Additional subjects are contained on the microfilms Up-to-date Trouble diagnosis.

03 Crank assembly

03 Pistons

Additional subjects are contained in the microfilms Up-to-date trouble diagnosis or Trouble diagnosis.

Complaint:

Ticking noises at idle speed on vehicles with low mileage (< 10 000 km).
Especially loud with cold engine
Engines 601, 602, 603

Cause/Remedy:

Noises may occur on engines from production period 08/84 – 03/85.

Engine	starting with engine end no.	up to engine end no.
601.911	10.028240 12.003361	10.092787 12.008973
601.912	from start of series	10.008804 12.000033
602.911	from start of series	10.000151 12.000069
602.912	from start of series	10.000494 12.000099
603.912	from start of series	10.001931 12.001480

Loud piston reversal noises in cylinder at TDC when pistons change direction.

To exclude valve control noises from the hydraulic valve clearance compensating elements, allow engine to run for approx. 7 min. at 3000 rpm.
If the noise is caused by the pistons, it should still be heard.

These noises were eliminated by changing the shape of the piston.

In the event of a complaint, install modified pistons part no. 601 030 08 17 after consulting ZKD-G.

Complaint:

Ticking noises at approx. 1500 rpm with cold and warm engine, also heard while driving
Engines 601, 602, 603

Cause/Remedy:

These noises may occur on engines from production period middle of 01/86 to 02/86.

Engine	starting with engine end no.	up to engine end no.
601.911	10.138770 12.013450	146025 014087
601.912	10.029984 12.002364	034605 002780
602.911	10.012781 12.002800	014877 003686
602.912	10.017565 12.002830	022759 003741
603.912	10.010330 12.006272	012569 007615

Loud piston reversal noises in cylinder at TDC when pistons change direction.
To exclude valve control noises from the hydraulic valve clearance compensating elements, allow engine to run for approx. 7 min. at 3000 rpm.
If the noise is caused by the pistons, it should still be heard.

These noises were eliminated by changing the shape of the piston.

In the event of complaints, consult ZKD-G.

Complaint:

Ticking noises from about 1500 rpm when engine cold and warm, also heard while driving
Engines 601, 602, 603

Cause/Remedy:

The following engines may be affected:

Engine	as of engine end no.	up to engine end no.
601.911	10.028240/12.003361	10.196278/12.018007
601.912	as of start of series prod.	10.060313/12.005066
	as of start of series prod.	10.034400 up to 12/86/12.008286
	as of start of series prod.	10.051330/12.008634
	as of start of series prod.	10.023961/12.014718

Cause
Connecting rod shaft offset too large relative to plane faces of small and large eye. This causes loud piston reversal noises in cylinder when pistons change direction in TDC range.
Remedy
Install connecting rods made of modified material, part no. 601 030 36 20.
In addition, likewise replace pistons which, apart from the code figure 08, do **not** have any of the stamped letters "L", "M", "N", "O", "S" or "T".

⚠
The code letters "A, X, B" are group code letters which refer to the piston or cylinder diameter. They must not be confused with the letters listed under Remedy.

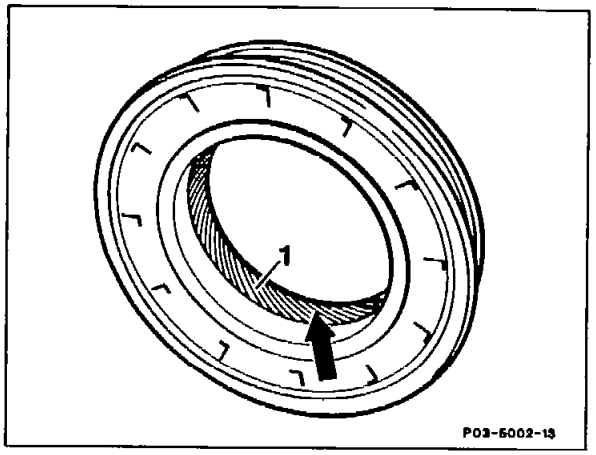
03 Crankshaft radial sealing ring

Complaint:

Replacing front crankshaft radial sealing ring.
Engines 601, 602, 603

Cause/Remedy:

If oil leakages occur at the front of the crankshaft, it is only necessary in the most frequent cases to replace the crankshaft radial sealing ring. Replacing hub at the same time is only necessary in those cases where two wear tracks (grooves) are visible on the hub. For hubs which have only one wear track (groove) a radial seal with a sealing lip offset 2 mm to the rear is available (repair version). If the sealing surface of the hub is only ground bright, only the standard version of radial seal may be fitted.



Note
Press the radial seal dry (without grease) into the timing case cover and coat the sealing lip (Fig., item 1) with engine oil – do not use grease.