

MOPAR PERFORMANCE PARTS

INSTRUCTION SHEET

P5007065AB and P4510324 –W9 Cylinder Head

(Date 09/13/04)

Applications:

Cylinder Head P5007065AB: This cylinder head is designed for use on the Aluminum "A" engine block, 48 degree R3 cast iron engine block, or A-4 4 cylinder race block. This cylinder head cannot be used on any engine block that does not have the 48 degree tappet bore (i.e. stock production blocks and 59 degree "R" blocks).

Cylinder Head P4510324: This head is used to service crate engine P5007958. This cylinder head has been specially machined to allow for use on a stock production Magnum cast iron block w/ the 59 degree tappet bore (w/ Magnum hydraulic roller cam and tappets). The special machining that is done to this head, limits the amount of porting that can be done since pushrod slots are machined into the outer edges of the intake port walls (not much stock left for porting). The head flows enough air that it will not require porting in most cases, and can make enough power in most situations w/o any porting. The outer row of head bolts are machined away on this head since these smaller 3/8" bolts are not in the engine block.

Contents: one fully machined aluminum W9 cylinder head w/ valve seats and guides (bare machined head - sold individually). The 11/32" valve guide sizing / valve job machining has not been done on part number P5007065AB since we don't know what valve size the customer will choose. The 3/8" valve guides and valve job has been machined on part number P4510324 since it is the same as used on crate engine P5007958 (ready to assemble).

Specifications:

The W9 intake ports flow approximately 290 cfm (as cast). The combustion chamber has been CNC machined and is approximately 62 cc.

Valves / Springs / Retainers:

Cylinder Head P5007065AB is designed to use generic racing valves with an 11/32" stem and length of 5.540"-Intake, and 5.560"-Exhaust. Most suppliers call these valves +.600" long (or +.600" longer than stock generic valves). The suggested valve head size is 2.100" to 2.150" intake, and 1.600" to 1.625" exhaust. The valve seats will need to be machined to match the valves you select. The valve springs should be about 1.580" to 1.625" diameter, with an installed height of 2.000". The valve spring seat should be .060" thick.

Cylinder Head P4510324 is made for use with the following components: Intake and exhaust valve w/ 3/8" stem – P4876580 (8 pieces) and P5249886 (8 pieces), Valve Spring P4876064 (16 pieces), Retainer P4452033 (16 pieces), Valve Locks P4120618 (2 sets), Valve Seals P3690963 (1 set), Rocker Arms P5007470 (2 sets).

Cooling System:

The intake manifolds designed for the W9 cylinder heads do not have a valley tray, coolant passages, and thermostat housing. This intake design improves the performance of the engine by keeping heat off the intake manifold. This type of manifold requires the use of AN style plumbing (i.e. Aeroquip/Earl's) to route the coolant back to the radiator. In Sprint car applications the lines can be routed directly back to the radiator. In other HP applications, the lines can be routed to a remote filler neck housing (or thermostat housing). These remote filler neck housings are available from Moroso, CV Products and other sources.

The W9 cylinder head has 3 coolant exit passages on the intake surface of each head. These 3 passages are machined for use with "AN" O-ring Port Adapters. These adapters screw into the head and allow the installation of "AN" braided lines.

Cylinder Head P5007065AB uses AN-8 O-Ring Adapters on all (3) locations on each head. These "AN O-ring Port Adapters" are available under Earl's part number 985008 (AN-8 thread in the head for use

with AN-8 hose size), or Earl's part number 985068 (AN-8 thread in the head for use with AN-6 hose size). It is recommended that the size of the water lines be AN-6 on the ends of the heads, and AN-8 on the center water outlets on the center of each head.

Cylinder Head P4510324 uses (2) AN-8 O-Ring plugs (block off passage) and (1) AN-10 O-Ring adapter (front water outlet) on each head. Block off the rear and center holes w/ the AN O-Ring plugs, and use AN-10 adapters and lines from the front of each head to a "T" that can be connected to the upper radiator hose.

Spark Plugs:

The suggested spark plug is Champion C59YC or C61YC. All P5007065AB and P4510324 W9 cylinder heads have been machined for use with these spark plugs. Other older models of the W9 cylinder head were machined for use with alcohol sprint cars and have different machining for the spark plug. The older heads had spark plug machining moved outward to allow for a machined chamber and keep the plug dry w/ the constant flow systems. If you have one of these old heads, you may need to machine the spark plug pocket deeper to move the plug farther into the chamber. Another option for older heads may be machine the head for use with a tapered plug with a longer reach (i.e. Champion RE14MCC4 or RE14MCC5).

Intake Manifold / Valley Tray:

There are two intake manifolds that can be used with these cylinder heads – P4876162 (for 9.560" – 9.600" deck height blocks), and P4532598 (for approx. 9.00" deck height blocks). Use valley tray P4510327 for the tall deck height blocks. Contact Arrow Racing Engines (phone 248-852-5151) for a short deck valley tray.

Suggested Engine Packages:

If you are building a sprint car or dirt late model engine please see book part number P5007520. This book details a suggested engine packages with a listing of the part numbers and features tips for building these engine. The suggested engine packages for street & strip type engines are shown on the attached sheets.