



Test Monitoring Center

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Sequence VH Information Letter 24-3
Sequence Number 9
May 7, 2024

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 V Surveillance Panel

SUBJECT: Procedure Updates as a Result of Recent VH Build Workshop

During the May 2, 2024, Sequence V Surveillance Panel conference call, the panel agreed to adopt several procedure updates and or clarifications, recommended by the VH Operations and Hardware subpanel, as a result of a recent engine build workshop. These changes include:

- 1) Updating Section 7.5.6.1 to no longer require blocking of the coolant passages,
- 2) Modify 7.6.2.1 and 7.6.2.2 to address removal of the under intake insulation and plugging the hole in the butterfly (throttle) plate
- 3) Modify A12.6. referenced in Section 7.6.10, to show TEI as the supplier of oil separators.
- 4) Modify Section 7.7.6.1 to allow front covers to be cleaned by ultrasonic cleaner.
- 5) Change the suggested acidic cleaner listed in 7.7.4 to RYDLYME.
- 6) Specify an anaerobic sealer and list Loctite as a suitable product, in section 7.8.2.
- 7) Modify sections 7.8.4.1 (3) to correct the honing order to 2, 4, 1, 3 and 7.8.4.1 (5) to show the units μin and to require that measurements be taken with torque plates installed.
- 8) Add the use of a file in section 7.8.5.2 for deburring the rings after cutting.

Sections 7.5.6.1, 7.6.2, 7.6.10, 7.7.6.1, 7.7.4, 7.8.2, 7.8.4.1 and 7.8.5.2 of D8256 have been revised accordingly and are attached. These changes are effective upon the issuance of this information letter.

/s/ M. D. Deegan

Michael Deegan
Lubricant Technical Expert
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Attachment

c: https://www.astmtmc.org/ftp/docs/gas/sequencev/procedure_and_ils/Sequence%20VH/il24-3-vh.pdf

Distribution: Email

Revises D8256-23 as amended by Information Letter 24-1 and 24-2.

7.5.6.1

(4) Prior to installing the engine in the parts washer, **ensure it is recommended** that all coolant passages are blocked off to prevent cleaning solutions from entering the coolant passages. **However, blocking of the coolant passages is left to the discretion of the laboratory.**

7.6.2.1 Block coolant bypass port in intake manifold by tapping the hole and installing a 1/2 in. NPT pipe plug. Replace the idle air bypass motor with the idle load control system. A schematic of the system is shown in **Fig. A7.12**. Block off the EGR port on the back of the throttle body plenum (block off plate shown in **Fig. A7.13**) drill and tap the block off plate and install fitting for MAP port. **Remove the insulation from the underside of the intake manifold.**

7.6.2.2 Clean the butterfly and bore of the throttle body with solvent (**7.7.1**) and air-dry before each test. Do not disassemble the throttle body as this will cause excessive wear on the components. **Plug the air hole in the butterfly plate, the method of plugging the hole is left up to the laboratory.**

7.7.4 *Cooling System Cleaner*, ~~Dupont~~ **RYDLYME** or equivalent, for cleaning cooling system components external to the engine. (**Warning**—Caustic. Health hazard.)

7.7.6.1 Steel and cast iron parts may be cleaned using the ultrasonic cleaner without restrictions. Aluminum parts may only be cleaned for 30 min or less. The engine front cover may **not also** be cleaned using the ultrasonic cleaner.

7.8.2 *Sealing Compounds*—Use a silicon-based sealer as needed between the rear seal housing-cylinder block, the cylinder block-cylinder head-front cover interfaces, cylinder head-front cover-rocker cover interfaces, and cylinder block-front cover-oil pan interfaces. **Use an anaerobic sealer around oil passage on the bolting interface between the cam cap and head journal, see 7.9.4 (6). Loctite (Red 518) has been found suitable.**

7.8.4.1 Honing:

(3) Install EHU512 stones. Typical pressures of 25 to 40 units have found to be acceptable. Hone the right bank in the following order, cylinder **1, 3, 4 and 2-2, 4, 1 and 3**. Hone the left bank in the following order, Cylinder 7, 5, 8 and 6. Following this order will minimize the possibility of overheating one area of the block. The block may be rotated in the honing machine and does not have to be removed to hone the other bank.

(5) Install a plateau hone brush and hone at 25 to 30 units of pressure to obtain a surface finish of 8 μmin to 13 μmin . Typically 45 strokes have provided acceptable results. **Perform all surface finish measurements with the torque plates in place.**

7.8.5.2 Piston Ring Cutting Procedure:

(2) After the rings are cut remove the ring from the cutting tool, deburr using a Sunnen soft stone²² **or a file** and wipe with a dry towel.

A12.6 Oil Separator:

F47E- 6A785-AA Oil Separator

~~Supplier TBD~~

Are available from the following supplier:

Test Engineering, Inc.

12758 Cimarron Path, Ste. 102

San Antonio, TX 78249-3423