

Virtual EGR system kit

For the OM628 engine, 4.0L displacement, 400CDI

1. Product description:

1.1. This product is designed to replace faulty or broken electrically controlled exhaust gas recirculation (further EGR) valves for “Mercedes Benz” OM628 diesel engines. Installation kit consists of two emulators for left and right sides of engine and a blanking plate to preserve exhaust gases from flowing in to inlet duct and manifold.

1.2. This product does not replace the entire inlet or exhaust gas management system or its components: such as the air mass sensor (further HFM), turbocharger, inlet and exhaust manifolds, intercooler, catalyst, pipes, inlet port shut-off drive motors, flaps and others. You must be sure that the problem is in the EGR valve only; otherwise, this product will not help you or will help you partially.

1.3. System advantages:

1.3.1. clean inlet manifold;

1.3.2. Up to 5% fuel economy;

1.3.3. Simple installation;

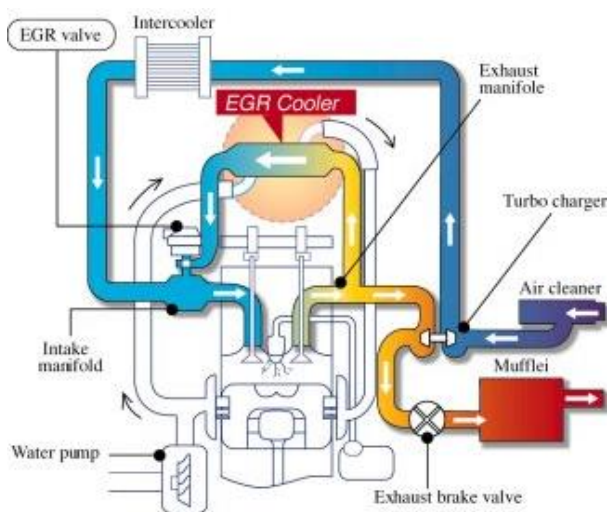
1.3.4. Much cheaper, than the original EGR valve

1.4.5. No problems with the EGR system in the future

1.4. System disadvantages:

None determined

1.5. EGR system functional diagram:



1.6. Problems caused by the original EGR system:

- 1) Shorter distance between oil change intervals.
- 2) Soot in the air inlet duct.
- 3) Higher fuel consumption.

Here are some examples illustrating the air inlet duct taken from a vehicle that had a functioning EGR system:

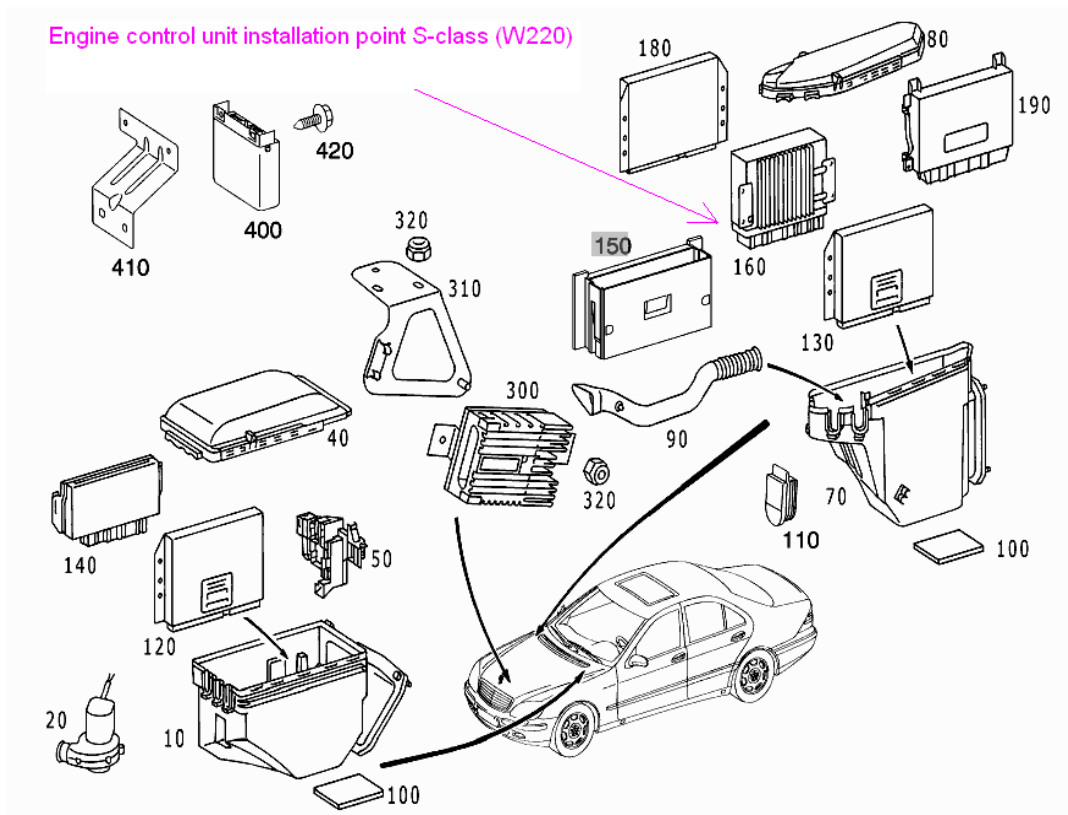


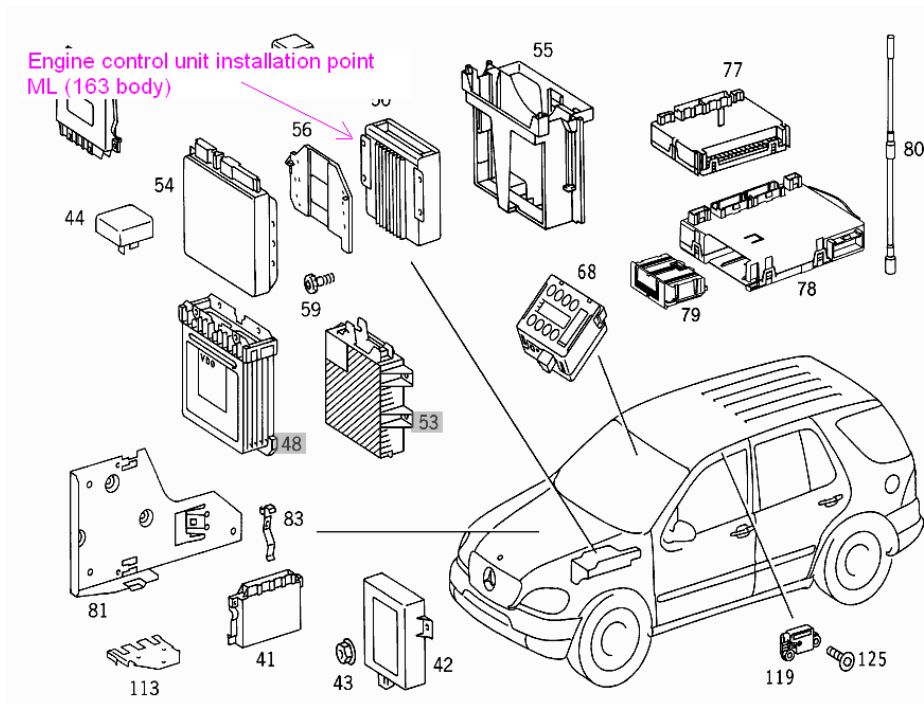
2. Product installation

Orientation picture:



2.1. Find a suitable place to install the emulator. The place should be within normal working temperatures ($<40^{\circ}\text{C}$), dry, without high vibration levels. Best place to install this emulator is near the engine control module, in the same control unit's box.





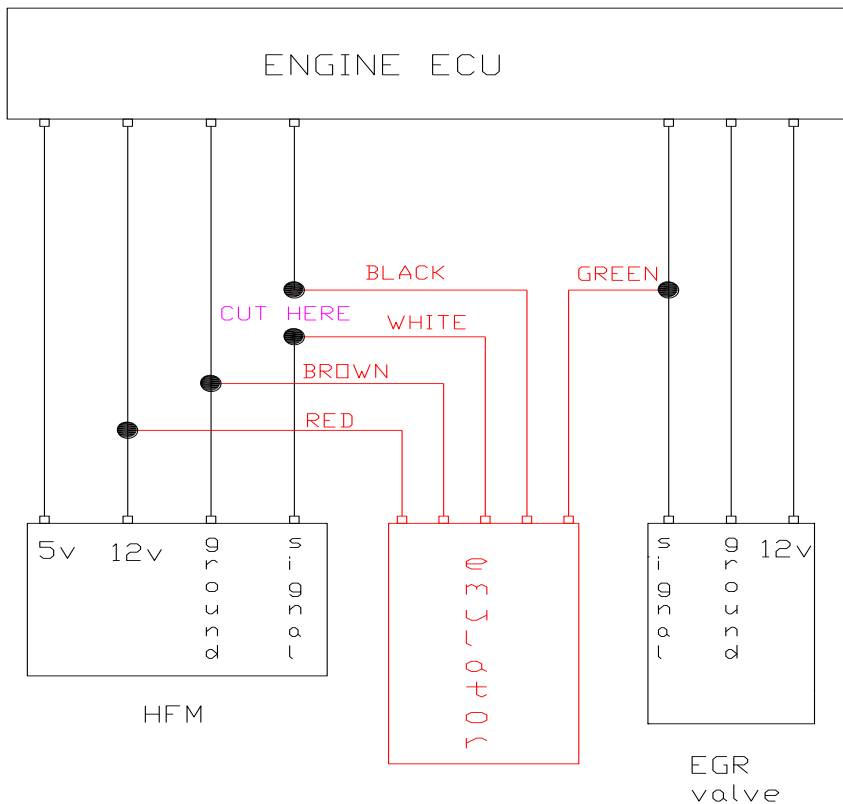
2.2. Always make soldered and well-isolated connections.

2.3. Wires always should be tied with fasteners.

2.4. It is recommended to remove and clean the inlet manifold before installing the emulator.

2.5. Make sure that the EGR valve is closed and exhaust gases are not flowing into the inlet manifold. Best way to do this is to fasten EGR valve ball mechanically or to close the exhaust gas channel with a blanking plate.

2.6. This installation diagram shows how to install the emulator on one side (left or right) of the engine. Other side of the engine is done the same way.



Note:

1. Once the emulator is installed the original EGR valve **must be disconnected**, otherwise the engine control unit will be detecting faults related to the EGR valve.
2. Power supply for both emulators can be taken from one point.
3. Ground can be connected either to HFM sensor or to other ground wire.

- 2.7. It is advised to use a diagnostic tool to detect faults and to check if the emulator is functioning properly.
- 2.8. Some emulators have a small hole in the plastic box with a LED inside. What each light means:

Blinking green: EGR valve is fully closed at this time, or the green wire of the emulator has shorted to positive terminal.

When does this occur? –When the engine is working on full load or has been idling for more than 3 minutes, or the green wire has short-circuited to positive terminal.

Permanent green: EGR valve is fully closed at this time.

When does this occur? –The engine is working on full load or has been idling for more than 3 minutes.

Permanent red: EGR valve is partially opened at this time.

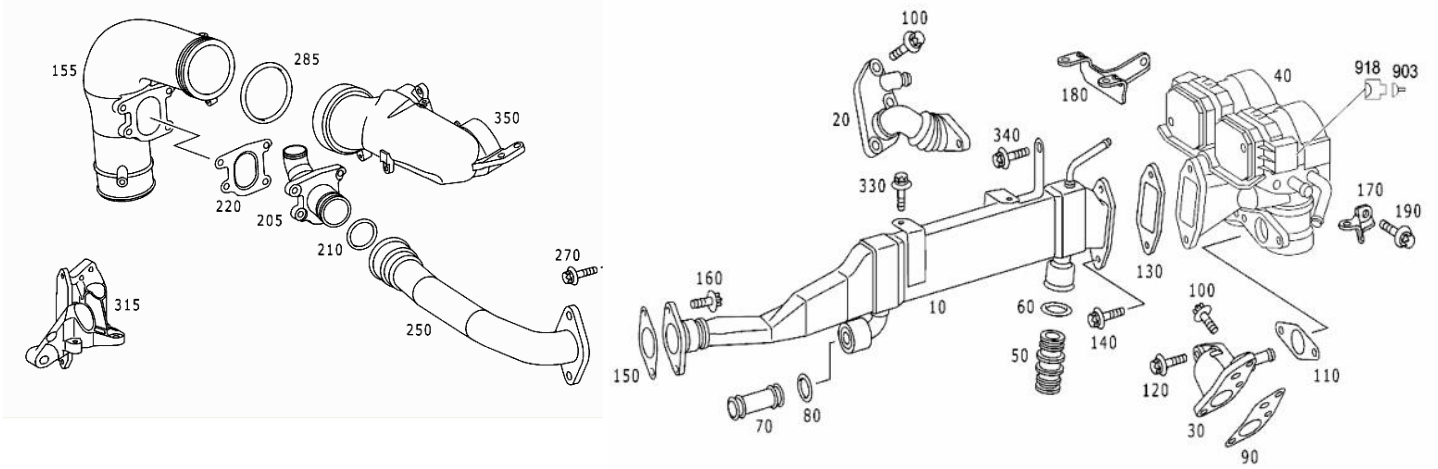
When does this occur? –The engine is working on partial load or has been idling for less than 3 minutes.

Blinking red: EGR valve is fully opened at this time, or the emulator’s green wire has shorted to the negative terminal.

When does this occur? – Usually it means that the green wire has short-circuited to the negative terminal.

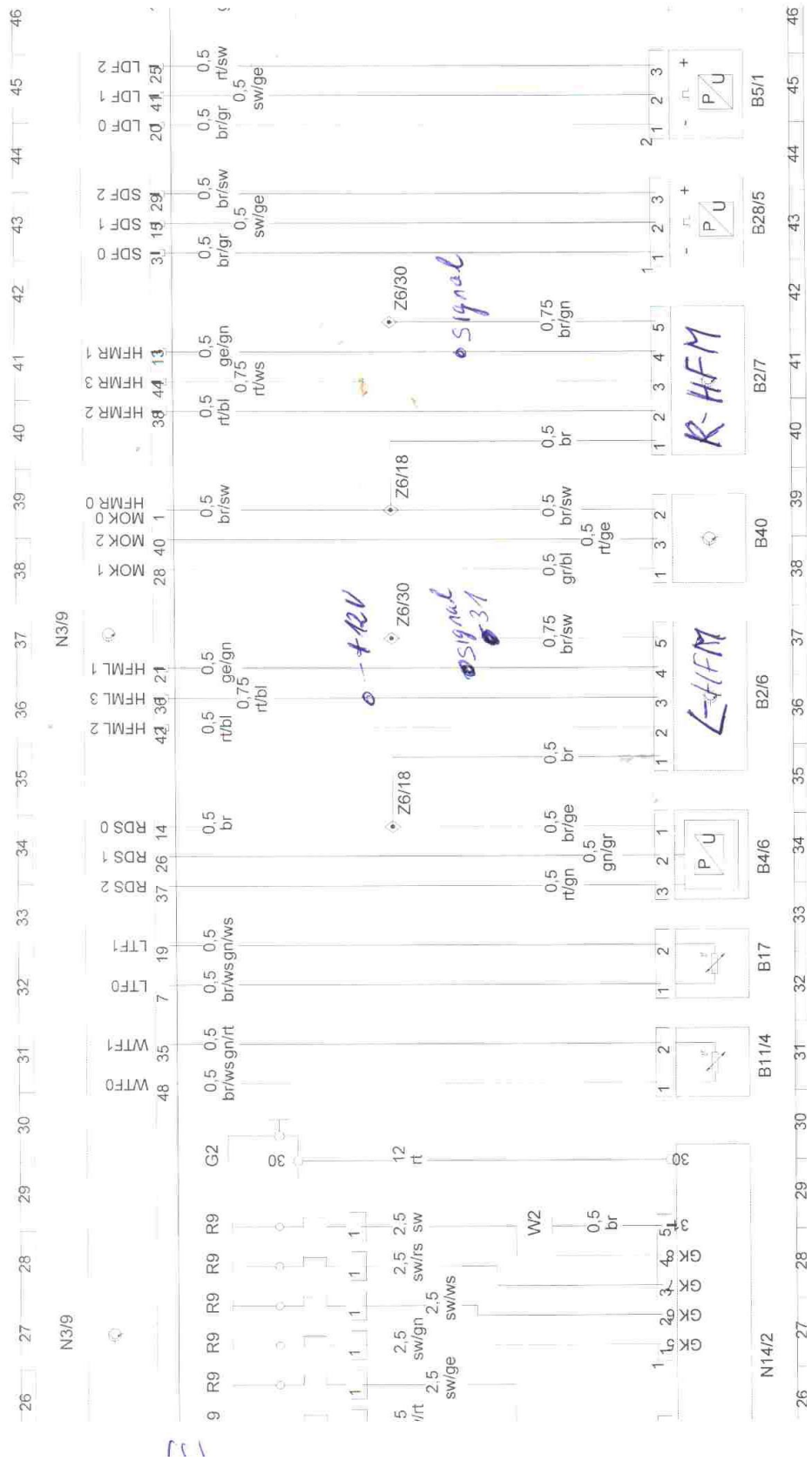
Blanking plate installation point:

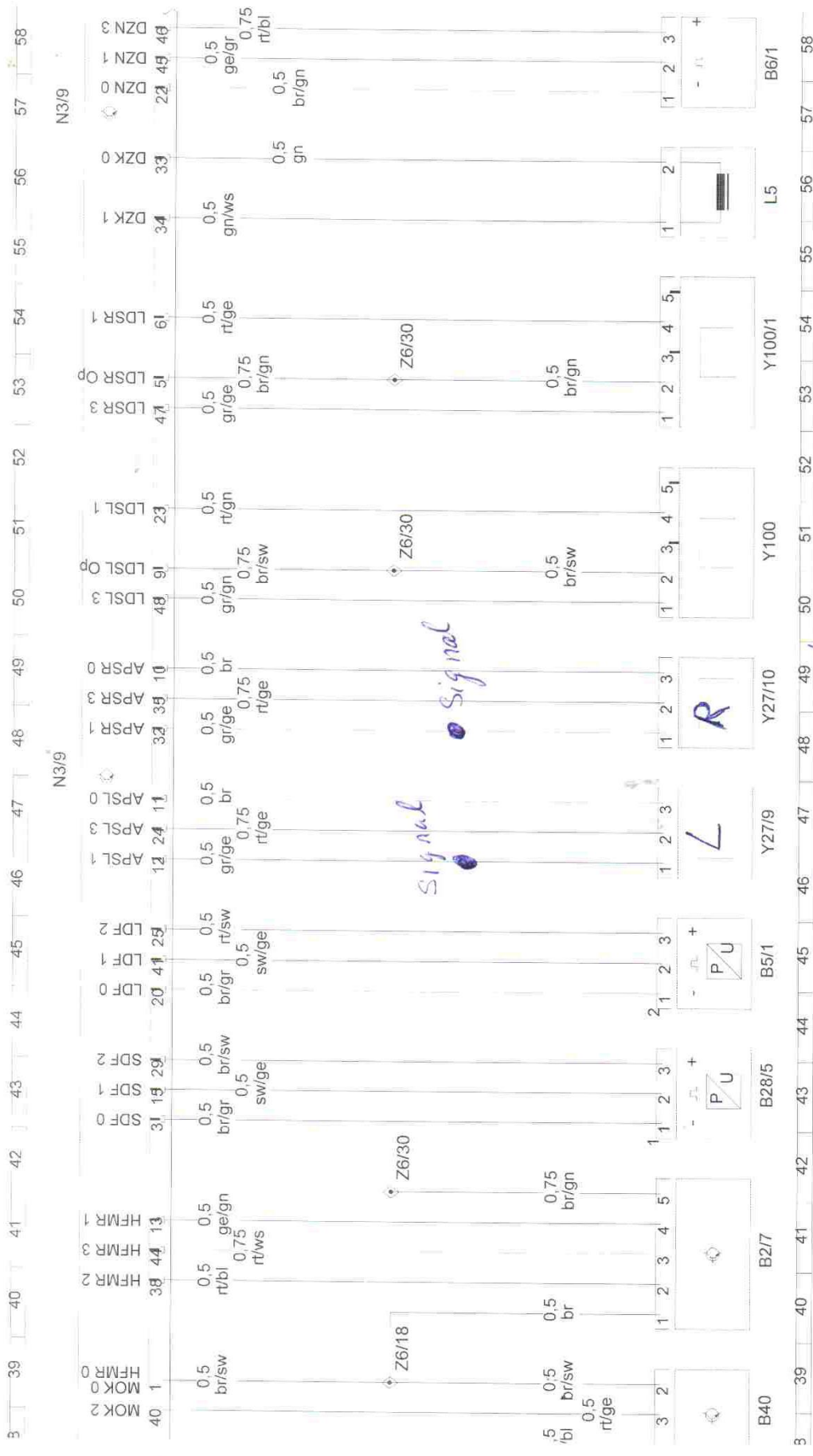
Blanking plate pos. 150



Engine control unit wiring diagram:

All wires is in connector E.





3. You have done a good job. Enjoy our product!!!