

Caterpillar Surveillance Panel Build Workshop 12/6/2014 through 12/8/2014

Attendance:

Infineum:

Jim Gutzwiller

Lubrizol:

Andrew Stevens

Greg Miranda

Jon Bolaney

Sean Dalrymple

CAT:

Mark Jarrett

TMC:

Sean Moyer

Afton:

Bob Campbell

Duane Allen

Intertek:

Calvin Riviuccio

Gilbert Alvarez

Jim Moritz

Andrew Broff

Mey Dewey

Tony Barrera

Christopher Sanchez

SwRI:

James Pearce

Martin Thompson

Jim McCord

Agenda Items of Workshop:

Parts Preparation and Cleaning Procedure Review
Build Practice Review
Operational Data Review
Stand Tour

Purpose:

The aim of this workshop was primarily to review the build practices between labs to try and find a solution for mild second ring deposits and severe candidate oil consumption. Below are action items that came out of the workshop that will be tried by all labs in the next round of referencing.

Action Items:

Reference engine build

Below is a list of all practices that will be made common for the next reference at SwRI and Intertek.

Parts Preparation:

Piston Rings: These rings will be soaked in Ensolve for 20-30 minutes and then wet wiped with a terry towel and WD-40. The rings will then be dipped clean in Pentane. Pre-test ring weights, gaps and side clearance measurements are recommended for references. There is potential that this will be added to the test report in the future. Rings can be cleaned post test for ring weight loss measurements.

Pistons: The pistons will be cleaned with Stoddard solvent and a terry towel. ALL RUSTY PISTONS WILL BE REJECTED. Date code 2014 pistons are available in Morton and can be requested through the local dealers. These pistons should be adequately coated with rust preventative.

Liners: Liners will be cleaned with Tide and water. A light non-metallic brush may be used to clear debris from plateau hone.

Post test cleaning: All rings must be cleaned according to the procedure prior to rating.

Piston Cooling Jets: Alignment must be checked after assembly according to Oil Jet Targets TIP and Oil Jet Test Fixture INFO 42605. This is called out in 8.2.6 of the procedure.

Parts batches and changes to be reviewed

Review historical fuel batch changes.

Did they align with mild trend in 2012 or increase in candidate oil consumption.

Fuel Injectors

Any change and timeframe of the change.

239-4908 injector part number

Recommendations on injector life?

Breather

Change occurred in the filter element of the breather.

Previously the media looked like a solid element.

9Y-4357 breather should be used.

New and Old Guides

On new valve guides remove the white plastic valve guide shield from the spring retainer. ONLY USE THE VALVE GUIDE SEAL.

P TUBE

1Y-4119 new style (2006 ran out)

226-6478 during test development no longer supplied.

276-7222 replaced all previous part numbers. USE THIS P TUBE.

Alignment must be checked after assembly according to Oil Jet Targets TIP and Oil Jet Test Fixture INFO 42605. This is called out in 8.2.6 of the procedure.

Pistons

All Rusty pistons from 2013 date codes should be rejected back to parts supplier. 2014 date code pistons should be improved but should be inspected by the lab. A review of this quality will be done by the labs. The next references will be built with new batch clean pistons. 2013 pistons will be removed from circulation.