

# DD13 Surveillance Panel Teleconference Meeting Minutes

June 22, 2017

12:00 PM CST

## Call Participants:

Lubrizol - Patrick Joyce (Chairman), John Loop, Kevin O'Malley  
Southwest Research Institute – Jose Starling (Secretary)  
Intertek - Jacob Goodale, Jim Moritz  
Daimler - Suzanne Neal, Greg Braziunas  
Infineum - Jim Gutzwiller, Elisa Santos, David Brass, Bob Salgueiro  
Oronite – Jim Rutherford, Mark Cooper  
TEI – Derek Grosch, Mark Sutherland  
Afton – Christian Porter, Cory Koglin  
TMC – Sean Moyer

*Approval of last meeting's minutes*

## Reports:

### **Parts Update**

July 21st is the estimated final ship date for liners to TEI. Detroit Diesel will update us the group if there are any changes to this date. There are approximately 20 kits worth of PNB liners remaining at TEI and each of the labs has a decent stock of around 8 to 10 kits in most cases. MCM's and wiring harnesses for this test will be sent to TEI for stocking from Detroit Diesel.

**Fuel Update** – (Mark cooper) Task force is still working on characterization techniques and the tech committee is also working on alternative supplier language. At the end of the day each test panel would have to determine fuel specific targets to insure that fuel severity for an alternative supplier meets desired specifications. Mark will continue to provide us with updates as progress continues.

**Recap of Build Workshop** – There were no significant differences noted between build procedures at labs during the build workshop. During the build workshop upcoming changes to components due to unavailability were covered. The small differences between labs were noted with details as outlined below. A presentation further discussing these details we be sent out to the SP once compiled.

- **Use of the two fuel filter module** - The three filter fuel module is no longer available for purchase. Lubrizol was in need of one and they were forced to order the two filter fuel module which has slight differences in plumbing. Lubrizol has installed the two filter module on one of their engines and they will document test specific changes required and changes to coolant plumbing. There may be a slight change in coolant flow between liner 5 and 6 due to the connection from the three fuel filter module to the air compressor that is missing on the two filter module. However, the air compressor is not used on this test so this change would have very little effect. The line on this new two fuel filter module would just be a line from the module to the block. In order to avoid major changes between the labs it was discussed that there may be additional inventory

at Intertek or Southwest to supply Lubrizol with the currently used fuel module. This would also avoid the need to change the fuel filters included in the TEI test kit.

- **Use of Coolant Filter** - Detroit Diesel states that the coolant filter is not necessary for the DD13 scuffing test. If cost reduction is desired the coolant filter could be taken out in the future, however for the time being it will remain in the kit to be replaced each test as the labs currently do.
- **Cylinder Head cleaning procedure** - is not standardized across the labs. Lubrizol takes apart the head, cleans the valves and replaces the keepers, springs and seals. While Southwest and Intertek only clean the cylinder head and check for leakage, not rebuild. This portion was not deemed critical and will be left at lab discretion.
- **Marking front of liners** - Currently the procedure does not state to mark the front of the liner prior to installing them, so the procedure will be modified to note that the front of the liner should be marked at installation. Southwest and Intertek both use 3D QR code as front of liner and so does TEI for pretest measurements, while Lubrizol uses this code to note the thrust side. It was agreed that as long as liners are marked what is considered front was not critical, however Lubrizol mentioned they would not have an issue switching their reference point to match the other two labs.
- **Liner Cleaning** - The procedure in section 8.1.10 states to wipe the liners clean with heptane on step 6 after they have already been oiled, which none of the labs do. It was agreed that this step was not necessary so a change will be made to remove it from the procedure. An additional step will be included to note a time limit on the time the liners can remain oiled while not being installed.
- **Piston Cleaning** - Pistons are not being cleaned in the same manner across the labs. Moving forward labs should limit the use of wiping with heptane as this can remove the phosphate coating. The pistons should be solvent washed and dried with optional use of heptane but minimize wiping.
- **Cylinder heads** – All of the cylinder heads currently used on this test are scalloped heads, however some labs have ordered the scalloped head and received “remans” of the old non-scalloped heads which should not be used.
- **Oil pump change interval** – Southwest and Intertek replaces oil pumps on every test while Lubrizol replaces them every other run. Lubrizol does not mind replacing every test to align with other labs, so it was requested that these pumps be included in the TEI kit. Also the flywheel bolts should be included in the TEI kit.
- **Washing/Oiling Rocker shafts before assembly** – labs were slightly different in how the rocker shafts were oiled and or cleaned, however it was agreed that this should be left up to lab discretion.
- **Differences in Driveline** - Lubrizol uses a double u-joint shaft to connect engine and dyno, Southwest utilizes a Centamax style coupling system and Intertek has a few driveline setups including a double u-joint system and Centamax style coupling system. It was determined that this does not need to be aligned at the labs do to existing data from all labs using the various drivelines.

This concluded the major points discussed during the build workshop.

### **Unfinished Business:**

**Reference Test Severity (Determine testing plan)** – New liners will be in late July and referencing with these will likely begin late August. There are 20 kits worth of non-batched liners at Intertek plus additional stock at each of the labs. It was mentioned that if this first batch of liners is approved, we would likely not use any remaining PNB liners and move directly to the batched liners, however this is pending discussion in the surveillance panel.

Once the complete set of new batched liners is received at TEI they are to perform measurements on a previously decided quantity of 150 liners which are to be representative of the entire batch. These results are to be sent out the panel members and comparison to PNB liners discussed in an upcoming SP meeting.

**Coordinated References** - It was discussed that the best option is likely to combine all changes with the new liners included and run coordinated reference runs. It was discussed that the group should draw a line in the sand and move forward with current hardware and oil. If all stands come in mild than each lab would likely trigger a level two alarm which would require a second reference test. The plan on how to conduct the coordinated reference runs will be discussed further in the upcoming meeting.

### **New Business:**

**DD13 Scuffing test inclusion into Raters Workshop** - It was brought up at the last SP meeting whether the panel would like to have the DD13 test included in the annual rating workshop. It was agreed by the SP members that the DD13 scuffing test should be added to the rating workshop.

### **Next Meeting**

Next meeting is pending, but notification will be sent out.