



# M-6007-Z363FT/RT CRATE ENGINE INSTRUCTION SHEET

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

## M-6007-Z363 CRATE ENGINE SPECIFICATIONS AND OWNER'S MANUAL

**!!! PLEASE READ ALL OF THE FOLLOWING INSTRUCTIONS CAREFULLY PRIOR TO  
INSTALLATION.**

### **INSTALLATION INSTRUCTIONS:**

These instructions consist of (4) Sections:

1. Technical Specifications M-6007-Z363FT/RT Crate Engine
2. Lubrication Priming Procedure
3. Bill of Materials
4. Torque Specifications

### **1. Technical Specifications M-6007-Z363FT/RT Crate Engine**

Crate Engine Part Number	M-6007-363FT/RT
Engine Type	302 Based Small Block
Displacement (cubic inches)	363
Horsepower Rating	500 HP STP cor. / 480 HP SAE 1349 @ 6500 rpm
Torque	450 lb* ft STP cor. / 430 lb* ft. SAE 1349 @ 5300 rpm
Block M-6010-BOSS302	Cast Iron; 4 Bolt Main (center 3)
Bore	4.125"
Stroke	3.400"
Crankshaft	Forged Steel (Flywheel bolts require sealer)/ 0 balance
Vibration Damper	Neutral Balance
Connecting Rod	Forged Steel (5.400 Center to Center .927 Pin)
Piston	Forged Aluminum
Camshaft	Hydraulic Roller
Cam Timing	Position "0" (multi index crank sprocket)
Camshaft Lobe Separation	112
Camshaft Duration	232°/240° @ .050" lift (int./ex.)
Valve Lift	.580/.602" (int./ex.)
Cylinder Head	Aluminum
Chamber Volume	63cc
Valve Diameter Int./Ex.	2.020" Int./1.600" Ex.
Compression Ratio	10.2:1
Rocker Arm	Aluminum Roller 1.65:1 Ratio



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Recommended Timing	32° BTDC Total 4000 rpm
Maximum Rated rpm	6500 rpm
Oil Pan	M-6675-DRS302 or M-6675-FT302
Oil Filter	M-6731-FL1A (case)
Oil Pressure	60 psi @ 240° F/ 4000 rpm
Recommended Oil	10w-40 Mobil 1
Max Oil Temperature	240° F
Recommended Coolant Temperature	195° F
Spark Plugs	AGSP-32C
Firing Order	1-3-7-2-6-5-4-8
Fuel Pressure (@ carburetor)	6-7 psi

## Recommended Parts Not Included

M-12259-M302	Universal Spark Plug Wire Set
Or	
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)
M-9439-A50	Intake gasket

Oil pressure fitting in the left front block is ½ pipe thread.

## 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	.010" Below Deck (+/- .005")
Piston to Bore Clearance	.0045"-.0060"
Valve Spring Installed Height	1.750" - 1.800"
Intake Valve to Guide Clearance	.0014"-.0016"
Exhaust Valve to Guide Clearance	.0018"-.0022"
Valve Lash	0 Lash plus ¼ turn Pre-load

## 2. Lubrication Priming Procedure

1. Fill engine with recommended oil.
2. Hand rotate engine to cylinder #1 TDC firing or 0 degree position on balancer
3. Remove distributor cap.
4. Mark rotor position on distributor housing.
5. Mark distributor housing and intake manifold interface.
6. Remove distributor.



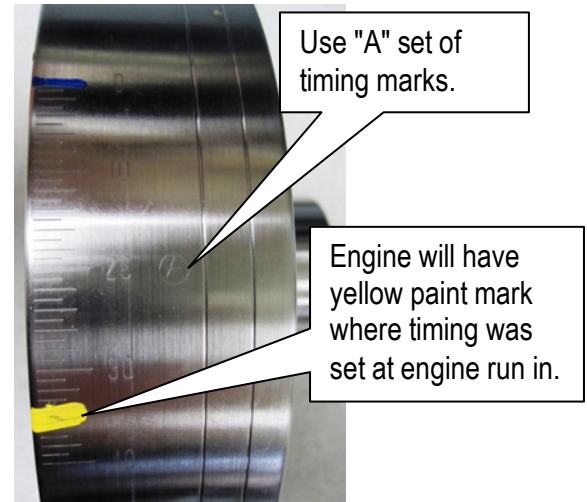
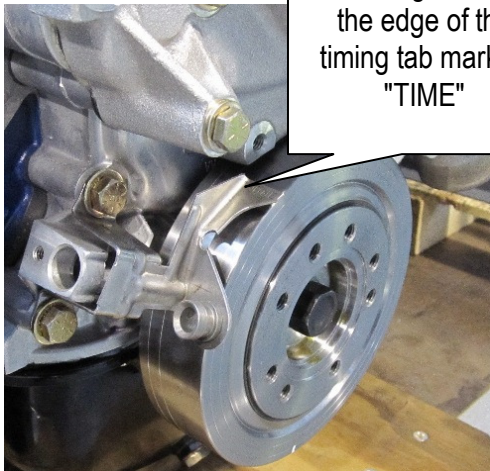
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7. Insert a ¼" deep-well 6 point socket and long extension into distributor hole and engage the oil pump drive shaft.
8. Remove valve covers.
9. Rotate oil pump drive shaft counter clockwise with an electric drill until oil flow is visible from pushrods to the rocker arm 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 32° BTDC @ 4,000 rpm).
16. NOTE: engine must be primed after installation of remote filter or and oil cooler

### Setting the Timing

- Dyno testing has shown that 32 degrees of total timing produces the best overall performance.
- Check total timing at 4,000 RPM to make sure the full mechanical advance has been achieved

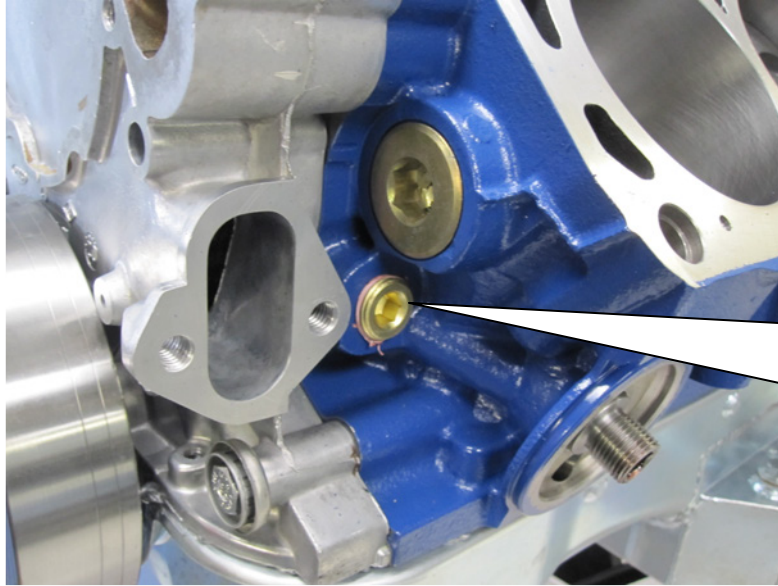




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### Installation Notes



Use caution when  
tightening  $\frac{1}{2}$  NPT  
oil galley plug.  
**40 Ft. Lbs. MAX.**  
*Overtightening can  
cause cracking in  
this area.*



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### 3. Bill of Materials

Assembly Part Number:

# M-6007-Z363FT/RT

Date of Revision

6/14/2011

PART NUMBER	DESCRIPTION	SUPPLIER
20-850	DIPSTICK & TUBE	CANTON RACING
SBF090125F06	FORGED PISTON	MAHLE
449561	ROLLER CAMSHAFT	CRANE CAMS
388192-S	TIMING COVER DOWEL	
388813-S	BALANCER BOLT	
72813-8	EXHAUST ROCKER ARM	CROWER
72813X1-8	INTAKE ROCKER ARM	CROWER
AGSP-32C	SPARK PLUG	
C3AZ-6287-B	ECCENTRIC	
CB-634HN	ROD BRG.	CLEVITE ENGINE PARTS
CB-634HXN	ROD BRG.	CLEVITE ENGINE PARTS
M-6622- DRS302 OR M- 6622-FT302	OIL PICK UP TUBE	FORD RACING
CM-6731-FL1A	OIL FILTER	
CM-8501-F351	WATER PUMP	EDELBROCK
D8TZ-7600-A	PILOT BRG	
D9ZZ-7007-A	REAR COVER PLATE	
E6DZ-6700-A	FRONT COVER SEAL	
E7AZ-6A674-A	PAN RAIL (L)	
E7AZ-6A674-B	PAN RAIL (R)	
EAD-6397-B	TRANS DOWEL	
EDC-6378-A	CRANK DAMPER WASHER	
EOAZ-6626-B	OIL PUMP GASKET	
F1SZ-6701-A	REAR MAIN SEAL	
F1TZ-6023-A	TIMING POINTER	
F2AE-6890-AA	OIL FILTER INSERT	
F2SE-6500-AA	HYD ROLLER LIFTER	
F3SZ-6278-A	CAM GEAR WASHER	



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F3TZ-6020-A	FRONT COVER GASKET	
F5TE-6710-CB	OIL PAN GASKET	
M-6010-BOSS302	BOSS BARE BLOCK	FORD RACING
M-6065-BOSS	HEAD BOLT KIT	ARP
M-6049-Z304DA	CYL HEAD	FORD RACING
M-6051-R351	CYL HEAD GASKET	FORD RACING
M-6059-D351	FRONT COVER	FORD RACING
2-ICR5400-927	CONNECTING ROD	SCAT ENTERPRISES
M-6253-A50	ROLLER CAM CONV. KIT	FORD RACING
M-6268-A302	TIMING SET	FORD RACING
M-6303-C340	FORGED CRANKSHAFT	SCAT ENTERPRISES
M-6316-D302	CRANK DAMPER	FORD RACING
M-6582-BOSS	VALVE COVER	FORD RACING
M-6600-D2	OIL PUMP	MELLING TOOL
M-6605-B302	OIL PUMP SHAFT	FORD RACING
M-6675-DRS302 or M-6675-FT302	OIL PAN	FORD RACING
M-6766-FRNVCH	BREATHER CAP	FORD RACING
M-9439-A50	INTAKE MANIFOLD GSKT.	FORD RACING
MS 590 H	MAIN BRG.	CLEVITE ENGINE PARTS
MS 590 HX	MAIN BRG.	CLEVITE ENGINE PARTS
T680805	PUSHRODS	TREND PERFORMANCE PRODUCTS

**Note: Piston Part #SBF090125F06 consists of the following parts:**

COMPONENT PART #	COMPONENT DESCRIPTION	SOURCE
4125MS-15	RING SET	MAHLE
6436901	ROUND WIRE LOCK	MAHLE
6457808	PISTON PIN	MAHLE



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## 4. Torque Specifications

<u>Application</u>	<u>Torque (lb*ft unless otherwise noted)</u>	<u>Recommended Lubricant</u>
Main nuts 1/2 inch	95-105	Engine oil
Main splayed bolts 3/8 inch	35-45	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	15-18	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

### Oil Cooler / Remote Filter adapter

Canton Racing Products - PN 22-595 – FORD 90 DEGREE ROTATING REMOTE FILTER ADAPTER This 90 deg. rotating remote oil filter adapter spins-on to 3/4"-16 thread with 2-5/8" seal stock filter locations and provides 1/2" N.P.T. in and out ports for plumbing a remote filter. It's unique design permits the two 90 degree inlet and outlet ports to be rotated. This simplifies hose and fitting connections for all applications. It is machined from billet aluminum and comes with all necessary hardware and O-Ring seals.



### Horsepower and Torque Rating info:

Dyno testing was conducted with a 750 Holley carburetor, Edelbrock 2829 Super Victor intake manifold, and long tube headers.