IMPORTANT: Final interference of rope packing seals against cranshaft 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.

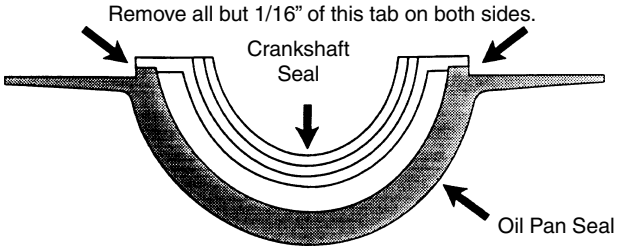
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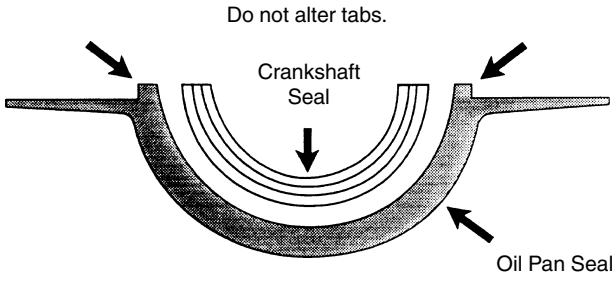
OIL PAN GASKET

On 1967 and earlier applications, the Chevrolet supplied oil pan front seal was a 6-bolt design. **Chevrolet has made the 6-bolt design obsolete**. The 2-bolt design seal, supplied in this set will effectively replace the 6-bolt design, however, the 4 center bolts will not be used.

REAR SEAL: Two different rear main bearing caps were used in this engine. Identify the cap and install the seal as follows:



EARLY DESIGN has a groove across the flat face of the cap. When installing the seal, cut away all but 1/16" of the vertical tabs on both sides of the oil pan end seal; this allows for clearance of the extended wings of the crankshaft seal.



LATER DESIGN does **NOT** have a groove across the flat face of the cap. When installing the seal, **DO NOT** cut the vertical tabs on either side of the seal.

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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 a 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).

VALVE STEM SEALS

POSITIVE GUIDE SEAL:

Use plastic installation sleeve(s), to prevent damage to lip of seal. Trim plastic sleeve so it extends 1/16" below keeper groove. Place sleeve on stem. Carefully start valve stem seal over sleeve. Remove and reuse plastic sleeve. **FOR RUBBER JACKET SEALS:** Push seal over valve guide until it bottoms. **FOR SOLID/METAL JACKET SEALS:** Use of OEM service tool is recommended. If tool is unavailable, use deep socket or rigid tube of appropriate diameter. Center tool over shoulder of seal and tap seal down over guide until it bottoms.

UMBRELLA TYPE SEAL:

Start valve stem seal over valve stem; push seal down on seal body until it touches top of valve stem guide. Seal will find its proper position on stem once engine starts.

INTAKE AND EXHAUST MANIFOLD GASKET

REMOVE MANIFOLDS from cylinder heads. IMPORTANT: You must disassemble the intale manifold from the exhaust manifold to allow for corrected realignment of the manifolds to 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.

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 palced 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 ends of seals protrude above face of cap and block.

- Continued -

IMPORTANT: Final interference of rope packing seals against cranshaft 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.

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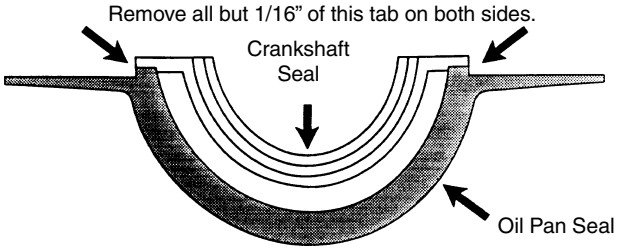
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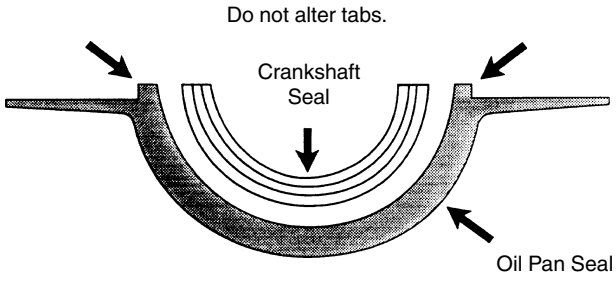
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