

03—313 Reconditioning and squaring connecting rods

Data

Engine	116.960 ¹⁾	116.960 ²⁾	117.960	117.962
	116.961 ¹⁾	116.961 ²⁾	117.961	117.963
		116.962		117.964
		116.963		117.965
		116.964		117.967
		116.965		117.968
Center of connecting rod bearing bore to center of connecting rod bushing bore (L in Fig. item 5)		138.050		154.550
		137.950		154.450
Width of connecting rod at connecting rod bearing bore			24.890	
			24.857	
Width of connecting rod at connecting rod bushing bore			28.000	
			27.900	
Basic bore for connecting rod bearing shells (A in Fig. item 5)	55.619	51.619	55.619	51.619
	55.600	51.600	55.600	51.600
Basic bore for connecting rod bushing (a in Fig. item 5)	29.021	26.021		29.021
	29.000	26.000		29.000
Connecting rod bushing inner dia.	26.013	23.013		26.013
	26.007	23.007		26.007
Roughness of connecting rod bushing, inside			0.004	
Permissible offset of connecting rod bearing bore relative to connecting rod bushing bore		0.13		0.15
Permissible deviation from parallel of axes: connecting rod bearing bore to connecting rod bushing bore		0.06		0.07
Permissible runout of connecting rod bearing bore			0.01	
Permissible weight difference of the complete connecting rod within one engine			4 g	

¹⁾ Not model year 1981 national version.

²⁾ Only model year 1981 national version.

Tightening torque

Connecting rod nuts	Initial torque	40–50 Nm
	Angle of rotation torque	90–100°

Conventional tool

Connecting rod testing and straightening device	e.g. Walter Krupp GmbH D–5309 Meckenheim Model CL 6
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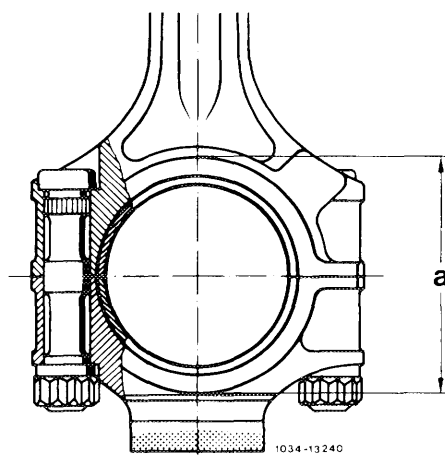
Note

Connecting rods which were overheated as a result of bearing damage (blue discoloration) may not be re-used.

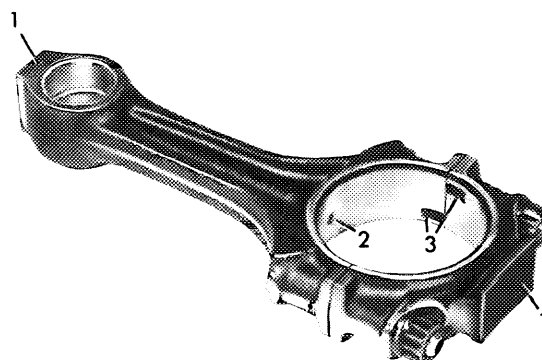
Connecting rod and connecting rod cap are marked together. The connecting rod shaft should not show any transverse score marks and nicks.

Connecting rods with machined connecting rod bushing are available as a spare part.

Connecting rods and crankshafts with different contact collar diameters may be installed together during repairs.



When renewing connecting rods, pay attention to differences in weight of connecting rods.

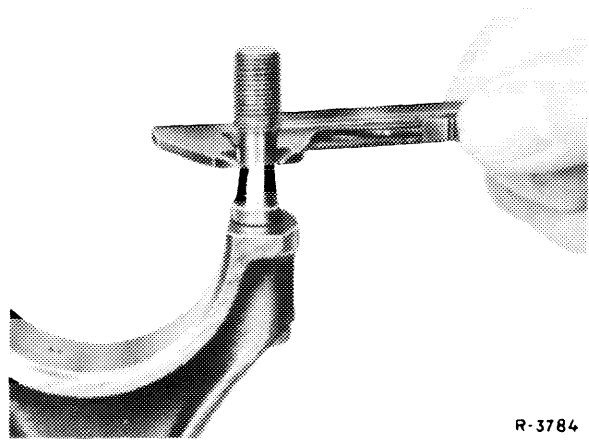


- 1 Weight compensation
- 2 Oil hole
- 3 Locating grooves

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Reconditioning

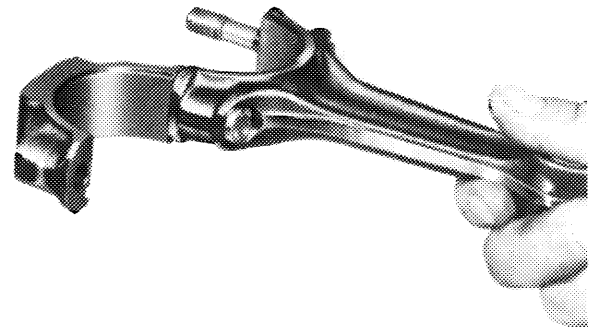
1 Check connecting rod bolts and renew if required (03–310).



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2 Check bores for connecting rod bolts.

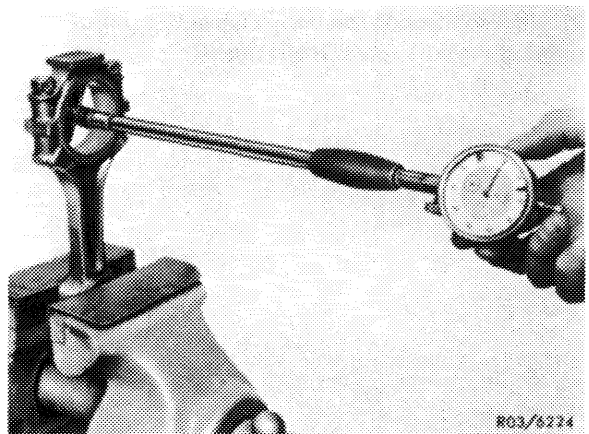
Place connecting rod bearing cap on one connecting rod bolt. If connecting rod bearing cap moves down by its own weight, renew connecting rod.



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3 Mount connecting rod bearing cap and tighten connecting rod nuts to 40–50 Nm.

4 Measure connecting rod bearing basic bores. If basic bore exceeds the specified value or is conical, touch up bearing cap mating surface on a surface plate up to a maximum of 0.02 mm.



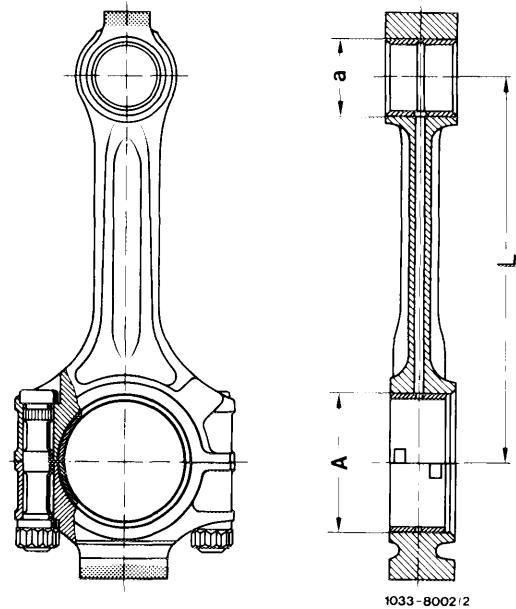
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5 Press in new connecting rod bushing so that the oil bores are in alignment. Pressing-in pressure at least 2500 N.

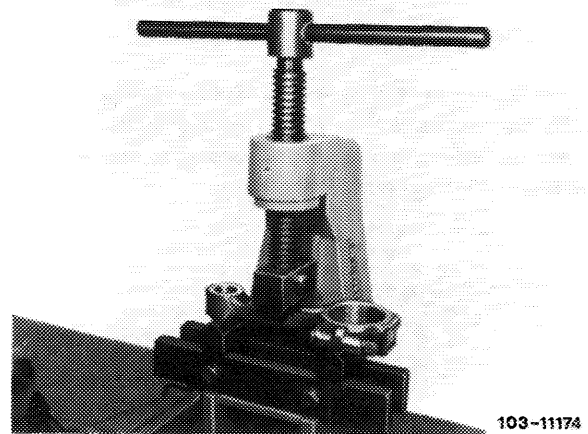
6 Machine or ream connecting rod bushing.

7 Touch up lateral connecting rod contact surfaces on a surface plate.

8 Square connecting rod with connecting rod tester.



9 Align connecting rod bore relative to connecting rod bushing bore (parallel alignment).



10 Check offset of connecting rod bearing bore relative to connecting rod bushing bore and correct if necessary.

