FEL-PRO INSTALLATION TIPS

HEAD GASKET

Peak efficiency of the cooling system is essential to ensure a successful repair of this engine.

☐ Thoroughly inspect the radiator and heater core for corrosion.
☐ Test the radiator and heater core for coolant flow rate.
☐ Check for bent or damaged fins.

Radiator performance is deteriorated by reduced flow caused by corrosion and contaminates. Radiator performance is also deteriorated by reduce heat transfer that can occur with minor corrosion and slight loss of flow. To ensure proper engine performance, replacement of the radiator and heater core is recommended using OEM equivalent components only.

Failure to repair all potential leaks on the inlet side of the water pump will result in air being drawn into the cooling system. Aerated coolant will not transfer heat form the heads and block properly. OEM thermostat with "jiggle pin" or bleed hole must be used.

IMPORTANT: Due to some recent engineering changes, the cylinder head gasket(s) in this set may appear different from those previously provided for this applications

The engine this cylinder head gasket will be installed on is a lean burn-high fuel efficient design. It can experience localized "hot spots" between cylinders. Consequently, premature cylinder head gasket failure may occur. The formation of localized hot spots can be minimized by following the preparation and installation procedure outlined below.

CLEAN MATING SURFACES of all foreign materials. Improper use of power scrapers and abrasive pads can cause deep scratches, waviness and rounded edges.

CHECK HEAD AND BLOCK: Excessively pitted or corroded surfaces should be resurfaced or replaced. Check for flatness, recommended maximum combined head and block out-of-flat is .004" when measured diagonally and lengthwise; .002" maximum widthwise. If resurfacing is required, remove only the minimal amount of material to provide a flat casting. Surface finish is critical. A surface roughness of 65 RMS (60 RA) is recommended.

CYLINDER HEAD BOLTS: Install NEW cylinder head bolts every time the cylinder head is removed and/or replaced.

IMPORTANT: The use of OEM steel washers under each bolt head is required for the installation of the head bolts. **NOTE:** Washers not included in this set. Existing washers can be reused.

LUBRICATE the threads and the underside of every bolt head with oil. **DO NOT DIP BOLTS INTO OIL.**
ATTACH AND ALIGN GASKET FOLLOWING ANY DIRECTIONAL MARKINGS SHOWN ON THE GASKET. If no markings exist, simply install the gasket by matching the gasket to engine deck surface.
REINSTALL CYLINDER HEAD(S) TO ENGINE. Torque securely to OEM specifications.

TO INSURE PROPER ENGINE OPERATION WE RECOMMEND THE FOLLOWING

- Bleed cooling system, prior to engine start up. It may be necessary to raise the front of the vehicle to completely bleed the air from the cooling system.
- Use OEM recommended spark plugs, with the correct heat range.
- Vacuum leaks cause lean air/fuel ratios and hot engine operation.
- Check vacuum hoses.
- Check for proper operation of the EGR valve.
- Check O2 Sensor, coolant entering the combustion chamber from a cracked cylinder block/heads or a leaking head gasket can cause the O2 sensor to become inoperative, replace if necessary.

ANY CYLINDER HEAD GASKET INSTALLATION SHOULD INCLUDE THE FOLLOWING CHECKS:

- Radiator flow and corrosion condition.
- All coolant hoses for deterioration
- Thermostat operation
- Fan belt tension
- Water pump flow
- Radiator thermostatic fan switch operation
- Antifreeze mixture
- Radiator cap that maintains rated pressure
- Coolant reservoir fill level
- Ignition timing setting
- Emission controls
- Vacuum leaks
- Restriction in exhaust system

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