

FEL-PRO INSTALLATION TIPS

Fel-Pro products are the result of exhaustive research and strict quality control. However, no sealing product is better than the quality of its installation.

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 abrasive or dust particles. Lubricate lightly.

INSTALL NEW SEALS.

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.

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.

VALVE COVER GASKET

NOTE: DO NOT use adhesives or sealers when installing this gasket.

CLEAN MATING SURFACES of all foreign material including old gaskets, RTV and oil. You may wish to use a degreaser. Also, clean oil return holes.

CHECK COVER FLANGES for flatness. Straighten stamped metal covers. Replace if severely distorted. Distorted cast aluminum or plastic covers are difficult to straighten and should be replaced.

INSTALL CAP SCREWS. Position gasket while valve cover is inverted on workbench. Install cap screws through cover and into gasket bolt holes. Gasket bolt holes are intentionally undersized to hold screws in place.

REINSTALL COVER TO ENGINE. Turn cover upright (gasket will remain with cover) and install on engine.

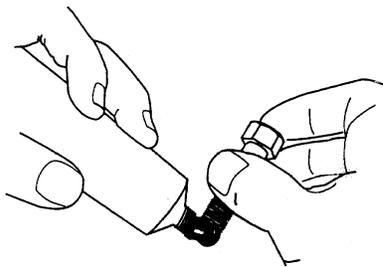
START CAP SCREWS into cylinder head but do not tighten until you adjust position of gasket under cover flange with gasket side tabs. Torque cap screws securely to 30 in. lbs.

INTAKE AND EXHAUST MANIFOLD GASKETS

REMOVE MANIFOLDS from cylinder heads. **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.

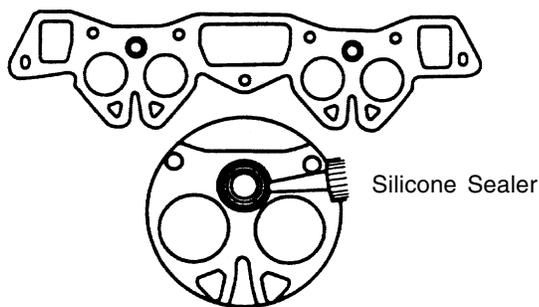
CLEAN MATING SURFACES of all foreign material including old gaskets, RTV and oil. You may wish to use a degreaser.

CHECK MANIFOLD CASTINGS for flatness of gasket surface. Resurface or replace if severely distorted.



CLEAN ALL THREADS by using a wire brush for bolts and studs, tap all bolt holes and stud nuts. Apply a high temperature anti-seize lubricant to the bolt and stud threads.

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



Silicone Sealer

PRIOR TO INSTALLING MANIFOLD GASKET apply a 1/8" continuous bead of silicone sealer around each water port on both sides of the gasket.

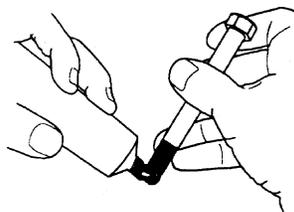
ATTACH AND ALIGN GASKET(S) TO CYLINDER HEAD(S).

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.

EXHAUST PIPE FLANGE

CLEAN MATING SURFACES of all foreign material. You may wish to use a degreaser.



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.

ATTACH AND ALIGN GASKET.

REINSTALL EXHAUST PIPE FLANGE AND/OR E.G.R. VALVE GASKET(S) TO ENGINE. Torque securely to OEM specifications. Over-torquing can cause the bolts and studs to break.

TEST RUN ENGINE. Check all mating areas thoroughly to determine that all seals hold during operation.

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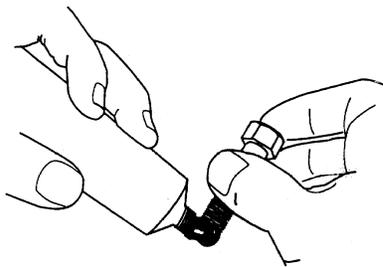
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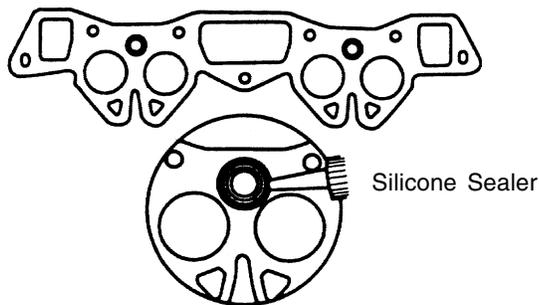
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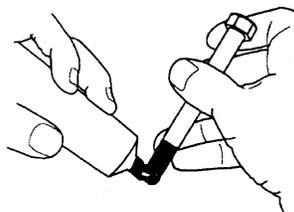
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