FEL-PRO INSTALLATION TIPS

GENERAL INSTRUCTIONS

CLEAN MATING SURFACES of all foreign material**.** Use a degreaser.

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

Determine Which Bolts extend into the coolant passages. Those **entering** the coolant passages require a pliable non-hardening sealer on the bolt threads and the underside of bolt head. Those **not entering** the coolant passages require oil on the bolt threads and underside of the bolt head.

Exhaust Assembly: Apply a high temperature anti-seize lubricant to the threadings.

CHECK ALL CASTINGS for flatness; straighten, resurface or replace if out of flat conditions exists.

FINAL ASSEMBLY always requires torquing of fasteners according to OEM specifications. For certain assemblies we have provided specific torquing specifications.

Some procedures may be repeated with additional specific information for your application.

HEAD GASKET

Fel-Pro is providing you with a multi-layer steel design (MLS) head gasket. This gasket is manufactured with multiple embossed spring steel layers with a rubber coating. This gasket will meet all of your sealing needs.

CLEAN MATING SURFACES of all foreign material. Use a degreaser.

CHECK HEAD AND BLOCK for flatness. Refer to OEM manual to determine flatness tolerances and resurfacing limitations.

CLEAR ALL THREADED HOLES in the block by using a bottoming tap. Tap below the maximum bolt penetration to prevent bottoming.

CLEAN ALL BOLT THREADS by using a wire brush. Lubricate the underside of every bolt head with oil. Determine which bolts extend into the coolant passages. Those entering the coolant passages require a pliable non-hardening sealer on the threads. Those bolts not entering the coolant passages require oil on the threads.

ATTACH AND ALIGN GASKET(S):

> **IMPORTANT:** Surface finish requirements for MLS cylinder head gaskets are very strict (less than 30 Ra.). If this cannot be attained, we recommend applying Spray Gasket Sealer to both sides of the gaskets. Allow time for sealer to set.

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

VALVE STEM SEALS

REMOVE SPRING ASSEMBLIES, KEEPERS and the old valve stem seals.

REMOVE BURRS (IF ANY) FROM VALVE STEMS. Use a fine stone or crocus cloth. Clean stems thoroughly to remove all abrasives or dust particles. Lubricate lightly.

INSTALL NEW 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 and tap the seal down over the guide until it bottoms.

REPLACE VALVE SPRING ASSEMBLIES. Compress springs just enought to install keepers. **IMPORTANT**: Excessive compression can result in spring retainer damaging valve stem seal. Release spring carefully.

VALVE COVER GASKET

ATTACH AND ALIGN GASKET(S).

INTAKE MANIFOLD GASKET

ATTACH AND ALIGN GASKET(S).

EXHAUST MANIFOLD GASKET

ATTACH AND ALIGN GASKET(S).

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.

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