

OUR EGR VALVES – YOUR ADVANTAGE

11801

Including gaskets

If a car is damaged usually it has to be repaired very fast to guarantee the owners mobility.

To avoid an unnecessary waste of time, work and money the quality brand VEMO offers it's EGR valves and throttle bodies with gaskets.



V40-63-0021
X-REF: 08 51 706)

Shock-resistant packaging

Our shock-resistant packagings ensure safe storage and transportation.



Futher information available at www.autoteile.de

EN Service Information – EGR Valves

When the engine idling is not running smoothly, the vehicle jerks, or the engine goes into emergency mode, it may be that the built-in EGR valve is clogged with oily deposits. As a result, the valve is difficult to move and cannot be fully opened or closed. **The reason for this does not usually lie with the EGR valve itself.**



EGR valve (V40-63-0014) in new condition



EGR valve (V40-63-0014) with soot deposits

Possible reasons for failure

- There is a malfunction in the vacuum system.
- Especially in the cold seasons, frequent short-distance operations – particularly of diesel vehicles – can lead to the forming of an oil-water emulsion, which builds up on the valve.
- The combustion of the vehicle is incomplete (e. g. due to a default throttle body).
- There is a fault in the engine management system (e. g. in the air mass sensor).
- The software of the control system is outdated.
- The intake air and charge air of the vehicle is, for example, due to a too high motor oil level or an unsuitable engine oil quality, very oleaginous.



Throttle body (V10-81-0011)

Tips for remedial action

- In the event of malfunction of the EGR valve, check not only the individual components of the EGR system, but also the surrounding area.
- Do not clean the EGR components; this could damage them.
- Identify the cause of the deposits and remedy the fault.
- If necessary, replace the EGR valve.



Air mass sensor (V40-72-0341)

EXHAUST GAS RECIRCULATION

11801

Advice on Troubleshooting

One of the most common reasons for errors in the EGR system are sticky or coked EGR valves.

The recirculated exhaust gas contains an increased amount of soot particles, especially in diesel vehicles. In addition, oil contained in the intake air can promote the formation of adhesion and coking. This means that after a period of time the performance of the valve can no longer cope with the deposits, and stays in an open position or does not open anymore. This can be felt through bad performance, jerking or rough idling.

The root causes for an increased proportion of oil in the intake air or intercooler can be due to inconsistencies in the crankcase ventilation, worn bearings, a clogged oil return line on the turbocharger, worn valve stem seals or valve stem guides, using unsuitable engine oil quality, or a too high engine oil level. Extraordinarily strong residues can also be caused by an error in the fuel injection. EGR valves are designed for high temperatures in the exhaust system. However, heat damage can occasionally occur. The reasons for this may be due to bad control, too high exhaust gas back pressure, or due to a non-opening thrust recirculation valve of the turbocharger („Wastegate“). Manipulation to increase the boost pressure may also be a reason.

Moreover, with pneumatic EGR valves, a possible cause can be found due to defects in the entire vacuum pump control area (vacuum pump, vacuum lines, and solenoid valves). Electric EGR valves and solenoid valves can mostly be performed by an actuator diagnosis through the engine tester.

The switching of a working valve is easy to hear with the engine at standstill.

If a new EGR valve was installed and the vehicle behaves as if the valve was not changed, the correct data necessary for operation must be „fine-tuned“ again. This can be done either through a longer test drive or through specific programming by the engine tester, e.g. „Basic setting“.



IMPORTANT!

Return consignments will not be accepted where adaption of the EGR valve cannot be proven!

For further information visit www.autoteile.de

EXHAUST GAS RECIRCULATION

11801

DEFECT	CAUSE	PROPOSED SOLUTION
EGR VALVE		
<ul style="list-style-type: none"> rough idling jerking lack of Power emergency operating mode MIL lights / error code set lack of power in the lower -rpm range or in - old modus (Otto) lack of power in the upper rpm range (Diesel) 	<ul style="list-style-type: none"> general: coked/sticky EGR valve <ul style="list-style-type: none"> poor, unclean combustion engine management fault frequent short journeys 	<ul style="list-style-type: none"> check the engine control check software version of the engine control unit avoid only short distance operation replace the valve
	<ul style="list-style-type: none"> leaks in the vacuum system <ul style="list-style-type: none"> defective solenoid valves disturbances in the vacuum system 	<ul style="list-style-type: none"> check the function, electrical actuation and impermeability of the vacuum system
	<ul style="list-style-type: none"> very oily intake or charged air: <ul style="list-style-type: none"> disturbances in the crankcase ventilation too high engine oil level poor engine oil quality worn valve stem seals or valve stem guides 	<ul style="list-style-type: none"> check oil separator, check engine ventilation valve check pistons, piston rings, cylinders, valve stem seals or valve stem guides for wear and tear check turbocharger for clogged oil return line perform professional oil and oil filter change
	<ul style="list-style-type: none"> air flow signal or other sensor signal error 	<ul style="list-style-type: none"> check sensors on correct values, replace if necessary
<ul style="list-style-type: none"> P0401 „Flow rate too low“ P0103 „Air mass too high“ 	<ul style="list-style-type: none"> EGR valve does not open or is not actuated EGR system has been shut down 	<ul style="list-style-type: none"> check connectors and control
<ul style="list-style-type: none"> P0402 „Flow rate too high“ P0102 „Air mass too low“ 	<ul style="list-style-type: none"> EGR valve does not close / is permanently open uncontrolled, permanent EGR 	<ul style="list-style-type: none"> replace EGR valve check connectors and control
<ul style="list-style-type: none"> EGR valve has temperature damage, visible discoloration, partial melting (Otto) 	<ul style="list-style-type: none"> false triggering excessive exhaust backpressure not opening turbocharger outlet valve 	<ul style="list-style-type: none"> replace EGR valve check control of the EGR valve check exhaust backpressure thrust recirculation valve of turbocharger („Wastegate“) and its actuation
<ul style="list-style-type: none"> new EGR valve without function high idling after installment 	<ul style="list-style-type: none"> new EGR valve was not adapted 	<ul style="list-style-type: none"> adjust basic setting of the EGR valve through engine tester
SOLENOID VALVES / PRESSURE SYSTEM		
<ul style="list-style-type: none"> sawing engine misfirings emergency operating mode deteriorating brake performance 	<ul style="list-style-type: none"> defective hoses (porous, marten bites) leaking connectors on pneumatic valves leaking non-return valves / vacuum tank defective / porous diaphragms or gaskets at pneumatic actuators leakages in suction pipe 	<ul style="list-style-type: none"> in case of damage check the impermeability of all components in the vacuum system and replace broken part
AIR FLOW METER		
<ul style="list-style-type: none"> P0401 „Flow rate too low“ black smoke lack of Power emergency operating mode 	<ul style="list-style-type: none"> air flow meter damaged / contaminated by <ul style="list-style-type: none"> dirt particles with the intake air leaks in the intake duct, spray water uncleanliness when changing the air filter clogged air filter oil-coated high performance air filter 	<ul style="list-style-type: none"> avoid water and particle entry in the intake duct
	<ul style="list-style-type: none"> damage to the turbocharger 	<ul style="list-style-type: none"> check turbocharger

For further information visit www.autoteile.de

EXHAUST GAS RECIRCULATION

11801

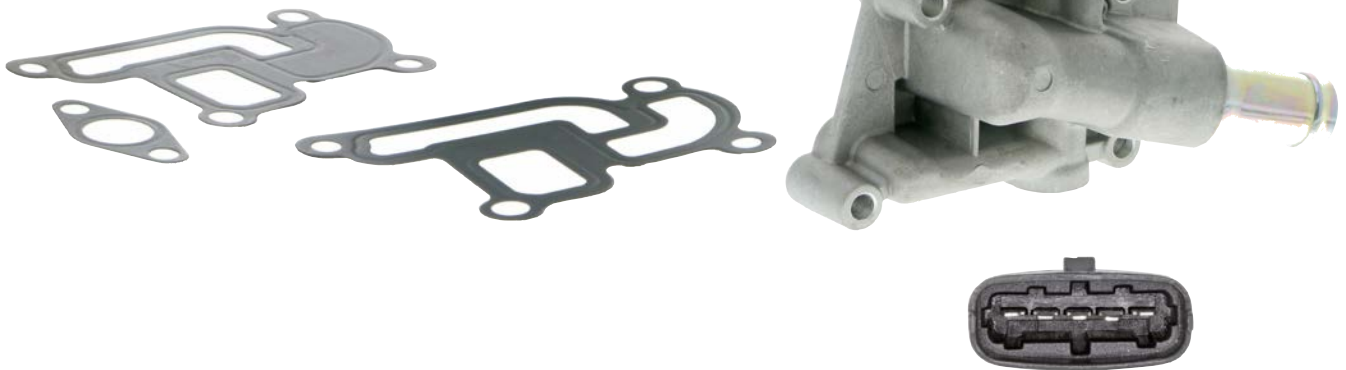
Error Message after Replacement

ERROR DESCRIPTION:

- Signal voltage is out of the tolerance range
- New part with an error message
- Error lamp lights up
- Error code P0400

If any of the above problems arise after installing the EGR valve, then the adjustment range stored in the engine control unit is configured wrongly.

With a software update of the engine control unit, the control range can be expanded accordingly, and the problem will thus be solved.



OPEL AGILA, ASTRA G, ASTRA H, CORSA C, MERIVA, TIGRA

X-Ref: 08 51 593
9157671

V40-63-0011

For further information visit www.autoteile.de

COOLED EXHAUST GAS RECIRCULATION

11801

Reduction of nitrogen oxides

Emission regulations are becoming increasingly stringent. Therefore the emissions need to be reduced. Especially for diesel engines the reduction of the nitrogen oxides (NO_x) is taking high priority. The cooled exhaust gas recirculation causes a lower combustion chamber temperature, which avoids the generation of nitrogen oxides.

EGR valves with bypass damper

Many EGR valves are provided with an electric or pneumatic bypass damper. This enables gases to be led past the EGR cooler during the warm-up phase, to get the motor and catalyst to the best operating temperature as fast as possible.

The bypass is also used if high exhaust gas temperatures are needed, for example during the regeneration of the diesel particulate filters.



AUDI A3, Q3, TT, **SEAT** ALHAMBRA, ALTEA, ALTEA XL, LEON, **ŠKODA** OCTAVIA, SUPERB, YETI, **VW** CADDY III, EOS, GOLF VI, GOLF PLUS, JETTA III, JETTA IV, PASSAT, PASSAT CC, PASSAT ALLTRACK, CC, SCIROCCO, SHARAN, TIGUAN, TOURAN

X-Ref: 03L 131 512 DQ
03L 131 512 CF
03L 131 512 BJ

V10-63-0083

For further information visit www.autoteile.de

COMPARISON OF EGR VALVES

11801

VEMO[®] NEW PART



The magnetic field sensor allows a contactless determination of the position.



No use of additional sealant.



The bypass damper is closing densely and guarantees the optimal regulation of the cooling system.



New high quality parts guarantee perfect sealing and performance.

COMPETITOR – RECYCLED

Common issues

for EGR valves with bypass damper



Pieces of the broken sealant can damage the thermostat and the water pump. Blockages may decrease the cooling efficiency.



The cooling cannot be regulated if the bypass damper does not close densely.



The recycling process of old parts can lead to material fatigue, which causes issues like leakages.

For further information visit www.autoteile.de