September 7, 2017

Small Group COAT Conference Minutes

Conference Attendees:
Jim Gutzwiller (Chairman) Elisa Santos, Gang Hu, Bob Salgueiro – Infineum
Jim Carroll (Secretary), Jim McCord - SwRI
Mark Jarrett – Caterpillar
Alex Ebner – Lubrizol
Jim Moritz, Tim Griffin – Intertek
Sean Moyer - TMC
Mark Cooper – Chevron-Oronite
Bob Campbell - Afton
Barb Goodrich – John Deere

Jim G: I went to Carnot and checked their oil filter housing. He showed photos of the housing springs and valves and described them.
Check for the central oil gallery pressure control spring is stated as 3.8" but the actual spring is only 3.4".

Old style filter bypass valve was solid plastic. These are used at SwRI and Intertek. The new style has slots, PN 392-9208.
Mark: It looks like the parts have been sold since 2004.
McCord and Moritz: We have been buying the old style lately. If you by the housing 251-6669 full assembly, it has the 392-9208 valve.
Jim G: I bought all the individual pieces and the complete assembly (stamped 2017) and both had the 392-9208 slotted valve.
Moritz: I think we can still buy the older style.
Alex: I have not checked ours since we are running now.
Mark: Does the old one have a PN?
Jim G: Cast into the aluminum housing is 251-6668. Stamped in ink is May 31 and May 11, 2017. Bare casting and fully assembled. An older one has a stamp for November, 2013 (also has the 392-9208 valve).

Jim G: Regarding oil pressure regulator valve PN 224-3405. Intertek's had wear on the side of the valve. Spring is 7C3954 which controls gallery pressure. We could compress it to 3.8" to get 21lbs. We still have a lab with higher pre-filter/pump pressure.
Mark and Moritz: Gallery pressures are close across labs.
Mark: So the path to the filter housing may be different.

Alex: I should be able to have someone on my system parts list this weekend. I have most of the information, but I want to verify it.

Jim G. went over the existing record of parts from labs A and G.

Line 46 need to get more specific on ID of lines and fittings. Since there is a significant difference between crimp and re-usable. Update our descriptions of the hose fittings (crimped, compression, Swagelok)

Moritz: We need the IDs for all the hoses. What was the older Teflon hose ID at SwRI.
McCord: We can check the ½" Teflon ID.
Moritz: Page 33 says the line should be 9mm ID. So Lab A's line is too big.
SwRI to check if we have a 319 fitting on our MM in and out.

Jim Gutzwiller went on to the questions and notes in the attached Excel file.

Regarding Question #2 Jim G said I think Emersion said yes.
Sean: I think they said if we had the higher accuracy cal it was not necessary.

Jim C suggested we shorten the final step of warmup by 10 minutes, and add a 10 minute step at 84kPaA and 1.5L/min.

Alex: I have RTD readings from June 2016 to now.

McCord: Do we still need a flow calibration procedure?

Jim G: Regarding CSI heated clam shell for the Micromotion - 8 week lead time ~$3,000.
Jim G: We can put limits on RTD temperature control.

McCord: We could eliminate oil filter bypass valve and put a plug in like the oil-cooler valve we already removed.

Jim G: Any other suggestions?
McCord Are we going to control RTD, correct density in another way, or what?
Moritz: We started talking about going to 50C.
Alex: Yes, and using the Micromotion period to calculate density. Or, putting a window around the RTD temp to swing. And/or use a box within a box to control. If the RTD number is not changing density, then I am going towards correcting to the oil temperature.
Sean: If all is standardized then all can do the same thing.
Alex: We could get transducers that can take 90C
Moritz: We do not need to take the box to 90 anymore.
Alex: If you have the better calibrated sensor it will help.
Sean to Alex: Did you send data to Emerson to get a new calibration?

Alex: I want to send the sensor to Emerson and have them do it.
Sean: All sensors should have the better cal to run a test.
Alex: I would like to run a verification test when I get it back

McCord: If we have to run at 90C then I want two boxes. If not, then all should have the same dimensions. Otherwise, we could have a variation in stable temperatures within each box.
Alex: We do not need the RTD signal if we correct using our fluid temp. But the sensor will use the RTD internally to get the flow.
Jim G: Everyone's transmitters can read the raw period to do the post-test caliculations.
McCord: It would replace the density channel output.
McCord: Are we in agreement that we no longer have to run the 50-90C calibration? This will help decide which path to take.
Alex: We include the density check during the warmup and potentially the 50C check, then I am not sure it would be required.

Sean: Question #15 should be ok if everyone had the expanded DVT calibration from Emerson.
Alex: We want Question #6, a density check during warmup.
McCord: We would need to put a limit on the closeness of the density check to D4052
Alex: Maybe within 0.75-1% of D4052 at 85C.

Moritz: Need to be able to calibrate our DAQ to the frequency output.
Sean: I think it depends on the output method, analog or digital.
Tim: Sometimes my signal drops out. We are trying to work this out.
Alex: I thought I would replace my density channel with frequency, do the calculation for density as the test runs.
Jim G: Emerson commented that they recommend the 5700 transmitter.
Tim: I read 9 digital outputs, and 4 analog channels.

Next conference call Wednesday, September 13, 9-11am CDT.