



RACING
PERFORMANCE PARTS





M-6007-Z351SR

Sealed Crate Engine

INSTRUCTION SHEET

NO PART OF THIS DOCUMENT MAY BE REPRODUCED WITHOUT PRIOR AGREEMENT AND WRITTEN PERMISSION OF FORD RACING PERFORMANCE PARTS.

Please visit www.fordracingparts.com for the most current instruction information

!!! PLEASE READ ALL OF THE FOLLOWING INSTRUCTIONS CAREFULLY PRIOR TO INSTALLATION.
AT ANY TIME YOU DO NOT UNDERSTAND THE INSTRUCTIONS, PLEASE CALL THE FORD RACING
TECHLINE AT 1-800-367-3788 !!!

INSTALLATION INSTRUCTIONS:

These instructions consist of (4) Sections:

5. Technical Specifications M-6007-Z351SR Sealed Crate Engine
6. Lubrication Priming Procedure
7. Bill of Materials Sealed Crate Engine
8. Torque Specifications

1. Technical Specifications M-6007-Z351SR Sealed Crate Engine

Crate Engine Part Number	M-6007-Z351SR
Engine Type	351W Based Small Block
Displacement (cubic inches)	351
Block (M-6010-C58)	Cast Iron
Bore	4.000
Stroke	3.500
Crankshaft (CRS 4351 35006200)	Forged Steel (Flywheel bolts require sealer)/ 0 balance
Vibration Damper (M-6316-C351)	Detachable weight removed for 0 balance
Connecting Rod (SIR6200BBLW)	Forged Steel (6.200 Center to Center .927 Pin)
Piston (SBF550000F06)	Forged Aluminum
Camshaft (44HR000168)	Hydraulic Roller
Cam Timing	Position "0" (multi index crank sprocket)
Cylinder Head (M-6049-Z304DA)	Aluminum
Chamber Volume	63cc
Valve Diameter Int./Ex.	2.020" Int./1.600 Ex.
Compression Ratio	10:1
Rocker Arm (M-6564-F351)	Aluminum Roller
Recommended Timing	34°BTDC Total 4000 rpm
Maximum Rated RPM	6000 rpm
Oil Pan	10 Quarts plus filter/coolant
Oil Filter	M-6731-FL1A
Oil Pressure	60-70 psi @ 240° F/ 4000 rpm
Recommended Oil	15w-50 Mobil 1
Max Oil Temperature	280° F
Coolant Temperature	195° F Thermostat
Spark Plugs	AGSP-32C
Firing Order	1-3-7-2-6-5-4-8
Fuel Pressure (@ carburetor)	6-7 psi

Factory Ford shop manuals are available from Helm Publications, 1-800-782-4356



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Recommended Parts Not Included

M-12259-M302 Or	Universal Spark Plug Wire Set
M-12259-M301	Pre-fit black Spark Plug Wire Set
M-6375-D302	0- Balance Flywheel (may require M-6397-A302 metric bolt kit dependent on clutch)
M-4216-A210	Flywheel Bolts (note threads have required sealer pre applied)

Standard Operating Specifications

Main Bearing Clearance	.0020" -.0025"
Rod Bearing Clearance	.0020" -.0025"
Crankshaft End Float	.005"- .007"
Wrist Pin to Rod Clearance	.0010"- .0012"
Wrist Pin to Piston Clearance	.0010"- .0012"
Piston to Deck Distance	.000"
Piston to Bore Clearance	(follow Piston mfg. recommendations)
Valve Spring Installed Height	1.800" (130#)
Intake Valve to Guide Clearance	.0014"- .0016"
Exhaust Valve to Guide Clearance	.0018"- .0022"
Valve Lash	0 Lash plus 1/4 turn Pre-load

2. Lubrication Priming Procedure

1. Fill engine with recommended oil.
2. Hand rotate engine to cylinder #1 TDC firing.
3. Remove distributor cap.
4. Mark rotor position on distributor housing.
5. Mark distributor housing and intake manifold interface.
6. Remove distributor.
7. Insert a 5/16" deep-well 6 point socket and long extension into distributor hole and engage the oil pump drive shaft.
8. Remove valve covers.
9. Rotate counter clockwise with an electric drill until oil flow is visible in the rocker cover area.
10. Re-install valve covers.
11. Remove socket/extension from distributor hole.
12. Install distributor and align **both** rotor to distributor housing **and** distributor housing to intake manifold marks.
Note: if distributor does not drop into place, gradually rotate oil pump drive with socket until it does. **Do not** force distributor into position.
13. Install distributor hold down.
14. Check oil level.
15. Set timing as recommended (total advance of 34° BTDC @ 4000 rpm).

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3. Bill of Materials

Assembly Part Number **# M-6007-Z351SR**
Description Bill of Materials Sealed Crate Engine
Date of Revision 27-OCT-06

PART NUMBER	DESCRIPTION	SOURCE
M-6600-D2	OIL PUMP	FORD RACING
11-660F	OIL PAN	CANTON
11-661	OIL SCREEN	CANTON
387239-S	MAIN STUD	FORD DEALER SALES
388192-S	TIMING COVER DOWEL	FORD DEALER SALES
388813-S	BALANCER BOLT	FORD DEALER SALES
44HR00168	CRANE CAM	CRANE CAMS
AGSP-32C	SPARK PLUG	FORD DEALER SALES
C3AZ-6287-B	ECCENTRIC	FORD DEALER SALES
CB-831H	ROD BEARINGS	CLEVITE 77
D0OZ-8597-B	BY-PASS HOSE	FORD DEALER SALES
E6DZ-6700-A	FRONT COVER SEAL	FORD DEALER SALES
E7AZ-6A674-C	PAN RAIL	FORD DEALER SALES
E7AZ-6A674-D	PAN RAIL	FORD DEALER SALES
EAD-6397-B	TRANS DOWEL	FORD DEALER SALES
B8A-6378-A	CRANK DAMPER WASHER	FORD DEALER SALES
E0AZ-6626-B	OIL PUMP GASKET	FORD DEALER SALES
F1TZ-6023-A	TIMING POINTER	FORD DEALER SALES
F1AZ-6890-B	OIL FILTER INSERT	FORD DEALER SALES
F3SZ-6278-A	CAM GEAR WASHER	FORD DEALER SALES
F3TZ-6020-A	FRONT COVER GASKET	FORD DEALER SALES
F87Z-8255-CA	THERM HOUS GASKET	FORD DEALER SALES
F0ZZ-8592-B	WATER OUTLET	FORD DEALER SALES
SBF550000F06	FORGED PISTON	MAHLE
M-12270-A302	DIST. CLAMP	FORD RACING
M-6010-C58	5.8 BARE BLOCK	FORD RACING
M-6014-Z304	HEAD STUD KIT	FORD RACING
M-6049-Z304DA	CYL HEAD ASSY	FORD RACING
M-6051-S331	CYL HEAD GASKET	FORD RACING
M-6059-D351	FRONT COVER	FORD RACING
SIR6200BBLW	CONNECTING ROD	EAGLE SPECIALTY PRODUCTS
M-6253-A50	ROLLER CAM CONV. KIT	FORD RACING
M-6268-A302	TIMING SET	FORD RACING

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PART NUMBER	DESCRIPTION	SOURCE
M-6303-K351	CRANKSHAFT	EAGLE SPECIALTY PRODUCTS
M-6316-C351	CRANK DAMPER	FORD RACING
M-6500-R302	HYD ROLLER LIFTER	FORD RACING
M-6564-F351	ROLLER ROCKERS	FORD RACING
M-6582-E302P	VALVE COVER	FORD RACING
M-6605-A341	OIL PUMP SHAFT	FORD RACING
M-6710-A351	OIL PAN GASKET	FORD RACING
M-6731-FL1A (case of 12)	OIL FILTER	FORD RACING
M-8501-F351	WATER PUMP	FORD RACING
M-9424-V351	INTAKE MANIFOLD	FORD RACING
M-9439-A50	INTAKE MANIFOLD GSKT.	FORD RACING
MS-1432H	MAIN BEARING	CLEVITE 77
T785805	PUSHRODS	TREND
17015	REAR MAIN SEAL	CORTECO
42910-S	CAM PLATE BOLTS	FORD DEALER SALES
C2OZ-6A008-A	HEAD DOWELS	FORD DEALER SALES
F-18	CAM BEARINGS	DURABOND
P13264R	RUBBER V/C GASKETS	FEL-PRO
PK-130	CRANK KEY	

Please Note: Cylinder Head Part # M-6049-Z304DA is an assembly consisting of the following:

COMPONENT PART #	COMPONENT DESCRIPTION	SOURCE
334-7203	ROCKER ARM STUD	ARP
M-6516-BH	VALVE SPRING	FORD RACING
M-6536-BH	VALVE SPRING LOCATOR	FORD RACING
M-6518-BH	VALVE KEEPERS	FORD RACING
M-6514-BH	VALVE SPRING RETAINER	FORD RACING
M-6505-B304	EXHAUST VALVE	FORD RACING
M-6507-A304	INTAKE VALVE	FORD RACING
M-6571-B221	VALVE SEAL	FORD RACING
M-6049-Z304D	BARE CYLINDER HEAD	FORD RACING
M-6566-Z304D	PUSHROD GUIDE PLATE	FORD RACING

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Please Note: Piston Part #SBF550000F06 consists of the following parts:

COMPONENT PART #	COMPONENT DESCRIPTION	SOURCE
4005MS-15	RING SET	MAHLE
6436901	ROUND WIRE LOCK	MAHLE
6457808	PISTON PIN	MAHLE

4. Torque Specifications

Application	Torque (lb*ft unless otherwise noted)	Recommended Lubricant
Main studs into block 1/2 inch	3-5	Loctite 242
Main nuts 1/2 inch	95-105	Engine oil
Rod bolts	50	ARP Moly rod bolt lube
Head studs into block	3-5	Loctite 242
Head nuts	95-105	Engine oil
Rocker studs	60-65	Loctite PFT
Intake manifold bolts	18-20	Loctite 242
Flywheel bolts	75-80	Loctite 242 or dry-seal
Vibration damper bolt	90	Engine oil
Oil pump to block	28-35	Loctite 242
Oil pickup tube to main stud	28-35	Loctite 242
Cam bolt	40-45	Loctite 242
Cam retainer plate bolt	9-12	Loctite 242
Tappet guide retainer	9-12	Loctite 242
Oil pickup tube to oil pump	12-18	Loctite 242

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