



Technical Service Bulletin

TO: Sapphire Service Techs

Date: 01/09/2015

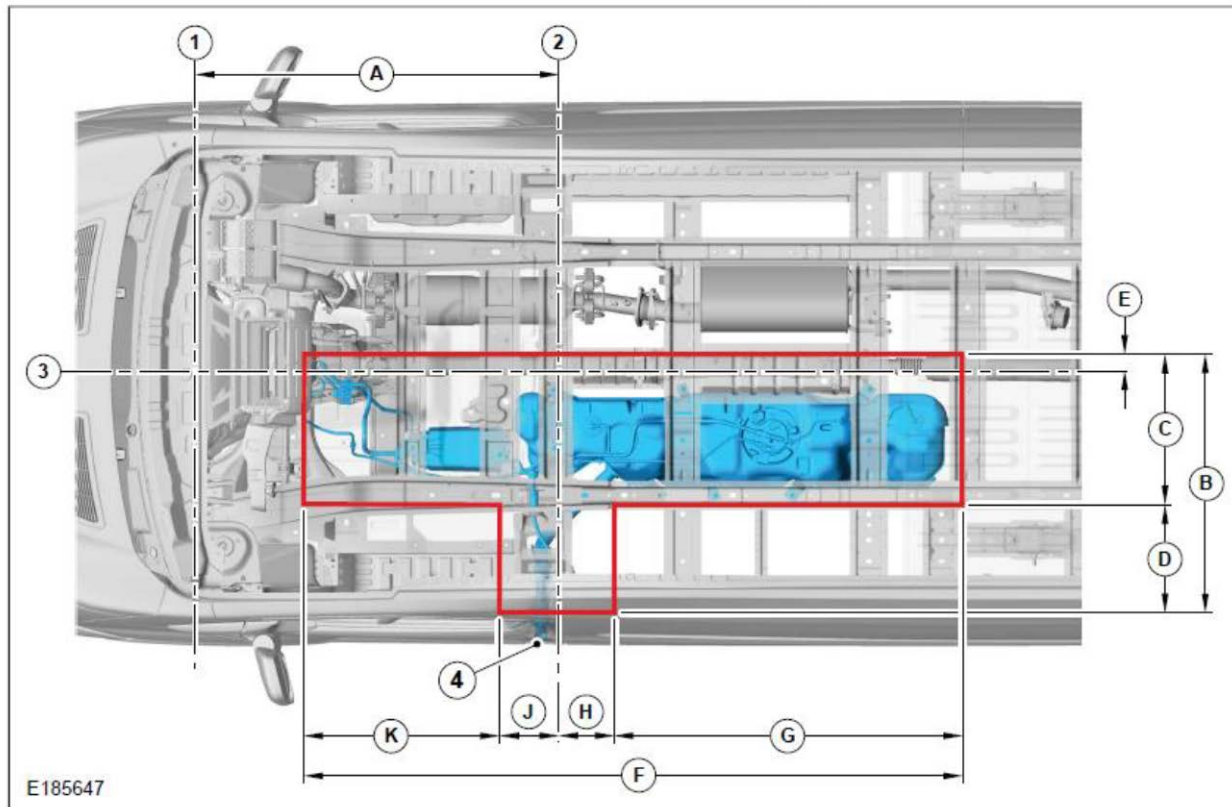
SUBJECT: FORD TRANSIT FUEL AND MOUNTING TSB#: 50109

As the new Ford Transit cargo van begins to replace the previous E-series models, it is important to note that there are several changes to the installation procedure of truck-mount units.

1. When receiving a Ford Transit for installation, the fuel tank should be as empty as possible. To fit the auxiliary fuel supply line, the fuel tank will need to be lowered to gain access to the top. Fuel kit installation instructions are included with the Transfer Flow, Inc. fuel supply kit. Please remember to follow all guidelines, cautions and warnings.
2. A large no-drill zone and underbody cross members reduce the area normally available for unit installation. In order to accommodate a safe installation in all units, Sapphire Scientific is developing a sub-frame mounting system that attaches the unit and waste tank through a total of 14 through-the-floor mounting points and from 4 to 6 frame and tank securing points depending on the system. More details about this kit will be released soon.

For your reference, the no-drill zone dimensions and fuel transfer kit instructions have been included with this bulletin.

Floor No Drill Zones - Fuel Tank 25 Gallons (94.6L) Gasoline



Floor No Drill Zones Dimensions			
1	Center line Front Wheel Axle	D	19.3" (490mm)
2	Center of 'B'-Pillar	E	4.7" (120mm)
3	Center line of vehicle	F	104.1" (2645mm)
4	Fuel Fill - Driver's side B-Pillar	G	57" (1450mm)
A	50" (1271.5mm)	H	7.9" (200mm)
B	44" (1120mm)	J	7.9" (200mm)
C	24.8" (630mm)	K	31.3" (595mm)

Transfer Flow, Inc.
1444 Fortress Street
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Phone: (530) 893-5209
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Website: www.transferflow.com



Aftermarket & OEM Fuel Tanks
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THIS KIT IS DESIGNED TO BE USED ON A 2015 FORD TRANSIT 350 VAN WITH A MIDSHIP OEM FUEL TANK AND CARBERATED GENERATOR OR SMALL ENGINE. PRIOR TO BEGINNING ANY WORK, CONFIRM THAT THIS IS THE CORRECT VEHICLE AND APPLICATION.

The attached instruction sheets are written with the assumption that the entire installation would be completed without running the engine or moving the vehicle. The installation instructions were also written with the assumption that the installation would be completed the same day that it was started. If either of these assumptions is incorrect, the installer must follow these additional instructions.

If the 1/4" generator draw cap on the OEM sending unit has been removed and, if necessary, the 1 1/4" x 5/16" x 1 1/4" "T" connection is installed into the vehicle's fill hose, the installer must properly seal both items until the supply and, if necessary, the return hoses are connected directly to the generator. Seal the 1/4" OD supply port on the OEM sending unit with the OEM 1/4" generator draw cap. Seal the 5/16" return tube on the TFI "T" properly; no fuel may leak out until installation can be completed.

Caution: If the supply and when the return ports are left unsealed, fuel may leak out of these connections. Fuel leaking on the vehicle chassis and onto the ground could create a fire hazard and requires a hazardous material cleanup.

Caution: If the supply and return ports are left unsealed, the check engine light on the vehicle may illuminate. Many vehicles have the enhanced evaporative leak detection program activated. When the vehicle's engine is off, a leak detection test may occur. If a leak in the fuel system is detected, the check engine light will illuminate.

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1. Remove the hose clamp from the fill tube on the fill neck side.



2. Remove the purge line going from the tank to the canister.



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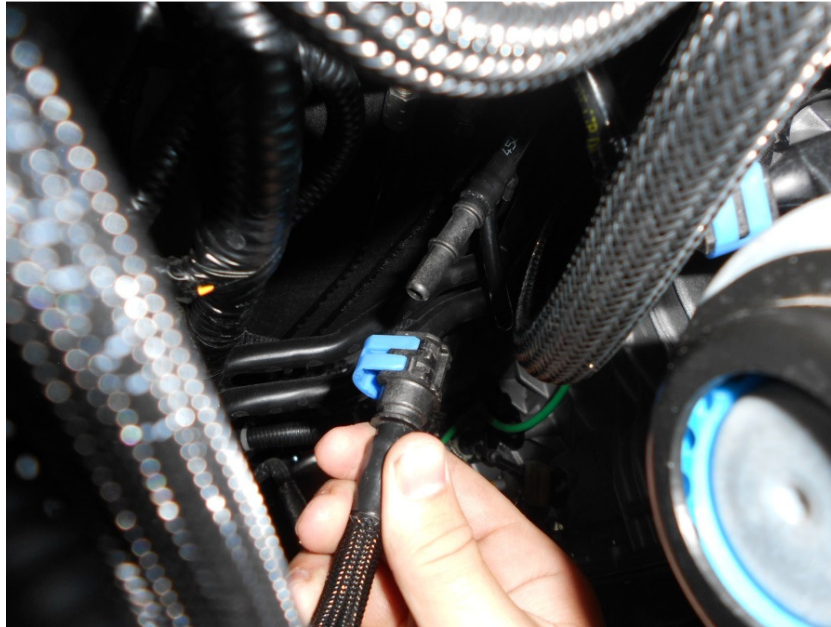
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3. Disconnect the fuel line located in front of the tank on the driver side.



4. Disconnect the vent line coming from the fill neck.



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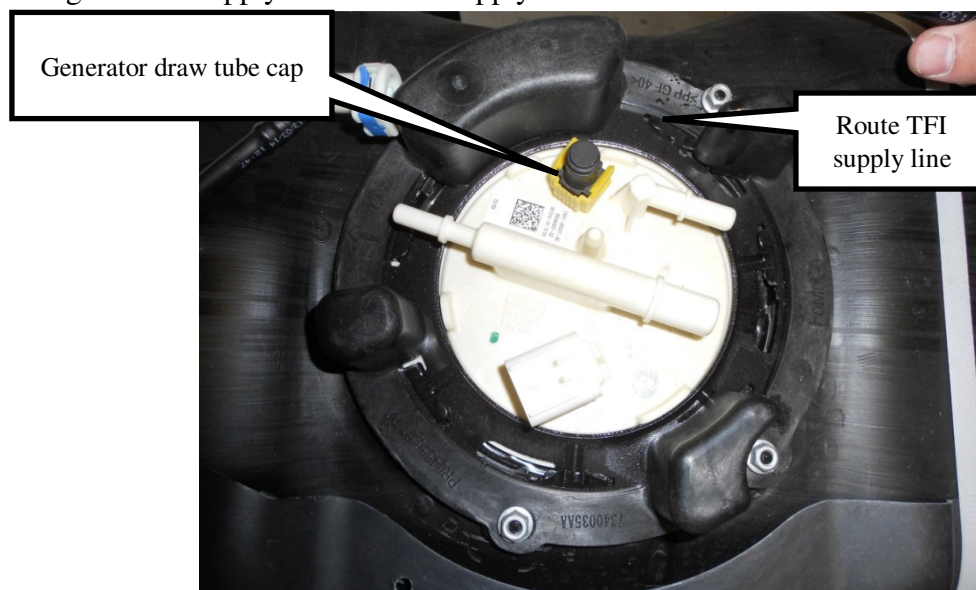
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5. Move a jack or transmission lift into position to support the tank.
6. Using a 13mm socket remove the six tank strap bolts and remove straps.



7. Lower the tank about four inches to allow access to the sending unit electrical on top of the tank. Disconnect the sending unit wire harness connector.
8. Lower tank to gain access to the top of the sending unit. Locate the OEM generator draw tube on the top of the sending unit. Remove the Generator Draw tube cap and connect the TFI generator supply hose. Route supply hose down the frame rail side of tank.



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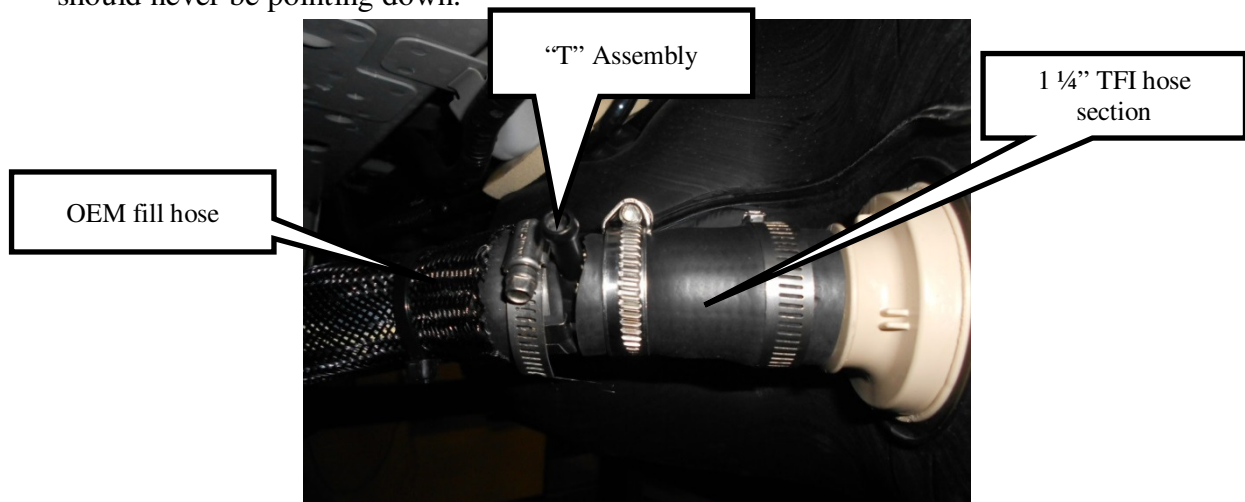
Caution: If the generator set requires a fuel return line follow steps 12-19.

If a return line is not required follow steps 15-19.

9. If a return line is required for your generator set, remove the OEM fill hose from the tank. Mark the hose 3" from the flared end. Cut on the mark and discard the short section of hose.



10. Install the "T" assembly and the supplied TFI 3" long 1 1/4" hose section onto the OEM fill hose. Secure "T" using the two supplied gear clamps and the two OEM gear clamps. Reinstall the FN assembly on to the vehicle. Be sure that the 5/16 nipple coming off the "T" is pointing in an upwards direction and towards the rear of the vehicle. The "T" should never be pointing down.



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11. Use the 5/16" hose clamp supplied to connect the 10 foot long unlabeled return hose section to the 5/16" nipple on the "T".
12. Determine where to route the 5/16" I.D. "Generator Supply" hose, and in some applications, the 5/16" ID "return" hose. Be sure to route hoses away from any heat source. If the hose(s) must route through a metal compartment, use the provided hose grommet. Using a hole saw, drill a 1 1/4" diameter hole through the panel for the grommet insertion. Route the supply hose and in some applications, the return hose, through the grommet and to the generator set. Note that the supply hose is labeled near its open end.
13. Move the sleeve to the point where the hose passes through the floor or to protect in any other location where the hose may come in contact with a sharp edge, zip tie sleeve in place.
14. Use the provided nylon ties to secure the supply hose, and in some applications, the return hose, away from any hot or sharp object.

Note: There must be at least 6 gallons of fuel in the vehicle's fuel tank before you can test the generator. Refer to the generator operation instructions for startup procedures.

15. Install the provided CARB Executive Order information label on the front door post of the vehicle. Confirm that the label is in a location that won't be damaged when the door closes. A good location is just above or below the OEM recommended tire pressure label.

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Trouble Shooting Guide

**Generator Not Running*

- **Less than 6 gallons of fuel is in the vehicle's gas tank.**
- Fuel hose kinked or plugged

Tools Required

- *13mm deep socket & ratchet
- *7mm socket
- *3/4" socket
- *6" extension
- *Large hose cutter
- * 0-50 in-lbs. torque wrench
- * 3/4" open end wrench