

TITAN pt. no.: 01 0000 0625

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

TITAN Fuel Tanks INSTALLATION INSTRUCTIONS Generation V



7010511: For 2011-16 GM truck models 2500HD & 3500HD: Extended Cab & Crew Cab, Long Bed (8 ft.)

Required Tools:

- 1 ea. Ratcheting socket driver
- 1 ea. 13 mm socket
- 1 ea. 12 inch long socket driver extension
- 1 ea. 8 mm end wrench
- 1 ea. 8 mm socket
- 1 ea. 5/8 inch socket
- 1 ea. 5/8 end wrench
- 1 ea. Medium flat blade screw driver
- 1 ea. Needle nose pliers
- 1 ea. Torque wrench handle for socket
- 1 ea. Mallet or small hammer
- 1 ea. Razor blade or sharp bladed knife.
- 1 ea. Hook pick or small ice pick
- 1 ea. Diagonal Cutters
- 1 ea. Hacksaw

Recommended Optional Tools:

- 1 ea. Transmission jack
- 1 ea. Vehicle hoist
- 1 ea. Impact wrench
- 1 ea. Sawzall with Blades
- 1 ea. Hand grinder-sander

Note: If tank is to be installed without the use of a vehicle hoist, provision must be made to be able to raise the vehicle high enough so that the front of the tank can be angled over the frame's tubular steel cross member.

Note: Installation of Titan Tank will vary depending on truck configuration. Section III of instructions will correspond to the following:

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2013-2016 Crew Cab Long Bed with One Piece Driveline - Page 12

Parts List:

1ea. Extra heavy-duty, 60* gallon, cross-linked polyethylene (XLHDPE) fuel tank

Tank Body Identification: "GM CC & XCLB, 7020311

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

The following parts (Sending Unit Mounting Assembly) should already be installed on the tank (top flange and 5/16" nylon locking nuts should be loosely installed).

- 1 ea. Sending Unit Mounting Assembly, consisting of:
 - 2 ea. 01 0000 0137 Stainless steel half flange with 3/8" studs (mounted inside tank)
 - 1 ea. 01 0000 0139 Flat flange gasket (mounted inside tank)
 - 8 ea. 02 0000 0162 3/8" flat retainers
 - 1 ea. 01 0000 0110 "O" Ring sending unit gasket (primary "O" ring gasket)
 - 1 ea. 01 0000 0138 Top sending unit flange
 - 8 ea. 02 0000 0163 3/8" nylon locking nuts

- 1 ea. 01 0113 0000 A Rear tank strap, longer strap
- 1 ea. 01 0113 0000 A Front tank strap, shorter strap
- 2 ea. 99 0000 0103 Extruded Bushings
- 1ea. 01 0115 0000 GM Crew Cab Front Support Kit for 2013+ Long Bed Vehicles with One Piece Drive Shafts
- 1ea. 01 0114 0000 GM Crew Cab Front Support Kit for 2011+ Long Bed Vehicles with Two Piece Drive Shafts

Note: The General Motors tank straps are identified by designations cut into the very bottom of the strap or on one side. See “tank strap” part numbers above.

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

I. Remove Original Equipment Tank

| <u>Step</u> | <u>Description</u> |
|-------------|--|
| 1 | Place the vehicle on a hoist that leaves the entire underside of the frame unobstructed. |
| 2 | Drain all the fuel from the original equipment (OEM) tank using a pump or siphon. |
| 3 | Remove OEM tank plastic shield or shell (if applicable) from vehicle. |
| 4 | Support the OEM tank. |
| 5 | Disconnect the fill hose from the OEM tank’s king nipple. |
| 6 | Disconnect fuel lines at the front of the OEM tank near the frame. Leave fuel lines in place, for the moment, on top of OEM tank. |
| 7 | Loosen and remove OEM tank straps by undoing the bolts at outside of tank and unhook straps on the inside and lower tank a few inches. |
| 8 | Disconnect vent line hose from sending unit at the top of the tank |
| 9 | Disconnect fuel gauge electrical connection from sending unit. |
| 10 | Remove the OEM tank from the vehicle. |

II. Prepare Vehicle and Replacement Tank

| <u>Step</u> | <u>Description</u> |
|-------------|--------------------|
|-------------|--------------------|

- 11 Use hook pick or small ice pick to disconnect the fuel lines from the sending unit (See Fig. 1).
- 12 Use a mallet and screw driver or punch to loosen the OEM hold-down ring on the sending unit by tapping it and turning it counter-clockwise (See Fig. 2). Before removing the sending unit, notice where the sending unit “tab” and the electrical fitting are pointing or “clocked”, they will need to be installed the same way, at the same angle in the replacement tank. Remove the sending unit from the OEM tank. Do NOT reuse factory “O” ring seal.



(Fig. 1) Disconnect fuel lines at the sending unit using pick.



(Fig. 2) Loosen hold-down ring on OEM tank by tapping counter-clockwise, remove and lift out sending unit.

- 13 The new TITAN fuel tank comes with the sending unit mounting hardware assembled. Remove the 3/8” nylon lock nuts from the studs holding the top flange. Remove the top flange. You will see the “O” ring gasket in place under the flange. Leave the “O” ring gasket, studs, and retainers assembled as they are (See Fig. 3).
- 14 CHECK THE ½ FLANGES INSIDE THE TANK TO BE SURE THEY ARE SEATED FLAT AND NOT OVERLAPPING and have not shifted in shipment. Make sure the flat gasket is in place between the ½ flanges and the top inside surface of the tank.
- 15 In some cases the sending unit may have curved ribs on the top which prevents the replacement tank top flange from fitting over it properly. If this is the case, it can be corrected by either shaving approximately 1/16” off the outside of the

ribs, or by entirely removing the rib closest to the electrical plug with a pair of dikes (diagonal cutters) and hand grinder-sander (See Fig. 4).



(Fig. 3) Leave the “O” ring gasket, studs and retainers assembled as they are (shown before sending unit, top flange, and 3/8” nylon Locking nuts are installed).



(Fig. 4) If sending unit is equipped with curved ribs on the top, either shave approximately 1/16” off the outside surface of both, or remove the rib closest to the electrical plug using dikes and a hand grinder-sander as shown above so top flange will fit correctly. **Be sure surface is perfectly smooth and even to prevent breakage when top flange is tightened.**

- 16 Carefully place the sending unit into the new TITAN replacement tank. Make sure the “O” ring gasket is placed properly under the sending unit to seal correctly. Before installing the sending unit into the replacement tank, **BE SURE THE INSIDE OF THE TANK IS FREE OF DIRT OR DEBRIS OF ANY KIND.**
- 17 After placing the sending unit into the tank on top of the “O” ring gasket, rotate it (carefully so as not to displace the “O” ring) so the fuel fittings and electrical connections are positioned (or “clocked”) at nearly the *same* angle as in the OEM tank. In some cases, the flange mounting studs may interfere with the fuel line and/or electrical connections. If this is a problem for your installation, using a pair of dikes remove 1/2” of the tab from the edge of the sending unit on the side of the tab nearest the electrical connection (See Fig. 5). Then place the sending unit in the replacement tank with the sending unit rotated slightly clockwise enough to clear the studs (See Fig. 6).



(Fig. 5) If sending unit connections interfere with the mounting studs, trim ½” off the side of the tab nearest the electrical connector.



(Fig. 6) Be sure the sending unit is “clocked” nearly the same as in the OEM tank. If the tab was trimmed as in Fig. 5, place the sending unit and rotate it slightly more clockwise until it clears the studs as shown.

- 18 Place the top flange on the studs, on top of the sending unit, so as to hold it down securely.
- 19 Use the 3/8” nylock nuts to tighten down the top flange. **Tighten to 20 foot pounds (ft. lbs) of torque using a torque wrench.** Be sure to tighten in a “star” pattern, starting with the four studs adjacent to where the ½ flanges meet so as to prevent the flanges from overlapping, and to ensure all nuts are equally tightened and the “O” ring gasket is properly seated. Carefully “snug” the nuts equally before tightening to specification (See Fig. 7). After initially tightening to 20 foot pounds (ft. lbs.), it is a good practice to check the torque again after 15 minutes or so.
- 20 Retrieve the fuel lines from the OEM tank and attach the suction and return fuel lines to the sending unit which is now installed in the replacement tank. After attaching them to the sending unit, lay the fuel lines into the fuel line groove provided in the top of the replacement tank (See Fig. 8). If desired, it is good practice to tie the two lines together with snap ties.



(Fig. 7) Using a torque wrench, tighten the top Flange nuts to 20 ft. lbs. using a “star” pattern.



(Fig. 8) Attach the fuel lines to the sending unit and lay them in the retaining groove provided on the top of the replacement tank.

- 21 On the frame, located in front of the OEM tank is a jig bracket that is used in fabrication of the vehicle’s frame at the plant. It has a “U” shaped weldment at its base against the frame. Two metal fuel lines are attached atop the weldment. The portion of this bracket, just *past* the edge of the weldment, will need to be cut off to allow installation of the oversized replacement tank. This can be done with a Sawzall, a hand grinder or even a hacksaw. The “U” shaped weldment is left intact to anchor the fuel lines (See Figs. 9 & 10).



(Fig. 9) Cut jig bracket with saw or grinder.



(Fig. 10) Jig bracket shown cut away leaving weldment holding fuel lines.

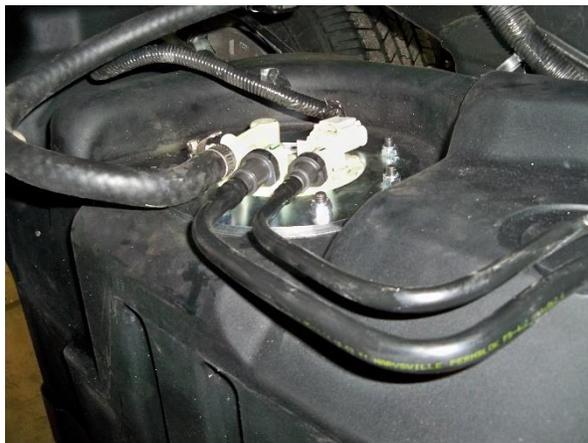
III. Install Replacement Tank in Vehicle

2011-2016 Extended Cab, Long Bed

| <u>Step</u> | <u>Description</u> |
|-------------|--|
| 22 | The TITAN tank straps will reuse the original equipment mounting brackets and bolts. Hang the inboard side in the brackets first. |
| 23 | Place tank on a transmission jack. Lift the tank and hold the front of the tank higher to hook it over the round cross member which is just behind the transmission (See Fig. 11). Then lift the tank high enough to reconnect the sending unit electrical connection and the vent hose to the sending unit (See Fig. 12). |
| 24 | Once all connections are securely attached, lift the tank the rest of the way into place with the jack. |
| 25 | Install the bushings now on both straps. Place the bushings so they are centered in the bottom of the straps with the bushing's channel side toward the strap. Press the bushings securely into place (See Fig. 13). |
| 26 | Attach the outboard sides of the straps and tighten the bolt and strap to factory specifications. Tap straps with a mallet, if needed, to straighten them against the bottom of the tank. |
| 27 | Attach the fill hose to the king nipple on the replacement fuel tank and clamp tightly. Reconnect the fuel lines at the top front of the tank. |



(Fig. 11) Angle front of tank up and over round tubular steel cross member.



(Fig. 12) Lift tank high enough to reconnect electrical cable and vent hose to sending unit.



(Fig.13) Extruded bushings installed on straps.

28 Make sure ALL mounting hardware, clamps, bolts, etc. are properly installed and TIGHT. Double check it.

29 Lower vehicle, fill tank completely with diesel fuel and check for leaks. IMPORTANT!

III. Install Replacement Tank in Vehicle

2011-2016 Crew Cab Long Bed with Two Piece Driveline

| <u>Step</u> | <u>Description</u> |
|-------------|---|
| 22 | The TITAN tank straps will reuse the original equipment mounting brackets and bolts. Hang the inboard side in the brackets first. |
| 23 | Place tank on a transmission jack. Then lift the tank high enough to reconnect the sending unit electrical connection and the vent hose to the sending unit (See Fig. 12). After the tank is fully lifted into place, hold the front of the tank up and slide the hanger bracket from the 01 0114 0000 GM Long Bed Front Support Kit (See Fig. 14) under the front end of the tank and hang it on the vehicle's formed frame cross member which is above it. Place one (1) Extruded Rubber Bushing (99 0000 0113) on the hanger under the tank. |
| 24 | Once all connections are securely attached, lift the tank the rest of the way into place with the jack. |
| 25 | Install the bushings now on both straps. Place the bushings so they are centered in the bottom of the straps with the bushing's channel side toward the strap. Press the bushings securely into place (See Fig. 13). |
| 26 | Attach the outboard sides of the straps and tighten the bolt and strap to factory specifications. Tap straps with a mallet, if needed, to straighten them against the bottom of the tank. |
| 27 | Attach the fill hose to the king nipple on the replacement fuel tank and clamp tightly. Reconnect the fuel lines at the top front of the tank. |



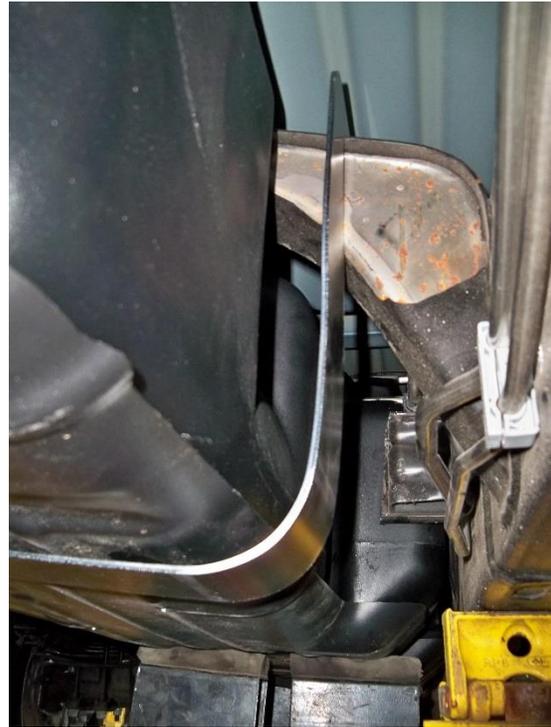
(Fig. 12) Lift tank high enough to reconnect electrical cable and vent hose to sending unit.



(Fig.13) Extruded bushings installed on straps



(Fig. 14) Hanger Bracket (TITAN PN. 01 0114 0000) GM Long Bed Front Support Kit.



(Fig. 15) Hanger Bracket installed on frame

28 Make sure ALL mounting hardware, clamps, bolts, etc. are properly installed and

TIGHT. Double check it.

29 Lower vehicle, fill tank completely with diesel fuel and check for leaks.

III. Install Replacement Tank in Vehicle

2013-2016 Crew Cab Long Bed with One Piece Driveline

| <u>Step</u> | <u>Description</u> |
|-------------|--|
| 22 | The TITAN tank straps will reuse the original equipment mounting brackets and bolts. Hang the inboard side in the brackets first. |
| 23 | Place tank on a transmission jack. Then lift the tank high enough to reconnect the sending unit electrical connection and the vent hose to the sending unit (See Fig. 11). |
| 24 | Once all connections are securely attached, lift the tank the rest of the way into place with the jack. After the tank is fully lifted into place, hold the front of the tank up and slide the hanger bracket from the (PN. 01 0115 0000) GM Long Bed Front Support Kit under the front end of the tank and hang it on the vehicle's frame using the two-piece support bracket secured by the 2 ea. ½" x1 3/8" Grade 5 Plated Cap Screws. Place one (1) Extruded Bushing (99 0000 0113) on the support under the tank. |
| 25 | Install the rubber bushings now on both straps. Place the bushings so they are centered in the bottom of the straps with the bushing's channel side toward the strap. Press the bushings securely into place (See Fig. 12). |
| 26 | Attach the outboard sides of the straps and tighten the bolt and strap to factory specifications. Tap straps with a mallet, if needed, to straighten them against the bottom of the tank. |
| 27 | Attach the fill hose to the king nipple on the replacement fuel tank and clamp tightly. Reconnect the fuel lines at the top front of the tank. |



(Fig. 11) Lift tank high enough to reconnect electrical cable and vent hose to sending unit.



(Fig.12) Extruded bushings installed on straps.

- 28 Make sure ALL mounting hardware, clamps, bolts, etc. are properly installed and TIGHT. Double check it.
- 29 **Lower vehicle, fill tank completely with diesel fuel and check for leaks. IMPORTANT!**

* All capacities are approximate

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

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.

Write your tank's Serial Number here: _____

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

**Warranty is void if product is improperly installed.
For questions or customer service call (800) 728-4982**



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