

REPLACE VALVE SPRING ASSEMBLIES. Compress springs just enough to install keepers. **IMPORTANT:** Excessive compression can result in spring retainer damaging valve stem seal. Release spring carefully.

PUSH ROD COVER GASKET

ATTACH AND ALIGN GASKET: Use quick-drying adhesive, sparingly in several places on the mating surface of cover. If gasket has installation tabs, adhesive is **not** required. Mount gasket on cover. **Allow time for adhesive to set.** Test for slip-page with light pressure. If gasket moves, allow more time.

VALVE COVER GASKET

ATTACH AND ALIGN GASKET.

IMPORTANT: This molded rubber silicone gasket must be installed DRY without any chemical adhesive.

INTAKE AND EXHAUST MANIFOLD GASKETS

Upon disassembly, it is likely to find the absence of an exhaust manifold gasket since none was offered as original equipment. However, this set includes an exhaust manifold gasket to accommodate slight casting distortion or corrosion that may have occurred over the engine's service life. Therefore, we recommend that the included exhaust manifold gasket be installed by the following directions.

ATTACH AND ALIGN GASKET(S) TO CYLINDER HEAD(S).

If gasket is steel faced on one side and fiber on the other, install steel faced side toward the manifold.

REINSTALL INTAKE AND EXHAUST MANIFOLDS to the cylinder heads. Torque securely to OEM specifications. Over-torquing can fracture the manifold or cause the bolts and studs to break.

EXHAUST PIPE FLANGE AND E.G.R. VALVE BOLTS

CLEAN ALL THREADS by using a wire brush for bolts and/or studs. Apply a high temperature anti-seize lubricant to the bolt and/or stud threads.

MISCELLANEOUS FLUID SEALING GASKETS

ATTACH AND ALIGN GASKET(S)/SEAL(S): If supplementary sealer is desired, apply a thin coat of gasket sealer to both sides of gasket(s). However, molded rubber gasket(s) or those with colored sealing beads, install **DRY**.



FEL-PRO INSTALLATION TIPS

GENERAL INSTRUCTIONS

CLEAN MATING SURFACES of all foreign material. Use a degreaser.

CLEAN THREADS of bolts/studs using a wire brush; all nuts/threaded holes use a bottoming tap.

Determine Which Bolts extend into the coolant passages. Those **entering** the coolant passages require a pliable non-hardening sealer on the bolt threads and the underside of bolt head. Those **not entering** the coolant passages require oil on the bolt threads and underside of the bolt head.

Exhaust Assembly: Apply a high temperature anti-seize lubricant to the threadings.

CHECK ALL CASTINGS for flatness; straighten, resurface or replace if out of flat conditions exists.

CYLINDER HEAD AND BLOCK: refer to OEM manual to determine flatness tolerances and resurfacing limitations.

Attach and align gasket(s) following any directional markings shown on the gasket. If no markings exist, simply install the gasket by matching the gasket to engine deck surface.

Fiber Faced Gasket(s) are to be installed dry. **Metal Faced Gasket(s)** require a thin even coat of sealer, to be applied to the metal side(s) of the gasket.

FINAL ASSEMBLY always requires torquing of fasteners according to OEM specifications. For certain assemblies we have provided specific torquing specifications.

NOTE: CYLINDER HEAD torquing procedures are critical and therefore we recommend to double-check with OEM.

Some procedures may be repeated with additional specific information for your application.

VALVE STEM SEALS

REMOVE SPRING ASSEMBLIES, KEEPERS and the old valve stem seals.

REMOVE BURRS (IF ANY) FROM VALVE STEMS. Use a fine stone or crocus cloth. Clean stems thoroughly to remove all abrasives or dust particles. Lubricate lightly.

INSTALL NEW SEALS.

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". Seal will find its proper position on the stem once the engine starts.

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