

Cleaning the cylinder head intake ports and the combustion chamber with the walnut blaster

1 – Cleaning cylinder head intake ports using the walnut blaster



TECHNICAL INFORMATION

The training video illustrates the methodology for cleaning the intake ports of the cylinder head using the special tool, i.e. walnut blaster.

The training video does not replace the repair instructions.

The training video is not subject to the update service.

- Follow repair instructions!

2 – Cleaning combustion chamber using the walnut blaster



TECHNICAL INFORMATION

The training video illustrates the methodology for cleaning the combustion chamber using the special tool, i.e. walnut blaster.

The training video does not replace the repair instructions.

The training video is not subject to the update service.

- Follow repair instructions!

Leak-testing the air-intake system

1 Air intake system leakage test



TECHNICAL INFORMATION

The training video illustrates the methodology for the leakage test of the air intake system.
The training video does not replace the repair instructions.
The training video is not subject to the update service.
No liability can be accepted for printing or other faults.
Subject to changes of a technical nature

- Follow repair instructions!



TECHNICAL INFORMATION

The training video illustrates the methodology for the leakage test of the air intake system.
The training video does not replace the repair instructions.
The training video is not subject to the update service.
No liability can be accepted for printing or other faults.
Subject to changes of a technical nature

- Follow repair instructions!



TECHNICAL INFORMATION

The training video illustrates the methodology for the leakage test of the air intake system.
The training video does not replace the repair instructions.
The training video is not subject to the update service.
No liability can be accepted for printing or other faults.
Subject to changes of a technical nature

- Follow repair instructions!



TECHNICAL INFORMATION

The training video illustrates the methodology for the leakage test of the air intake system.
The training video does not replace the repair instructions.
The training video is not subject to the update service.
No liability can be accepted for printing or other faults.
Subject to changes of a technical nature

- Follow repair instructions!

Repair notes to renew the cylinder head



RISK OF DAMAGE

Engine damage due to lack of engine oil.

Lack of engine oil after the cylinder head or the engine has been renewed may cause damage to the valve gear.

- Do not start the engine after renewing the cylinder head or the engine without following the repair notes.
- The repair notes on renewing the cylinder head or the engine must be followed.
- For additional information, see: Repair notes on renewing the cylinder head or the engine

Problem

After replacing the cylinder head, a loud rattling noise occurs in the area of the cylinder head or cylinder head cover after starting the engine.

One or more roller cam followers can pop out.

Cause

The new part cylinder head does not contain any engine oil.

The oil supply to the valve clearance compensating elements on the exhaust side and in the area of the exhaust valve stems is not optimal at the first engine start.

Solution

i

TECHNICAL INFORMATION



- Observe the sign in the engine compartment! Only pour in approved engine oil with the correct [SAE](#) viscosity classification.

Before installing the cylinder head cover, the valve stems of all exhaust valves must be moistened with engine oil.

Engine oil

Technically suitable engine oils for BMW Group engines	
3.0 Technically appropriate engine oils for BMW Group engines	
Before the first engine start, the engine only needs to be turned with the starter (without combustion) for a few seconds.. The maximum permissible uninterrupted operating period must not be exceeded.	
Maximum permissible uninterrupted operating period of the starter motor	
15 s	

To guarantee this, the electrical connections of all injectors must be disconnected.

Alternatively, the wiring harness for injection and ignition must be unplugged from the Digital Motor Electronics (DME).

For additional information, see: Repair instructions "11 00 039 Check compression of all cylinders", but without removing ignition coils and spark plugs. "Compression pressure test" service function.

Turning the engine with the starter (without combustion) ensures that the valve train has a sufficient oil supply to start the engine regularly afterwards.

Then reconnect the injectors or the wiring harness for injection and ignition to the Digital Motor Electronics (DME).

Delete the fault memory.

Start engine.

Additional Information

Overview Technical Data

Maximum permissible uninterrupted operating period of the starter motor	
	15 s

Links

Operating materials
3.0 Technically appropriate engine oils for BMW Group engines

Replacing guide bearing

1 Replace guide bearing.



TECHNICAL INFORMATION

The training video illustrates the methodology for replacing the guide bearing shells.

The training video does not replace the repair instructions.

The training video is not subject to the update service.

No liability can be accepted for printing or other faults.

Subject to changes of a technical nature

- Follow repair instructions!



TECHNICAL INFORMATION

The training video illustrates the methodology for replacing the guide bearing shells.

The training video does not replace the repair instructions.

The training video is not subject to the update service.

No liability can be accepted for printing or other faults.

Subject to changes of a technical nature

- Follow repair instructions!



TECHNICAL INFORMATION

The training video illustrates the methodology for replacing the guide bearing shells.

The training video does not replace the repair instructions.

The training video is not subject to the update service.

No liability can be accepted for printing or other faults.

Subject to changes of a technical nature

- Follow repair instructions!



TECHNICAL INFORMATION

The training video illustrates the methodology for replacing the guide bearing shells.

The training video does not replace the repair instructions.

The training video is not subject to the update service.

No liability can be accepted for printing or other faults.

Subject to changes of a technical nature

- Follow repair instructions!

6.1.9 Engine performance

Validities

BMW PASSENGER CAR, BMW i, MINI PASSENGER CAR, ROLLS-ROYCE

Official method according to EG PTI:

Visual inspection and/or use of electronic vehicle interface.

Fault determination according to EG PTI:

a)	Emissions warning light does not go out
b)	Fault entry present
a)	Control changed, consequently impaired safety and/or environmental response
b)	Engine changed, consequently impaired safety and/or environmental response

Methods according to vehicle manufacturer

For electronic testing via the diagnostic interface (OBD socket), the read-out routines necessary for the EU testing organisation will be provided.