

3/31/2017

## CAT O & H Panel Conference Minutes

### Attendees:

Jim Gutzwiller (Chairman) - Infineum  
Andrew Stevens (Host), Bill Larch – Lubrizol  
Hind Abi-Akar, Mark Jarrett – Caterpillar  
Jim McCord, Jim Carroll (Secretary) – SwRI  
Jim Moritz, Stacy Bond – Intertek  
Sean Moyer – TMC  
Bob Campbell, Christian Porter – Afton

### Agenda Items:

1. Proper recording of parts data for 1K/1N (specifying serial number, date code, etc and ensuring consistency between labs)
2. Finishing proposal for change in procedure to allow development of auxiliary cooling system (electric drive pump/automated flow control)
3. 1N rings update and parts batching discussion

**NOTE:** The presentation that is attached with these minutes defines the names, location and description of markings on parts, and format of data for the 1K/1N part codes. Only the parts codes in **RED** are to be reported.

### Action Items.

1. Add additional code names to LTMS data dictionaries with C \$12 format.
2. Add two character spaces (C \$14) for the box date code data format in LTMS for LINERBDC, PISTBDC and RINGBDC.
3. For the liner serial number (LINERSN) use the sequence number on the liner, change the description in LTMS to 'Sequence code on liner'
4. Sean noted that he may transpose rows and columns on the input sheet once all the code names are in place.
5. Add a rule to record the numbers as they appear on the part, and add a dash between any separated numbers. Example 1: LINERPN has separated code numbers 1Y-3998 and 03. It should be input to the database as 1Y-3998-03. Example 2. PISTDC has two codes on two lines 0745 and 34913. It should be input to the database as 0745-34913. Note: The edits done to the presentation during the conference did not do this consistently. I have re-edited the attached presentation using this rule.

6. Add discussion of the use of a VFD to the agenda for the next conference call.

### **Agenda Item 1 - 1K/1N Parts Recording**

Mark Jarrett made a presentation on the parts recording issue. Page 7 of the attached presentation highlights the problem with the dissimilar data input by the laboratories.

#### Slide 9 Liners

Date code on liner is associated with the machining date.

During the presentation the attendees discussed which codes should be included in data sent with test results. In addition, acronyms and formats for the codes were finalized.

The attached presentation shows the acronyms in **Red** along with locations and examples.

Example for liners:

**LINERPN** – “Liner part number” (Include dash, dash change level) 1Y-3998-03

**LINERBDC** – “Liner box date code” Date code on box label (14 characters)

**LINERDC** – “Liner date code” day of year - year’s last digit (Ex. 133-6)

**LINERSN** – “Sequence number” - 0-99999

#### Slide 10 Pistons

All piston codes used for reporting are on top of the piston.

They have a date and time. They have a machining date code.

The cast in codes under the crown are not to be used.

Basically all the cast in numbers are not to be used.

#### Slide 14 Rings

They now have serial numbers on each ring. With it the manufacturer can look up inspection data, date of production. They measure critical features of the rings.

C13 rings and liners will also have these markings.

C \$12 in LTMS code means character field that is 12 characters long.

We need two more characters for the new box codes.

Do we use date marked on the parts shipment box?

Yes, new acronyms were agreed upon during this conference.

### **Liners**

We looked at the LTMS setup and compared it to Slide 9

LINERPN should include the DASH and EC LVL (eg. 1Y-3998-03)

LINERDC use a dash between the day of year and year. (eg. 133-6)

Add LINERBDC (liner box date code) to the part data set. It is the date code on the box label, and make it 14 characters long.

LINERSN use the sequence number on the liner, change the description in LTMS to 'Sequence code on liner'.

LINERIC is no longer used.

## **Pistons**

PISTPN piston part number input as shown on the piston (eg. 1Y0727-2)

PISTSN use the production time (eg. 0745)

PISTDC from markings on top of piston combine time date year (eg 0745-349-13)

PISTIC plant and inspection code eg 1225

Add PISTBDC (piston box date code) and make it 14 characters long.

## **Rings**

RINGPN ring part number (eg. IY-3506-04)

RINGSC ring supplier code is used in lieu of an inspection code (eg. T)

RINGBDC Date code from box label, and needs to be 14 character field

RINGSN ring serial number (eg. B431) is on the ring and on the shipping wrapper for the ring set.

## **General Notes**

Andrew will send the edited presentation to the group.

Sean will work on rearranging the report forms and data dictionary with updated mnemonics/descriptions.

Could put a note in the appendix to the 1K/1N procedures telling people where to find the hardware data input guideline.

## **Agenda Item 2 - Coolant system**

Section 6.3.3 was modified by Andrew from an earlier form.

Hind reported that ASTM Ballot Item 7 on the 1K/1N updated the section this week.

Information letter 16-2 had it.

Agenda item closed.

Further discussion:

Hind described what is written in the ballot.

Bypass valve could be automated

Q: Is the use of a Variable flow device (VFD) OK?

A: Not currently.

Comment: The bypass now just circles the pump. Jug pressure is critical. An orifice in the coolant out keeps the pressure in the jug.

Comment: If flow control is automated, and you get a bad reading, then flow will be off.

Need to work through the details to go to separate flow control.

Andrew wants to use variable speed control with pump speed changes rather than a bypass.

Stacy: Need to replicate what happens with an engine driven pump. Start and shut down should be the same.

Q: Could we do what is done on the 3H?

Andrew is planning to set up a VFD and see how it does.

Andrew will add wording to section 6.3.3 regarding VFD.

Put this item as first for the next call.