

## 01–310 Removal and installation of complete oil pan








### Oil filling capacity in liters

|                |     |
|----------------|-----|
| Oil pan        | 5.0 |
| Oil filter     | 0.5 |
| Air-oil cooler | 0.4 |

### Tightening torques

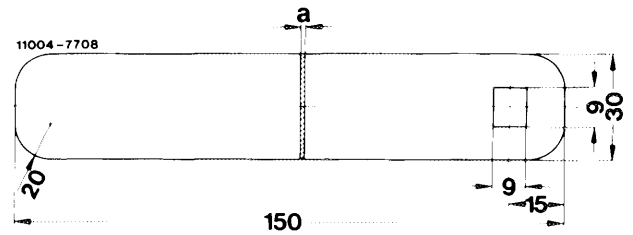
|   | Nm   | (kpm)    |
|---|------|----------|
| Oil drain plug on oil pan                         | M 26 | 50 (5)   |
|   | M 12 | 40 (4)   |
| Nut for engine stop on cross member (model 115)   |      | 90 (9)   |
| Adjusting screw for front engine stop (model 123) |      | 130 (13) |
| Adjusting screw for rear engine mount (model 123) |      | 40 (4)   |
| Oil pan upper half to cylinder crankcase          |      | 10 (1)   |
| Oil pan lower half to upper half                  |      |          |
| Engine carrier to engine mount front              | M 12 | 70 (7)   |
|   | M 10 | 40 (4)   |

### Special tools

|   |   |                  |
|---|---|------------------|
| Torque wrench handle with inserting ratchet<br>1/2" square, 25–130 Nm |  | 001 589 66 21 00 |
| Torque wrench handle with inserting ratchet<br>1/2" square, 40–200 Nm |  | 001 589 67 21 00 |
| Allen wrench 5 mm, 300 mm long  |  | 116 589 02 07 00 |
| Knock-out mandrel 9 mm dia. (model 123)                               |  | 110 589 02 15 00 |
| Allen-box wrench 14 x 17 mm   |  | 000 589 24 07 00 |
| Socket 27 mm, 1/2" square,<br>for rotating engine                     |  | 001 589 65 09 00 |
| Knocking-in tool for oil dipstick<br>guide tube                       |  | 117 589 00 31 00 |

## Self-made tool

Gauge dimension  $a = 1.0 \text{ mm}$

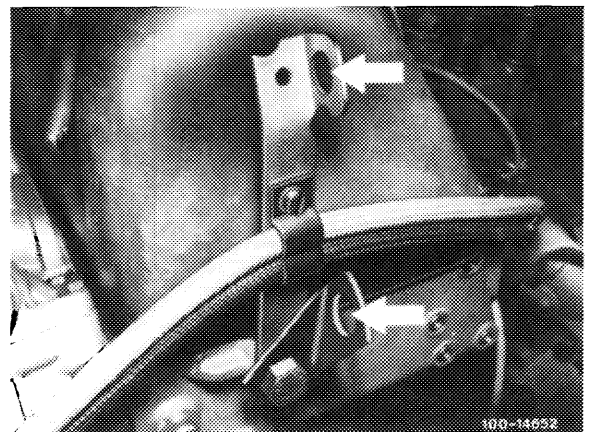


## Model 115

### Removal

- 1 Drain engine oil.
- 2 On vehicles with automatic transmission, completely unscrew transmission oil cooler lines.
- 3 Attach rope of engine hoist to front suspension eye on cylinder head.
- 4 Slightly lift engine with engine hoist and a crane.

**Note:** If required by space condition, remove engine hood.



5 Completely remove front axle (33–100).

**Note:** While working under engine, secure engine in addition to engine hoist.

6 On vehicles with powersteering, remove powersteering pump with carrier.

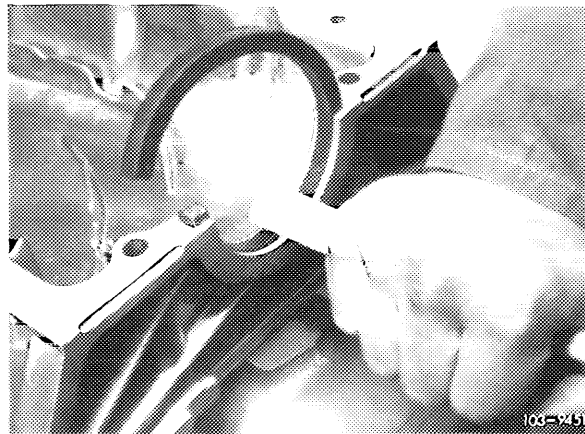
7 Unscrew oil pan top and remove.

8 Thoroughly clean parting surface on cylinder crankcase and on oil pan top.

### Installation

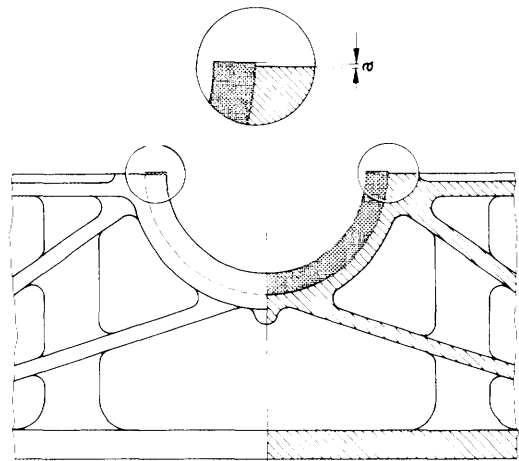
9 Replace rear radial sealing ring in oil pan according to condition.

Insert new radial sealing ring into groove and work in with a lubricated hammer handle.



10 To obtain overlap, cut off radial sealing ring 1 mm above parting surface. Use self-made gauge for this purpose.

11 Provide radial sealing ring with engine oil.



Dimension a = 1 mm

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12 Coat parting surface of oil pan top uniformly with sealing compound.

13 Position oil pan top and screw down.

14 For further installation proceed vice versa to removal.

### Model 123

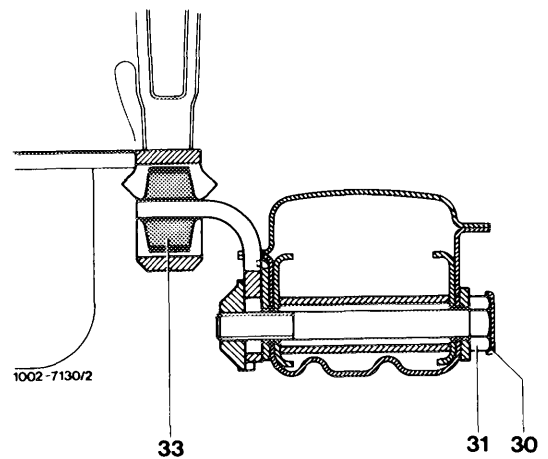
#### Removal

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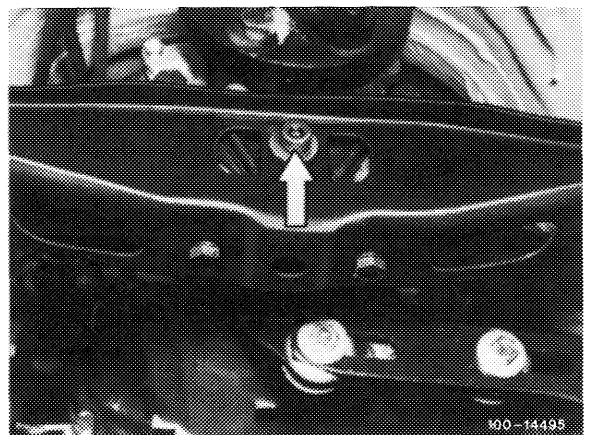
1 Drain engine oil.

2 On vehicles with automatic transmission, unscrew transmission oil cooler lines on cooler and on clutch housing.

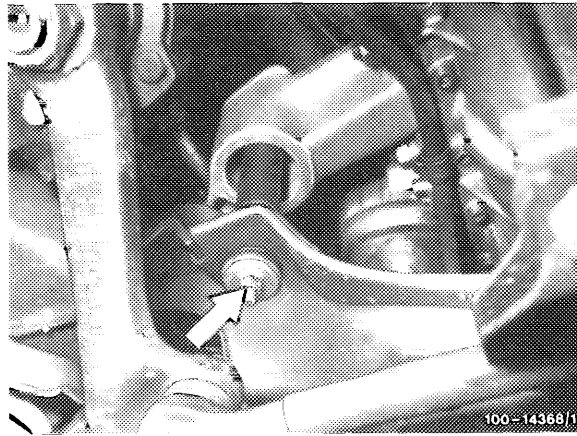
3 On front engine stop, lift lock (30), swivel away in lateral direction and unscrew adjusting screw (31).



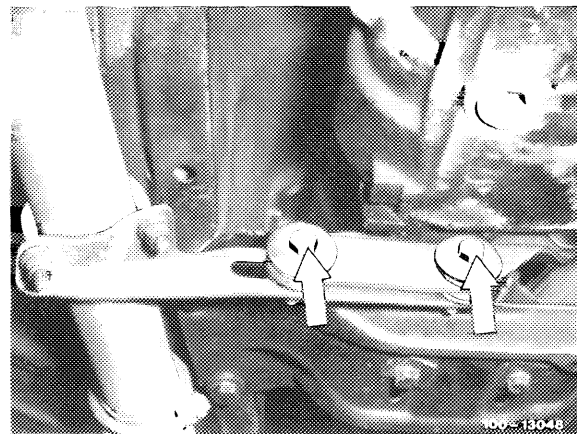
4 Loosen adjusting screw (arrow) of rear engine mount.



5 On vehicles with automatic transmission, unscrew engine shock absorber on frame cross member (arrow).



6 Loosen exhaust side support on transmission holder.

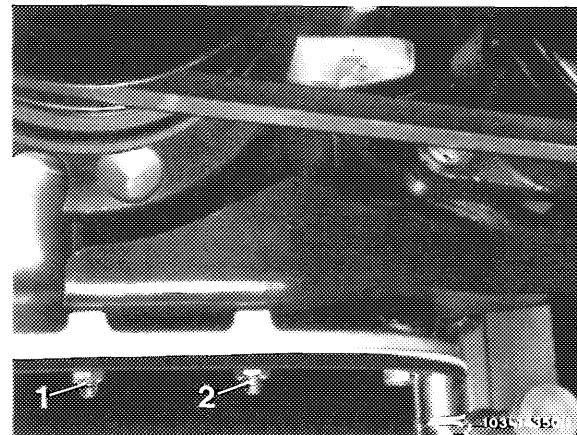


7 On vehicles with powersteering, draw oil from supply tank and unscrew return line on steering gear.

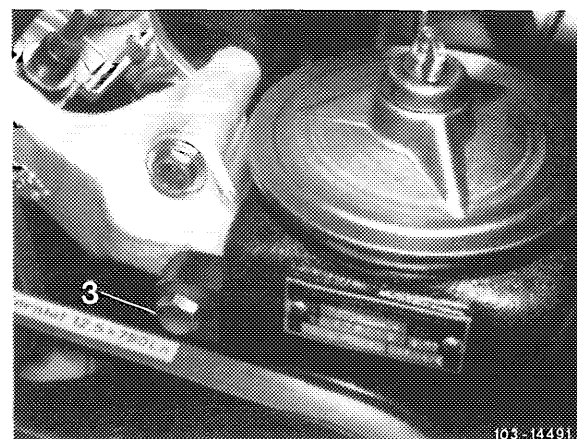
Slacken V-belt and remove.

Unscrew powersteering pump with **black carrier section**, push aside and tie to body with a length of wire.

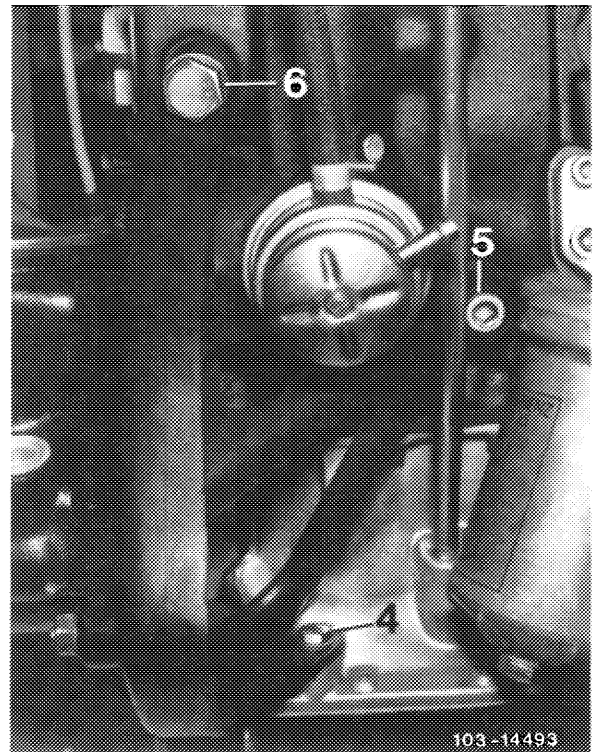
Do not remove light alloy carrier section.



For the above purpose, unscrew screws 1–6.



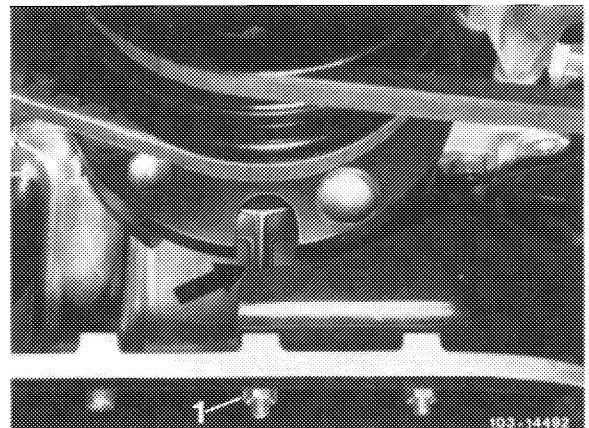
For loosening screw (4), use offset open end wrench.



For removing screw (1), position balancing disc with recess over screw (arrow).

8 On vehicles (AUS), (J), (S) and (USA) 1977/78, remove powersteering pump and air pump with black carrier section.

On vehicles (S) 1977/78 without powersteering, remove air pump with carrier.



9 Loosen rubber scoop between carburetor and air filter on carburetor and pull off.

10 Unscrew holding clip of oil dipstick guide tube.

11 Loosen fuel pump.

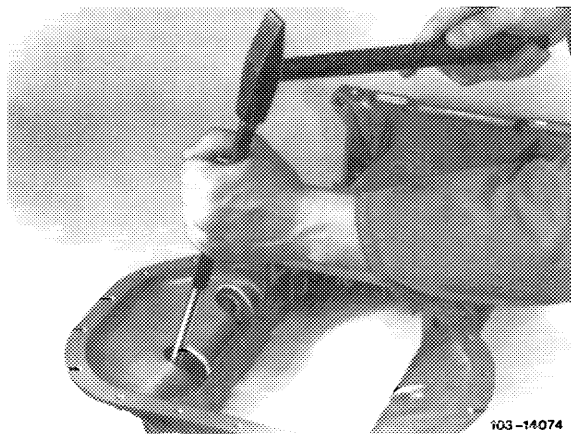
12 Unscrew oil pan lower half and remove.

13 Remove oil pan.

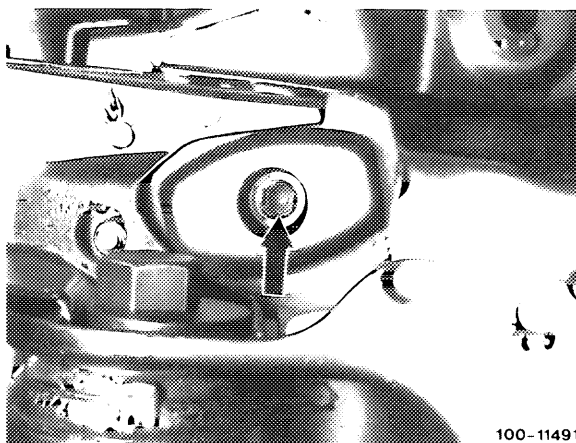
14 Knock out oil dipstick guide tube with knocking-out mandrel 9 mm dia. for valve guides.

15 Unscrew cover plate on intermediate flange.

16 Unscrew oil pan upper half.



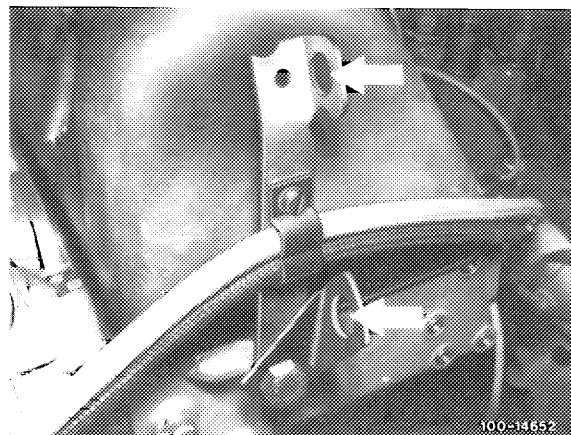
17 Unscrew screws for engine carrier on engine mount from below.



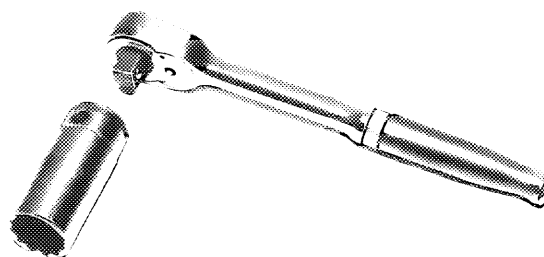
18 Attach rope of engine hoist to suspension eye at front on cylinder head.

19 Lift engine with engine hoist and a crane until oil pan upper half can be removed.

When lifting engine, pay attention to unobstructed passage of fan.



For removal, turn crankshaft with tool combination until oil pan upper half can be pulled from under connecting rod or crank webs.

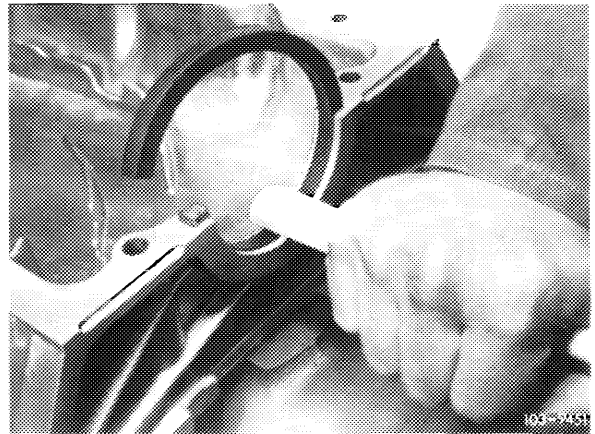


20 Thoroughly clean parting surface on cylinder crankcase, on oil pan upper and lower half.

### Installation

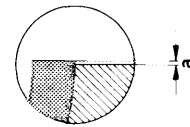
21 Replace rear radial sealing ring in oil pan according to condition.

Insert new radial sealing ring into groove and work in with a lubricated hammer handle.

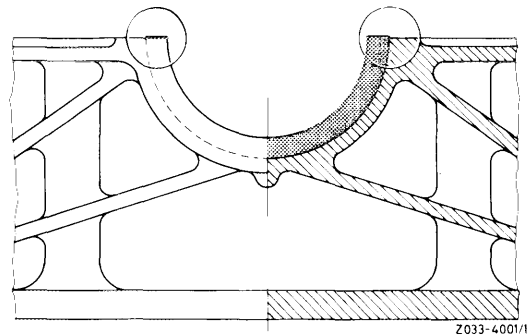


22 To provide overlap, cut off radial sealing ring 1 mm above parting surface.

For this purpose, use self-made gauge.



23 Provide radial sealing ring with engine oil.



Dimension a = 1 mm

24 Uniformly coat parting surface of oil pan upper half with sealing compound.

25 Position oil pan top and screw down.

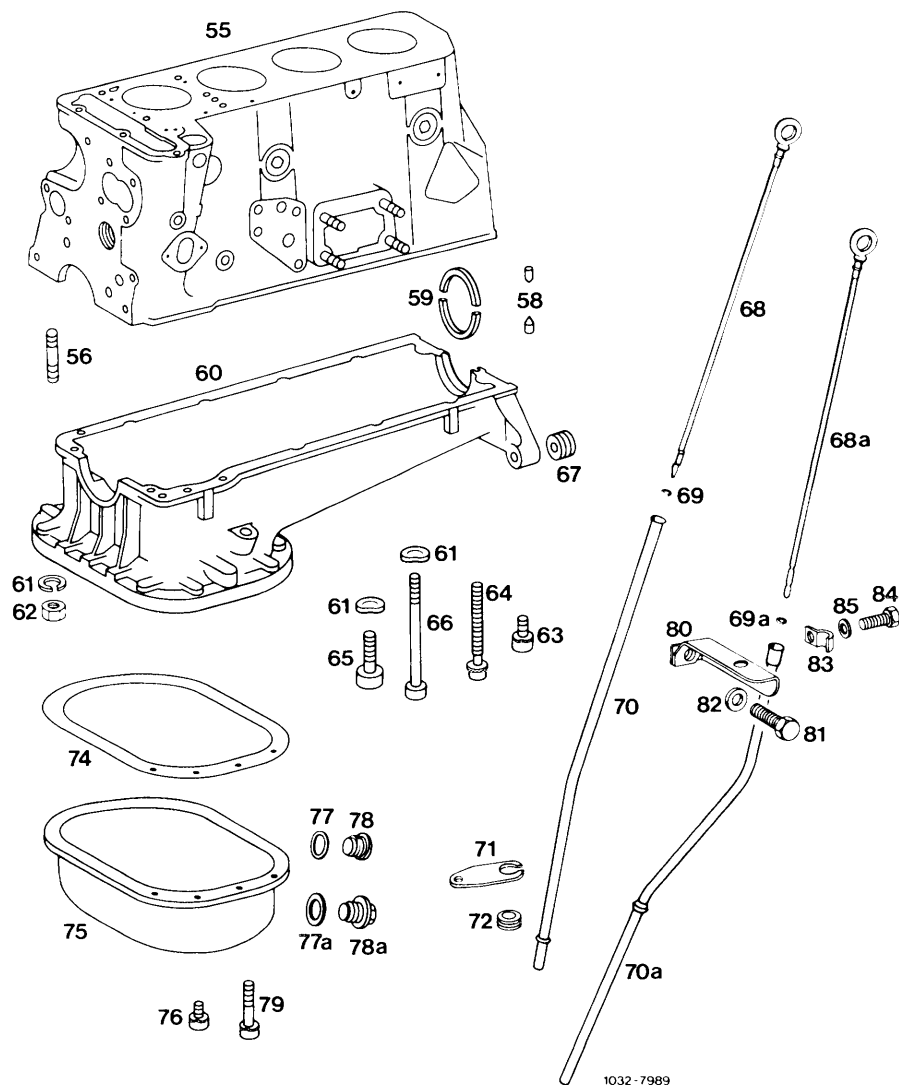
26 Lower engine, while threading engine shock absorber through bore on frame cross member.

27 Check installation position of shielding plate on righthand front engine mount.



- 28 Install oil pump.
- 29 Knock in oil dipstick guide tube with knocking-in tool. Pay attention to installation position.
- 30 Screw on oil pan lower half with new gasket.
- 31 For further installation proceed vice versa to removal.
- 32 Adjust engine stop (22–220).

## Cylinder crankcase and oil pan



- |   |  |
|---|--|
| 55 Cylinder crankcase                                 | 72 Rubber grommet  |
| 56 2 bolts M 8 x 25                                   | 74 Gasket  |
| 58 Locking pin  | 75 Oil pan lower half                                      |
| 59 Crankshaft radial sealing ring                     | 76 Combination screw (engines 115.923/926/951 14 each)     |
| 60 Oil pan upper half                                 | (engines 115.938/939/954 17 each)                          |
| 61 2 spring washers B 8                               | 77 Sealing ring C 26 x 22 (1st version)                    |
| 62 2 nuts M 8   | 77a Sealing ring A 12 x 17 (2nd version)                   |
| 63 14 combination screws M 6 x 15                     | 78 Oil drain plug (1st version)                            |
| 64 2 combination screws M 6 x 60                      | 78a Oil drain plug M 12 (2nd version)                      |
| 65 2 combination screws M 6 x 30                      | 79 3 combination screws M 6 x 30 (engines 115.923/926/951) |
| 66 2 screws M 8 x 95                                  | 80 Holder for oil dipstick guide tube                      |
| 67 2 threaded inserts 10/14 x 20                      | 81 Screw M 8 x 12  |
| 68 Oil dipstick (engines 115.923/926/951)             | 82 Spring washer A 8                                       |
| 68a Oil dipstick (engines 115.938/939/954)            | 83 Clip 1 x 18   |
| 69 O-ring (engines 115.923/926/951)                   | 84 Screw M 6 x 8   |
| 69a O-ring (engines 115.938/939/954)                  | 85 Washer A 6.4  |
| 70 Oil dipstick guide tube (engines 115.923/926/951)  |  |
| 70a Oil dipstick guide tube (engines 115.938/939/954) |  |
| 71 Holder for oil dipstick guide tube                 |  |