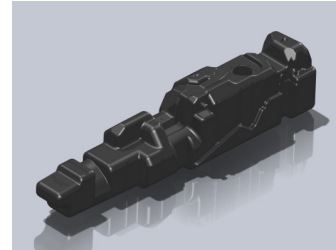


TITAN pt. no.: 01 0000 0119

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

TITAN Fuel Tanks

INSTALLATION INSTRUCTIONS Generation V



Extended Capacity Replacement Tanks for GENERAL MOTORS Diesel Trucks

7010211: For **2011** GM truck models 2500 HD & 3500 HD : Crew Cab Short Bed (6 ½ ft.)

7010311: For **2011** GM truck models 2500 HD & 3500 HD: Crew Cab & Extended 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. 9/16 inch socket
- 1 ea. 9/16 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 (unless it is a 7010311 Long Bed being installed in a Crew Cab vehicle). See Fig. 12 below.

7010211 Crew Cab, Short Bed Parts List:

1 ea. Extra heavy-duty, 57* gallon, cross-linked polyethylene (XLHDPE) fuel tank for one of the following General Motors diesel trucks:

Crew Cab, Short Bed 2011
"Super Series"

Tank Identification: "GM CCSB, 2011"



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.

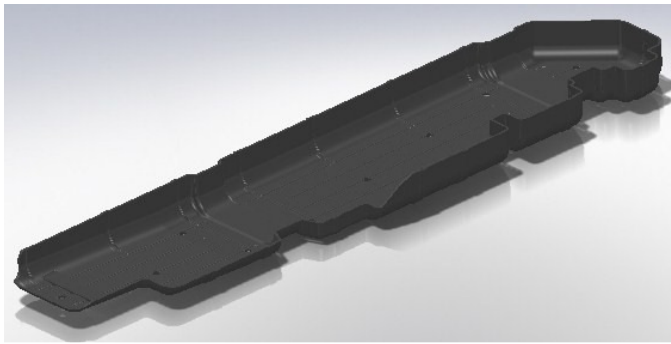
The following parts (Sending Unit Mounting Assembly) should already be installed on the tank (top flange and 5/16" nylon locking nuts should be loosely installed).

- | | | |
|-------|--|--|
| 1 ea. | Sending Unit Mounting Assembly, consisting of: | |
| 1 ea. | 01 0105 0000 | 1/2 flange SET of 2 with 5/16" studs (mounted inside tank) |
| 1 ea. | 01 0000 0111 | Flat flange gasket (mounted inside tank) |
| 8 ea. | 99 0000 0102 | 5/16" flat retainers |
| 1 ea. | 01 0000 0110 | "O" Ring sending unit gasket (primary "O" ring gasket) |
| 1 ea. | 01 0000 0104 | Top sending unit flange |
| 8 ea. | 99 0000 0101 | 5/16" nylon locking nuts |
| | | |
| 1 ea. | 01 0112 0000 A | Rear tank strap, longer strap |
| 1 ea. | 01 0112 0000 A | Front tank strap, shorter strap |
| 4 ea. | 99 0000 0113 | Universal Strap Shims (for straps marked "A" following the part no.) Two each required per strap bolt. |

2 ea. 99 0000 0103 Extruded Rubber Bushings (IF optional Titan Shield was ordered, the bushings are NOT included)

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.

Optional Parts List:



1 ea. 01 0110 0000 Titan Shield, Molded from .250” tough black HMWPE. Formed to fit the bottom of the tank. If tank is ordered with the TITAN™ Shield, rubber mounting bushings (99 0000 0103) are not included. (01 0000 0118) UV Black 48” Quick Tie is included.

7010311 Crew Cab & Extended Cab Long Bed Parts List:

1ea. Extra heavy-duty, 60* gallon, cross-linked polyethylene (XLHDPE) fuel tank for one of the following General Motors diesel trucks:

Crew & Extended Cab, Long Bed 2011
“Super Series”

Tank Identification: “GM CC & XCLB,
7010311”



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.

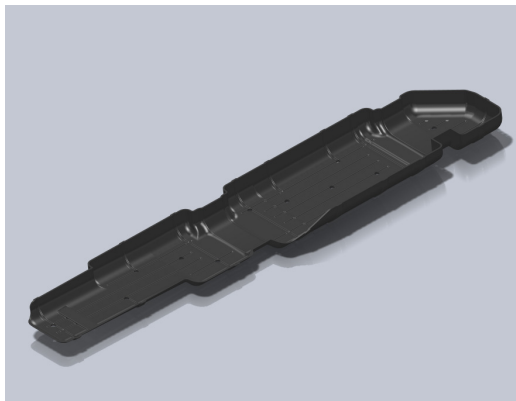
The following parts (Sending Unit Mounting Assembly) should already be installed on the tank (top flange and 5/16" nylon locking nuts should be loosely installed).

- | | | |
|-------|--|--|
| 1 ea. | Sending Unit Mounting Assembly, consisting of: | |
| 1 ea. | 01 0105 0000 | 1/2 flange SET of 2 with 5/16" studs (mounted inside tank) |
| 1 ea. | 01 0000 0111 | Flat flange gasket (mounted inside tank) |
| 8 ea. | 99 0000 0102 | 5/16" flat retainers |
| 1 ea. | 01 0000 0110 | "O" Ring sending unit gasket (primary "O" ring gasket) |
| 1 ea. | 01 0000 0104 | Top sending unit flange |
| 8 ea. | 99 0000 0101 | 5/16" 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 |
| 4 ea. | 99 0000 0113 | Universal Strap Shims (for straps marked "A" following the part no.) Two each required per strap bolt. |
| 2 ea. | 99 0000 0103 | Extruded Rubber Bushings (IF optional Titan Shield was ordered, the bushings are NOT included) |

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.*

Optional Parts List:

- | | | |
|-------|--------------------------|---|
| 1 ea. | 029909 -or- 01 0114 0000 | 2011 GM Long Bed, Crew Cab Front Support Kit |
| | | This kit is <i>required</i> if 7010311 Long Bed tank is to be installed in a vehicle with a Crew Cab. |



- | | | |
|-------|--------------|---|
| 1 ea. | 01 0111 0000 | Titan Shield, Molded from .250" tough black HMWPE. Formed |
|-------|--------------|---|

to fit the bottom of the tank. If tank is ordered with the TITAN™ Shield, rubber mounting bushings (99 0000 0103) are not included. (01 0000 0118) UV Black 48" Quick Tie is included.

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.

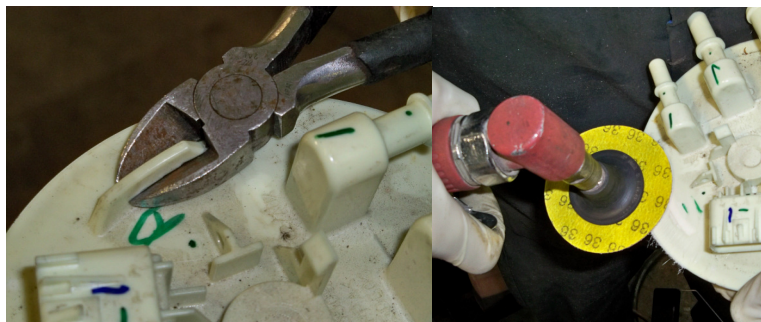


(Fig. 2) Loosen hold-down ring on OEM tank by tapping counter-clockwise, remove and lift out sending unit.

- 13 The new TITAN fuel tank comes with the sending unit mounting hardware assembled. Remove the 5/16" 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



(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

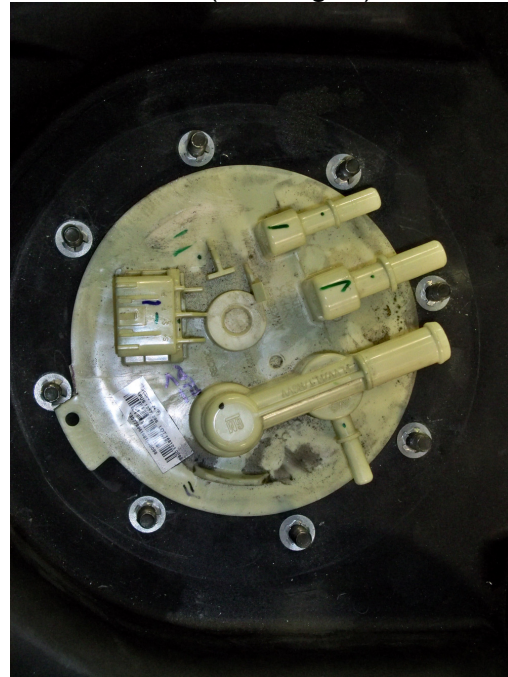
unit, top flange, and 5/16" nylon
Locking nuts are installed).

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 1/2" 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 5/16" 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

- | Step | Description |
|------|--|
| 22 | The TITAN tank straps will reuse the original equipment mounting brackets and bolts. Hang the inboard side in the brackets first. |
| 23 | If the optional TITAN Shield was ordered with the tank, place it under the tank and fasten it to the tank at the front with the 48" Quick Tie. Indentations are provided in the tank and the shield to hold the Quick Tie in place (See Fig. 11). Cut off any excess length of the tie. |
| 24 | Place tank (and shield if included) on a transmission jack. Unless installing a 7010311 tank in a Crew Cab vehicle, 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. 12). Then lift the tank high enough to reconnect the sending unit electrical connection and the vent hose to the sending unit (See Fig. 13). |
| | NOTE: If installing a 7010311 Long Bed tank in a vehicle with a <u>Crew Cab</u> , it will not be necessary to raise the tank's front to hook it over the tubular cross member. Instead, after the tank is fully lifted into place, hold the front of the tank up and slide the hanger bracket from the 029909 (PN. 01 0114 0000) GM Long Bed Front Support Kit (See Fig. 15) under the front end of the tank and hang it on the vehicle's formed frame cross member which is above it. It is only necessary to "hang" the bracket on the cross member (See Fig. 16). If the tank is being installed <u>without</u> the TITAN Shield, place one (1) Extruded Rubber Bushing (99 0000 0113) on the hanger under the tank. The hanger is not necessary when the long bed tank is installed on an extended cab vehicle. |
| 25 | Once all connections are securely attached, lift the tank the rest of the way into |

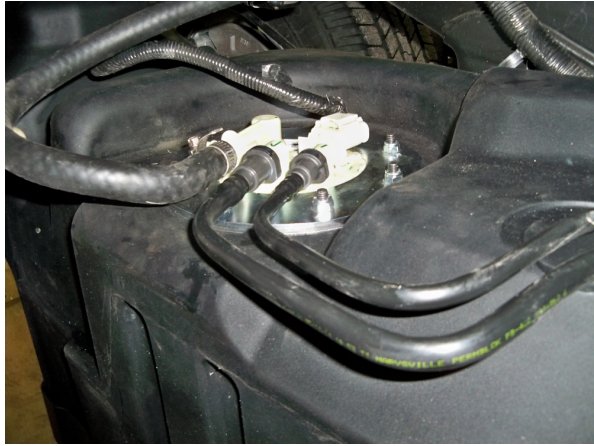
- place with the jack.
- 26 If optional TITAN Shield is NOT to be installed, you will need to install the rubber bushings now on both straps. Place the bushings so they are centered in the bottom of the straps with the bushing's channel side toward the strap. Press the bushings securely into place (See Fig. 14).
 - 27 Attach the outboard sides of the straps and be sure to thread two zinc plated shims onto each strap bolt. Tighten the bolt and strap against the shims. If the strap does not hold the tank tightly enough, remove one shim at a time until it is tight. Tap straps with a mallet, if needed, to straighten them against the bottom of the tank.
 - 28 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) Use Quick Tie to fasten shield at front of tank at indentations. Cut off extra.



(Fig. 12) Angle front of tank up and over round tubular steel cross member.



(Fig. 13) Lift tank high enough to reconnect electrical cable and vent hose to sending unit.



(Fig. 14) Rubber bushings installed on straps when optional TITAN Shield is not used.

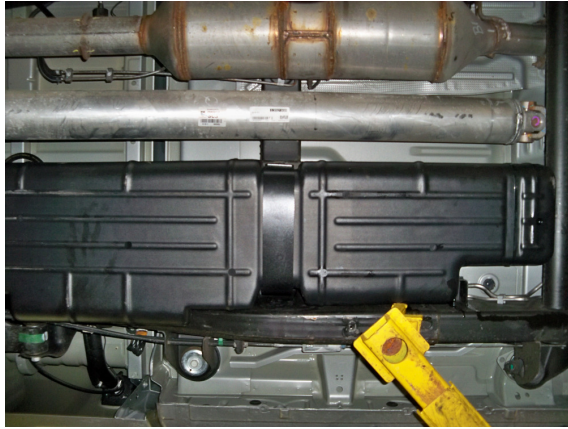


(Fig. 15) Hanger Bracket from 029909 (TITAN PN. 01 0114 0000) GM Long Bed Front Support Kit. For 7010311 when tanks installed on Crew Cabs.



(Fig. 16) Hanger Bracket installed on frame cross-member. Since a TITAN Shield is used no bushing is installed.

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



(Fig. 17) 7010211 Installation showing optional TITAN Shield.



(Fig. 18) Installation Complete!

* All capacities are approximate

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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