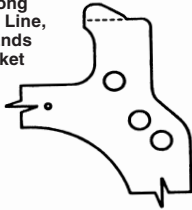




## FEL-PRO INSTALLATION TIPS

### HEAD GASKET

Cut Along Dotted Line, Both Ends of Gasket



**IMPORTANT:** When installing a valley pan intake manifold gasket on a 351W truck engine, the two corner ears of each head gasket must be cut as illustrated.

#### SPECIAL TORQUE SPECIFICATIONS

**IMPORTANT:** For all Ford Passenger and Truck V8, 260, 289 and 302 (5.0L) engines. Two types of cylinder head bolts have been used on these engines, Torque-To-Yield bolts with integrated washers or standard bolts without integrated washers. These bolts cannot be intermixed and each bolt style has specific torque specifications.

**IMPORTANT:** Consult latest OEM torque specifications as changes may have taken place since this printing.

#### TORQUE-TO-YIELD BOLTS WITH INTEGRATED WASHER TORQUE SPECIFICATIONS:

Following sequence shown in illustration torque all bolts/studs in the following steps:

Torque all bolts to 25-35 ft. lbs. (34-47 Nm.).

Torque all bolts to 45-55 ft. lbs. (61-75 Nm.).

Finally, tighten all bolts and studs an additional 1/4 turn (85-95°).

Torque all intake manifold bolts to 23-25 ft. lbs. (31-34 Nm.).

#### STANDARD BOLTS WITHOUT INTEGRATED WASHER TORQUE SPECIFICATIONS:

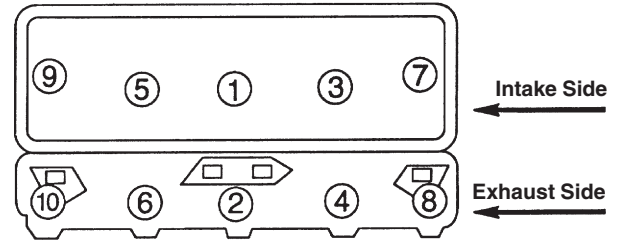
The following torque specifications for the cylinder head and the intake manifold must be followed. Failure to do so can lead to excessive cylinder head "lift," resulting in combustion gas and coolant leakage. Although these specifications may differ from those previously issued by Ford Motor Company, they are the result of extensive research and testing.

Following sequence shown in illustration torque all bolts in the following steps:

Torque intake side (long, odd numbered bolts) to 80 ft. lbs. (109 Nm.).

Torque exhaust side (short, even numbered bolts) to 70 ft. lbs. (95 Nm.).

Torque all intake manifold bolts to 23-25 ft. lbs. (31-34 Nm.).



**Intake Manifold:** Using a torque wrench, torque all bolts to 23-25 ft. lbs. **DO NOT EXCEED** torque specifications.

**Important:** For 351W engines, these torque procedures **DO NOT** apply. Torque securely following OEM specifications.

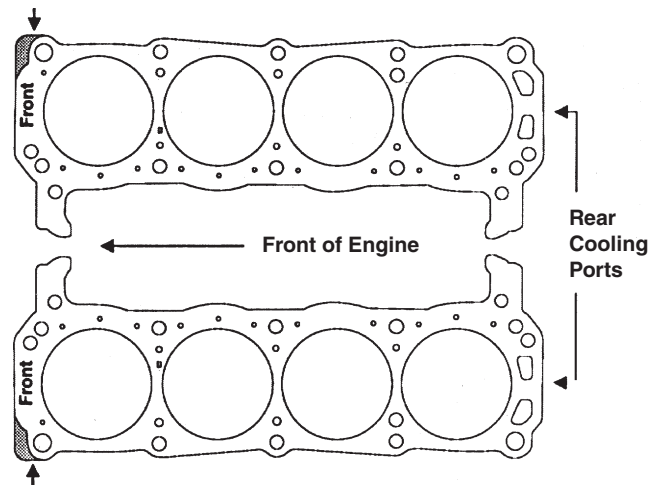
**CLEAN MATING SURFACES** of all foreign materials. You may wish to use a degreaser.

**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.

**IMPORTANT:** DO NOT use an anti-seize product on any of the bolt threads.

Determine which bolts extend into the coolant passages. Those bolts **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. Lubricate the underside of **every** bolt head with oil.



**TO INSURE PROPER COOLANT CIRCULATION,** the word FRONT is stamped on both sides of the head gasket and must always be installed towards the front of the engine.

After engine assembly, the head gaskets are properly installed when corner "A" of the each head gasket protrudes from under the FRONT of each cylinder head (see shaded area of illustration).

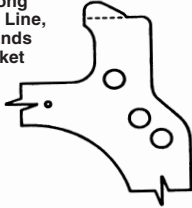
**ATTACH AND ALIGN GASKET(S).**



## FEL-PRO INSTALLATION TIPS

### HEAD GASKET

Cut Along Dotted Line, Both Ends of Gasket



**IMPORTANT:** When installing a valley pan intake manifold gasket on a 351W truck engine, the two corner ears of each head gasket must be cut as illustrated.

#### SPECIAL TORQUE SPECIFICATIONS

**IMPORTANT:** For all Ford Passenger and Truck V8, 260, 289 and 302 (5.0L) engines. Two types of cylinder head bolts have been used on these engines, Torque-To-Yield bolts with integrated washers or standard bolts without integrated washers. These bolts cannot be intermixed and each bolt style has specific torque specifications.

**IMPORTANT:** Consult latest OEM torque specifications as changes may have taken place since this printing.

#### TORQUE-TO-YIELD BOLTS WITH INTEGRATED WASHER TORQUE SPECIFICATIONS:

Following sequence shown in illustration torque all bolts/studs in the following steps:

Torque all bolts to 25-35 ft. lbs. (34-47 Nm.).

Torque all bolts to 45-55 ft. lbs. (61-75 Nm.).

Finally, tighten all bolts and studs an additional 1/4 turn (85-95°).

Torque all intake manifold bolts to 23-25 ft. lbs. (31-34 Nm.).

#### STANDARD BOLTS WITHOUT INTEGRATED WASHER TORQUE SPECIFICATIONS:

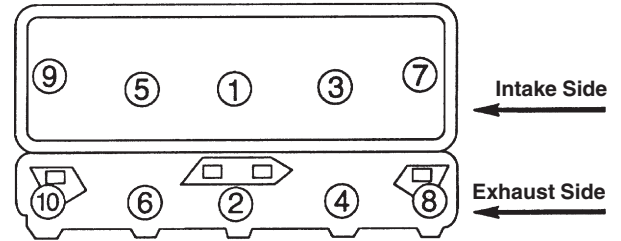
The following torque specifications for the cylinder head and the intake manifold must be followed. Failure to do so can lead to excessive cylinder head "lift," resulting in combustion gas and coolant leakage. Although these specifications may differ from those previously issued by Ford Motor Company, they are the result of extensive research and testing.

Following sequence shown in illustration torque all bolts in the following steps:

Torque intake side (long, odd numbered bolts) to 80 ft. lbs. (109 Nm.).

Torque exhaust side (short, even numbered bolts) to 70 ft. lbs. (95 Nm.).

Torque all intake manifold bolts to 23-25 ft. lbs. (31-34 Nm.).



**Intake Manifold:** Using a torque wrench, torque all bolts to 23-25 ft. lbs. **DO NOT EXCEED** torque specifications.

**Important:** For 351W engines, these torque procedures **DO NOT** apply. Torque securely following OEM specifications.

**CLEAN MATING SURFACES** of all foreign materials. You may wish to use a degreaser.

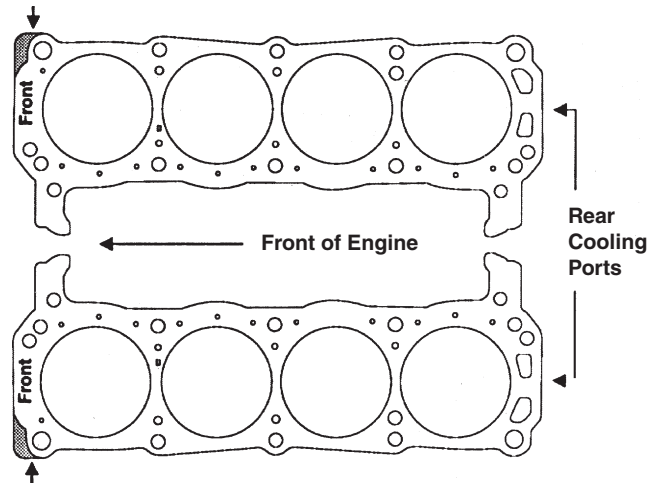
**CHECK HEAD AND BLOCK** for flatness. Refer to OEM manual to determine flatness tolerances and resurfacing limitations.

**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.

**IMPORTANT:** DO NOT use an anti-seize product on any of the bolt threads.

Determine which bolts extend into the coolant passages. Those bolts **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. Lubricate the underside of **every** bolt head with oil.



**TO INSURE PROPER COOLANT CIRCULATION,** the word FRONT is stamped on both sides of the head gasket and must always be installed towards the front of the engine.

After engine assembly, the head gaskets are properly installed when corner "A" of the each head gasket protrudes from under the FRONT of each cylinder head (see shaded area of illustration).

**ATTACH AND ALIGN GASKET(S).**