

Secure ends of seals by making certain that protruding tabs from head gasket fit through holes in end seals. Press down to lock securely in place.

PRIOR TO INSTALLING INTAKE MANIFOLD apply a small dab of RTV Black silicone sealer where all gaskets and seals meet.

Never apply RTV completely across gaskets or seals

EXHAUST MANIFOLD GASKET

ATTACH AND ALIGN GASKET TO CYLINDER HEAD. When reusing a heat shield, install heat shield to cylinder head. Then attach and align gasket between the manifold and heat shield. If gasket is steel faced on one side and fiber on the other, install steel faced side toward the manifold.

WATER OUTLET, WATER PUMP, FUEL PUMP AND TIMING COVER GASKETS

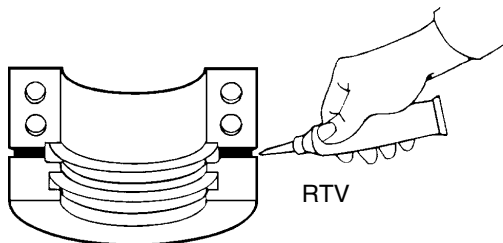
If a supplementary sealer is desired, apply a thin coat of gasket sealer to both sides of gasket(s).

REAR MAIN BEARING SEAL

MOLDED RUBBER SEALS: Install the seals into the grooves of the cap and block by firmly pressing the seals into the grooves. Make certain that the ends of the seals are flush with the face of the cap and block.

IMPORTANT: Install seals using the "shoehorn" installation aid, included in this set. Place shoe-horn underneath the seals to protect them from the sharp casting edges.

The seal is properly installed when its largest raised sealing lip is toward the front of the engine.



PRIOR TO INSTALLING THE REAR MAIN BEARING CAP fill grooves of the mating surface of the cap to the block with RTV.

Never apply sealant on the ends of the seals.

LUBRICATE SURFACE of seal lip and crankshaft by applying a thin coat of motor oil or grease. If engine will not be started within several days, grease is recommended.

IMPORTANT: Never install any seal without break-in lubricant protection.

REINSTALL CAP TO CYLINDER BLOCK. Torque to OEM specifications.

OIL PAN GASKET

ATTACH AND ALIGN GASKET(S). Apply a quick-drying adhesive sparingly. Mount gasket seals. **PRIOR TO INSTALLING OIL PAN** apply a dab of RTV silicone sealer where all gaskets and seals meet.



FEL-PRO INSTALLATION TIPS

GENERAL INSTRUCTIONS

CLEAN MATING SURFACES. Use a degreaser.

CLEAN THREADS of bolts/studs; for nuts/threaded holes use a bottoming tap.

BOLT PREPARATION: Those **entering** coolant passages require pliable non-hardening sealer on threads and underside of bolt heads. Those **not entering** coolant passages require oil on threads and underside of bolt heads. **Exhaust Assembly:** Apply a high temperature anti-seize lubricant to threadings.

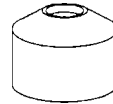
CHECK CASTINGS for flatness. Straighten, resurface or replace if needed. **CYLINDER HEAD AND BLOCK:** Refer to OEM manual to determine flatness tolerances and resurfacing limitations.

FINAL ASSEMBLY: Torque all fasteners to OEM specifications unless noted. **CYLINDER HEAD** torquing is critical; we recommend that you confirm with OEM.

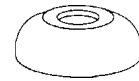
HEAD GASKET

Follow any directional markings shown on gasket(s). If no markings exist, install gasket(s). **Fiber Faced Gasket(s):** Install dry. **Metal Faced Gasket(s):** Requires a thin even coat of a gasket sealer applied to the metal side(s) of gasket.

VALVE STEM SEALS



Positive Intake



Umbrella Exhaust

Use the valve stem seals included in this set for the application indicated.

POSITIVE GUIDE SEAL: Use the plastic installation sleeve(s), included in this set, to prevent damage to the lip of the seal. Trim the plastic sleeve so it extends 1/16" below the keeper groove. Place the sleeve on the stem.

Carefully start valve stem seal over sleeve.

Remove plastic installation sleeve and reuse for installing remaining seals.

FOR RUBBER JACKET SEALS: Push seal down over valve guide until it bottoms.

FOR SOLID OR METAL JACKET SEALS: The use of an OEM service tool is recommended. If tool is unavailable, use a deep socket or rigid tube of appropriate diameter. Center tool (or socket) over the shoulder of the seal and tap the seal down over the guide until it bottoms.

UMBRELLA TYPE SEAL: Start valve stem seal over valve stem and push seal down on seal body until it touches top of valve stem guide or "boss". The seal will find its proper position on the stem once the engine starts.

VALVE COVER/PUSH ROD COVER

ATTACH AND ALIGN GASKET(S) Use a quick-drying adhesive, applied sparingly. If gasket has installation tabs, adhesive is not required. **IMPORTANT:** If gasket is rubber, install dry.

INTAKE MANIFOLD GASKET

FIBER FACED GASKET: Position gasket with plastic retainers inserted into second bolt hole from each end. Do not use any chemical adhesives or sealers when installing this gasket.

WHERE DOWEL PINS EXIST position seals over dowel pins.

WHERE NO DOWEL PINS EXIST position seals by applying quick-drying adhesive, sparingly in several places on each end of the block. Mount end seals. **Allow time for adhesive to set.** Test for slippage with light pressure, if end seals move, allow more time.

- Continued -

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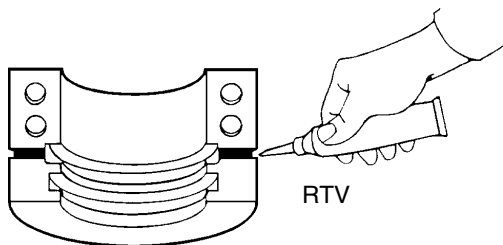
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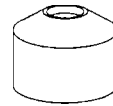
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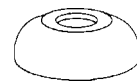
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