



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 sealer applied to the metal side(s) of gasket.

VALVE STEM 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.

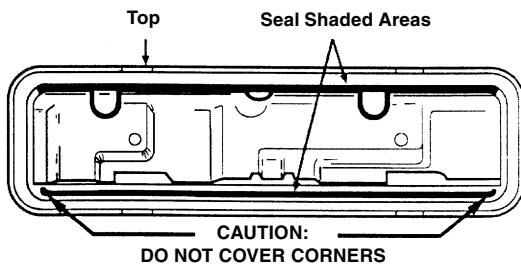
Carefully start valve stem seal over sleeve.

Remove plastic installation sleeve and reuse for installing remaining seals.

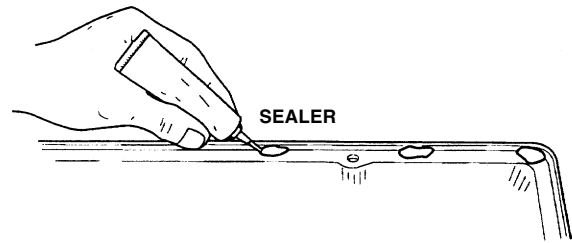
FOR RUBBER JACKET SEALS: Push seal down over valve guide until it bottoms.

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 land tap the seal down over the guide until it bottoms.

VALVE COVER GASKET



EXCESSIVE ENGINE OIL CONSUMPTION may be eliminated by sealing the PCV baffle to the valve cover. Apply a 1/8" diameter bead of silicone sealer, to the gaps along the top, bottom and sides only. The corners must be left open.



ATTACH AND ALIGN GASKET apply 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 slippage with light pressure. If gasket moves, allow more time.

EXHAUST MANIFOLD GASKET

ATTACH AND ALIGN GASKET TO CYLINDER HEAD. If gasket is steel faced on one side and fiber on the other; install steel faced side towards the manifold.

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.

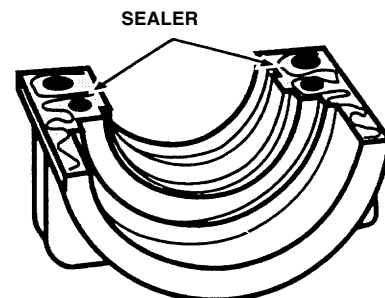
IMPORTANT: Do not install any seal without break-in lubricant protection.

REAR MAIN BEARING SEAL

INSTALL SEAL into the cylinder block. The seal is properly installed when its largest raised sealing lip is toward the **front** of the engine. (Seals with a metal garter spring require the spring to face towards the **front** of the engine.)

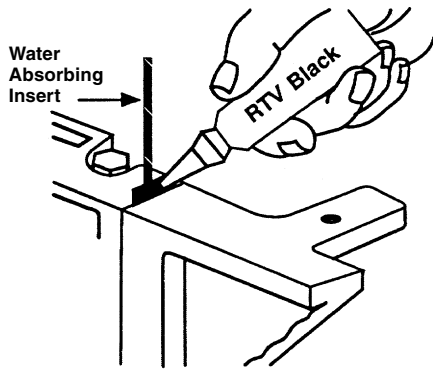
LUBRICATE SURFACE of seal lip and crankshaft by applying a thin coat of motor oil or grease. If engine will not be started within several days, grease is recommended.

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



PRIOR TO INSTALLING THE REAR MAIN BEARING CAP apply an anaerobic sealant, to either the rear main bearing cap or cylinder block mating surface. Never apply a sealant on the ends of the seals.

REINSTALL CAP TO CYLINDER BLOCK. Torque to OEM specifications.



FILL SIDE SEAL CAVITIES with silicone sealer.

Place a small washer over the nozzle of the RTV tube (washer should fit snugly).

Cut nozzle flush to washer.

Position nozzle into side cavity and force RTV into the cavity until full. When properly filled RTV will extrude from the cap to block mating surface.

Install water absorbing insert*. Dip the inserts in water. Then center position the inserts into the RTV filled cavities (these wet inserts are permanently installed and will cure the RTV).

Wipe off excess RTV.

*U.S. Patent No. 4,157,369

OIL PAN GASKET

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

THIS WARNING MESSAGE IS SPECIFIC FOR 221L PRO LOCK FLANGE SEALANT

WARNING! EYE AND SKIN IRRITANT.

This product contains bisphenol-A fumerate resin and cumene hydroperoxide. Avoid contact with eyes and skin. In case of skin contact wash thoroughly with soap and water. For contact with eyes flush with water for 15 minutes and call a physician.

KEEP AWAY FROM CHILDREN.

WARNING: This product contains a chemical known to the State of California to cause cancer.