

Case History 101

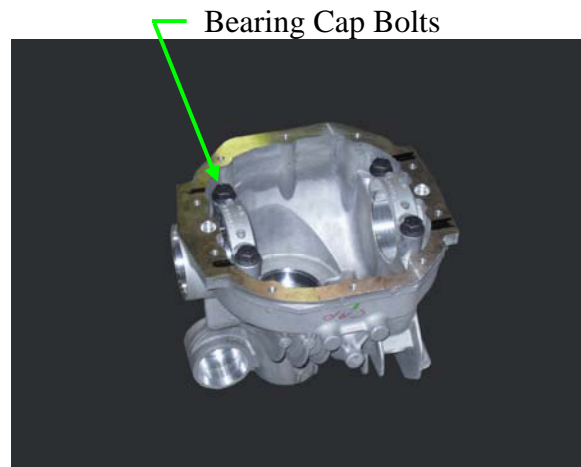
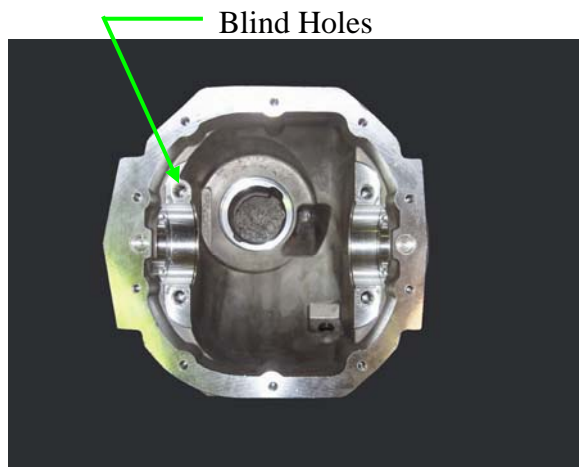
Industry:

Automotive

Components/Products:

Drive axles for passenger vehicles, light trucks, vans, heavy trucks and buses.

Background:



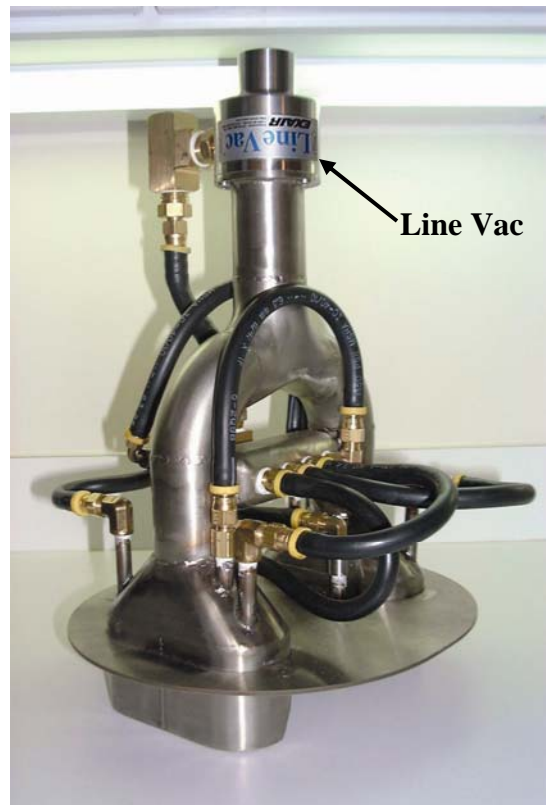
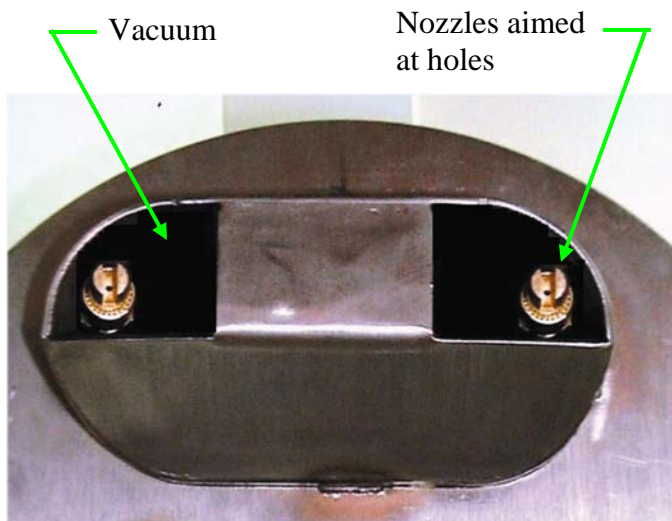
Two large bearings are part of drive train differential assemblies. The manufacturing process involves drilling and tapping holes and the assembly of the retaining bolts that hold the bearings in place. The bolt holes are blind so they tend to collect chips and other foreign material during machining.

The Problem:

The retaining bolts that hold the bearing in place must be tightened to a specific torque. If metal chips or other foreign material is trapped in the blind bolt holes before assembly, the required clamping force will not be achieved.

If this problem occurs, the differential is improperly assembled. The consequences being reduced production together with manufacturing and warranty cost increases.

The Solution:



A blow-off/vacuum system incorporating **four EXAIR Model 1001 blow off nozzles** and an **EXAIR Model 6083 Line Vac** is automatically lowered to the differential housing just after machining but before assembly. The fixture cleans out the holes and safely vacuums the chips and debris away for deposit in a remotely positioned **EXAIR Model 6193 Chip Vac** (not shown).

By balancing the input pressures to the **EXAIR nozzles and Line Vac**, all the chips and debris are safely removed while using a minimum amount of compressed air. Noise levels are maintained well below the allowable maximums. The system timing is controlled by the production line PC so repeat performance is guaranteed.

This proven system has been used by almost all the axle manufacturers in Detroit, Michigan, U.S.A.

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