

TA 1902-0001

Technical Instruction



Instructions for fitting and testing reduced-shaft bolts



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1 Instructions on torque values

- 1.1 For a table of torque values, refer to TA 1902-.... in the respective Operator's Manual.
 - 1.2 All screws, bolts and/or nuts listed in TA 1902-.... must only be tightened using the specified tightening torque (and angular displacement) and only using a suitable torque wrench. During tightening, fresh engine lubricating oil must be used as a lubricant (never use molybdenum-based grease!). Apply this oil to the clean thread and to the bolt or screw head and nut contact surface.
Always follow the instructions in TA 000-00-003!
-  Never use screws, bolts, nuts or washers which show defects (even slight ones) e.g. on thread or contact faces.
When using a thread locking liquid, use only **LOCTITE 243**.

2 Instructions for testing and replacing reduced-shaft bolts

-  After the engine has been dismantled, all reduced-shaft bolts must be tested to ensure that they are in absolutely perfect condition. In the absence of suitable testing equipment or adequate specialist knowledge, especially when the cost of testing is greater than the value of the bolts, they should be replaced.
- These also include reduced-shaft bolts that are not usually removed during a general overhaul of the engine (e.g. counterbalance bolts, flywheel bolts, etc.).
- 2.1 The contact faces of the bolt head, the transitional points and the shaft surfaces must be free of notches, frictional corrosion or rust formation.
The cross-grinding or phosphatisation of the bolt-head contact surfaces must be undamaged.
 - 2.2 The contact faces must be at right angles to the thread.
 - 2.3 Check reduced-shaft bolts for cracks.
 - 2.4 The thread must be free of defects, such as cracks, frictional corrosion, distortions, etc.
 - 2.5 If the criteria set out in sections 2.1 - 2.4 have not been satisfied, new bolts must be used.
Whenever new bolts are to be used, replace the entire set of bolts.
 - 2.6 In the event of damage to con-rods, main bearings or pistons, replace all the bolts in the "surrounding area" and all bolts that work together as a set.

3 Revision code

Revision history

Index	Date	Description / Revision summary	Expert Auditor
2	10.04.2019	GE durch INNIO ersetzt / GE replaced by INNIO	Stojiljkovic T. <i>Pichler R.</i>
1	27.05.2010	Umstellung auf CMS / Change to C ontent M anagement System ersetzt / replaced Index: e	Schartner <i>Pichler</i>