




















ENGINE 113 (except 113.942 /990 /992)

	Remove/install/replace		
 Danger!	Hazardous if vehicle slips or tilts off the lifting platform	Align vehicle between lifting platform posts and position the four mounting plates on the lifting support strongpoint as instructed by the automotive manufacturer.	AS00.00-Z-0010-01A
 Danger!	Risk of accident from vehicle starting off when engine is running. Injury hazard from bruises and burns when meshing during starting procedure or when engine is running	Secure vehicle to prevent it from moving off by itself. Wear closed and close-fitting work clothes. Do not grasp hot or rotating parts.	AS00.00-Z-0005-01A
	Change engine oil only when engine at normal operating temperature		
1	Replace oil filter element, drain oil filter	  Socket wrench bit	AP18.00-P-0101-06EF *BA18.20-P-1001-01D *103589020900
2.1	Extract engine oil		AP18.00-P-0101-02Z *WH58.30-Z-1007-16A
2.2	Detach lower engine compartment paneling	 Only necessary if engine oil is drained by unscrewing oil drain plug.  Model 211: Remove only rear part. Model 129, 202, 208, 210 Model 209 Model 211 Model 220 Model 230	AR61.20-P-1105AB AR61.20-P-1105P AR61.20-P-1105T AR61.20-P-1105M AR61.20-P-1105R
3	Unscrew oil drain plug, drain engine oil	 Box wrench  Only necessary if engine oil is drained by unscrewing oil drain plug.	*117589020700
4	Screw in oil drain plug	 Only necessary after draining engine oil by unscrewing oil drain plug.  Replace sealing ring. 	*BA01.45-P-1003-01B
5	Pour in engine oil	 Dipstick marking When inserting engine oil according to Specifications for Service products, sheet 229.5 and When installing a modified oil filter (available as from September 2002), the oil change interval can be extended - On vehicles without ASSYST or ASSYST PLUS from 15,000 km to 20,000 km. - On vehicles with ASSYST or ASSYST PLUS the extension by the factor 1.3 must be stored using STAR DIAGNOSIS after each oil change. If this is not done, the shorter oil change interval will be stored automatically. Refer to: STAR DIAGNOSIS Note SAE specified and approved quality grades and viscosity classes for sustained outside temperatures.	*BF18.00-P-1001-01H *BE18.00-P-1001-02C BB00.40-P-0229-05A
 BB	Extend oil change interval Engine oil viscosity grades		BB00.40-P-0224-01A
 BB			
6	Run engine and inspect for leaks		
7	Switch off engine		
8	Install lower engine compartment paneling.	 Only necessary after draining engine oil by unscrewing oil drain plug. Model 129, 202, 208, 210 Model 209 Model 220 Model 211 Model 230	AR61.20-P-1105AB AR61.20-P-1105P AR61.20-P-1105M AR61.20-P-1105T AR61.20-P-1105R
 AR			

9.1	Wait about 5 minutes after switching off the warm engine before inspecting engine oil level, adjust to correct level if necessary	All except Model 211, 230 ⓘ Vehicle must be horizontal and standing on its wheels. ⓘ Insert dipstick fully and leave in this position for at least 3 seconds.	*BE18.00-P-1001-02C
9.2	Wait about 5 minutes after switching off the warm engine before inspecting engine oil level, adjust to correct level if necessary	Model 211, 230 ⓘ Vehicle must be horizontal and standing on its wheels. ⓘ Retrieve engine oil level in multifunction display. Refer to: ~ Operating instructions	

Test values for engine lubrication - general

Number	Designation	Engine 113.940/ 941/942/943/ 960/961	Engine 113.962	Engine 113.944/ 980/981/984/986
BE18.00-P-1001-02C	Dipstick marking Number on grip	11300	11309	11304

Oil pan

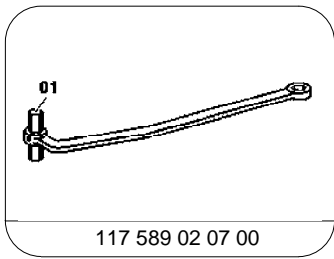
Number	Designation	Engine 112, 113
BA01.45-P-1003-01B	Oil drain plug to oil pan M14	NM 30

Oil filter

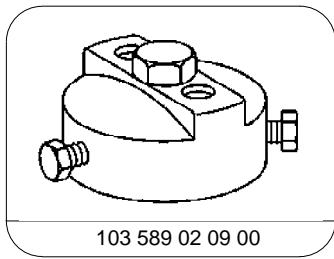
Number	Designation	Engine 112/ 113.940/ 941/ 942/ 943/ 944/ 945 / 946/ 948/ 960 / 961/ 962/ 963 / 965/ 966/ 967 / 968/ 980/ 981 / 982/ 984/ 986	Engine 113.987	Engine 113.990/ 991
BA18.20-P-1001-01D	Screw cap at oil filter NM	25	25	25

Engine lubrication

Number	Designation	Engine 112, 113.940/941/942/ 943/960/961/ 962/967/982	Engine 113.944/ 980/981/984/986	Engine 113.963/ 965
BF18.00-P-1001-01H	Engine oil	Filling capacity with oil filter Liters	8,0	7,5
		Filling capacity without oil filter Liters	-	7,5
		Specifications for service products Sheet	BB00.40-P-0229-01A	BB00.40-P-0229-01A



Box wrench



Socket wrench bit

Commercially available tools (see Workshop Equipment Manual)

Number	Designation	Make (e.g.) g.)	Order number
WH58.30-Z-1007-16A	Engine oil extractor	Deutsche Tecalemit Am Metallwerk 11 33659 Bielefeld	1.386950.2