

Borg Warner

APPLICATION

**Fixing Impeller to
 Shaft in an Automotive
 Electric Air Pump**

USA

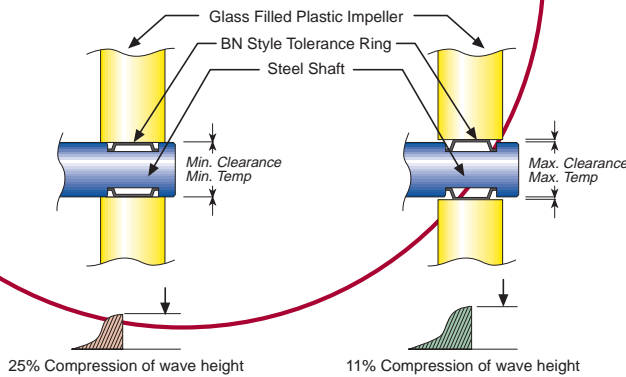
CASE STUDY

PROBLEM



To fix "as-molded" glass-filled plastic impeller to a steel shaft and retain in place, while transmitting required torque, across 200°C temperature range and achieving defined minimum push-off force across tolerance range.

SOLUTION



Mount impeller on 5mm shaft with Tolerance Ring in a centered arrangement. Use BN style Tolerance Ring that has a diameter of 5mm and is 6mm wide.

BENEFITS

Allow as-molded tolerances on draft. Transmits torque across temperature range and tolerance range. Reduces assembly forces and guarantees minimum disassembly forces.

STATUS

Production since 1994