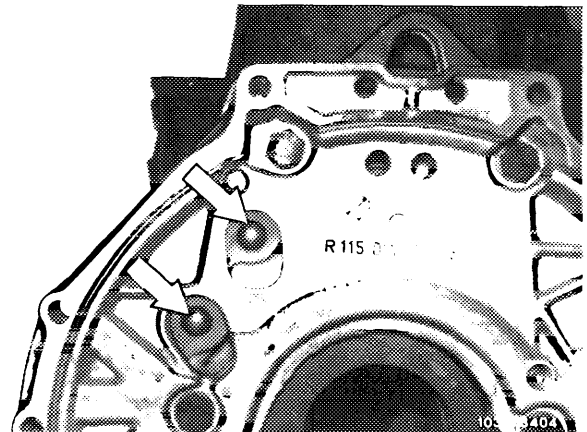


01–130 Knocking-out and inserting steel balls for main oil ducts

Tightening torques		Nm
Fastening bolts for intermediate flange		65
Closing plug for main oil duct		40
Pressure relief valve in main oil duct front		40
Closing plug pressure relief valve		50
Screw M 8 x 65 for vibration damper		35
Screw M 18 x 1.5 x 45 on crankshaft		400–450
Necked-down screw for driven plate and flywheel	initial torque	40
	torque angle	90°–100°

Note

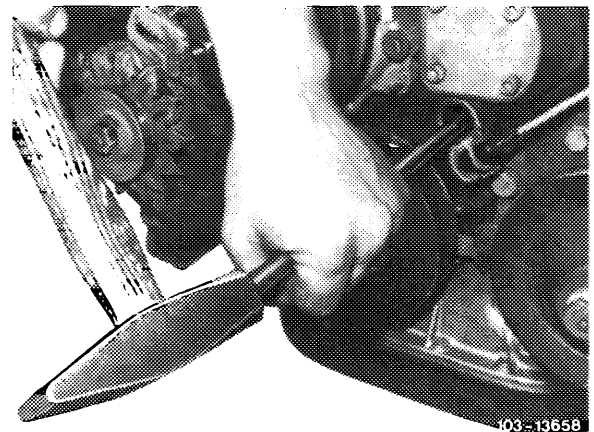
Since October 1976 the 2 main oil ducts (arrows) in cylinder crankcase at transmission end are closed by means of steel balls 15 mm dia. VO DIN 5401 part no. 005401 515001.



For cleaning main oil ducts during engine repairs, the steel balls must be knocked-out from direction of front end of engine.

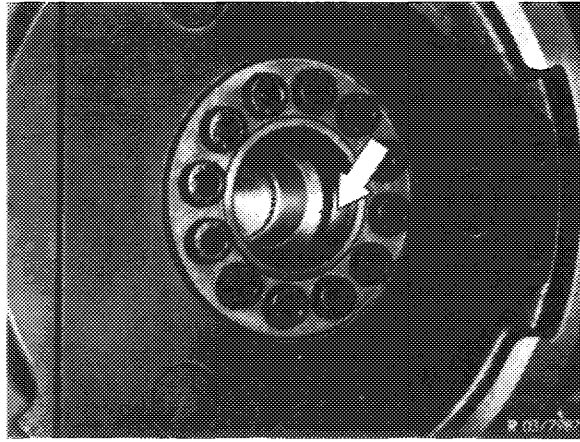
Undamaged steel balls can be used several times without refinishing ball seat in crankcase.

Damaged and rusty steel balls should be replaced.

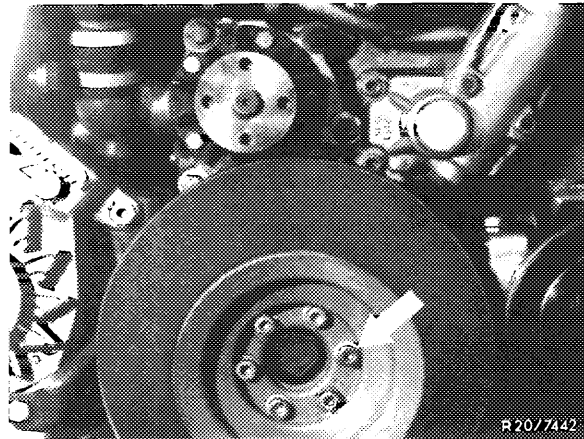


Knocking-out steel ball in upper main oil duct

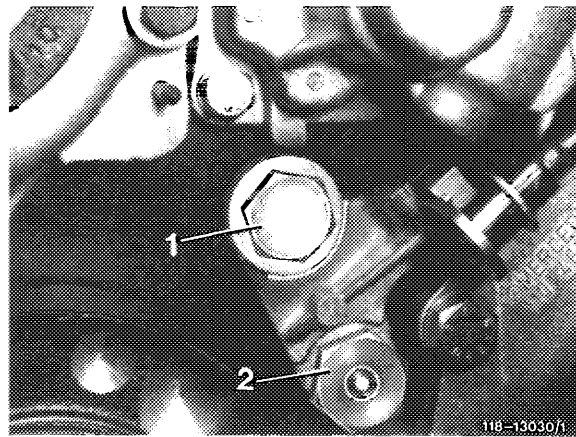
- 1 Remove transmission.
- 2 Remove flywheel (03–410).



- 3 Remove radiator (20–420).
- 4 Remove vibration damper (03–340).

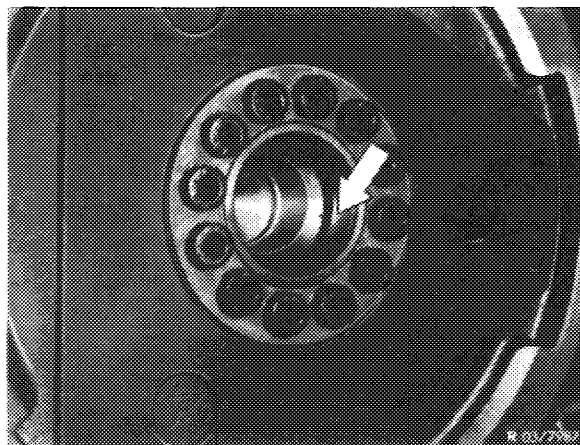


- 5 Unscrew closing plug (1) and screw oil pressure relief valve out of main oil duct.
- 6 Knock-out steel ball from direction of engine front end by means of a round steel bar 13 mm dia. and approx. 700 mm long.



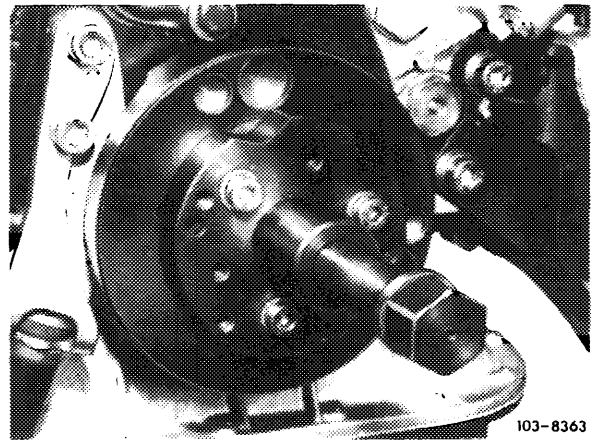
Knocking-out steel ball in lower main oil duct

- 1 Remove transmission.
- 2 Remove flywheel (03–410).



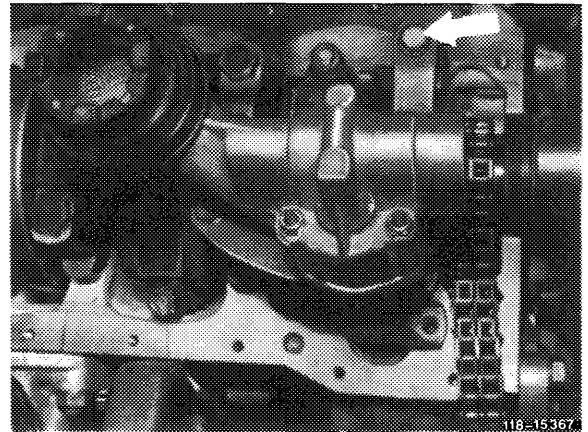
3 Remove radiator (20—420).

4 Remove vibration damper and compensating weight (03—340).



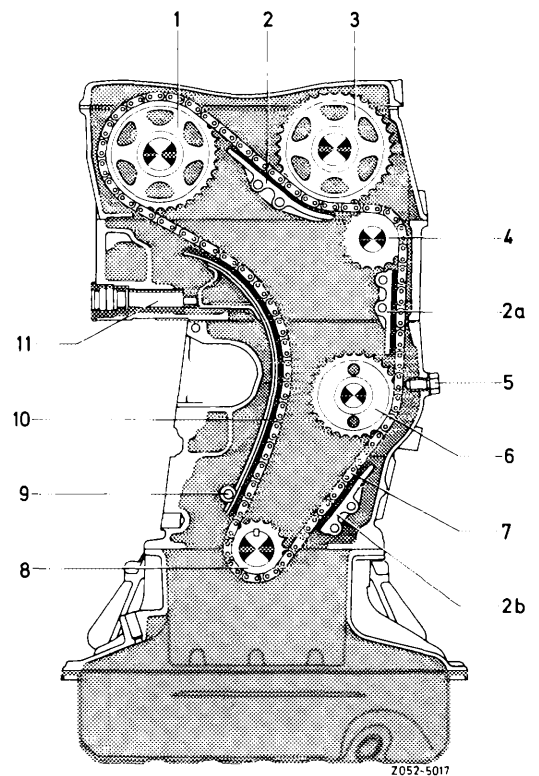
5 Remove complete oil pan (01—310).

6 Remove oil pump (18—210).



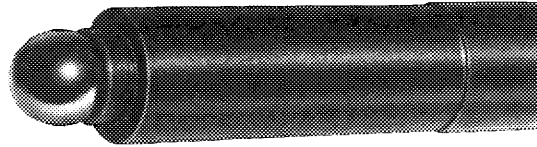
7 Remove slide rail (2b) in crankcase (05—340).

8 Knock-out steel ball from direction of engine front end by means of a round steel bar 13 mm dia. and approx. 700 mm long.

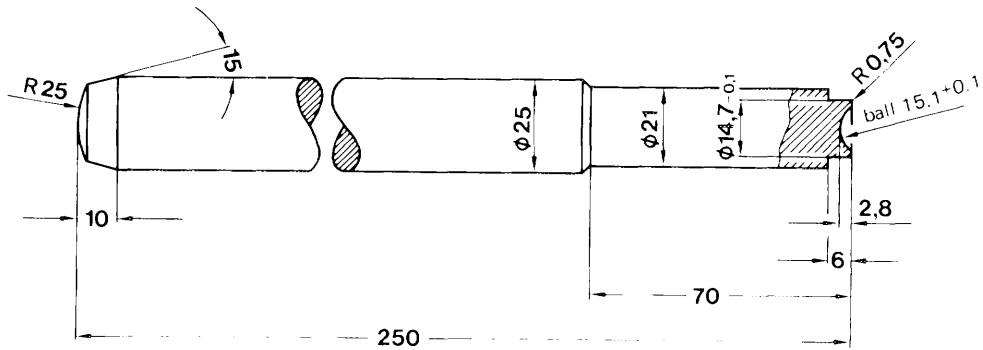


Closing main oil duct

- 1 Thoroughly clean ball seat and bore in main oil duct.
- 2 Coat up on self-made knocking-in mandrel with grease and place steel ball into cup.



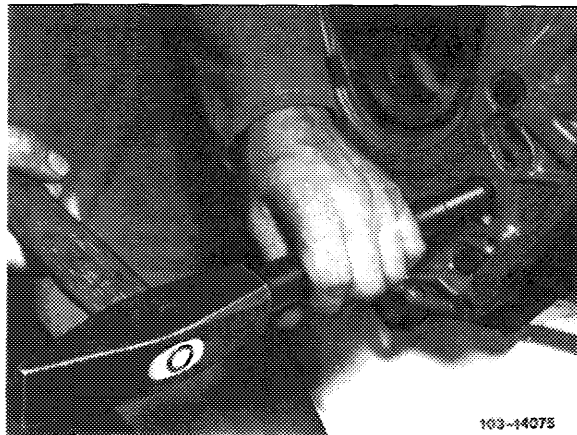
103-13405



Material: C 45

11003-7473

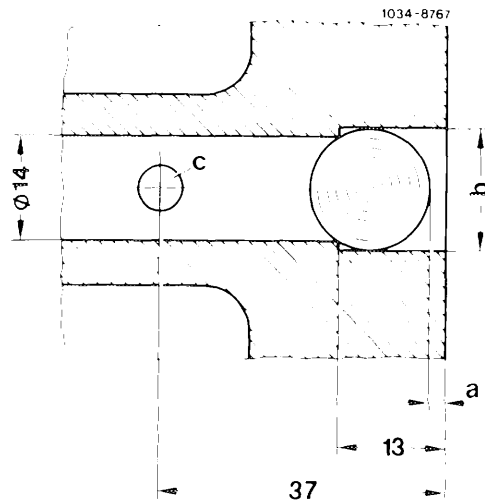
- 3 Position steel ball with knocking-in mandrel and knock-in up to stop on mandrel.



103-14073

If the mandrel has no stop, do not exceed dimension a = max. 3 mm to prevent cracking of crankcase.

- a = max. 3 mm
- b = dia. 14.75 to 14.86 mm
- c = oil ducts to crankshaft bearing



4 Mount all parts taken off or removed.

5 Run engine warm and check for leaks.

Note: If oil flows out as the result of a leaking ball seat, knock-out respective steel ball and close main oil duct with a closing plug after cutting the required threads into duct.

Closing main oil duct with closing plug

1 Cut threads M 16 x 1.5 mm approx. 14 mm deep into respective main oil duct.

2 Carefully clean main oil duct.

3 Screw closing plug M 16 x 1.5 mm DIN 908, part no. 000 908 016 001 with aluminum sealing ring A 16 x 22 mm DIN 7603 – AL, part no. 007 603 016 102, and tighten to 40 Nm.

