

TD5 ALIVE - EGR BYPASS KIT

The TD5 Alive EGR bypass kit is a direct replacement for the original EGR valve, and bolts neatly between the intercooler outlet and inlet manifold. The EGR valve body replacement is made from high quality, laser cut aluminium, with a rolled edge for secure fixing of the intercooler hose. The exhaust manifold blanking plate is made from 6mm thick mild steel, so will not distort under high exhaust temperatures. Both items are made from the same materials as original parts, so will give a perfect fit under all engine operating conditions.



Fitting of the kit ensures a smoother, unrestricted, clean and cool airflow into the engine, which helps to improve power and torque.

NOTE: There are two types of Td5 EGR system, Early EU2 type, as fitted to 1998-2001 models, and Later EU3 type (pictured below) fitted to 2001-2007 models. Note two vac pipes to two actuators (1 & 2), and the EGR heat exchanger.

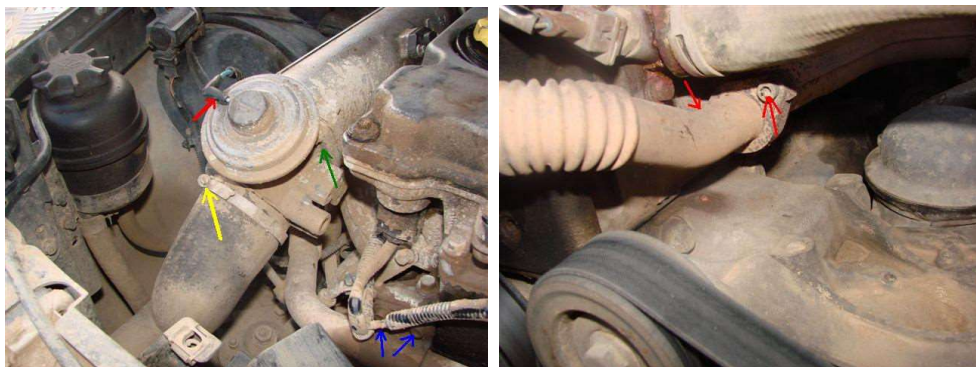


Fitting is quite simple, as outlined below:

Remove the engine acoustic cover, held in place by 3 bolts, using a 13mm spanner.

Remove the cooling fan cowl held in place by 4 large Phillips head fastenings.

Disconnect the vacuum hose(s) from the EGR valve, red arrow in photograph, then blank it/them off (a small self tapping screw is ideal), and finally tie up out of the way. A good idea is to ty-rap the vac hose(s) to the new EGR body.



Remove the 4 x 8mm bolts, one of which is marked by the green arrow, holding the EGR valve to the inlet manifold.

Remove the 2 x 8mm bolts, marked in blue, from the EGR re-circ pipe, where it fastens to the front of the cylinder head. (EU2 models only)

Loosen the jubilee clip, marked by yellow arrow, and release the engine air intake hose from the EGR valve.

Remove 2 x 5mm Allen bolts securing the EGR valve re-circ pipe to exhaust manifold. These are marked by red arrow in photo 2.

PLEASE NOTE that these two bolts will heat harden with age, and there is a real risk of at least one of them shearing off when you try to undo it.

This is however quite rare, but can happen, so please ensure you have the facility available to drill the sheared bolt out should this happen.

Shearing is more common on older or high mileage vehicles.

To help make things easier, **Ensuring the exhaust manifold is cold**, Apply liberal amounts of freeing oil (WD-40 etc) to the bolts, well before attempting to undo them. It is often easier to drill just to one side of a sheared bolt, and either tap new threads, or use a nut and bolt to secure the exhaust blanking plate. A smear of exhaust paste can be used on the blank, but is not normally needed, as land rover do not use any kind of gasket here.

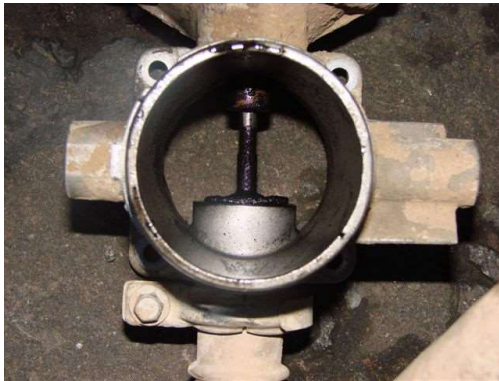
The EGR assembly can now be removed as a complete assembly (early EU2 type shown Below). EU3 assemblies will be in two parts, due to the inline heat exchanger.



This is what you will now have, with the original EGR system removed.



Looking at the photographs below, the restriction caused by the original valve can be seen clearly. Also notice the residual sludge build up left by the dirty exhaust gases!



The exhaust blanking plate is simply attached to the exhaust manifold with the 2 Allen bolts. No gaskets are required for this, as both are machined flat surfaces, and will seal well. Just take care to nip the blanking plate up evenly on both sides.

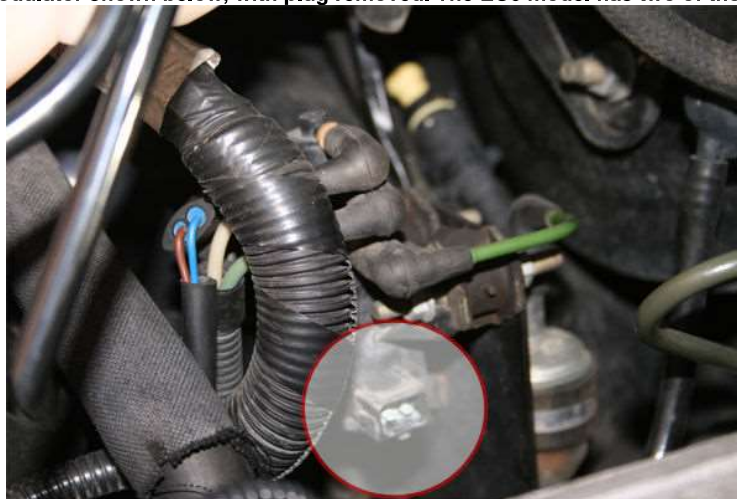


The new EGR Body is bolted to the intake manifold with the 4 bolts. **Prior to fitting**, please ensure that the pipe is clean, and free from any metal fragments left from manufacturing, and the mating face of the inlet manifold is clean. Use the new gasket (supplied) to seal the joint. The intercooler air hose can then be reconnected and the jubilee clip tightened. Refit the engine cover. Note that sometimes these jubilee clips can fail, and so will need to be replaced. Please ensure you have a spare 80mm jubilee clip to hand just in case this happens to you!



It is recommended that you disconnect the electrical connector(s) from the EGR modulator(s), to prevent vacuum from being applied to the now redundant vac hose(s). The engine management will then sense there is no EGR system fitted, so will disable any attempts of EGR operation. The modulator(s) are located on the right hand inner wing. Early models have just one, and later (EU3) models have two. Unplug the **electrical connectors only** from the modulators. **Leave all vac pipes in situ, attached to the modulators and brake servo pipe!** This is for your safety, as the brake assistance could be severely compromised by incorrect or inadequate fittings.

Discovery, early (EU2) model modulator shown below, with plug removed. The EU3 model has two of these, so disconnect both plugs.

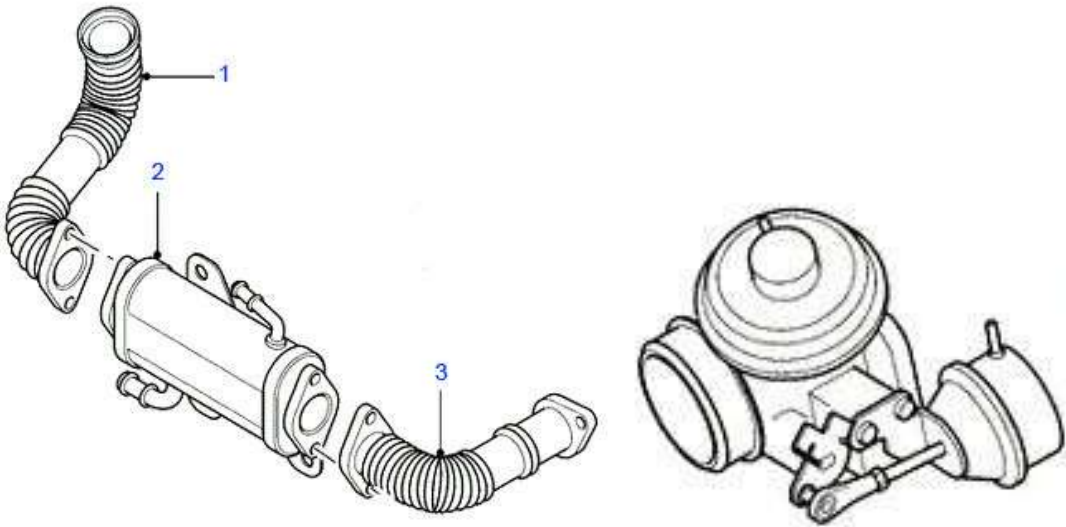


Defender early (EU2) model modulator shown below. The EU3 model has two of these, so disconnect both plugs.



Additional notes for 2001>2006 EU3 engines.

If you have an EU3 engine (Post 2001 models), then your EGR re-circ pipe will most likely have a heat exchanger fitted, as in the picture below. The only exception to this is with very late TD5 Discovery models, and Rest of World spec vehicles.



If you have this type, then you should remove pipes **1** and **3**, leaving the heat exchanger (**2**) in place. Use the additional 2 blanks to seal this. See how the later type EGR valve body (above) has an additional actuator on it's side. The vac pipe to this will need to be removed and blanked off as well as the vac pipe to the top actuator. I recommend using self tapping screws for this, as they will seal the pipes, and won't fall out. Fasten these pipes to the new EGR body, with a ty-rap.

This EU3 EGR system has two electronic modulators, which should both be disconnected electrically. Black, and Green plugs (pictured below)



Should you wish, you can remove the EGR electronic modulator assembly completely, but you **MUST** fit a new 'vac pump to brake servo' pipe, which has no 'tee'. These were fitted to Rest of World spec vehicles which never had EGR, and are available from land rover dealers. The part numbers are ANR6916 (RHD) or SQB103360 (LHD). **This conversion should only be performed by a competent person**, as poor fitting could potentially lead to a loss of brakes!

A final note: Your EGR system was fitted to your car to reduce harmful emissions. At present, the MOT test looks for exhaust gas opacity (smoke density) only, but there is speculation that this may change in the coming years, and there will be tests for EGR operation and also to check the presence of diesel catalytic convertors where fitted. For this reason, we strongly suggest you keep all removed items in a safe place, so they can be refitted easily should legislation change in future. If things do change, you'll be glad you kept the parts, as they'll be like gold dust!