

with transmission removed

M 116, M 117

Grouping of Flywheel or Driven Plate - Crankshaft

Group	Colour	Crankshaft dia. on receiving journal	Bore in flywheel or in driven plate
I	red	54.99–55.00	55.00–55.01
II	yellow	55.00–55.01	55.01–55.02
III	green	55.01–55.02	55.02–55.03

Anti-Fatigue Bolt (Expanding Bolt) for Flywheel or Driven Plate on Crankshaft

Anti-fatigue bolts, Part No.	116 032 02 71	
Thread dia. "D"	M 12 x 1.5	
Stem dia. "d"	when new	9.8—0.2
	min. dia.	9.3

Fig. 1

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Tightening of Anti-Fatigue Bolts

Initial torque	3 + 1 kpm
Angle of rotation torque	90° + 10°

Special Tool

Angle of rotation tightening tool for tightening flywheel and driven plate fastening bolts	115 589 02 13 00
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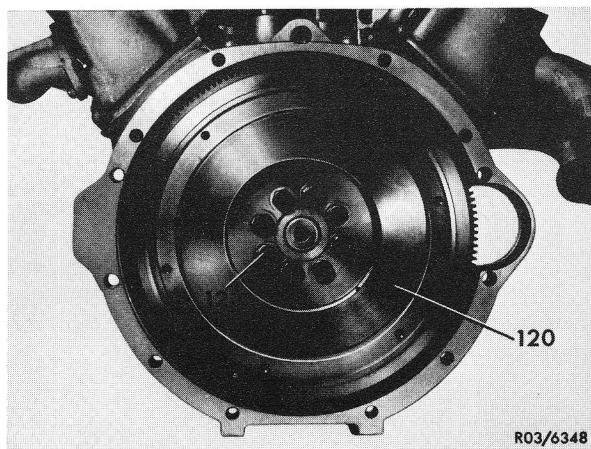


Fig. 2

120 Flywheel
123 Fastening bolts

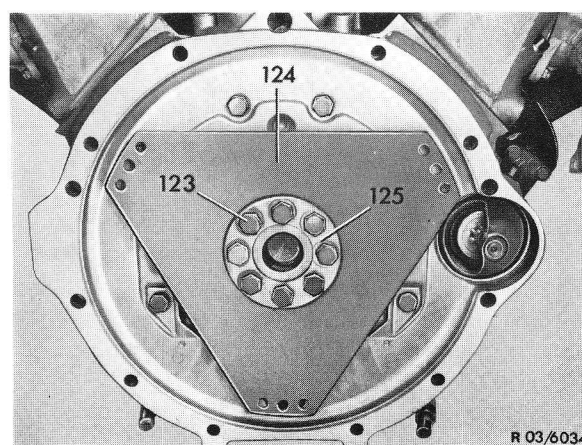


Fig. 3

123 Fastening bolts
124 Driven plate
125 Spacing washers

03.1 Removal and Installation of Flywheel or Driven Plate

Removal

- 1 Loosen fastening bolts (123) and remove flywheel (120) or driven plate (124) (Fig. 2 and 3).
- 2 Watch out for the two spacing washers (125) when removing driven plate (Fig. 4).

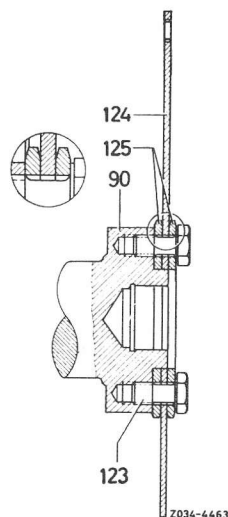


Fig. 4
90 Crankshaft
124 Driven plate
125 Spacing washers

Installation

Caution! If a new flywheel must be installed, no static balancing is required, since each part of the power unit (flywheel, crankshaft and vibration damper) is individually balanced.

Due to the installation tolerances on the crankpin or receiving bore in flywheel and in driven plate the crankshaft, the flywheel and the driven plate are combined in three groups.

Use only parts with similar color coding during assembly

- 3 Position flywheel on crankpin in such a manner that the offset bore in the crankshaft flange or in flywheel and in driven plate are in alignment. Place spacing washers (125) in front of and behind driven plate (Fig. 4).

- 4 Measure anti-fatigue stem of bolts. When the minimum dia. specified in Table on anti-fatigue stem is obtained, use new bolts.

When tightening bolts, proceed as follows:

- a) Initial tightening with torque wrench.

Then continue tightening to specified angle using angle of rotation tightening tool (Fig. 5).

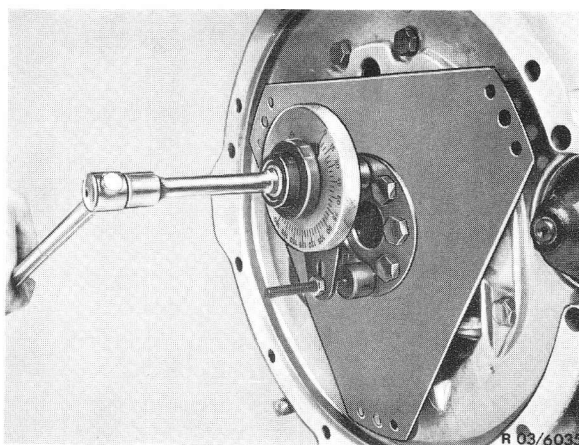


Fig. 5

- b) Initial tightening with torque wrench.

Then continue tightening the bolts to the specified angle, while **estimating** the angle.

Caution! Do not use the yielding torque wrench, but a standard socket wrench with tommy bar. Position wrench in such a manner that the bolts can be tightened to the specified angle **without obtaining a new hold**, to prevent the possibility of angle errors.

Use the method according to b only when no angle of rotation tightening tool is available.

Do not tighten to less than specified angle. A slight excess is permitted.

When tightening, use perfect socket wrenches only. Some of the tightening torques are very high and widened or badly positioned wrenches may slip easily and damage the bolt heads.