A Program of ASTM International

Test Monitoring Center

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Sequence IIIH Information Letter 18-3
Sequence Number 8
July 31, 2018

ASTM consensus has not been obtained on this information letter. An appropriate ASTM ballot will be issued in order to achieve such consensus.

TO: Sequence III Surveillance Panel

SUBJECT:
1. Alternative Engine Coolant System Configuration
2. Updated Table 1
3. Table 3 Updates
4. Addition of Dyno Supplier to X3.

Recently, the Sequence III Surveillance Panel approved, by e-ballot, the following changes which have been highlighted in red.

1. Use of a variable frequency drive in lieu of a control valve to maintain coolant system flow, as well as other changes regarding orientation of equipment and recommended components. Sections 6.6.2 and 6.6.2.2 have been revised and a new Fig. 2 has been added to show an alternative coolant system configuration.

2. Table 1 has been updated to allow a Midwest dynamometer and to indicate that a Chrysler starter is not required for dynamometers which have an air starter. Also, the driveshaft was moved from Table 3 to Table 1.

3. The Micromotion flowmeter part number has been corrected and the flow specifications were added for the flowmeter. The coolant pump is now included as a FCM part. The alternative cooling coolant system no longer requires a three-way valve and two-way valve to control flow when using a variable frequency drive (VFD). Also, the driveshaft was moved from Table 3 to Table 1.

4. The addition of the Midwest 1014 dynamometer to Table 1 requires that the supplier be listed in Appendix X3 Section X3.1.1.4 has been added to provide contact information for the dynamometer supplier.

Test Method D8111-18 has been revised to incorporate these changes and are effective with the issuance of this letter. The text of the revisions is shown in the attachment.

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FCA US LLC

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Director
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Attachment

c: http://www.astmtmc.cmu.edu/ftp/docs/gas/ChryslerIIIH/procedure_and_ils/il18-3_IIIH.pdf

Distribution: Email

6.6.2 *Engine Cooling System*—The FCM supplies coolant pressurized to 200 kPa, at a flow rate of 170 L/min and controls the coolant temperature at 115 °C at the engine coolant outlet. The system incorporates the following features: pump, Coriolis-type flow meter, flow-control and three-way-control valves (not required for alternative system, see Fig. 2), external cooling system, and low-point drains.

6.6.2.2 Schematics of the recommended flow systems for the engine coolant are shown in Figs. 1 and 2.

TABLE 1 Control-System/Engine-Interface Components

Component Description	Part Number	Supplier[A]
Pump, water, modified, Seq. IIIH Chrysler	OHT3H-300-1	OH Technologies
Coolant crossover, Seq. IIIH Chrysler	OHT3H-302-1	OH Technologies
Adapter, coolant crossover, Seq. IIIH Chrysler	OHT3H-303-1	OH Technologies
Jumper, harness segment, throttle control, Seq. IIIH Chrysler[B]	OHT3H-004-1	OH Technologies
Harness, dyno, Seq. IIIH Chrysler	OHT3H-005-1	OH Technologies
Exhaust turndown pipe drawings	IIIH-ETB30-B	TMC
	IIIH-ETB31-B	
	IIIH-ETB32-B	
	IIIH-ETB40-B	
	IIIH-ETP42-B	
Air cleaner (optional)	04861729AB	Chrysler Dealer
Air resonator	04861731AB	Chrysler Dealer
Air hose (optional)	04861732AB	Chrysler Dealer
Throttle pedal (optional)	68043161AB	Chrysler Dealer
Electric starter (optional if air starter is used)	56029852AA	Chrysler Dealer
O_2 sensor	56029050AA	Chrysler Dealer
Powertrain control module (PCM)[C]	RL150588AC	Chrysler Dealer
Manual flywheel (2013 JK)	05184438AB	Chrysler Dealer
J-TEC blowby meter	VF563AA	J-Tec Associates, Inc.
Blowby canister	CCV6000	J-Tec Associates, Inc.
Dynamometer	Midwest 1014A	Dyne Systems
Driveshaft w/1410 U-Joints[D]		

[D] Available through local suppliers

TABLE 3 Recommended Control Parts for the FCM

Part Name	Supplier[A]	Part Number	Description
2-way coolant flow control valve	Badger Meter Inc.	9003GCW36SV3A29L36	2 in., 2-way air to close. Alternately, a variable frequency drive (VFD) may be used instead of a 2-way valve to control pump speed and coolant flow. If necessary, a flow restrictor may be incorporated in place of the 2-way valve to achieve the required system pressure
Heat exchanger	Kinetic Engineering Corp.	Elanco M-71	Tube and shell heat exchanger is an acceptable alternative.
Coriolis coolant flow meter	Micro Motion Inc.	R200S418NCAMEZZZZ meter, 1700I13ABMEZZZ transmitter	Any other meter used shall meet or exceed a mass flow accuracy of ±0.75 % and mass flow repeatability of ±0.50 %
Fuel temperature heat exchanger	Laboratory determined		
3-way coolant temperature control valve	Badger Meter Inc.	9003TCW36SV3AXXL36	2 in., globe cast 3-way wafer type, NPT 316/316L stainless steel body size 35, actuator, air to close, 3 spring for a 3 to 15 psi signal range. Alternatively, the use of the 3-way valve is not required if control of process water flow through the main engine coolant heat exchanger is maintained using a suitable 2-way valve (see Fig. 2)
Oil temperature control valve	Badger Meter Inc.	1002GCN36SVCSALN36	½ in. 2-way Research valve, A-trim
Coolant pump	Aurora	341A BF 1.5X2X9	

[A] Contact information for the suppliers is given in Appendix X3.

X3.1.1.4 Dyne Systems: 3602 West Wheelhouse Road, Milwaukee, WI 53208, www.dynesystems.com

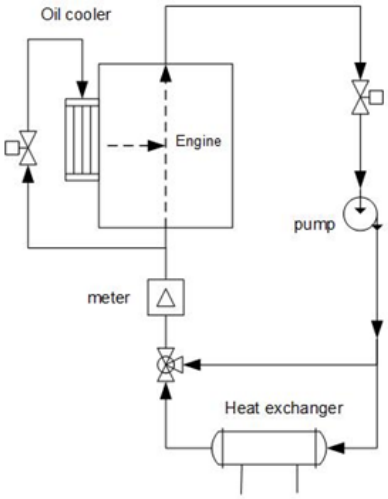

Fig .1 Schematic of Flow System for Engine Coolant Using a Three Way Control Valve to Maintain Coolant Flow

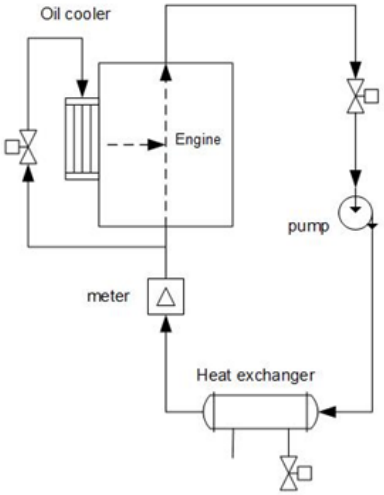

Fig. 2 Schematic of Flow System for Engine Coolant Flow Removing Three Way Valve and Controlling Coolant Temperature Using a Two Way Valve at the Heat Exchanger