Ford Sequence IX and X

Joint Surveillance Panel Meeting

Sequence X Minutes

Prepared by Alfonso Lopez

January 27, 2020

Meeting Minutes – Sequence X (Chain Wear)

- Joint surveillance panel meeting of the Ford Sequence IX and X was called to order to review a proposal from George Szappanos from Lubrizol to allow dual calibration of Ford 2.0L test stands.

- Presentation attached below.

- The presentation was discussed and the following motion made by Szappanos and Seconded by Ron Romano
  - Motion: To adopt the changes described in this document to allow simultaneous calibration of a single test stand for both D 8279 and D 8291 test types

- Two votes were held – one for each surveillance panel.

- The motioned passed in the Sequence X with a final vote 13/1/1 . The vote results are attached below.

Meeting Minutes Continued

- The one negative vote from Amol Savant of Valvoline was cast after the meeting as a reversal of his original vote of Yes. As a result, the panels did not hear his argument and discussion to support the negative vote. An email communication from Amol to the surveillance panel expressing his technical argument for a negative vote was sent on the 27th after the meeting.

- TMC has informed the Panel Chair that a draft of the information letter will be sent to Subcommittee B for ballot as a result of the negative vote.

Sequence X Motion – Voting Record

Sequence X SURVEILLANCE PANEL VOTING RECORD

Date:	01/27/20
Motion:	To adopt the change described in this document to allow simultaneous calibration of a single test stand for both D8279 and D8291 test types.
Proposed By:	George Szappanos
Seconded By:	Ron Romano

COMPANY	PERSON	VOTING MEMBER?	ACCEPT	REJECT	WAIVE
SwRI	Khaled Rais (Chair)	X	X		
	Christine Eickstead				
	Pat Lang				
Intertek	Al Lopez	X	X		
	Jason Soto				
Lubrizol	George Szappanos	X	X		
	Jerome Brys				
Afton	Christian Porter		X		
	Bob Campbell	X			
	Ed Altman				
Oronite	Robert Stockwell		X		
Infineum	Charlie Leverett				
	Andy Ritchie	X	X		
	Doyle Boese				
APL	Timothy Hadaway	X	X		
TMC	Rich Grundza	X	X		
Ford	Ron Romano	X	X		
Shell	Jeff Hsu	X			X
Valvoline	A C Savant	X		X	
Neste	Chris Castanien	X			
OHT	J H Bowden	X	X		
TEI	C. Knight				
	D. Lanctot	X	X		
Chrystler	Ht146@chrystler.com	X			
ExxonMobil	Cliff Salveson	X	X		
GM	Tim Cushing	X	X		
BP	Nick Janssen	X			
	Tim Matthews				
		TOTAL	13	1	1

Multi-test calibration for Ford 2.0L Ecoboost tests

Proposal to allow simultaneous calibration status on a single test stand for LSPI and Cam Chain Wear test types

01/27/2020

Proposal Summary -

- Each test type has its own numbering system and does not change the test number count for the others (and thus does not reduce available candidate test count).
- When switching to LSPI test type, the most recently calibrated engine may be reinstalled in the same test stand with 1 reference test; The calibration period is defined as currently (90 days). Otherwise, a minimum of two are required.
- When switching to CWT (or LSPI oil aging) test type, no re-calibration is required as long as the respective calibration period has not expired.

Necessary procedure and LTMS revisions… (shown in red)

Stand modifications, CWT (D 8279)

- 9.4 *Stand Modification and Calibration Status*—Stand calibration status will be invalidated by conducting any nonstandard test or modification of the test and control systems, or both. A non-standard test is any test conducted under a modified procedure, or using non-procedural hardware, or using controller-set-point modifications, or any combination thereof. Any such changes terminate the current calibration period. A reference test is required before restarting the current calibration period (see A2.2.2). If changes are contemplated, contact the TMC beforehand to ascertain the effect on the calibration status.

(existing wording)

Stand modifications, CWT (D 8279)

- 9.4 *Stand Modification and Calibration Status*—Stand calibration status will be invalidated by conducting any nonstandard test or modification of the test and control systems, or both. A non-standard test is any test conducted under a modified procedure, or using non-procedural hardware, or using controller-set-point modifications, or any combination thereof. Any such changes terminate the current calibration period. A reference test is required before restarting the current calibration period (see A2.2.2). If changes are contemplated, contact the TMC beforehand to ascertain the effect on the calibration status. Test stands may be calibrated under this method and Test Method D 8291. Changing test method will not be considered a stand modification or modified procedure. Returning a stand to conduct testing in accordance with this method will not require a reference test, provided that the calibration period and number of tests have not been exceeded. Ensure that instrumentation calibration requirements are met when changing test methods.

Stand modifications, LSPI (D 8291)

•10.4 *Test Stand Modifications*—A nonstandard test includes any test completed under a modified procedure requiring hardware or controller modifications to the test stand. The TMC determines whether another calibration test is necessary after the modifications have been completed. Test stands may be calibrated under this method and Test Method D 8279 and changing test method will not be considered a stand modification or modified procedure. Removal of an engine to conduct testing under Test Method D 8291 will require the engine to re-establish calibration status in accordance with LTMS guidelines. Ensure that instrumentation calibration requirements are met when changing test methods.

LSPI (D 8291) procedure addition

7.6.2 Mounting the Engine on the Test Stand—Mount the engine on the test stand so that the flywheel friction face is 0.0°± 0.5° from vertical and at a 0.0°±0.5° roll angle. Use two motor mounts at the rear of the engine. Quicksilver P/N 66284-A8,17 has been found suitable for this purpose. An example of a rear-mount support is shown in Fig. A6.5. Use a rubber mount at the front of the engine attached to the front-cover mount. Examples of front-mount supports are shown in Fig. A6.4. Ensure that the engine's longitudinal axis is aligned to within 0.5° of the dynamometer axis.

(Ensures that the engine alignment is not disrupted during engine swaps.)

Test Numbering System

Seq IX, 10.5.1 *Acceptable Tests*—The test number shall follow the format *AAA-BB-CCCC-DDD* where *AAA* represents the test stand number, *BB* represents the number of Sequence IX tests on the stand, *CCCC* represents the engine number, and *DDD* represents of tests on the engine.

Seq X, 9.5.1 *Test-Numbering System*—The test number shall follow the format AAA-BB-CCC where *AAA* represents the test stand number, *BB* represents the number of tests since last reference, and *CCC* represents the total number of Sequence X tests on the stand.

LSPI Seq IX LTMS

The laboratory must notify the TMC and the ACC Monitoring Agency when removing a stand/engine from the system. No reference oil data shall be removed from the control charts from test stand/engine that have been used for registered candidate oil testing. Reintroduction of a stand/engine into the system requires completion of new stand/engine acceptance requirements. In all instances of stand/engine removal, stand/engine renumbering can occur only if the stand/engine undergoes a significant rebuild, as agreed upon by the laboratory and the TMC.

The removal and reinstallation of the most recently calibrated engine back into the same test stand requires a single successful calibration test, provided its calibration period has not expired.

Motion

- To adopt the changes described in this document to allow simultaneous calibration of a single test stand for both D 8279 and D 8291 test types.