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Unapproved minutes of the ASTM Cummins ISB Test Development Task Force Conference call on March 16th, 2004.0

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Call to Order: Mark Sarlo called the meeting to order at 3:00 PM EST.

Meeting Minutes: Joseph Huang motioned for the approval of the minutes as written for the September 5th, 2003 meeting; motion was seconded by Warren Totten, and approved by general consensus.

Review of Agenda: *Attachment 1* shows a copy of the meeting agenda.

Review of Membership: The current official membership list for the ISB Test Development Task Force is as follows:

NAME	COMPANY
Mark K Sarlo – Chairman	Southwest Research Institute
Joseph Huang – Secretary	Valvoline
Warren Totten	Cummins
Riccardo Conti	ExxonMobil
Jim Matasic	Lubrizol
Jeff Clark	TMC
Greg Shank	Mack/Volvo
Jim Moritz	PerkinElmer
Bob Campbell	Ethyl
Mark Cooper	Chevron Oronite
Ron Buck	TEI

The following members were present at the conference call: Mark Sarlo, Joseph Huang, Warren Totten, Riccardo Conti, Jim Matasic, Jeff Clark, Jim Moritz, Bob Campbell, and Ron Buck.

NGET Software – Warren Totten:

Each laboratory/site shall designate a contact person, who will email Warren Totten with a mailing address. Warren will then send out an agreement form that must be filled out and returned to Cummins. After approval of the form, the contact person will be able to obtain an activation code from Cummins that can unlock the NGET software. Each new installation of the NGET software will require a new activation code.

Status of Engine Installation:

SwRI – The new engine is in the cell, but not attached to the dyno. They are in the process of obtaining the correct flywheel and starter and finishing installation of instrumentation. The Cam Cycle program is already written.

Valvoline – The engine is on the stand, attached to the dyno. Basic instrumentation installed to safely run engine. Basic program is written.

PerkinElmer – The VP44 engine is still on the stand, however in the process of preparing to swap. Parts required for new engine is on order.

Lubrizol – Engine still on pallet; test cell is in use.

Exxon Mobil – Test cell is in use. Money has been allocated, but no man power available to install engine. Expect to begin installation in summer (June).

Ethyl – Have not received engine yet, but test cell is busy and no man power available.

Test Parts and Procedure:

Warren stated that an initial engine timing of 14.7 degrees retarded can be used during the first 100 hr to obtain about 3.5% soot in the oil. For reports, all units will be in SI. Cummins has observed potential oil filter problems, so they suggested having TEI be the parts distributors. Cummins will provide the oil filters directly to TEI.

For the matrix testing, Cummins suggested having the rocker cover and oil pan rated for sludge. SwRI's rater requested that an EOT rocker cover and pan be available first before pinning down the rate sites. The rating procedure will use existing approved CRC method. SwRI has offered to take pictures of new and EOT parts identifying the rating sites, and distribute to all labs. The labs will further investigate.

There is uncertainty related to the exact flywheel and starter to use. The bell housing at both SwRI and Valvoline is verified to be 3959813. Warren suggested the proper flywheel is 39066807, 138 teeth, 442.77 mm OD, however SwRI commented that this flywheel is too large for the bell housing. Currently, Valvoline has a flywheel and starter that works. Joe will work with Warren to check the flywheel part number and specification.

The correct large-capacity oil pan is 3958209. SwRI suggested installing the oil sump thermocouple into the stock OE drain plug on the side of the oil sump. In addition, SwRI suggested removing the air compressor and installing a block off plate, 3954567, and gasket, 3955457. Warren will investigate the best way to deal with the coolant lines.

Both SwRI and PerkinElmer had suggestions on what to do with the oil cooler system. They will work together and present a potential solution to the Task Force.

For the matrix, a PC-10 certified fuel will be used, and should be available before the commencement of testing. In the interim, any fuel can be used to shakedown the stand.

After new wear components are installed and the engine is virtually dry, the proper initial candidate oil charge will be 16.34 kg, or approximately 5 gallons, using a pressurized fill into the oil rifle along the side of the block. A consensus was not reached on exact flush procedure. A consensus was reached that immediately after test, the test parts will be removed, and after rebuild, with the engine on the stand, two flushes with the candidate oil will be performed before final charging with candidate/test oil. Presently, the proposed test oil charge is about 4.6 gallons or 14.88 kg. The labs will further investigate.

Future Meetings: A biweekly conference call was agreed upon, starting March 30th at 2 PM EST.

Adjournment: The meeting was adjourned at 4:03 PM EST.

For comments or questions regarding the minutes, please feel free to contact:

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ATTACHMENT 1

Cummins 5.9L ISB Valvetrain Wear Test
Conference Call, March 16, 2004
2-3:00 pm,
812-377-6156

Proposed Topics

Status of installation at each lab
NGET activation code at each lab
Timing to be adjusted to about -14.7 during first 100 hr
Report units to be metric

Oil filter plugging
One batch of oil filters?

Consider rating the rocker cover and pan for sludge

Bell housing part numbers (3959813)
Flywheel part number

Make sure to have large-capacity oil pan (3958209)

Oil cooler bypass plate (SS) (fabricated at each lab)
Perma-Cool 1156 spin-on oil filter adapter
External SS oil cooler approved by Cummins

Block-off plate for air compressor
Connect coolant lines to bypass

Stock thermostat blocked open

Confirmation of fuel type to be used

Confirmation of oil charge 4.6 gallons