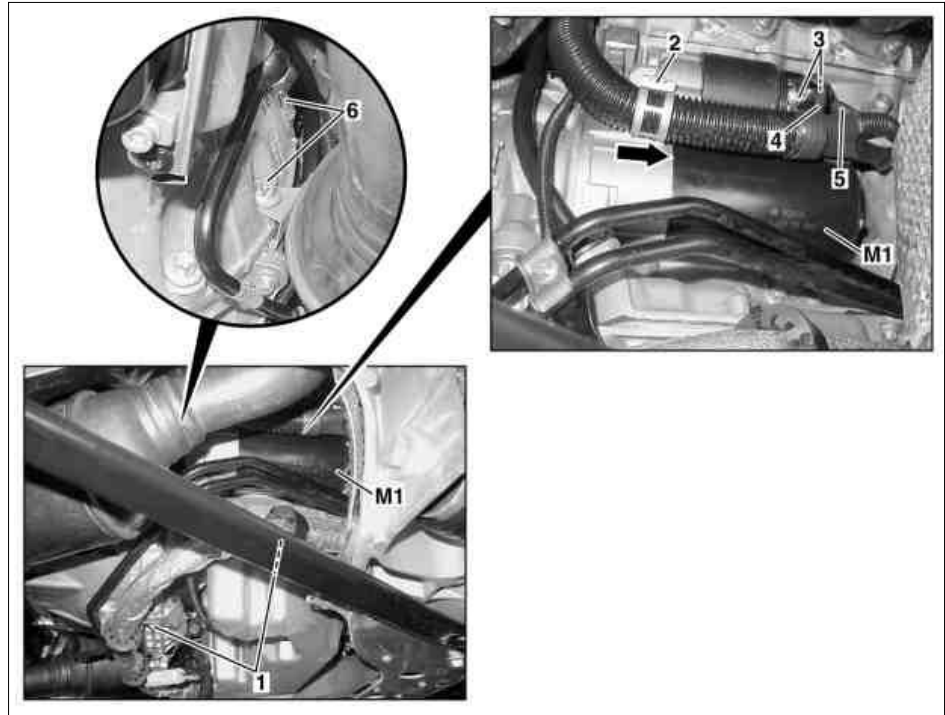**ENGINE**   113.963 in MODEL 230.475
ENGINE   113.992 in MODEL 230.474
ENGINE   113.990 in MODEL 211.076 /276
ENGINE   113.991 in MODEL 215.374, 220.074 /174
ENGINE   112.973 in MODEL 230.467
ENGINE   113.995 in MODEL 230.472

1   Bolts
2   Clamp
3   Nuts
4   Electric cable circuit 50
5   Electric line circuit 30
6   Bolts

M1   Starter

P15.30-2070-06

Modification notes

3.9.03	Check ring gear - added	Step 10	

	Remove/install		
⚠ **Danger!**	**Risk of death** caused by vehicle slipping or toppling off the lifting platform.	Align vehicle between columns of vehicle lift and position four support plates at vehicle lift support points specified by vehicle manufacturer.	AS00.00-Z-0010-01A
⚠ **Danger!**	**Risk of explosion** caused by escaping oxyhydrogen gas. **Risk of injury** caused by caustic burns to eyes, skin and mucous membranes from battery electrolyte (contains diluted sulfuric acid) or metal spatter due to short circuit. **Risk of burn injuries** caused by short circuit. **Risk of poisoning** caused by swallowing battery electrolyte (contains diluted sulfuric acid) or absorption of lead over the skin or orifices	No fire, sparks, open flames or smoking. Wear acid-resistant gloves and clothing and safety glasses with side guards. Do not place any conductive objects on the battery and avoid any short circuit from battery positive to ground. Only fill liquid battery electrolyte (diluted sulfuric acid) into suitable and appropriately marked containers.	AS54.10-Z-0001-01A
ⓘ	Notes on self-locking nuts and bolts		AH00.00-N-0001-01A
1	Turn key in electronic ignition lock EIS into position "0".	ⓘ Key cannot be withdrawn. ⓘ Vehicles with Keyless-Go code 889: Remove Keyless-Go cards from the vehicle and store outside of the transmitter range.	
2	Remove ground line(s) from battery (batteries)	ⓘ Do not connect a quiescent current retention device. Risk of short circuit!	
ⓘ	Notes on battery		AH54.10-P-0001-01A
		ⓘ Model 230: Detach starter and on-board electrical system battery. Model 211.076	AR54.10-P-0003T

		Model 211.276	AR54.10-P-0003TA
		Model 215, 220	AR54.10-P-0003I
		Model 230	AR54.10-P-0003R
3	Remove engine compartment paneling	Model 211	AR61.20-P-1105T
		Model 215, 220	AR61.20-P-1105M
		Model 230	AR61.20-P-1105R
4	Remove bolts (1) at bracket of hydraulic line		
5	Press off clamp (2) in direction of arrow		
6.1	Remove right engine mount	Model 211.076 / 276 ⓘ Remove he bolts on engine mount, lift the engine slightly and place the engine mount aside. Engine mount cannot be removed completely, otherwise the exhaust system must also be removed.	AR22.10-P-1100PV
7	Unscrew nuts (3)	ⓘ Remove electrical line circuit. 50 (4) and electrical line circuit. 30 (5). [Nm] [Nm]	*BA15.30-P-1001-01A *BA15.30-P-1002-01A
8	Remove bolts (6)	[Nm]	*BA15.30-P-1003-01A
9	Remove starter (M1) from below		
10.1	Check ring gear at flywheel for wear and damage	When replacing the starter on vehicles fitted with manual transmission ⓘ Rotate engine at crankshaft in direction of rotation.	
10.2	Check ring gear on drive plate for wear and damage	When replacing starter on vehicles fitted with automatic transmission ⓘ Rotate engine at crankshaft in direction of rotation.	
11	Install in the reverse order		
12	Carry out function check		
13	Render electrical system operational	See: ↓ Carry out basic programming: Model 211 Model 215, 220 Model 230	AR00.19-P-0200T AR00.19-P-0200M AR00.19-P-0200R
14 ☞AD	Read out fault memory and erase if necessary Connect STAR DIAGNOSIS and read out fault memory	STAR DIAGNOSIS circuit system	AD00.00-P-2000-04A

[Nm] **Starter**

Number	Designation		Engine 113.963 in model 230	Engine 113.992/ 995 in model 230	Engine 113.990/ 991/993	Engine 112 except 112.951, 113.94/ 96/98
BA15.30-P-1001-01A	Nut, connection for circuit 30	Nm	14	14	14	14
BA15.30-P-1002-01A	Nut, connection for circuit 50	Nm	6	6	6	6
BA15.30-P-1003-01A	Bolt connecting starter to crankcase	Nm	40	40	40	42