

Cummins Surveillance Panel
ISB (ASTM D7484)
ISM (ASTM D7468)
2/8/2024

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Agenda

- New ISB Block Part Number Presentation: Phil Shelton, Cummins
- New ISB Hardware Batch Discussion and Introduction
- New ISB Reference Oil Introduction, Precision Targets and Timeline
- ISM Proposed Reference Oil Test Volunteer

New ISB Block Presentation: Phil Shelton

ISB Hardware Status

- Current Batch

- Tappet (Batch F): 49 Kits
- Camshaft (Batch N): 72 Kits*
- Pushrods (Batch D): 120 Kits*
- Crossheads (Batch G): 98 Kits*

*Estimated based upon current rejection rate

- 3 months estimated remaining

- Goal

- Bring in a large multi-year batch of all hardware to get the test through PC12 introduction

- New tappets have arrived to TEI

- 8500 Tappets
- Estimated 450 kits
- To target 450 kits with all remaining hardware
 - Estimated 1000 camshafts
 - Estimated 10,000 crossheads (maybe look at rejection criteria necessary)
 - Estimated 8000 pushrods
- Timeline for this hardware?

ISB Reference Oil Introduction

- Target Matrix
 - 8 Tests
 - 4 Stands, 2 per stand
 - CURRENT HARDWARE
 - Must quarantine 12 current batch kits
 - Use current batch because of need for accurate CF's to properly set targets for new reference oil with hardware tieback
 - New hardware introduction will be separate from precision matrix

ISB Reference Oil Introduction

- Current Reference Status

ISB Currently Calibrated Stands		
Lab	Stand	Date Expires
A	1	11/12/2024
A	2	7/8/2024
A	3	7/8/2024
A	4	7/30/2024
G	1	12/12/2024
G	3	1/25/2025
D	1	6/8/2024
B	4	4/29/2024

- No net gain/loss of reference time?

ISB New Hardware Introduction

- New hardware must be brought in on a reference in each stand
- Rolling change, let SA's take care of any possible CF shift until enough references are ran to analyze for possible CF change
- This gives labs some leeway on when to reference, given the multitude of reference tests that will be needed this year
- New reference oil or old reference oil?
 - If new hardware reference is after the precision matrix, I would expect the new reference oil to be used
 - This gets into the question of how we handle reference oils going forward, do we stick with new reference oils for all runs, or do we utilize both reference oils

ISB New Hardware Introduction

- No net gain/loss reference time
- Should there be a max reference time?
 - 18 test/18 month

ISB Reference Oil Introduction

- Precision Target for New Reference Oil
 - Must set a target for precision for matrix readiness
 - Recommendation below:

Parameter	Standard Deviation Target
Camshaft Wear	9.2
Tappet Weight Loss	14.8

- These are the current 831-4 standard deviations

ISM Reference Oil

- 1 test worth of the proposed reference oil at TMC
 - Same oil as ISB
- Need a volunteer to run this on the ISM

PC9HS Fuel (ISM and ISB Viscosity)

- New batch 24AP9HS01
- Fuel was “more” yellow pre-dye, and after red dye added the fuel turned black
- 3-4 year supply of this fuel
- All specifications and severity factors are as expected and similar to previous batches
- This batch may be introduced soon to labs

Concluding
Remarks

