

Sequence IVB Task Force Action Items

ID	Task Name	Start	Resource Names	Finish	Category	General Comments
1	<b>Establish oil consumption limit for test.</b>	<b>Fri 5/11/18</b>			<b>Procedure</b>	<b>Introduced on 07/26/2017.</b>
2	Make recommendation to Task Force.	Fri 5/11/18	Intertek		Procedure	
3	<b>Compile a "lessons learned" report to the ACC regarding Precision Matrix #1.</b>				<b>Documentation</b>	<b>Introduced on 07/26/2017.</b>
4	TBD					
5	<b>Decide on the Metrology data that will be included in IVB Data Dictionary.</b>				<b>Metrology</b>	<b>Introduced on 08/15/2017.</b>
6	TBD					
7	<b>Update procedure with guidance regarding how lifter grades are to be selected based on valve clearance.</b>	<b>Fri 5/11/18</b>			<b>Procedure</b>	<b>Introduced on 08/15/2017.</b>
8	Make recommendation to Task Force.	Fri 5/11/18	Lubrizol		Procedure	
9	<b>Update procedure with instructions for adding a new fuel batch over an existing fuel batch.</b>				<b>Procedure</b>	<b>Introduced on 10/03/2017.</b>
10	Make recommendation to Task Force.		Southwest		Procedure	
11	<b>Update procedure with instructions for dealing with camshaft lobe failures.</b>	<b>Fri 5/11/18</b>			<b>Procedure</b>	<b>Introduced on 10/03/2017.</b>
12	Make recommendation to Task Force regarding engine rebuild procedure.	Fri 5/11/18	Intertek		Procedure	
13	Make recommendation to Task Force regarding how to identify lobe failures.	Fri 5/11/18	Intertek		Procedure	
14	<b>Finalize Keyence G2 software settings.</b>				<b>Metrology</b>	<b>Introduced on 07/20/2017.</b>
15	Document the pros and cons of each setting change in the G2 software.				Metrology	
16	Develop a DOE to evaluate each setting in the G2 software using all (5) labs.				Metrology	
17	Develop a procedure to use the G2 software to screen lifters based on crown.				Metrology	
18	<b>Identify an insulation or coating that can be applied to the front cover and oil pan.</b>	<b>Fri 5/11/18</b>	<b>OHT</b>		<b>Hardware</b>	<b>Introduced on 08/08/2017.</b>
19	Make recommendation to Task Force.	Fri 5/11/18	OHT		Hardware	
20	<b>Revisit the chamfered intake camshaft lobes as a possible solution to lobe failures.</b>				<b>Hardware</b>	<b>Introduced on 08/29/2017.</b>
21	TBD					
22	<b>OHT to design and supply a clutch alignment tool.</b>	<b>Fri 5/11/18</b>	<b>OHT</b>		<b>Hardware</b>	<b>Introduced on 08/08/2017.</b>
23	Supply hardware to test labs.	Fri 5/11/18	OHT		Hardware	
24	<b>OHT to design and supply a timing chain wedge.</b>	<b>Fri 5/11/18</b>	<b>OHT</b>		<b>Hardware</b>	<b>Introduced on 10/03/2017.</b>
25	Supply hardware to test labs.	Fri 5/11/18	OHT		Hardware	
26	<b>OHT to stamp coolant adaptor plates with "in" and "out".</b>	<b>Fri 5/11/18</b>	<b>OHT</b>		<b>Hardware</b>	<b>Introduced on 10/03/2017.</b>
27	Supply hardware to test labs.		OHT		Hardware	
28	<b>Intertek and Southwest to swap E.O.T. oil drains so that they can compare analysis results.</b>	<b>Fri 5/11/18</b>	<b>Intertek,Southwest</b>		<b>Operational</b>	<b>Introduced on 10/03/2017.</b>
29	Report data to Task Force.	Fri 5/11/18	Intertek,Southwest		Operational	

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30	<b>All labs to supply iron curves for engines that they have run so that the data can be used to establish acceptable engine life.</b>				<b>Operational</b>	<b>Introduced on 10/03/2017.</b>
31	Decide on how this data will be supplied by the labs.		Task Force		Operational	
32	Intertek to report data.		Intertek		Operational	
33	Southwest to report data.		Southwest		Operational	
34	Lubrizol to report data.		Lubrizol		Operational	
35	Exxon ro report data.		Exxon		Operational	
36	Afton to report data.		Afton		Operational	
37	<b>Explore (3) potential options to increase discrimination between REO300 and REO1012.</b>				<b>Operational</b>	<b>Introduced on 10/03/2017.</b>
38	Evaluate harder surface finish for camshaft.				Operational	
39	Increase fuel sulfur level.				Operational	
40	Increase test length by 25HRS.				Operational	
41	<b>Compare lifter wear vs. lifter position inside of the engine.</b>				<b>Statistics</b>	<b>Introduced on 10/03/2017. Is it appropriate to apply</b>
42	Present statistical analysis to Task Force.		Statisticians		Statistics	
43	<b>Determine whether baffle on blowby heat exchanger should be added to procedure.</b>				<b>Procedure</b>	<b>Introduced on 10/25/2017.</b>
44	Make recommendation to Task Force.				Procedure	
45	<b>Finalize IVB report form.</b>		<b>TMC,Task Force</b>		<b>Documentation</b>	<b>Introduced on 10/25/2017.</b>
46	TBD					
47	<b>Compile a "lessons learned" report (and corresponding data table) that summarizes the impact of procedural/operational changes on test severity.</b>				<b>Documentation</b>	<b>Introduced on 11/07/2017.</b>
48	TBD					
49	<b>Compile a historical timeline for the overall IVB test development effort.</b>				<b>Documentation</b>	<b>Introduced on 11/07/2017.</b>
50	TBD					
51	<b>Compare oil temperature curves at different labs using a histogram instead of x-y charts.</b>		<b>Lubrizol,Statisticians</b>		<b>Statistics</b>	<b>Introduced on 11/07/2017.</b>
52	TBD					
53	<b>Confirm that all (5) labs are reading the same OBD-II parameters.</b>				<b>Operational</b>	<b>Introduced on 11/07/2017.</b>
54	Provide directory for relevant OBD-II channels.		Toyota		Operational	
55	Task Force to finalize list of mandatory OBD-II channels to be monitored by labs.		Task Force		Operational	
56	<b>Establish procedure for cleaning blowby flow meter.</b>	<b>Fri 5/11/18</b>			<b>Procedure</b>	<b>Introduced on 11/07/2017.</b>
57	Make recommendation to Task Force.	Fri 5/11/18	Intertek		Procedure	
58	<b>Update Golden Stands to automatically control coolant pressure.</b>				<b>Operational</b>	<b>Introduced on 11/07/2017.</b>
59	TBD					
60	<b>All labs to provide 200HR E.O.T. oil samples to Intertek for analysis.</b>	<b>Fri 5/11/18</b>			<b>Operational</b>	

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61	Southwest to provide 200HR E.O.T. samples from Precision Matrix #2.	Fri 5/11/18	Southwest	Fri 5/11/18	Operational	
62	Lubrizol to provide 200HR E.O.T. samples from Precision Matrix #2.	Fri 5/11/18	Lubrizol	Fri 5/11/18	Operational	
63	Exxon to provide 200HR E.O.T. samples from Precision Matrix #2.	Fri 5/11/18	Exxon	Fri 5/11/18	Operational	
64	Afton to provide 200HR E.O.T. samples from prove-out testing.	Fri 5/11/18	Afton	Fri 5/11/18	Operational	
65	Intertek to conduct analysis on all E.O.T. samples to eliminate laboratory bias.	Fri 5/11/18	Intertek		Operational	
66	<b>Re-evaluate QI for oil gallery temperature.</b>				<b>Operational</b>	
67	TBD					
68	<b>TMC to work with labs to complete Precision Matrix #2 test reports.</b>	<b>Fri 5/11/18</b>	<b>TMC</b>		<b>Documentation</b>	
69	Southwest to complete test reports.		Southwest		Documentation	
70	Intertek to complete test reports.		Intertek		Documentation	
71	Lubrizol to complete test reports.		Lubrizol		Documentation	
72	Exxon to complete test reports.		Exxon		Documentation	
73	<b>Compare 200HR operational data plots for Precision Matrix #2 tests.</b>				<b>Operational</b>	
74	TBD					
75	<b>Compile all notes from January 2018 IVB Engine Build Workshop into a single document.</b>				<b>Documentation</b>	
76	TBD					
77	<b>Develop a plan to address the significant lab-to-lab differences with (1) exhaust gas temperature, (2) crankcase pressure/blowby flow, (3) intake manifold pressure and (4) AFR.</b>				<b>Operational</b>	
78	TBD					
79	<b>Complete Appendix K.</b>		<b>Task Force</b>		<b>Documentation</b>	
80	TBD					
81	<b>TMC to issue an information letter that summarizes all procedural and process changes that accompany new LTMS system.</b>		<b>TMC</b>		<b>Documentation</b>	
82	Issue information letter.		TMC		Documentation	
83	<b>Create an engine "health" checklist that is to be used to inspect hardware between tests.</b>				<b>Hardware</b>	
84	TBD					
85	<b>Generate additional data that will allow the statisticians to evaluate a potential engine hour effect for iron.</b>				<b>Statistics</b>	
86	TBD				Statistics	
87	<b>Compare break-in and aging data from all labs.</b>				<b>Operational</b>	
88	TBD					

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ID	Task Name	Start	Resource Names	Finish	Category	General Comments
89	<b>Assess the impact of camshaft lobe failures (and the subsequent rebuild) on engine severity.</b>				<b>Operational</b>	
90	TBD					
91	<b>Solicit and obtain a IVB "high wear" oil to replace REO300.</b>				<b>Operational</b>	<b>The inventory of REO300 is low, although a reblend is</b>
92	TBD					
93	<b>Investigate why coolant pressure becomes noisier as the Intertek stands enter Stage 2 conditions.</b>		<b>Intertek</b>		<b>Operational</b>	
94	TBD					
95	<b>Measure time constants of all Golden Stands.</b>				<b>Operational</b>	
96	Intertek to measure and supply time constants.		Intertek		Operational	
97	Southwest to measure and supply time constants.		Southwest		Operational	
98	Lubrizol to measure and supply time constants.		Lubrizol		Operational	
99	Exxon to measure and supply time constants.		Exxon		Operational	
100	Afton to measure and supply time constants.		Afton		Operational	
101	<b>Standardize the fuel dilution measurement technique at all labs.</b>				<b>Operational</b>	
102	TBD					
103	<b>Develop a standardized test stand audit checklist.</b>	<b>Fri 5/11/18</b>	<b>Lubrizol</b>		<b>Documentation</b>	
104	Make a recommendation to the Task Force.		Lubrizol		Documentation	
105	<b>Update procedure with instructions for dealing with extended periods of downtime.</b>	<b>Fri 5/11/18</b>	<b>Southwest</b>		<b>Procedure</b>	
106	Make a recommendation to the Task Force.		Southwest		Procedure	
107	<b>Develop a procedure for applying a calcium (or other detergent) adjustment to iron.</b>				<b>Procedure</b>	
108	TBD					
109	<b>Clarify instructions for changing cylinder heads and running the break-in/aging cycle.</b>	<b>Fri 5/11/18</b>	<b>Southwest</b>		<b>Procedure</b>	
110	Make a recommendation to the Task Force.		Southwest		Procedure	
111	<b>Identify the minimum number of acceptable data points in a test file.</b>	<b>Fri 5/11/18</b>	<b>Southwest</b>		<b>Procedure</b>	
112	Make a recommendation to the Task Force.		Southwest		Procedure	