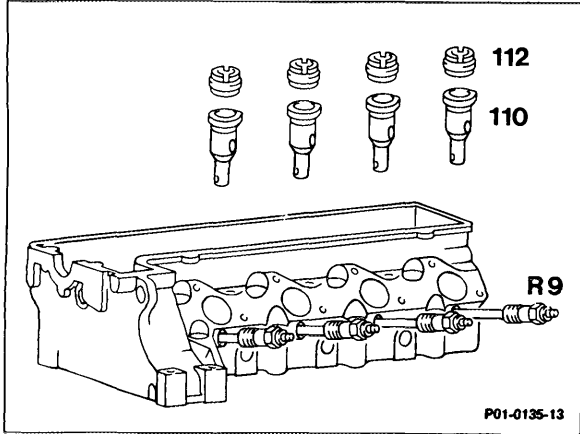


01-417 Removal and installation of prechambers

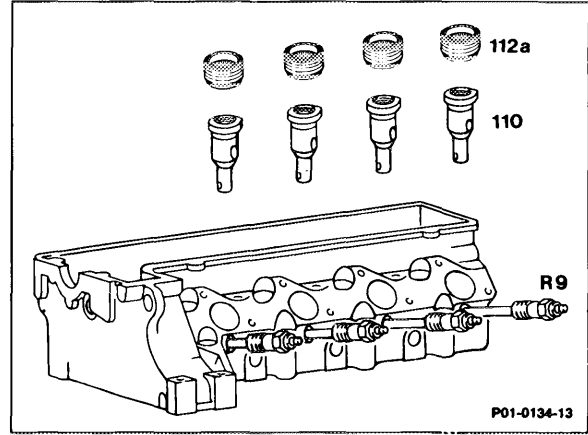
Preliminary operations:

Mount for engine control removed (30-300).

Nozzle holders removed (07.1-230).



Vertical injection
(example engine 601)



Angular injection
(example engine 601)

Glow plugs (R9) remove, reinstall, 20 + 2 Nm (item 1).

Vertical injection:

Threaded ring (112) remove, reinstall, 90 - 110 Nm, pin wrench 615 589 00 07 00 (item 2).

⚠ Warning

When screwing in or out assure that the pin wrench is seated in the grooves in the threaded ring.

Angular injection:

Threaded ring (112a) remove, reinstall, 70 Nm, splined wrench
603 589 00 09 00 (item 3).

Prechamber (110) knock out, install, impact puller
602 589 00 33 00 and check (items 4, 6).

Note

Install prechamber so that the lug on the collar of the prechamber is located in the recess in the cylinder head.

Prechamber mounting bore in cylinder head, clean, check and cover
(item 5).

Note

Refinish prechamber sealing surface if required (01-410).

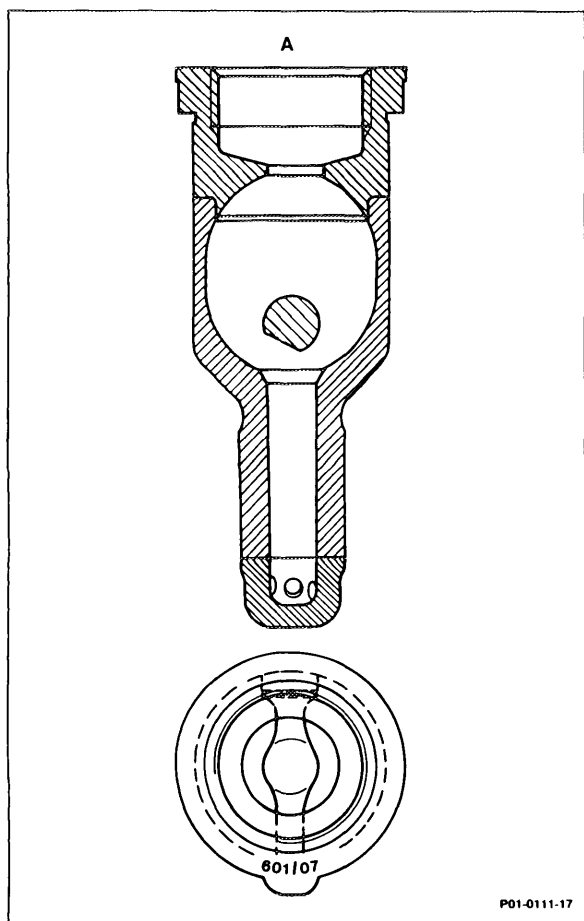
Prechamber survey

Engine	602.91 ¹⁾	603.96 up to 09/88	602.91 ²⁾ 603.91 ²⁾ starting 09/88	602.961 starting 09/88 602.962 Standard	603.962 ²⁾ 603.970 ²⁾ starting 09/88
Code	601/07 or 17	601/09 or 23	601/25	601/26	601/30
Version	A ¹⁾	A ¹⁾	C ²⁾	C ²⁾	C ²⁾
Combustion neck OD (mm)	14	15	14	15	15

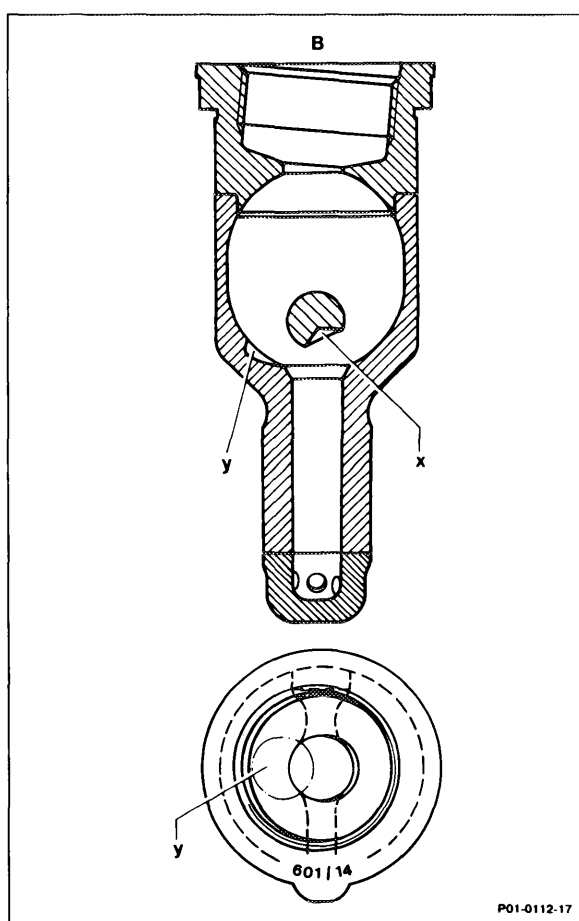
¹⁾ Without exhaust gas recirculation

²⁾ With exhaust gas recirculation starting 02/89

Differentiation, vertical and angular injection



A Prechamber, vertical injection
Code 601/07, 601/17, 601/09, 601/23

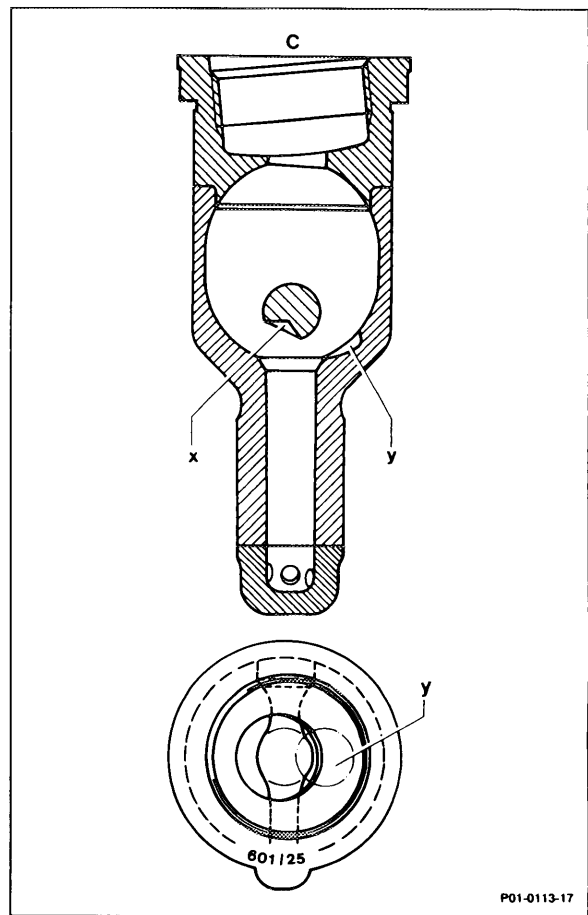


B Prechamber angular injection, inclined 5°
Code 601/14, 601/15

x Cone
y Recess

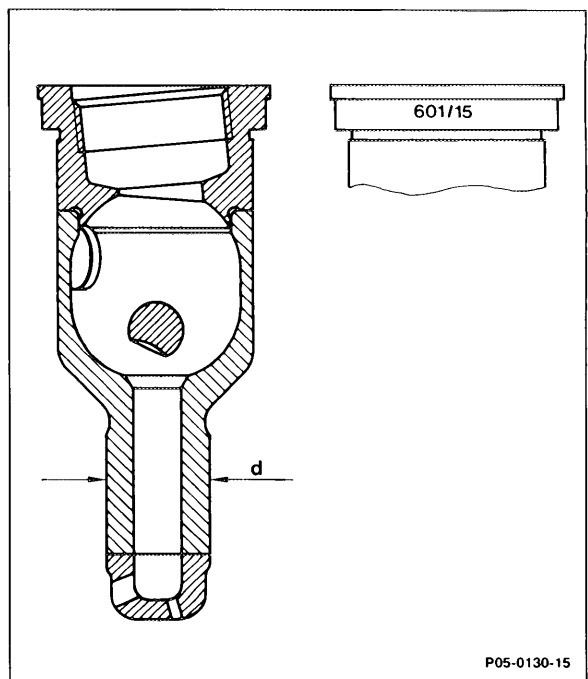
C Prechamber, angular injection
 Inclined 5°, turned 180°
 Code 601/25, 601/26, 601/30

x Cone
 y Recess



Differentiation, combustion neck diameter
 The individual combustion neck diameters (d) differ on naturally aspirated engines and turbo-engines.

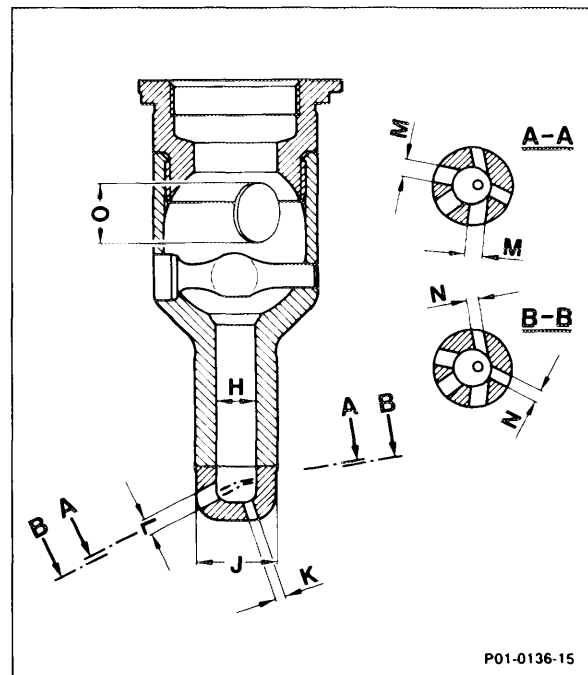
d = 14 mm naturally aspirated engines
 d = 15 mm turbo-engines



Differentiation, combustion bores

6 combustion bores with different diameters are located in different planes and at different angles in the bottom section of the prechamber (combustion neck).

The injection angle is always 180°.



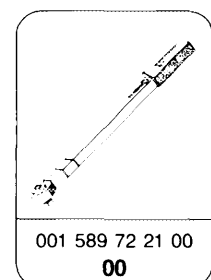
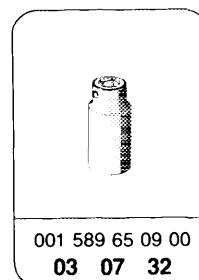
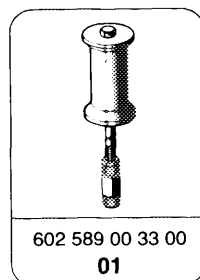
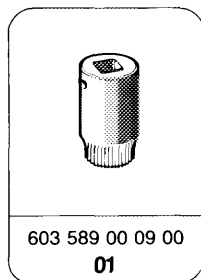
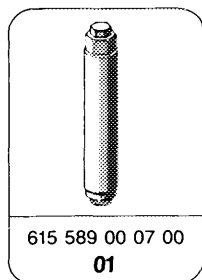
Combustion bore diameters (dia. in mm)

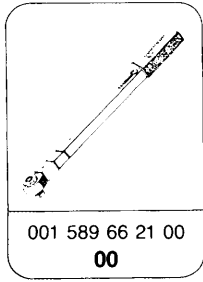
Prechamber code	601/07 or 17	601/09 or 23	601/14/25	601/15/26	601/30
H Firing duct	7,0	7,0	7,0	7,0	7,0
J Combustion neck	14,0	15,0	14,0	15,0	15,0
K Combustion bore	1,5	1,5	1,8	1,8	1,8
L Combustion bore	3,2	3,2	3,0	3,0	3,0
M Combustion bore	3,0	3,0	3,0	3,0	3,0
N Combustion bore	2,0	2,0	2,5	2,5	2,5
O Bore for glow plug	10,0	10,0	10,0	10,0	10,0

Tightening torques

	Nm
Glow plugs	20 + 2
Threaded ring, vertical injection	90 - 110
Threaded ring, angular injection	70

Special tools



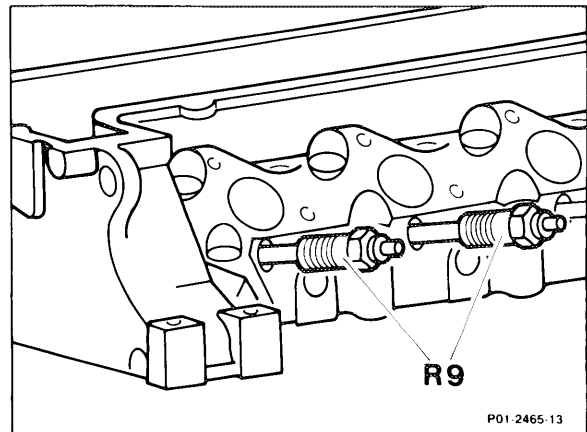


Removal, installation

- 1 Remove glow plugs (R9).

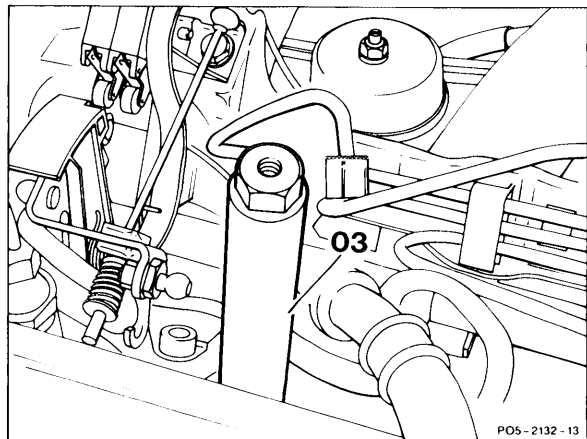
Installation note

Tightening torque 20 + 2 Nm.



Vertical injection:

- 2 Bolt threaded end (03) of pin wrench 615 589 00 07 00 into threaded ring of prechamber.



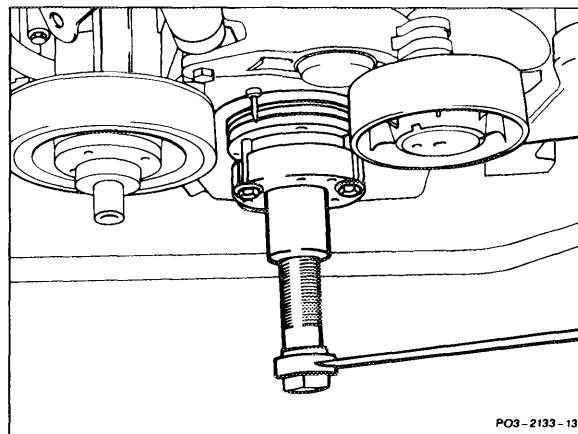
2.1 Slide sleeve (02) of pin wrench over threaded end and insert into grooves in threaded ring.

Caution!

The sleeve must be seated tightly in the grooves of the threaded ring.

2.2 Counter sleeve (02) with hex. head bolt (01).

2.3 Remove threaded ring with open-end wrench on hex. end of sleeve (02).



Installation note

Oil threaded ring.

Tightening torque 90 - 110 Nm.

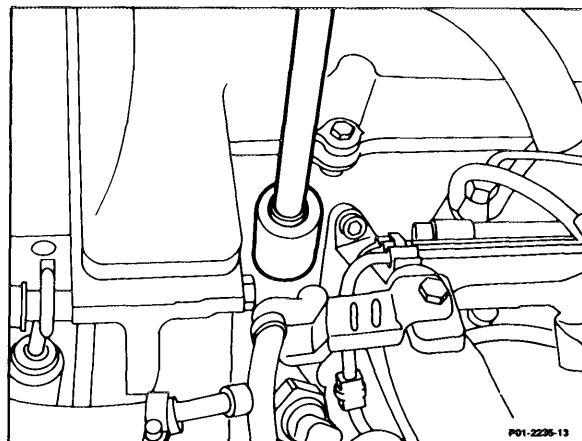
Angular injection:

3 Remove threaded ring with splined wrench 603 589 00 09 00.

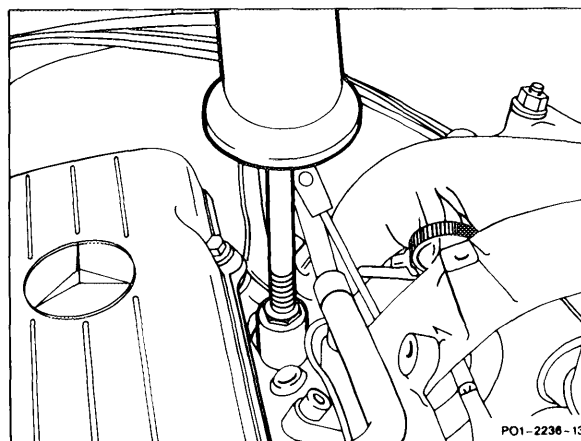
Installation note

Oil threaded ring.

Tightening torque 70 Nm.



4 Bolt impact puller 602 589 00 33 00 into prechamber and knock out prechamber.



Installation note

Insert prechamber into mounting bore so that lug on collar of prechamber fits in recess in cylinder head (arrows).

5 Clean mounting bore for prechamber in cylinder head, check and cover.

Note

Refinish prechamber sealing surface if required (01-410).

6 Check prechambers.

Note

The spherical pin must not be burned or scaly. If the combustion tips are burned or cracked in the bottom section of the prechamber, check the following:

1. Oil level at oil temperature of approx. 80 °C. If the quantity of oil in the oil pan is too high, correct oil level.
2. Check piston vacuum pump for damage or replace vacuum box on injection pump.

To determine which component is unfit for use, check vacuum lines (blackened with oil).

7 Install in opposite order.

