



FEL-PRO INSTALLATION TIPS

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

GENERAL INSTRUCTIONS

CLEAN MATING SURFACES Use a degreaser.

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

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

IMPORTANT: Due to some recent engineering changes, the cylinder head gasket(s) in this set may appear different from those previously provided for this application.

The engine this cylinder head gasket will be installed on is a lean burn-high fuel efficient design. It can experience localized "hot spots" between cylinders. Consequently, premature cylinder head gasket failure may occur. The formation of localized hot spots can be minimized by following the preparation and installation procedure outlined below:

CLEAN MATING SURFACES of all foreign materials. You may wish to use a degreaser. Improper use of power scrapers and abrasive pads can cause deep scratches, waviness and rounded edges.

CHECK HEAD AND BLOCK for flatness. Recommended maximum combined head and block out-of-flat is .004" when measured diagonally and lengthwise; .002" maximum widthwise. If resurfacing is required, remove only the minimal amount of material to provide a flat casting. Surface finish is critical. A surface roughness of 65 RMS (60 RA) is recommended. A smooth surface is more beneficial for sealing this particular engine than a rough surface.

IMPORTANT: The use of OEM steel washers under each bolt head is required for the installation of the head bolts. **NOTE:** Washers not included in this set. Existing washers can be reused. Late 1985 and newer engines use 11 mm head bolts. **DO NOT** interchange 10 mm 11 mm heads bolts as cylinder block bolt hole threads will be damaged.

LUBRICATE the threads and the underside of every bolt head with oil. **DO NOT DIP BOLTS INTO OIL.**

ATTACH AND ALIGN GASKET FOLLOWING ANY DIRECTIONAL MARKINGS SHOWN ON THE GASKET. If no markings exist, simply install the gasket by matching the gasket to engine deck surface.

REINSTALL CYLINDER HEAD(S) TO ENGINE. Torque securely to OEM specifications.

TO INSURE PROPER ENGINE OPERATION WE RECOMMEND THE FOLLOWING:

Thoroughly inspect radiator for corrosion, test the radiator coolant flow rate, check for bent or damaged fins. To ensure proper engine performance replacement of the radiator is recommended.

- Bleed cooling system, prior to engine start up. It may be necessary to raise the front of the vehicle to completely bleed the air from the cooling system.
- Use OEM recommended spark plugs, with the correct heat range.
- Check and adjust air/fuel mixture ratio for proper emission standards: mixture is critical to proper engine operation.
- Vacuum leaks cause lean air/fuel ratios and hot engine operation. Check vacuum hoses.
- Check the carburetor base gasket for cracks and leaks.

ANY CYLINDER HEAD GASKET INSTALLATION SHOULD INCLUDE THE FOLLOWING CHECKS:

- Radiator flow and corrosion condition
- All coolant hoses for deterioration
- Thermostat operation
- Fan belt tension
- Water pump flow
- Radiator thermostatic fan switch operation
- Antifreeze mixture
- Radiator cap that maintains rated pressure
- Coolant reservoir fill level
- Ignition timing setting
- Emission controls
- Vacuum leaks
- Restriction in exhaust system

CAM TOWER

CLEAN MATING SURFACES.

PREPARE MATING SURFACES, for applications of anaerobic sealant, by applying a primer to mating surface.

Allow 1 to 2 minutes to dry.

SEAL CAM TOWER MATING SURFACE. Apply a thin continuous bead of anaerobic sealant to the cam tower surface of the cap(s).

Wipe off any excess sealant.

VALVE COVER GASKET

INSTALL END SEAL.

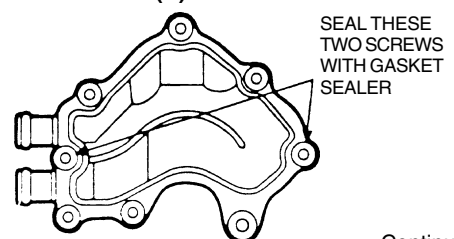
IMPORTANT: This molded rubber silicone end seal must be installed **DRY** without any chemical adhesive.

ATTACH AND ALIGN GASKET: Apply a 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 off for adhesive to set.** Test for slippage with light pressure. If gasket moves, allow more time.

REINSTALL COVER TO ENGINE. Torque securely to 35 in. lbs. Over-torquing can distort cover and cause leakage.

INTAKE AND EXHAUST MANIFOLD GASKET

ATTACH AND ALIGN GASKET(S)



- Continued -

IMPORTANT: To prevent coolant leakage apply silicone sealer on the threads of the 2 center screws which enter the intake manifold water cover.

MISCELLANEOUS FLUID SEALING GASKET(S)/SEAL(S)

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 Printoseal® sealing beads, install **DRY**.

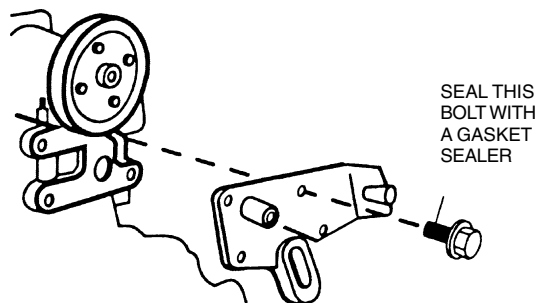
ROTATING SHAFT SEALS

PRIOR TO INSTALLING THE ROTATING SHAFT AND/OR SEAL apply a thin coat of lubricant, such as grease, on the sealing lip and shaft.

IMPORTANT: Do not install any seal without break-in lubricant protection.

IMPORTANT: Rubber seals are properly installed when its largest raised sealing lip is closest towards engine.

AIR PUMP



IMPORTANT: To prevent oil seepage apply silicone sealer on the threads of the one bolt which passes through the air pump mounting bracket and into the cylinder head.