



Test Monitoring Center

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Sequence IIIG Information Letter 09-6
Sequence No. 25
December 14, 2009

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: 1) Teflon Tape & 1/16" Diameter Thermocouple Use
2) Revised Condenser QI Upper & Lower Limits
3) Valve Spring Part Number Correction
4) Editorial Change - Annex 8

- 1) During the November 18, 2009 Surveillance Panel Conference Meeting, the panel agreed to allow the use of Teflon tape in engine assembly, providing it does not come in contact with engine oil and to allow the use of 1/16" diameter thermocouples. Section 6.13 has been revised and section 7.6.4 has been added to reflect these changes
- 2) Also during the November 18 meeting, the panel agreed to revise the QI upper and lower limits for condenser coolant temperature. Table A8.1 has been revised to reflect these new upper and lower limits.
- 3) Recently, the Central Parts Distributor identified that the valve spring part number listed in Table A2.1 is incorrect. Table A2.1 has been revised to reflect the correct part number. Please note that the revised part number has been marked in red to make identification easier.
- 4) Recently, it was noted that Section 10.8.10.1 incorrectly references Annex A7, the correct reference should read Annex A8. Section 10.8.10.1 has been revised to reflect Annex A8

The attached changes to Test Method D 7320 are effective November 18, 2009.

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Attachments

c: ftp://ftp.astmtmc.cmu.edu/docs/gas/sequenceiii/procedure_and_ils/IIIG/IL09-6.pdf

Distribution: Electronic Mail

Modifies Test Method D7320-09a

as amended by Information Letters 09-2, 09-3, 09-4 and 09-5

7.6.4 Teflon tape may be used, provided it does not come into contact with engine oil.

6.13 *Temperature Measurement*—Use 1.6 or 3.2 mm metal-sheathed Specification E608/E608M, iron-constantan (Type J) thermocouples for temperature measurements. Use the shortest possible thermocouples to meet the insertion depth requirements listed in this test method and minimize exposed thermocouple sheathing.

10.8.10.1 The upper and lower values used for QI calculations for the required parameters are listed in Annex A8.

TABLE A2.1 Parts to be Replaced Every Test

| Part Description | Part Number |
|---|----------------------|
| Arm, Rocker with Pivot Bearing | OHT3F-058-1 |
| BEARING, KIT, ENGINE | OHT3F-042-2 |
| KIT INCLUDES: | |
| BEARING, CONNECTING ROD, KIT, UPPER AND LOWER, OH-106 ASSY | 3F042-01 |
| MAIN BEARING KIT, OH101 ASSY, INCLUDES: | 3F042-02 |
| Bearing, Balance Shaft Front (part of 24502388) | SKF6205-2ZNRJEM |
| BEARING, MAIN, LOWER, #1 AND 3 | OH-102 |
| BEARING, MAIN, LOWER, #4 | OH-103 |
| BEARING, MAIN, LOWER, FLANGE, #2 | OH-104 |
| BEARING, MAIN, UPPER, FLANGE, #2 | OH-105 |
| BEARING, CAM BUSHING, POSITIONS 1 & 4 | 3F028-09 |
| BEARING, CAM BUSHING, POSITIONS 2 & 3 | 3F028-10 |
| Bolt, Camshaft Sp rocket | 24501366 |
| Bolt, Cylinder Head, Long | 25527831 |
| Bolt, Cylinder Head, Short | 25533811 or 88891770 |
| Bolt, Flywheel | 24505092 |
| Bolt, Main Cap | 24503056 |
| Bolt, Main Cap, Side | 24505576 |
| Bolt, Rear Cover Housing | 24503970 |
| Bolt, Rocker Arm, Special Test | 3F-058-02 |
| Bolt/Screw, Thrust Plate retainer | 25519242 |
| Camshaft, Special Test, including Manganese-phosphate coating | OHT3F-008-8 |
| Cap, Valve Spring Retainer | 24502257 |
| Chain, Timing | 24504668 |
| Clip, Retainer, Piston Pin | OHT3F-012-1 |
| COOLER, OIL, NICKEL PLATED, BYPASS CLOSED | OHT3F-030-2 |
| Damper, Timing Chain (includes bolt, retaining ring) | 24503893 |
| FILTER, PRO TEC | OHT3F-057-3 |
| Gasket kit, Intake Manifold lower | 89017399 or 89017816 |
| Gasket, Cylinder Head, left | 24503802 |
| Gasket, Cylinder Head, right | 24503801 |
| Gasket, Front Cover | 12587003 |
| Gasket, Oil Filter Adapter | 25534742 |
| Gasket, Oil Pan | OHT3G-093-1 |
| Gasket, Oil Suction Tube | 24501259 |
| Gasket, Rear Cover Housing | 24507388 |
| Gasket, Rocker Cover | 25532619 |
| Gasket, Water Outlet | 24502433 |
| Gasket, Water Pump | 24501565 |
| Head, Cylinder | 24502260 |
| Key, Camshaft Sprocket | 24500618 |
| Key, Valve Stem Keeper | 1016634 |
| Lifter, Test ACI w/Flat (25338738A) | OHT3F-029-3 |
| PIN, PISTON WRIST, PKG. OF 6 | OHT3F-014-1 |
| PISTON, TEST, RUNS 1 & 2, GRADE 12 | OHT3F-053-1 |
| PISTON, TEST, RUNS 3 & 4, GRADE 34 | OHT3F-054-1 |
| PISTON, TEST, RUNS 5 & 6, GRADE 56 | OHT3F-055-1 |
| PLATE, CAMSHAFT THRUST, .1520 in. THICKNESS | OHT3F-011-2 |
| Plug, Engine Block Core Hole | 24500867 |
| Plug, Cylinder Head Core Hole | 3835577 |
| Plug, Cylinder Head Cup | 24502262 |
| Plug, Engine Block, Oil Gallery | 3835577 |
| Plug, Ignition Spark | NGK TR-6 |
| Plunger, Oil Relief | 25530949 |
| PUSHROD, SPECIAL LENGTH, PKG. OF 12 | OHT3F-007-1 |

| Part Description | Part Number |
|--|----------------|
| RETAINER CLIP, PISTON PIN PKG. OF 12 | OHT3F-012-1 |
| 1 EA. RING, PISTON, RUN 1, ENGINE SET | OHT3F-050-RUN1 |
| 1 EA. RING, PISTON, RUN 2, ENGINE SET | OHT3F-050-RUN2 |
| 1 EA. RING, PISTON, RUN 3, ENGINE SET | OHT3F-051-RUN3 |
| 1 EA. RING, PISTON, RUN 4, ENGINE SET | OHT3F-051-RUN4 |
| 1 EA. RING, PISTON, RUN 5, ENGINE SET | OHT3F-052-RUN5 |
| 1 EA. RING, PISTON, RUN 6, ENGINE SET | OHT3F 052 RUN6 |
| ROCKER ARM ASSEMBLY (Includes: 3F058-02) | OHT3F-058-1 |
| Rod, Connecting (powdered metal) | 12593374 |
| Seal, Crankshaft Front Oil (24504098) | OHT3G-092-1 |
| Seal, Crankshaft Rear Oil (25534760) | OHT3G-091-1 |
| SEAL, EXHAUST VALVE STEM | OHT3F-061-1 |
| SEAL, INTAKE VALVE STEM | OHT3F-060-1 |
| Spring, Oil Relief Valve | 1262505 |
| SPRING, VALVE Special Test (COLOR CODE PINK) | OHT3G-059-1 |
| Sprocket, Camshaft | 24505306 |
| Valve, Exhaust (STD) | 12579949 |
| Valve, Intake (STD) | 12569550 |

TABLE A8.1 Sequence IIIG Quality Index Upper and Lower Values

NOTE—According to TMC Memo 03-061 based on Surveillance Panel agreement using IIIG Precision Matrix Data.

| Controlled Parameters | Quality Index | |
|--------------------------------------|------------------------|--------|
| | Upper and Lower Values | |
| | L | U |
| Speed | 3595 | 3605 |
| Torque | 249.02 | 250.98 |
| Air-to-Fuel Ratio | 14.87 | 15.13 |
| Condenser Coolant Outlet Temperature | 39.54 | 40.46 |
| Engine Coolant Outlet Temperature | 114.54 | 115.46 |
| Oil Filter Block Temperature | 149.58 | 150.42 |
| Exhaust Back Pressure | 5.92 | 6.08 |
| Intake Air Pressure | 0.041 | 0.059 |
| Engine Coolant Flow | 158.57 | 161.43 |