

GFB VTA

Installation Instructions

Part # T9465

Suits Ford Ranger 2.3 EcoBoost



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TURBO MANAGEMENT SYSTEMS



PERFORMANCE WITHOUT COMPROMISE

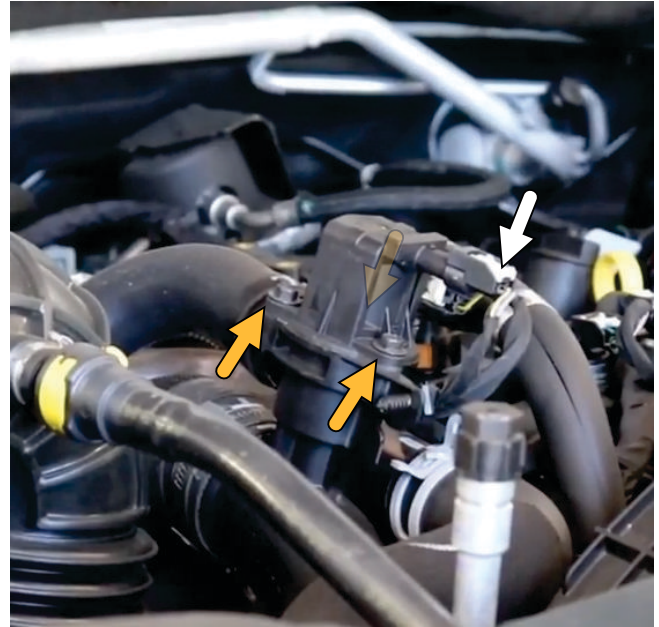
Installation

Factory Diverter Removal:

The factory diverter valve on the Ranger 2.3 EcoBoost is right at the top of the engine bay, which makes installation very easy.

Begin the installation by removing the factory diverter. To do this, first unclip the connector by pulling the grey tab (→) out, then press it down whilst pulling the connector.

Then, using an 8mm socket, remove the 3 screws that hold the diverter (→).



Factory Diverter Disassembly:

Pull the piston and spring out of the body, then remove the o-ring (keep this safe, it will be re-used in the DV+ installation).

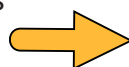
PLEASE NOTE: The remaining black plastic protrusion and blue piston ring MUST BE REMOVED before you continue.

Note that this plastic piece is thin and brittle, and damage may occur during removal if levered directly. If it breaks, you'll still be able to continue with the DV+ installation as this part isn't used, but you won't be able to re-install the factory diverter again.

One method to remove without damage is to install a hose clamp over the plastic protrusion as shown, just tight enough to allow it to pull the plastic piece out when levering on the clamp.

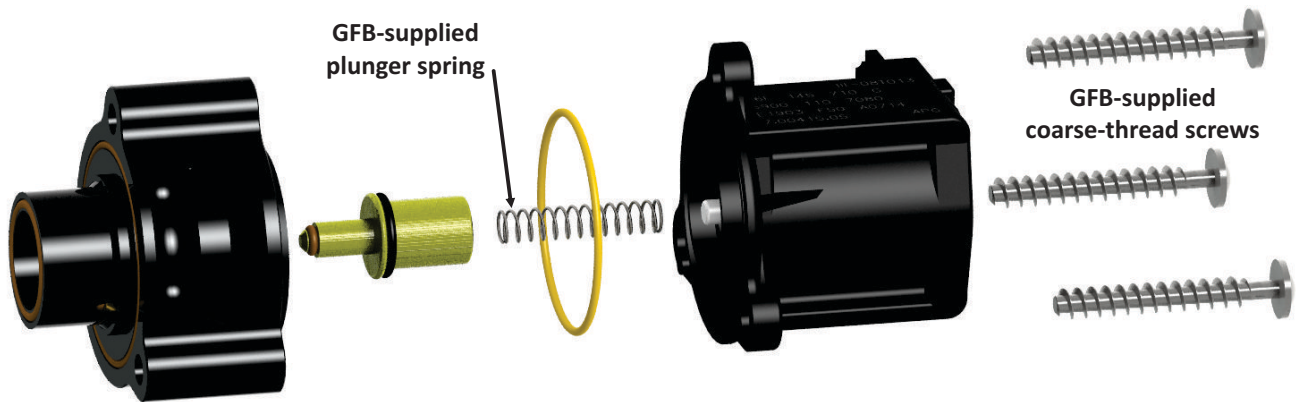


The factory solenoid will look like this when it is ready for installation on the VTA:



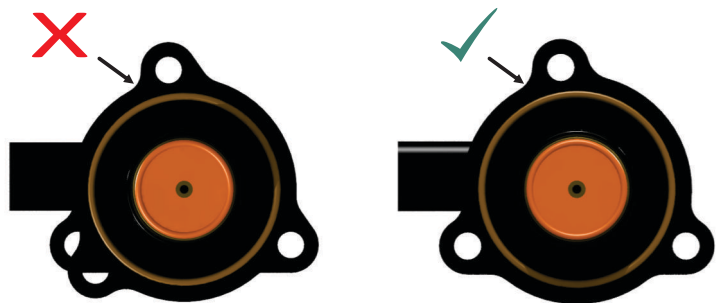
Installation - Continued

Insert the GFB supplied plunger spring (**DO NOT re-use the factory spring**) and plunger into the solenoid, and check that it slides freely. Now fit the VTA body and factory yellow o-ring onto the plunger/spring/solenoid assembly as shown below:



The VTA body will usually “snap” onto the solenoid, making it easier to fit the assembly onto the car, but variations in the factory solenoid’s moulded plastic sometimes mean the solenoid won’t hold itself onto the VTA body, in which case it simply needs to be held together by hand until it is bolted to the turbo, and in other cases the fit can appear to be quite tight and it need a good deal of force (by hand) to assemble. This variation in factory moulding tolerance does not affect the operation in any way.

Note that the bolt holes are NOT SYMMETRICAL. When you assemble the VTA onto the solenoid, check the alignment of the holes - if they do not line up properly, rotate the VTA body until the bolt holes line up correctly before continuing.



- Install the VTA assembly onto the engine using the supplied coarse thread screws. Because of the asymmetric bolt holes, the assembly can only be installed in one orientation. Tighten to 5-6ft-lb using a TorxT30 bit.

- Clip the electrical connector back on, and the installation is complete.



Notes on VTA Operation

Oily Residue: It is normal to find some oil around the atmosphere outlet, which is from the oil vapour recirculated through the turbo intake by the PCV. This does not indicate a fault with the VTA.

Venting Duration/Timing: You might hear the VTA vent at seemingly odd times, but this is determined by the ECU and is not a fault with the VTA. The ECU may turn on the solenoid to vent the diverter under conditions such as when traction or stability control activates, under certain cruise conditions, or even briefly during seemingly steady-state throttle. It is important to understand that the ECU determines diverter opening based off the movement of the *throttle*, not the accelerator pedal - the throttle does not always do what the pedal tells it to!

The good news is that unlike the factory diverter that opens fully whenever the ECU tells it to, the VTA uses the ECU signal AND boost pressure to determine when to open. This means it only opens if the ECU tells it to AND there is actually boost pressure in the intercooler that needs to be vented, rather than opening unnecessarily.

As an added benefit, the VTA's method of operation is easier to live with on a daily basis compared to products or modifications that vent the factory diverter to atmosphere (like a BOV "spacer"), as you will generally only hear the VTA when you drive like you mean it. A factory valve vented to atmosphere however will vent even if you only drive gently.

WARNING: GFB recommends that only qualified motor engineers fit this product. This product is intended for racing use only, and it is the owner's responsibility to be aware of the legalities of fitting this product in his or her state/territory regarding noise, emissions and vehicle modifications. GFB products are engineered for best performance, however incorrect use or modification of factory systems may cause damage to or reduce the longevity of the engine/drive-train components.

GFB Limited Lifetime Warranty:

We live in a throw-away society, conditioned by cheap products and built-in obsolescence to expect eventual failure and discard something when it stops working or is superseded. However, pride in workmanship and our commitment to quality means that when we put our name to something, we are also staking our reputation on it.

That is why we back our products with the best Warranty in the business! You should expect a lifetime of use from a well-engineered product, so if your GFB product fails as a result of defective materials or faulty workmanship whilst you remain the original owner, we will repair or replace it (limited only to the repair or replacement of GFB products provided they are used as intended and in accordance with all appropriate warnings and limitations. No other warranty is expressed or implied).

If a fault occurs as a result of usage outside of the terms of the warranty, or you are not the original owner, fear not, we can still help you. You should never need to throw a GFB product away, as spare parts are available and won't cost the earth.