FORD PERFORMANCE

M-6049-Z304D7
Model Fits 302/351 Windsor engines
Product Name *"Z-HEAD" ALUMINUM 63CC W/7MM VALVES*

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-Z304D7 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:

PART #	DESCRIPTION	QUANTITY
M-6049-Z304D7	Bare un-assembled cylinder head	1

FEATURES AND SPECIFICATIONS:

Head material	A356 aluminum
Intake port location	Raised .100" from stock
Intake port volume	204 cc (after valve job)
Intake guide material	Manganese-bronze
Intake valve stem diameter	7 mm
Intake valve seat material	Ductile iron
Exhaust port location	Raised, may require custom headers
Exhaust port volume	85 cc's (after valve job)
Exhaust guide material	Manganese-bronze
Exhaust valve stem diameter	7mm
Exhaust valve seat material	Ductile iron
Combustion chamber volume	64 cc (after valve job)
Recommended Valve guide clearance intake	.0012-.0022"
Recommended Valve guide clearance exhaust	.0016-.0026"
Weight	Approximately 27# (bare)

TYPICAL AIR FLOW

LIFT	INTAKE CFM	EXHAUST CFM
.050	31.1	26.4
.100	64.6	55.8
.150	103.0	84.6
.200	135.5	113.3
.250	167.0	146.8
.300	199.0	171.6
.350	227.2	190.2
.400	245.2	200.4
.450	259.8	207.2
.500	271.9	212.8
.550	277.3	218.1

Ford Factory Shop Manual purchase options www.motorcraftservice.com

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RECOMMENDED PARTS

Intake valve part number	M-6507-D3047
Exhaust valve part number	M-6505-D3047
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