

Asymmetric Bearing Shells

Bearing shells normally have the same wall thickness for the upper and lower halves. However, in a few applications the more highly loaded upper shell is made slightly thicker than the lower shell. The difference is normally about 0.050 mm or 0.002". By having a more intimate fit, the upper shell hydrodynamic oil film area is increased allowing it to carry more load from the connecting rod for a given oil film pressure. In other words, pressures on the upper shell are reduced when asymmetric bearings are retro-fitted to an existing engine. Note that the diametrical clearance is maintained allowing normal connecting rod motions and oil flow.

Asymmetric bearings require no special installation techniques but close attention must be paid to the top and bottom shell markings. If the engine is of Italian origin the top shells may be marked "stelo" and the bottom shells "cappello". All asymmetric bearing applications are clearly identified in the AE bearing catalogue.

