

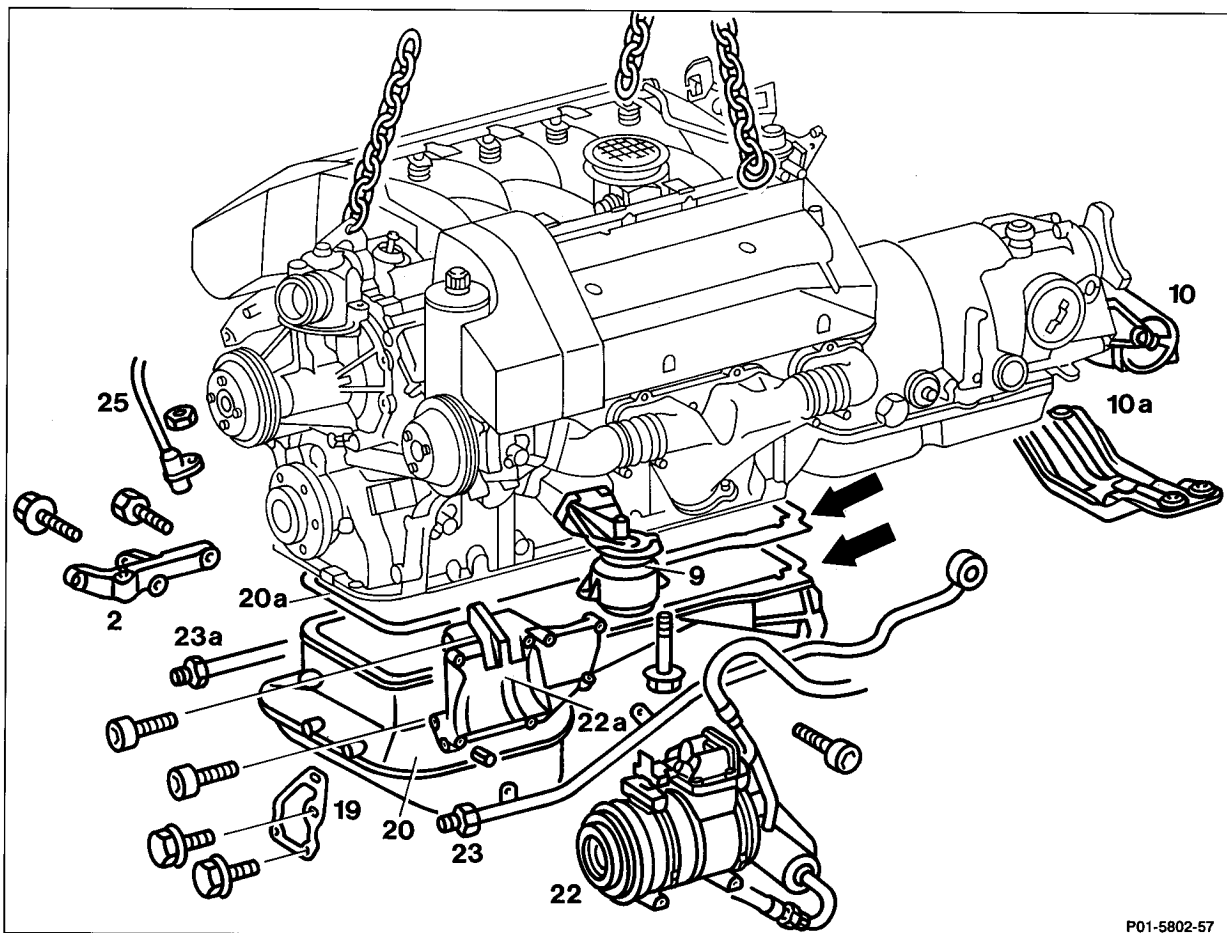
01-3100 Removing and installing oil sump

Preceding work:

Air cleaner removed (09-0015).
 Dipstick guide tube removed (18-0023).
 Vibration damper removed (03-3420).
 Tensioning device removed (13-3450).

Operation no. of operation texts and work units or standard texts
 and flat rates
 01-7500

A. Model 124



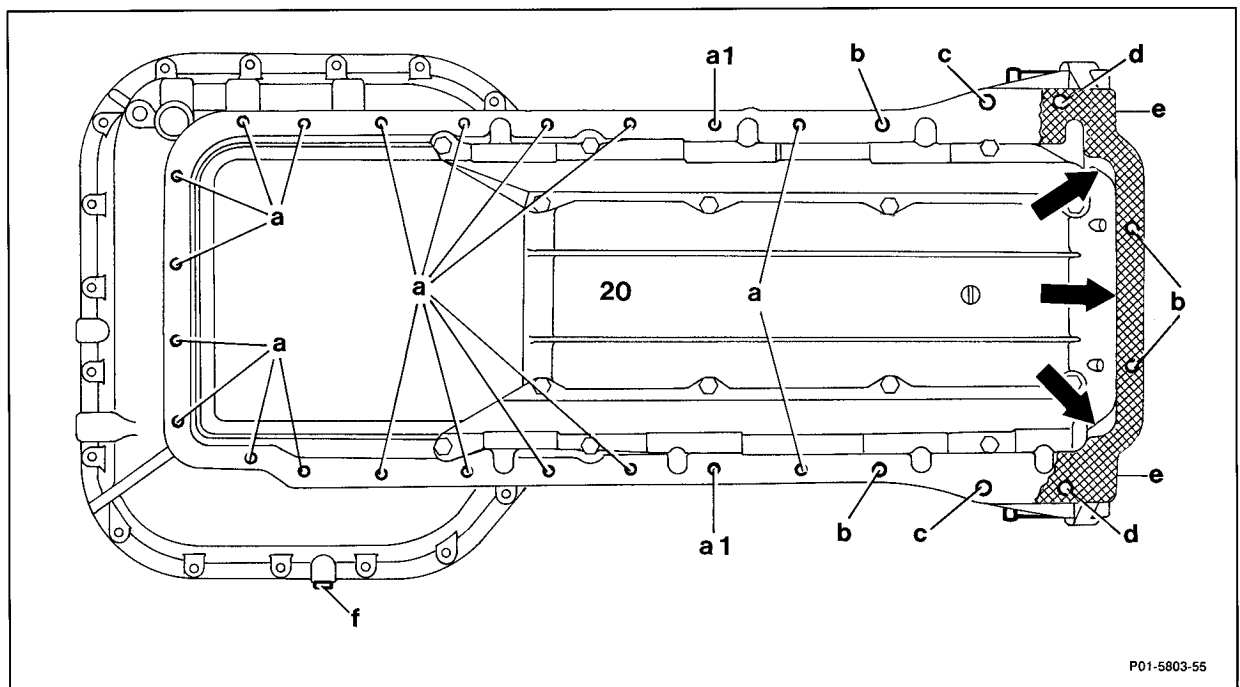
P01-5802-57

| | |
|---|--|
| Engine oil | drain, pour in (18-0020). |
| AC compressor (22) with lines/wiring connected . | take off, fit on (21 Nm). |
| TDC sensor (25) at timing case cover | unbolt, bolt on. |
| Carrier (22a) of AC compressor with retaining plate (19) | remove, install (M6: 9 Nm; M8: 21 Nm). |
| Carrier (2) of alternator at oil sump | unbolt, bolt on (21 Nm). |

Installation note

Align carrier (2) relative to alternator.

| | |
|--|---|
| Oil lines (23) and (23a) of automatic transmission at oil sump | unbolt, bolt on. |
| Exhaust system at exhaust manifold | unbolt, bolt on (49-0170). |
| Exhaust system at carrier at transmission | unbolt, bolt on (49-0071). |
| Front engine mounts (9) | unbolt from below, bolt on (22-2110). |
| Engine carrier (10a) at rear engine mount (10) .. | unbolt, bolt on (22-2120). |
| Engine hoist | attach to front and rear engine lifting eyes. |
| Engine hoist | adjust so that engine is raised evenly at front and rear. |
| Engine | raise. |



| | | | |
|----|---|--------|---|
| a | M6 × 20 hexagon socket bolt + washer | d | M8 × 75 bolt + washer |
| a1 | M6 × 20 hexagon socket bolt + washer with bracket of automatic transmission oil lines | e | M10 × 55 bolt + washer |
| b | M6 × 40 hexagon socket bolt + washer | f | Tapped hole for bracket of automatic transmission oil lines |
| c | M8 × 65 bolt + washer | Arrows | Areas for coating with sealant |

| | |
|--|--|
| Bolts (a), (a1), (b), (c), (d) and (e) | unscrew, screw on. |
| Oil sump (20) | remove to the front, rotate crankshaft if necessary so that sump (20) does not touch conrod and crankshafts. |

| | |
|--|--|
| Sealing surfaces | clean. |
| Gasket (20a) | replace. |
| Sealant 002 989 45 20 (Omnivisc) | apply in rear area of oil sump and crankcase (arrows). |
| Oil sump (20) | install; align to rear contact face on transmission. |



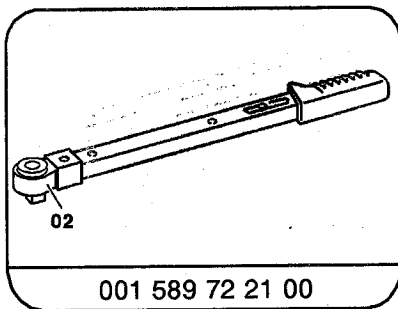
If oil sump (20) is not aligned relative to the transmission, this may cause noises and vibration problems.

| | |
|-------------|----------------------------|
| Leaks | check with engine running. |
|-------------|----------------------------|

Tightening torques in Nm

| | | |
|-----------------------|-----------|----|
| Oil sump to crankcase | M6 bolts | 9 |
| | M8 bolts | 21 |
| | M10 bolts | 40 |

Special tool

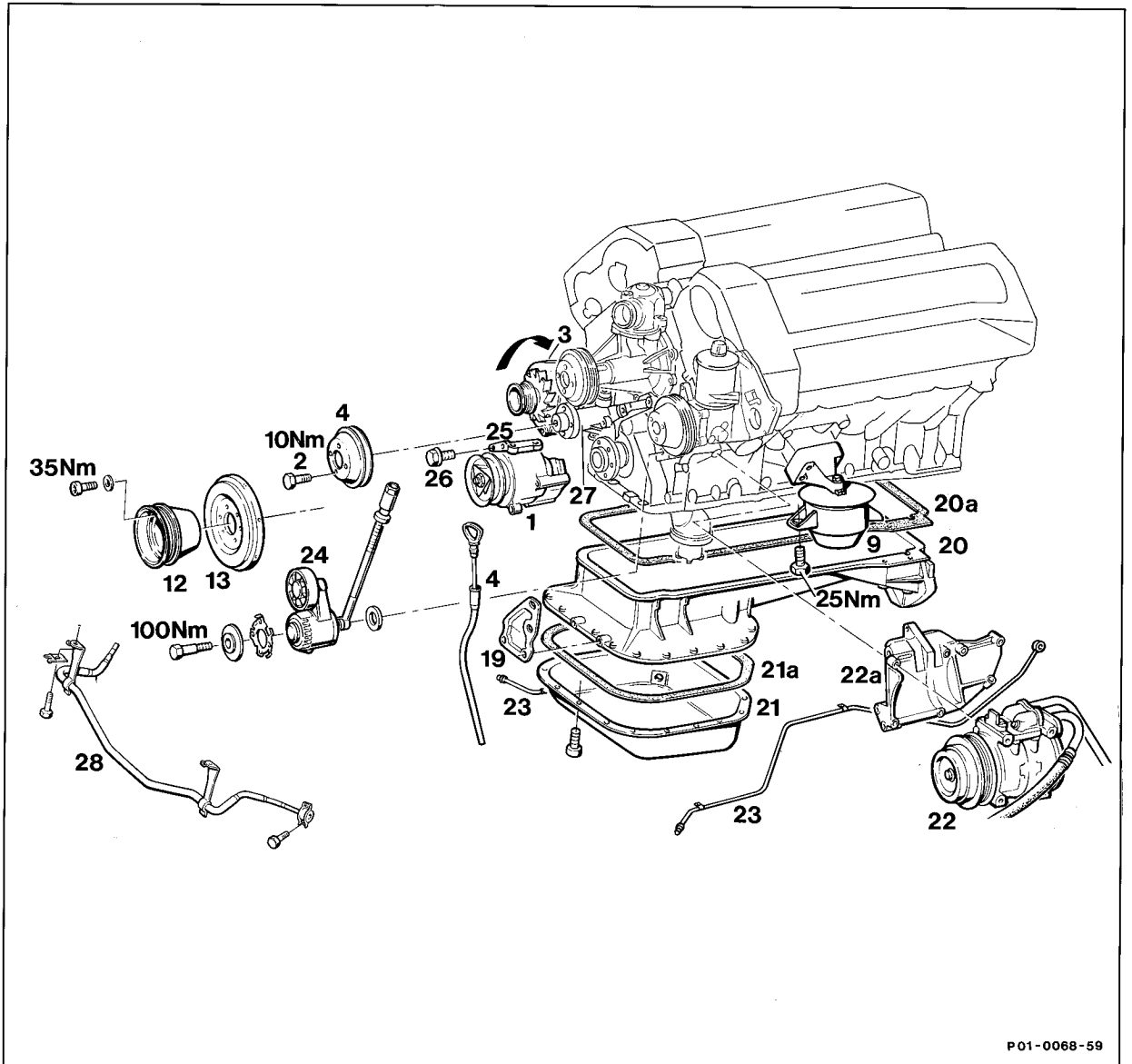


Commercially available tool

| | |
|--|---|
| Removing device equipment type 3188 (lifting capacity 500 kg) | e. g. Bäcker GmbH und CO KG D-42853 Remscheid |
|--|---|

B. Model 129 with engine 119.960

Operation no. of operation texts and work units or standard texts
and flat rates
01-7500



P01-0068-59

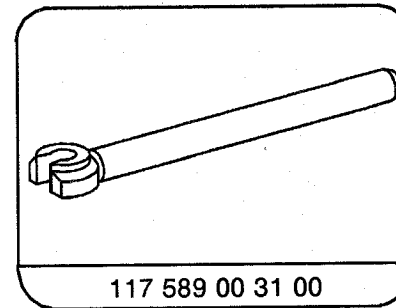
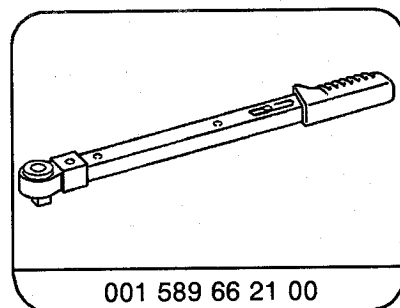
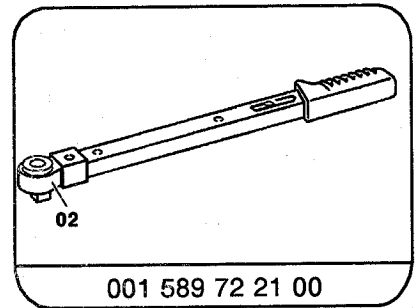
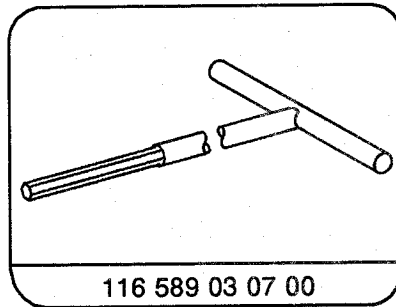
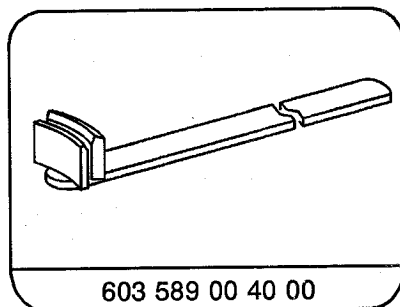
| | |
|--|--|
| Hood | raise to vertical position (01-0080). |
| Ground cable at battery | disconnect, connect. |
| Air scoops | remove, install (09-0015). |
| Viscous fan clutch | remove, install (20-3120). |
| Bolts (2) of fan carrier belt pulley (4) | slacken, tighten, use holder 603 589 00 40 00 (10 Nm) (step 5). |

| | |
|---|---|
| Poly V-belt and tensioning device | remove, install (13–3450). |
| Fan carrier belt pulley (4) | unbolt, bolt on. |
| Cylinder 1 of engine | turn to TDC. |
| Bottom engine compartment panel | remove, install (Maintenance Manual 6190). |
| Engine oil | drain, pour in, oil drain plug (40 Nm) (step 10). |
| Belt pulley (12) with vibration damper (13) . . . | remove, install (35 Nm) (03–3420). |
| Carrier (22a) with guide pulley | remove, install (21 Nm) (step 12). |
| If AC fitted: AC compressor (22) with lines/wiring connected | detach, attach (21 Nm) (step 13). |
| TDC sensor at timing case cover | unbolt, bolt on. |
| Carrier (22a) of AC compressor | remove, install (21 Nm) (step 15). |
| Bottom bolt (26) of alternator | unscrew, screw on (step 16). |
| Alternator (3) | swivel up. |
| Air pump (1) with angle bracket (25) | unbolt, bolt on (21 Nm) (step 18). |
| Fan carrier (27) at timing case cover | unbolt, push forward, bolt on (21 Nm). (Cooling hoses remain connected). |
| Oil lines of automatic transmission (23) | unbolt, bolt on. |
| Torsion bar (28) | remove, install (32–3000). |
| Bottom part of oil sump (21) | remove, install, seal (step 22). |
| Dipstick guide tube (4) | remove, install. Special tool 117 589 00 31 00 (step 23). |
| Both front engine mounts (9) | unbolt from below, bolt on (25 Nm) (step 24). |
| Engine | raise, lower (step 25). |
| Oil sump (20) | unbolt at crankcase, bolt on M6 (11 Nm). |
| Oil sump (20) | remove, seal, install (step 27). |
| Leaks | check. |

Tightening torques in Nm

| | |
|---|----|
| Dipstick guide tube to alternator bracket | 21 |
| Oil drain plug to oil sump | 40 |
| Oil sump | 11 |
| Fan carrier | 21 |
| AC compressor to carrier | 21 |
| AC compressor or guide pulley carrier | 21 |
| Air pump to bracket | 21 |

Special tools



Shop-made tool

Guard plate for radiator/condenser

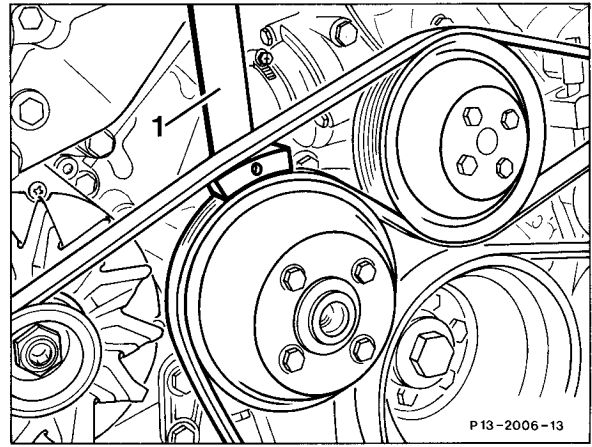
Dim.: approx. 480 × 600

Note

The oil sump is sealed to the crankcase by a gasket.

Removing, installing

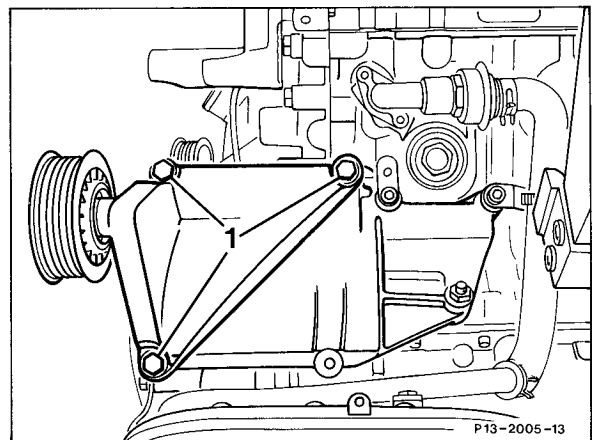
- 1 Raise hood to vertical position (01-0080).
- 2 Disconnect ground cable at battery.
- 3 Remove air scoops (09-0060).
- 4 Remove viscous fan clutch (20-3120).
- 5 Slacken bolts of fan carrier belt pulley; to do this, counter-hold with counter-holder 603 589 00 40 00.
- 6 Remove poly V-belt tensioning device (13-3450).
- 7 Unbolt belt pulley – fan carrier.
- 8 Rotate engine until cylinder 1 at TDC.
- 9 Unscrew bolts and remove bottom engine compartment panel (Maintenance Manual 6190).
- 10 Drain engine oil (approx. 8 l) into a suitable vessel. Replace seal. Tightening torque of oil drain plug 40 Nm.



- 11 Unscrew bolts together with circlips, take off belt pulley and vibration damper (03-3420).
- 12 Unscrew bolts (1) together with washers, take off carrier together with guide pulley.

Installation note

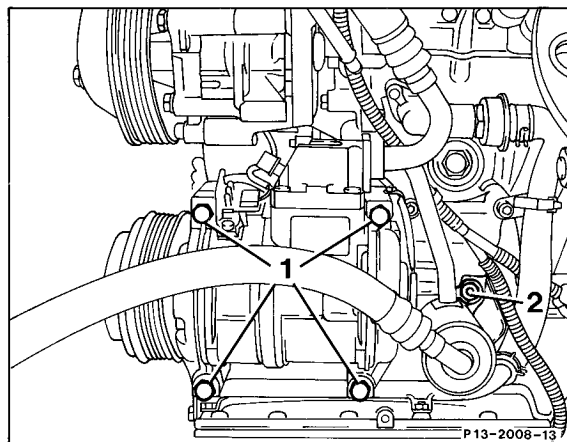
Pay attention to fixing sleeves.



13 If AC fitted: unscrew bolts (1) together with washers and nut (2). Place AC compressor to the side with lines/wiring connected.

Installation note

Pay attention to fixing sleeves.

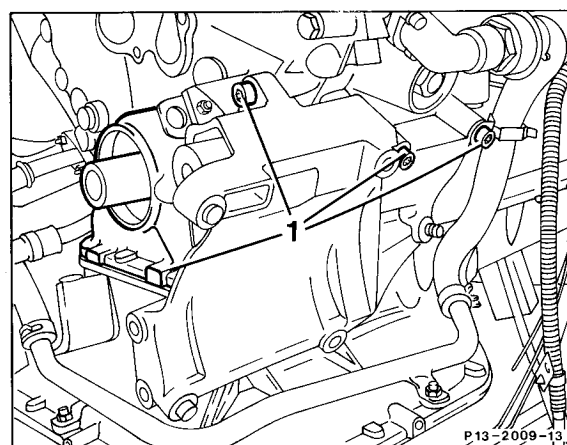


14 Unbolt TDC sensor from timing case cover.

15 Unscrew bolts (1) with washers, take off front bracket and side carrier.

16 Unscrew bottom bolt of alternator. Slacken top bolt.

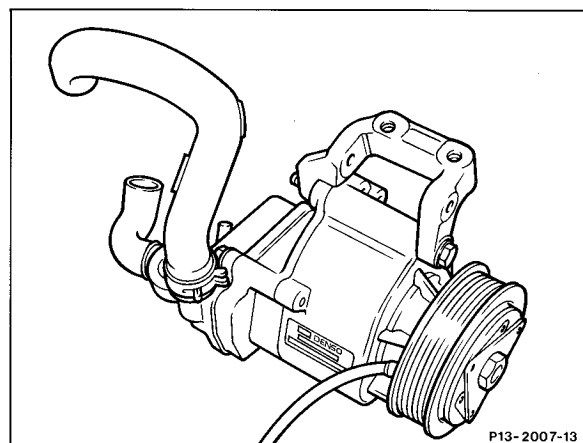
17 Swivel alternator up.



18 Unbolt air pump together with angle bracket and take off.

Installation note

Install angle bracket free of tension.



19 Unbolt fan carrier from timing case cover and push forward with cooling hoses connected.

20 Unbolt oil lines of automatic transmission.

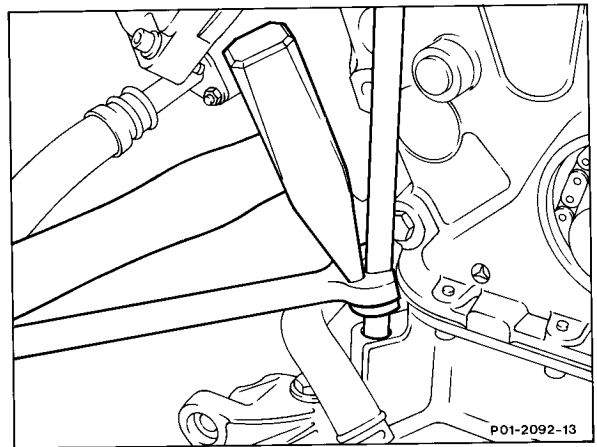
21 Remove torsion bar at front (32-3000).

22 Unscrew bolts, slacken cable straps, take off bottom part of oil sump.

23 Unscrew bolt of dipstick guide tube and knock out from below.

Installation note

Knock in dipstick guide tube from above with tool 117 589 00 31 00.



24 Unscrew bolts at left and right front engine mounts from below.

Tightening torque 25 Nm.

25 Raise engine until oil sump can be removed forward and down.

26 Unbolt oil sump at crankcase. Unscrew bolts. Tightening torque M6: 11 Nm.

Installation note

The rear contact surface of the oil sump must be aligned to the rear contact surface of the crankcase. If the oil sump is not aligned to the crankcase, this may result in noise and vibration problems.

27 Remove oil sump down and forward.

Installation note

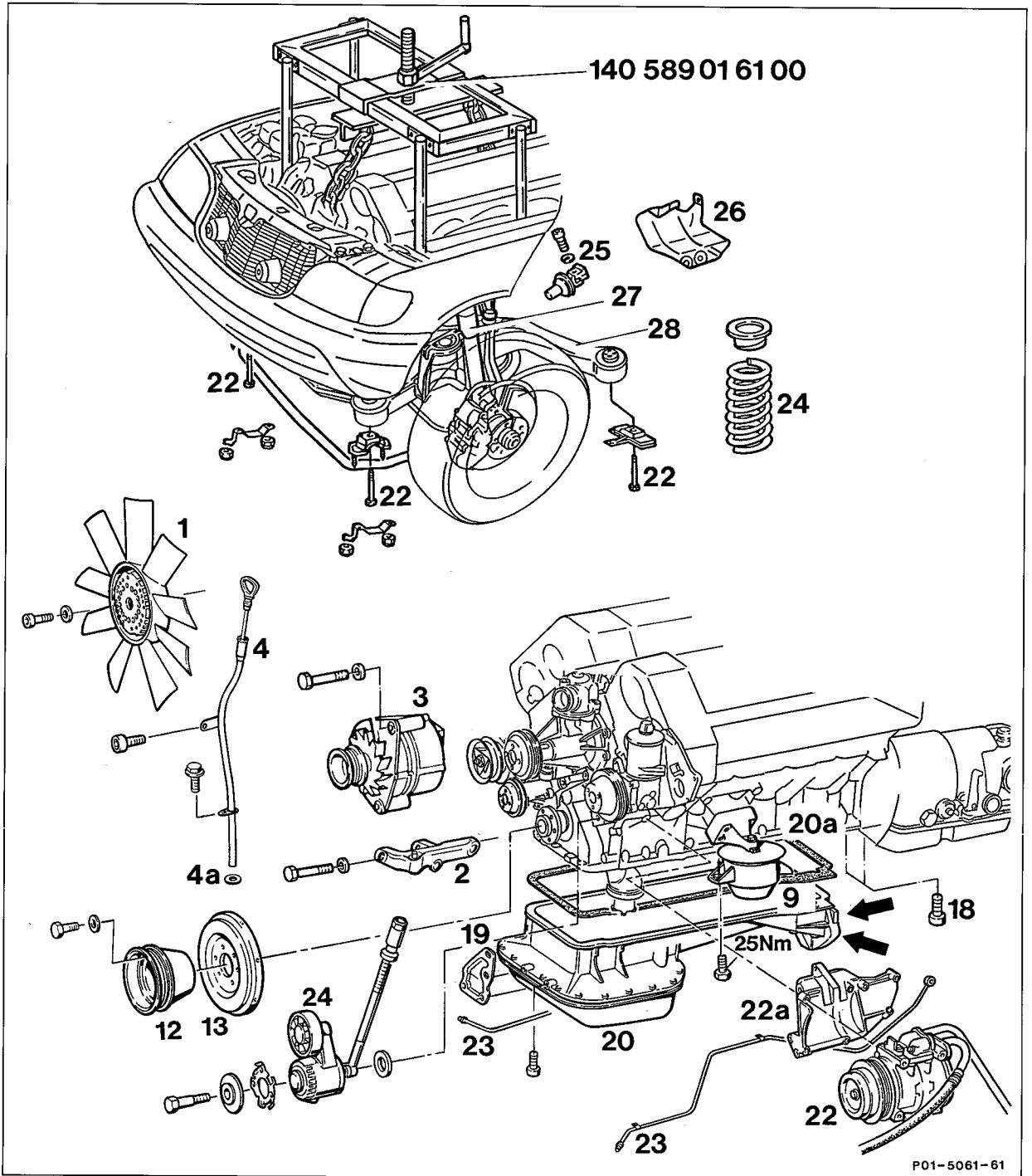
Replace gasket. Apply sealant 002 989 45 20 (Omnivisc) in the rear area of the oil sump and on the crankcase.

Install in the reverse order.

28 Run engine. Check for leaks.

C. Model 140

Operation no. of operation texts and work units or standard texts
and flat rates:
01-7500



- | | |
|-------------------------------|---------------------------------------|
| Hood | raise to vertical position (01-0080). |
| Ground cable at battery | disconnect, connect. |
| Air scoops | remove, install. |

| | |
|---|--|
| Viscous fan clutch (1) | remove, install (20–3120). |
| Tensioning device (24) for poly V-belt | remove, install (13–3450). |
| TDC sensor | unbolt, bolt on. |
| Dipstick guide tube (4) at air pump bracket | unbolt, bolt on. |
| Bottom engine compartment panels | remove, install (Maintenance Manual 6190). |
| Engine oil | drain, pour in. Oil drain plugs (40 Nm). |
| Bracket (19) | remove, install. |
| Belt pulley (12) and vibration damper (13) | remove, install (03–3420). |
| Carrier with guide pulley | remove, install (21 Nm). |

Installation note

Pay attention to fixing sleeves.

If AC fitted: AC compressor (22) with lines/wiring connected

detach, attach (21 Nm).

Installation note

Pay attention to fixing sleeves.

AC compressor (22)
 Carrier (22a) of AC compressor or guide pulley
 Alternator (3)
 Bracket (2) of alternator
 Dipstick guide tube (4) at oil sump (20)

attach at side in engine compartment.
 remove, install (21 Nm).
 remove upward, install (15–510).
 remove, install (21 Nm).
 unbolt, bolt on.

Installation note

Replace seal (4a) according to condition.

Both engine mounts (9)
 Springs (24) of front axle (28)
 Shock absorber (27)
 Engine supporting bar
 Shield (26) of steering coupling (25)
 Steering coupling (25)
 Front axle (28) with vehicle jack attachment
 Rear covers of bolts (22) of front axle
 Microencapsulated bolts (22) of front axle (28)

unbolt from below, bolt on (25 Nm).
 remove, install (32–200).
 unbolt at top, bolt on (32–100).
 install, special tool 140 589 01 61 00.
 remove, install.
 unbolt, detach, install (33–100).
 support, special tool 140 589 00 62 00.
 take off, fit on.
 unscrew, screw on (33–100).

Note

Use 6-point wrench insert, WAF 21, for this operation.

| | |
|------------------------------------|--|
| Before installing | re-tap thread in body with M14×1.5 thread tap (clean). |
| Microincapsulated bolts (22) | replace. |
| Front axle (28) | lower sufficiently until oil sump (22) can be removed. |



When lowering, pay attention to hydraulic oil lines of brake and steering gear.

| | |
|---|----------------------|
| Oil lines of automatic transmission (23) and air-to-oil cooler at oil sump (20) | unbolt, bolt on. |
| Electric cable of knock sensors at bracket of power steering pump at rear | disconnect, connect. |
| Bolts of oil sump | unscrew, screw on. |

Note

Pay attention to hexagon socket bolts (18) at rear of oil sump (20).

| | |
|---------------------|--|
| Oil sump (20) | take off down and to the front, install. |
|---------------------|--|

Installation note

The rear contact surface of the oil sump (20) has to be aligned to the rear contact surface of the crankcase (arrows).

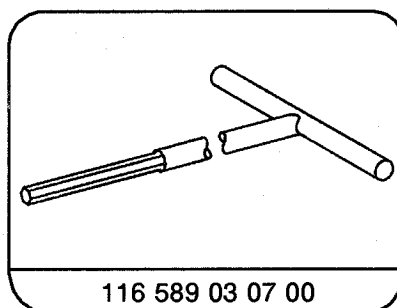
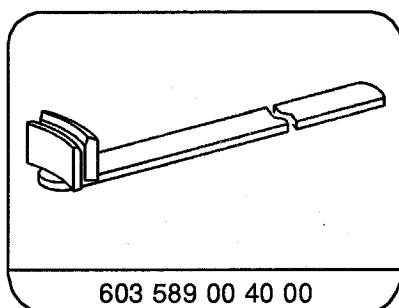
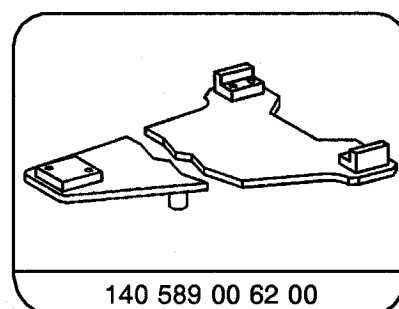
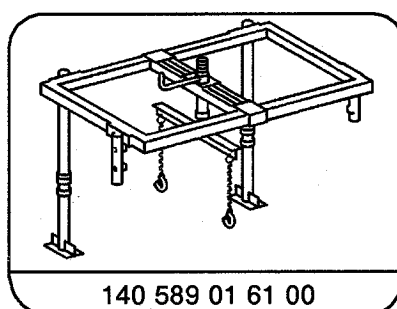
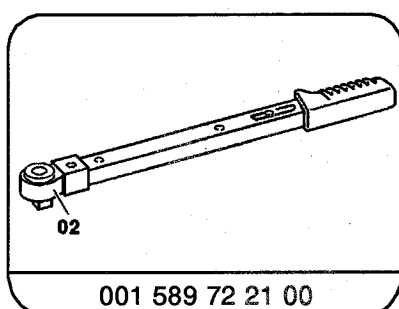
If the oil sump (20) is not aligned to the crankcase, this can result in noise and vibration problems.

| | |
|--|--|
| Gasket (20a) | replace. |
| Sealant 002 989 45 20 (Omnivisc) | apply in rear area of oil sump and on crankcase. |
| Engine | run and check for leaks. |

Tightening torques in Nm

| | |
|--|----|
| Oil drain plug to oil sump | 40 |
| Oil sump to crankcase | |
| M6 bolts | 11 |
| M8 bolts | 25 |
| M10 bolts | 40 |
| AC compressor to carrier | 21 |
| Carrier of AC compressor or guide pulley | 21 |
| Bracket of alternator to oil sump | 21 |

Special tools



Commercially available tool

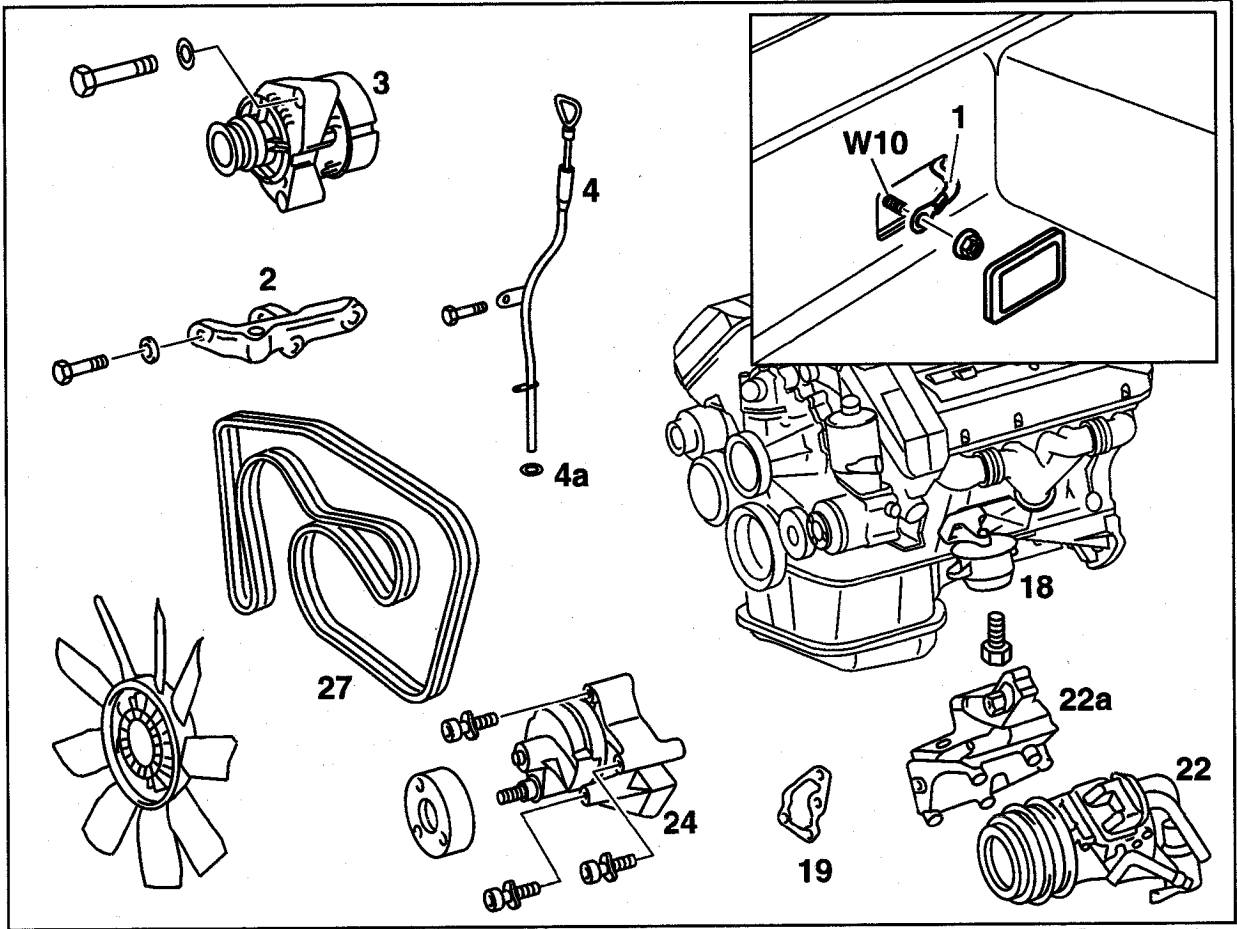
21 mm 6-point wrench socket, 1/2" drive

e.g. Hazet Werk
D- 42853 Remscheid 1
Order no. 900-21

D. Model 210

Preceding work:
 Bottom engine compartment panel removed
 (Maintenance Manual 6190).
 Viscous fan coupling removed (20-3140).

Operation no. of operation texts and work units or standard texts
 and flat rates
 01-7500



P01.45-0222-57

| | |
|---|--------------------------------------|
| Ground cable (1) at battery | disconnect, connect (AR54.10-0003A). |
| Poly V-belt tensioning device (24) | remove, install (13-3450). |
| Dipstick guide tube (4) at air pump bracket | unbolt, bolt on. |

Installation note

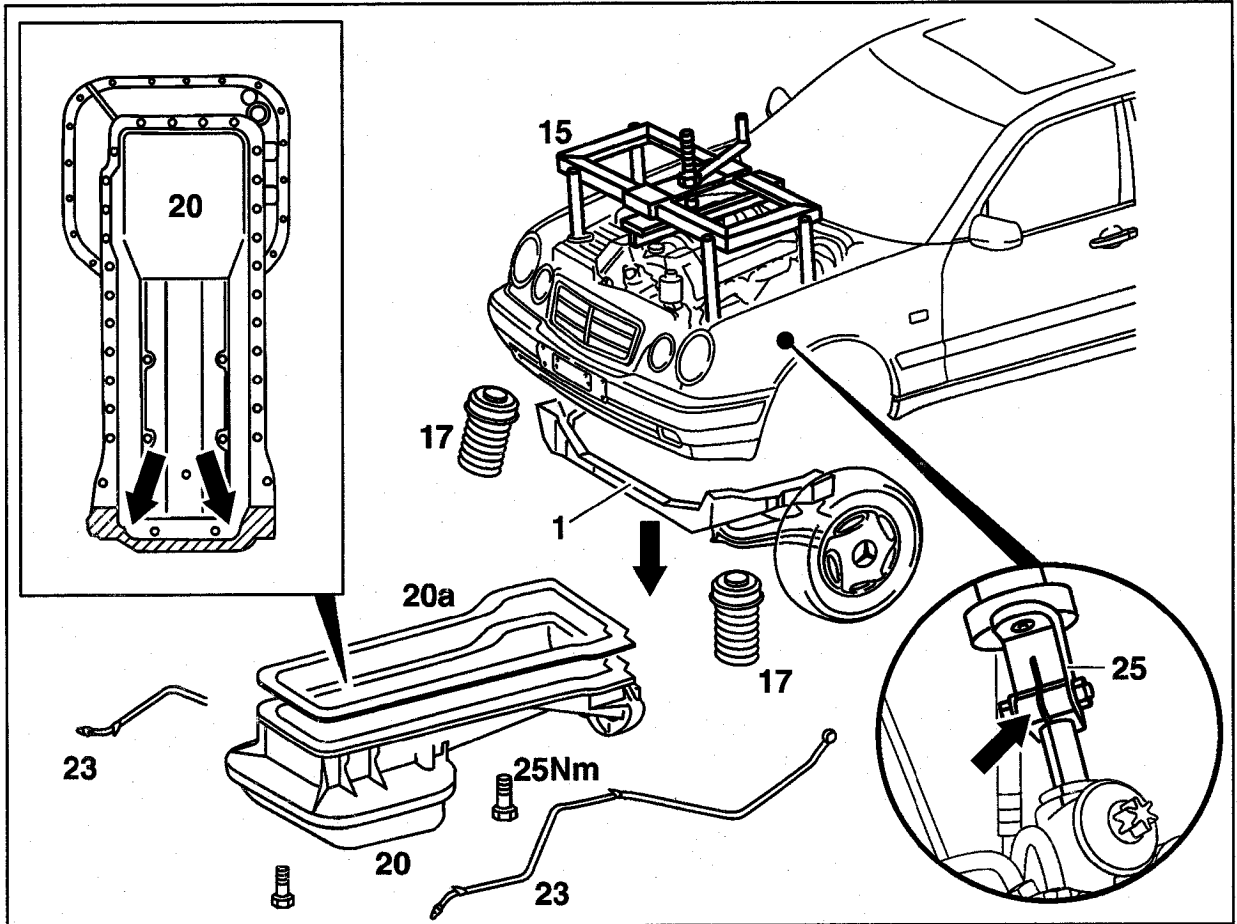
| | |
|--|--|
| Engine oil | drain, pour in (18-0020). |
| A/C compressor (22) with lines connected | take off, fit on (25 Nm). |
| Carrier (22a) of A/C compressor with retaining plate (19) | remove, install (M6 = 10 Nm, M8 = 25 Nm) |
| Generator (3) | remove, install. |

Carrier (2) of generator at oil sump unbolt, bolt on (25 Nm).

Installation note

Align carrier (2) to generator.

Front engine mount (18) at bottom unbolt, bolt on (22-2210).



P01.45-0223-57

- | | |
|--|--|
| Front springs (17) | remove (AR32.20-0200B). |
| Engine supporting arm (15) | fit on, take off (AR33.10-0100-01A). |
| Engine | raise, lower. |
| Steering coupling (25) | unbolt, bolt on (25 Nm). |
| Front suspension carrier (1) | support with inspection pit or assembly lift (AR33.10-0100-03A). |
| Front suspension carrier (1) | unbolt, bolt on (120 Nm) |
| Front suspension carrier (1) | lower, raise. |
| ATF pipes of automatic transmission (23) | unbolt, bolt on. |

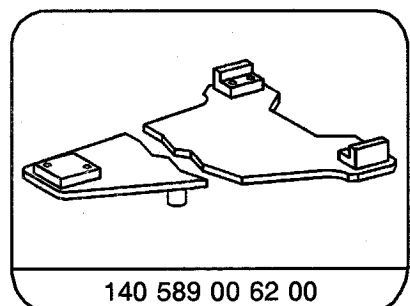
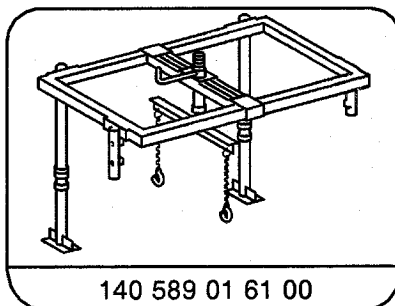
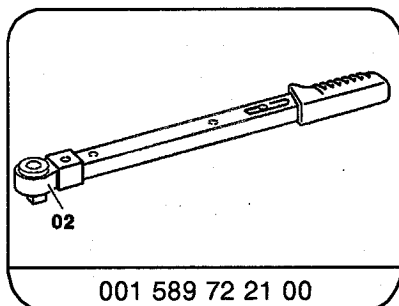
| | |
|--|--|
| Oil sump (20) | unbolt, bolt on. |
| | Note |
| | To enable the oil sump bolts at the front to be unscrewed, turn vibration damper accordingly and remove oil sump bolts through the openings in the vibration damper. |
| Oil sump (20) | remove forward and down. |
| Sealing surfaces | clean. |
| Sealant 002 989 45 20 (Omnivisc) | apply in rear area of oil sump and to crankcase (arrows). |
| Gasket (20a) | replace. |
| Oil sump (20) | install; align to rear contact surface on transmission. |
| | ⚠ |
| | If the oil sump (20) is not aligned to the transmission, this can result in noise and vibration problems. |
| Engine | run and check for leaks. |

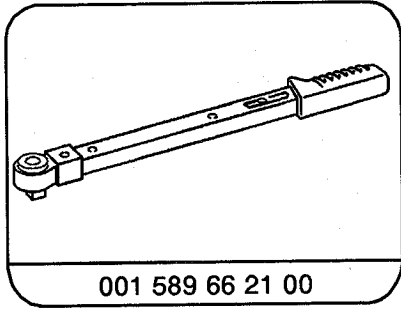
Tightening torque in Nm

Oil sump to crankcase

| | |
|-----------|----|
| M6 bolts | 9 |
| M8 bolts | 21 |
| M10 bolts | 40 |

Special tools





001 589 66 21 00