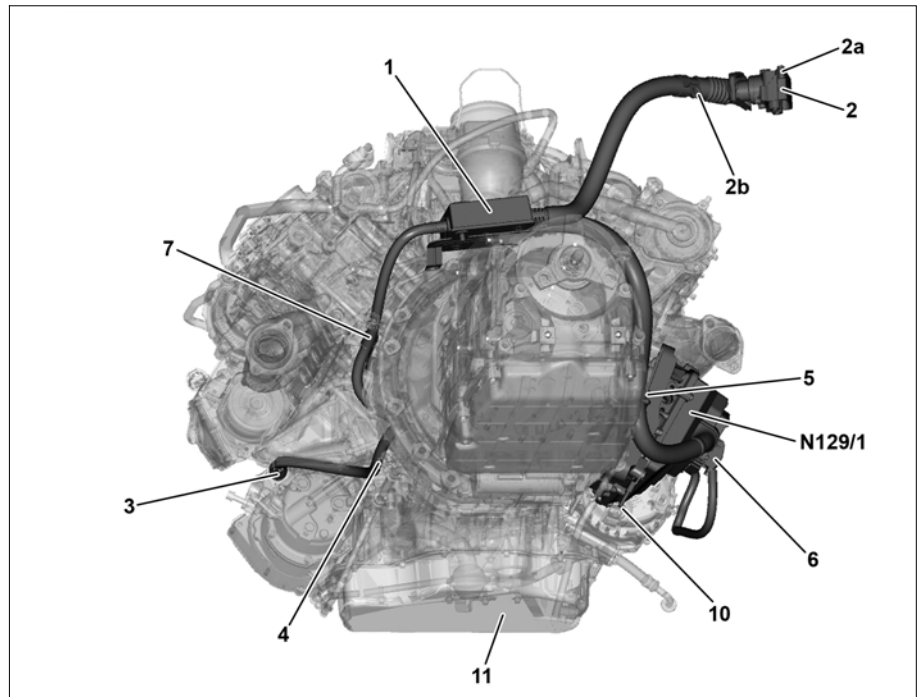


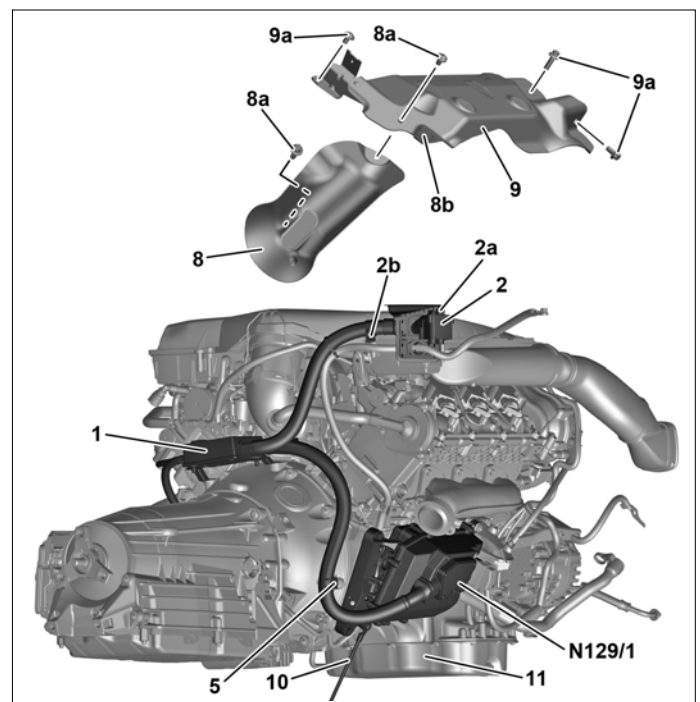
Engine 272.974 in model 221.095/195

- 1 Power distributor
- 2 High-voltage battery connection
- 2a Screw/bolt
- 2b Bracket
- 3 Electrical connection for A/C compressor
- 4 Retaining clamp
- 5 Retaining clamp
- 6 Electrical connection
- 7 Retaining clamp
- 10 Ground line
- 11 Oil pan
- N129/1 Power electronics control unit



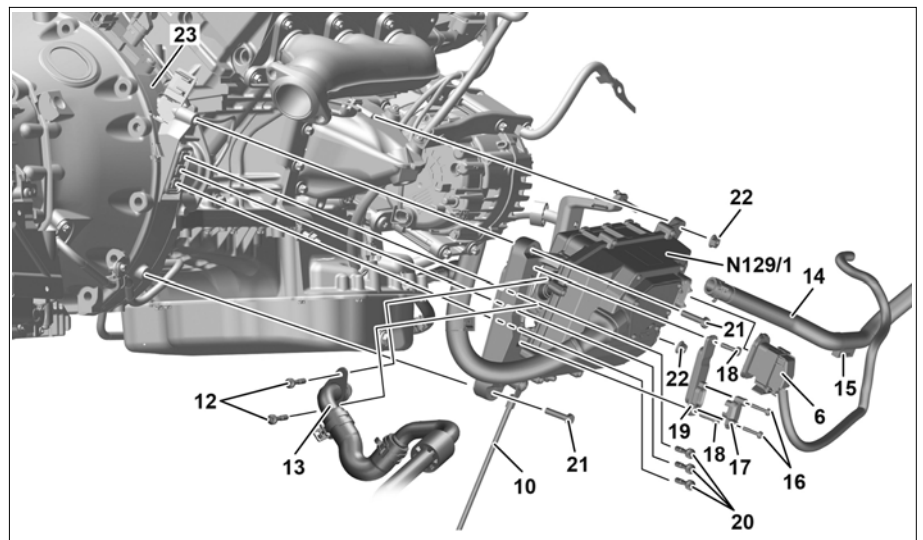
P08.10-2029-06

- 1 Power distributor
- 2 High-voltage battery connection
- 2a Screw/bolt
- 2b Bracket
- 5 Retaining clamp
- 8 Heat shield
- 8a Screw/bolts
- 8b Retaining clamp
- 9 Heat shield
- 9a Screw/bolts
- 10 Ground line
- 11 Oil pan
- N129/1 Power electronics control unit







P08.10-2030-12

- 6 Electrical connection
- 10 Ground line
- 12 Screw/bolts
- 13 Coolant line
- 14 Front coolant line
- 15 Bracket
- 16 Screw/bolts
- 17 Cover for interlock circuit
- 18 Screw/bolts
- 19 Cover for 3-phase line
- 20 Screw/bolts for 3-phase line
- 21 Screw/bolts
- 22 Nuts
- 23 Intermediate housing
- N129/1 Power electronics control unit



P08.10-2031-05

	Risk of death when touching components on vehicles with high-voltage on-board electrical system	Do not touch damaged or defective live component parts and lines or non-insulated electrical connections and lines. People who have electronic implants (e.g. cardiac pacemakers) must not perform work on these component parts and systems.	AS54.00-Z-0001-01A
	Note on high-voltage on-board electrical system		AH54.00-P-0010-01A
	Information on preventing damage to electronic components due to electrostatic discharge		AH54.00-P-0001-01A
	Evaluation of high-voltage components		AH54.00-P-6500-01SXH
	Remove/install		
1	Perform enable for the high voltage on-board electrical system		AR54.10-P-1150SXH
2	Remove air filter housing		AR09.10-P-1150SX
3	Remove bracket (2b) for electrical line from high-voltage battery module to power distributor (1) from the bulkhead		
4	Remove screw/bolt (2a), remove high-voltage battery connector (2) from high-voltage battery module and detach	<p> Installation: Attach connector of electrical line vertically and centered on the high-voltage battery module and carefully screw in screw/bolt (2a). Always observe tightening torque for screw/bolt (2s). Damage will occur otherwise to the electrical line and high-voltage battery module.</p> <p> Close off connection fitting with protective cover. Only use new or clean protective covers to cover the electrical connections.</p> <p> Bolt, high-voltage connector to high-voltage battery</p> <p> Set of protective covers</p>	<p>*BA54.10-P-1036-01C</p> <p>*001589019100</p>
5	Lay electrical line of high-voltage battery module onto transmission		
6	Remove electrical connection for A/C compressor (3) of electrical line on electrical A/C compressor		
7	Remove power distributor (1) from transmission	<p> Bolt, power electronics to intermediate housing</p> <p> Bolt, automatic transmission to engine</p>	<p>*BA08.20-P-1001-01A</p> <p>*BA27.40-P-1008-01A</p>
8	Remove right catalytic converter		AR49.10-P-7100SX
9	Remove screws/bolts (8a) and remove heat shield (8) under the right catalytic converter	<p> Installation: Check that heat shield (8) is seated correctly in the retaining clamp (8b). Check retaining clamp (8b) for damage.</p> <p style="text-align: center;">↓</p> <p>and replace if necessary.</p>	
10	Unclip electrical wiring harness for alternator at heat shield (9)		

11	N129 Remove screws/bolts (9a) and remove heat shield (9) between exhaust manifold and power electronics control unit (/1) together with bracket		
12	Drain off coolant		AR20.00-P-1142SX
13	Remove front coolant line (14) from power electronics control unit (N129/1), unclip out of lower bracket (15) on alternator and set aside		
14	Remove screws/bolts (12) and remove coolant line (13) with pipe socket from power electronics control unit (N129/1)	<p>i Installation: Replace pipe socket with sealing rings.</p> <p>Nm Bolt, coolant connection fitting to power electronics</p>	*BA08.20-P-1005-01A
15	Remove coolant line (13) from DC/DC converter		
16	Remove retaining clamp for coolant line (13) from front axle carrier and remove coolant line (13)		
17	Remove screw/bolts (16) and remove cap for interlock circuit (17) from power electronics control unit (N129/1)	Nm Bolt, interlock circuit to cover for the 3-phase line	*BA08.20-P-1007-01A
	Check		
18	Check sealing ring and cover of interlock circuit (17) for deformation and damage and replace cover of interlock circuit (17) if necessary (contains an O-ring), added		
19	Remove screw/bolts (18) and remove cap for 3-phase line (19) from power electronics control unit (N129/1)	Nm Bolt, cover for 3-phase line to power electronics	*BA08.20-P-1008-01A
	Check		
20	Check sealing ring and cover for 3-phase line (19) for deformation and damage and replace cover for 3-phase line (19) if necessary (contains an O-ring)		
21	Remove screw/bolts for 3-phase line (20) and disconnect 3-phase line of power electronics control unit (N129/1) on integrated starter alternator	Nm Bolt, 3-phase line for power electronics to starter-alternator	*BA08.20-P-1006-01A
22	Remove ground line (10) from power electronics control unit (N129/1)	<p>i Installation: Check ground line (10) for correct seating.</p> <p>Nm Bolt, ground line to power electronics</p>	*BA08.20-P-1004-01A
23	Unclip electrical line of electrical A/C compressor from retaining clamp (4) on crankcase, remove retaining clamp (7) from transmission and lay electrical line on transmission	Nm Bolt, automatic transmission to engine	*BA27.40-P-1008-01A
24	Unscrew nuts (22) for power electronics control unit (N129/1) at bracket	Nm Bolt/nut, power electronics on bracket	*BA08.20-P-1002-01A
25	Unclip retaining clamp (5) on bracket and remove bracket from transmission	Nm Bolt, automatic transmission to engine	*BA27.40-P-1008-01A
26	Remove bracket for the alternator wiring harness at engine support		
27	Remove screw/bolts (21) for power electronics control unit (N129/1) at intermediate housing (23)	Nm Bolt, power electronics to intermediate housing	*BA08.20-P-1001-01A
28	Remove power electronics control unit (N129/1) from the front stud bolt and lay on front axle carrier	i Lay the power electronics control unit (N129/1) in such a way that the electrical wiring harness of the power electronics control unit (N129/1) is accessible.	
29	Remove electrical wiring harness of power electronics control unit (N129/1) from oil pan (11) and crankcase	i Installation: Check electrical wiring harness to ensure it is in the correct factory installation position.	
30	Guide power electronics control unit (N129/1) to the rear and detach electrical connection (6) from power electronics control unit (N129/1)	 To remove the electrical connection (6) an assistant must secure the power electronics control unit (N129/1). This can fall down otherwise and get damaged.	
31	Remove power electronics control unit (N129/1) with power distributor (1) and electrical line downward and to the rear	 The electrical lines must not be removed from the power distributor (1) and power electronics control unit (N129/1). Non-compliance leads to destruction of the power electronics control unit (N129/1) with power distributor (1).	

		i In the case of damage to the electrical lines, the power electronics control unit (N129/1) with power distributor (1) must be completely replaced.	
32	Install in the reverse order		
33	Perform initial startup of power electronics control unit (N129/1) using diagnostic system		AD
		i After completing the work, enclose initial startup log together with the power disable event log with the order folder.	AD00.00-P-2000-04A
	Check		
34	Check engine cooling system for leaktightness		AR20.00-P-1010SX
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
35	Carry out an engine test run and check engine for leaktightness and proper operation		

Nm Control units

Number	Designation	Engine 272.974
BA08.20-P-1001-01A	Bolt, power electronics to intermediate housing	Nm 20

Nm Control units

Number	Designation	Engine 272.974
BA08.20-P-1002-01A	Bolt/nut, power electronics on bracket	Nm 20

Nm Control units

Number	Designation	Engine 272.974
BA08.20-P-1004-01A	Bolt, ground line to power electronics	Nm 15

Nm Control units

Number	Designation	Engine 272.974
BA08.20-P-1005-01A	Bolt, coolant connection fitting to power electronics	Nm 5

Nm Control units

Number	Designation	Engine 272.974
BA08.20-P-1006-01A	Bolt, 3-phase line for power electronics to starter-alternator	Nm 9

Nm Control units

Number	Designation	Engine 272.974
BA08.20-P-1007-01A	Bolt, interlock circuit to cover for the 3-phase line	Nm 5

Nm Control units

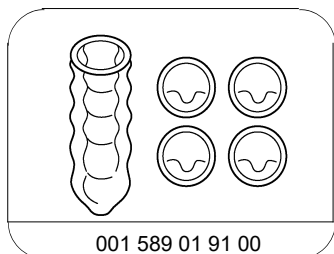
Number	Designation	Engine 272.974
BA08.20-P-1008-01A	Bolt, cover for 3-phase line to power electronics	Nm 9

Nm Housing

Number	Designation	Transmission 722.9		
BA27.40-P-1008-01A	Bolt, automatic transmission to engine	M10×40	Nm	38
		M10×45	Nm	38
		M10×90	Nm	38
		M12	Nm	–

Nm Battery

Number	Designation		Model 221
BA54.10-P-1036-01C	Bolt, high-voltage connector to high-voltage battery	Nm	5,5



001 589 01 91 00

Set of protective covers