

The 8th ERC-Big 3 Quarterly Review meeting was held on September, 2009 at the University of Michigan, in which four projects were reviewed. Thanks for the following representatives from Ford, GM and Chrysler who came to the meeting and made very insightful and constructive comments during the meeting:

Ford: Steve Carl, Craig Putnam, Annette Januszczak, Frank Maslar

GM: Stephan Biller, Rani Finstad, John Agapiou, Jae Lee, Paula Deeds

The five projects reviewed were:

1. Model Based Diagnostics
2. Inspection of Surface Defects in Small Bores
3. In-line Inspection of Engine Valve Seats
4. Crankshaft Polish In-Line Inspection

1. Meeting minutes

- **Model Based Diagnostics**
 - This project is of high interest by Ford and GM.
 - Ford will provide event data of six months for case studies.
 - Lindsay Allen and Dawn Tilbury to follow up with Craig Putnam and Mike Bastian to get the data
- **Inspection of Surface Defects in Small Bores**
 - Detection of surfaces pores is mature.
 - Chatter marks on the surfaces can also be seen and detected. Specifications are needed to further define the threshold.
 - ERC will focus on the sight-pipe RR test and alignment (b/w sensor and bore) issues.
 - Industry suggestion: bring a third party vendor to discuss the feasibility of implementation.
- **In-line Valve Seat Inspection**
 - The laser scanning method for measurement of valve seat geometry has been improved and tested. The new method can reduce the measurement time from 193 seconds to 23 seconds.
 - Chatter marks on the valve seat chamfers can also be detected.
 - Specifications for chatter marks are needed to set the threshold.
- **Crankshaft Polish In-Line Inspection:**
 - This project is ready to be implemented. The next step is to focus on the repeatability tests.
 - GM will prepare 9 new samples for more testing; ERC team will also do onsite testing in Chrysler Trenton engine plant.

- ERC suggested having machine builders or vendors involved so that the ERC research team can focus on ONE technical approach.

2. Next quarterly review meeting

Next quarterly review meeting was suggested on December 2, 2009 from 2:00pm to 5:00pm. The following projects will be reviewed.

- Leak testing
- Virtual Fusion: The Complete Integration of Simulated and Actual
- Wireless Network Analysis and Testing
- Crankshaft Polish In-Line Inspection
- Reducing Unscheduled Downtime Through Automated Event-Based Control was also suggested to be reviewed if new progress will be made.