

# **L42 Task force Meeting**

## **February 7<sup>th</sup>, 2006**

### Attendees:

Don Lind  
Don Bartlett  
Chris Schenkenberger  
Brian Koehler  
Cory Koglin

### **TMC 116 and 112 test review**

Everyone reviewed the TMC plots of the 116 and 112 tests run in Decemeber/January. All labs completed 1 run on TMC 116 and 1 run on TMC 112. Available on TMC website.

### Questionable runs

- Parc had 1 run with drive side scoring
- Parc's coast side average torque between run 112 and 116 had a delta of ~35lb-ft
- SWRI's had a run with higher ring scoring than pinion scoring. Possible bright burnish example

3 labs (SWRI, LZ, Afton) review some of the Raw data and raw data plots. The plots were displayed overlaying each other as well as side-by-side on laptops. The group agreed the plots looked really good. TMC's comment was that the L42-1 plots look much improved and consistent over the L42 plots.

### **L42-1 Engineering issues/Development/new findings**

Chairman shared the "good" vs "bad" TPS plots that were taken from Afton's L42-1 stand. Summary was sent to TF by email week of January 30<sup>th</sup>.

SWRI shared their filtering experiment for conditioning phase 1. The plot was sent out by SWRI to the labs via email. The plot show data for no filtering, 1hz filtering, 3 hz filtering and 5 hz filtering. The 5hz and no filtering data showed a very raw torque signal (+/- 15lb-ft) while the 1hz and 3hz filtering showed a much more stable signal (+/- 5lb-ft).

SWRI was using a 3-pole butterworth software filter for this experiment. They currently have the filter turned off per the working group's request. They can turn it on or off by test phase and can set it to different Hz values as needed for each phase when used.

### **Action Item summary**

**Action item:** All labs to determine if they could add/incorporate some type of software filter, capable of turning off. Filtering will not be used during shock portions of test other than what is specified in the current specification.

**Action item:** Don Lind to check how the crankcase tests are specifying and performing filtering.

**Action item:** SWRI to look into filtering software program to view filtered data post test.

**Action item:** Don Lind to implement Low temperature Appendix into L42-1 similar to L37

**Action Item:** SWRI to look at temperature deviation percentage for discrimination run

**Action Item:** Chairman to work with TMC to type up history on L42 test for the L42-1 research report.

**Action Item:** All labs to perform dynamometer coast downs. Chairman to send out procedure before running

### Report Form changes

The Report form changes will be made to y-axis scaling on the following plots/forms:

| Form # | Max Y-axis | Min Y-axis | Increment | Units |
|--------|------------|------------|-----------|-------|
| 6      | 600        | 350        | 25        | RPM   |
| 7      | 650        | 850        | 25        | RPM   |
| 8      | 1150       | 450        | 50        | RPM   |
| 9      | 650        | 500        | 10        | RPM   |
| 10     | 150        | -100       | 25        | lb-ft |
| 11     | 150        | -100       | 25        | lb-ft |
| 12     | 150        | -100       | 25        | lb-ft |
| 13     | 150        | -100       | 25        | lb-ft |
| 14     | 350        | -150       | 50        | lb-ft |
| 15     | -400       | 400        | 50        | lb-ft |
| 16     | 300        | 75         | 25        | degF  |

### Task force recommendation for path forward and Test matrix to Surveillance Panel

Action items to be performed before running matrix

- 1) Perform dyno coast down on Ram engine stands
  - o Chairman to send out procedure
- 2) Labs to determine if they can perform filtering on torque channel during steady state portion of test.

- Run 6 tests on TMC 116
- Run 2 tests on TMC 112

Use current torque bands for shock 1 and shock 2 torques

- Shock1= +/-15% average torque
- Shock2= +/-10% average torque