

FCA US LLC Chronology
Left Front Brake Caliper Potentially Cast from Grey Iron
Submitted on March 22, 2016
Revised April 5, 2016

- On January 11, 2016, the Tier 1 supplier experienced a failure on their 100% caliper line high pressure tester. Parts were found to be made with grey cast iron (rather than the design-required ductile iron) and were traced to pour date 3405 from December 6, 2015. This lot consisted of 18,750 pieces of which 18,600 were shipped to the Tier 1 brake caliper assembler.
- On January 12, 2016, a redundant 100% ultrasonic test was added to the production process at the Tier 2 casting supplier which the supplier will maintain until all corrective actions are in place and the process re-validated.
- On January 14, 2016, the FCA US LLC ("FCA US") Vehicle Safety and Regulatory Compliance ("VSRC") organization opened an investigation as a result of the supplier notifying FCA US that a left front caliper failed their end-of-line high-pressure test and that some of the suspect parts may have been built into vehicles no longer within FCA's control.
- Investigation established the suspect period based on the caliper pour date and subsequent traceability through vehicle production build. The suspect vehicle population at Jefferson North Assembly Plant ("JNAP") was built from December 9, 2015, when the suspect lot of front left brake calipers was first delivered to JNAP to January 14, 2016, when 100% ultrasonically tested, certified ductile iron calipers were implemented on-line and the suspect brake caliper parts were returned to the Tier 1 supplier.
- On January 26, 2016, results of supplier testing on grey iron parts and further investigative results were received by FCA US. The results demonstrate the grey iron caliper housing fails below specification on torque fatigue and pressure fatigue tests. The torque fatigue test samples failed at 29,250 and 30,600 cycles of a 1,000,000 cycle test. The pressure fatigue test samples failed at 6,180 and 21,563 of a 1,000,000 cycle test.
- Root cause was determined to be incorrect non-conforming material control at the casting supplier. During material transition, two production caliper molds (eight total parts) were used to dispose of transition iron rather than coreless molds. Additionally, the facility experienced a brown-out, causing the suspect material to incorrectly pass their radio frequency testing.
- Beginning January 27, 2016, FCA US continued to monitor the field for an additional 30 days to determine if there was a potential of additional suspect parts; no parts outside of the suspected scope were reported.
- On March 1, 2016, Continental submitted a position letter to FCA US that ultrasonic testing of vehicles in the field is not feasible and recommends inspecting and replacing suspect calipers.
- As of March 10, 2016, FCA US identified approximately zero CAIRs, VOQs or field reports related to this issue.
- As of March 10, 2016, FCA US is unaware of any accidents or injuries potentially related to this issue.
- On March 15, 2015, the FCA US Vehicle Regulations Committee decided to conduct a voluntary safety recall of the affected vehicles to inspect and replace calipers from the suspect casting lot.