



Service

Workshop Manual FOX 2004 ➤

3 - Cyl. injection engine								
Engine ID	BMD	CHF B						

Edition 12.2009





List of Workshop Manual Repair Groups

Repair Group

- 00 - Technical data
- 10 - Cylinders, engine block, support, protector
- 13 - Crankshaft, pistons
- 15 - Cylinder head, valve control mechanism
- 17 - Lubrication system
- 19 - Cooling system
- 20 - Supply system - tank, Fuel pump (pre-supply pump) G6
- 24 - Supply system - fuel injection
- 26 - Exhaust system
- 28 - Ignition system

Technical information should always be available to the foremen and mechanics, because their careful and constant adherence to the instructions is essential to ensure vehicle road-worthiness and safety. In addition, the normal basic safety precautions for working on motor vehicles must, as a matter of course, be observed.

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Contents

00 - Technical data	1
1 Technical Data	1
1.1 Engine number	1
1.2 Engine features	1
10 - Cylinders, engine block, support, protector	3
1 Engine - remove and install	3
1.1 Removal - indications	4
1.2 Additional notes and assembly works in vehicles with air conditioning.	7
1.3 Installation	7
1.4 Tightening torques	8
13 - Crankshaft, pistons	10
1 Engine - disassemble and assemble	10
1.1 Part I - Operating Poly-V belt	11
1.2 Part II - Operating the chain	11
1.3 Poly-V belt - remove and install	13
1.4 Control box - remove and install	15
2 Engine block, seals	18
2.1 Crankshaft seals	18
2.2 Crankshaft seal (pulley side) - replace	19
2.3 Crankshaft seal (flywheel side) - replace	21
15 - Cylinder head, valve control mechanism	23
1 Cylinder head	23
1.1 Cylinder head - disassemble and assemble	24
1.2 Cylinder head - remove and install	25
1.3 Distribution times - check	28
1.4 Roller chains - remove and install	30
1.5 Distribution times - adjust	32
1.6 Compression - check	35
2 Camshaft mechanism - repair	37
2.1 Camshaft mechanism - repair	37
2.2 Camshaft - check axial clearance	40
2.3 Valve seat - trim	40
2.4 Valve guides - check	42
2.5 Valve stem seal - replace	43
17 - Lubrication system	46
1 Lubrication system components - remove and install	46
1.1 Engine oil	46
1.2 Oil crankcase - remove and install	48
1.3 Oil pressure and Oil pressure switch F1 - check	50
19 - Cooling system	52
1 Cooling system components - remove and install	52
1.1 Cooling system components on body side	53
1.2 Cooling system components, engine side	54
1.3 Cooling system hose connection diagram	55
1.4 Cooling system - drain and replenish	56
1.5 Radiator - remove and install	59
1.6 Water pump - remove and install	60



20 - Supply system - tank, Fuel pump (pre-supply pump) G6	62
1 Fuel supply system components - remove and install	62
1.1 Fuel supply system components - remove and install	63
1.2 Safety measures in fuel supply works	65
1.3 Cleaning rules	65
1.4 Fuel pump (pre-supply pump) G6 - remove and install	66
1.5 Fuel level sensor G - remove and install	67
1.6 Fuel reservoir - remove and install	68
1.7 Fuel shut off in case of accident	70
1.8 Fuel pump (pre-supply pump) G6 - check	71
1.9 Supply system - drain the air	78
2 Activated charcoal filter system	80
2.1 Operation	80
2.2 Activated charcoal filter system components - repair	81
2.3 Reservoir ventilation - check	81
3 Engine power electronic adjustment (electronic accelerator)	83
3.1 Operation	83
3.2 Engine power electronic adjustment (electronic accelerator)	84
24 - Supply system - fuel injection	85
1 Injection system - repair	85
1.1 Component location	86
1.2 Fuel injection components - remove and install	87
1.3 Intake manifold - remove and install	89
1.4 Fuel distributor with injection valves - remove and install	90
1.5 Air filter set - disassemble and assemble	90
1.6 Air filter set - remove and install	91
1.7 Safety measures	92
1.8 Cleaning rules	93
1.9 Technical data	94
2 Check components	95
2.1 Injection valves - check	95
2.2 Residual pressure and fuel pressure regulator - check	98
3 Engine control unit J623	102
3.1 Engine control unit J623 - remove and install	102
3.2 Check and erase the fault memory in the Engine control unit J623	102
3.3 Functions and components - adapt	104
26 - Exhaust system	105
1 Exhaust system components - remove and install	105
1.1 Exhaust manifold, catalyst and front exhaust pipe with intermediate muffler	106
1.2 Rear muffler with supports	107
28 - Ignition system	109
1 Ignition system - repair	109
1.1 Ignition system components - remove and install	109
1.2 Ignition coils with final power stages - remove and install	110
1.3 Safety measures	111
1.4 Test data, Spark plugs Q	112



00 – Technical data

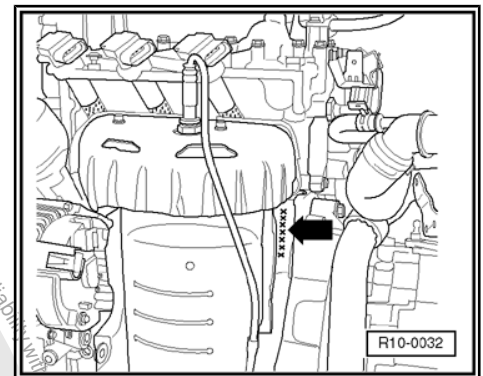
1 Technical Data

Engine number ⇒ [page 1](#)

1.1 Engine number

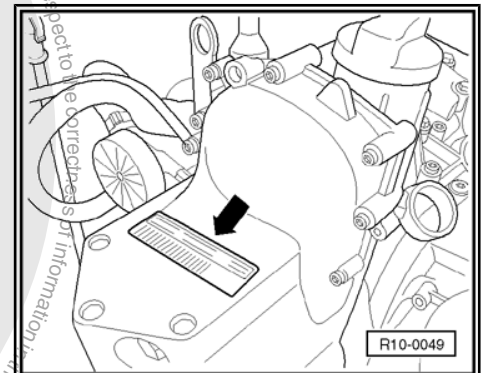
The engine number is comprised of nine digits (alphanumerical) at most. The first part (max. of three identification letters) represents “the engine ID letters”; the second part (six characters) is the “serial number”. If more than 999,999 engines with the same engine identification letters are produced, the first of the six digits is replaced by a letter.

Engine number (“engine identification letters” and “serial number”) is located on the engine block front surface, next to the gearbox.



Additionally, there is sticker -arrow- with the “engine identification letters” and the “serial number” on the right engine support.

The engine identification letters are also indicated on the vehicle data tag.



1.2 Engine features

Identification letters		BMD	CHFB
Production		05.04 ▶	03.09 ▶
Cylinder volume	cm ³	1198	1198
Power	cv (kW)/rpm	55(40)/4750	55(40)/4750
Torque	Nm (mkgf)/rpm	106(10,9)/3000	106(10,9)/3000
Diameter	Ø mm	76,5	76,5
Stroke	mm	86,9	86,9
Compression rate		10,3	10,3
Valves per cylinder		2	2
Octane rating	at least	95 lead-free ¹⁾	95 lead-free ¹⁾
Injection, ignition		Simos 3PG ²⁾	Simos 9.1
Knock control		1 knock sensor	1 knock sensor
Lambda adjustment		2 probes	2 probes
Catalyst		yes	yes
Recirculation of exhaust gases		no	no



Identification letters	BMD	CHFB
Overcharge	no	no

- 1) in exceptional cases, octane rating of at least 91, but with reduced power.
- 2) Simons 3 PG installed up to May/2006, Simons 9.1 started as of June/2006.





10 – Cylinders, engine block, support, protector

1 Engine - remove and install

Removal ⇒ [page 4](#) .

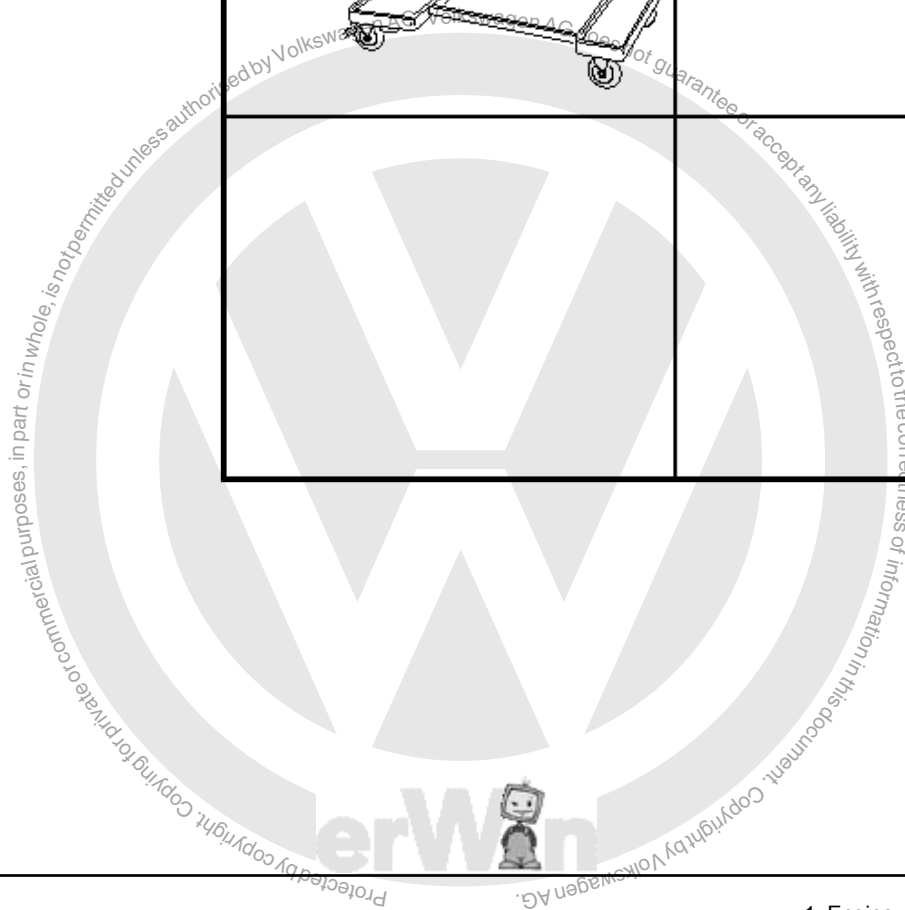
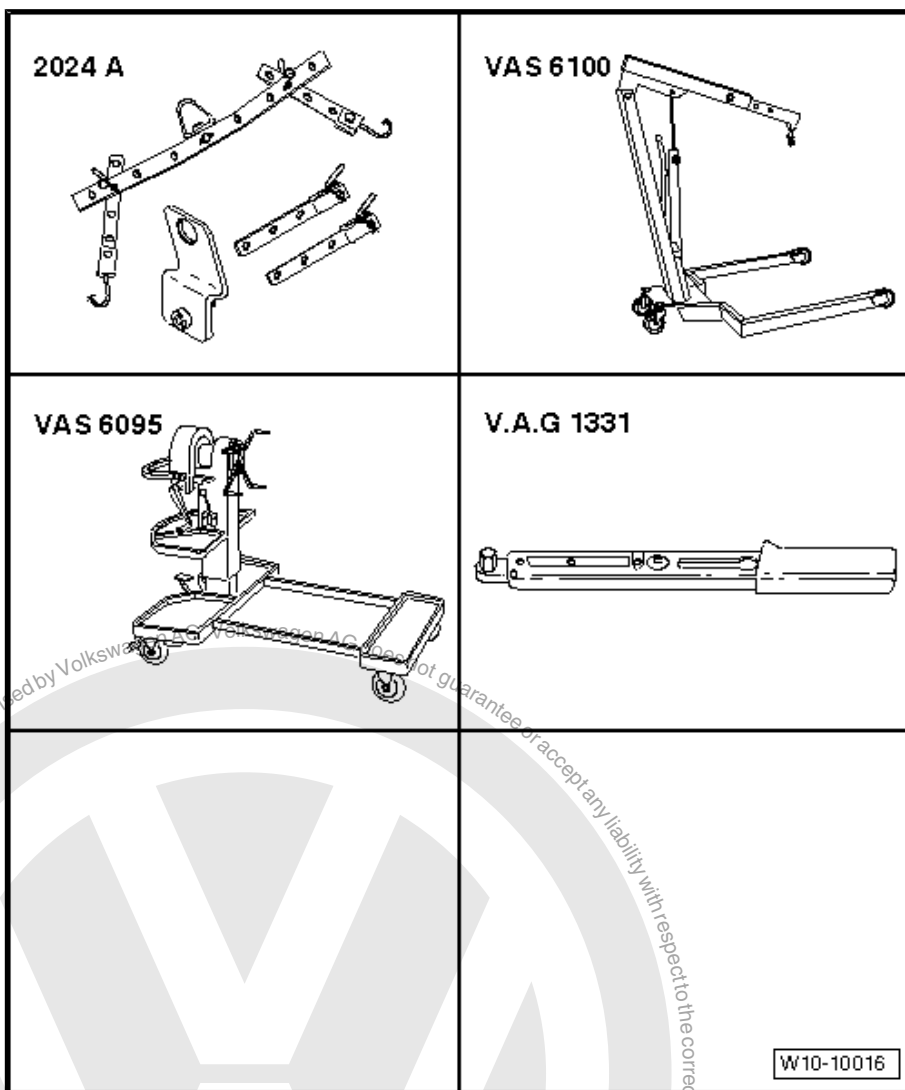
Additional notes and mounting works in vehicles with air conditioning ⇒ [page 7](#) .

Installing ⇒ [page 7](#) .

Tightening torque ⇒ [page 8](#) .


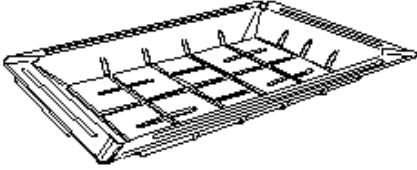
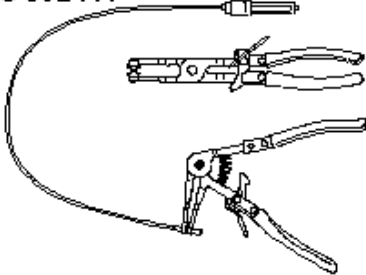
Special tools and workshop equipment required

- ◆ Hanger or 2024A -VW 055-
- ◆ Hydraulic moving hoist - 500Kg or VAS 6100 -EQ 7025-
- ◆ Rotary stand for engine and transmission -VAS 6095-
- ◆ Torque wrench - 5 to 50 Nm (enc. 1/2") -VAG 1331-





- ◆ Torque wrench - 40 to 200 Nm (enc. 1/2") -VAG 1332-
- ◆ Container -VAS 6208-
- ◆ VW 5162 or Standart-type clamp pliers -VAS 5024A-
- ◆ Grease -G 000 100-
- ◆ Clamp

<p>V.A.G 1332</p> 	<p>VAS 6208</p> 
<p>VAS 5024 A</p> 	
	<p>W10-10018</p>

1.1 Removal - indications



Note

Disconnect the Battery -A- earth strap for carrying out the operation sequence below. Check if the vehicle has code radio. If positive, request the anti-theft code before disconnecting earth strap from the Battery -A- .

- The engine is removed from the front along with the transmission.
- With the ignition switched off, disconnect the Battery -A- earth strap.
- All clamps loosened or cut during engine removal must be placed in the same position again during engine installation.
- Remove air filter set ⇒ [page 91](#) .

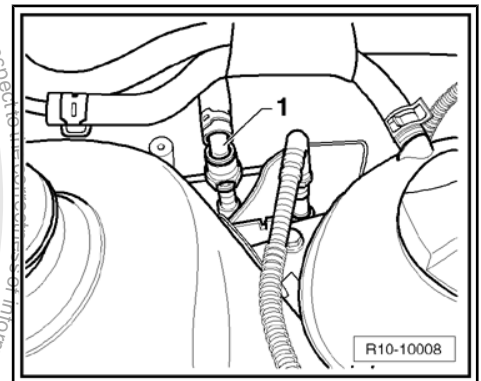
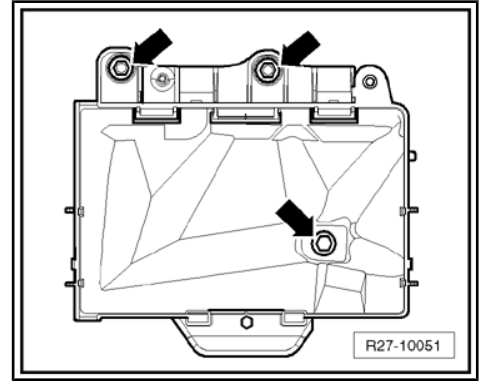


- Remove the Battery -A- and the Battery support -A- -arrows-
=> Electrical equipment; Rep. Gr. 27 ; Starter, generator, battery .
- Open and close the coolant reservoir lid to depressurize the cooling system.
- Release/separate all transmission electric cables of the Generator (Alternator) -C- and Starter -B- .
- Loosen/separate all of the remaining necessary engine electric cables.

**WARNING**

Fuel supply tube is under pressure! Wear protective goggles and gloves to prevent injuries and avoid contact with the skin. Before loosening tube junctions, place a cloth around them. Eliminate pressure, pulling the tube carefully.

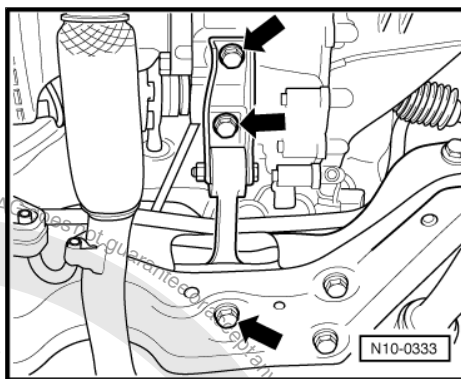
- Loosen the fuel supply pipes -1- (press the unlock key).
- Remove the Electromagnetic valve for activated charcoal filter -N80- hose on the intake manifold.
- Close the hoses so as to prevent impurities from entering the fuel system.
- Follow cleaning rules => [page 65](#) .
- Remove vacuum and vent hoses from the engine.
- Disengage the connectors from the Radiator fan thermal switch -F18- and from the Radiator fan -V7- .
- Remove fastening screw from front exhaust tube support strap in the transmission.
- Loosen front exhaust tube from catalytic converter
=> [page 106](#) .





FOX 2004 >
3 - Cyl. injection engine - Edition 12.2009

- Remove transmission pendulum support -arrows-.
- Remove clutch actuator hydraulic cylinder: => Automatic / mechanical transmission ; Rep. Gr. 30 ; Clutch - command system .
- Remove transmission gearshift command: => Automatic/mechanical transmission; Rep. Gr. 34 ; Drive, housing
- Drain the cooling system => [page 56](#) .
- Remove engine cooling system hoses with VW 5162 or Standard type clamp pliers - VAS 5024A- .
- Remove the Poly-V belt => [page 13](#) .
- Put front panel in the work position: => Body - Repair ; Rep. Gr. 50 ; Body - Front part .



Vehicles with air conditioning

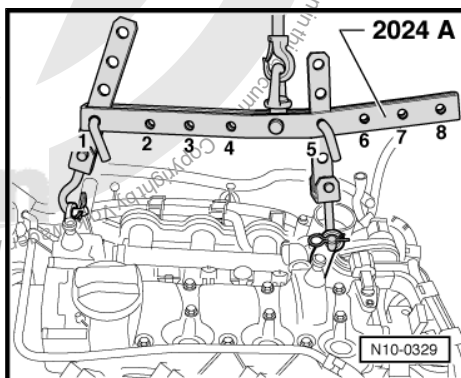
- Remove air conditioning compressor: => Aeration system; Rep. Gr. 87 ; Air conditioning and anchor to the body with a wire.
- Observe additional indications and assembly works => [page 7](#)


Continued for all vehicles.

- Remove drive shafts, on the left and right side of the transmission, and fasten them on top: => Chassis; Rep. Gr. 40 ; Front suspension .
- Install the Hanger or VW 055 -2024A- and lift it with a hydraulic hoister.

Pulley side: position 1 of the vertical rod. Orifice on the sustaining bar in position 1.

Steering wheel side: position 2 of the vertical rod. Orifice on the sustaining bar in position 5.





Caution

Use safety pins on fitting hooks and pins so as to prevent damages to the engine and vehicle.

Note

- ◆ *Positions numbered 1...8 on suspension bar face the pulley side.*
- ◆ *The holes in the supports are counted from the hook.*