

APTB 10/11

SUBJECT: G2.8 Remanufacturing Process

July 1, 2011

In the spring of 2011 both Ford® and Navistar® released bulletins comparing their remanufactured G2.8 Injectors to various “competitors.” Alliant Power would like to demonstrate that our remanufacturing process produces a product that matches the quality of both Ford and Navistar, while simultaneously providing a price advantage. See descriptions below.

Coil Assembly

- The coil assembly is fully tested and inspected for any wire damage. If a coil is defective it is discarded.
- If a wire has a nick in the coating or if there are bare wires present, a wire repair is made using our patented repair process.
- The bullet connector is replaced with new as needed.
- The coil cross bolt and nut are replaced every time.
- All coil assemblies must pass testing both on their own and installed on an actual injector. Coils are reused or repaired as necessary to keep product cost down.



End Cap

- The latest version of OEM end cap production incorporates a slot on the surface with the intent of reducing “stiction.”
- Since Alliant Power is providing a remanufactured injector, some injectors will have an end cap with a slot and some without.
- At this point, there is no conclusive and consistent data that confirms the revised design cures all “stiction” related problems. Therefore, the slotted and non-slotted caps are treated as the same component in our remanufacturing process.
- “Stiction” related complaints have occurred on injectors with both styles of end cap.



For further “stiction” information refer to Alliant Power Technical Bulletin [APTB 01/09 R1](#).

Disk Check Assembly

- The internal mating surfaces of the G2.8 injector seal high fuel pressures up to 25,000 psi.
- Improper surface finishes can result in internal leakage and poor injector operation.
- Alliant Power uses a precise refinishing process that restores sealing surfaces to OEM quality.
- All refinished pieces are measured for proper thickness; all pieces below minimum thickness levels are discarded.



Intensifier Body and Plunger

- Each intensifier body and plunger is precision matched to tolerances within one micron. A mismatched set could lead to excessive leakage between components, which would affect injector performance.
- plungers that show wear are discarded.



Control Valve Body and Spool

- Each control valve assembly is disassembled and inspected for reuse. It is examined for wear and any signs of damage/contamination.
- Each unit is tested for proper operation.
- If defects are found in either the body or spool, the assembly is discarded.



Nozzle Subassembly

- The nozzle subassembly on an Alliant Power Remanufactured G2.8 Injector will have either a remanufactured or new nozzle installed.
- Each of the nozzle subassemblies are 100% flow tested to ensure proper operation.
- Remanufactured nozzle subassemblies are disassembled and ultrasonically cleaned.
- The seat profile is resurfaced.
- The needle lift is measured for proper height and overall length of the nozzle is measured to ensure proper thickness.
- The subassembly is tested for leakage, opening pressure and proper spray pattern.
- Nozzle subassemblies that fail the above inspections or tests are discarded.



Injector Assembly

- An injector calibration procedure is performed on all Alliant Power Remanufactured G2.8 Injectors. This procedure runs the injector through multiple test steps on a proprietary bench, ensuring proper operation.
- The bench tracks each injector by serial number, capturing production date and flow rate data at the time of calibration.



Precise and accurate methods are employed to test and rebuild each component used in Alliant Power Remanufactured G2.8 Injectors. Each process is constantly monitored to ensure product quality. Through customer feedback and warranty analysis, the remanufacturing processes continues to evolve, resulting in a high quality, competitively priced product. Below is a comparison similar to those found in OEM service bulletins. In place of “competitor”, we inserted “Alliant Power” to clarify the processes used in remanufacturing the G2.8 injector.



Technical Bulletin

INJECTOR COMPONENT	FORD/NAVISTAR	ALLIANT POWER	BENEFIT/RESULT
Coil Assembly	New	Precision remanufactured coil	Coils are inspected and tested, damaged wires are repaired, connectors are replaced with new
Coil Assembly End Caps	Uses end cap with vented slot to prevent “stiction”	Precision remanufactured end caps	Uses both versions
Disk Check Assembly	High–pressure sealing surfaces are refinished to OEM specifications	Lapping process yields product within OEM specifications	Ensures precise flatness and thickness
Control Valve Body & Spool	New spools	Tested/inspected for reuse	Equal functionality & more cost effective
Intensifier Body & Plunger	Precision match honed new plungers	Precision matched or replaced with new	Equal functionality & more cost effective
Nozzle Assembly	100% flow tested	Precision remanufactured/new 100% flow tested	Ensures proper performance