SUBJECT: Fault and No Fault Injector Warranty Claims

The following analysis of injectors submitted for warranty in 2003 will help identify and correct some injector warranty issues. Warranty claims submitted represent only 0.19% of sales. Of those claims submitted, 77.5% were determined to be "No Fault Found."

No Fault Found

Almost one quarter of the claims in this category were found to be "chamber gasket not sealing" (see photo at right). Alliant Power Warranty Policy specifically excludes failures caused by "...improper application, installation or operation...," and chamber gasket not sealing is an installation problem. Before installing Alliant Power Injectors in an engine, we recommend using solvent and a stiff brush (i.e., Rotunda/Owatonna Tool part number 303-D111) to loosen and remove carbon materials. Pay particular attention to the chamber gasket and injector O-ring sealing areas then use shop towels to clean and dry the sleeve.

If your customer brings you an injector with a split or cracked nozzle tip, to avoid repeated failures we strongly suggest you treat the failure before you replace the injector. Of the two split or cracked tips warranty claims processed in 2003, both were found to be no fault of the injectors – one failure was tracked to air in the fuel, the other instance was due to low fuel pressure. See Alliant Power Technical Bulletin APTB 03/04 for more detail on preventing injector tip failures.

Although 22.5% of claims submitted were found to be warrantable or fault found failures, the actual cause of many of the failures could not be determined.

Fault Found

The most common characteristic of those injectors determined to be fault found was a stuck intensifier piston. While it is possible materials or workmanship can lead to a stuck piston, the main causes are:

- **Misalignment caused by dropping or rough handling of the injector prior to installation**
- **No or low oil pressure**
- **Air in the lubrication oil**
- **Improperly torque injector hold down clamp bolts – be sure the installer is using an accurate torque wrench to torque both the "shoulder bolt" and the hold down clamp bolt to 12 lb-in (14 Nm) for V-8 engines and 110 lb-in (13 Nm) for I-6 engines.**

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