



## FEL-PRO INSTALLATION TIPS

### GENERAL INSTRUCTIONS

**CLEAN MATING SURFACES** Use a degreaser.

**CLEAN THREADS** of all bolts/studs; for nuts/threads holes use a bottoming tap.

**BOLT PREPARATION:** Those **entering** coolant passages require a 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 threading.

**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 not markings exist, install gasket(s). **Fiber Faced Gasket(s):** Install dry. **Metal Faced Gasket(s):** Requires a thin even coat of sealer applied to the metal side(s) of gasket.

### VALVE STEM SEALS

#### POSITIVE GUIDE SEAL:

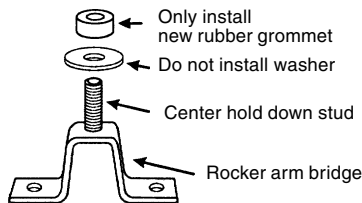
Use plastic installation sleeve(s), to prevent damage to lip of seal. Trim plastic sleeve so it extends 1/16" below keeper groove. Place sleeve on stem. Carefully start valve stem seal over sleeve. Remove and reuse plastic sleeve. **FOR RUBBER JACKET SEALS:** Push seal over valve guide until it bottoms. **FOR SOLID/METAL JACKET SEALS:** Use of OEM service tool is recommended. If tool is unavailable, use deep socket or rigid tube of appropriate diameter. Center tool over shoulder of seal and tap seal down over guide until it bottoms.

#### UMBRELLA TYPE SEAL:

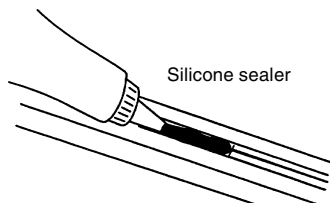
Start valve stem seal over valve stem; push seal down on seal body until it touches top of valve stem guide. Seal will find its proper position on stem once engine starts.

### VALVE COVER GASKET

**SEALING OPTIONS:** Installation instructions, as indicated, are for creating a gasket using a silicone sealer. However, FEL-PRO's SPONGE-LAM® gasket is available for this AMC 258 valve cover in gasket set VS 50244 R, SPONGE-LAM is the best solution and offers the longest service life for this application.



**INSTALL A NEW RUBBER GROMMET SEAL** on each center hold-down stud (see drawing).



**CREATE VALVE COVER GASKET** by applying a continuous 1/8"-3/16" bead of silicone sealer, to the mating surface. When cover is positioned on the cylinder head, avoid wiping of the silicone sealer.

**REINSTALL COVER TO ENGINE.** Torque center hold-down nuts securely to 28 in. Over-torquing can distort cover and cause leakage.

### 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 recommended that the included exhaust manifold gasket be installed by the following instructions.

**REMOVE MANIFOLDS** from cylinder head. **IMPORTANT:** You must disassemble the intake manifold from the exhaust manifold to allow for corrected realignment of the manifolds to the cylinder head during the reassembly.

**REASSEMBLE MANIFOLDS.** Install the intake-to-exhaust gasket between the intake and exhaust manifolds. Only finger tighten the manifolds together.

**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.

**ATTACH AND ALIGN** fiber faced intake manifold gasket over the intake/exhaust gasket.

**REINSTALL INTAKE AND EXHAUST MANIFOLD ASSEMBLY** to cylinder heads. Torque securely to OEM specifications.

Now torque the intake manifold exhaust connection to OEM specifications. Over-torquing can fracture the manifold or cause the bolts and studs to break.

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

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

### FLYWHEEL BOLTS

**REINSTALL FLYWHEEL** to crankshaft. Note: On some engines that use a one-piece rear main bearing seal, a condition may exist where the bolt holes in the crankshaft rear flange have been drilled too deep by the manufacturer. This can result in oil seepage which may be misdiagnosed as coming from the oil pan or rear main bearing seal. To prevent seepage, coat bolt threads with thread locking sealer. Torque securely to OEM specifications.

### ROTATING SHAFT SEALS

**RUBBER SEAL(S):** Install seal with its **largest raised sealing lip toward the engine.** Two-piece rubber seals may be installed using a "shoehorn" installation aid placed underneath seals to protect them from sharp edges.

**ROPE SEALS:** Install seals into grooves of cap and block by firmly pressing packing into grooves with a "packing tool". Ensure that ends of seal protrude above face of cap and block.

**IMPORTANT:** Final interference of rope packing seals against crankshaft is critical. To achieve proper interference, it is best to install packings using correct. **Packing Tool** for your engine. With "packing tool" in position, cut protruded ends of seals flush with cap and block.

**LUBRICATE SEALING LIPS AND CRANKSHAFT** with 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.

**REAR MAIN BEARING CAP:** Prior to installation, apply anaerobic sealant to mating surfaces of cap or block. **AVOID** sealant on ends of seals.

### 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 silicone sealer where all gaskets and seals meet.



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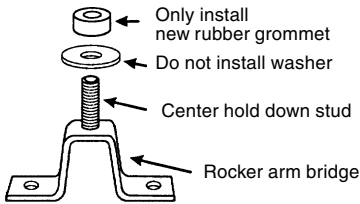
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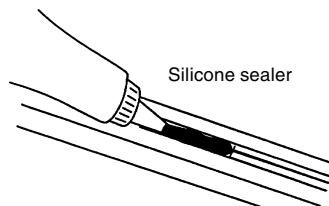
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