



Cylinder head, installing

Special tools, testers and auxiliary items

- VAG1332 torque wrench 40 to 200 Nm
- 3070 guide pins

CAUTION!

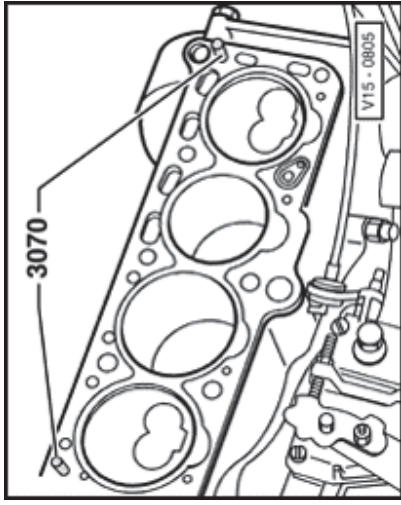
Always replace cylinder head bolts.

Notes:

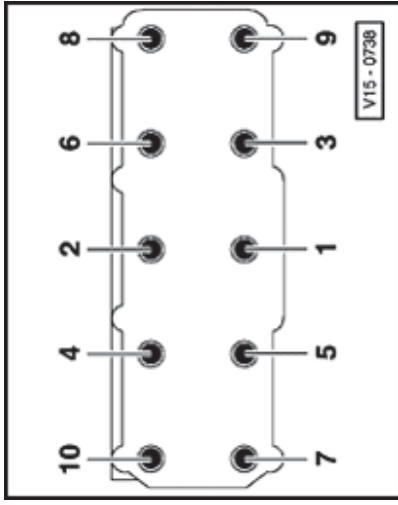
- *During repairs, carefully remove seal/gasket fragments from cylinder head and cylinder block. Make sure that no longitudinal grooves or scratches are created. When using abrasive paper do not use a grade coarser than 100. Carefully remove any abrasive debris.*
- *Remove new cylinder head gasket from packaging, just before installing.*
- *Handle gasket extremely carefully. Damaging the silicone layer or the indented area can cause leakage.*

■ *New metal cylinder head gaskets can be installed on 1.9 liter Diesel engines manufactured before 11.93 ⇒ [Page 15-2](#).*

- Turn crankshaft to TDC mark before installing cylinder head.
- Turn crankshaft against engine direction of rotation until all pistons are approximately equally placed below TDC.
- Install cylinder head gasket.



- To center gasket, screw guide pins from 3070 into outer threaded holes on intake side.
- Install cylinder head, thread in 8 remaining cylinder head bolts and tighten by hand.
- Remove guide pins using removal tool from 3070 and install cylinder head bolts.



- Tighten cylinder head bolts in four stage sequence as shown. (Loosen in reverse order):
 1. Tighten initially using a torque wrench.
 - Stage I: 40 Nm (30 ft lb)
 - Stage II: 60 Nm (44 ft lb)
 2. Turn further using a hand wrench.
 - Stage III: additional 1/4-turn (90°)
 - Stage IV: additional 1/4-turn (90°)

Note:

It is NOT necessary to re-torque cylinder head bolts after the first 1,000 km (600 mi).



Installation with older style head gasket ONLY

- Tighten according to above four stage sequence.
 - After final assembly, run engine until completely warm-oil temperature at least 50°C (122°F)- and tighten bolts additional 1/4-turn (90°).
- Do not loosen bolts first
 - Follow tightening sequence
 - Tighten each bolt in one step, without interruption
 - It is NOT necessary to re-torque cylinder head bolts after the first 1,000 km (600 mi).

All vehicles

- After tightening cylinder head, rotate camshaft so cam for no. 1 cyl. points evenly upward.
- Rotate crankshaft, in running direction of engine to TDC before installing toothed belt.