680 LOADER BACKHOE, PRIOR TO SN 9101501

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C. E. Div. 9-77442
August 1977

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DECOMPRESSOR

ON

CASE POWRCEL DIESEL ENGINES

Rac. Form 9-76972

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CYLINDER HEAD AND COMPONENTS

(Refer to Figure K-1)

Removal

Steam clean the engine completely before doing any disassembly or service work.

Drain cooling system. Remove the intake, exhaust and water manifolds. Remove the rocker arm covers. Disconnect and remove the decompressor if so equipped, Page K-6.

Remove the rocker arm assemblies and tag them for proper installation. (Refer to Page K-8.

Disconnect the high pressure fuel lines to the injectors and cap them. Disconnect the fuel leak-off tubes between each cylinder head and cap them.

Remove the push rods and tag or store them in a holder or rack so they can be installed in their same locations.

Remove the cylinder head bolts or nuts and lift the heads off the engine. Remove the head gaskets and discard them.

Inspection and Installation

Remove all carbon and clean all parts before installation.

STANDARD HEAD GASKETS

If you are installing the standard gasket, install the new gasket with new rubber seals. The gasket must be installed with either the copper side up or the side with the case part number up. Continued on Page K-5.

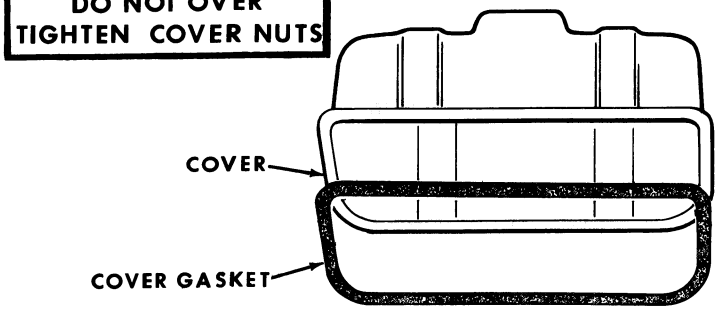
FIRE RING HEAD GASKETS

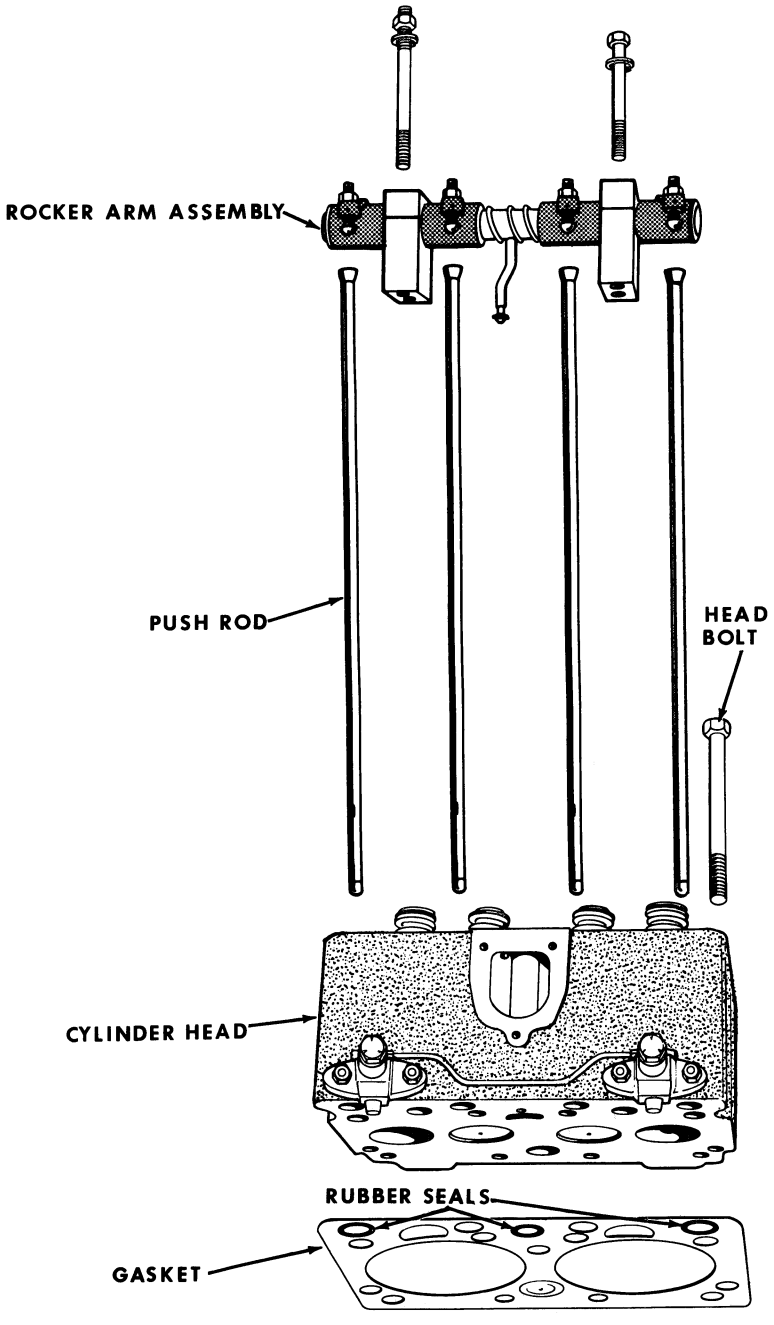
If you are installing the fire ring head gasket, inset B, cylinder sleeve protrusion must be checked to determine which fire ring to install. Only the standard fire ring is included in the valve grind gasket kit, however a thicker fire ring (.004") is available if the protrusion checks indicate a need for it. The thicker fire ring can be identified by a blue marking stripe.

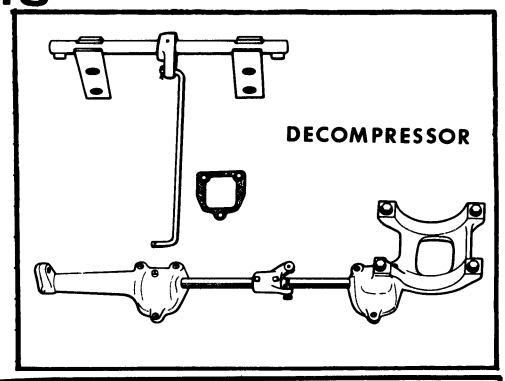
Refer to Pages K-4 and K-5 for the procedure to follow when installing the fire ring cylinder head gasket.

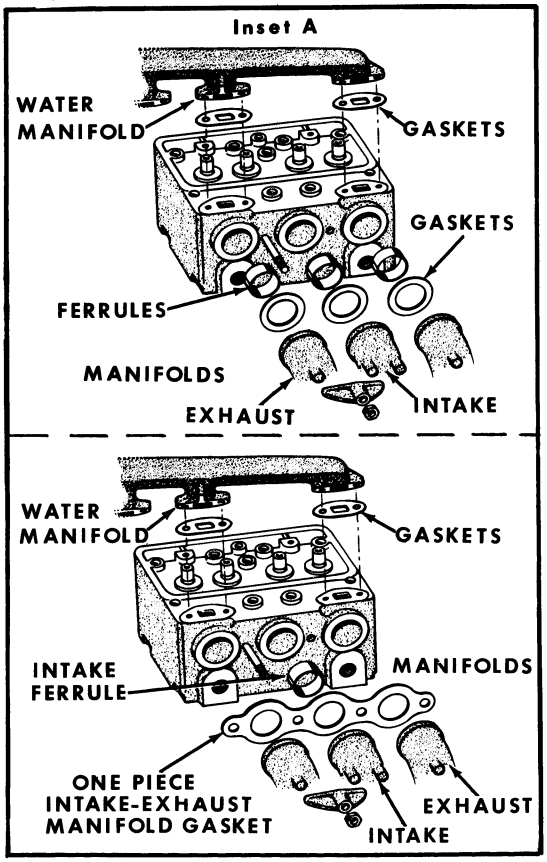
REMOVAL AND INSTALLATION OF CYLINDER HEAD AND COMPONENTS

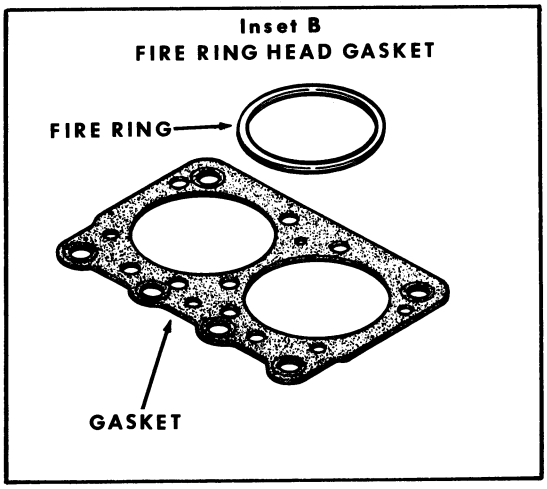
CAUTION
DO NOT OVER TIGHTEN COVER NUTS











Inspection and Installation Fire Ring Gaskets (Continued)

The following procedure must be followed when installing the fire ring head gasket:

1. Clean the top surface of the block and sleeve flange carefully. All traces of carbon and other deposits must be removed. During the final cleaning operation, the use of a rag dampened in solvent is recommended.

2. Using a small stone, remove any small burrs in the areas to be measured so that accurate readings can be obtained.

3. Using plate OTC970-12* from cylinder sleeve puller OTC970*, 010974AB ball and clamping bar, clamp the cylinder sleeve in place, Figure K-2. Torque the hold down capscrews evenly to 50 foot pounds. **NOTE** Refer to Figure K-2 for clamping bar dimensions.

*These tools are available through local Owatonna Tool Dealers or the Owatonna Tool Co., Owatonna, Minnesota.

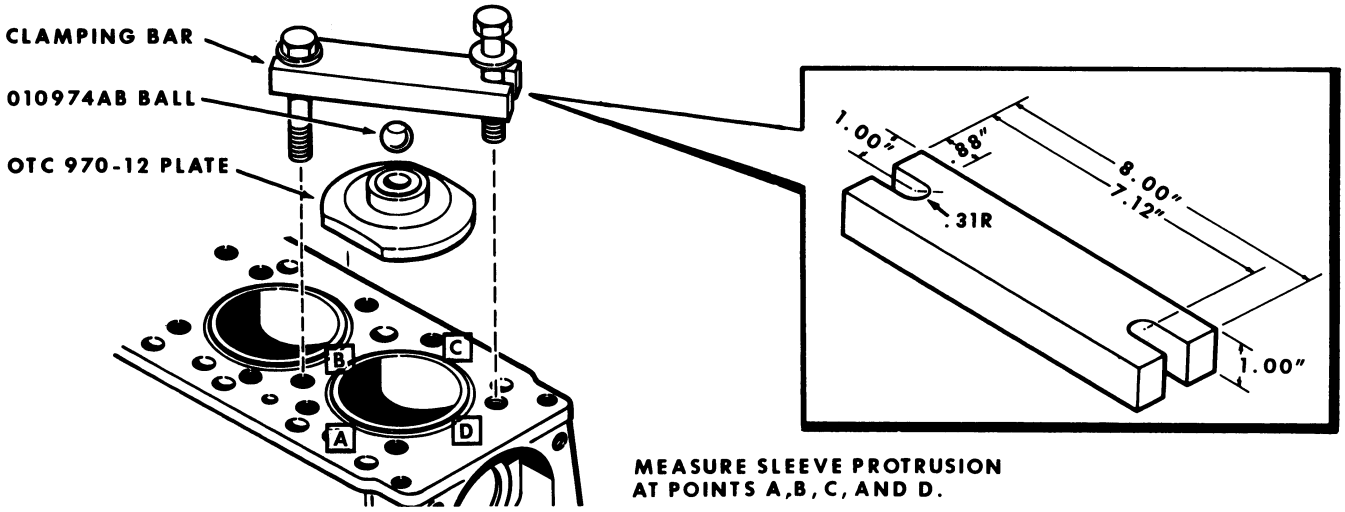


Figure K-2

4. Either a magnetic base dial indicator or a depth micrometer can now be used to determine the cylinder sleeve protrusion as indicated in Figure K-3. Refer to chart, Figure K-5, to make sure the correct fire ring is used.

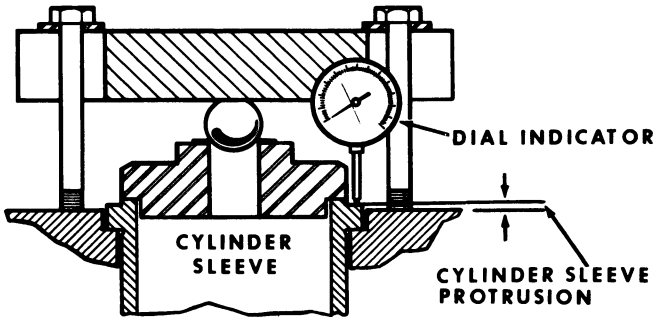


Figure K-3

5. Install cylinder head gaskets. **IMPORTANT** Two of the capscrew holes in the gasket are slightly smaller and act as guides to position the gasket as well as the fire ring, Figure K-4. Regular line-up studs could be used for most engines. In some instances it is very difficult to install the rear cylinder head due to the limited space in which to place the head when lowering it down over the long guide studs.

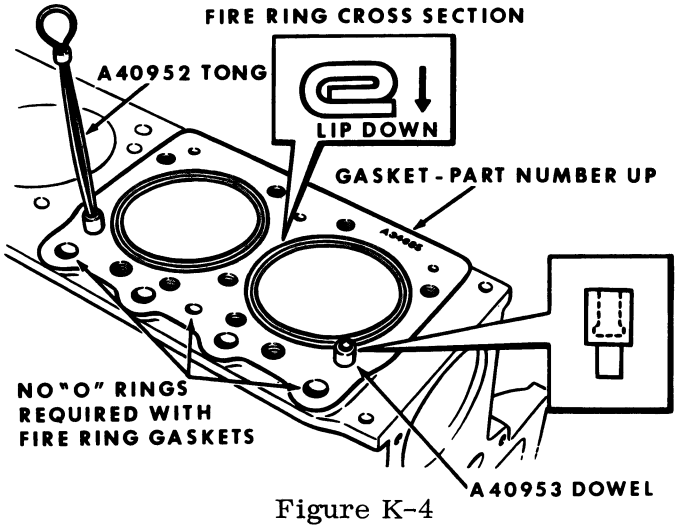


Figure K-4

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