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Shaft separation in alternators

If the shaft fractures and separates during an alternator replacement, this can usually be attributed to improper assembly. Hence a number of points must be considered when replacing an alternator (type MG).

Before beginning any work on electrical components, de-energise them first. This means you must first disconnect the battery earth cable and the positive lead from the alternator. Only then can the danger of a short circuit be averted.

In some cases, the pulley from the old alternator must be fitted onto the new alternator. In doing so, do NOT use an impact driver to tighten the nut, as this can cause the shaft to fracture and separate.

An insufficient tightening torque applied to the nut can also result in significant damage to the alternator, since the inside ring of the rolling bearing is tensioned by means of the pulley nut. Lack of the appropriate pretension leads to increased wear on the shaft and subsequent wobble. The rotor and stator can thus come into contact, ultimately causing a short circuit and the complete failure of the alternator.



Figure 1: Separated thread



Figure 2: Impact drivers are only used to loosen the pulley, NEVER to tighten it!

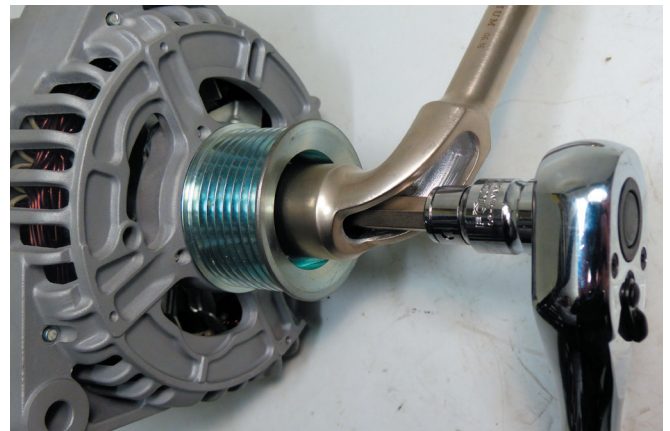


Figure 3: Always use a hold-down tool and torque spanner to tighten the pulley.

IMPORTANT!

Always use an appropriate hold-down tool (hexagon socket or multipoint) to secure the alternator shaft in place and a torque spanner to tighten the pulley nut to specifications.

Tightening torque: M16 x 1.5: **95 Nm** +/- 5 Nm
M27 x 1.5: **152 Nm** +/- 17.5 Nm