pickup/sending unit and the area on the top of the rear of the tank.

9. Make note of the position of the fuel inlet tubes and the triangle on top of the sending unit. This triangle lines up with alignment marks on the tank. The unit must be installed in the same position it came out. This is for proper float clearance against the side of the tank. See pic of the alignment triangle and marks below at the 1:00 position on the unit. Using the rubber mallet, carefully tap the large white ring nut counterclockwise to remove. The top of the pickup/sending unit is lightly spring loaded to pop up about 2". Remove the whole unit from the tank being careful of the float. The unit will be full of diesel fuel. There is a sleeve gasket that may remain on the tank or may come off with the unit. Dodge recommends that you replace this gasket when removing the unit. I re-used mine with no problems.

10. Time to drill. Drill in the highest part of the tank on the raised portion at the rear of the tank. See pic below for placement of bulkhead fitting. This is the same for long and short bed trucks.

NOTE: It is not necessary to disassemble the 90-degree fitting from the bulkhead fitting. It is pre-sealed with thread sealer, and the large nut will come off over the 90-degree fitting.

The orientation of the 90-degree fitting is different for long and short bed trucks. See step 12 below for more info on orientation of the 90-degree fitting. Mounting further rearward may interfere with a bed support cross member. Locate the hole so that there is enough flat area for the bulkhead fitting to seal against. Don't drill where there is contour in the tank. Use a plastic tub just large enough to get through the large sending unit hole to catch the shavings, and drill the 1 3/8" (one and three eighths) hole.

11. Install the bulkhead fitting into the hole you made in the tank. Do not tighten the fitting all the way at this time.

12. On LONG BED trucks, you can point the 90-degree elbow forward and towards the driver's side at an angle (See pic above under step 10) if you want to run the new vent outside the frame rails (see step 15 for pic). Point it straight forward if you want to run it inside the frame rails. There are some edges for the hose to rub against inside the frame rail, so be careful to protect the hose or secure it so it doesn't rub when you run it this way. On SHORT BED trucks, the fitting should point straight forward.

THE BULKHEAD FITTING AND NUT HAVE REVERSE THREADS. The Buna-N gasket will seal well with moderate pressure. The nut on the bulkhead fitting should be installed with the word "tighten" facing out. The nut goes on very tight otherwise. It should thread on easily. Install the bulkhead fitting as pictured below.

Do not use thread-locking compounds on the bulkhead fitting, as they are not compatible with nylon. To lock the threads, apply a bead of epoxy where the nut meets the threads after the fitting is tightened down. This will keep the nut from backing off. You may also apply a bead of super glue at the joint where the nut meets the threads. Super glue can be weakened with exposure to water. To prevent this, run a bead of silicone around the joint where the nut meets the threads to protect the super glue.

13. Attach the 3/4" hose to the 90-degree fitting and secure it with a hose clamp.

14. Install the pickup/sending unit with the sleeve gasket making sure to line up the triangle with the alignment marks (see step 9). Be careful not to cross thread the white ring. It is difficult to start these threads. To help line up the threaded plastic locking collar that holds the sending unit down, look at the threads on the collar and the threads on the tank. Locate the beginning of the first thread on the collar, and first thread on the tank. Make sure you align them before you start tightening the collar. This should make the installation easier. Another suggestion is to warm up the collar a little with a heat gun, this seems to make it go on easier.

15. Install the tank in the truck making sure to connect the fuel lines and electrical connectors. I ran my vent hose outside of the frame and zip tied it to the bed cross member. You may also run the hose inside the frame rails. It's a matter of personal preference. See pic below.

16. Connect the new ¾" vent hose to the metal vent line that the original vent line came off of. Tighten the hose clamp.

17. Install the hose barb and cap (it's already sealed with thread sealer) in the original vent line to cap it off. Install and tighten the factory hose clamp. You can zip tie the original fuel vent to the fuel fill line to secure it. This picture was taken facing the rear of the truck. I cut my original metal vent line on the original installation. You will have metal vent line parallel with the fill line. This pic is of a long bed truck. Short bed trucks use only 2 feet of hose and the metal vent line is much closer to the bulkhead fitting installed in the tank.

If you have any questions, please feel free to call me at home at 812-656-8223 or on my cell at 717-808-7376.