

# ASTM Chain Wear Task Force Conference Call

## Friday 27th, October 2017

**Written By: Al Lopez**

Agenda:

1. PM and additional testing data – statistical review for LTMS
2. Hardware update
3. Timeline

**Attached is a stats group presentation:**



Chain Wear PM and  
PostPM Analysis n38

**Meeting Notes:**

- Rich Grundza presented the statistical analysis.
  - The data includes all PM tests and additional tests conducted. All of the data was pooled together for the analysis. 38 tests total.
  - The presentation looked at all the data combined and as separate subsets using Blowby configuration as the variable. There are 6 tests shown using the new batch BC pistons. Pistons were not used as a variable for the analysis.
  - The data shows good discrimination between oil 271 and 270 with near zero overlap of the raw data. One test on 271 was higher than normal.
  - Precision is 3.3 standard deviations between the two discriminating oils (271 vs 270). This is better than many other existing tests. An action item was made for Travis to make a table showing how this test compares to others from a precision standpoint.
  - The data supports a Ln (CHST) transformation.
  - Analysis showed 4 areas of concern
    - Fuel dilution differences between IAR and the other labs. A round robin that was done previously showed the same difference. This issue was attributed to measurement differences.
    - Silicone levels were higher at IAR. Other labs use an O-ring on the front cover. AR uses sealant.
    - Oil consumption levels were more variable at IAR. An action item was made to look into this
    - There is some evidence that engine life is related to severity. An action item was made to look at overall iron levels vs engine run number.
  - It was noted that not all of the additional tests had undergone an operational review. An action item was made to perform the review.
  - A motion was made to use all of the data that was analyzed for the LTMS.

- Motion: Instruct the stats group to create the CW LTMS based on the data and the statistical analysis using all 38 tests.
  - Motioned by Al Lopez and seconded by Ron Romano
  - Motion passed with a vote of 9-0-2
  - Voting members casting a yes vote: (Infineum, Lubrizol, Ford, IAR, SWRI, Afton, Valvoline, TMC, Oronite)
- Action Item Summary
  - Travis to make precision comparison table
  - Jim Matasic to review iron levels vs engine run number
  - Operational review of the additional tests – plot data
  - IAR to look into oil consumption variability
  - Rich to modify the test report to show Sequence X and include Ln transformation

#### **Hardware Update:**

- An engine purchase solicitation was issued by FCS on October 18<sup>th</sup>. This engine order needs to be placed and filled before the plant in Valencia changes piston design in the engine. **The deadline for ordering was October 25<sup>th</sup>. FCS has been informed that orders will be made and the deadline for ordering should be extended.**
- BC pistons and ring orders have been placed. Test Labs are currently using dealer rings. Part number: EJ7Z-6148-A

#### **Next Meeting:**

- The task force will meet for an operational review of the additional test data the week of Nov 6.
- A face to face meeting is scheduled during surveillance panel week. Nov 14<sup>th</sup> in San Antonio.