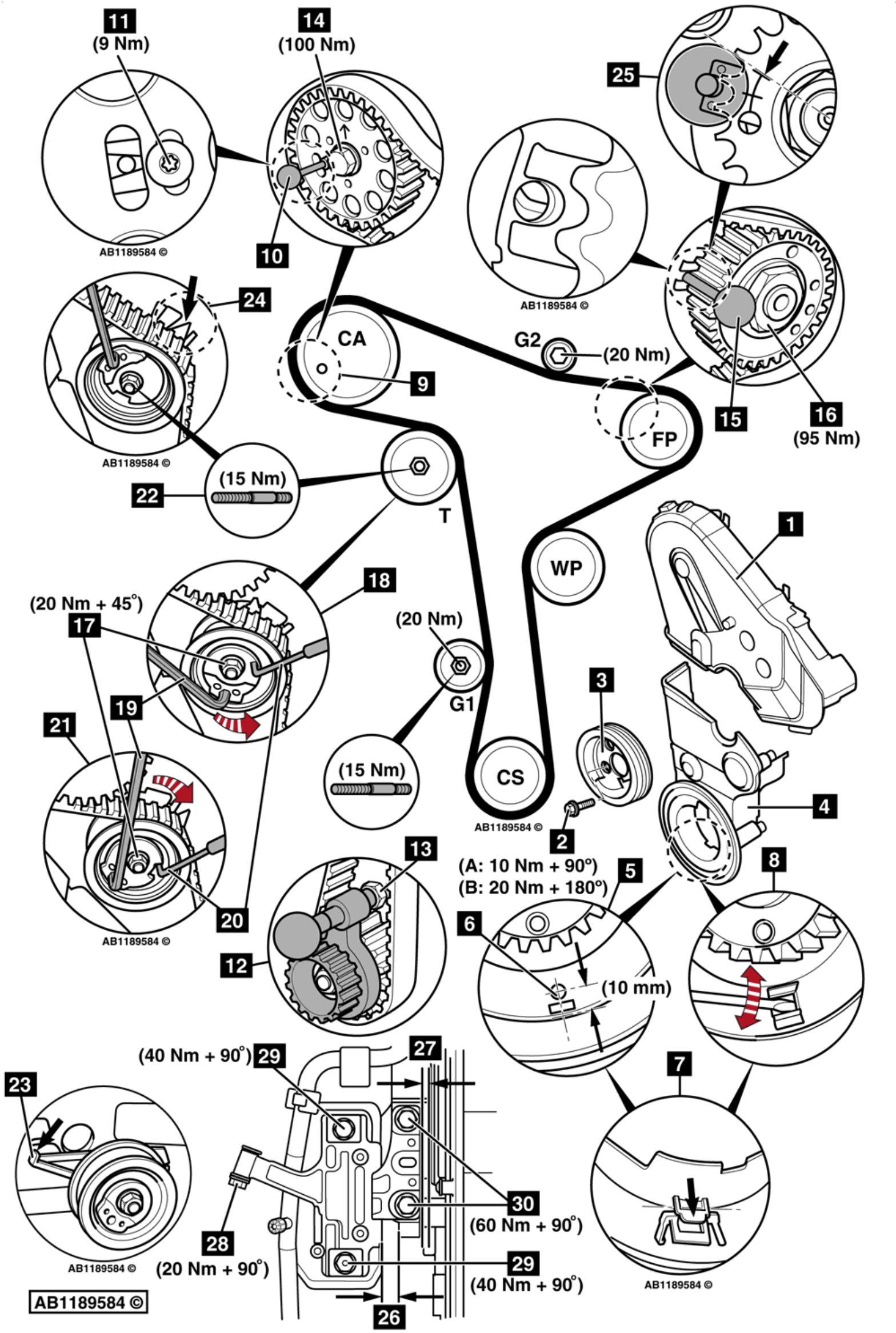
mutlugarage
Unit 2, West

Powered by Autodata

Timing belt

Audi A3 Saloon

CRUA/2 (8VS) (13-16)



Replacement intervals

Important Note

- Timing belt replacement intervals quoted by the manufacturer should be regarded as the maximum. Due to variations in vehicle usage and operating conditions the belt may need to be replaced earlier than specified.
- If there is any doubt as to the serviceability of the belt and its associated components, they should be replaced.
- It is important that you consider the items listed in the section below and discuss them with your customer.

Fixed interval service

Timing belt - renew

- Every 140000 miles regardless of months

Longlife service

Timing belt - renew

- Every 140000 miles regardless of months

Repair times

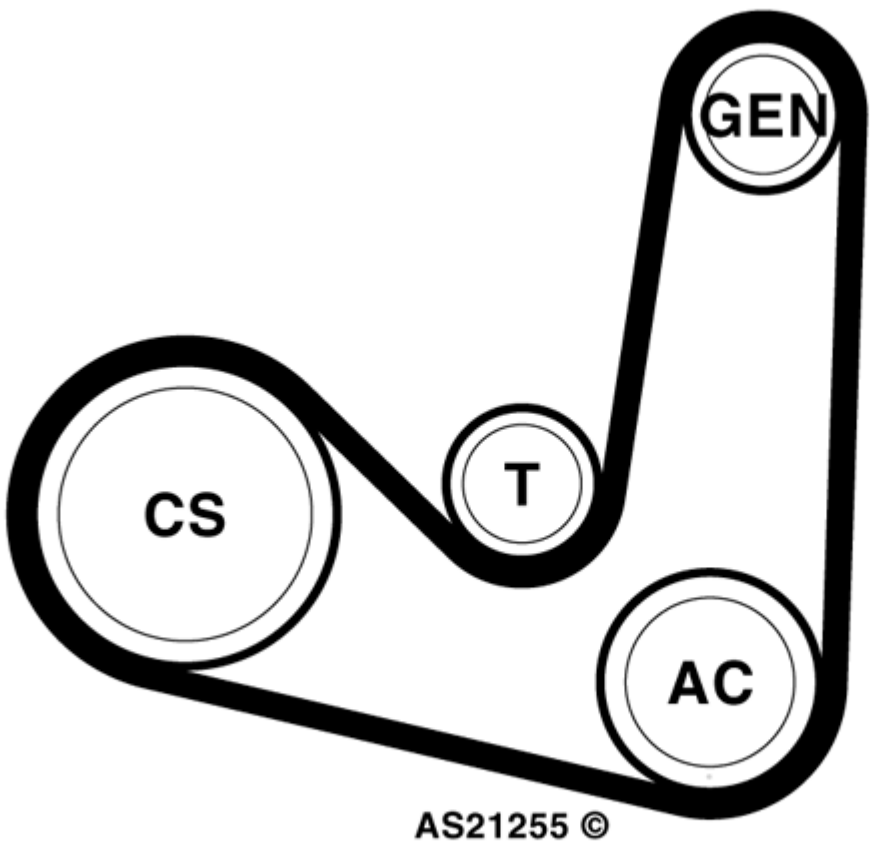
With suspension PR Nos. 2UA/2UF

Camshaft drive belt - Remove and Install	3.90 hrs

With suspension PR Nos. 2UC/2UG

Camshaft drive belt - Remove and Install	3.90 hrs

Auxiliary drive belt



Engine Damage

Caution: Although in the event of a timing belt failure engine damage will NORMALLY occur, a compression check of all cylinders should be performed before removing the cylinder head.

Special tools

- Auxiliary drive belt tensioner locking pin - No.T40098 or T10060A.
- Camshaft locking tool - No.3359.
- Camshaft sprocket holding tool - No.T10172A.
- Camshaft sprocket holding tool adaptors - No.T10172/11.
- Crankshaft sprocket locking tool - No.T10490.
- High-pressure fuel pump sprocket holding tool - No.T10051.
- High-pressure fuel pump locking tool - No.T10492.
- Tensioner pulley adjusting tool - No.T10264.
- Tensioner pulley locking tool - No.T10265.
- Tool set - No.T10395A.

Special precautions

- Disconnect battery earth lead.
- DO NOT turn crankshaft or camshaft when timing belt removed.
- Remove glow plugs to ease turning engine.
- Turn engine in normal direction of rotation (unless otherwise stated).
- DO NOT turn engine via camshaft or other sprockets.
- Observe all tightening torques.

Removal

- Raise and support front of vehicle.
- Remove:
  - Engine upper cover.
  - Engine undershield.
  - RH front wheel.
  - RH splash guard.
- Disconnect coolant level sensor multi-plug.
- Disconnect fuel hose support brackets.
- Move coolant expansion tank to one side. DO NOT disconnect hoses.
- Reposition fuel filter. DO NOT disconnect fuel pipes.
- Support engine.
- Remove RH engine mounting and bracket.
- Disconnect:
  - Fuel supply and return pipes.
  - Diesel particulate filter (DPF) pressure sensor multi-plug.
  - Diesel particulate filter (DPF) pressure pipe from timing belt upper cover.
- Remove:
  - Exhaust gas temperature sensor. Use tool from tool set No.T10395A.
  - Diesel particulate filter (DPF) pressure sensor bracket.
  - Timing belt upper cover 1.
  - Auxiliary drive belt. Use tool No.T40098 or T10060A.

    Caution: Mark direction of rotation on belt with chalk if belt is to be reused.

  - Crankshaft pulley bolts 2.
  - Crankshaft pulley 3.

  Note: There are two types of timing belt lower cover 4. When removing timing belt lower cover, locking tab may need to be removed.
- Timing belt lower cover - early type 5:
  - Mark timing belt cover at position shown 6. Distance between mark and inner edge of timing belt cover is 10 mm.
  - Drill an 8 mm diameter hole into timing belt cover 6.

  - Insert screwdriver through hole and remove locking tab 7.
- Timing belt lower cover - later type 8:
  - Insert screwdriver through hole and remove locking tab 7.
- Turn crankshaft slowly clockwise until camshaft sprocket timing hole at 8 o'clock position 9.
- Lock camshaft 10. Use tool No.3359.
- Slacken camshaft sprocket bolt 1/2 turn 11.
- Lock crankshaft sprocket 12. Use tool No.T10490.

  Note: Engine at TDC on No.1 cylinder.
- Ensure lug of crankshaft sprocket locking tool located in oil seal housing 13.
- Remove camshaft locking tool 10.
- Hold camshaft sprocket. Use tool Nos.T10172A & T10172/11.
- Slacken camshaft sprocket centre bolt 14.
- Lock camshaft 10.
- Lock high-pressure fuel pump 15. Use tool No.T10492.
- Remove high-pressure fuel pump locking tool 15.
- Hold high-pressure fuel pump sprocket. Use tool No.T10051.
- Slacken high-pressure fuel pump sprocket nut 1/4 turn 16.
- Lock high-pressure fuel pump 15.
- Slacken tensioner pulley nut 17.
- Turn tensioner pulley anti-clockwise until locking tool can be inserted 18. Use tool No.T10264 19.
- Insert locking tool in tensioner pulley 20. Tool No.T10265.
- Turn tensioner pulley fully clockwise until it reaches stop 21. Use tool No.T10264 19.
- Tighten tensioner pulley nut finger tight 17.
- Remove timing belt, starting at water pump.

  Caution: Mark direction of rotation on belt with chalk if belt is to be reused.

Installation

Caution:
Ensure engine is cold before installing belt.

Caution:
If replacing guide pulley (G1), guide pulley stud MUST also be replaced if damaged.

- Remove:
  - Tensioner pulley nut 17.
  - Tensioner pulley.

  Caution:
  Ensure tensioner pulley stud 22 is tightened to 15 Nm.
- Fit:
  - Tensioner pulley.
  - New tensioner pulley nut 17.
- Ensure tensioner pulley locking tool inserted 20. Movable part of tensioner pulley must be against stop 21.
- Ensure tensioner pulley retaining lug is properly engaged 23.
- Ensure crankshaft sprocket locking tool located correctly 12.
- Ensure camshaft locked with tool 10.
- Ensure high-pressure fuel pump locked with tool 15.

  Caution: Sprockets should turn freely but not tilt.
- Turn camshaft sprocket fully clockwise.
- Turn high-pressure fuel pump sprocket fully clockwise.
- Fit timing belt in clockwise direction, starting at crankshaft sprocket.
- Slacken tensioner pulley nut 17.
- Remove locking tool from tensioner pulley 20.
- Ensure camshaft sprocket bolt not at end of slotted hole 11. If not, repeat installation procedure.
- Turn tensioner pulley slowly clockwise until pointer aligned with notch 24. Use tool No.T10264 19.

  Caution:
  Ensure tensioner pulley nut does not turn 17.
- Hold tensioner pulley. Use tool No.T10264 19.
- Tighten tensioner pulley nut 17. Tightening torque: 20 Nm + 45°.
- Ensure camshaft sprocket bolt not at end of slotted hole 11. If not, repeat installation procedure.
- Hold camshaft sprocket. Use tool Nos.T10172A & T10172/11.

- Temporarily tighten camshaft sprocket centre bolt 14. Tightening torque: 20 Nm.
- Temporarily tighten high-pressure fuel pump sprocket nut 16. Tightening torque: 20 Nm.
- Ensure high-pressure fuel pump sprocket mark at position shown 25. If not: Remove timing belt, turn high pressure fuel pump sprocket one tooth clockwise and repeat installation procedure.
- Remove:
  - Camshaft locking tool 10.
  - High-pressure fuel pump locking tool 15.
  - Crankshaft sprocket locking tool 12.
- Turn crankshaft slowly two turns clockwise until just before TDC on No.1 cylinder.
- Fit crankshaft sprocket locking tool while slowly turning crankshaft to TDC 12.
- Ensure lug of crankshaft sprocket locking tool located in oil seal housing 13.
- Ensure camshaft locking tool can be inserted easily 10.

> Note: DO NOT insert high-pressure fuel pump locking tool as alignment hole may be slightly misaligned. No adjustment required.

- Ensure tensioner pulley pointer aligned with notch or 5 mm maximum to the left or right of notch 24. If not, repeat installation procedure.
- If camshaft locking tool cannot be inserted easily 10:
  - Remove lug of crankshaft sprocket locking tool from hole in oil seal housing.
  - Turn crankshaft anti-clockwise until lug of locking tool just passes hole in oil seal housing.
  - Turn crankshaft clockwise until camshaft locking tool can be inserted 10.
  - Hold camshaft sprocket. Use tool Nos.T10172A & T10172/11.
  - Slacken camshaft sprocket centre bolt 14.

> Note: Lug of crankshaft sprocket locking tool will be positioned to the left or right of hole in oil seal housing.

- If lug of crankshaft sprocket locking tool is positioned to the left of hole in oil seal housing:
  - Turn crankshaft clockwise until lug and hole aligned 13.
  - Lock crankshaft sprocket 12.
  - Hold camshaft sprocket. Use tool Nos.T10172A & T10172/11.
  - Temporarily tighten camshaft sprocket centre bolt 14. Tightening torque: 20 Nm.
- If lug of crankshaft sprocket locking tool is positioned to the right of hole in oil seal housing:
  - Turn crankshaft anti-clockwise until lug of locking tool just passes hole in oil seal housing.
  - Turn crankshaft clockwise until lug and hole aligned 13.
  - Lock crankshaft sprocket 12.
  - Hold camshaft sprocket. Use tool Nos.T10172A & T10172/11.
  - Temporarily tighten camshaft sprocket centre bolt 14. Tightening torque: 20 Nm.
- Remove:
  - Camshaft locking tool 10.
  - Crankshaft sprocket locking tool 12.
- Turn crankshaft slowly two turns clockwise until just before TDC on No.1 cylinder.
- Fit crankshaft sprocket locking tool while slowly turning crankshaft to TDC 12.
- Ensure lug of crankshaft sprocket locking tool located in oil seal housing 13.
- Ensure camshaft locking tool can be inserted easily 10.
- Remove camshaft locking tool 10.
- Hold camshaft sprocket. Use tool Nos.T10172A & T10172/11.
- Tighten camshaft sprocket centre bolt 14. Tightening torque: 100 Nm.
- Hold high-pressure fuel pump sprocket. Use tool No.T10051.
- Tighten high-pressure fuel pump sprocket nut 16. Tightening torque: 95 Nm.
- Remove crankshaft sprocket locking tool 12.
- Turn crankshaft slowly two turns clockwise until just before TDC on No.1 cylinder.
- Fit crankshaft sprocket locking tool while slowly turning crankshaft to TDC 12.
- Ensure lug of crankshaft sprocket locking tool located in oil seal housing 13.
- Ensure camshaft locking tool can be inserted easily 10.
- Remove locking tools 10 & 12.
- Tighten camshaft sprocket bolt 11. Tightening torque: 9 Nm.
- Install components in reverse order of removal.

> Note: If fitting a new timing belt lower cover 4, ensure locking tab has been removed 7.

- Tighten crankshaft pulley bolts 2:
  - (A) M8 x 20 mm: Tightening torque: 10 Nm + 90°. Use new bolts.
  - (B) M8 x 50 mm: Tightening torque: 20 Nm + 180°. Use new bolts.
- Fit and align RH engine mounting:
  - Engine mounting clearance: 10 mm 26.
- Ensure engine mounting aligned parallel with engine mounting bracket 27.
- Tighten:
  - Engine mounting bolt 28. Tightening torque: 20 Nm + 90°. Use new bolt.
  - Engine mounting bolts 29. Tightening torque: 40 Nm + 90°. Use new bolts.
  - Engine mounting bolts 30. Tightening torque: 60 Nm + 90°. Use new bolts.