



FEL-PRO INSTALLATION TIPS

GENERAL INSTRUCTIONS

CLEAN MATING SURFACES. Use a degreaser.

CLEANTHREADS 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 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.

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

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

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 the ends of seals 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.

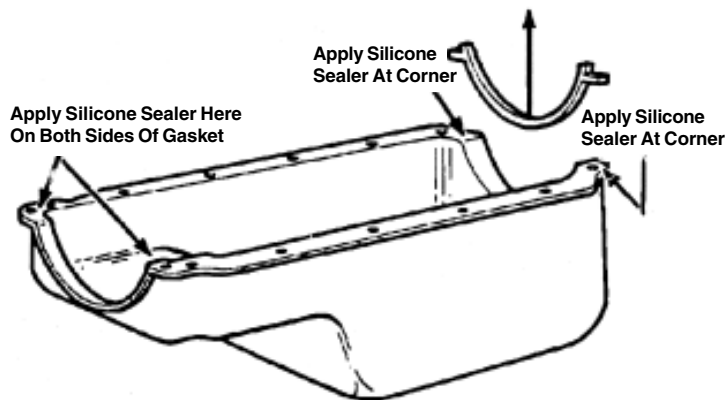
IMPORTANT: Never install any seal without break-in lubricant protection.

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

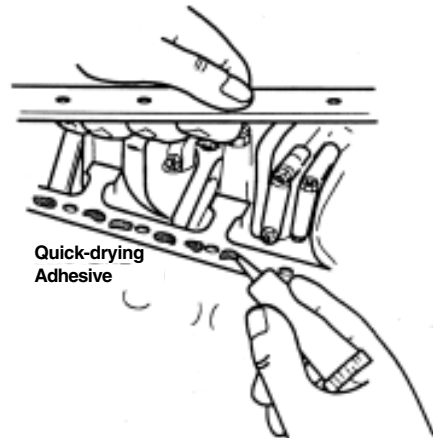
OIL PAN GASKET

INSTALL END SEAL. Mount end seal on rear main bearing cap.

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



PRIOR TO INSTALLING OIL PAN GASKET apply a small dab of silicone sealer to the 4 corners of the oil pan.



ATTACH AND ALIGN GASKET(S): Apply quick-drying adhesive sparingly in several places on the engine casting or oil pan (depending upon engine model). Mount gasket on surface where adhesive was applied. **Allow time for adhesive to set.** Test for slippage with light pressure. If gasket moves, allow more time.

PRIOR TO REINSTALLING OIL PAN apply a small dab of silicone sealer to the 2 front corners of the oil pan gasket.



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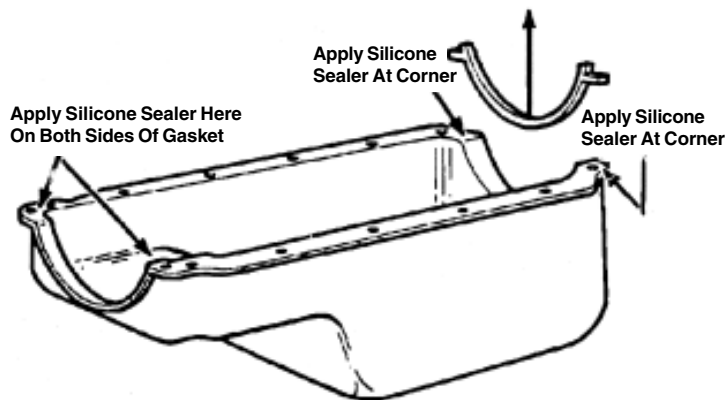
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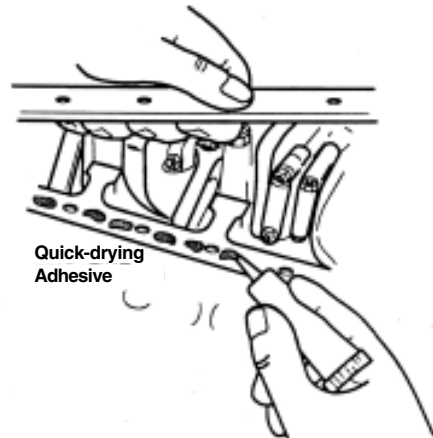
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