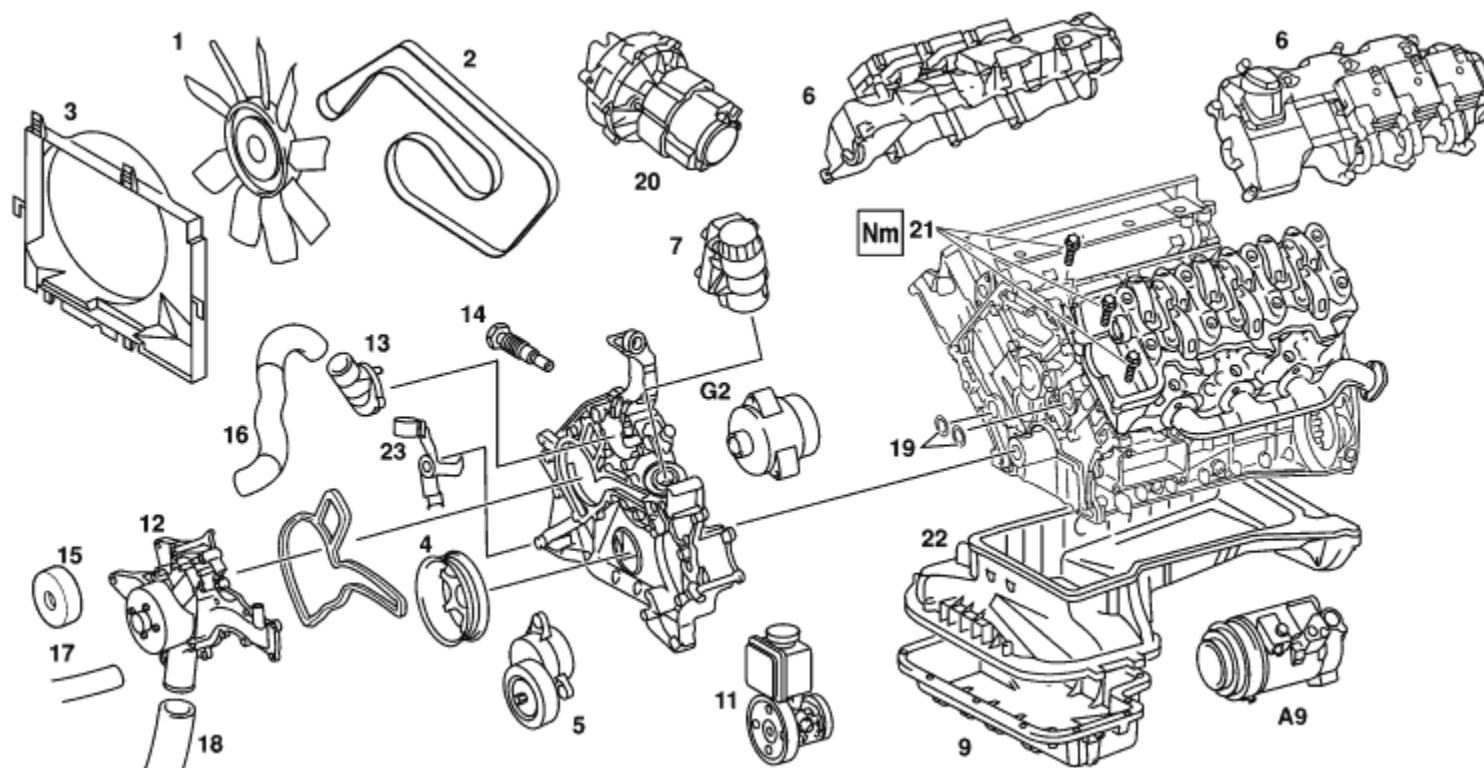


AR01.40-P-8000B

Removing/installing the timing case cover

11.6.96








ENGINE 112, 113

















P01.40-2097-09










Shown on engine 112 in model 210





- | | | |
|--|--------------------------|------------------------------------|
| 1 Viscous fan clutch | 9 Bottom part of oil pan | 18 Coolant line |
| 2 Poly-V-belt | 11 Power steering pump | 19 Timing case seals |
| 3 Fan shroud | 12 Coolant pump | 20 Air pump |
| 4 Vibration damper | 13 Thermostat housing | 21 Bolts |
| 5 Poly-V-belt tensioning device | 14 Chain tensioner | 22 Oil pan |
| 6 Cylinder head covers | 15 Guide pulley | 23 Bracket for automatic oil lines |
| 7 Oil filter housing with oil-water heat exchanger | 16 Coolant line | A9 Refrigerant compressor |
| | 17 Coolant line | G2 Generator |

| | | | |
|--|---|---|------------------------------------|
|  | Removing/installing | | |
|  Danger! | Risk of explosion caused by oxyhydrogen gas. Risk of poisoning and caustic burns caused by swallowing battery acid. Risk of injury caused by burns to skin and eyes from battery acid or when handling damaged lead-acid batteries | No fire, sparks, open flames or smoking. Wear acid-resistant gloves, clothing and safety glasses. Only pour battery acid into suitable and appropriately marked containers. | AS54.10-Z-0001-01A |
| 1 | Disconnect battery ground cable | Model 163 | AR54.10-P-0003A |
|  | Notes on battery | All models | AH54.10-P-0001-01A |
| 2 | Remove engine compartment paneling | Models 163.172/ 174/ 175 | AR61.20-P-1105GH |
|  Danger! | Risk of injury to skin and eyes suffering scalding from contact with hot coolant spray. Risk of poisoning from swallowing coolant. | Do not open cooling system unless coolant temperature is below 90°C. Open cap slowly and release the pressure. Do not pour coolant into beverage bottles. Wear protective gloves, protective clothing and eye protection. | AS20.00-Z-0001-01A |
| 3 | Drain coolant from radiator | Engines 112, 113 in model 163 | AR20.00-P-1142HA |
| 4 | Remove viscous fan clutch (1) | Engine 112 in models 163.154/ 157 Engine 113 in model 163.172 | AR20.40-P-5660C |
| | |  Right-hand thread! | |
| 5 | Remove electric fan |  On model 163, unscrew bolts at bottom of fan shroud. | |
| | | Engine 113.965 in model 163.175 Engine 113.981 in model 163.174 | AR20.40-P-5000GH |
| 6 | Attach guard plate for radiator / condenser | | |
|  | Guard plate for radiator / condenser | Engines 112, 113 | WF58.50-P-0110-01A |
| 7 | Remove poly-V-belt (2) | Engine 112 in model 163 Engine 113 (except 113.965 /981) in model 163 | AR13.22-P-1202B |

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|----|---|---|------------------------------------|
| | | Engine 113.965 in model 163.175 Engine 113.981 in model 163.174 | AR13.22-P-1202BA |
| 8 | Remove cylinder head covers (6) | Engines 112, 113 air cleaner located on vehicle side. | AR01.20-P-5014B |
| | | Engines 112, 113 air cleaner located on engine side. | AR01.20-P-5014BV |
| 9 | Detach coolant line (17, 18) on coolant pump (12) | | |
| 10 | Detach coolant line (16) on thermostat housing (13) | | |
| 11 | Dismount refrigerant compressor (A9) |  Place to the side with lines connected. | |
| | |  | BA83.55-P-1001-01A |
| 12 | Remove automatic oil lines on front axle carrier | Model 163 | |
| 13 | Remove bottom part of oil pan (9) | Engine 112.942 in model 163.154 Engine 112.970 in model 163.157 Engine 113.942 in model 163.172 | AR01.45-P-7555V |
| | | Engine 113.965 in model 163.175 Engine 113.981 in model 163.174 | AR01.45-P-7555VE |
| 14 | Remove oil pump | Engines 112, 113 in model 163 | AR18.10-P-6020B |
| 15 | Remove oil pan (22) | Engine 112.942 in model 163.154 Engine 112.970 in model 163.157 Engine 113.942 in model 163.172 Engine 113.965 in model 163.175 Engine 113.981 in model 163.174 | AR01.45-P-7500FB |
| 16 | Remove poly-V-belt tensioning device (5) | Engine 112 in model 163 Engine 113 (except 113.965 /981) in model 163 | AR13.25-P-3200B |
| | |  | BA13.25-P-1003-01M |
| | |  | BA13.25-P-1004-01M |
| | |  | BA13.25-P-1003-01D |

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|---|---|---|------------------------------------|
| | |  | BA13.25-P-1004-01D |
| 17 | Remove vibration damper (4) | Engine 112 in model 163 Engine 113 (except 113.981) in model 163 | AR03.30-P-1600C |
| | | Engine 113.981 in model 163.174 | AR03.30-P-1600CA |
| 18 | Remove chain tensioner (14) | Engine 112 in model 163 Engine 113 (except 113.965 /981) in model 163 | AR05.10-P-7800C |
| | | Engine 113 in models 163.174/ 175 | AR05.10-P-7800CA |
| 19 | Remove oil filter housing with oil/water heat exchanger (7) | Engine 113.965 in model 163.175 Engine 113.981 in model 163.174 | AR18.20-P-3471BA |
| | | Engine 112 in model 163 Engine 113 (except 113.965/981) in model 163 | AR18.20-P-3471B |
| 20 | Detach oil reservoir on power steering pump (11) | Model 163 | |
| | |  Removal: Suction off oil from the reservoir. Remove circlip. | |
| | |  Installation: Install new sealing ring. Check that locking ring is correctly seated. | |
|  | Power steering - check and correct oil level | | AP46.00-P-4611BB |
| | |  Hand pump | 210 589 00 71 00 |
| 21 | Detach power steering pump (11) with oil reservoir |  Do not disconnect lines. | |
| 22 | Detach guide pulley (15) at coolant pump |  Take off plastic cover of guide pulley. | |
| | |  | BA20.10-P-1001-01C |
| | |  | BA20.10-P-1001-01M |
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|----|--|---|------------------------------------|
| 23 | Remove air pump (20) | Engine 112, 113 in Model 163 | AR14.30-P-7251A |
| 24 | Disconnect electric cable from coolant thermostat | | |
| 25 | Unscrew bolts (21) of cylinder head to timing case cover on right and left |  | BA01.40-P-1002-01C |
| 26 | Remove bolts of the timing case cover |  Installation: Apply sealing compound to marked bolts; observe bolt diagram on timing case cover while doing this: ↓ | BR00.45-Z-1017-01A |
| | | Bolt diagram for timing case cover on engines 112, 113 | AR01.40-P-8000-01B |
| | |  | BA01.40-P-1001-01C |
| | |  | BA01.40-P-1002-01C |
| 27 | Take off timing case cover |  Installation: The screw threads for the coolant pump, the belt tensioning device and the power steering pump are not cut into a new timing case cover. For this reason, use new self-tapping bolts in combination with a new timing case cover for attaching the coolant pump, the belt tensioning device and the power steering pump. Pay attention to the tightening torque in the case of non-tapped threads. | |
| | |  | BA20.10-P-1001-01C |
| | |  | BA20.10-P-1001-01M |
| | |  | BA13.25-P-1001-01D |
| | |  | BA13.25-P-1001-01M |
| | | Clean sealing surfaces, apply sealant only to specified surfaces in form of bead with height and width of 2.0 mm ± 0.5 mm. The sealant must be applied within 10 minutes! The silicone bead | BR00.45-Z-1015-01A |

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|--|--|--|------------------------------------|
| | | must not be spread! | |
|  | Notes on application of sealant to timing case cover | | AH01.40-P-1000-01B |
| | |  Installation: If sealing compound finds its way into the oil ducts, the oil flow will be carry this along and it will clog up the oil supply bore holes. - Do not damage cylinder head gasket. - Replace seals of timing case (19). | |
| | | - Replace front crankshaft radial sealing ring: ↓ | |
| | | Engine 113 in model 163 | AR03.20-P-3000B |
| | | Engine 113.981 in model 163.174 | AR03.20-P-3000BA |
| 28 | Install in reverse order | | |
|  Danger! | Risk of accident caused by vehicle starting off by itself when engine is running. Risk of injury caused by contusions and burns when working in engine during starting procedure | Secure vehicle to prevent it from moving. Wear closed and snug-fitting work clothes. Do not grasp hot or rotating parts. | AS00.00-Z-0005-01A |
| 29 | Run engine and inspect for leaks | | |
| 30 | Inspect cooling system for leaks | First of all, warm up engine to operating temperature. | |
| | | Engine 112, 113 | AR20.00-P-1010HA |
| 31 | Perform basic programming | Code radio and normalize power window. Vehicles with stationary heater: adjust time display on stationary heater. | |
| 32 | Read out fault memory and erase | | |
| | |  Stored faults which can result from cables being disconnected or from simulation during removal and installation or test work, have to be processed and erased in the fault memories after completing the work: ↓ | |

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| | Diagnosis Manual Volume 2, Index 0: Connecting and using test equipment | |
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Nm Crankcase, timing case cover, end cover

| Number | Designation | | Nm | Engine 112 | Engines 113.942/965/981 |
|--------------------|---|--|----|------------|----------------------------|
| BA01.40-P-1001-01C | Timing case cover on crankcase | | Nm | 20 | 20 |
| BA01.40-P-1002-01C | Bolt for cylinder head on timing case cover | | Nm | 20 | 20 |

Nm Belt tensioning device

| Number | Designation | | Nm | Engine 112 |
|--------------------|---|----------------------|----|------------|
| BA13.25-P-1001-01M | Self-tapping bolt for belt tensioner on timing case cover | Thread not pretapped | Nm | 35 |
| | | Thread pretapped | Nm | 25 |
| BA13.25-P-1003-01M | Shock absorber for belt tensioning device on belt tensioning device | | Nm | 25 |
| BA13.25-P-1004-01M | Shock absorber for belt tensioning device on coolant pump housing | | Nm | 35 |

Nm Belt tensioning device

| Number | Designation | | Nm | Engines 113.942/965/981 |
|--------------------|---|----------------------|----|----------------------------|
| BA13.25-P-1001-01D | Self-tapping bolt for belt tensioner on timing case cover | Thread not pretapped | Nm | 35 |
| | | Thread pretapped | Nm | 25 |
| BA13.25-P-1003-01D | Shock absorber for belt tensioning device on belt tensioning device | | Nm | 25 |
| BA13.25-P-1004-01D | Shock absorber for belt tensioning device on coolant pump housing | | Nm | 35 |
| BA13.25-P-1008-01D | Bolt of guide pulley for compressor and | M8 x 78 | Nm | - |

| | | | |
|---|--|--|--|
| major assembly belts on timing case cover | | | |
|---|--|--|--|

Nm Coolant pump, coolant thermostat

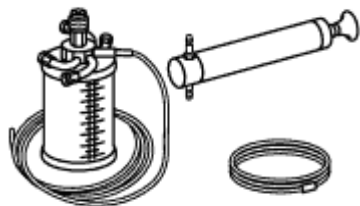
| Number | Designation | Engines 113.942/965/981 | | | |
|--------------------|---|----------------------------|----|----|----|
| BA20.10-P-1001-01C | Self-tapping bolt for coolant pump on timing case | Thread not pretapped | M6 | Nm | 14 |
| | | Thread not pretapped | M8 | Nm | 35 |
| | | Thread pretapped | M6 | Nm | 10 |
| | | Thread pretapped | M8 | Nm | 25 |
| BA20.10-P-1002-01C | Belt pulley on coolant pump | | | Nm | 10 |
| BA20.10-P-1003-01C | Bolt for coolant thermostat housing | | M6 | Nm | 10 |
| BA20.10-P-1004-01C | Coolant pump on timing case | | M7 | Nm | 10 |

Nm Coolant pump, coolant thermostat

| Number | Designation | Engine 112 | | | |
|--------------------|--|----------------------|----|----|----|
| BA20.10-P-1001-01M | Self-tapping bolt of coolant pump to timing case | Thread not pretapped | M6 | Nm | 14 |
| | | Thread not pretapped | M8 | Nm | 35 |
| | | Thread pretapped | M6 | Nm | 10 |
| | | Thread pretapped | M8 | Nm | 25 |
| BA20.10-P-1002-01M | Belt pulley on coolant pump | | | Nm | 9 |
| BA20.10-P-1003-01M | Bolt for coolant thermostat housing | | M6 | Nm | 14 |
| BA20.10-P-1004-01M | Coolant pump on timing case | | M7 | Nm | 14 |

Hm Refrigerant compressor

| Number | Designation | Engine 112 in Model 163 |
|--------------------|--|-------------------------|
| BA83.55-P-1001-01A | Bolt for refrigerant compressor on bracket | Nm 20 |



210 589 00 71 00

Hand pump

Workshop equipment/MB testers (see Workshop Equipment Manual)

| | |
|--------------------|---|
| WE58.40-Z-1013-06A | STAR DIAGNOSIS Compact diagnosis system for passenger cars, order number 6511 1801 00 |
|--------------------|---|

Auxiliary repair materials

| Number | Designation | Order number |
|--------------------|-------------------------------|--------------------|
| BR00.45-Z-1015-01A | Loctite sealant 5970 | A 003 989 98 20 10 |
| BR00.45-Z-1017-01A | Loctite 5203 sealing compound | 002 989 71 20 10 |