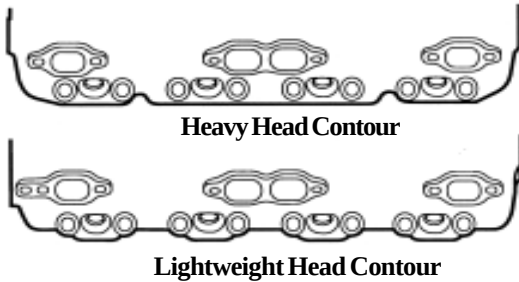




## FEL-PRO INSTALLATION TIPS

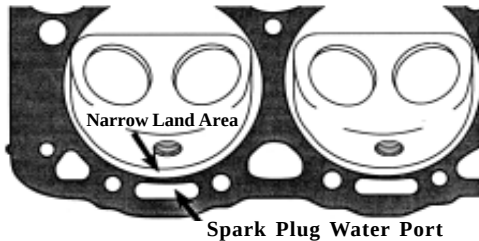
### HEAD GASKET

**LIGHTWEIGHT CYLINDER HEADS** have created potential head gasket sealing problems around the spark plug cooling water ports.



To determine cylinder head type, refer to the contour differences between the heavy and the lightweight cylinder heads (see drawing).

#### Lightweight Cylinder Head Casting Outline



If a significant amount of core shift exists and/or head surface has been excessively resurfaced, the narrow land area between the spark plug water port and the combustion chamber will move inward toward the combustion chamber. This will reduce the amount of sealing area on the head gasket's combustion seal and cause the gasket not to seal.

To insure proper fit and alignment of the gasket, check the location of the gasket's combustion seal in relation to the spark plug water port. If the gasket does not fit properly, replacement of the cylinder head may be necessary.

**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 undersize tap. Clean well below the maximum depth of the bolt penetration to remove any sealer and/or corrosion. Using a wire brush, clean out any residue.

**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.

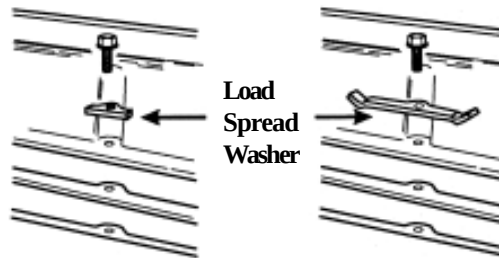
### VALVE COVER GASKET

Be sure to retain the load spreader washers when you remove the valve cover.

**CLEAN MATING SURFACES** of all foreign material including old gaskets, RTV and oil. You may wish to use a degreaser. Also, clean oil return holes.

**CHECK COVER FLANGES** for flatness. Straighten stamped metal covers. Replace if severely distorted. Distorted cast aluminum or plastic covers are difficult to straighten and should be replaced.

**ATTACH AND ALIGN GASKET TO COVER.** Apply quick-drying adhesive, sparingly in several places on the mating surface of cover. If gasket has installation tabs, adhesive is not required. Mount gasket on cover. Allow time for adhesive to set. Test for slippage with light pressure. If gasket moves, allow more time.



**PRIOR TO REINSTALLING VALVE COVER,** place a load spreader washer under each bolt head.

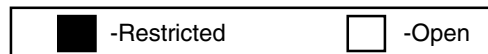
**REINSTALL VALVE COVER TO ENGINE.** Torque securely to OEM specifications. Over-torquing can distort cover and cause leakage.

### INTAKE MANIFOLD GASKET



This set contains 2 manifold gaskets with the center port open, and 2 stainless steel restrictor assemblies attached to one of these gaskets.

Use manifold gasket(s) with open center port(s) as supplied in this set or with restrictor assemblies in place as noted.



Passenger Car      Center Ports: Right      Left

265, 283, 302, 307, 327 Eng.

|              |                                     |                          |
|--------------|-------------------------------------|--------------------------|
| 1973.....    | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 1957-72..... | <input type="checkbox"/>            | <input type="checkbox"/> |

350 Eng.

|                                |                                     |                                     |
|--------------------------------|-------------------------------------|-------------------------------------|
| 1978-86.....                   | <input type="checkbox"/>            | <input type="checkbox"/>            |
| 1977.....                      | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 1976      Exc. California..... | <input type="checkbox"/>            | <input type="checkbox"/>            |
| California.....                | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 1975.....                      | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 19742      Barrel.....         | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| 4 Barrel.....                  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| 1973.....                      | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| 1967-72.....                   | <input type="checkbox"/>            | <input type="checkbox"/>            |

## Truck

265, 283, 307, 327 Eng.

|         |       |   |   |
|---------|-------|---|---|
| 1973    | ..... | ■ | □ |
| 1955-72 | ..... | □ | □ |

350 Eng.

|         |                 |   |   |
|---------|-----------------|---|---|
| 1980-86 | .....           | □ | □ |
| 1979    | Exc. School Bus | □ | □ |
|         | School Bus      | □ | ■ |

|      |              |   |   |
|------|--------------|---|---|
| 1978 | 1/2 Ton      |   |   |
|      | Series 50-65 | □ | ■ |

|            |              |   |   |
|------------|--------------|---|---|
| 3/4, 1 Ton |              |   |   |
|            | Series 10-30 | ■ | ■ |

|         |               |   |   |
|---------|---------------|---|---|
| 1976-77 | Exc. 4 Barrel | □ | ■ |
|         | 4 Barrel      | ■ | ■ |

|      |                   |   |   |
|------|-------------------|---|---|
| 1975 | Exc. Series 50-65 | □ | ■ |
|      | Series 50-65      | □ | □ |

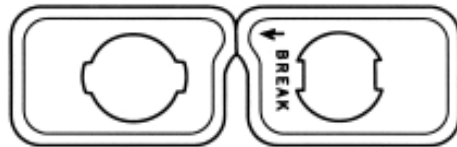
|      |                   |   |   |
|------|-------------------|---|---|
| 1974 | Exc. Series 50-65 |   |   |
|      | 2 Barrel          | ■ | □ |

|  |              |   |   |
|--|--------------|---|---|
|  | 4 Barrel     | ■ | ■ |
|  | Series 50-65 | □ | □ |

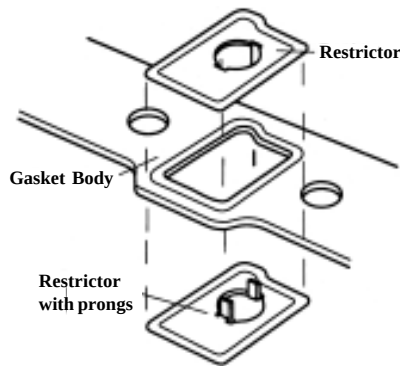
|      |                   |   |   |
|------|-------------------|---|---|
| 1973 | Exc. Series 50-65 | ■ | □ |
|      | Series 50-65      | □ | □ |

|         |       |   |   |
|---------|-------|---|---|
| 1969-72 | ..... | □ | □ |
|---------|-------|---|---|

### RESTRICTED PORT GASKET



**DIVIDE RESTRICTOR ASSEMBLY INTO 2 PIECES** as marked. Place 1 restrictor half - with prongs up - on the work-bench.



**POSITION THE CENTER PORT OF THE MANIFOLD GASKET** over the restrictor half. For proper fit, the offset in the gasket center port contour must match the contour of the insert.

**PLACE THE OTHER RESTRICTOR HALF WITHOUT PRONGS** over the gasket's center port aligning the offset contour of the restrictor with that of the gasket.

**BEND THE 2 PRONGS OF THE LOWER RESTRICTOR HALF OUTWARD** over the outer edge of the upper restrictor half using a blunt tool. Make certain the prongs are pressed down tightly so that the restrictor assembly is held securely in the gasket body.

**IMPORTANT:** When properly installed, the outer edge of the upper and lower restrictor halves will overlap the gasket body around the center port. Failure to do so may cause restrictor to slide out of position.

**CLEAN MATING SURFACES** of all foreign material including old gaskets, RTV and oil. You may wish to use a degreaser.

**CHECK MANIFOLD CASTINGS** for flatness of gasket surface. Resurface or replace if severely distorted or corroded.



**ATTACH AND ALIGN END SEALS.** Apply quick-drying adhesive sparingly to cylinder block. Mount end seals. **Allow time for adhesive to set.** Test for slippage with light pressure. If gasket moves, allow more time.

**ATTACH AND ALIGN GASKET(S) TO CYLINDER HEAD(S).** Apply quick-drying adhesive, sparingly in several places, on the cylinder heads. Mount gasket(s) on cylinder head(s). **Allow time for adhesive to set.** Test for slippage with light pressure. If gasket moves, allow more time.

**PRIOR TO REINSTALLING INTAKE MANIFOLD** apply a small dab of silicone sealer to the 4 corner intersections between the end seals and gaskets. **IMMEDIATELY PROCEED** to the next step, as sealer normally sets up in 10-15 minutes.

**REINSTALL INTAKE MANIFOLD TO ENGINE.** Torque securely to OEM specifications.

## EXHAUST PIPE FLANGE AND E.G.R. VALVE BOLTS

**CLEAN MATING SURFACES** of all foreign material. You may use a degreaser.

**CLEAN ALL THREADS** by using a wire brush for bolts and/or studs. Apply a high temperature anti-seize lubricant to the bolt and /or stud threads.

**ATTACH AND ALIGN GASKET.**

**REINSTALL EXHAUST PIPE FLANGE AND/OR E.G.R. VALVE GASKET(S) TO ENGINE.** Torque securely to OEM specifications. Over-torquing can cause the bolts and studs to break.

## WATER OUTLET GASKET

**TO ASSIST IN ALIGNMENT AND SEALING DURING ASSEMBLY,** apply a thin coat of gasket sealer to both sides of gasket(s).