



Part Number: **TAD110**

Product **FRONTIER SERIES POLYMER FUEL TANK 140L**

Description:

Suited to **FORD RANGER/MAZDA BT50 4X4 AUTO & MANUAL ALL CAB**
vehicle/s: **VARIANTS 2012 ON**

WARNING

NOTE THE FOLLOWING:

- ◆ This product must be installed exactly as per these instructions using only the hardware supplied.
- ◆ In the event of damage to any component, contact your nearest authorised ARB stockist. Repairs or modifications must not be attempted.
- ◆ Do not use this product for any vehicle make or model, other than those specified by ARB.
- ◆ This product is designed to carry diesel fuel only and is not suitable for use in petrol applications.
- ◆ Do not remove labels from this product.
- ◆ This product or its fixing must not be modified in any way.
- ◆ The fuel gauge and distance to empty indicator may vary from factory condition. DTE can be recalibrated at the Ford Dealership for Ford Ranger fitment.
- ◆ The installation of this product may require the use of specialized tools and/or techniques
- ◆ It is recommended that this product is only installed by trained personnel
- ◆ State regulations vary, please check with your local authorities regarding documentation of this installation.
- ◆ Biodiesel fuels do not conform to a mandatory code of practice regarding the chemical make-up of the fuel, therefore use of biodiesel is not recommended in this tank.
- ◆ These instructions are correct as at the publication date. ARB Corporation Ltd. cannot be held responsible for the impact of any changes subsequently made by the vehicle manufacturer
- ◆ During installation, it is the duty of the installer to check correct operation/clearances of all components
- ◆ Work safely at all times
- ◆ Unless otherwise instructed, tighten fasteners to specified torque

ARB 4x4 ACCESSORIES

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GENERAL CARE AND MAINTENANCE

By choosing a Frontier Series fuel tank, you have bought a product that is one of the most sought after 4WD products in the world. Your fuel tank is manufactured from a High Density Poly Ethylene (HDPE) product that has superior cross linking qualities. This cross linking polymer provides high impact resistance, high strength and rigidity and will not be effected by harsh chemicals and minerals. It is engineered to be a reliable high quality accessory that represents excellent value. To keep your fuel tank in original condition it is important to care and maintain it following these recommendations:



- It is recommended that following exposure to salt and or other contaminants, the fuel tank mounting straps, and fuel sender mounting area be thoroughly rinsed to prevent corrosion.
- As part of any Pre Trip Preparation, or on an annual basis, it is recommended that a thorough visual inspection of the vehicle is carried out, making sure that all bolts and other components are torqued to the correct specification. Also check that all wiring sheaths, fuel line connectors, and fittings are free of damage. Replace any components as necessary. This service can be performed by your local authorized ARB Stockist.

FITTING REQUIREMENTS

REQUIRED TOOLS FOR FITMENT OF PRODUCT:

BASIC TOOLS KIT	HOSE CUTTERS
VEHICLE HOIST OR HYDRAULIC JACK AND STANDS	LIFTING EQUIPMENT SUITABLE FOR SUPPORTING FUEL TANKS
FUEL SENDER REMOVAL TOOLS	FUEL TRANSFER EQUIPMENT

HAVE AVAILABLE THESE SAFETY ITEMS WHEN FITTING PRODUCT:

Protective eyewear		Hearing protection	
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NOTE: 'WARNING' notes in the fitting procedure relate to OHS situations, where to avoid a potentially hazardous situation it is suggested that protective safety gear be worn or a safe work procedure be employed. If these notes and warnings are not heeded, injury may result.

FASTENER TORQUE SETTINGS:

SIZE	Torque Nm	Torque lbft
M6	9Nm	7lbft
M8	22Nm	16lbft
M10	44Nm	32lbft
M12	77Nm	57lbft

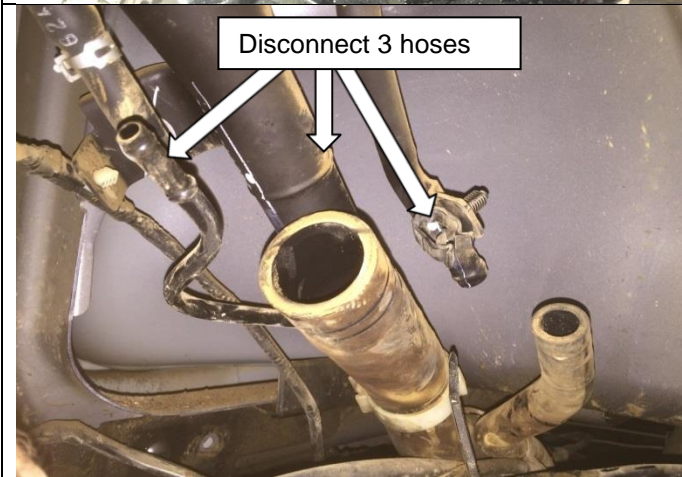
PARTS LISTING-TAD110BK			
APPLICATION.	PART NO.	QTY	DESCRIPTION
FRONTIER SERIES FUEL TANK INSTALLATION	TAD110	1	POLYMER FUEL TANK
	BP80057	0.6	1/4 FUEL HOSE
	BP80057	1.1	1/4 FUEL HOSE
	BP80055	4	#4 HOSE CLAMPS SUIT 1/4 " & 8MM HOSE
	BP80416	1	F/LINE SUPPLY TAD110
	BP80417	1	F/LINE RETURN TAD110
	BP80418	1	F/LINE BYPASS TAD110
	BP80438	1	FEMALE QUICK CONN 7.89 180 DEG
	BP80439	1	FEMALE QUICK CONN 7.89 90 DEG
	BP80440	1	FEMALE QUICK CONN TO MALE T 7.89
	BP80217	1.2	ACX1108 13MM SPLIT TUBING
	BP81157	0.6	ACX1105 10MM SPLIT TUBING
	BP80414	1	STRAP KIT TAD110
	BP80160	1	GAUGE CAUTION STICKER
	BP80154	0.45	STRAP RUBBER 40MM
	BP80154	0.75	STRAP RUBBER 40MM
	BP80174	1	INSULATOR RUBBER 80X320MM
	BP80173	1	INSULATOR RUBBER 80X300MM
	BP80224	1	STICKER BUMPER ARB FRONTIER
	3789840	1	FITTING INSTRUCTIONS TAD110

REMOVAL OF ORIGINAL FUEL TANK



Remove wheel arch trim to expose fuel fill hoses in LHR wheel arch.

To remove trim undo 6 trim clips around front, top and centre of wheel arch trim. The trim is permanently riveted at the rear of wheel arch. Leave these rivets in place and lower the front of the trim.



Disconnect 35mm fill hose, 16mm breather hose and 6mm rollover hose.

Retain all clamps for installation process.



Remove 4 x M8 nuts retaining plastic stone shield and remove shield.



Disconnect the fuel return line on the fuel cooler or chassis if no cooler fitted at the rear of the fuel tank.

To disconnect the fuel line, gently spread the open end of the red horseshoe shaped plastic clip, then slide the clip back. Then pull fuel lines to separate.

REMOVAL OF ORIGINAL FUEL TANK



Disconnect the fuel supply line (blue clip) at the point shown in front of the fuel tank on the LH chassis rail.

Use the same procedure as per disconnecting the return line.

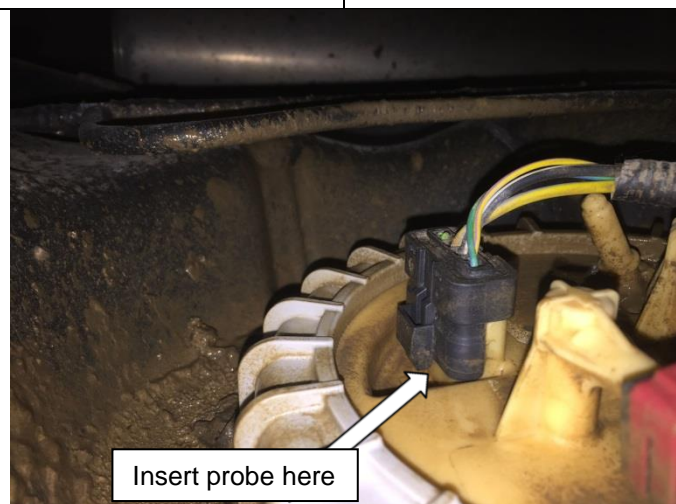


Position a jack under the fuel tank.

Remove the front and rear mounting strap bolts.

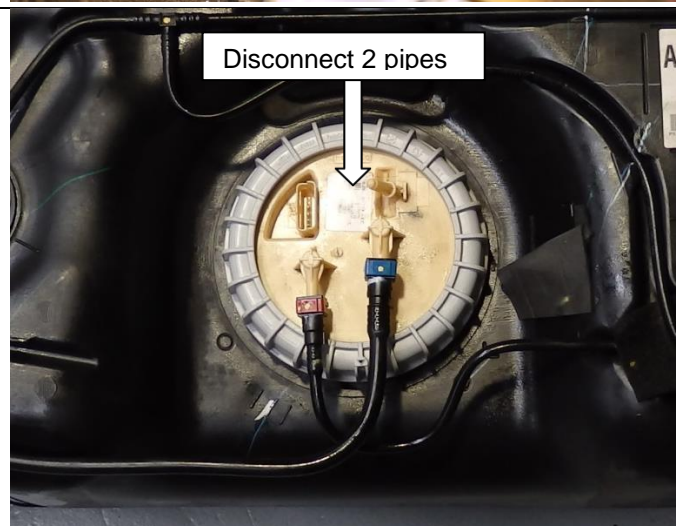
Swing the straps down and then remove the straps by lifting the mounting pin out of its saddle in the chassis.

Retain the bolts for the installation procedure.



Whilst lowering fuel tank disconnect the fuel pump and sender wiring.

To disconnect plug insert a small probe underneath the plastic tab and gently pry the tab away from the plug, then pull the plug out of the socket.



With the tank out of the vehicle, disconnect the fuel supply and return pipes and remove them from the original tank.

Remove fuel sender retaining ring by rotating anti-clockwise. This ring can be difficult to remove and may require mechanical assistance. Various tools can be used for this, options include:

- Large pliers or filter wrench
- Sender tool
- Hammer and screwdriver

REMOVAL OF ORIGINAL FUEL TANK



Remove the fuel pump and sender assembly from the tank and retain for the installation process.

Remove the o ring gasket and retain for the installation process.

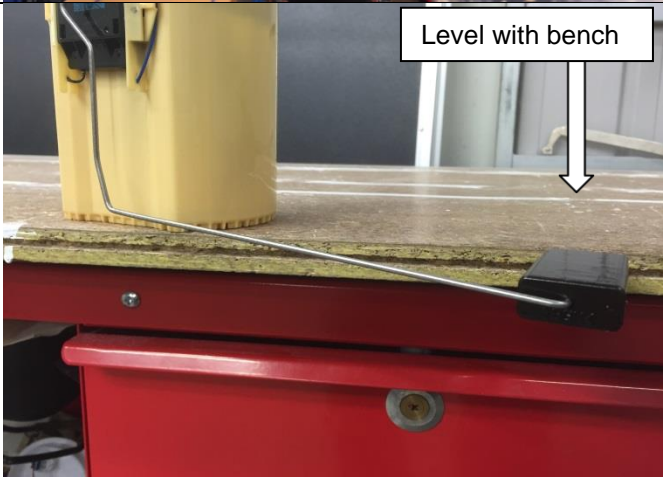
INSTALLATION PROCESS



Offset tabs towards bottom

At this stage ensure correct orientation of the tail-shaft centre bearing. The mounting tabs are offset and are to be positioned as shown.

Note, some suspension manufacturers stipulate flipping the centre bearing rather than spacing it down during installation of lift kits. This would result in the centre bearing contacting the tank and causing damage.

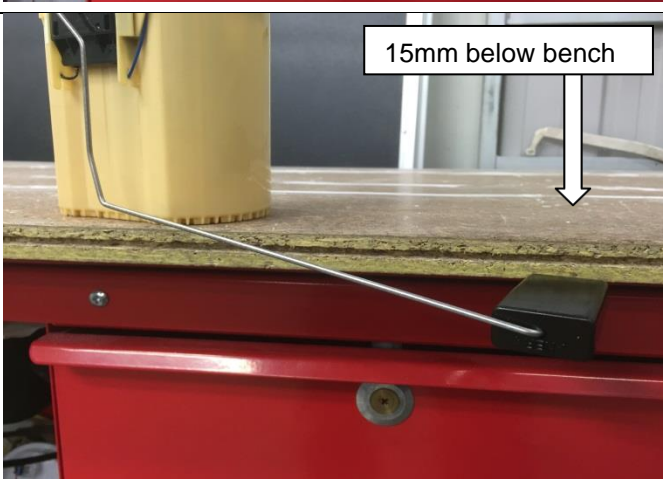


Level with bench

When installing a long range fuel tank to the Ranger / BT50 it is necessary to modify the fuel sender so that the vehicles Body Control Module will work with the new fuel loads.

When removing the fuel sender from the original tank carry out the modification prior to installing it into the new tank.

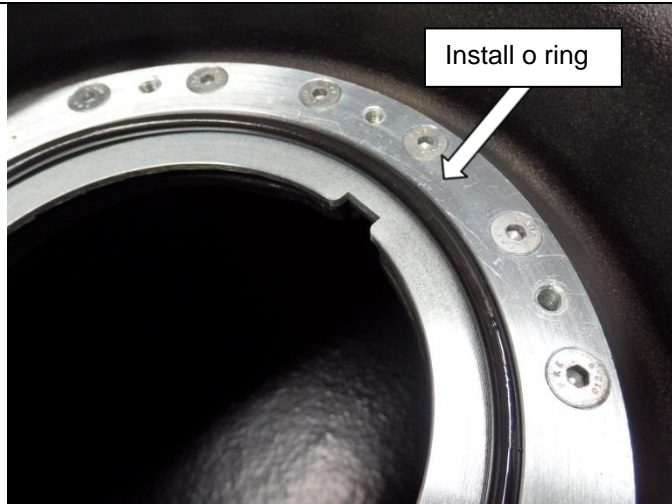
Place the sender upright on a flat level bench with the float arm hanging over the edge. Note the top edge of the sender will be level with the top edge of the bench.



15mm below bench

Bend the float arm down so that the top edge of the float is approximately 15mm below the top edge of the bench.

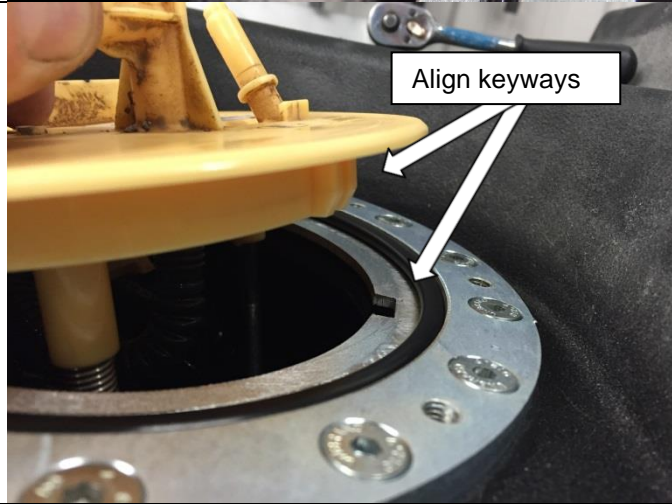
INSTALLATION PROCESS



Remove all red protective caps from the new Frontier tank.

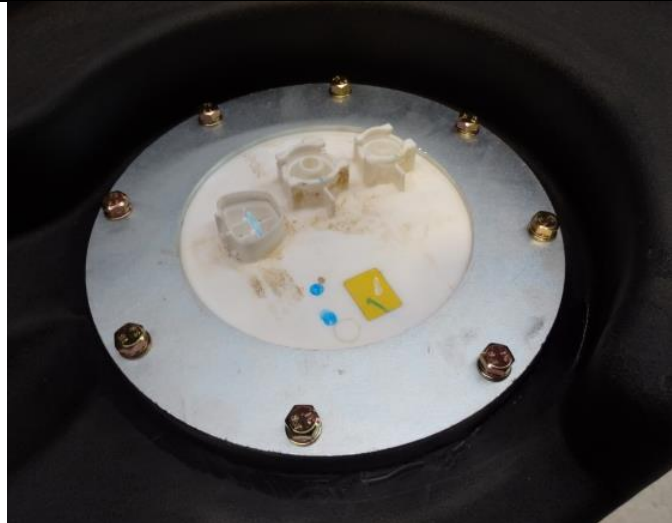
Install the o ring gasket into the fuel sender mounting flange on the Frontier tank.

Position the gasket as shown.



Note the keyway on the underside of the fuel sender assy.

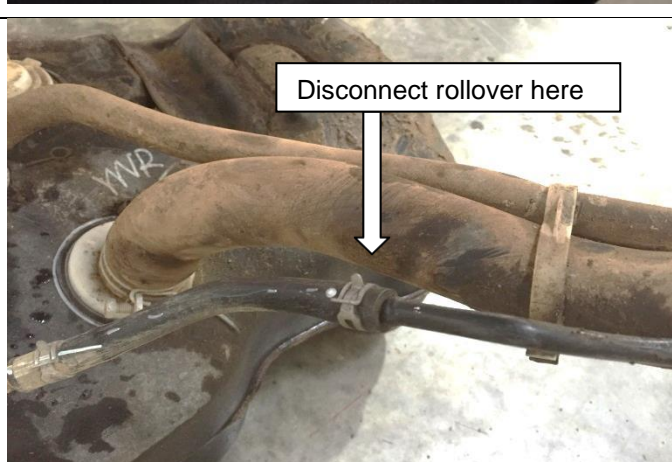
Install the sender assembly into the Frontier tank and align the keyways in the sender and the mounting flange.



Once keyway is aligned, push the sender down into the mounting flange.

Secure the sender using the sender retaining plate and 8 M6 x 12 bolts supplied in the kit.

Tighten bolts.  9 Nm.



Remove the 35mm fill hose from the original tank. Retain the hose and clamp.

Remove the 16mm breather hose from the original tank. Retain the hose and clamp.

Disconnect the rollover vent hose at the clamp shown here.

INSTALLATION PROCESS

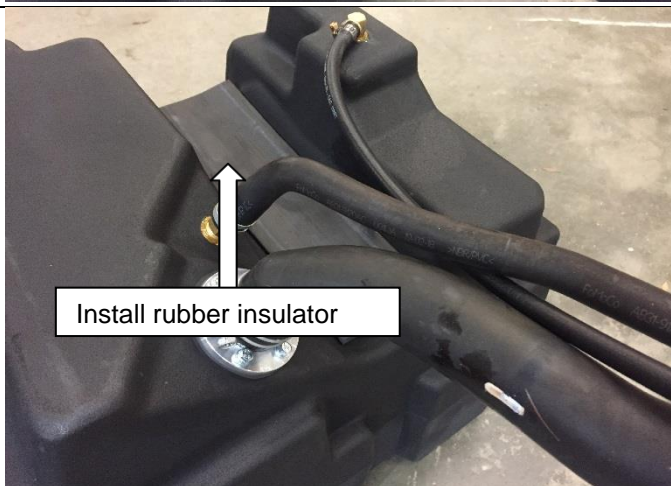


Cut 20mm from the tank end of the 35mm fill hose.

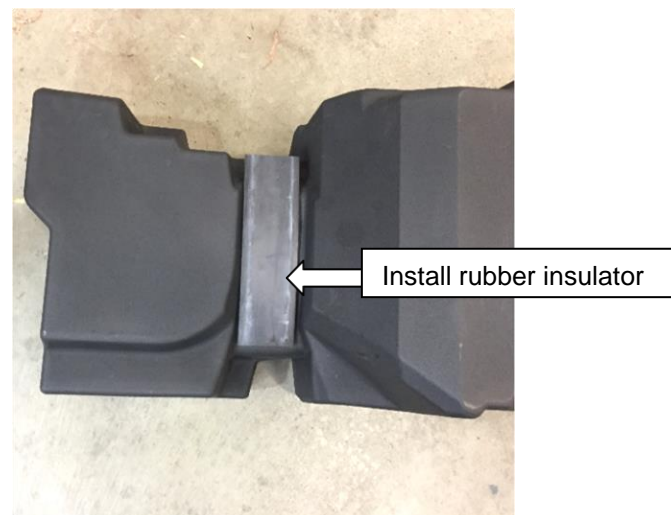


Install the 35mm and 16mm hoses onto the new tank and secure with clamps retained during removal.

Using the 600mm section of $\frac{1}{4}$ fuel hose supplied in the kit, connect the hose to the new rollover valve and the plastic breather tube tied to the fill hoses. Secure this using the 2 clamps supplied in the kit.



Remove the white adhesive protector from one of the rubber insulating pads and install in the position shown near the rear of the tank.



Remove the white adhesive protector from one of the rubber insulating pads and install in the position shown near the front of the tank.

INSTALLATION PROCESS



Install the 2 pieces of split tubing supplied in the kit over the top of the new fuel lines supplied in the kit prior to installing fuel lines into vehicle.

Connect the 8mm diameter fuel line to the fuel cooler at the rear of the tank. Route the fuel line over the top of the round cross member and along the existing fuel/brake lines. Secure the new fuel line to the small tab on top of the cross member.



If the vehicle being fitted does not have a fuel cooler, use the horseshoe shaped fuel line supplied in the kit.

Connect this bypass line between the previously installed fuel line to the steel fuel line on the chassis.



Connect the new 12mm diameter fuel line to the original fuel line located on the LH chassis in front of the tank.

Route the line over the top of the chassis as shown and secure to the white clips that secure the brake lines.



The 2 fuel pump ends of the supply and return lines should now be positioned next to each other.

The lines will be reconnected to the sender assembly whilst raising the Frontier tank into place.

INSTALLATION PROCESS



If the vehicle being installed has a Diesel Particulate Filter (DPF) fitted that incorporates an auxiliary fuel pump mounted on the LH chassis rail, it will be necessary to install the T piece adaptor to the return line at the tank end.



Assemble 1 x 90 degree female quick connect fitting into the 1100mm length of hose and secure with a clamp supplied in the kit.

Connect the 90 degree female fitting to the port that is at 90 degrees to the T piece.

Route the fuel hose along the supply fuel line to towards the front of the tank.



Install a straight female quick connect fitting to the other end of the 1100mm fuel hose supplied in kit and secure with a hose clamp.

Connect this end to the inlet on the DPF fuel pump.



Route over chassis and towards filler neck

Position the new fuel tank on the jack.

Whilst raising the tank into the car route the fill hoses above the chassis rail towards the filler neck.

Also whilst raising the tank, reconnect the fuel supply and return lines.

Also whilst raising the tank, reconnect the fuel pump/sender wiring.

Ensure that no wires or fuel lines are pinched whilst raising tank into position.

INSTALLATION PROCESS



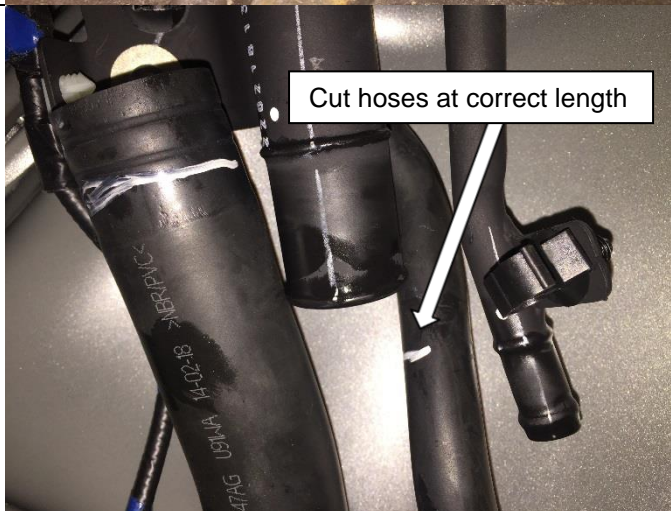
Install the 40mm wide rubber extrusion included in the kit onto the mounting straps as shown. Ensure that the rubber is covering the straps evenly and that all radii are covered.



Insert the hook end of the rear mount strap into the saddle in the chassis. Swing the strap around the tank and secure using the bolts retained from the removal procedure.



Insert the hook end of the front mount strap into the saddle in the chassis. Swing the strap around the tank and secure using the bolts retained from the removal procedure.



Mark and cut the 35mm and 16mm fuel hoses to line up with the filler neck.

INSTALLATION PROCESS



Reconnect the 35mm and 16mm hoses to the fuel filler neck. Secure using original clamps retained from the removal procedure.

Reconnect the rollover breather hose (trim if necessary) to the plastic fuel line and or vent mounted at the filler neck.



Add fuel to vehicle and run engine to check for leaks. Check fuel sender for correct operation.

Note, it may take several minutes or several cycles of the ignition for the gauge to show a true reading if the new fuel level is less than the previous level. It is possible it will still show the fuel level that was present before removing the original tank. This is normal operation as the fuel gauge is controlled by the vehicle's body control module.

Install Gauge Caution Sticker to RH upper side on the inside of the vehicles windscreen.

FITTED PRODUCT

