A Program of ASTM International

Test Monitoring Center

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Sequence IIIG Information Letter 11-3
Sequence No. 33
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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 Mailing List

SUBJECT: Changes to Engine Oil Cooling System

During the August 10, 2011 Sequence III Surveillance Panel Conference call, the panel approved a change to the engine oil cooling system. The system now requires an additional heat exchanger. Section 6.10 has been revised to include this new tube-and-shell heat exchanger. Table A13.1 has also been revised to reflect the tube-and-shell heat exchanger and Annex A15 has been added to show the schematic of the engine oil cooling loop. The Table of Contents has been updated to include Annex A15 as well.

The attached changes to Test Method D 7320 are effective August 10, 2011.

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Attachments

c: ftp://ftp.astmtmc.cmu.edu/docs/gas/sequenceiii/procedure_and_ils/IIIG/IL11-3.pdf

Distribution: Electronic Mail

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6.10 *Engine Oil-Cooling System*--The system consists of an oil filter adapter, engine-mounted oil cooler, and gaskets as specified in the Engine Assembly Manual, Section 8 Sheet 3 & 3a and a shell-and-tube heat exchanger. The engine oil-cooling system uses engine coolant pumped from the Fluid Conditioning Module through a three-way control valve to the oil cooler circuit which contains a heat exchanger prior to the engine-mounted oil cooler. To maintain the specified oil temperature of 150 °C at the oil filter adapter, the three-way control valve varies the coolant flow as necessary through the oil cooler circuit. The heat exchanger in the oil cooler coolant circuit is a tube-and-shell style and will use process water as the cooling media (See Fig. A15.1). When testing high oxidation-sensitive oils, the oil cooling system may go into a bypass mode, causing the engine-mounted oil cooler to be by-passed. In this condition, the TMC may allow engineering judgment for the oil temperature Quality Index on reference oil tests.

TABLE A13.1 List of Components that have been Found Suitable for Use in the Fluid Condition Module

System	Component	Make	Model	Comments
Fuel	Pump	KFI	10210	12 VDC
	Flow Meter	Micro Motion		
	Pressure Regulator (on-rack)	Weldon	2040-200-A-170	
	Heat Exchanger	Elanco	M11	
	Check Valve	Sharpe	FNW-16	
	Solenoid Valve	Skinner	72218RN4UV00N0H222P3	
	Filter	Racor	110A	
Engine Coolant	Pump	Aurora	341ABF 1-1/2 x 2 x 9	
	Flow Meter	ABB/Fisher Porter	10VT1000	1111ADH11C12AA0A has been replaced
	Heat Exchanger	Elanco	M71FL	
	Heater	Chromalox	ARTMS-1250TL	
	3-Way Control Valve	SVF	T7-6666TT150-S1	2 in. Valve
	2-Way Control Valve	Orion/Badger Meter	9003GCW36SV3A29L36	2 in. Valve (same as used on Sequence VIB)
	Inlet Line I.D. / Total Length	2 in.	226 in.	Total run from Process Controller to Engine Inlet Adapter
Breather Tube	Pump	Aurora	133-BF-E03 1-3/4 x ¾	
	Flow Meter	Sparling	FM625*	
	Heat Exchanger	Elanco	M21	
	Heater	Chromalox	3CVCHS-151	
	3-Way Control Valve	SVF	T7-6666TTSE-S1	1/2–in. Valve
	2-Way Control Valve	SVF	V7-6666NTSE-V60	1/2–in. Valve
Oil Cooler	Pump	Aurora	133-BF-E03 1-3/4 x ¾	
	Flow Meter	Sparling	FM625*	
	3-Way Control Valve	SVF	T7-6666TTSE-S1	1/2–in. Valve
	2-Way Control Valve	SVF	V7-6666NTSE-V30	1/2–in. Valve
	Heat Exchanger			Tube and shell nominally 3 in. dia. by 8 in.

A15. Engine Oil Cooling System Configuration

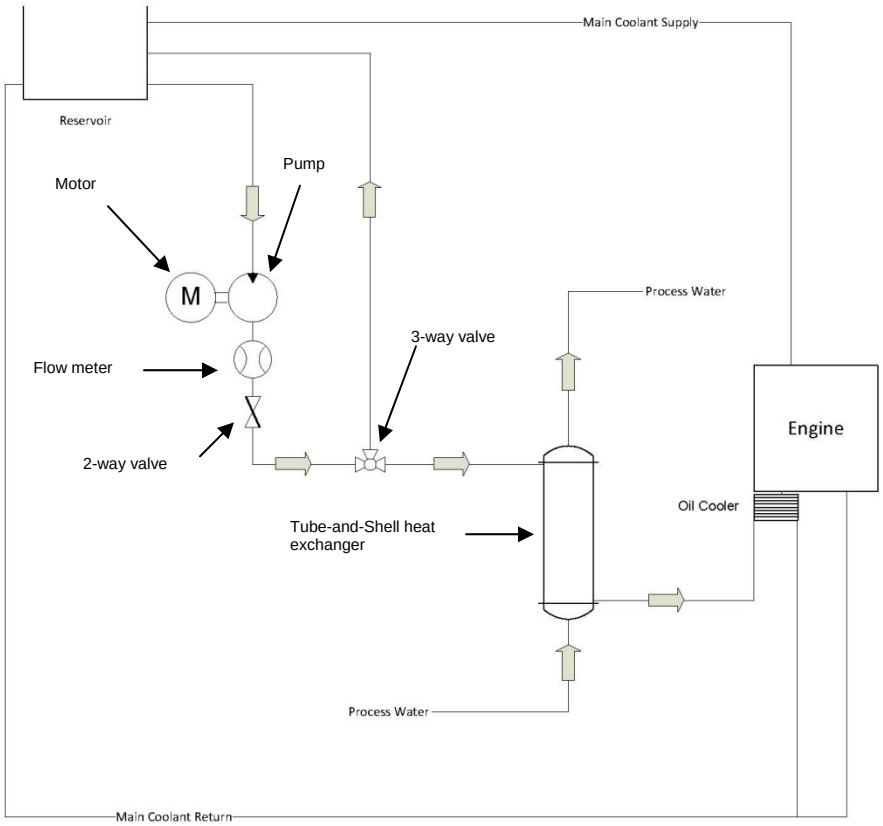

Fig. A15.1 Typical Engine Oil Cooling System Schematic