



SST Cold Spray Repairs Worn Bearing Seats

Background

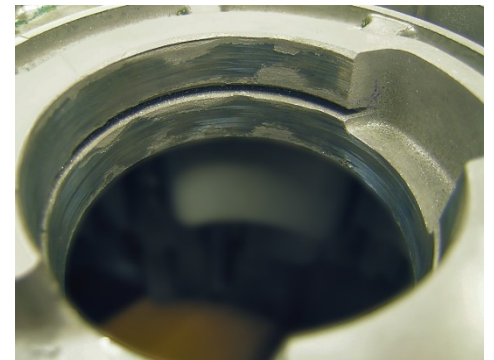
A major U.S.-based company that refurbishes automatic transmissions was seeking a solution to repair worn bearing seats on torque convertors. Fixing the uneven, eccentric wear around the ID circumference was challenged by the presence of a ring groove that limited the access to the repair area. The application required that the bond between the repaired metallic lining and the bearing seat be strong enough to allow for machining as part of the finishing process.



The Problem

At first, the manufacturer considered traditional repair methods, such as welding and thermal spray. Although successful in many other applications, these processes were rejected for the following reasons:

- The excessive heat input would have led to surface distortion and loss of tolerance limits.
- Substantial masking required by these processes would have increased repair costs due to added labor and cost of masking materials.



The Solution

The manufacturer decided to utilize the **SST™ Cold Spray** process to apply the aluminum coating directly to the ID of the component bore. A standard CenterLine SST Series P Cold Spray Machine equipped with an UltiLife™ Modular Nozzle was used to manually spray SST-A0050 aluminum / alumina powder onto the damaged areas. The first coatings were applied at a thickness target of 15 mils.



After a few months of validation testing, the SST Cold Spray became a fully approved process for the repair of bearing seats in torque convertor housings.

Customer Benefits

In the first month of 2012, the customer salvaged \$75,000 worth of components that would have otherwise been scrapped. It is expected that the SST Cold Spray process will generate further costs savings, as the customer is investigating other types of components that could benefit from the application of SST Cold Spray.

If you require more information about this project, please contact CenterLine, the SST Division.