



# ENGINE REBUILDER OVERHAUL GASKET KIT

## INSTALLATION INSTRUCTIONS

Here are some installation tips which can be useful in any application.

### GENERAL INFORMATION

Allow engine to cool before disassembly – This is especially important with aluminum heads or engine blocks. The risk of warpage is greatly increased if the engine is disassembled while hot.

### INSPECT OLD GASKETS (IF POSSIBLE)

If original gaskets were leaking, determine if there was a problem with the mounting surface. Check flanges and surface area for straightness, deep scratches or imperfections. Repair or replace as necessary.

### CLEAN ALL MATING SURFACES

Remove all gasket material, oil, grease, rust etc. from mounting surface using a wire brush, scraper or gasket remover. When cleaning aluminum surfaces be very careful not to damage, scratch or nick the surface area.

### ENGINE FASTENERS

On newer engines built today, torque-to-yield head bolts have been used. **Most of these cannot be reused and must be discarded;** new bolts must be used. Mr. Gasket has available premium fasteners for most engine applications.

Refer to the engine service manual when in doubt if bolts can be reused. When reusing bolts, thoroughly clean bolt threads and shoulder of bolt under the head, be sure to remove all foreign material. Carefully check entire bolt for damage such as stretched threads or evidence of galling. Where there is any doubt, do not use it. Replace it with a new bolt.

### INSURE CORRECT FIT

Always test-fit the gasket to insure you have the correct gasket for your application.

### HEAD GASKETS

Reverse torque sequence when removing head bolts.

Thoroughly clean all engine block threads and head bolt threads.

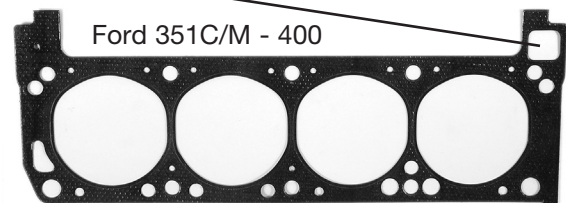
Using a straight edge and feeler gauge, check the mating surfaces for flatness. Each surface must be checked four different ways. Check the length, width, corner-to-corner and opposite corner-to-corner. Deck flatness should not exceed .003" for both cylinder head and block combined. If the allowable tolerance is exceeded, the mating surface must be machined and brought back to proper specifications.

Never enlarge, restrict, or modify any head gasket yourself. Overheating and premature engine failure will result.

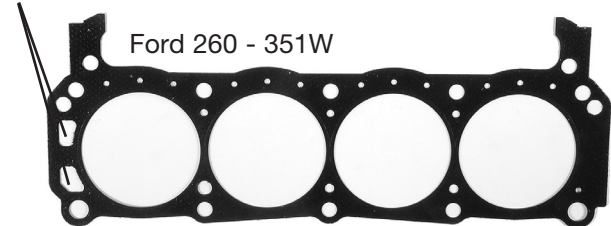
**Do not use any type of sealer on composition type head gaskets.**

**IMPORTANT! Use thread sealing enhanced pipe sealant on head bolts entering water coolant passages. Lightly lubricate all other bolt threads with moly lube or 10W30 motor oil.**

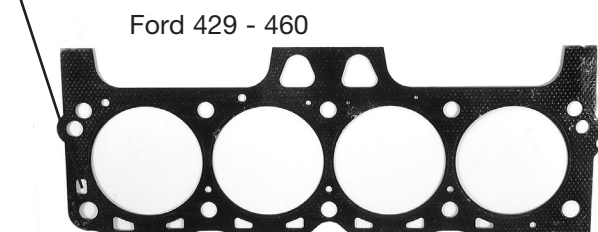
EXTRA HOLE  
TOWARDS FRONT



EXTRA HOLES  
TOWARDS BACK



EXTRA HOLE  
TOWARDS BACK



Always follow factory torque sequence and values during installation. Bring head bolts up to torque specifications in multiple steps using a smooth, even motion to get the most accurate reading possible.

**DO NOT USE AN AIR WRENCH!**

### **INTAKE GASKET**

Always check for misalignment between cylinder head and intake manifold, especially if surfaces have been machined.

Use Mr. Gasket #7808 Blue Silicone sealant to hold side gaskets in place during installation to avoid gasket shift.

Apply a small bead of Mr. Gasket #7808 silicone sealer at the end seal and manifold side gasket mating point if applicable.

Torque intake bolts in sequence to factory torque values.

### **EXHAUST GASKET**

Check surface for straightness and nicks or cracks that will hinder the seal.

Install gasket with steel facing towards the exhaust manifold (steel face gaskets are included in some gasket kits).

### **VALVE COVER GASKET**

Completely degrease valve cover and clean mounting surfaces.

Insure mounting flanges are straight, if excessively distorted replace cover.

Use gasket sealant to hold gasket to valve cover during installation. Do not over-torque, cover will distort.

### **OIL PAN GASKET**

Clean both oil pan and engine block mounting surfaces.

Insure mounting flanges are straight, if excessively distorted replace oil pan.

Use gasket sealant to hold side rail gaskets in place. You can mount side rail gasket and seals to pan or block, whichever is your preference.

Apply a small bead of Mr. Gasket #7808 Blue Silicone sealer at the end and side rail gasket mating point.

### **VALVE SEALS**

Inspect valve stem tip for sharp edges, excessive wear, and mushrooming. Repair or replace as necessary.

Insure valve guide end play is within manufacturers' tolerances.

*Positive type seal* – Push seal down until it sits squarely on the guide boss.

*Umbrella type seal* – Push seal down until it touches the guide boss, it will position itself correctly once engine is started.

*O-ring type seal* - Lightly lubricate seal, then install on second groove of valve stem.

### **REAR MAIN SEAL**

Check crankshaft for smoothness, if nicked scratched, or grooved, remove roughness and polish with fine emery cloth.

*Rubber seals* – Use engine oil to lightly lubricate lip of seal to avoid damage during initial start-up.

*Rope seals* – Trim ends flush with block and use general purpose automotive grease to lubricate crank side of rope seal to avoid damage during initial start-up.

Side seals (if applicable) – Lubricate side seals with engine oil to ease installation. Original cap seals may have used metal pins to hold seals in place. **DO NOT** use metal pins with our seals. Our design uses a specially formulated seal material that swells when it comes in contact with oil so the metal pins are not required.

Apply a thin layer of Mr. Gasket #7808 Blue Silicone sealer on rear main cap to engine block mating surface.

### **TIMING COVER SEAL**

Carefully and evenly press seal into housing.

Lightly lubricate seal lip with engine oil to prevent damage during initial start-up.

Once the gasket assembly is completed, assemble other components, start the engine and check for leaks. If a leak is detected, stop engine immediately and locate the source of the problem and correct. Run engine until it reaches operation temperature, continuing to check for leaks. Be sure engine is completely sealed and free from leaks.



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