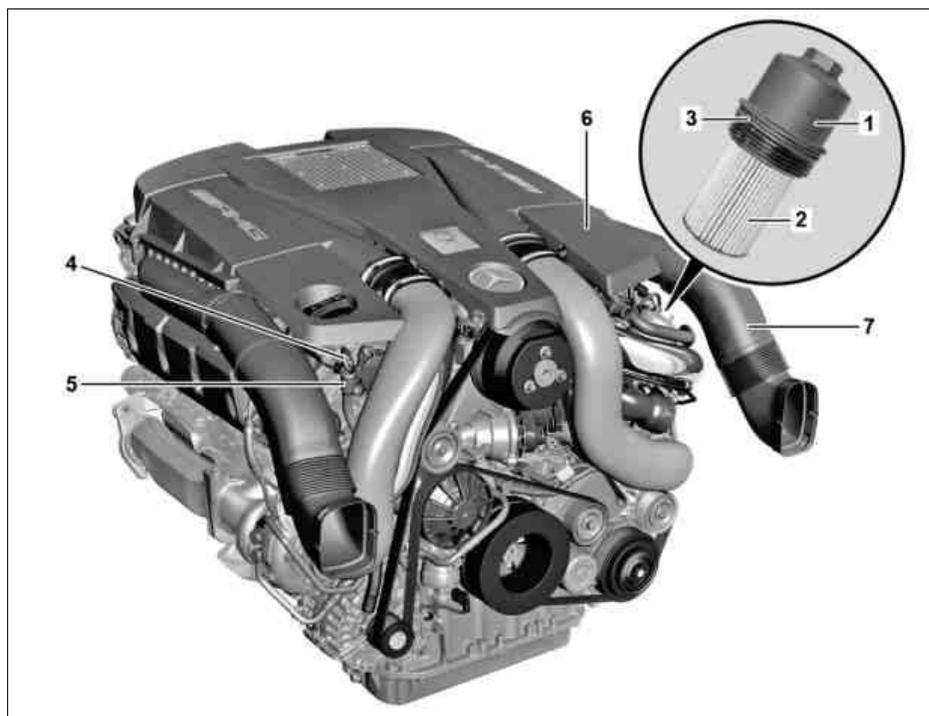


Engine 157 in model 166, 212, 216, 217, 218, 221, 222, 231, 292

Modification notes

22.02.2016	Add engine oil.	Only approved engine oils as per SAE 0W-40 or 5W-40 may be used.	
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- 1 Oil filter screw-on cover
- 2 Oil filter element
- 3 Sealing ring
- 4 Oil dipstick
- 5 Oil measuring pipe
- 6 Left front engine cover
- 7 Left engine suction air duct



P18.00-2361-06

Caution	Risk of injury to skin and eyes due to handling of engine oil. Risk of poisoning caused by swallowing engine oil	Wear protective gloves, protective clothing and safety glasses. Do not fill engine oil into beverage containers.	AS18.00-Z-0001-01A
Warning	Risk of accident from vehicle starting off by itself when engine running. Risk of injury (bruises and burns) resulting from working on the engine while it is being started or when it is running.	Secure vehicle to prevent it from starting off by itself. Wear closed and snug-fitting work clothes. Do not touch hot or rotating parts.	AS00.00-Z-0005-01A
	Risk of death caused by vehicle slipping or toppling off of the lifting platform.	Align vehicle between vehicle lift columns and position the four support plates at the vehicle lift support points specified by the vehicle manufacturer.	AS00.00-Z-0010-01A
	Notes on engine oil and filter changes		AH18.00-P-0104-01A
	Remove		
1	Allow engine to warm up	Coolant temperature at least 80 °C.	
2.1	Remove left front engine cover (6)	Depending on the model series involved, either the left front engine cover (6) or the left engine air intake duct (7) has to be removed so to gain access to the oil filter cap_(1).	
2.2	Remove left engine air intake duct (7)	Depending on the model series involved, either the left front engine cover (6) or the left engine air intake duct (7) has to be removed so to gain access to the oil filter cap_(1).	

3	Remove oil filter threaded cap (1)	 Unscrew oil filter threaded cap (1), depending on version, using  socket, and lift only far enough out of oil filter housing so that the engine oil can drain out of the oil filter and the oil filter housing.  Socket wrench bit	*642589000900
4.1     	Detach lower engine compartment paneling	MODEL 212, 216, 217, 218, 221, 222, 231 MODEL 212, 218 MODEL 216, MODEL 221 except CODE Z07 (Top protection) Model 217, 222 MODEL 221.1 with CODE Z07 (Highest protection) Model 231	AR61.20-P-1105EW AR61.20-P-1105SX AR61.20-P-1105LF AR61.20-P-1105SXS AR61.20-P-1105RK
4.2 	Remove front underfloor paneling	Model 166, 292 Model 166, 292	AR61.30-P-1001GQ
5	Remove drain screw and drain engine oil	 For a plastic oil pan bottom section, dispose of the drain screw.	
	Install		
6	Replace sealing ring of drain screw	Except plastic oil pan bottom section.	
7.1	Screw in drain plug	Except plastic oil pan bottom section.  Drain plug at oil pan/oil pan bottom section	*BA01.45-P-1007-01E
7.2	Screw in new drain screw with sealing ring	For plastic oil pan bottom section.  Drain plug at oil pan/oil pan bottom section	*BA01.45-P-1007-01E
8.1     	Install lower engine compartment paneling.	MODEL 212, 216, 217, 218, 221, 222, 231 MODEL 212, 218 MODEL 216, MODEL 221 except CODE Z07 (Top protection) Model 217, 222 MODEL 221.1 with CODE Z07 (Highest protection) Model 231	AR61.20-P-1105EW AR61.20-P-1105SX AR61.20-P-1105LF AR61.20-P-1105SXS AR61.20-P-1105RK
8.2 	Install underfloor paneling in front	Model 166, 292 Model 166, 292	AR61.30-P-1001GQ
9	Remove oil filter threaded cap (1)		
10	Replace oil filter element (2)		
11	Replace sealing ring (3)		
12	Install oil filter threaded cap (1)	 Unscrew the oil filter threaded cap (1) (depending on the version) using  socket.  Mount, oil filter housing cover  Socket wrench bit	*BA18.20-P-1001-01Z *642589000900
13	Pour in engine oil	 Only use approved engine oils as per SAE 0W-40 or 5W-40. Engine damage can occur otherwise.  Engine oil	*BF18.00-P-1001-01V
	Check		
14	Run engine until it is at operating temperature, and check for leaktightness	 Coolant temperature at least 80 °C. In the event of leakage: ↓ Determine and rectify cause, subject to separate repair order.	
15	Turn off engine		
16	Pull oil dipstick (4) out of oil measuring pipe (5) and wipe with a lint-free cloth	 The oil dipstick (4) and oil measuring pipe (5) can be at the front or rear of the engine (depending on the model series).	
17	Check engine oil level using oil dipstick (4); correct if necessary	 Insert oil dipstick (4) into the oil measuring pipe (5) until the end stop and hold in for a duration of at least 3 seconds.	AP18.00-P-1811MP
	Install		
18.1	Install left front engine cover (6)	If the left front engine cover (6) was removed.	
18.2	Install left engine air intake duct_(7)	If the left engine air intake duct (7) was removed.	

Nm Oil pan

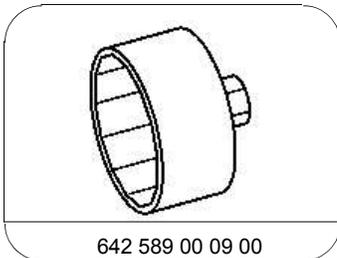
Number	Designation				Engine 157
BA01.45-P-1007-01E	Drain plug at oil pan/oil pan bottom section	Metal	M12	Nm	20
			M14	Nm	30
		Plastic		Nm	4

Nm Oil filter

Number	Designation		Engine 157
BA18.20-P-1001-01Z	Mount, oil filter housing cover	Nm	25

Engine lubrication system

Number	Designation			Engine 157 in model 166, 212, 216, 217, 218, 221, 222, 231, 292 Engine 157 in model 463
BF18.00-P-1001-01V	Engine oil	Filling capacity (oil and filter change)	Liter	8,5
		Sheet		BB00.40-P-0229-05A
		Sheet		-
		Sheet		-



642 589 00 09 00

Socket wrench bit