

680 LOADER BACKHOE, PRIOR TO SN 9101501

TABLE OF CONTENTS

SERIES/SECTION	SECTION NO.	FORM NO.
10 SERIES - GENERAL		
Specifications	C	9-77221
Supplement 1 - Stall Speeds	C	9-77501
20 SERIES - ENGINE		
Cylinder Head - Diesel	K	9-76972
Cylinder Head - Gasoline	L	9-76961
Assemblies Contained in Engine Block	M	9-75222
Engine Counter Balancer	MM	9-76731
Water Pump	3M	9-77461
Spark Ignition Governor	4M	9-77451
Governor Linkage		9-77511
30 SERIES - FUEL SYSTEM		
Injectors, Pump, Powrcel	I	9-75421
Supplement 1 - Throttle Linkage	I	9-77481
Carburetor	N	9-75771
Supplement 1 - Throttle Linkage	N	9-77491
Electrical Fuel Pump	NN	9-77261
40 SERIES - HYDRAULICS		
How It Works (Hydraulic System) and Pressure Check	A	9-77301
Hydraulic Cylinders	AA	9-77271
Hydraulic Valve	D	9-77281
Hydraulic Pump	DD	9-77291
50 SERIES - STEERING		
Steering System	O	9-77311
Front Axle	OO	9-77321
Steering Pump	P	9-77471
60 SERIES - POWER TRAIN		
Four Speed Mechanical Transmission, Differential, Final Drive, and Differential Brakes	S	9-77341
Supplement to Section S		9-77342
Forward-Reverse Transmission	SS	9-77331
80 SERIES - ELECTRICAL		
Wiring Diagrams		9-77251
Electrical	F	9-77231
90 SERIES - MOUNTED EQUIPMENT		
Model 34 Backhoe	3D	9-77421

SECTION

K

SERVICING THE



CYLINDER HEADS



VALVE SYSTEMS



ROCKER ARMS



DECOMPRESSOR

ON

CASE POWRCEL DIESEL ENGINES

TABLE OF CONTENTS

CYLINDER HEAD AND COMPONENTS - Disassembly and Installation	K-2 thru K-5
DECOMPRESSOR (If So Equipped) - Disassembly and Assembly	K-6
ROCKER ARMS AND SHAFTS - Disassembly, Inspection and Assembly	K-8
CYLINDER HEAD AND VALVES - Disassembly and Assembly	K-10
EXHAUST VALVE ROTATORS	K-10
VALVES, GUIDES AND SPRINGS - Inspection	K-12
INTAKE AND EXHAUST VALVES - Refacing	K-14
INTAKE AND EXHAUST VALVE SEATS - Grinding	K-15
LOCATING TOP DEAD CENTER AND TAPPET ADJUSTMENT	K-16

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

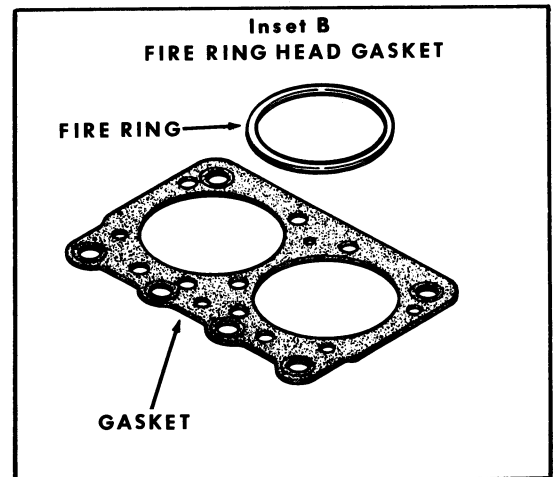
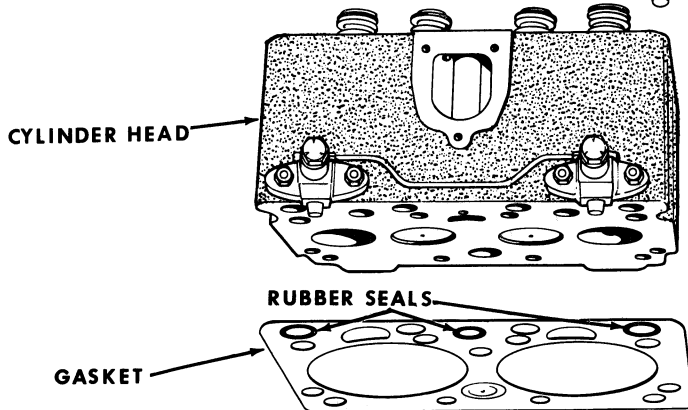
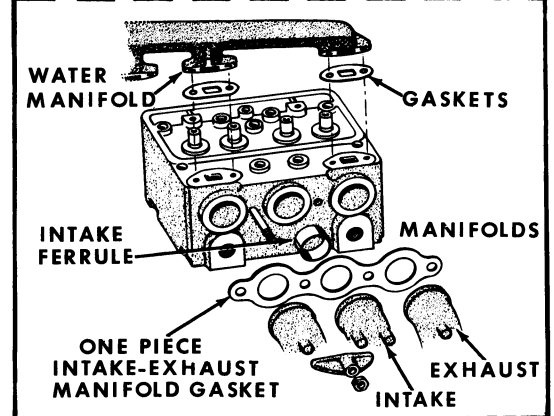
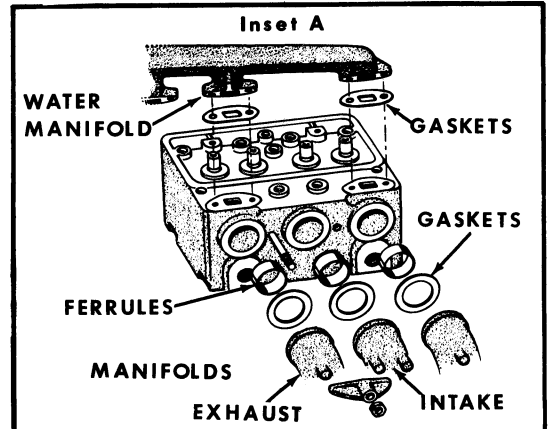
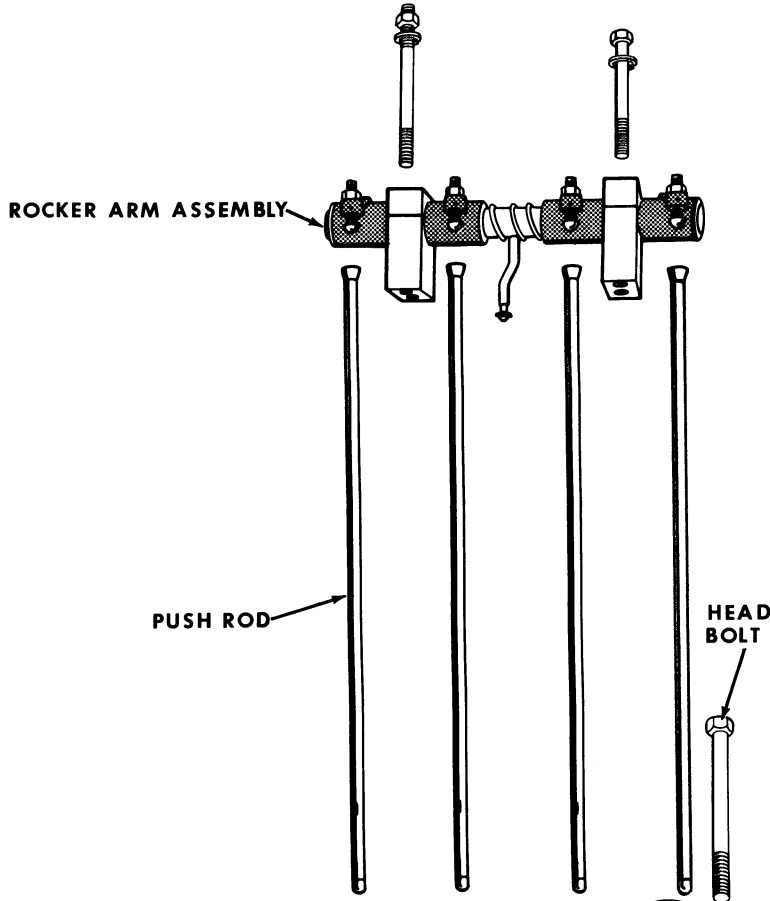
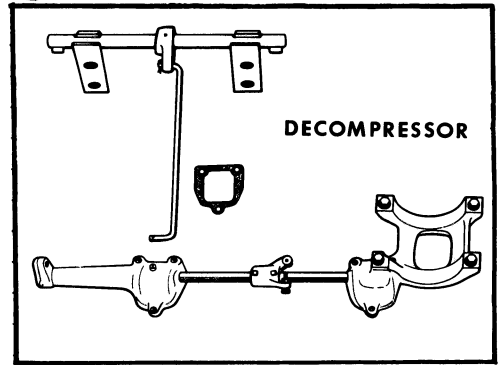
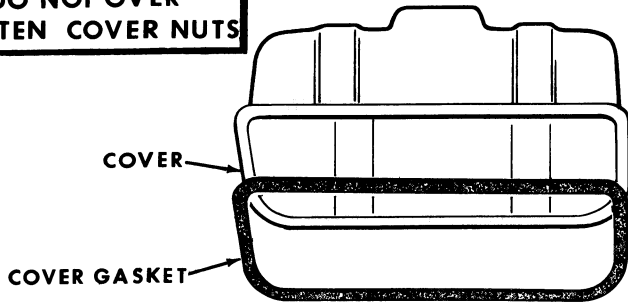
If you are installing the fire ring head gasket, inset B, cylinder sleeve protrusion

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

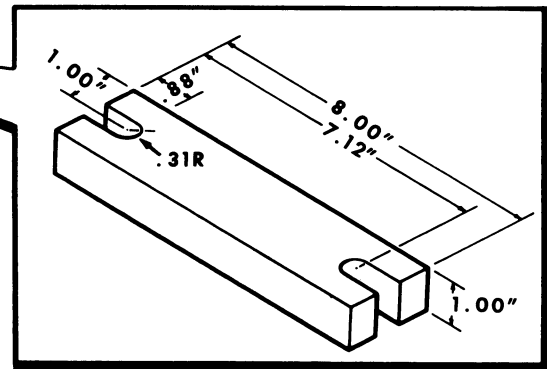
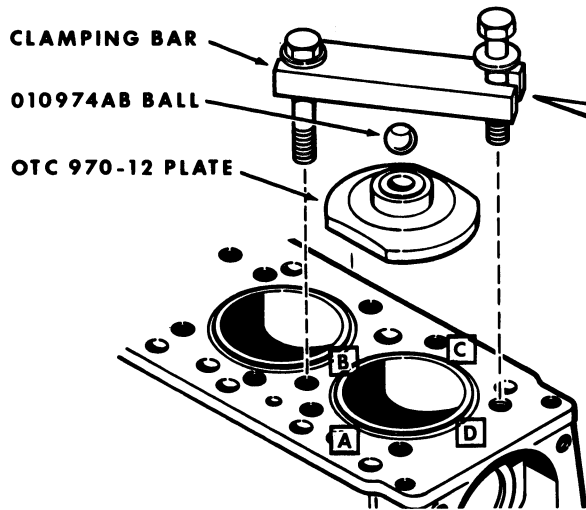
CAUTION
DO NOT OVER
TIGHTEN COVER NUTS



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.



MEASURE SLEEVE PROTRUSION AT POINTS A, B, C, AND D.

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.

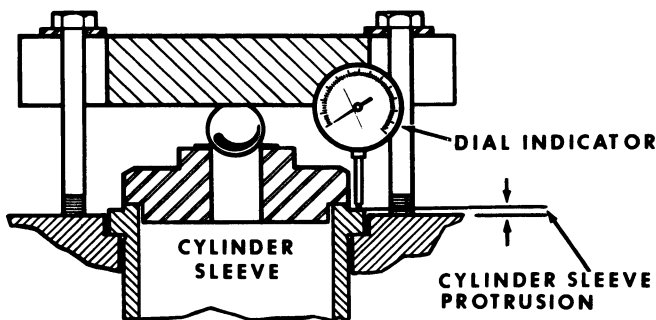


Figure K-3

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,

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-4. Regular line-up studs could be used for most engines. In some instances it is very difficult to install the

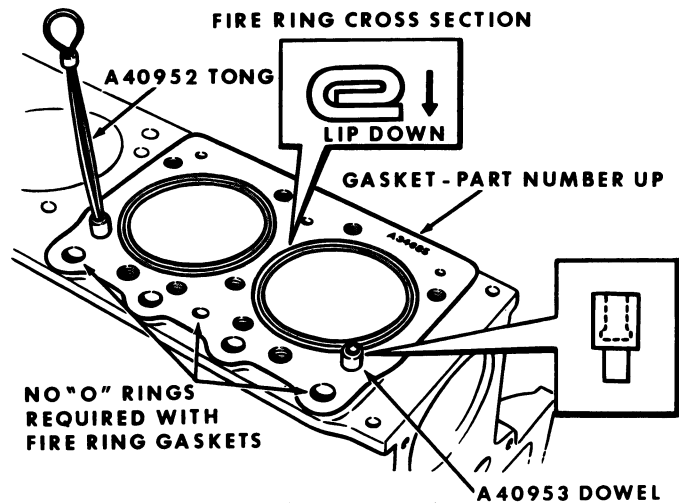


Figure K-4

rear cylinder head due to the limited space in which to place the head when lowering it down over the long guide studs.

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