Mack Surveillance Panel

Thursday May 31, 2012
10:30 a.m. – 11:30 a.m. Eastern Time
Dial-in number:
877-344-4239
Passcode:
955780#

Mack Surveillance Panel Meeting Notes

The conference convened at 10:30 a.m. Eastern time, with Mark Cooper acting as Surveillance Panel Chair.

Membership / Attendance **Mark Cooper**

Mike Alessi, Zack Bishop, Doyle Boese, Jeff Clark, Mark Cooper, Jim Matasic, Jim Moritz, Sean Moyer, Jim Rutherford, Scott Richards, Addison Schweitzer, and Greg Shank.

Review T-12 Industry Correction Factor **Jim Rutherford/Group**

At the May 16th Mack Surveillance Panel meeting, the panel decided to set up a follow-up teleconference to further discuss suggested updates to the industry correction factors for the Mack T-12 following additional statistical analysis by Doyle Boese and Jim Rutherford.

Doyle Boese began the meeting with his statistical analysis and several methods for calculating industry correction factors. Doyle mentioned that the differences between the Target and STVN/STWN groups were at least borderline statistically significant by most methods presented. The data presented were reference oils 821, 821-1, and 821-2 represented by plots and models and were unadjusted (neither industry correction factor or severity adjustment adjusted). However, the data utilized in the Severity Adjustment method included all reference oils. The majority of the analysis compared the Target set to the STVN/STWN hardware set. Doyle stated that the plots and models did not include reference oil data between the Target set and the STVN/STWN hardware sets. He further commented that summary data was provided for subsets of the STVN/STWN hardware sets, but recommended that the entire STVN/STWN set should be used. Doyle stressed that there was approximately three years between the Target set and the STVN/STWN data sets.

Doyle Boese described the models presented in detail:

- Data utilized 25 Target tests and 21 STVN/STWN tests
  - Each T-12 parameter was regressed on:
    - Separate Lab – hardware and a separate lab term for the two hardware sets.
    - Same Lab – hardware and the same lab term for the two hardware sets.
    - No Lab – hardware with no lab term.

Severity Adjustments were calculated from the reference oil tests prior to the start of each STVN/STWN tests for each lab and were applied to each of the STVN/STWN results (This method assumed that the Industry Correction Factor's placed the industry on target and the Zi had reached stability). Doyle stressed that the Severity Adjustments were calculated using the "dead zone" in addition to the "continuous" methods.

Doyle began with his results for cylinder liner wear identifying that there appeared to be a lab effect. On Slide 7 (CLW Summary Statistics), the left side displayed summary statistics for the Target data set, while the right side represented the statistics for the STVN/STWN data set. Doyle included a detailed description of the statistical calculations displayed and mentioned that the lab p-value typically had an understood threshold of ~0.05 after questioned by Scott Richards. Doyle stressed that the model comparing the last ten tests with a standard deviation of 1.8 could be a short term apparition and not necessarily something to base Severity Adjustment's or Industry Correction Factor's on. The Mack Surveillance Panel reminded everyone that CLW has two different targets (ICF have one number [16.2] and SA's to another number [15.1]), and the Panel would need to address this issue moving forward.

Secondly, Doyle presented top ring weight loss and stated that a lab effect was again apparent. Next, OC was described to have an obvious shift in severity for STVN/STWN relative to Target. After that, delta lead EOT was shown to have a lab effect. Lastly, delta lead two displayed an apparent lab effect in STWN data.

Action Item:

The Mack Surveillance Panel asked Doyle Boese to recalculate the results without Lab I as well as review the data for significance.

*Note: See attachment to review Doyle Boese's statistical analysis and proposed modifications to correction factors in the PDF file called T12 Industry Correction Factor.

Bob Campbell stated that Industry Correction Factors would need to be reviewed against Targets otherwise it would be counter-productive.

Old Business / New Business **Mark Cooper**

The availability of reference oil 1005 was questioned by Mark Cooper and the Surveillance Panel. Greg Shank mentioned that the re-blend of 1005 was in progress and that he should have additional information within a week.

Jeff Clark later addressed additional reference oil issues later in the Mack Surveillance Panel Meeting. Jeff started by saying that the re-blended reference oil for the Mack T-11 was to be available by the supplier in July 2012. Jeff further stated that the Mack T-12 reference oil was running low on supply.

Zack Bishop established the date (Tuesday June 12th 2012) and the attendees to the Mack Remanufacturing Center to inspect the connecting rod bushing installation procedure. The attendees were as follows: Jeff Clark, Sean Moyer, Mark Cooper, Ken Goshorn, Zack Bishop, Jim Matasic, Addison Schweitzer, Andy Broff, Jim Gutzwiller, and Mike Boggs. The purpose of this visit was to inspect and question potential defects

in the remanufacturing process (holes, off-center bushings, green paint, and grind marks).

Next Meeting **Mark Cooper**

Jim Rutherford successfully suggested that a net meeting be utilized for the next Surveillance Panel meeting. The proposed teleconference and net meeting for the Mack Surveillance Panel was for June 4th 2012 at 3:00-5:00 PM Eastern Time.

Meeting Adjourned at 11:00 AM Central Standard Time.