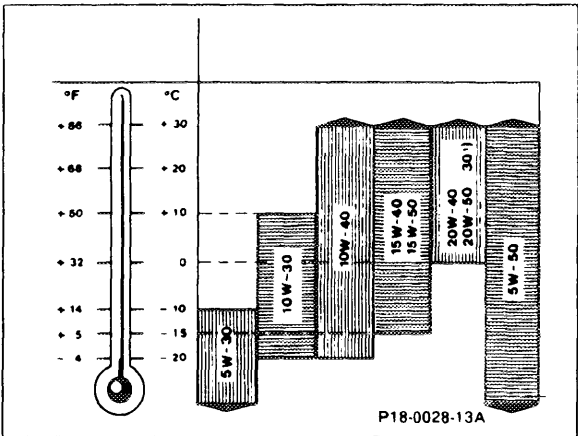


P18-0118-55

**Specified viscosity class for engine oil in accordance with SAE at prolonged outside temperatures**

Precise use of the SAE class according to outside air temperatures would necessitate frequently changing the engine oil. The temperature limits for the SAE classes should therefore be regarded as guidelines which can be exceeded for short periods.

See "**Service Product Specifications**" for further information on specified viscosity classes and approved engine oils.



1) SAE 40 may be used at prolonged outside temperatures above + 30 °C.

### Oil capacity in liters

Engine	Model	Capacity for oil and filter change	Dipstick marking		
			Colored marking	Colored marking	Numerical marking on handle (color red)
			Round handle	Handle-shaped like bottle opener	
602.91	201	6.5 (6.8 U.S. Qt.)	-	-	60214 <sup>1)</sup>
		7.0 <sup>2)</sup> (7.4 U.S. Qt.)	-	green <sup>2)</sup>	-
602.96	124, 201	7.0 (7.4 U.S. Qt.)	-	green <sup>3)</sup>	-
603.96	124	7.5 (8.0 U.S. Qt.)	-	black	-
603.96/97	126	7.5 (8.0 U.S. Qt.)	-	-	60316

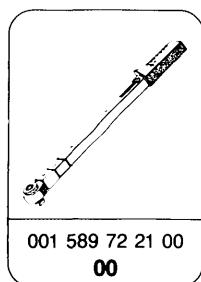
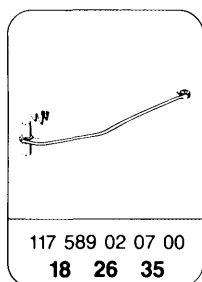
- 1) 1st version - red colored marking  
 2nd version - black colored marking  
 3rd version - brown colored marking  
 2) On engines with exhaust gas recirculation and side part on oil sump  
 3) 1st version black

### Tightening torques

	Nm	
Oil filter cover fastening nuts	25	
Oil drain plug on oil sump	M 12x1,5x13	30
	M 14x1,5x22	25
Return pipe in oil filter cover <sup>1)</sup>	25	

1) Only engine 603 in Model 124

### Special tools



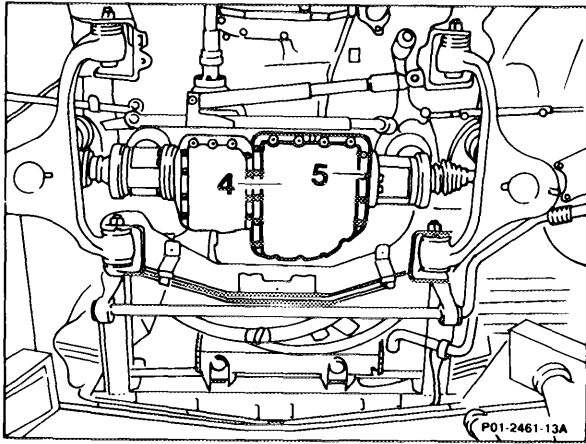
### Commercial tool

Engine oil extractor

e.g. Deutsche Tecalimit  
 Am Metallwerk 11  
 D-4800 Bielefeld

**Note**

On models with air-to-oil cooler (turbo engines) the oil does not need to be drained from the air-to-oil cooler.

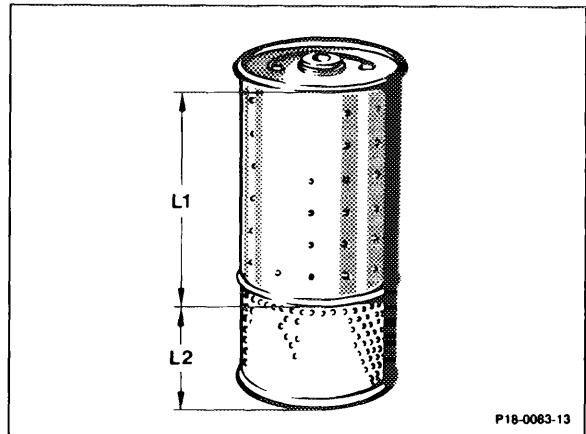


**Caution!**

The filter element and the rubber seal on the oil filter cover must not be confused with that of engines 615, 616 and 617 as these are different in size.

Engine 602, 603	
Size L1	113 mm
L2	49 mm

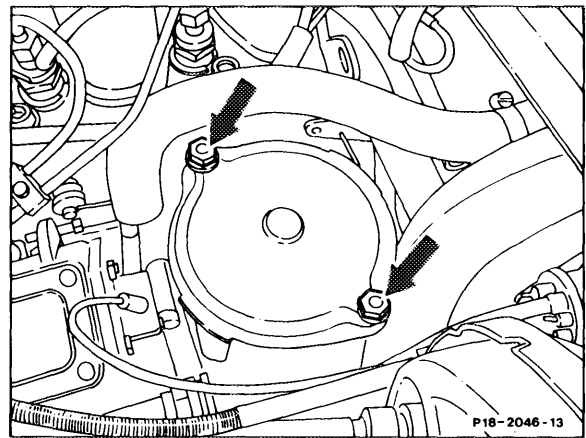
Engine 615, 616, 617	
Size L1	131 mm
L2	55 mm



**Caution!**

Change engine oil only when engine at normal operating temperature.

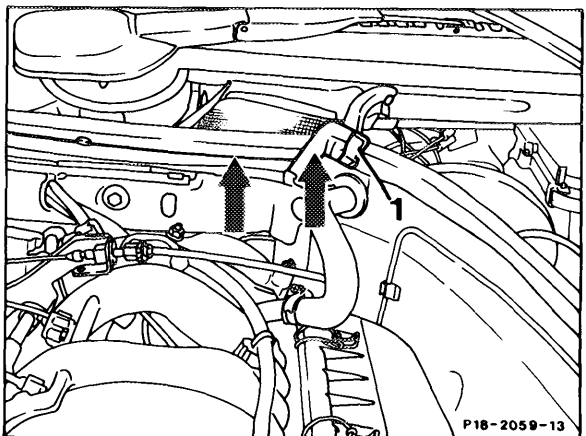
- 1 Empty oil filter before extracting or draining the engine oil. This is done by unscrewing the nuts (arrows) and taking off the cover.



For reasons of space, when performing this step on engine 603 in Model 124 (up to 01/86), detach rubber gasket or sealing strip on the component partition wall in the manner described below, and pull up slightly.

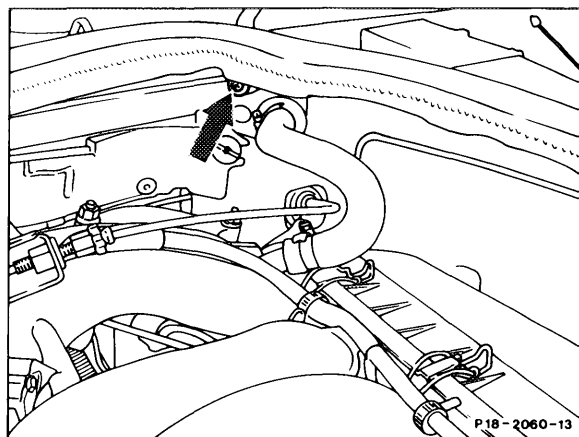
**Divided rubber gasket**

Pull off retaining clip (1).



### One-piece rubber gasket

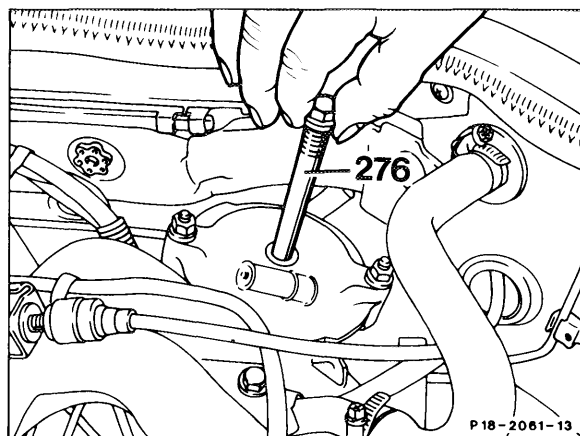
Remove screw (arrow).



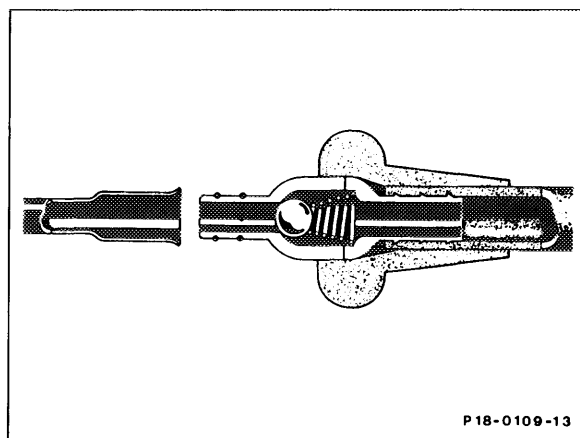
### 2-part oil filter cover

(effective 02/86, engine 603 in model 124)

Unscrew return pipe (276) and take off. Unscrew oil filter cover fastening nuts and take off cover.



2 Extract engine oil through the dipstick guide tube when the engine is at normal operating temperature.



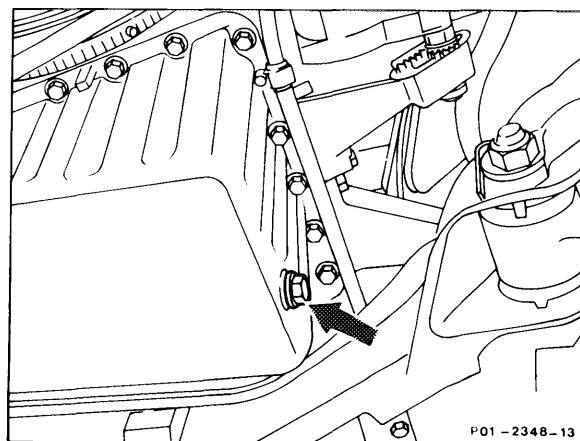
If no extractor is available:

3 Remove engine compartment cover below (01-006).

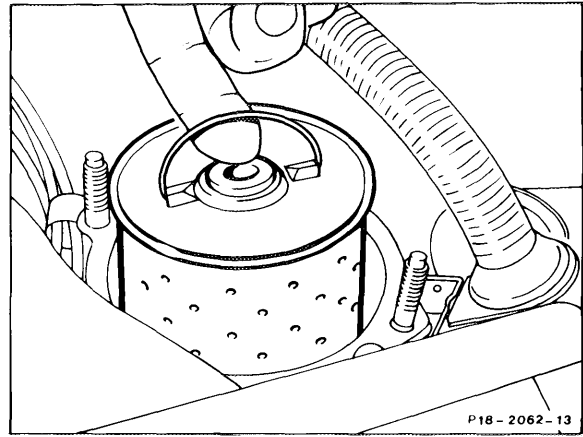
4 Drain engine oil out of sump (arrow).

### Note

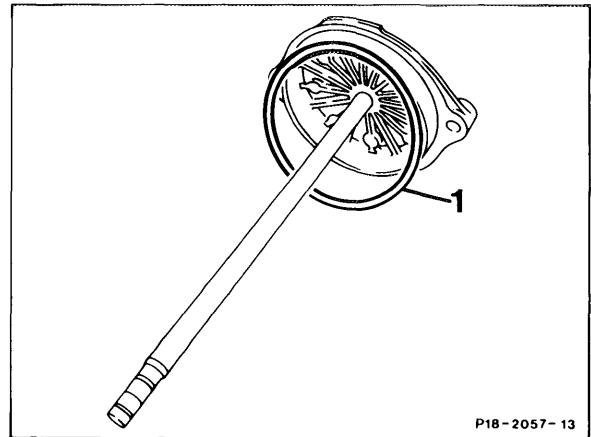
The oil in the air-to-oil cooler does not need to be drained.



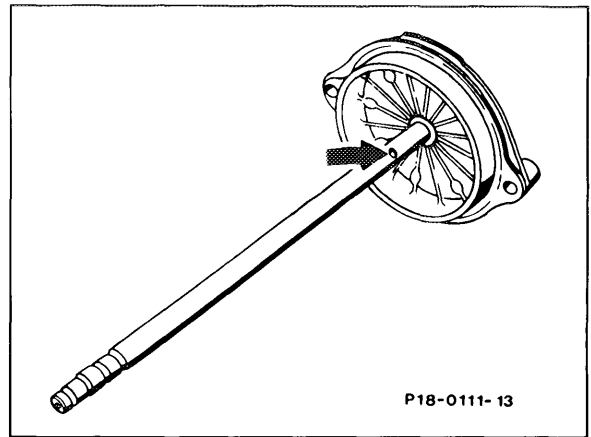
5 Replace filter element.



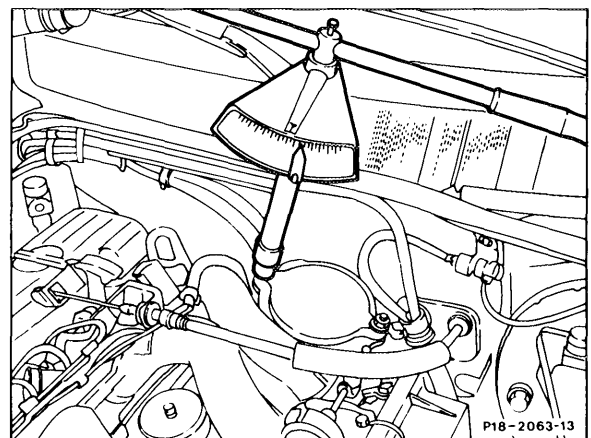
6 Replace rubber seal (1) on the cover.



7 Examine restriction opening on oil pipe for foreign bodies (arrow). If it is blocked, remove foreign bodies by hand. Following this, blow compressed air into restriction opening. Air must be felt to escape at the bottom of the oil pipe. If the restriction opening is not clear or if no air flows out, replace oil filter cover together with oil pipe.



8 Tighten nuts and return pipe to 25 Nm.



9 If the oil has been drained from the sump, replace sealing ring of oil drain plug.

10 Tighten oil drain plug to 30 or 25 Nm, respectively.

11 Add engine oil.

12 Run engine and examine for signs of leaks.

13 Check oil level approx. 2 minutes after turning off engine at normal operating temperature.

14 Install engine compartment covering (01-006).

