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Technical specifications

Seat Ibiza

CGGB/1.4 (6J1/6J5/6J8) (08-15)

Vehicle identification

No. of cylinders	Type	4/DOHC
Capacity (Fiscal)	cc	1390
Compression ratio	:1	10,5
Suitable for unleaded petrol		Yes
Minimum octane rating	RON	95
Ignition system	Make	Magneti Marelli
Ignition system	Type	4HV
Ignition system	Description	Map-DI
Trigger location		Cam/Crankshaft
Fuel system	Make	Magneti Marelli
Fuel system	Type	4HV
Fuel system	Description	MFI-s
Air metering	Type	MAP
Combined ignition and fuel ECM		Yes
Diagnostic socket		Yes

Ignition system

Ignition system

Ignition coil supply voltage	+ with ballast V	11,5
Firing order		1-3-4-2

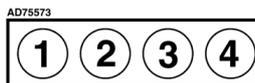


Fig75573

Tuning and emissions

Tuning and emissions

Tuning conditions

Ignition timing

- Use VAG 1551/2 or equivalent equipment.

Ignition timing - basic BTDC	°Engine/rpm	Not adjustable
Ignition advance checks	°Engine/rpm	ECM Controlled
Idle speed	rpm	740±110 Not adjustable
Oil temperature for CO test	°C	80
CO level at idle speed - tailpipe	Vol. % CO	0,2 Max Not adjustable
HC level at idle speed	ppm	100
CO2 level at idle speed	Vol. % CO2	14,5-16
O2 level at idle speed	Vol. % O2	0,1-0,5
Increased idle speed for CO test	rpm	2500-2800
CO content at increased idle speed	Vol. %	0,2
Lambda at increased idle	λ	0,97-1,03

Spark plugs

Spark plugs

Spark plugs	Original equipment	Bosch/NGK
Spark plugs	Make	Bosch
Spark plug	Type	F7HER02
Electrode gap	mm	1,0-1,1
Spark plugs	Make	NGK
Spark plug	Type	ZFR6T-11G
Electrode gap	mm	1,0-1,1

Fuel system

Fuel system

System pressure	bar	3,9-4,2
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Service checks and adjustments

Service checks and adjustments

Valve clearance -INLET	mm	Hydraulic
Valve clearance -EXHAUST	mm	Hydraulic
Compression pressure	bar	7,0-15,0

Oil pressure	bar/rpm	2,0 Min/2000
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Oil pressure

- Above 2000 rpm = 7,0 bar max.

Radiator cap	bar	1,40-1,60
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Lubricants and capacities

Preferred engine oil

Ambient temperature range	All temperatures
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Engine oil grade	SAE	5W-30
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Engine oil grade

- Longlife oil (fixed or longlife service intervals).

Engine oil classification	OEM	VW 504.00
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Engine oil options

Ambient temperature range	All temperatures
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Engine oil grade	SAE	0W-30, 0W-40
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Engine oil classification	OEM	VW 502.00
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Ambient temperature range	All temperatures
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Engine oil grade	SAE	5W-30, 5W-40
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Engine oil classification	OEM	VW 502.00
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Ambient temperature range	All temperatures
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Engine oil grade	SAE	10W-40
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Engine oil classification	OEM	VW 502.00
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Engine with filter(s)	litres	3,2
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Other lubricants and capacities

Manual transmission oil grade	SAE	G 052 512 04.12.2013- =G 052 527
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Manual transmission	litres	2,0
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Manual transmission

- Top up until oil flows from filler hole.
- Fit filler plug.
- Start engine.
- Select a gear and allow gearbox to turn for 2 minutes.
- Check oil level and top up if necessary.

Coolant	Type	G12 plus plus
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Coolant	Colour	Red/Purple
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Brake fluid	Type	DOT 4
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Brake fluid classification	VW 501.14
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Brake fluid	litres	
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Brake fluid

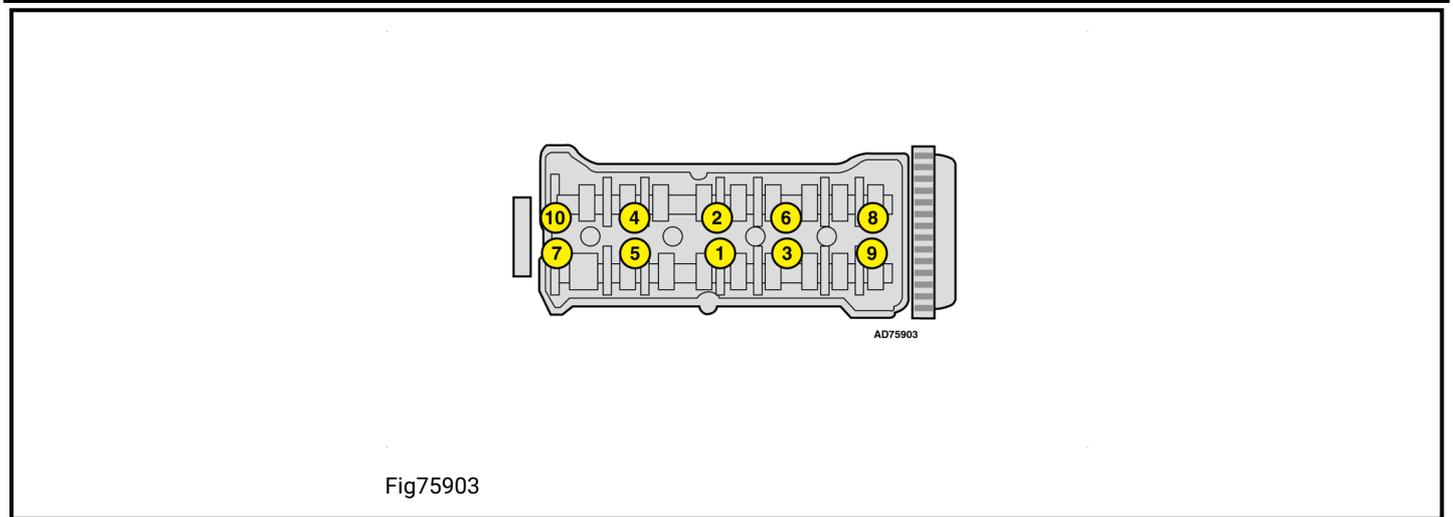
- LHD:
 - ASM transmission = 1,0 litre
 - MT = 1,2 litres
- RHD:
 - ASM transmission = 2,0 litres
 - MT = 2,2 litres

Clutch fluid	Type DOT 4
Clutch fluid classification	VW 501.14
Power steering fluid	Type G 004 000
Power steering fluid	litres 0,8

Tightening torques

Tightening torques

Cylinder head instructions



Cylinder head

Renew bolts	Yes
Tighten	15 Nm
Tighten	30 Nm
Tighten	90°
Tighten	90°

Other engine tightening torques

Main bearings	Stage 1
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Main bearings

Measurement of bearing clearance is not possible by normal methods and should not be attempted, as this will result in damage to the cylinder block and crankshaft. If the bearing bolts have been loosened the entire cylinder block and crankshaft must be replaced.

Big end bearings	Renew bolts/nuts	Yes
Big end bearings	Stage 1	20 Nm

Big end bearings

- Lubricate threads and mating surfaces of bolts.

Big end bearings

Stage 2 90°

Oil pump to cylinder block

12 Nm

- Use new nuts/bolts.

Sump bolts

Sump bolts

Use new bolts.

Apply a 2,0-3,0 mm diameter bead of sealant to mating surface of sump on inner side of bolt holes.

Assemble components within 5 minutes. Excess sealant can cause engine damage.

Sump to cylinder block = 13 Nm

Sump to transmission = 40 Nm

Wait 30 minutes before filling engine with oil.

Sump drain bolt

30 Nm

- Use new nuts/bolts.

Flywheel/driveplate

60 Nm+90°

- Use new nuts/bolts.

Clutch pressure plate

13 Nm M7=20 Nm

Crankshaft pulley/damper centre bolt

Crankshaft pulley/damper centre bolt

- Use new bolt.
- Lubricate threads of bolt.
- Bolt A = 150 Nm + 180°
- Bolt B = 90 Nm + 90°
- [fig103258](#)

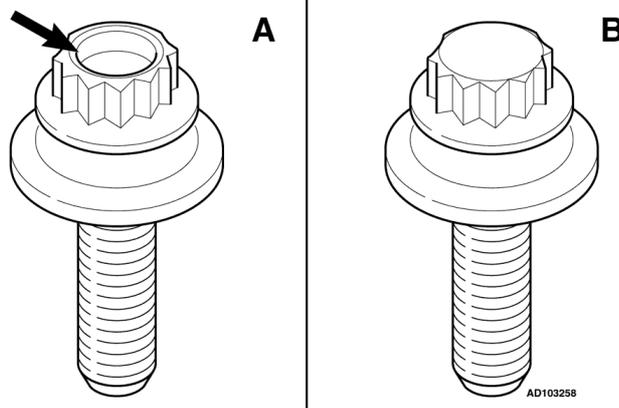


fig103258

Camshaft sprocket/gear

20 Nm+90°

- Use new nuts/bolts.

Camshaft carrier/cap

10 Nm+90°

Camshaft/rocker cover

Camshaft carrier integrated with camshaft cover.

Do not remove camshaft cap bolts before removing camshaft cover.

Use new bolts.

Screw two M6 x 70 guide rods into diagonally opposite bolt holes of cylinder head.

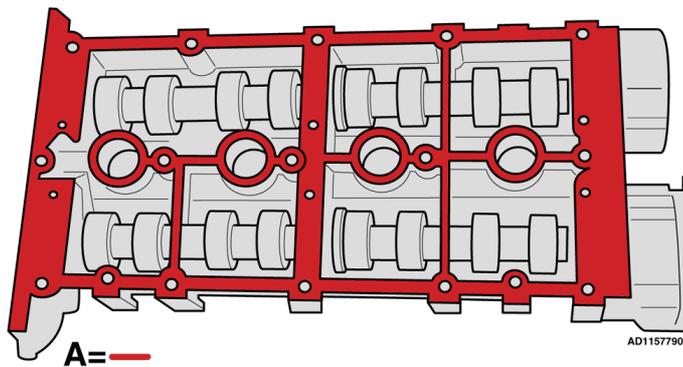
Guide rods are used to avoid dislocating rocker arms when fitting camshaft cover.Apply a thin layer of sealant to mating surface of camshaft cover [fig1157790.A](#).**Excess sealant in oil passage ways can cause engine damage. Wait 30 minutes before starting engine or filling engine with oil to allow sealant to dry.**

fig1157790

Camshaft/rocker cover

10 Nm+90°

Camshaft/rocker cover

Camshaft carrier integrated with camshaft cover.

Do not remove camshaft cap bolts before removing camshaft cover.

Use new bolts.

Screw two M6 x 70 guide rods into diagonally opposite bolt holes of cylinder head.

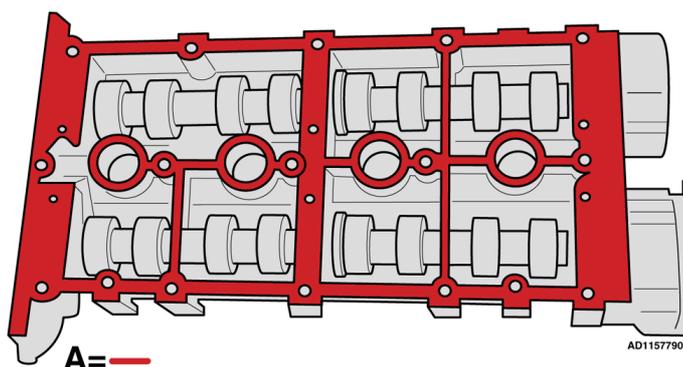
Guide rods are used to avoid dislocating rocker arms when fitting camshaft cover.Apply a thin layer of sealant to mating surface of camshaft cover [fig1157790.A](#).**Excess sealant in oil passage ways can cause engine damage. Wait 30 minutes before starting engine or filling engine with oil to allow sealant to dry.**

fig1157790

Inlet manifold to cylinder head	20 Nm
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Exhaust manifold to cylinder head	25 Nm
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- Use new nuts/bolts.

Exhaust downpipe to manifold	40 Nm
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- Use new nuts/bolts.

Water pump	20 Nm
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Spark plugs	30 Nm
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Fuel rail	10 Nm
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Camshaft position (CMP) sensor	10 Nm
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Lambda sensor (Oxygen)	50 Nm
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Lambda sensor (Oxygen)

- Rear sensor = 55 Nm
- Coat threads with high temperature lubricant G 052 112 A3.

High temperature lubricant must not enter slots on lambda sensor.

Knock sensor (KS)	20 Nm
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Engine oil pressure switch	25 Nm
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Chassis tightening torques

Front hub	50 Nm+45°
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- Use new nuts.

Rear hub	70 Nm+30°
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- Use new nuts.

Rear hub - wheel bearing housing bolts

Rear hub - wheel bearing housing bolts

Torsion beam suspension (FWD)

- Stub axle:
- Use new bolts.
 1. 30 Nm
 2. 90°

Steering wheel	30 Nm+90°
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- Use new bolt.

Steering rack/box mounting	50 Nm+90°
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- Use new bolts.

Steering track rod end	20 Nm+90°
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- Use new nuts.

Brake disc to hub	Front 4 Nm
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Brake caliper/carrier to hub	Front 30 Nm
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Brake disc to hub	Rear 4 Nm
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Brake caliper to carrier	Rear 35 Nm
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- Use new bolts.

Brake caliper/carrier to hub	Rear 30 Nm+30°
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- Use new bolts.

Back plate to hub	Rear 30 Nm+90°
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- Use new bolts.

ABS sensor	Front 8 Nm
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ABS wheel speed sensor

- Coat ABS wheel speed sensor with high temperature lubricant G 052 112.

ABS sensor	Rear 8 Nm
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ABS wheel speed sensor

- Coat ABS wheel speed sensor with high temperature lubricant G 052 112.

Road wheels	120 Nm
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Road wheels

- Do NOT lubricate bolts.
- Lightly coat mating surfaces between wheel centre hole and hub (use spray wax).

Starting and charging

Starting and charging

Battery	V/RC(Ah) 12
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Brake disc and drum dimensions

Brake disc and drum dimensions

Minimum disc thickness for replacement - ventilated	Front 19 mm
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Minimum disc thickness for replacement	Rear 7 mm
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Maximum drum diameter for replacement	Rear 201 mm
Minimum pad thickness	Front 7 mm

- Measurement includes lining and pad/shoe backing plate.

Minimum pad thickness	Rear 2 mm
Minimum shoe thickness	Rear 2,5 mm

Air conditioning

Air conditioning

No. of AC service connectors	2
Air conditioning restrictor type	Expansion valve
Compressor clutch/magnetic coupling	No
Compressor variable displacement solenoid	Yes
Air conditioning refrigerant	Type R134a
Air conditioning refrigerant quantity	grams 500±15
Air conditioning oil group	PAG
Air conditioning oil	Type

Air conditioning oil type

- Denso = G 052 300
- Delphi = G 052 300/G 052 154

Air conditioning oil quantity	cm ³
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Air conditioning oil quantity

- Compressor type:
 - Denso 6SEU14 = 80±10 cm³
 - Denso 6SEU14C = 90±10 cm³
 - Delphi 6CVC140 = 110±10 cm³

Air conditioning oil viscosity	ISO 46
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