



FORD PERFORMANCE

M-6049-Z304D

Model Fits 302/351 Windsor engines

Product Name "Z-HEAD" ALUMINUM HEAD - BARE 63CC

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PRIOR TO INSTALLATION READ THESE INSTRUCTION COMPETELY
For questions, Call the FORD PERFORMANCE Techline 1-800-367-3788

Please visit https://www.performanceparts.ford.com for warranty information

OVERVIEW:

This instruction sheet contains important information regarding dimensions and specifications of the M-6049-Z304D cylinder heads. This is a bare cylinder head that comes un-assembled. This cylinder head requires seat and guide finishing. These cylinder heads have different valve centerlines and are set up for larger than stock valves, therefore piston to valve clearance must be checked. This check includes both radial and depth clearance checks. Radial clearance .060" minimum, depth on intake .080" and .120" on exhaust. These heads use stud mounted rocker arms, rocker arm to valve cover clearance must also be checked. These heads require .150" offset intake rocker arms. Check intake manifold port alignment, not all intake manifolds will fit due to the size and location of the intake ports. These instructions should be reviewed by all engine builders, due to minor changes that could impact the engine assembly process.

CONTENTS/BILL OF MATERIALS:

Table with 3 columns: PART #, DESCRIPTION, QUANTITY. Row 1: M-6049-Z304D, Bare un-assembled cylinder head, 1

FEATURES AND SPECIFICATIONS:

Table with 2 columns: Feature, Specification. Rows include Head material (A356 aluminum), Intake port location (Raised .100" from stock), Intake port volume (204 cc), Intake valve stem diameter (11/32"), Intake valve seat material (Ductile iron), Exhaust port location (Raised, may require custom headers), Exhaust port volume (85 cc's), Exhaust valve stem diameter (11/32"), Exhaust valve seat material (Ductile iron), Combustion chamber volume (64 cc), Recommended Valve guide clearance intake (.0012-.0022"), Recommended Valve guide clearance exhaust (.0016-.0026"), Weight (Approximately 27# (bare))

TYPICAL AIR FLOW

Table with 3 columns: LIFT, INTAKE CFM, EXHAUST CFM. Rows range from .050 to .550 lift, showing corresponding intake and exhaust airflow values.

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**RECOMMENDED PARTS**

Intake valve part number	M-6507-A304
Exhaust valve part number	M-6505-B304
Intake gasket	M-9439-A50
Exhaust gasket	Fel-Pro 1487
Head gaskets	M-6051-CP331, M-6051-S331, M-6051-R351
Rocker arms	Crower 72813-8 (Exhaust) Crower 72813X1-8 (Intake)
Valve covers	M-6582-LE302BK
Engine block	M-6010-BOSS302, M-6010-B302BB, M-6010-BOSS35195, M-6010-BOSS35192, M-6010-BOSS351BB, M-6010-B35192BB
Pushrod guide plates	M-6566-Z304D
Timing chain set	M-6268-A302
Spark plugs	AGSP32C
Valve cover gasket	Fel-Pro VS13264T

**RECOMMENDED TORQUE VALUES**

Head bolt	1/2-13 UNC Head bolt torque is 100 lb*ft, torque in steps 35/65/100 lb*ft
Intake manifold	18 lb*ft
Exhaust manifold	35 lb*ft
Valve cover	8-10 lb*ft
Rocker studs	65 lb*ft
Spark plugs	10-12 lb*ft

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