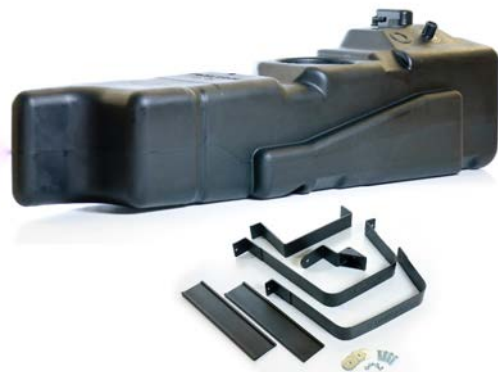


TITAN pt. no.: 02 0000 0128

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

TITAN Fuel Tanks

INSTALLATION INSTRUCTIONS Generation V



Extended Capacity Replacement Tanks for FORD Diesel Trucks

7020211 For **2011 FORD** truck models F250 & F350 : Crew Cab, Short Bed (6 ½ ft.)

7020311 For **2011 F250, F350 & F450** (with pickup bed): 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. 13 mm end wrench
- 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.

Recommended Optional Tools:

- 1 ea. Hydraulic transmission jack
- 1 ea. Vehicle hoist
- 1 ea. Impact wrench

Parts List:

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

Crew Cab, Short Bed 2011
"Super Series" Tank Identification: "FORD CCSB"

Crew Cab, Long Bed 2011
"Super Series" Tank Identification: "FORD CCLB,
02 0000 0129"

Note: *Each tank has an 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, made 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. 02 0000 0112 1/2" NPT x 3/4" x 90 elbow (installed in top of tank by fill hose king nipple)

- 1 ea. (See nos. below) Rear tank strap, long strap (Short and Long Beds)
- 1 ea. (See nos. below) Middle tank strap, intermediate strap (Long Bed only)
- 1 ea. (See nos. below) Front tank strap, short strap (Short and Long Beds)

- 4 ea. 99 0000 0113 Universal Strap Shims (for straps marked "A" following the part no.) Two each required per inboard strap bolt.
6 ea. for Long Bed.
- 3 ea. 99 0000 0103 Extruded Rubber Bushings (IF optional Titan Shield was ordered, the bushings are NOT included) **4 ea. for Long Bed.**

- 1 ea. 02 0118 0000 FORD, Front Tank Support Assembly, CC Short/Long Bed,

2011(Included complete in 22"x10"x4" box)

1 ea. 02 0119 0000 FORD, Vacuum Vent Assembly--Complete
(Included complete in 8"x8"x3" box)

Note: The Ford tank straps are identified by designations cut into the very bottom of the strap and/or on one side. **These designations are:**

Crew Cab, Short Bed

Rear Tank Strap: 1 ea. 02 0117 0000 A Long Strap

Front Tank Strap: 1 ea. 02 0117 0000 A Short Strap

Crew Cab, Long Bed

Rear Tank Strap: 1 ea. 02 0121 0000 A Long Strap: "3" or "R"++

Middle Tank Strap: 1 ea. 02 0121 0000 A Intermediate Strap: "2" or
"M"++

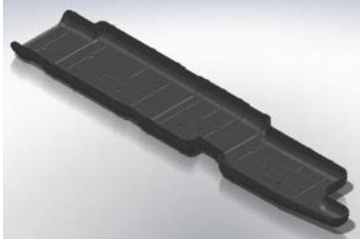
Front Tank Strap: 1 ea. 02 0121 0000 A Short Strap: "1" or "F"++

++ The Long Bed straps will be stamped with a numeral or have a cut-out letter identifying their position. This numeral or letter will be located on the in-board, vertical leg of the strap.

Optional Parts List:



1 ea. 02 0116 0000 Titan Shield, for 2011 Crew-Cab, *Short-Bed* Tank. 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.



- 1 ea. 02 0120 0000 TITAN Shield, for 2011 Crew Cab, *Long-Bed* Tank. 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.

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

NOTE: TITAN 2011 FORD Crew Cab, Short Bed and 2011 FORD Crew Cab, Long Bed products are extremely similar when it comes to installation procedures. Most of the photos in these instructions show a Crew Cab Short Bed tank, but the procedures in the pictures are the same for both.

<u>Step</u>	<u>Description</u>
1	Place the vehicle on a hoist that leaves the entire underside of the frame <i>unobstructed</i> .
2	Drain all the fuel from the original equipment tank using a pump or siphon.
3	Remove original equipment tank plastic side shield and bottom shield (if applicable) from vehicle.
4	Disconnect the 3/4" vent line hose and the larger fill hose from the fill spout, leaving them attached to the tank.
5	Disconnect fuel gauge electrical connection, feed line and return line from the sending unit. Press in the tabs on the connection fittings to release the fuel lines.
6	Support the original equipment tank.
7	Loosen original equipment tank straps by undoing inside bolts first.
8	Remove the original equipment tank with its straps from the vehicle.
9	Remove original equipment "bumper bracket", located to the right of the front strap, (See Fig. 1) from vehicle.
10	Make sure the wiring harness and differential breather hose (if applicable) are securely fastened to the vehicle frame as the new tank will need to be positioned next to the frame for its entire length.
11	Use a mallet and screw driver or punch to loosen the hold-down ring on the sending unit by tapping it and turning it counter-clockwise (See Fig. 2). Remove the sending unit from the original equipment tank. Do NOT reuse factory "O" ring seal. 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 new tank.

- 12 Remove fill hose and vent line hose from original equipment tank.



(Fig. 1) Remove original equipment strap and “bumper bracket”, shown here to the right-hand side of the front strap.



(Fig. 2) Loosen hold-down ring on original equipment 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)



(Fig. 3) Leave the “O” ring gasket, studs and retainers assembled as they are (shown before sending unit, top flange, and 5/16” nylon locking nuts are installed).



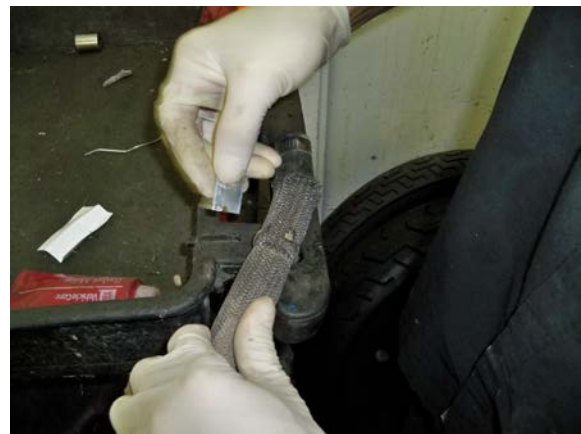
(Fig. 4) Be sure the sending unit is “clocked” the same as in the original equipment tank.

- 14 CHECK THE 1/2 FLANGES INSIDE THE TANK TO BE SURE THEY ARE SEATED FLAT AND NOT OVERLAPPING. Make sure the flat gasket is in place

- between the $\frac{1}{2}$ flanges and the top inside surface of the tank.
- 15 Carefully place the sending unit into the new TITAN tank. Make sure the “O” ring gasket is placed properly under the sending unit to seal correctly. Before installing the sending unit into the TITAN Tank, BE SURE THE INSIDE OF THE TANK IS FREE OF DIRT OR DEBRIS OF ANY KIND.
 - 16 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 gasket) so the fuel fittings and electrical connections are positioned (or “clocked”) at the *same* angle as in the original equipment tank. If the fittings or electrical connection point too far either direction they will not hook up properly or the float will press against the side of the tank resulting in improper operation of the fuel gauge (See Fig. 4).
 - 17 Replace the top flange on the studs, on top of the sending unit, so as to hold it down securely.
 - 18 Use the $\frac{5}{16}$ ” nylon lock 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 $\frac{1}{2}$ 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. 5). After initially tightening to 20 foot pounds (ft. lbs), it is a good practice to check the torque again after 15 minutes or so.



(Fig. 5) Using a torque wrench, tighten the top flange nuts to 20 ft. lbs. using a “star” pattern.



(Fig. 6) Remove sheath from $\frac{3}{4}$ ” OEM hose.

- 19 Using a sharp knife or razor blade, remove the sheath covering from the $\frac{3}{4}$ ” original equipment vent line hose (See Fig. 6).
- 20 Install the fill hose on the TITAN Tank King Nipple and the now bare $\frac{3}{4}$ ” vent line hose on the $\frac{3}{4}$ ” elbow which is installed on top of the tank. Be sure all clamps are tight.



(Fig. 6) Cut $\frac{3}{4}$ " vent line hose approximately 4 $\frac{1}{2}$ inches from elbow end of hose.



(Fig. 7) Install the Vacuum Vent Assembly as shown.

- 21 Cut the $\frac{3}{4}$ " vent line hose approximately 4 $\frac{1}{2}$ inches from the end of the hose attached to the elbow and install the "02 0119 0000 FORD, Vacuum Vent Assembly" as shown in Figs. 6 & 7.
- 22 The TITAN tank straps will reuse the original equipment mounting bolts. Hang the outboard side of the straps first. The rear strap will attach to the underside of the frame and the front strap will attach to the outside. Start the stock bolt and make sure at least $\frac{1}{2}$ of the thread is through. Leave the bolt loose. **Note:** The short bed tank comes with two straps, plus the front support bracket; the long bed tank comes with three straps, plus the front support bracket.
- 23 If the optional TITAN Shield was ordered with the tank, place it under the tank.
- 24 Place tank (and shield if included) on a transmission jack. Lift the tank high enough to reconnect the sending unit electrical connection, as well as both the return, and feed lines. Line the straps up with the strap indentations in the tank.
- 25 Once all connections are securely attached, lift the tank the rest of the way into place with the jack.
- 26 If the optional TITAN Shield is NOT to be installed, you will need to install the rubber bushings now on both straps. Place it so it is centered in the bottom of the strap with the bushing's channel side toward the strap. Press the bushings securely into place.
- 27 Attach the inboard sides of the straps and be sure to thread two zinc plated shims onto each strap bolt. Tighten the bolt and bracket against the shims. If the strap does not hold the tank tightly enough, remove one shim at a time until it is tight (See Figs. 8 & 9).



(Fig. 8) Thread two shims onto each strap bolt.

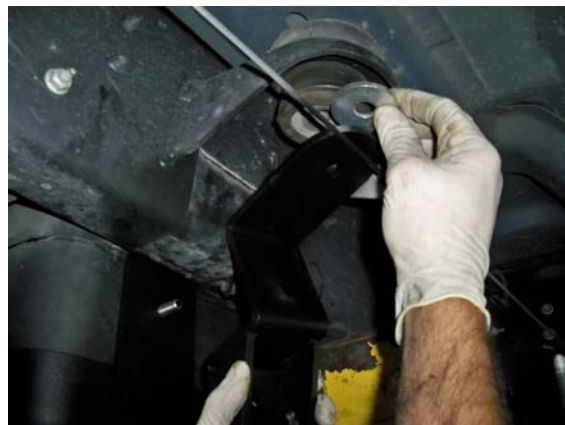


(Fig. 9) Tighten the bolt and bracket against the shims. If the strap does not hold the tank tightly enough, remove one shim at a time until it is tight.

28 The "02 0118 0000 FORD, Front Tank Support Assembly" supports the front of the tank. It is made up of two major pieces: an upper and a lower. Hang the lower piece on the inside bottom lip of the vehicle's frame. Slide it toward the rear of the vehicle until it lines up with the closest cab mount. Loosen the bolt from the cab mount and complete installation of the upper piece as shown in Figs. 10 -13. If mounting the tank without a shield, be sure to place a rubber strap bushing on the bearing surface of the lower piece under the tank.



(Fig. 10) Hang lower piece of support assembly on lower lip of vehicle frame and slide towards the rear of vehicle until it lines up with cab mount.



(Fig. 11) Place the supplied fender washer into the center of the rubber cab mount above the upper piece of the assembly.



(Fig. 12) Mount the upper piece of the assembly to the lower piece using bolt provided.



(Fig. 13) Replace cab mount bolt with its existing washers and tighten to factory specification.



(Fig. 14) Completed front support installation on tank with TITAN Shield.



(Fig. 15) Installation of front support on tank without TITAN Shield. Note the rubber bushings on the support and the straps.



(Fig. 16) Attach fill and vent hoses, and attach hose from the Vacuum Vent Assembly as high as possible on vent tube with cable ties.



Installation Complete!

- 29 Attach the fill hose and the vent line hose to the fill spout. Attach the hose from the Vacuum Vent Assembly to the vent tube of the fill spout, as high as possible with the cable ties provided (See Fig. 16).
- 30 Make sure ALL mounting hardware, clamps, bolts, etc. are properly installed and TIGHT. Double check it.
- 31 Lower vehicle, fill tank completely with diesel fuel and check for leaks.



TITAN 2011 Ford Crew Cab, Long Bed tank (7020311) installed showing three straps.



Underside view of TITAN 2011 Crew Cab Long Bed tank (7020311) with shield installed in an F450.

SPECIAL NOTE:

For 2011 FORD truck models F250, F350 & F450 : Crew Cab Short Bed or Crew Cab Long Bed With FX4 Option Package

If the installation vehicle is equipped with Ford's FX4 Option Package it will most likely have a steel skid plate under the transmission and transfer case which *may* interfere with the new TITAN fuel tank. If so, there are two courses of action: Remove and dispose of the skid plate, OR "notch" the skid plate so as to allow the new TITAN tank to fit with it.

If you chose to notch the skid plate here are some suggestions:

A) If the skid plate interferes with the TITAN tank, loosen the skid plate, and detach the driver's side, before lifting the TITAN tank into place.

B) After the new TITAN tank is installed, hold the skid plate in place and mark it so as to show where the notch for the new tank needs to be located. The "notch" does not necessarily need to follow the contour of the front of the tank as illustrated below. It can be circular, triangular, or rectangular and the skid plate will still function fine. The notch can even be two parallel cuts made with a hack saw and the resulting flap bent up out of the way over the plate to form the "notch". **One important thing is to be sure the closest point on the "notch" is at least ½ inch (13 mm) away from the tank.**

C) The skid plate may be cut with a grinding wheel, Sawzall, hack saw or other suitable tool. Be sure to smooth the edges and touch up the exposed metal with paint.

D) Reinstall the skid plate and adjust to its lowest level on the passenger side.

See photos below.

