EGP – GB – 02/2025

EGP SNR
Exhaust Gas Pressure Sensor

EGP Exhaust Gas Pressure Sensor

Respect for the environment and standards

In the context of sustainability and environmental compliance regulations, it is crucial for vehicle manufacturers adapt to these ecological requirements. Sensors play a key role in this transition, enabling vehicles to meet stringent standards while reducing their environmental impact. By monitoring and optimising various aspects of the vehicle, sensors not only contribute to performance and safety, but also to a cleaner future.

Sensor Function and Technologies

The exhaust gas pressure sensor is an essential component within the emission control systems of diesel vehicles. It measures the exhaust gas pressure difference between filter inlet and outlet or in relation to atmospheric pressure. This measurement is crucial to monitor the saturation status of the particulate filter and provide information to the engines management system.
In particulate filter systems without a DPF (Diesel Particulate Filter) or with a PF (Particulate Filter), the differential pressure sensor plays a role. By measuring the pressure before and after the filter, it helps determine the optimal time for filter regeneration, ensuring effective cleaning of the accumulated particles within the filter. This ensures that the emission control system particulate emissions are kept at levels that comply with environmental standards.

The exhaust gas pressure sensor is a key component in the diesel emission control systems. It contributes to:

- Reduced emissions of harmful particles into the atmosphere,
- To ensure the correct functioning of particulate filters.

EGP Exhaust Gaz Pressure Sensor

Fault code	Description of the error
P006B	Exhaust gas pressure and intake tube absolute pressure - Relationship implausible
P040A	Temperature sensor A for exhaust gas recirculation - Electric fault in circuit
P040B	Temperature sensor A for exhaust gas recirculation - Voltage deviation/malfunction
P040C	Temperature sensor A for exhaust gas recirculation - Signal too small
P040D	Temperature sensor A for exhaust gas recirculation - Signal too high
P040E	Temperature sensor A for exhaust gas recirculation - Signal varies/interrupts
P040F	Temperature sensors A and B for exhaust gas recirculation - Relationship implausible
P041A	Temperature sensor B for exhaust gas recirculation - Electric fault in circuit
P041B	Temperature sensor B for exhaust gas recirculation - Voltage deviation/malfunction
P041C	Temperature sensor B for exhaust gas recirculation - Signal too small
P041D	Temperature sensor B for exhaust gas recirculation - Signal too high
P041E	Temperature sensor B for exhaust gas recirculation - Signal varies/interrupts
P045A	Control circuit for exhaust gas recirculation B - Electric fault in circuit
P045B	Control circuit for exhaust gas recirculation B - Voltage deviation/malfunction
P045C	Control circuit for exhaust gas recirculation B - Signal too small
P045D	Control circuit for exhaust gas recirculation B - Signal too high
P045E	Exhaust gas recirculation B - Component jammed in open condition
P045F	Exhaust gas recirculation B - Component jammed in closed condition
P046C	Sensor A for exhaust gas recirculation - Voltage deviation/malfunction
P046D	Sensor A for exhaust gas recirculation - Signal varies/interrupts
P046E	Exhaust gas recirculation sensor B - Voltage deviation/malfunction
P046F	Exhaust gas recirculation sensor B - Signal varies/interrupts

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Fault Code	Description of the error
P0470	Exhaust gas back pressure sensor A - Electric fault in circuit
P0471	Exhaust gas back pressure sensor A - Voltage deviation/malfunction
P0472	Exhaust gas back pressure sensor A - Signal too small
P0473	Exhaust gas back pressure sensor A - Signal too high
P0474	Exhaust gas back pressure sensor A - Signal varies/interrupts
P0475	Exhaust gas back pressure control valve A - Electric fault in circuit
P0476	Exhaust gas back pressure control valve A - Voltage deviation/malfunction
P0477	Exhaust gas back pressure control valve A - Signal too small
P0478	Exhaust gas back pressure control valve A - Signal too high
P0479	Exhaust gas back pressure control valve A - Sporadic interruption in the circuit
P047A	Sensor B for exhaust gas pressure - Electric fault in circuit
P047B	Sensor B for exhaust gas pressure - Voltage deviation/malfunction
P047C	Sensor B for exhaust gas pressure - Signal too small
P047D	Sensor B for exhaust gas pressure - Signal too high
P047E	Sensor B for exhaust gas pressure - Signal varies/interrupts
P047F	Exhaust gas back pressure control valve A - Component jammed in open condition
P048A	Exhaust gas back pressure control valve A - Component jammed in closed condition
P048B	Position sensor/switch for control valve A for exhaust gas pressure - Electric fault in circuit
P048C	Position sensor/switch for control valve A for exhaust gas pressure - Voltage deviation/malfunction
P048D	Position sensor/switch for control valve A for exhaust gas pressure - Signal too small
P048E	Position sensor/switch for control valve A for exhaust gas pressure - Signal too high
P048F	Position sensor/switch for control valve A for exhaust gas pressure - Signal varies/interrupts

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Fault Code	Description of the error
P049A	Exhaust gas recirculation B - Faulty flow rate function
P049B	Exhaust gas recirculation B - Flow rate too low
P049C	Exhaust gas recirculation B - Flow rate too high
P049F	Exhaust gas recirculation B - Flow rate too high
P04A0	Control valve B for exhaust gas pressure - Signal deviation
P04A1	Control valve B for exhaust gas pressure - Signal too small
P04A2	Control valve B for exhaust gas pressure - Signal too high
P04A3	Control valve B for exhaust gas pressure - Temporary malfunction
P04A5	Control valve B for exhaust gas pressure - Component jammed in closed condition
P04A6	Position sensor/switch for control valve B for exhaust gas pressure - Electric fault in circuit
P04A7	Position sensor/switch for control valve B for exhaust gas pressure - Voltage deviation/malfunction
P04A8	Position sensor/switch for control valve B for exhaust gas pressure - Signal too small
P04A9	Position sensor/switch for control valve B for exhaust gas pressure - Signal too high
P04AA	Position sensor/switch for control valve B for exhaust gas pressure - Signal varies/interrupts
P2141	Exhaust gas return valve control circuit A - Signal too small
P2142	Exhaust gas return valve control circuit A - Signal too high
P2169	Control circuit for solenoid valve for exhaust gas pressure regulator - Electric fault/interruption in circuit
P2170	Control circuit for solenoid valve for exhaust gas pressure regulator - Signal too small
P2171	Control circuit for solenoid valve for exhaust gas pressure regulator - Signal too high

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Fault Code	Description of the error
P2380	Sensor D for exhaust gas recirculation - Electric fault in circuit
P2381	Sensor D for exhaust gas recirculation - Signal too high
P2382	Sensor D for exhaust gas recirculation - Signal too small
P2383	Sensor D for exhaust gas recirculation - Voltage deviation/malfunction
P2384	Sensor D for exhaust gas recirculation - Sporadic interruption in the circuit
P2385	Sensor E for exhaust gas recirculation - Electric fault in circuit
P2386	Sensor E for exhaust gas recirculation - Signal too high
P2387	Sensor E for exhaust gas recirculation - Signal too small
P2388	Sensor E for exhaust gas recirculation - Voltage deviation/malfunction
P2389	Sensor E for exhaust gas recirculation - Sporadic interruption in the circuit
P240F	Exhaust gas recirculation - Trigger behaviour too slow
P2413	Exhaust gas recirculation - Functioning fault
P2AA3	Exhaust gas recirculation B - Flow rate too low during cold start
P2AA4	Exhaust gas recirculation B - Flow rate too low during cold start
P2B97	Position for control valve A for exhaust gas pressure - Learn value exceeded
P2B98	Supply for control valve A for exhaust gas pressure - Signal too small
P2B99	Exhaust gas back pressure control valve A - Current strength / temperature too high

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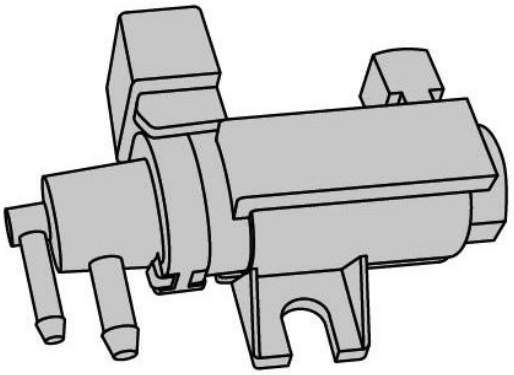
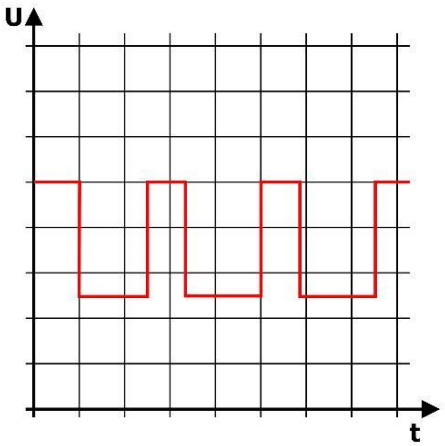
Exhaust gas recirculation solenoid valve

Testing Basics:
When you perform voltage measurements directly on the control unit, the wiring harness is also checked. If no prescribed voltage value is available, the resistance can also be measured. If a positive voltage jump is recorded with a motor temperature of 40 to 45° C, then a resistor is put into operation in the ECU. No defects!

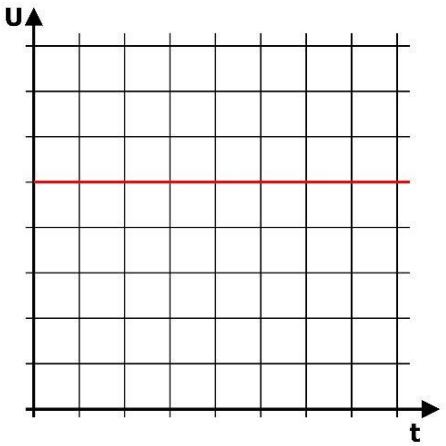
Description
The exhaust gas recirculation solenoid valve that changes the opening section according to the underpressure reduces nitrogen oxide emissions into the exhaust gases. By adding exhaust gases to the fuel/air mixture, the temperature reduction in the combustion process is reduced. Reduced fuel consumption is achieved by exhaust gas recirculation. Fuel consumption is reduced due to a higher degree of efficiency and lower combustion pressure.



Working method
The EGR valve is electrically or vacuum-controlled. The return quantity (fuel) is set by the control unit This happens in relation to the engine speed, the suction pressure and the engine temperature. The EGR system does not operate because there are no significant emissions. At full load, the EGR system is partially regulated. In general, the EGR system works optimally when the engine load is reached.



Exhaust gas recirculation solenoid valve
(Positive example)



Exhaust gas recirculation solenoid valve
(negative example)

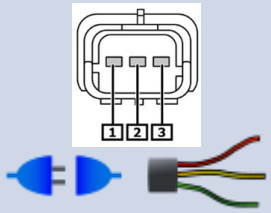
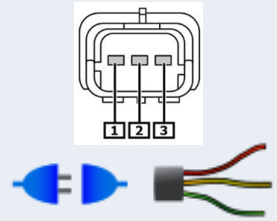
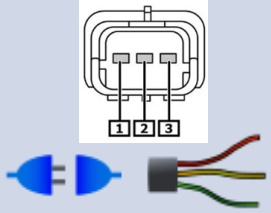
EGP Exhaust Gas Pressure Sensor Assembly Recommendations

General guidelines

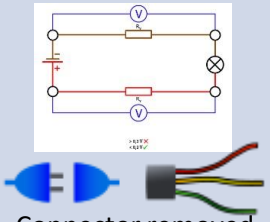
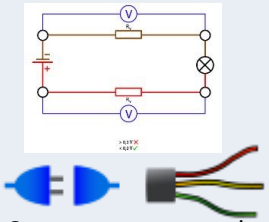
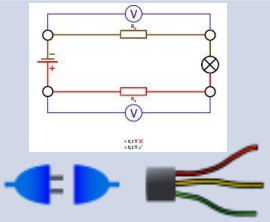
This installation instruction serves only as a general guideline for the work to be carried out and does not take into account the manufacturer's specific fitment instructions
Specific manufacturer's information must be followed if they are not an integral part of this documentation.
The prescribed torque values must be followed in case they are not an integral part of this documentation.

Instructions

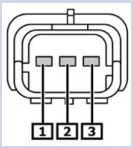
Exhaust Gas Pressure Sensor (EGP)
Exhaust gas differential pressure sensor. Line Strength

PIN	Values	Information	Prerequisites	Graphic
PIN 1 closed 120V NR PIN 71	≤ 0,8 Ω	Measured from component connector to engine ECU connector	Before the measurement begins, disconnect all connectors from the control units and parts to be tested. Remove the ignition key. to be used for checking electrical schematics	 Connector removed, measurement on harness
PIN 2 closed 120V NR PIN 70	≤ 0,8 Ω	Measured from component connector to engine ECU connector	Before the measurement begins, disconnect all connectors from the control units and parts to be tested. Remove the ignition key. to be used for checking electrical schematics	 Connector removed, measurement on harness
PIN 3 closed 120V NR PIN 5	≤ 0,8 Ω	Measured from component connector to engine ECU connector	Before the measurement begins, disconnect all connectors from the control units and parts to be tested. Remove the ignition key. to be used for checking electrical schematics	 Connector removed, measurement on harness

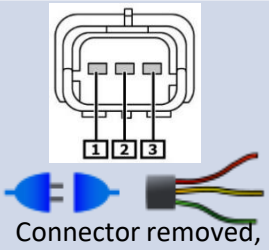
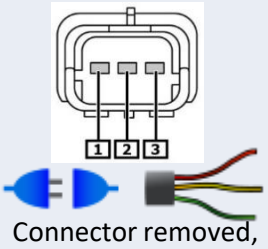
Exhaust Gas Pressure Sensor (EGP)
Exhaust gas differential pressure sensor. Voltage drop

PIN	Values	Information	Prerequisites	Graphic
PIN 1 closed 120V NR PIN 71	≤ 0,3 V	Measured from component connector to engine ECU connector	Before the measurement begins, disconnect all connectors from the control units and parts to be tested. Remove the ignition key. to be used for checking electrical schematics	 Connector removed, measurement on harness
PIN 2 closed 120V NR PIN 70	0,3 V	Measured from component connector to engine ECU connector	Before the measurement begins, disconnect all connectors from the control units and parts to be tested. Remove the ignition key. to be used for checking electrical schematics	 Connector removed, measurement on harness
PIN 3 closed 120V NR PIN 5	0,3 V	Measured from component connector to engine ECU connector	Before the measurement begins, disconnect all connectors from the control units and parts to be tested. Remove the ignition key. to be used for checking electrical schematics	 Connector removed, measurement on harness

Exhaust Gas Pressure Sensor (EGP)
Exhaust gas differential pressure sensor. Short-circuit resistance

PIN	Values	Information	Prerequisites	Graphic
	≥ 10000000 Ω	Check all component connector cables.	Before the measurement begins, disconnect all connectors from the control units and parts to be tested., Remove the contact., to be used for checking the electrical diagrams	

Exhaust Gas Pressure Sensor (EGP)
Exhaust gas differential pressure sensor.
Power supply to the component

PIN	Values	Information	Prerequisites	Graphic
PIN 3 closed PIN 2	≥ 4,5 V - ≤ 5,5 V		Turn the ignition to position 2	 Connector removed, measurement on harness
PIN 3 closed Negative battery terminal.	≥ 4,5 V - ≤ 5,5 V		Turn the ignition to position 2	 Connector removed, measurement on harness

Recommandations

Observe the manufacturers' assembly procedures and indicated torques.
Consult the vehicle applications in our online catalogue: eshop.ntn-snr.com
Consult the dedicated assembly video on the SNR Youtube channel:
https://youtu.be/hqLV4vX_8eM?list=PLIEYgq5nxNl_WXO3q14F5ZISigdc5aOwx
https://youtu.be/bT2WNhf_Nvg?list=PLIEYgq5nxNl_WXO3q14F5ZISigdc5aOwx

Flash this QR Code to find our technical information.

RESPECT THE RECOMMENDATIONS OF THE VEHICLE MANUFACTURER!