



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 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 fastener to OEM specifications unless noted. **CYLINDER HEAD** torquing is critical; we recommend that you confirm with OEM.

VALVE STEM SEALS



Install valve stem seals as indicated.

Passenger & Truck

215 Engine

Intake & Exhaust:

1952 - 1953. Use 2 of Part No. 5112 and
2 of Part No. 10777.

Passenger & Truck

223 Engine

Intake & Exhaust:

1954 - 4/1/61. Use 2 of Part No. 10777.
4/1/61 - 1964. Use 2 of Part No. 13807.

Passenger (Edsel)

223 Engine

Intake & Exhaust:

1956 - 1960. Use 2 of Part No. 10777.

Passenger (Mercury)

223 Engine

Intake & Exhaust

1961 - 1962 Exc. Zero Lash. Use 2
of Part No. 10777.
1961 - 1962 With Zero Lash. Use 2
of Part No. 13807.

Truck Only

262 Engine

Intake & Exhaust:

1961 - 1963. Use 2 of Part No. 13807.
1964 Light Duty. Use 2 of
Part No. 10777.
1964 Heavy Duty. Use 2 of
Part No. 13807.

Tractor

223 Engine

Intake & Exhaust:

1961 - 1966 6000 Series. Use 2 of
Part No. 13807.

UMBRELLA TYPE SEAL: Start valve stem seal over valve stem and push seal down on seal body until it touches top of valve stem guide or "boss." The seal will find its proper position on the stem once the engine starts.

"O" RING TYPE SEAL: Place "O" Ring seal on valve stem and position it into the proper groove.

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 COVER/PUSH ROD COVER

ATTACH AND ALIGN GASKET(S): Use quick-drying adhesive, applied sparingly. If gasket has installation tabs, adhesive is not required. **IMPORTANT:** If gasket is rubber, install dry.

INTAKE AND EXHAUST MANIFOLD GASKETS

IMPORTANT:

Intake-to-exhaust connections with 3 bolt hole will not use a gasket.

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.

REASSEMBLE MANIFOLDS. Install the intake-to-exhaust gasket between the intake and exhaust manifolds. If gasket is steel faced on one side and fiber on the other, install steel faced side toward the exhaust manifold. 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.

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.

MISCELLANEOUS FLUID SEALING GASKETS

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 sealing beads, install **DRY**.

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 gooves with a "packing tool." Ensure that 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

ATTACH AND ALIGN GASKET(S). Apply 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.



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