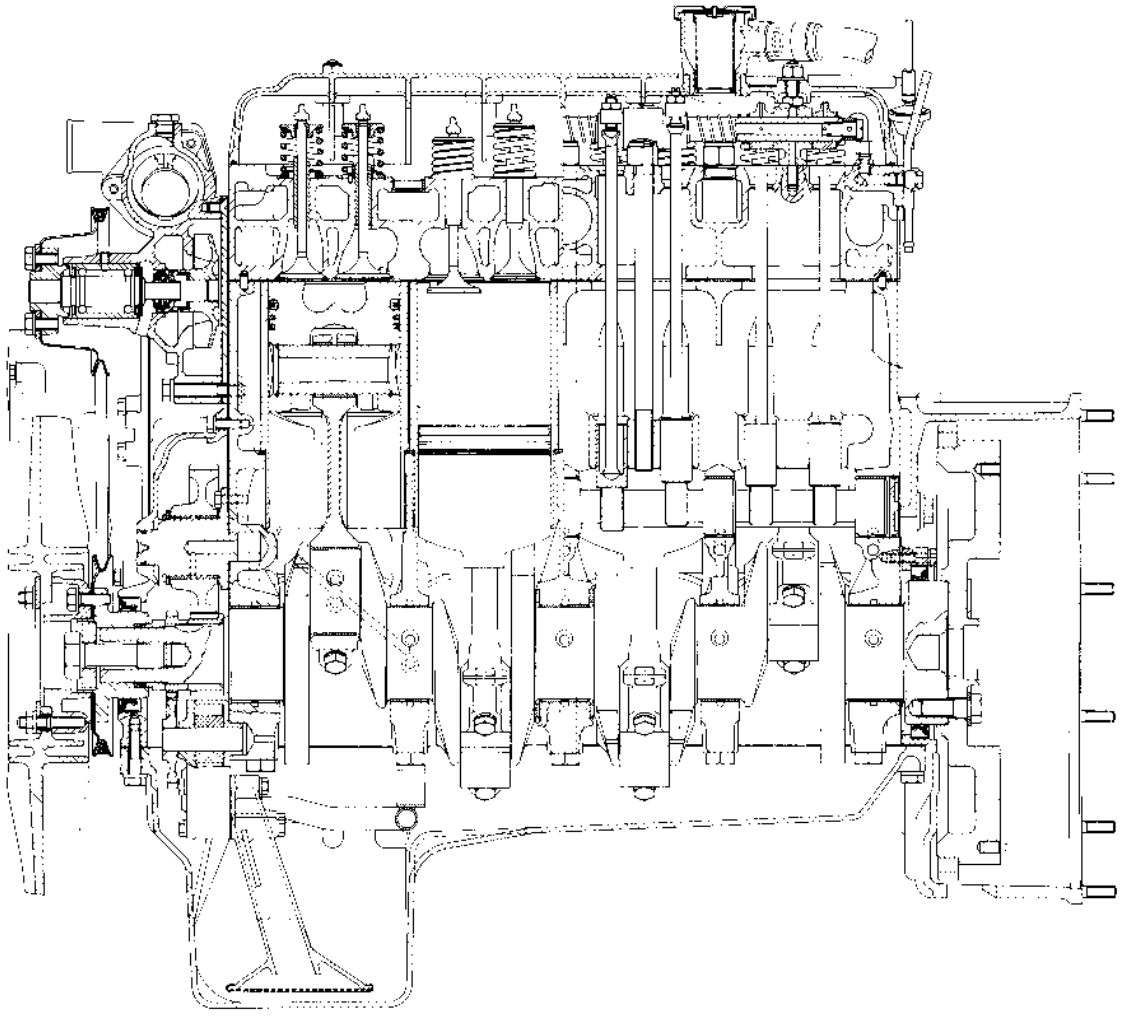
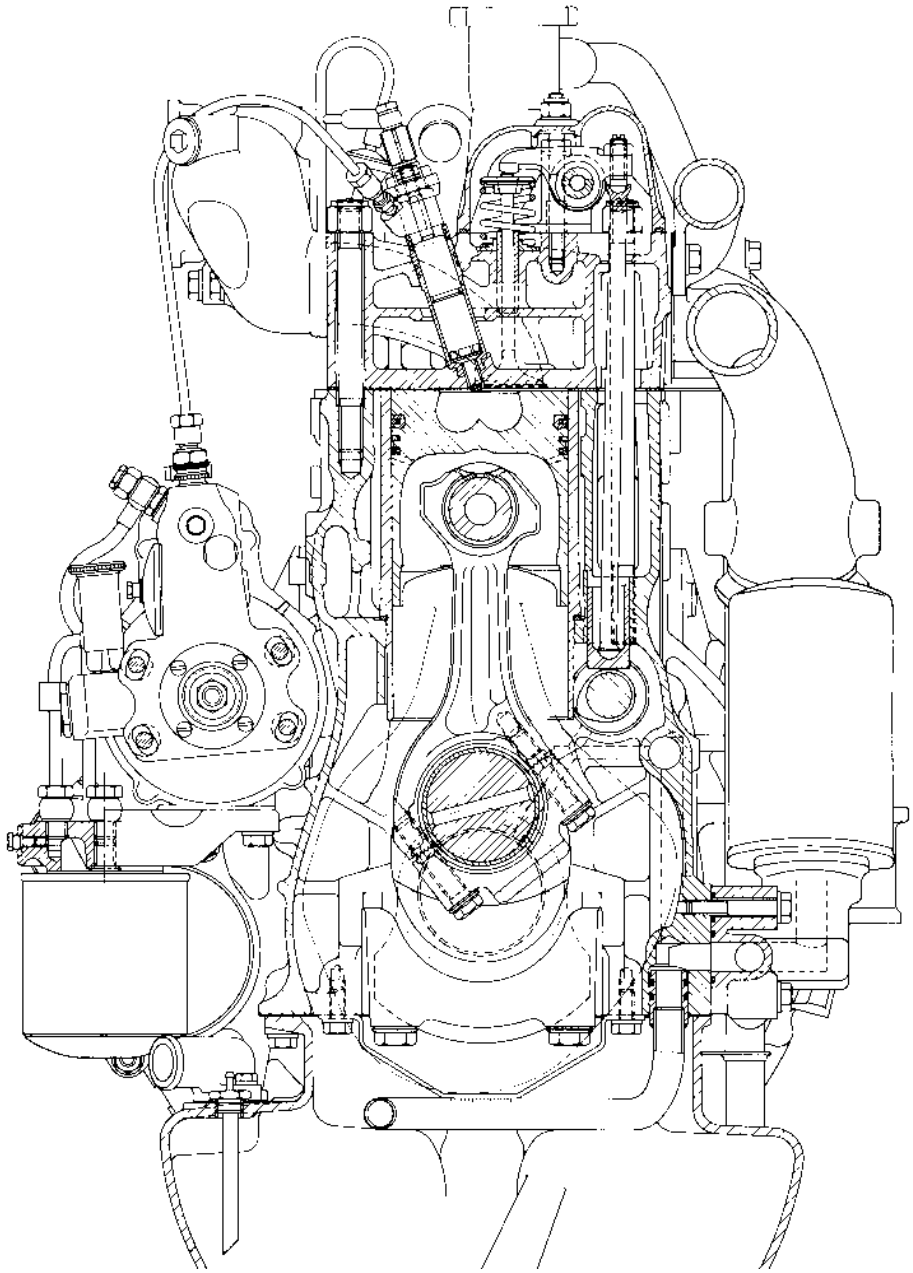
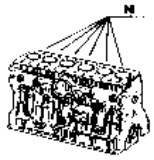
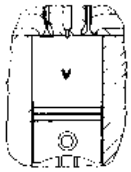
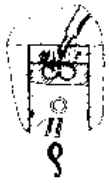
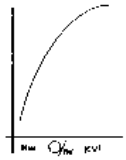
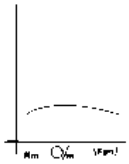
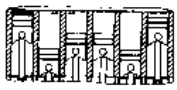
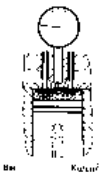
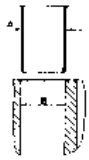
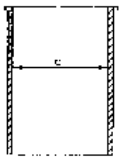
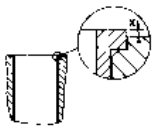
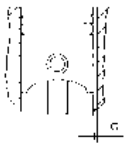
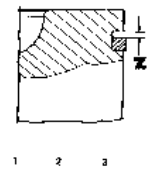
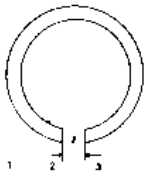
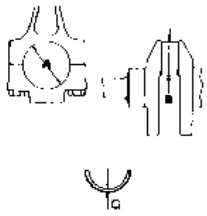
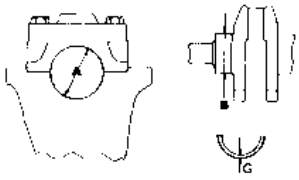


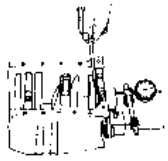
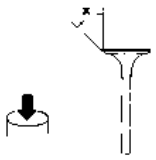
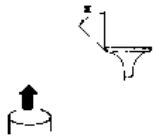
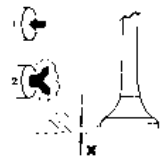
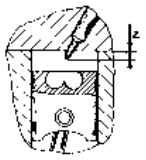
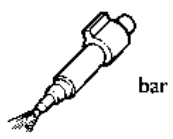
8340.04 ENGINE

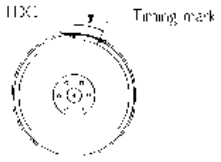
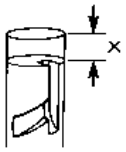
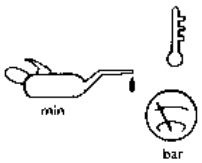
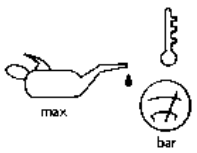


	8340.04	8360.05
	4	6
	D = 115 mm C = 110 mm	D = 115 mm C = 110 mm
	V = 4570 cm^3	V = 8102 cm^3
	Rc = 17	Rc = 17
	74.5 100 2800	119 161 2600
	294.2 30 1600	510 51.9 1600
	1 - 3 - 4 - 2	1 - 5 - 3 - 6 - 2 - 4
	1 - 3 - 4 - 2	1 - 5 - 3 - 6 - 2 - 4

	8340.04	8360.05
	22.5 23	22.5 23
		
	c = 115.00 to 115.022	c = 115.00 to 115.022
	x = 0.13 to 0.17	x = 0.13 to 0.17
	a = 114.833 to 114.847 N = 30 mm	a = 114.833 to 114.847 N = 30 mm
	G = 0.153 to 0.189	G = 0.153 to 0.189
	X = –0.298 to +0.71	X = –0.298 to +0.71

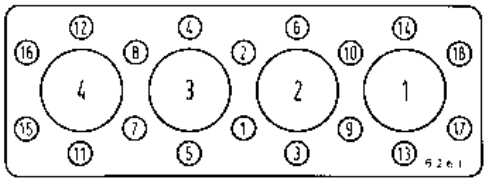
	8340.04	8360.05
	1 0.070 to 0.102 2 0.050 to 0.082 3 0.040 to 0.072	1 0.070 to 0.102 2 0.050 to 0.082 3 0.040 to 0.072
	1 0.400 to 0.600 2 0.400 to 0.600 3 0.300 to 0.450	1 0.400 to 0.600 2 0.400 to 0.600 3 0.300 to 0.450
	A = 76.698 to 76.713 B = 72.482 to 72.500 G = 0.038 to 0.111	A = 76.698 to 76.713 B = 72.482 to 72.500 G = 0.038 to 0.111
	A = 84.206 to 84.226 B = 79.782 to 79.800 G = 0.050 to 0.106	A = 84.206 to 84.226 B = 79.782 to 79.800 G = 0.050 to 0.106

	8340.04	8360.05
	G = 0.070 to 0.270	G = 0.070 to 0.270
	a = 8° b = 37° c = 48° d = 8°	a = 16° b = 52° c = 58° d = 18°
	X = 45°15′	X = 45°15′
	X = 45°30′	X = 45°30′
	X_1 = 0.10 to 0.50 X_2 = 0.40 to 0.80	X_1 = 0.10 to 0.50 X_2 = 0.40 to 0.80
	G_1 = 0.30 G_2 = 0.50	G_1 = 0.30 G_2 = 0.50
	Z = 2.85 to 3.55	Z = 2.85 to 3.55
 bar	200^{+8}_{-0}	200^{+8}_{-0}

	8340.04	8360.05
	y = 20° ± 1°	y = 25° ± 1°
		
	100°C 1.5	100°C 1.5
	100°C 5.0 to 5.5	100°C 5.0 to 5.5

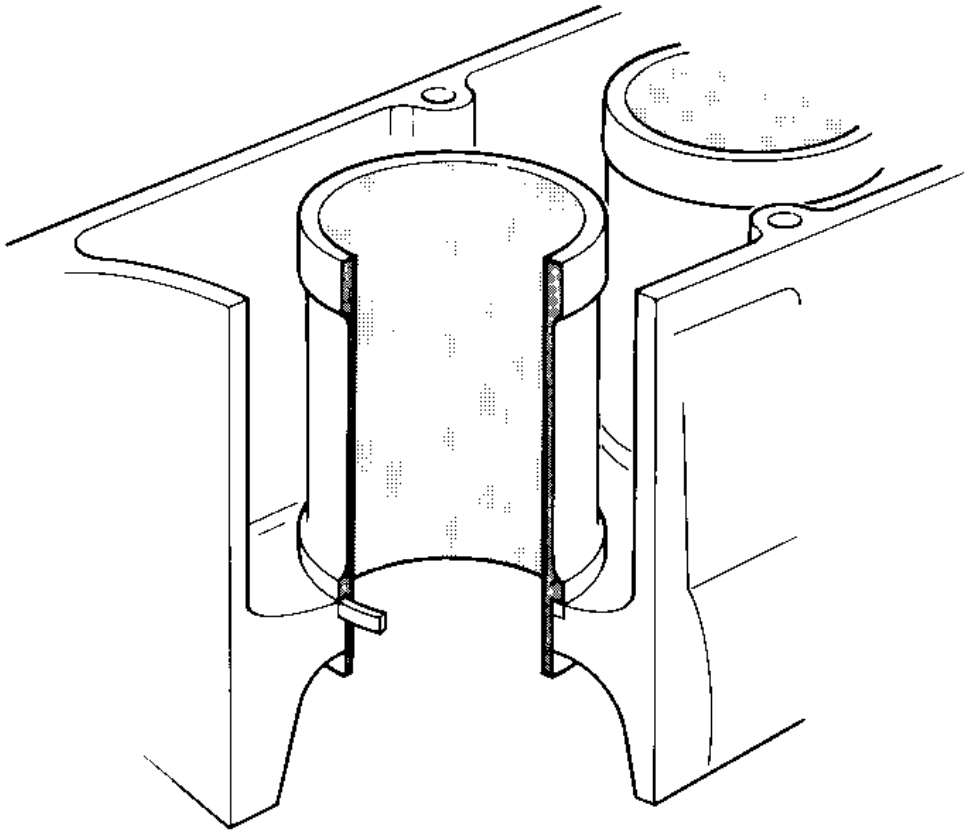
	8340.04		8360.05	
1 MAIN BEARING BOLTS	216 Nm (22 kgm)	◆	216 Nm (22 kgm)	◆
2 BIG END BOLTS	118 Nm (12 kgm)	◆	118 Nm (12 kgm)	◆
3 CYLINDER HEAD NUTS	216 Nm (22 kgm)		216 Nm (22 kgm)	
4 FLYWHEEL BOLTS	245 Nm (26 kgm)	◆	245 Nm 26 (kgm)	
5 CRANKSHAFT FRONT HUB BOLT	559 Nm (57 kgm)	◆	559 Nm (57 kgm)	◆
6 CAMSHAFT GEAR BOLTS	59 Nm (6 kgm)	◆	59 Nm (6 kgm)	◆
7 ROCKER POST NUTS	49 Nm (5 kgm)	◆	49 Nm (5 kgm)	◆

◆ = U.T.D.F. oil
● = Never Seize Grease



CYLINDER HEAD TIGHTENING SEQUENCE

8340.04 + 8360.05



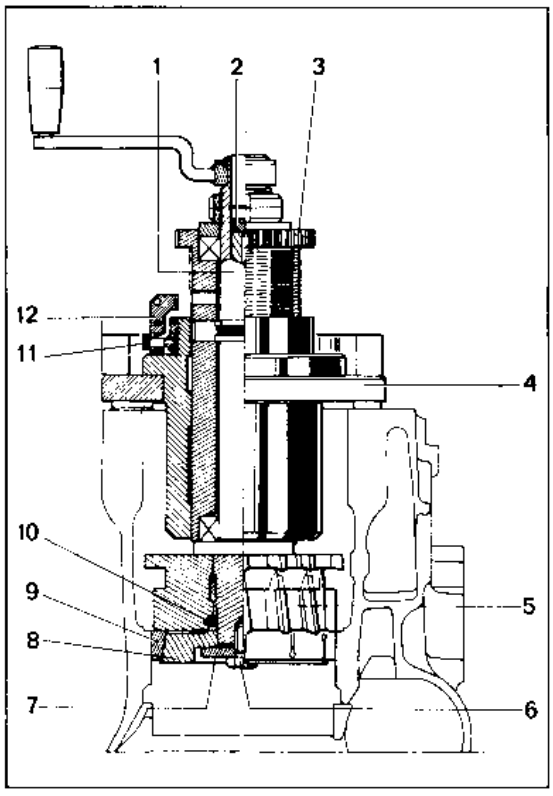
LINER SEAT CUTTING

NOTE: Before carrying out liner seat cutting procedure, carry out these initial checks.

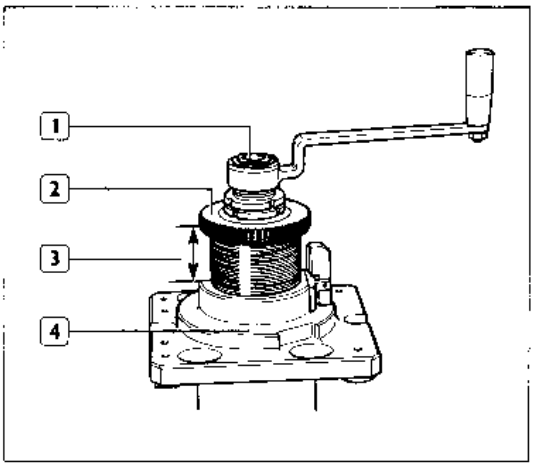
1. Check that block top face is flat and clean.
2. Check that the liner seat cutting equipment is correct for the engine type to be worked on.
3. Check that all necessary equipment has been received.
4. Check the four flat datum points on the tool (4) are not damaged.
5. Check the two cutting edges on the cutter (5).
6. Fit underneath the liner the thickest shim available and check, using Special Tool No. 99360445, the liner protrusion. Subtract from this figure the specified liner protrusion of 0.13 to 0.17 mm. This will give you the maximum amount of material that can be cut from the liner seat.

PROCEDURE FOR LINER SEAT CUTTING

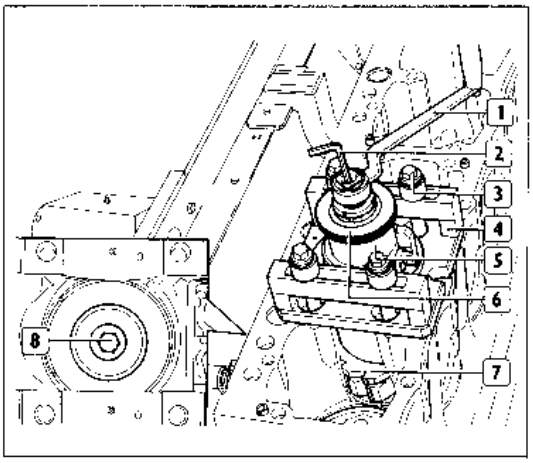
On tool 99394102 (4) fit cutter 99394107 (5) securing it with ring nut (10). Insert spring bush 99394133 (9) and tapers 99394134 (8) and secure them to cutter holder shaft (1) with washer (7) and screw (6) without tightening the screw. With a socket head wrench loosen screw (2). Have the reference marked on cutter holder shaft (1) coinciding with the reference on toothed disk (3); and tighten screw (2). To disengage lock (12) tighten screw (11).



Check that Gap (3) is 50 mm on tool 99394102 (4). Rotate cutter holder shaft (1) until the gap (3) between the toothed disk (2) and tool (4) equals 50 mm.



On engine block position tool 99394102 (6), securing brackets (4) and screw down screws (3) without tightening them.
Tighten screw (8) to 20 Nm to center tool, tighten screws (3) to 50 Nm and loosen screw (8).
Rotating crank (1) let the cutter (7) slightly contact cylinder sleeve housings.
Close ratchet (12, Fig. 1) loosening screw (11) and screw (2, Fig. 1) using a socket head wrench (2). Rotate crank (1) thus activating cutter (7) and regrind the seat, taking care not to remove too much material.
Cut depth is obtained acting on toothed disk (6); each tooth trip means a cutter feed of 0.01 mm.



CHECKING LINER PROTRUSION

SPECIAL TOOL No. 99360445

As shown in Fig. 1, arrange plate A on a suitable surface plate and set the four dial gauges with a preload of 1 or 2 mm correctly to zero.

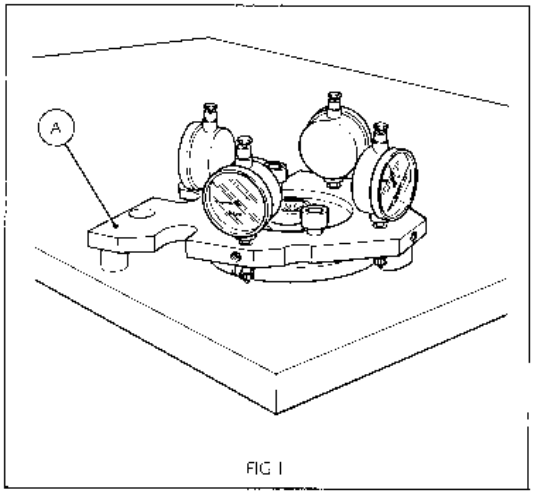


FIG 1

Set up plate A on the cylinder liner to be checked together with the preloading support B as shown in Fig. 2. Tighten the four ring nuts C by hand, checking to make sure that the ball end of screw D is vertically aligned without momentarily interferring with the small central hub of the thrust flange.
Turn screw D until a torque of 108 Nm (11 kgm) is reached.
Read off the amount by which the cylinder liner protrudes on the dial gauges arranged longitudinally and transversely. The correct reading should be between 0.13 and 0.17 mm. If the readings are less than 0.13 mm remove liner and change shim for a suitably thicker one. If the readings are more than 0.17 mm replace with a suitably thinner shim. Shims vary from 3.02 to 3.51 mm in steps of 0.02 mm.

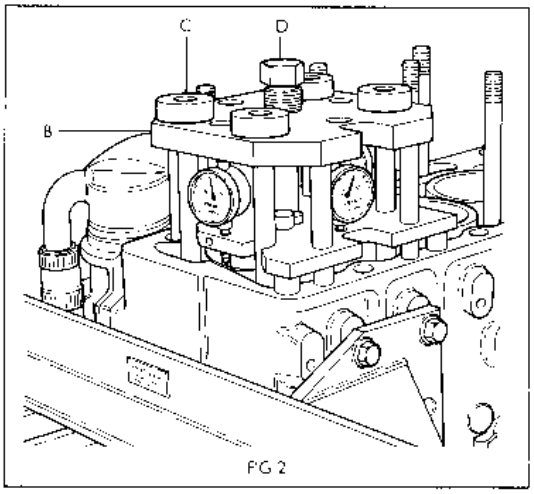
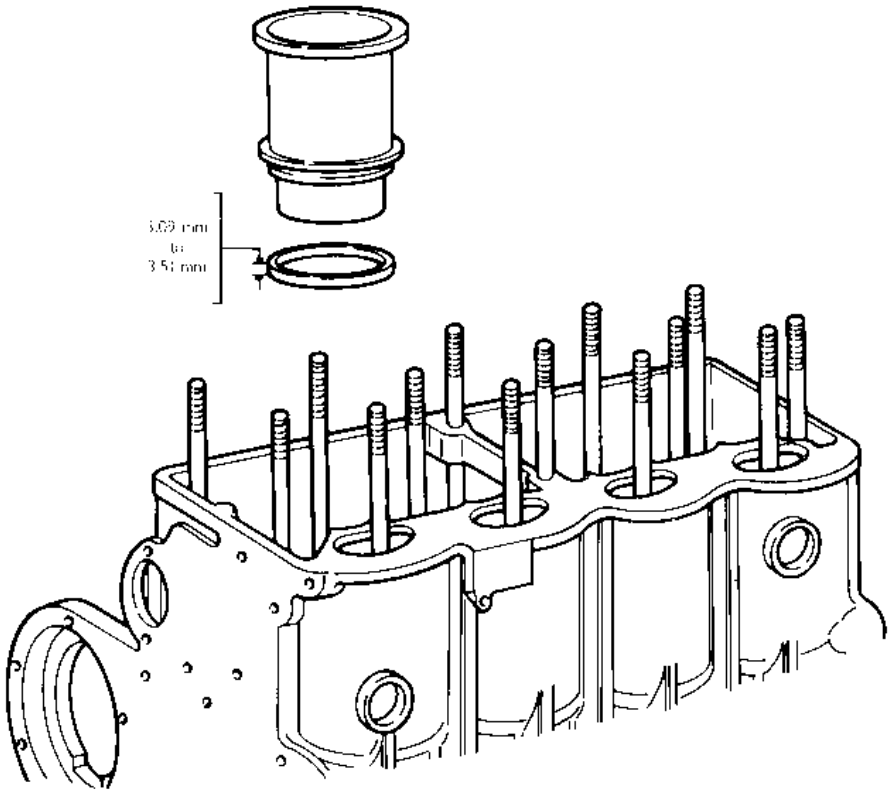
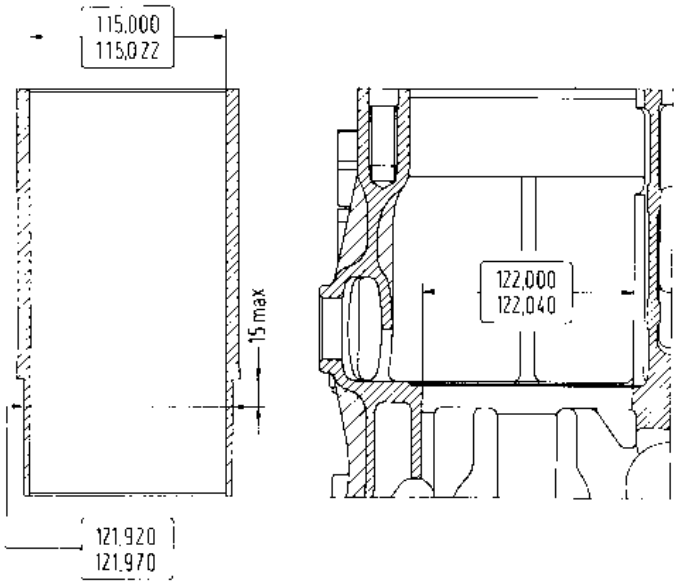
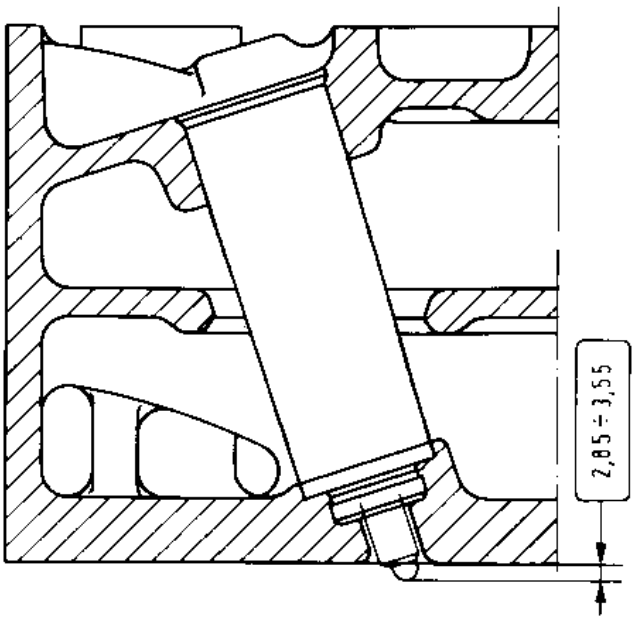


FIG 2

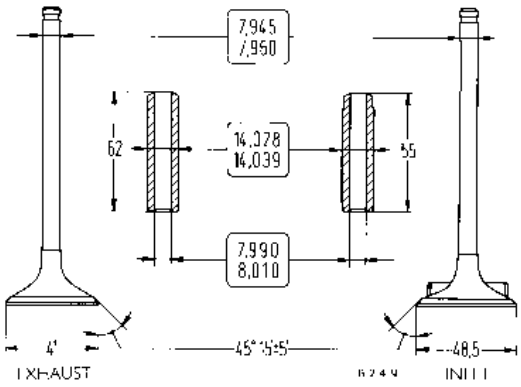
8340.04 + 8360.05

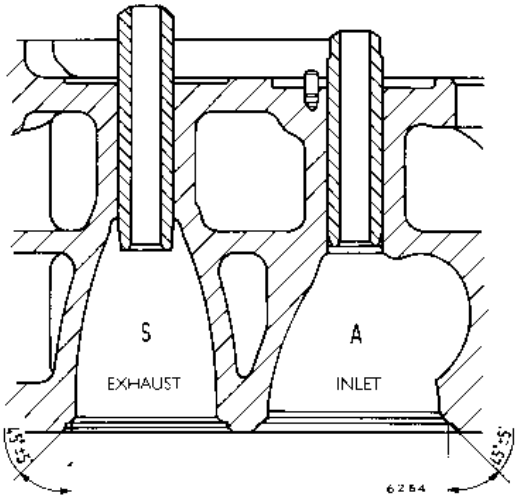



115,000
115,022
15 max
122,000
122,040
121,920
121,970

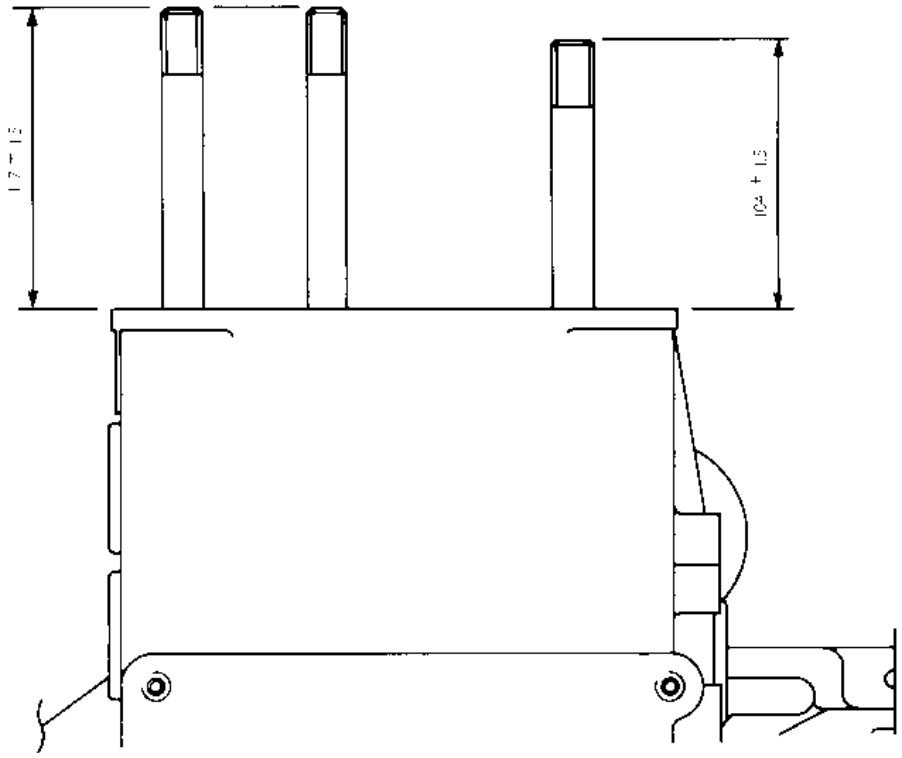

2,85÷3,55

8340.04 + 8360.05

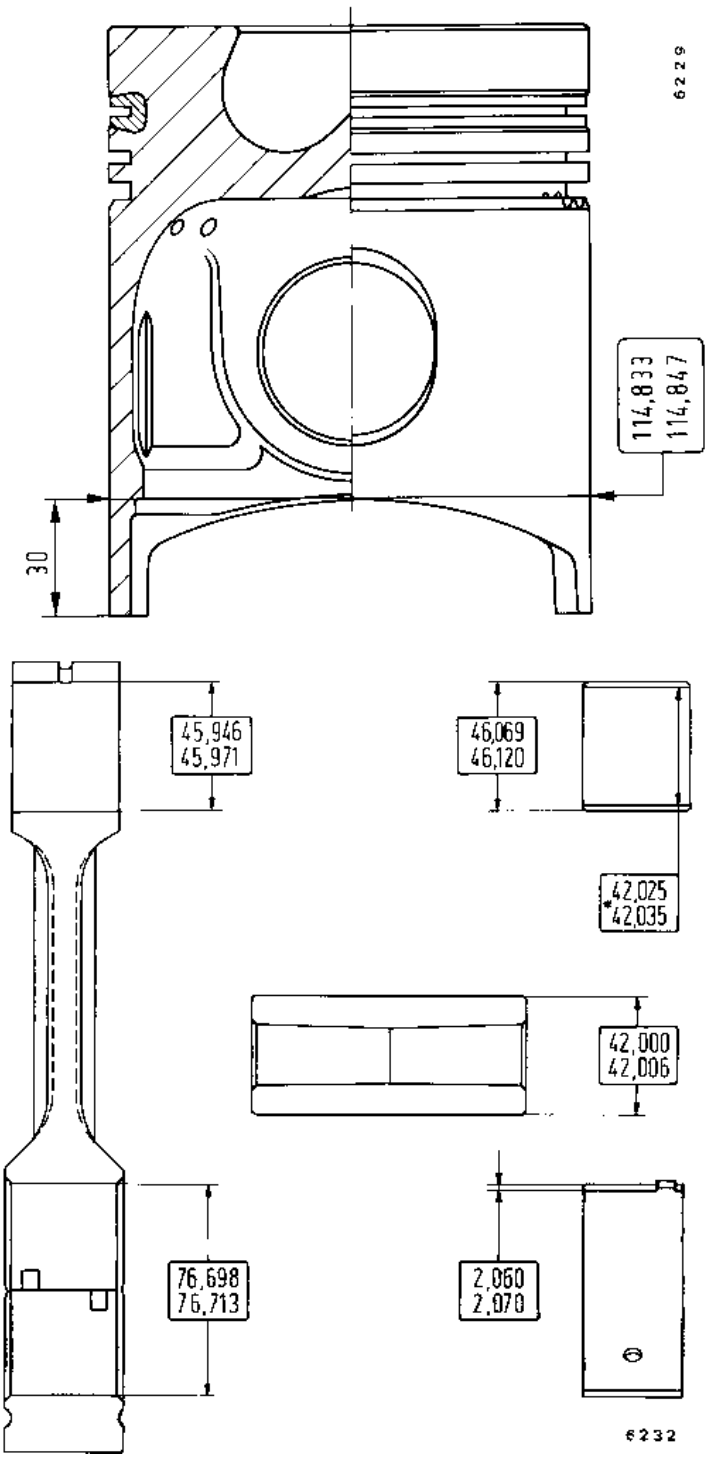




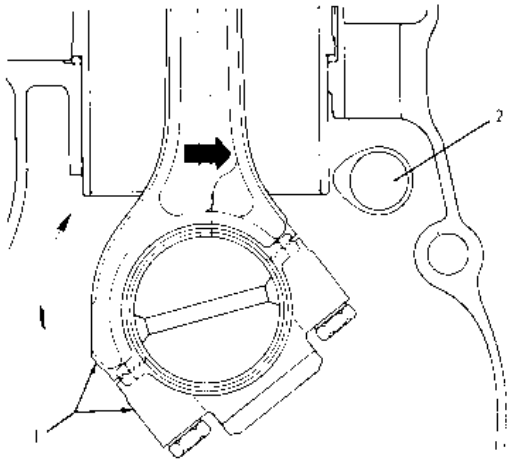
8340.04 + 8360.05

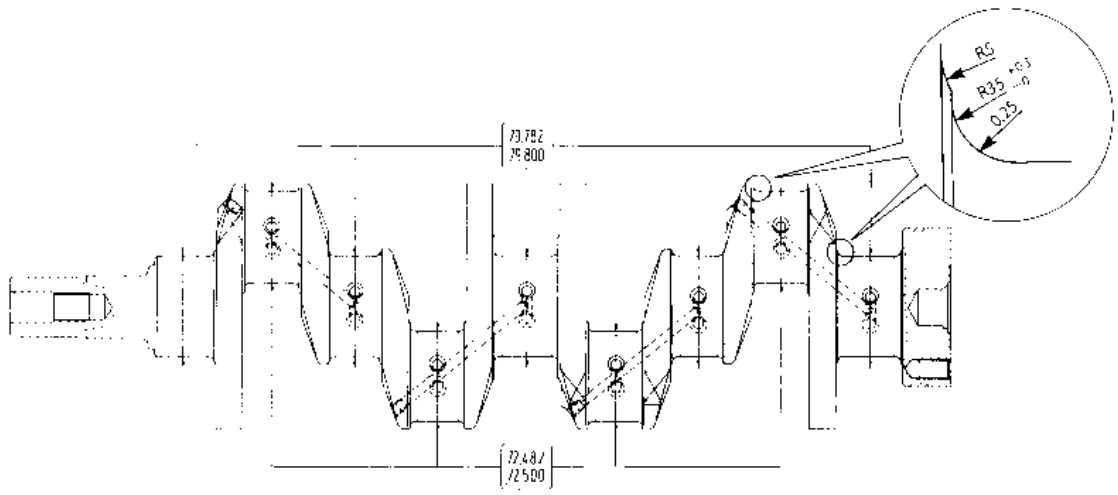


8340.04 + 8360.05

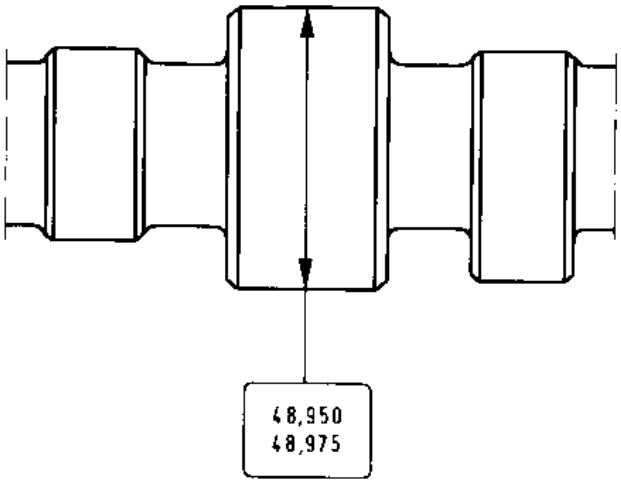


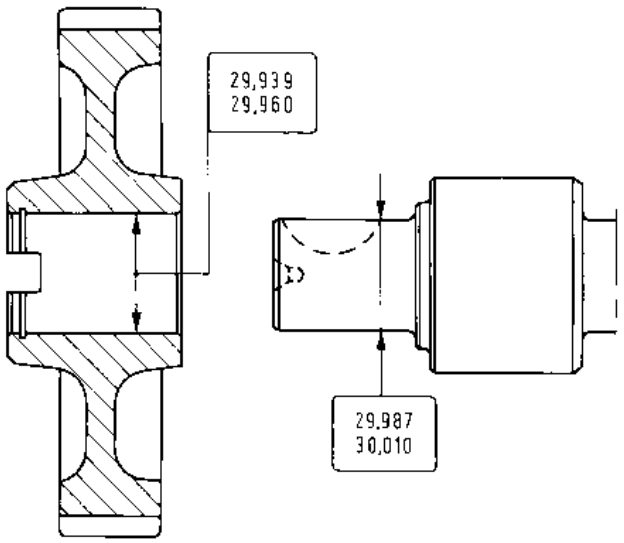
8340.04 + 8360.05



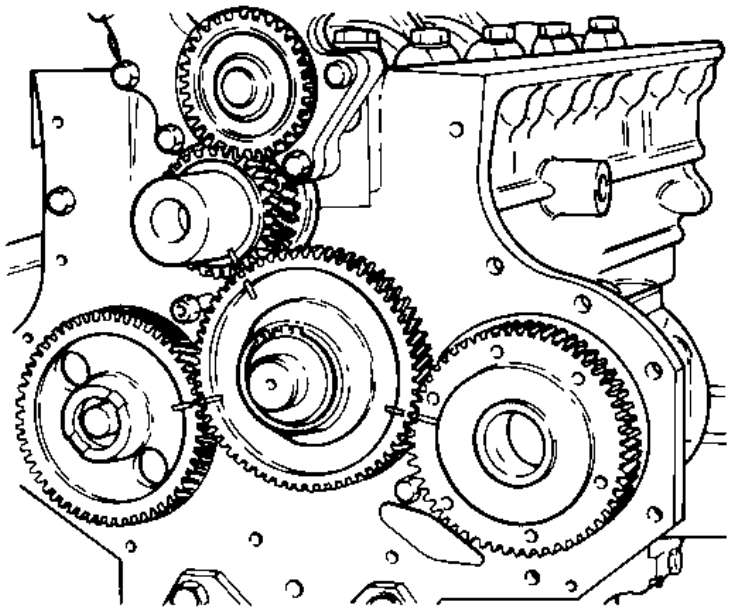


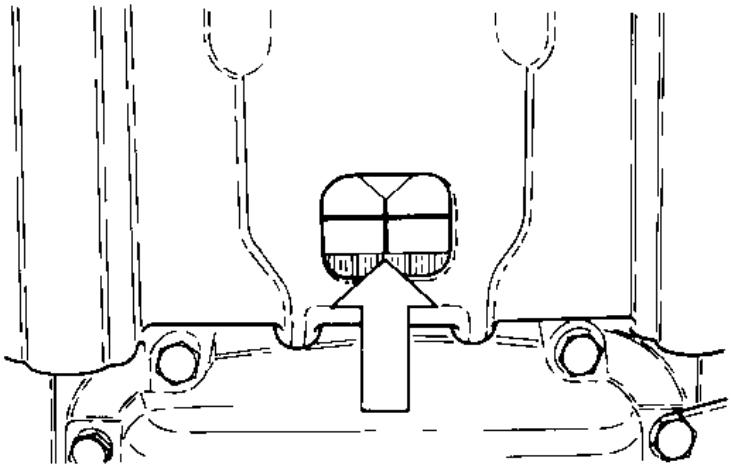
8340.04 + 8360.05





8340.04 + 8360.05

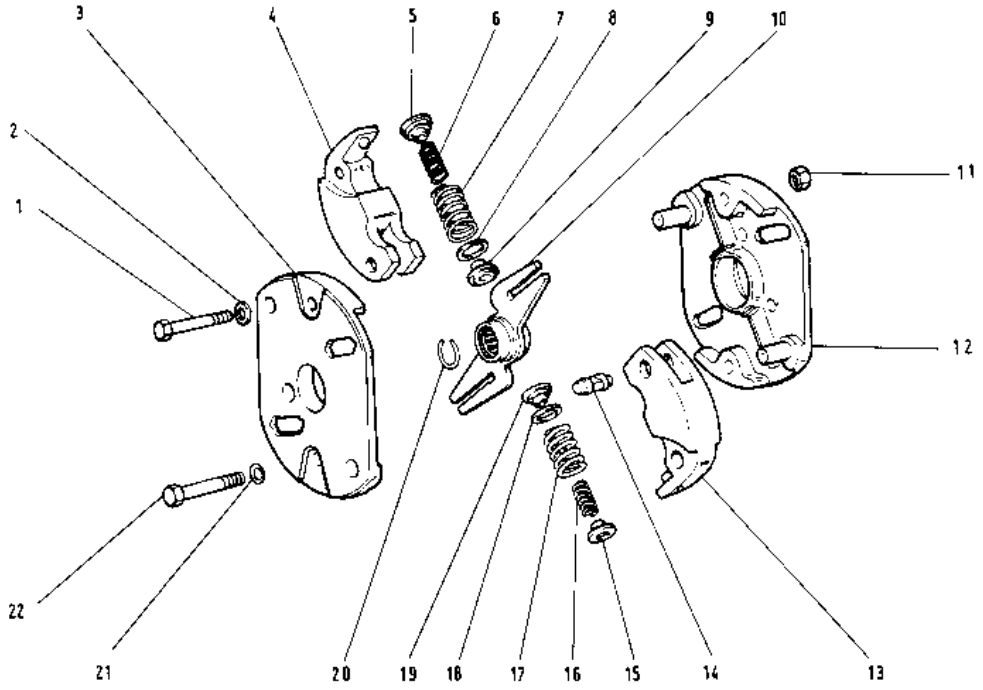




PMS = TOP DEAD CENTRE

INIEZ = INJECTION OR TIMING MARK

8340.04 + 8360.05



Exploded view of advance device

1. Screw 2. Washer 3. Cover. 4. Flyweight. 5. Cup 6. Spring. 7 Spring. 8. Adjustment washer. 9. Cup. 10. Slotted link. 11. Nut. 12. Cover. 13. Flyweight. 14. Sleeper pin. 15. Cup. 16. Spring. 17. Spring. 18. Adjustment washer. 19. Cup. 20. Retaining ring. 21. Washer. 22. Screw.

8340.04 + 8360.05