TITAN PN: 01 0000 0148

Important: Please read these instructions carefully and completely *before* starting the installation.

TITAN Fuel Tanks™

INSTALLATION INSTRUCTIONS

Gen6

Extended Capacity Replacement Tank for Diesel Chevrolet / GMC Trucks—

7010201*, *New and Improved: *For Chevrolet / GMC models 2500 & 3500, model years 2001-2010, with Duramax diesel engines and pickup beds: Crew-Cab, Short Bed (6 ½ ft.)*

Required Tools:

1 ea. Ratcheting socket driver
1 ea. ½" socket
1 ea. 8 mm socket
1 ea. 13 mm socket
1 ea. 5/8" socket
1 ea. Torque wrench handle to fit ½" socket
1 ea. ½" end wrench
1 ea. 11 mm end wrench
1 ea. Large flat blade screwdriver
1 ea. Medium flat blade screwdriver
1 ea. Diesel fuel line release tool
1 ea. Razor blade or sharp box cutting knife
1 ea. Small mallet or hammer.

Optional Recommended Tools:

1 ea. Hydraulic transmission jack
1 ea. Vehicle hoist

Generation 6

Parts List:

1 ea. Extra heavy-duty cross-linked polyethylene (XLHDPE) fuel tank for one of the following General Motors diesel trucks:

Crew-Cab, Short Bed Tank Identification: "GM CCSB"

Note: *Each tank has the above identification designation on its top. Please check to be sure the tank is properly identified as the one to fit your truck.*

1 ea. **Gen6** Sending Unit Mounting Assembly, made of:
1 ea. 02 0000 0197 TITAN Gen6 O-Ring (packaged in warranty envelope)

2 ea. Roll-over, fill-stop vent valves (installed in top of tank)
2 ea. 5/16" vent hoses with caps

1 ea. Rear cradle bracket *Cradle (front and rear straps tied together)*
Front &/or Rear = 01 0106 0000

2 ea. 99 0000 0103 Extruded Rubber Bushings (IF optional Titan Shield was ordered, only one [1] rubber bushing will be included)

1 ea. Front Cross Member assembly, including:
1 ea. tapered right-hand side bracket
5 ea. 5/16" X 1" plated bolts
5 ea. 3/8" plated flat washers
3 ea. 5/16" nylon locking nuts

2 ea. Nylon Quick Ties

<u>Optional</u> Parts List:

1 ea. **Gen6** "LB7 Kit".

For trucks equipped with LB7, LLY, LBZ and LMM engines:

IMPORTANT NOTICE: *Before installation, be sure to thoroughly inspect inside of the tank for ANY foreign debris!*

I. Remove Original Equipment Tank

Step	Description

1 Place the vehicle on a hoist that leaves the entire underside of the frame *unobstructed.* It is recommend that installer remove the driveline for better access to the tank and accessories. *IMPORTANT:* Aluminum drivelines can be easily damaged if care is not taken in handling. Be very careful, they are very expensive to replace.

2 Drain all the fuel from the original equipment tank using a pump or siphon.

3 Disconnect fuel tank fill hose from original equipment tank.

4 Remove bolts and drop fuel cooler, located at the front of tank, down to gain access to lines on top of tank.

5 Disconnect fuel gauge electrical connection, feed line and return line from sending unit. *Note:* Use fuel line release tool to remove fuel lines from sending unit.

6 Support original equipment tank.

7 Loosen and remove the two (2) 15 mm bolts on outside of straps.

8 Remove original equipment tank with its straps from vehicle.

9 Tuck the wiring harness, differential breather hose, and brake line up on top of the frame as the new tank will need to be positioned against the frame for its entire length.

Note: *Some truck models may be equipped with a wiring harness for gooseneck and 5th wheel trailers. This will need to be moved to a new location and secured once the new tank is installed—generally behind the tank is best.*

10 Remove feed and return lines from sending unit and reinstall in factory position on truck.

11 Reinstall fuel cooler.

Note: *Trucks equipped with LB7 engines (2001 to early 2004) require an additional* ***Gen6*** *"**LB7 Kit.**" If you are installing on an LB7 and the kit wasn't ordered, contact your Titan dealer to obtain one.* ***Be sure to specify "Gen6".***

II. Prepare Vehicle and Replacement Tank

Step	Description

12 Remove sending unit from original equipment tank using hammer and screw driver to rotate factory sending unit hold-down ring counter-clockwise until it releases the sending unit. Leave original equipment factory O-ring gasket behind, do not use on new tank (See Fig. 1).

13 The new TITAN tank comes with an O-ring to seal for the sending unit. Make sure the new O-ring gasket is placed into the gland (groove) at the sending unit opening. (See Fig. 2).

(Fig. 1) Remove sending unit from original equipment tank using mallet or hammer and large screwdriver.

(Fig. 2) TITAN sending unit mount before sending unit is installed. Reuse the Top Locking Ring from the OEM tank.

Note: On trucks equipped with LB7 engines *(2001 to early 2004) please refer to "Special LB7 Sending Unit Installation Instructions" located after the main instructions. They replace steps 14-16 shown here.*

14 Carefully place the sending unit into the new tank. Make sure that the O-ring gasket is placed properly under the sending unit to seal correctly.

15 Place the sending unit into the TITAN tank. Be sure to turn the sending unit so that the tab lines up with the "tab location" marks on the tank (See Fig.3).

16 Place the top locking ring from the original equipment tank on top of the sending unit. Lock the ring onto the lugs on the tank and tighten by turning it clockwise as far as it will go (See Fig. 4).

(Fig. 3) Make sure the sending unit tab lines up with the "tab location" mark.

(Fig. 4) Tighten the original equipment hold-down ring by turning it clockwise as far as it will go.

III. Install Replacement Tank in Vehicle

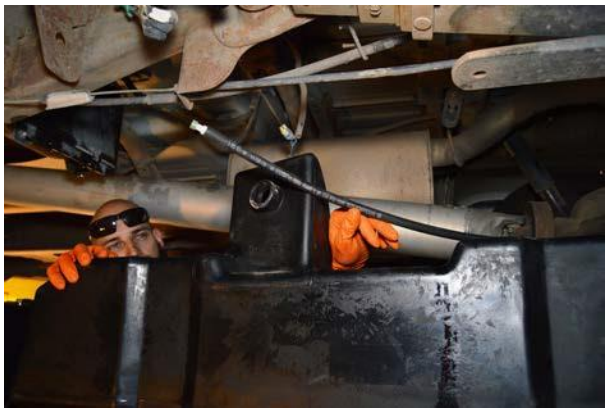
Step Description .

17 Place a rubber bushing, channel side down on the bottom of the front strap (the one that is flat, not curved) of the rear mounting cradle, centering it in the bottom ofthe inside of the strap, and press securely.

18 Place tank on a hydraulic transmission jack. Lift the tank high enough to reconnect the sending unit electrical connection, as well as both the return, feed line hoses, and primary vent line.

19 The tank is equipped with rollover valves and vent lines on the rear and front of the tank which vent to atmosphere. The ends of the vent lines must be routed to a point higher than the fill tower (where the fill hose attaches) on the tank (See Figs.5, 6 & 7).

(Fig. 5) Rear rollover valve with vent hose attached.



(Fig.6) The ends of both vent hoses must be installed higher than the tank's fill tower. Vent hose is shown here.

(Fig. 7) One of the vent hoses routed up and attached to the vehicle's body with quick tie.

(Fig. 8) Tighten cross member against frame using 5/16" plated bolts, washers and nylon locking nuts provided. Note exhaust particulate filter above cross member.

(Fig.9) Shown: Right-Hand Bracket for GM Cross Bar. The Cross Bar is held fast by tightening the 5/16" cap screw seen here at the upper left hand corner of the bracket. It is recommended that the installer position the Cross Bar, tighten down the cap screw as shown, and then drill a hole in the frame lip through the hole seen in the right-hand corner of the bracket. A 5/16" cap screw and nylon locking nut are provided for fastening this hole. It is advisable to apply Loctite Thread locker or equivalent to the bolts.

(Fig. 10) On vehicles with LB7 engines only, an interior fill hose is located inside the main fill hose. The tank vents through the space provided between the two hoses. Ten (10) inches needs to be cut off of the interior hose on end that goes to the tank as shown.

20 Once all connections are securely attached, lift the tank the rest of the way into place with the transmission jack. As the tank is lifted be sure the two vent line hoses are routed up higher than the fill tower and attached to the vehicle's body with the included quick ties. **Important: For proper venting, be sure the vent hoses are sloped down to the rollover valves with no "sags" of any kind. "Sags" can fill with fuel and prevent the tank from venting properly. Cut the vent hoses and shorten them to fit if needed** (See Fig. 7)**.**

21 The rear mounting cradle has two hangers that hang in the inboard original

equipment mounting points. There are bolt holes in the frame rail side that attach directly into the original equipment bolt holes. Hang the inboard side of the cradle first.

22 On the rear outboard section of the strap cradle, start the stock 15 mm bolt into the retaining clip until approximately half of the thread is through. Now, move to the forward strap and start the 15 mm bolt and tighten to the same depth. It is important to check the straps all the way around before tightening to ensure proper alignment and seating of the brackets. After checking alignment, tighten stock mounting bolts to original equipment specifications.

23 A front cross-bar support is included with the tank. It does not require drilling of the truck's frame rails to install. However, in cases where severe conditions might be expected, a small optional "locking hole" would be desirable (See Fig. 9).

24 Locate the second rubber bushing supplied. Place the rubber bushing, channel side down, on the bottom of the cross-bar tank cradle. Align the rubber bushing so that the center of the bushing is lined up with thecenter of the bottom of the inside of the cradle,and press it securely into place.

25 Place the cross-member on the frame at the very front of the tank. Hang it on the in-board side of the driver's side frame rail first. Lift cross-member to opposite frame rail (passenger's side). Set the separate tapered passenger side bracket on the frame and then bolt the cross member to it using two of the 5/16" plated bolts, with washers, and nylon locking nuts supplied.

26 Slide the cross-member along the frame rail towards the rear of the truck until it is under the tank, and in contact with it enough to substantially support it.

Note: *If the truck is equipped with an exhaust particulate filter canister (it looks like a small muffler located in-line before the truck's main muffler), move the end of the cross-member support on the passenger's side of the frame one direction or the other (forward or rear) until you obtain 1/4" of clearance or more under the canister.*

27 Using the other two 5/16" plated bolts provided; thread a 5/16" bolt into the nut welded on the tapered bracket on each end of the cross-bar and tighten against the frame (See Fig. 8). Be sure the cross-bar is secured well.

28 Connect the fill hose and vent hose (where applicable) and securely tighten with clamps. Make sure neither hose is kinked and both have a consistent downward slope.

Note: *LB7 trucks have an interior fill tube inside the fill hose. Ten inches (10") of the interior fill tube should be cut off the tank end of the tube (See Fig. 10).*

29 Make sure that ALL mounting hardware, clamps, bolts, etc. are tight.

30 Replace drive line assembly on the truck.

31 **Lower vehicle, fill with diesel fuel and check for leaks.**

Special Gen6 LB7 Sending Unit Installation Instructions

These Instructions Replace Steps 14-16 Above

These Steps Require a Gen6 "LB7 Kit"

14 Put aside the top locking ring from the original equipment tank, it will not be needed again. Place the thin flat flange with the three tabs, from the LB7 Kit onto the sending unit O-ring gasket. One of the three tabs has a "T" stamped on it. Place the tab with the "T" face up, lined up with the "tab location" mark on the tank.

15 From the bottom of the sending unit, thread the provided smaller O-ring gasket over the unit until it is at the base of the unit's top. Carefully place the sending unit into the new tank on top of the flange you installed above. Make sure the O-ring gasket is placed properly under the sending unit to seal correctly.

16 After placing the sending unit in the tank on top of the O-ring gasket, rotate it so the fuel line fittings are positioned at the *same* angle as in the original equipment tank. If the fittings point too far either direction they will not hook up correctly or the float will press against the side of the tank resulting in improper operation of the fuel gauge. Place the LB7 hold-down ring from the kit on the sending unit and tighten by turning it clockwise as far as you can.

NOW GO TO STEP 17 ABOVE AND FOLLOW THROUGH TO STEP 32

How do you know if you need an LB7 Kit?

Answer: LB7 engines were used on all 2001 to 2003 General Motors diesel trucks. On 2004 models it is required if the eighth character in the VIN is a "1". Contact your TITAN™ dealer if you have any questions.

Important: *Be sure that all vent lines are free of any sagging areas. Sags can fill with and trap fuel and prevent the vent lines from venting the tank. Slow filling, "spitting" and surging can result. Shorten vent lines and/or tie them to the body and chassis as needed to be sure they drain and do not trap liquid fuel.*

Be sure to return the completed warranty registration for your new Titan fuel tank; or you can register on-line at www.titanfueltanks.com

You will find your tank's serial number located approximately ½ way up the driver's side located towards the rear of the tank; adjacent to the sending unit.

A tank must be registered within sixty (60) days of receipt for the warranty to be valid.

Go to TITAN's website to view video installation instructions and tips.

www.titanfueltanks.com

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