



FEL-PRO INSTALLATION TIPS

HEAD GASKET

The head bolts included in this set cover both the 2.9L and the 4.0L V-6 engines.

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.

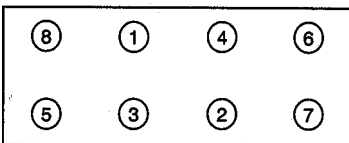
CLEAR ALL THREADED HOLES in the block by using a bottoming tap. Tap below the maximum bolt penetration to prevent bottoming.

CLEAN ALL BOLT THREADS by using a wire brush. 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) FOLLOWING ANY DIRECTIONAL MARKINGS SHOWN ON THE GASKET. If no markings exist, simply install the gasket by matching the gasket to engine deck surface.

FIBER FACED GASKET(S) are to be installed dry. **METAL FACED GASKET(S)** require a thin even coat of sealer to be applied to the metal side(s) of the gasket.

FOR 2.9L V6 ENGINES



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

TORQUE SPECIFICATIONS: Following sequence shown in illustrations, torque **all cylinder head bolts** in the following steps:

Torque all head bolts to 22 ft. lbs. (30 Nm.).

Torque all head bolts to 51-55 ft. lbs. (70-75 Nm.).

Wait 5 minutes.

Turn all head bolts 90° (1/4 turn).

- Continued -



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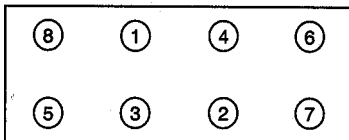
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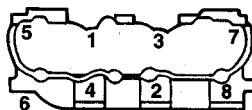
Turn all head bolts 90° (1/4 turn).

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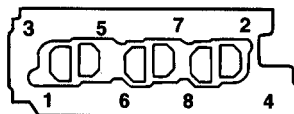
FOR 4.0L V6 ENGINES

IMPORTANT: The cylinder heads and lower intake manifold must be installed as a set, torque them alternately and in sequence. Also, cylinder head bolts should not be reused.

Cylinder
Head
Bolt
Tightening
Sequence



Lower
Intake
Manifold
Bolt
Tightening
Sequence



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

TORQUE SPECIFICATIONS: Following sequence shown in illustration, torque **all cylinder head and lower intake manifold bolts** in the following steps:

Torque all head bolts to 44 ft. lbs.

Install lower intake manifold gasket and manifold.

Torque all lower intake manifold bolts to 3-6 ft. lbs.

Torque all head bolts to 59 ft. lbs.

Torque all lower intake manifold bolts to 6-11 ft. lbs.

Turn all head bolts 80°-85° (less than 1/4 turn).

Torque all lower intake manifold bolts to 11-15 ft. lbs.

Finally, torque all lower intake manifold bolts to 15-18 ft. lbs.

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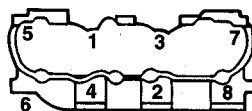
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CUT TO 4 X 5.25

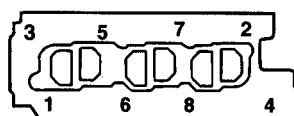
FOR 4.0L V6 ENGINES

IMPORTANT: The cylinder heads and lower intake manifold must be installed as a set, torque them alternately and in sequence. Also, cylinder head bolts should not be reused.

Cylinder
Head
Bolt
Tightening
Sequence



Lower
Intake
Manifold
Bolt
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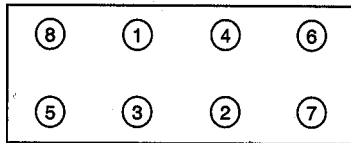
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FOR 2.9L V6 ENGINES



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TORQUE SPECIFICATIONS: Following sequence shown in illustrations, torque **all cylinder head bolts** in the following steps:

Torque all head bolts to 22 ft. lbs. (30 Nm.).

Torque all head bolts to 51-55 ft. lbs. (70-75 Nm.).

Wait 5 minutes.

Turn all head bolts 90° (1/4 turn).

- Continued -



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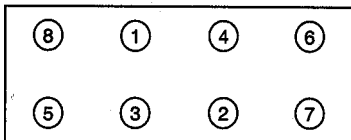
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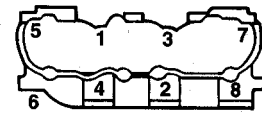
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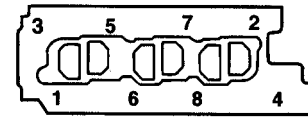
FOR 4.0L V6 ENGINES

IMPORTANT: The cylinder heads and lower intake manifold must be installed as a set, torque them alternately and in sequence. Also, cylinder head bolts should not be reused.

Cylinder Head Bolt Tightening Sequence



Lower Intake Manifold Bolt Tightening Sequence



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Torque all head bolts to 44 ft. lbs.

Install lower intake manifold gasket and manifold.

Torque all lower intake manifold bolts to 3-6 ft. lbs.

Torque all head bolts to 59 ft. lbs.

Torque all lower intake manifold bolts to 6-11 ft. lbs.

Turn all head bolts 80°-85° (less than 1/4 turn).

Torque all lower intake manifold bolts to 11-15 ft. lbs.

Finally, torque all lower intake manifold bolts to 15-18 ft. lbs.

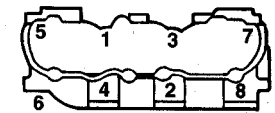
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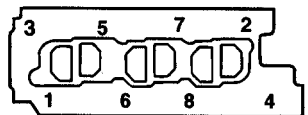
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