Sequence VH Procedure Review | NOTES

Revision Date *2/14/2017 11:56:00 AM*

Relevant Test:	Sequence VH
Note Taker:	Chris Mileti
Comments:	Feedback from all (5) Sequence VG/VH laboratories on the latest version of the VH procedure. This feedback will be reviewed on 02-14-2017.

Laboratory	Section/Figure	Comments	Resolution
Lubrizol	Section 7.8.4.4	• Piston staining is no longer an issue like it was with previous piston batches. • Do we want to remove piston polishing completely from the procedure so that the pistons being used throughout the Industry have more consistent surface finishes in terms of R_a and V_o? • The procedure would then specify that any pistons with surface staining should be discarded.	done
Lubrizol	Section 7.9.4.1	• Lubrizol recommends adding text to address cylinder head decking. o Any cylinder head that requires decking should be discarded. o This will help maintain consistent compression ratios from test-to-test and from lab-to-lab.	Done Save old cylinder heads for use later if needed, if the test outlasts the heads.
Lubrizol	Section 7.9.5.1	• The current procedure specifies installing a spacer plate between the chain tensioner and cylinder head. • This was only necessary for the Sequence VG-A engine that used the VH tensioners and the VG cylinder heads. • This item should be removed from the procedure.	Done
Lubrizol	Section 8.1.1, Table 2	• The table needs to clearly state that the Stage III exhaust backpressure should be set to atmospheric or barometric conditions. o In other words, the backpressure valve should be locked in an open position. • Ideally, the Stage III speed range should be changed from 700±15 RPM to 700±25 RPM. o The current speed range is somewhat difficult to control, and it often results in low Stage III QI values.	Done Remove+/- from table 2 . Op targets
Lubrizol	Section 8.2.2	• The recommended fuel pressure should be changed from a minimum of 185kPa to a range of 250±20kPa in order to maintain consistency with Section 8.2.1.	Done
Lubrizol	Section 13.1.2	• The guidelines regarding the lighting conditions used	Check with raters on

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		during rating should be revisited. o I learned during a recent Rater conference (06-14-2016) that there has never been a fluorescent bulb available on the market that meets the lighting requirements outlined in Manual 20. • Also, the procedure should reflect the imminent implementation of LED lighting by the raters.	need for table 7. Check K on existing lights in labs. What K are available?
Lubrizol	Section 13.1.3	• Modify the first section of the first sentence as follows: "Rate pistons and RAC baffles	Done
Lubrizol	Section 13.5	• Oil rings should be added to the ring sticking section of the procedure.	Done
Lubrizol	Figure 3	• This figure should specify whether the elbow should be used on the PCV valve. • Figure 3 currently does not show the elbow, but Figure A7.17 Detail "A" does.	Remove elbow from PCV diagram, make note not to use elbow. Cole to get new pcv system pics. Ron to check pcv flow against print.
Lubrizol	Figure 5	• Is the ABB Kent-Taylor flow element a sight glass?	Change to sight glass (12) and flow meter (6), don't specify
SWRI	Section 8.6	• This section contains language for the Zeus PCM. • This section could be deleted.	Change to VG language w/o 8.6.1.1.
SWRI	Section 8.4.3.1	• This section is unfinished, but it implies that the coolant flow meter should be installed on the outlet side of the engine. • Micromotion flow meters are much larger than the original Barco flow meters. • The group needs to determine if it wants to remove the limitation dictating where the flow meter should be mounted.	Remove last sentence in this section. No location needed
Ashland	Table A9.1	• The piston ring part numbers are incorrect. • The procedure should list the VG rings and not the VH rings. • Correct part numbers: o 3U1E 6148 AB o 3U1E 6148 BB o YU1L 6148 BA o YU1L 6148 CA	Done
SWRI	Section A.5.3.4	• There has been a desire within the Surveillance Panel and at the TGC to allow alternate bidders for the fuel supply. • Should "Haltermann" be removed from the procedure?	Make general statement. Move supplier from X to A. Include batch #.
SWRI	Section 8.4.3.1	• Clarify which thermostat orifice part numbers are acceptable for use in the VH engine.	Remove orifice plate. Not being used.
Afton	Section 7.8.4.1	• The JHU725 honing stones specified in the procedure are no longer available. • These stones have been replaced by the JHU623 part	Check inventory on 725. How long will these last? Amol to

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		number. • JHU725 = 320-grit, JHU623 = 280-grit	send sunnen report about load difference between new digital and old analog machines. Labs to send what machines they're using.
Afton	Section 13.1.2	• Afton has proposed the following wording for this section, "*Rate valve decks and rocker arm covers (RAC) under cool white fluorescent lighting exhibiting approximately 4100 K color temperature, a CRI f 62 and an illumination level of 3800 lx to 5400 lx. All background and adjacent surfaces shall be flat white.*"	Ask raters if this is correct rating procedure as opposed to what's in procedure? Should we remove table 7
Afton	Section 13.1.3	• Afton has proposed the following wording for this section, "*Rate pistons, camshafts baffles (RAC baffles), timing chain cover, oil pan, and oil pan baffle against a white background using white fluorescent bulbs and a 100% white deflector. Maintain the illumination level between 3800 lx to 6500 lx, and measure the illumination level 355 mm from the desk top."*	Ask raters if this is correct rating procedure as opposed to what's in procedure?
Afton	Table 7	• They recommend removing Table 7 from the procedure. • Table 7 is a remnant of previous procedures and is no longer used during rating. • All ratings are now done using spreadsheets with automatic calculations.	Should we remove table 7?
Ashland	Section 13.2.2.1	• Discuss the use of "narrow" and "wide" sludge gauges for cylinder head sludge depth measurements.	Specify using narrow gauge. Al or Amol to send part number. Along with location rig part number.
Ashland	Section 13	• There is not yet a consensus among the Raters for using LED lights. o As a result, 4100K / Coolwhite fluorescent lights should still be used for now. • The 50% rated area should extend 17mm from the bottom of the oil ring chamfer, and the horizontal boundaries should align with the wrist pin reliefs.	