

Caterpillar Surveillance Panel

Conference Call 8/22/2014 9:00AM EST

Attendance:

Mark Jarrett
Gary hammer
Martin Thompson
Hind Abi-Akar
Vince Caliendo
Adam Roig
Jim Moritz
Bob Campbell
Bill Larch
Andrew Stevens
Sean Moyer
Jim Gutzwiller
Jim Rutherford
Mark Cooper

Agenda Items:

1P Oil Consumption and parts issues

1N 1Y0728 Piston Ring Rust

1K / 1N No liners available from CAT dealership

1K / 1N 1Y3993 Hose – no longer available from CAT dealer

1K / 1N Data Dictionary

Governor Housing (1Y5787) is a non current part

Old Business

1K/1N oil and water pumps

C13 Injectors

C13 Liners

Viking Oil pump for Oil Weight Bucket

Discussion Items:

1P Oil Consumption and parts issues

There are two suppliers for the top ring, however CAT indicates they are identical and that the parts we receive should be from the supplier in Japan.

Recent reference at one lab have failed on oil consumption but have had passing piston deposits.

The top rings are on a large back order. Orders have been placed to the supplier. Individual inspections on each ring and large batch orders prolong re-supply. 1Y0728 (1K 1N) has a large order ahead of the 1P top rings.

1N 1Y0728 Piston Ring Rust

The large number of 1K/1N ring packs on order are due to a high percentage of rusty rings that are coming from the supplier. CAT indicates this rust is coming from shipment and should be an easy fix.

Labs indicate that 1K/1N test parts are a higher priority. 1N will be included in PC-11 and this greatly increases the coming demand.

Each ring is inspected for several parameters. CAT will clarify what parameters are measured.

1K/1N Liners are not available from CAT Dealership (1Y3998)

CAT says that they are supplying 72 liners per month. SwRI has checked with HOLT CAT in San Antonio and there are plenty in stock.

Lubrizol indicates they are receiving rusty liners. SwRI has not seen rusty liners on this test, but keeps a large supply on inventory and may not have received the rusty batch yet. SwRI will follow up and inspect the liners that they supplier has recently received. Lubrizol will follow up with date codes of rusty liners.

1K / 1N 1Y3993 Hose – no longer available from CAT dealer

The part number is either canceled or has recently been re-activated and should return to supply. CAT will follow up on the status.

1K / 1N Data Dictionary

LINERSN field currently is specified with a limit of 12 characters. Request is to increase the field to 16 characters.

On last conference call labs were asked to document any and all numbering on the actual part and the box and send to Caterpillar to decipher. (Pistons and Liners)

The DOT Matrix should include relevant data that may need to be included.

CAT will follow up on the best data to use for serializing 1K/1N liners.

This discussion will be tabled for the next meeting pending more information.

Governor Housing (1Y5787) is a non current part

This part is not replaced often, but has potential for bushing failure.

This part was last updated in 1957 and may be obsolete.

The housing is unlikely to need replacement and the bushing may be customized by laboratory machine shops if necessary.

CAT will look into re-supplying many of the outdated parts.

1K/1N oil and water pumps

It was pointed out that items like the oil pump and water pump may be updated to electric versions. CAT has been working with a supplier on the water pump and has passed on pricing quotes for equivalent performance electric pumps to the labs.

10 original style oil pumps are being made along with the wear kits.

Converting the oil pump to an electric version would have multiple benefits. The governor gear would no longer be needed and it would prevent alignment issues that can cause Cu contamination.

The coolant heat exchanger is being updated. CAT has been working with Modine on an equivalent version. CAT hoped that there is an off the shelf item that can swap straight in.

Intertek has supplied and will resubmit information on a potential supply for a replacement core on the heat exchanger.

The test labs are in support of going to a shell and tube heat exchanger setup similar to the systems used on other engine tests. The performance could likely be replicated without difficulty. The parts used should be left open to the lab. The performance specifications would need to be matched. Flow rate and delta temperatures are potentially the only items that would need to be matched.

CAT will stop pursuing an alternative while a smaller group decides on a path forward.

CAT Hardware Sub-panel

A smaller group will be formed within the surveillance panel to discuss options. This group will discuss the oil and coolant systems options and hardware issues. This group will receive guidance and report back to the surveillance panel.

Viking Oil pump for Oil Weight Bucket



Revision to 1P
Procedure for Viking F

Adam Roig Motions Andrew Stevens Seconds – To modify the 1P test procedure according to the document “Revision to 1P Procedure for Viking Pump”. This modification allows equivalent performance pumps and motors to be used on the oil weight bucket.

0 Apposed O Waves - Motion Caries

C13 Injectors

Part numbers, date code, trim code should be provided by each of the labs to determine if they are new or remanufactured.

C13 Liners

The differences cannot be defined as “good” or “bad”. The differences should only be investigated for potential effects.

CAT does not believe the changes they know about should influence oil consumption.

The liners that Intertek supplied to show the differences were actually made back to back on the same assembly line. It was clarified that the final surface prep was performed back to back, but the original rough machining could have been done on separate lines, machines or dates. CAT will look further into potential supply differences.

CAT will be performing more detailed analysis on these liners.

Test labs should provide examples of candidate data that indicate where performance was suspect. Details on the liners used should be documented if possible.