



The cylinder head gasket is arguably the most important seal in the V-Twin engine. The predominant gasket material chosen by multi-layer steel gasket manufacturers is Viton® fluoroelastomer. Viton® offers static sealing at service temperatures ranging from -40°C to 250°C and is highly resistant to fuel mixtures, oils, and combustion gases, and exhibits excellent long-term compression set resistance. MLS gaskets are produced from one or more precisely stamped steel sheets, which are selectively embossed to control the distribution of clamp loading. The embossed sheets are coated with either rubber or fluoroelastomer (FKM) to ensure proper sealing, resiliency and flexibility. Our MLS gaskets incorporate a folded-over center layer to provide additional load at the combustion chamber, also known as a bore stopper. The coating helps seal oil passages and is more forgiving on older, rougher head/cylinder surface finishes and provides superior sealing characteristics. MLS gaskets require extra care in installation where a composite gasket was previously in place. The following steps will assist service technicians in the proper practice.

**CAUTION: ALUMINUM ENGINE COMPONENTS ARE VERY SUSCEPTIBLE TO METAL TRANSFER AND SURFACE DAMAGE WHEN OLD GASKET MATERIAL IS REMOVED. EXERCISE EXTREME CARE WHEN CLEANING THESE COMPONENTS. THE MLS GASKET CANNOT PROPERLY SEAL IF SURFACES ARE GOUGED, METAL TRANSFER HAS TAKEN PLACE, OR COMPOSITE GASKET MATERIAL REMAINS ON ON THE HEAD OR CYLINDER SURFACES.**

Inspect the sealing surfaces for any composite gasket residue. Carefully remove remaining material. Scotchbrite/whippy wheels can jam particles into the surface you are trying to prep! Scrape the old gasket off with a quality scraper or razor, and then use a solvent and lint-free cloth to remove the remaining residue. The head and block must be checked for flatness. Follow service manual procedures and specifications where applicable. Re-assemble the engine as outlined in the appropriate service manual.

Possibly the most important aspect to address is the surface finish given to the cylinder head and cylinder faces. The required finishes to ensure an effective seal are extremely fine (measured in microns). Surfaces, which are beyond the roughness limits, will allow gas and fluid to track across the faces. Head Warpage: 0.006" or More than 0.15mm Cylinder Warpage: Top 0.006" or 0.15mm Base 0.008" or 0.20mm

#### TORQUE WRENCH METHOD

- Step 1. With a torque wrench, tighten each cap screw in the sequence shown to 7-9 ft.lbs. (10-12 Nm)
- Step 2. Using the same sequence, tighten each cap screw to 12-15 ft.lbs. (16-20 Nm)
- Step 3. Using the same sequence, tighten each cap screw to 22-25 ft.lbs. (30-34 Nm)
- Step 4. Lastly, using the same sequence, tighten each cap screw to 38-42 ft.lbs. (52-57 Nm)

#### Helpful Hints:

Always replace cylinder studs and cap screws when replacing MLS head gaskets. Apply a small amount of assembly lube or light oil on the threads of the cap screws before assembly. Failure to do so can cause inaccurate torque readings leading to a poor seal. The head gaskets in this kit should be used with rubber-covered metal base gaskets. Failure to use a metal base gasket may lead to torque loss at the cylinder studs and potential failure. MLS head gaskets require no additional sealers and should not be exposed to chemicals or solvents prior to installation. Surfaces to be sealed must be clean and free of all debris including any remaining residue or witness of the old gasket. As with any gasket surface, special attention should be paid to surface flatness, waviness, severe nicks, scratches, etc.