



Test Monitoring Center

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Sequence IIIG Information Letter 06-3

Sequence No. 12

October 3, 2006

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: Change in Connecting Rod Design
Part Number Changes

On September 27, 2006, the Sequence III Surveillance Panel approved, via email ballot, a change in the connecting rods to be used for test engine assemblies. The current connecting rod is no longer available from the supplier and has been replaced with a design that does not include an oil slinger slot. These connecting rods have been designated as PMNS for hardware identification on Form 12 of the report forms.

In addition to this change, several part number changes were noted and have been addressed. Table A2.1 and A2.2 have been revised and are attached. A summary of part number changes has also been attached for reference.

The attached changes to Draft 2D of the IIIG test procedure are effective with next reference test to be run in the laboratory.

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Attachments

c: ftp://ftp.astmtmc.cmu.edu/docs/gas/sequenceiii/procedure_and_ils/IIIG/IL06-3.pdf

Distribution: Electronic Mail

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, No.1 and 3	OH-102
Bearing, main, lower, No. 4	OH-103
Bearing, main, lower, flange, No. 2	OH-104
Bearing, main, upper, flange, No.2	OH-105
Bearing, cam bushing, positions 1 & 4	3F028-09
Bearing, cam bushing, positions 2 & 3	3F028-10
Bolt, camshaft sprocket	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 or 12581570
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, 0.1520" 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
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 yellow)	OHT3F-059-5

Changes to Draft 2D of the Sequence IIIG procedure

Sprocket, Camshaft	24505306
Valve, Exhaust (STD)	12579949
Valve, Intake (STD)	12569550

Table A2.2 Parts to be Replaced As Needed (3 pages)

PART DESCRIPTION	PART NUMBER
Adapter, blowby breather tube	OHT3F-040-1
Adapter, oil filter	OHT3F-035-1
Adapter, oil filter, with external bypass	OHT3F-080-1
Adapter, throttle body, air inlet	OHT3F-001-2
Balancer, harmonic (24507058 or 12563265) (1997-2003)	24507058
Bearing, balance shaft front (part of 24502388)	SKF6205-2ZNRJEM
Block, engine assembly	24506028
Bolt, connecting rod	12568069
Bolt, counter balance gear	24501367
Bolt, counter balance shaft retainer	24500055
Bolt, front cover (2)	24504713
Bolt, front cover (1)	24504712
Bolt, harmonic balancer (24506341 or 24504736) (1997-2003)	24504736
Bolt, oil filter adapter	24504713
Bolt, lower intake (13)	24504090
Bolt, oil pan (24502791 or 24508626) (1997-2003)	24508626
Bolt, oil suction tube	24505570
Bolt, rocker cover w / washer (25534748 or 24502164) (1997-2003)	24502164
Bolt, screw camshaft sensor	25526395
Bolt, screw, oil gearotor, cover	25519242
Bolt, stud type, front cover & crankshaft sensor (short)	24504717
Bolt, stud type, front cover & crankshaft sensor (long)	24504718
Bolt, throttle body support	24503644
Bolt, upper intake long	24505205
Bolt, upper intake short	24506498
Bolt, Upper Intake, Stud	24502453
Bracket, breather tube	OHT3F-041-1
Breather tube, s.s. material	OHT3F-075-1
Bushing, balance shaft rear	24503193
Bushing, rocker cover	OHT3F-028-1
Connector, modified for length, GM pn 24502883	OHT3F-039-2
Cover, engine front	OHT3G-085-1
Cover, rear, crankshaft rear seal housing	OHT3G-088-1
Cover, oil gearotor	25521935
Cover, rocker arm valve cover left side plastic	12590366
Crankshaft	34502168
Dip stick, metric, extended length	OHT3G-064-1
Fitting, oil filter adapter	OHT3F-043-1
Flywheel, manual, modified p.n. 24503285	OHT3F-020-2
Gasket, exhaust, end plate	OHT3F-009-1
Gasket, exhaust flange, metal	OHT3F-018-1
Gasket, Manifold, Upper Intake	89017556
Gasket, oil cooler, pkg. of 50	OHT3F-074-1
Gasket, oil filter, pkg. Of 50	OHT3F-062-1
Gear, balancshaft drive	24504792
Gear, balancshaft driven	24503524
Gear, counter balance drive	24504792
Gear, counter balance shaft	24503524
Grommet, rocker arm valve cover bolt	25534749
Harness, coil pack segment	3F022-2
Harness, fuel injector segment	3F022-1
Harness, wiring, dyno w/ OHT3F-056-1 SENSOR	OHT3F-022-1
Housing, assembly, bypass valve	OHT3F-084-1
Injector, fuel	17120601
Key, crankshaft	25534912 or 12563282
Magnet, camshaft position sensor	10456195

Changes to Draft 2D of the Sequence IIIG procedure

PART DESCRIPTION	PART NUMBER
Manifold, cast iron	OHT3F-003-0
Manifold, exhaust, water cooled assy (one bank)	OHT3F-003-1
ASSEMBLY INCLUDES:	
1 ea. runner, exhaust manifold	OHT3F-004-1
1 ea. Plate, rear, exhaust manifold	OHT3F-005-1
1 ea. elbow, exhaust, modified	OHT3F-005A-1
1 ea. plate, front, exhaust manifold	OHT3F-006-1
2 ea. gasket, exhaust, end plate	OHT3F-009-1
1 ea. gasket, exhaust, flange, metal	OHT3F-018-1
Manifold, lower intake	24505728
Manifold, upper intake	17096162
Meter, blowby	RX-116169-A1 REV N
Module, assembly, coil pack	1103948
Mount front engine w/ bolt pattern for coil pack	OHT3F-026-1
Mount, rear engine housing w/ air starter, muffler & shim pack	OHT3F-025-1
Assembly includes:	
Starter, air	3F025-03
Muffler, starter air	3F025-04
Shim pack, starter air	3F025-05
Nut, throttle body fuel rail retainer	24506469
Nut, throttle body retainer	24506469
Oil filter housing assembly, no bypass, impregnated	OHT3G-080-1
Outlet, coolant	OHT3F-034-1
Pan, IIF Test, nickel plated	OHT3F-073-1
PCM, special	OHT3F-021-1
PCV, dummy	OHT3F-002-1
Pin, cylinder head locating	25536320
Pin, front cover lower	25536323
Pin, front cover upper	24501162
Pin, transmission locating	12338076
Plate, EGR blockoff	OHT3F-024-1
Plate, front, exhaust manifold	OHT3F-006-1
Plate, rear, exhaust manifold	OHT3F-005-1
Plate, water pump housing	OHT3F-031-1
Plug, auto hex, socket, (main oil gallery block off)	444777
Plug, dip stick	OHT3F-065-1
Plug, drain, modified	OHT3F-063-1
Pump, oil, gearoter set	24505433
Rail, fuel	17098211
Rail, fuel injector	17120601
Reamer, dip stick and dip stick hole plug	OHT3F-071-1
Regulator, fuel pressure, on rail	17113346
Retainer, Counter Balance, Timing Chain Oiler	24500374
Retainer, Rocker arm (replace after 6 tests)	24502278
Runner, exhaust manifold	OHT3F-004-1
Screen, oil pump (w/suction pipe)	24505569
Seal, oil pan drain plug (o ring)	3536966
Sensor, camshaft position	10456148
Sensor, crankshaft position	10456141
Sensor, Mass Air Flow (2003 shielded)	12568877 or 88961007
Sensor, modified coolant temperature	OHT3F-056-1
Shaft assembly, counter balance	24502388 or 24506557
Shield, crankshaft position sensor	24506440
Shim pack, starter air	3F025-05
Shim, steel, .005" thick, 10 per pkg.	OHT3F-072-005
Shim, steel, .010" thick, 10 per pkg.	OHT3F-072-010
Shim, steel, .015" thick, 10 per pkg.	OHT3F-072-015
Shim, steel, .020" thick, 10 per pkg.	OHT3F-072-020
Shim, steel, .031" thick, 10 per pkg.	OHT3F-072-031
Sleeve, valve stem protectors (pkg. of 100)	OHT3F-070-1

Changes to Draft 2D of the Sequence IIIG procedure

PART DESCRIPTION	PART NUMBER
Sprocket, crankshaft, special 2 pc.	OHT3F-036-1
Starter, air	3F025-03
Stud, front cover (2)	24504717
Stud, front cover (2)	24504718
Support, Throttle body	24504697
Throttle body (2 bolt mass air flow sensor)	24507235
Throttle body (3 bolt mass air flow sensor)	24504302
Tool, camshaft bushing installation	OHT3F-019-2
Tool, oil pump primer	OHT3F-038-1
Tube, throttle body to fuel pressure regulator	24505671

Summary of Part Number Changes

Table A2.1

Bolt, cylinder head, long	25527831
Bolt, cylinder head, short	25533811 or 88891770
Rod, Connecting (powdered metal)	12593374
Rod, Connecting (Cast) deleted, no longer used	24501696
Gasket, front cover	12587003

Table A2.2

Adapter, oil filter, with external bypass	OHT3F-080-1
Bolt, connecting rod	12568069
Bolt, harmonic balancer (24506341 or 24504736) (1997-2003)	24504736
Bolt, oil pan (24502791 or 24508626) (1997-2003)	24508626
Bolt, rocker cover w / washer (25534748 or 24502164) (1997-2003)	24502164
Gasket, upper intake	89017556
Cover, rocker arm valve cover left side plastic	12590366