

Cat Aeration Task Force meeting
June 26, 2014. Conference call

Attendees: Barbra Goodrich, Martin Thompson, James McCord, Tim Griffin, Jim Moritz, Kevin OMalley, Jim Matasic, John Osborn, James Rutherford, Bob Campbell, Jim Gutzwiller, , Caroline Laufer, Elisa Santos, Bob Salgueiro, Zack Bishop, Dan (/?), Michael Alessi, Sean Moyer, Jeff Clark, , Mark Jarrett, Hatuey Campbell, Hind Abi-Akar

1- Progress and Break-in process:

SWRI will continue break-in for 20 hour for a total of 75 hours. Will Monitor Si until it stabilizes and measure Blow-by.

The filter will be changed also with each oil change.

IAR: engine will be rebuilt next week. About 2 weeks to start break-in.

Lubrizol: engine at Cat for break-in. A similar protocol will be followed. Blow-by will be monitored as well as oil consumption

Discussion of the Si increase: oil carry over in the engine probably contribute to the high Si in the new oil.

Actions:

- Oil cooler, pan and oil bucket (if used) should be drained at every flush.
- Full drain and oil change at 25, 50 and 75 hours.
- All labs will have a total of 75 hours break-in (in order to have common process.)
- Oil samples for the second 25 hours: 51, 60, 70 and 75 to monitor Si
- Cat will provide info on the starting of the break-in.
- An update will be given by SWRI following the 75 hours. A decision to continue to 100 hours will be made based on the 75 hours results

2- Review of engine operation parameters/data by TMC

Need to discuss operational parameter with limits and control.

Discussion of the measurements of pressure: absolute, transducer, gauge, etc. There are differences in the measurements among the labs.

Actions:

Exhaust back pressure, boost pressure, intake manifold, inlet air pressure need to be controlled.

- TMC will send the data in order to determine the set points. All operational parameters will be plotted and shared with TF and will be on TMC website.
- All: provide input to Sean on the parameters in the template. Specifically, any additions to the template sent already.
- All: Provide input on the units needed for the parameters
- Review controller output and heated line surface temperature.
- SWRI: Measure the pressure drop across the filter and check the lowest pressure barometer at the labs.
- SWRI will send a test plan to control the pressure parameters

- o Pressure and back pressure information: Will review the data from Sean to determine the prior data

Discussion of the CCP:

- Can run year-round?
- Can discriminate at 102 kPa?
- Can discriminate at 100 kPa?

Discussion of Back pressure in relation to the CCP and engine operability and impact on turbos.

3- Test oil plan

1005: serves to help the replacement

Kevin will put together options for the test plan.

Preliminary:

5 tests on high aeration (Intertek and Lubrizol each have one 30G)

4 tests on 1005

Cat: Determine the availability of high aeration oil.

Repeats: back to back

Consider the effect of engine hours: potentially at a later time.

4- Timeline

Time for testing: 2 weeks

Engine build and break-in at Intertek: Mid July or July 18

Three tests can be run in 2 weeks

Retains of 1004 are available in the labs and when combined with the amount at TMC may be an option if high aeration oil is not available. The labs will send samples to TMC for analysis.

Data review and presentation to NCDT: Plan to send data prior to the Aug 14 meeting.