



FORD PERFORMANCE

M-6009-427A Engine Short Block INSTRUCTION SHEET

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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 PERFORMANCE TECHLINE AT 1-800-367-3788 !!!

OVERVIEW:

The M-6009-427A Engine Short Block Assembly is used to build the M-6007-Z427AFT and M-6007-Z427ART engines. These engines are intended for high-performance or street rod vehicles (not subject to emission restrictions). The pistons will accept M-6049-X306, M-6049-X307, M-6049-Z304PA and M-6049-Z304D cylinder head assemblies. **Piston to valve clearance needs to be checked.**

Short block components include:

- M-6010-Z351 Aluminum Block.
- Forged aluminum 4.125" Mahle pistons with a 17cc dish and full floating pins and pin locks.
- Forged H-beam rods bushed for floating pins (.927" diameter).
- Forged Steel 4.00" stroke crankshaft.
- Clevite rod and main bearings.
- The short block is assembled for hydraulic/hydraulic roller tappets (oil is **not** restricted to the lifter galleries). Restrictor plugs are included separately for solid roller applications.

Notes:

1. PISTON TO VALVE CLEARANCE MUST BE CHECKED with any high-lift camshaft. Recommended minimum clearance is .100" intake, .125" exhaust, .060" radial.
2. Connecting rod shoulder to cam lobe clearance must also be checked. If required, .050" minimum clearance.
3. The crank has been internally balanced to use neutral balance crankshaft dampers and flywheels.
4. M-6316-D302 "0" Balance Damper recommended.
5. M-6375-D302AB "0" Balance Manual Transmission 157-Tooth Flywheel recommended.
6. A performance oil pan and pickup tube to suit the intended vehicle application should be used. (Check pickup tube to crankshaft clearance, also check pickup tube to bottom of pan [.250"-.375"].)
7. M-6600-B3 Oil Pump recommended.
8. M-6051-R351 Head Gasket recommended for most applications.

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



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Specifications M-6009-427A

Bore x Stroke – 4.125" x 4.000"

Piston specs – 1.245" compression height, dish + notch volume = 17.0 +/- .5cc

.927" floating pin

1.5, 1.5, 3.0 mm ring pack

Deck height – 9.500"

Piston to deck – .005" nominal

Note: all dimensions are nominal

Clearances:

Piston to bore .0043"–.0047"

Ring end gap Top .020", 2nd .018" (+.001"/-.000")

Piston pin .0008"–.0012"

Crank end play .004"–.008"

Main bearing .0020"–.0025"

Rod bearing .0020"–.0025"

Rod side clear .012"–.022"

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