INSTALLATION INSTRUCTIONS
MOPAR WEDGE 383/440 CYLINDER HEAD
1961-1978 CHRYSLER B & RB ENGINES
PART NUMBER P5153524

Cylinder Head Kit Components
• (1) Cylinder Head Assembly
• (2) 3/8-16 by 3/8-24 x 3.25” long rocker shaft studs
• (2) 3/8-24, 12 point nuts
• (2) .375” I.D. x .625” O.D. x .125” thick hardened washers
• (5) Rocker shaft shims

READ ALL INSTRUCTIONS BEFORE BEGINNING INSTALLATION

WARNINGS AND CAUTIONS
MOPAR PERFORMANCE PARTS RECOMMENDS PROFESSIONAL INSTALLATION BY AN ASE CERTIFIED TECHNICIAN. A VEHICLE HOIST, TORQUE WRENCHES, AND SPECIALIZED REMOVAL AND INSTALLATION TOOLS ARE REQUIRED.

DESCRIPTION: Cylinder heads are designed for non-emissions 1961-1978 Chrysler “B” (361, 383 and 400 c.i.d.) engines and “RB” (413, 426 wedge and 440 c.i.d.) engines. Cylinder heads feature an 84cc combustion chamber, 210cc intake ports, and 70cc exhaust ports. Other features include phosphor-bronze valve guides, interlocking, ductile iron valve seats and premium one-piece, stainless steel, high-flow 2.140” intake and 1.810” exhaust valves. Heat-treated, machined steel retainers and valve locks with heavy duty valve springs work with cams having valve lifts up to .600”. These powerful heads use the stock location for intake flange and bolt holes, rocker shafts, and valve cover rails, for compatibility with original equipment and aftermarket parts. Exhaust flange has been extended out .125” in order to provide dry exhaust bolt/stud holes. Exhaust bolt holes feature helicoil thread inserts for added strength and durability.

IMPORTANT NOTES: READ BEFORE BEGINNING INSTALLATION!

For a successful installation, Mopar Performance Cylinder Heads require some components other than original equipment parts. To complete your installation, you will need the following items:

- Head gaskets; P4349559 for cylinder bores up to 4.380”, or P4529455 for cylinder bores up to 4.420”
- Intake manifold gaskets; P4286825 for “B” (361-400 c.i.d.) and P4286826 for “RB” (413-440 c.i.d.) engines
- Exhaust gaskets; P4876105
- Cylinder head bolt kit; ARP #145-3606
- Adjustable rocker arm assembly, such as Mopar Performance P4120974 or aftermarket adjustable roller rocker arm assembly
- Pushrods compatible with adjustable rocker arm assembly:
  - 440 c.i.d. Stock Length: 9.125” hydraulic flat tappet, 9.250” solid flat tappet
  - 383 c.i.d. Stock Length: 8.250” hydraulic flat tappet, 8.600” solid flat tappet
- 14mm x 3/4” reach x 5/8” hex, gasketed spark plugs

CHECKING PISTON-TO-VALVE, PISTON-TO-BORE AND PISTON-TO-HEAD CLEARANCES:

Prior to installation, it is highly recommended that valve-to-piston clearances are checked and corrected to minimum specs, if necessary. These cylinder heads have larger-than-stock valve sizes and may not work with the valve pockets in stock pistons, especially if a high lift cam is used. The use of aftermarket pistons and/or custom machining to your pistons may be required. Actual valve-to-piston clearance should be specified by your camshaft manufacturer. Valve-to-bore clearance should also be checked, and the top of the bore notched for clearance, if necessary. In all cases, you must make sure that there is at least .035” clearance between the piston and any part of the cylinder heads.
ACCESSORIES

Although Mopar Cylinder Heads will accept OEM components (valve covers, intake manifold, etc.), we highly recommend that premium quality hardware be used with your new heads:

Head Bolts or Studs:
High quality head studs or bolts with hardened washers must be used to prevent galling of the aluminum bolt bosses. ARP offers a cylinder head bolt kit (#145-3606) that is compatible with these heads. Kit includes all bolts which must be used with these cylinder heads. Stock head bolts have a larger hex, and will not fit the bolt counter-bores on these cylinder heads.

Rocker Arms and Valve Train:
Adjustable rocker arms must be used with cams having greater than stock valve lift. We recommend original equipment adjustable rocker arm assemblies, along with matching pushrods. Use supplied spacer shims as needed to ensure adequate clearance between pushrods and intake port walls. See Mopar Performance Parts catalog for compatible rocker arm setups.

CAUTION: Before installing rocker shafts, check for burrs or other obstructions on the machined saddles where the shaft sits. Remove any burrs and clean saddles thoroughly, if necessary.

Valve Covers:
These cylinder heads accept 1963 and later stock valve covers. They also will accept Mopar Performance valve covers.

Intake Manifold:
Although stock intake manifolds will fit, Mopar Cylinder Heads are matched in size and operating range with Mopar WEDGE Intake Manifold P5153525 for “RB” engines. On “B” engine applications, match with intake manifold P4529117. Mopar performance intake manifold gaskets P4286825 for “B” and P4286826 for “RB” engines are recommended. Follow the intake manifold instructions for specific installation instructions.

Exhaust Headers:
Although stock exhaust manifolds will fit, the use of high performance exhaust headers is recommended for this application. The exhaust ports are matched to P4876105 exhaust gaskets which are recommended for this application.

Spark Plugs:
Use 14mm x 3/4" reach x 5/8" hex, gasketed spark plugs. Heat range may vary by application. Use anti-seize on the plug threads to prevent galling in the cylinder head, and torque to 10 ft.lbs. Do not overtighten sparkplugs! If short reach plug is used, poor performance and possible engine damage may occur.

CYLINDER HEAD REMOVAL AND INSTALLATION

NOTE: Cylinder head removal and installation is the same as for original equipment cylinder heads. Consult a service manual for specific procedures, if necessary.

1. Be sure that the surface of the block and the surface of the head are thoroughly cleaned to remove any oily film before installation. Use alcohol or lacquer thinner on a lint-free rag to clean.

2. Apply oil or suitable thread lubricant to head bolt threads and the underside of bolt heads and washers. Torque to 70 ft.lbs. in three steps (40, 55, 70) following the factory tightening sequence (See Figure 1).
3. Apply a continuous 1/8" bead of automotive RTV silicone sealer to end sealing surfaces on block and along bottom of intake ports on cylinder head. Also, apply a thin film of sealer around intake ports on cylinder head and gasket.

4. Position intake gasket tin valley cover in place and tighten bolts down. Then, place intake manifold in position and torque manifold bolts to 25 ft. lbs.

NOTES: 1) Rocker shaft hold-down studs, nuts and washers for 2 places marked (S) in each head are supplied in this kit. 2) Double nut both studs and screw them in until they reach the bottom. Install rocker shaft, factory concave washer and hard washer supplied with this kit. Apply 30W oil to fine threads and under nuts and washers and torque nuts to 25 ft./lbs.

Figure 1
Diagram Showing Correct Cylinder Head Tightening Sequence
### Final Installation Notes

- A head bolt re-torque is recommended after initial start-up and cool-down (allow 2-3 hours for adequate cooling).

### Cylinder Head Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
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<tbody>
<tr>
<td>Head Bolt Torque:</td>
<td>70 ft./lbs.</td>
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<tr>
<td></td>
<td>(in steps of 40, 55, 70)</td>
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<tr>
<td>Rocker Shaft Bolt Torque:</td>
<td>25 ft./lbs.</td>
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<tr>
<td>Combustion Chamber Volume:</td>
<td>84 cc</td>
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<tr>
<td>Deck Thickness:</td>
<td>5/8&quot;</td>
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<tr>
<td>Valve Seats:</td>
<td>Hardened ductile iron, interlocking, compatible with any fuel</td>
</tr>
<tr>
<td>Valve Size:</td>
<td>Intake- 2.140&quot;, Exhaust - 1.810&quot;</td>
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<tr>
<td>Valve Spring Diameter:</td>
<td>1.55&quot;</td>
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<tr>
<td>Valve Spring Installed Height:</td>
<td>1.880&quot;</td>
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<tr>
<td>Valve Spring Seat Pressure:</td>
<td>120 lbs.</td>
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<tr>
<td>Max. Valve Lift:</td>
<td>.600&quot;</td>
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