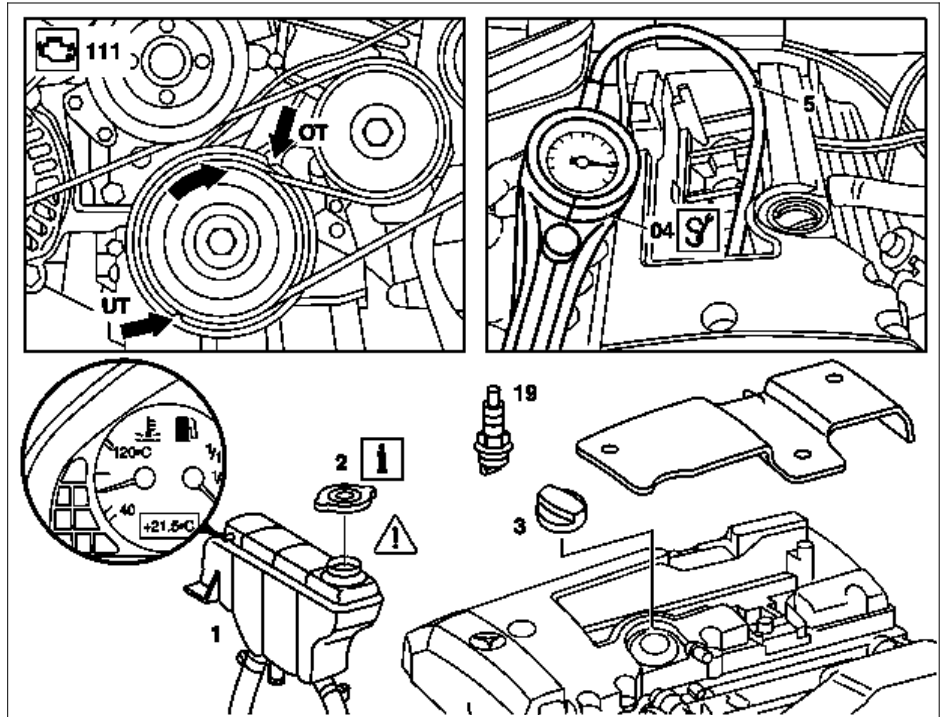


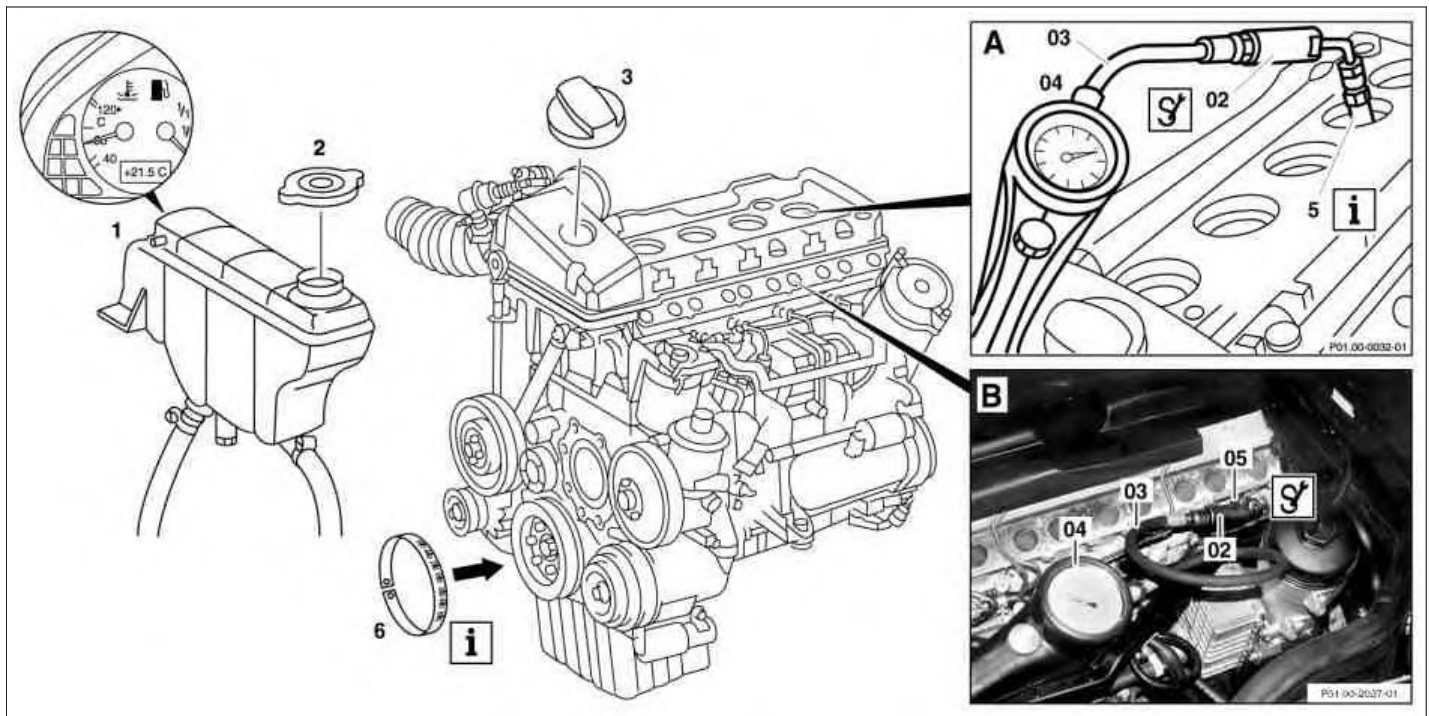
ENGINES 111, 271, 604, 605, 606

Shown on engine 111

- 04 Cylinder leakage tester
 1 Expansion reservoir
 2 Cap
 3 Oil filler cap



P01.00-0224-06



P01.00-2038-09

Shown on engine 604 up to 606

- 02 Elbow
 03 Connecting hose
 04 Cylinder leakage tester
 05 Connector
 1 Expansion reservoir
 2 Cap
 3 Oil filler cap
 6 Scale of degrees (tool which is shop-made)

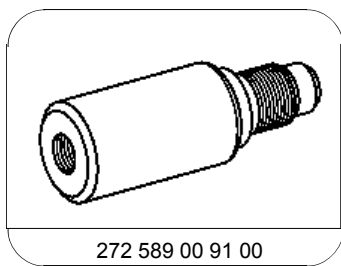
- A Pressure loss through bore for check injection nozzle
 B Pressure loss through bore for check glow plug

	Remove/install		
	On engine 604 to 606 the pressure loss can be checked through bore for injection nozzle or glow plug		
1	Warm up engine to normal operating temperature (approx. 80°C) and switch off engine		
2	Open engine hood		
Danger!	Risk of injury to skin and eyes caused by scalding from contact with hot coolant spray. Risk of poisoning caused by swallowing coolant.	Do not open cooling system unless coolant temperature is below 90°C. Open cap slowly and release the overpressure. Do not pour coolant into beverage containers. Wear protective gloves, protective clothing and safety glasses.	AS20.00-Z-0001-01A
3	Unscrew the cap (2) on the expansion reservoir or on radiator	Cap with notch: Rotate cap anti-clockwise to detent 1, release pressure relief, then continue turning cap to detent 2. 2-stage cap: rotate 2-stage cap half a revolution counterclockwise, release overpressure, then unscrew cap.	
4.1 AP AP AP AP AP	Remove spark plugs Replace spark plugs	Engine 111.920 /921 /940 /941 /942 /943 /944 /945 /946 /947 /952 /956 /957 /958 /960 /961 /970 /973 /974 /975 /977 /982 /983 ENGINE 111.951/ 955/ 981 Engine 271.921 /940 /941 /942 /946 /948 /955 /956 Engine 271.950 Engine 271.944	AP15.10-P-1580CA AP15.10-P-1580PR AP15.10-P-1580P AP15.10-P-1580CW AP15.10-P-1580V
4.2	Remove injection nozzles	Engines 604, 605, 606, when testing injection nozzle through bore (A) Engine 605.911/ 962 Engine 604, 605 except 605.911 /962, 606	AR07.03-P-6830H
4.3	Remove glow plugs	Engines 604, 605, 606, when testing glow plug through bore (B) Engine 605.911 Engine 606.910 Engine 604, 605 except 605.911, 606 except 606.910	AR15.20-P-4111H
5 WF	Fix scale of degrees (6) at vibration damper Scale of degrees for vibration damper	Engine 604, 605, 606 Hook up scale of degrees on pin of vibration damper.	WF58.50-P-0330-03A
6	Position piston for cylinder to be tested at ignition TDC	Rotate engine at crankshaft. Piston in top dead center on marking number at vibration damper of: Engine 604 top dead center cylinder 1 and 4, 180° cylinder 2 and 3 Engine 605 Top dead center of cylinder 1, 72° cylinder 2, 144° cylinder 4, 216° cylinder 5, 288° cylinder 3 Engine 606 Top dead center of cylinders 1 and 6 120° cylinder 2 and 4 240° cylinder 3 and 5	
7	Connect cylinder leakage tester (04)	Calibrate cylinder leakage tester (04) and screw connecting hose into spark plug bore. Engine 111 Engine 271 Engines 604, 605, 606 Cylinder leakage tester (pressure loss) gotis://A_01_04.0 	AR01.00-P-1300-01VA AR01.00-P-1300-01HA *272589009100

		☞ ☞	*604589006300 *602589006300 *602589002500
☐	Checking		
8	Pressurize cylinder with compressed air and read off pressure loss on cylinder leakage tester (04)	<p>☐ Determine cause if a high pressure loss exists.</p> <p>Cylinder leakage: permissible loss total indication</p> <p>Cylinder leakage: permissible losses at valves and cylinder head gasket</p> <p>Cylinder leakage: permissible losses at pistons and piston rings</p> <p>☐ If the crankshaft turns: ↓ Install retaining lock for crankshaft: Engine 111 except 111.951 /955 /981 engine 604, 605, 606 Engine 111.981 Engine 111.951 /955 engine 271 except 271.944 /950 /952 Engine 271.950 /952 Engine 271.944</p>	<p>*BE01.00-P-1001-02Z</p> <p>*BE01.00-P-1002-02Z</p> <p>*BE01.00-P-1003-02Z</p> <p>AR03.30-P-5000HA</p> <p>AR03.30-P-5000PR</p> <p>AR03.30-P-5000CW AR03.30-P-5000V</p>
9	Test other cylinders according to engine firing order	Firing order	AR01.00-P-1300-03HA
10	Install in the reverse order		

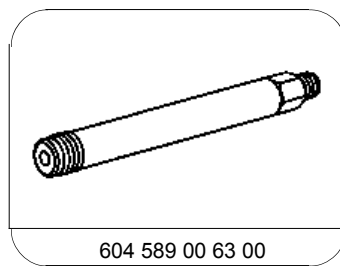
Cylinder leakage

Number	Designation	All engines
BE01.00-P-1001-02Z	Cylinder leakage: permissible loss total indication	% ≤25
BE01.00-P-1002-02Z	Cylinder leakage: permissible losses at valves and cylinder head gasket	% ≤10
BE01.00-P-1003-02Z	Cylinder leakage: permissible losses at pistons and piston rings	% ≤20



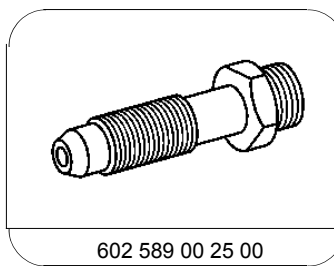
272 589 00 91 00

Threaded adapter



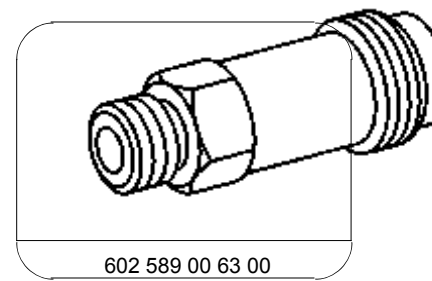
604 589 00 63 00

Connector



602 589 00 25 00

Adapter



602 589 00 63 00

Connector