

ASTM Chain Wear Development Team Conference Call

Tuesday 22th November, 2016

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Meeting Minutes:

- Felt forwarded a schematic of the blowby heat exchanger configuration and dimensions. This drawing is representative of what Intertek has used throughout the PM testing. Attached.



Chain Wear Blowby
Measurements.docx

- The development team discussed the operational issues and concerns that are outlined in the attached presentation – pages 12 and 13.



CW Task Force
Meeting 111716.pptx

- Alex Ebner Slide
 - The BB stack oil separator was not configured properly at LZ and was filling with fluid during testing. Figure A2.10 in the procedure was referenced. LZ was using the top ports for gas in and out. The procedure diagram shows gas flowing in from the bottom port and out of one of the top ports.
 - Blowby validity criteria was not clear in sections 7.8.5.1 and 12.4.1. The intent of the procedure is a recommendation to run above 70 L/m of blowby at hour 24. Additionally it is a validity criteria to have an average blowby between 65-75 L/m for the first 120 hours. The procedure will be revised.
 - Oil consumption and oil leveling issues were discussed.
 - The dipstick calibration in the procedure is for a dry engine.
 - Tests engines are charged after a flush and this creates a wet charge that creates problems accurately measuring oil consumption.
 - The team discussed options to address the issue and came up with the following:
 - Use a drain and weigh measurement in addition to the dipstick method
 - After the final dip, the engine will be drained for 30 minutes
 - Oil filters will be weighed pre and post test to measure the oil left in the filter.

- The intent of the procedure is to not have more than 974 grams of oil consumed during the test.
 - Alex informed the team that he has a method of calculating Qi for ramps. He will make a presentation to the task force.
 - Another chain measurement round robin was recommended and is being planned
 - Alex communicated that a test at LZ on oil 270 produced a chain stretch of .115%. This result falls in line with the mean of the PM data.
 - TMC has conducted a lab visit to LZ
- Christian Porter Slide:
 - A discussion of blowby measurement apparatus took place and the group decided to allow the use of J-tech flow meters to measure blowby.
 - The J-Tech will be added to the procedure as an acceptable apparatus to use. The intent is to have all of the labs using the J-Tech meters but it is understood that there are many stands and the switch over cannot happen instantly. A material list will be prepared and a flow procedure written.
 - Break-in blowby stack configuration was discussed. It is not clearly defined in the procedure and an update is in process. The intent is to run in a test condition configuration with no cooling or heating of the blowby gas during break-in.
- Ron provided a hardware update:
 - 2014 Grade 3 pistons have been shipped from Valencia. Labs will be allowed to use these in the interim if they meet target piston to wall clearance. These are an option to use while the lifetime batch is fabricated. The lifetime batch of Grade 2 2014 design pistons are due in January.
 - The hardware solicitation for additional critical hardware is still being compiled at FCS.

Next Meeting :

- ASTM update in Orlando at both PCEOCP and AOAP.