

SECTION 1

DESCRIPTION

The O. HO, IO, AIO, HIO, LIO and TIO-360 series are four cylinder, direct drive, horizontally opposed, air-cooled engines.

In referring to the location of the various engine components, the parts are described as installed in the airframe. Thus, the power take-off end is the front and the accessory drive end the rear. The sump section is the bottom and the opposite side of the engine where the shroud tubes are located the top. Reference to the left and right side is made with the observer facing the rear of the engine. The cylinders are numbered from front to rear, odd numbers on the right. The direction of rotation of the crankshaft, viewed from the rear, is clockwise. Rotation for accessory drives is determined with the observer facing the drive pad.

NOTE

The letter "L" in the model prefix denotes the reverse rotation of the basic model. Example: model IO-360-C has clockwise rotation of the crankshaft. Therefore, LIO-360-C has counterclockwise rotation of the crankshaft. Likewise, the rotation of the accessory drives of the LIO-360-C is opposite those of the basic model as listed in Section 2 of this manual.

The letter "D" used as the 4th or 5th character in the model suffix denotes that the particular model employs dual magnetos housed in a single housing. Example: All information pertinent to the O-360-A1F6 will apply to the O-360-A1F6D.

Operational aspects of engines are the same and performance curves and specifications for the basic model will apply.

Cylinders – The cylinders are of conventional air-cooled construction with the two major parts, head and barrel, screwed and shrunk together. The heads are made from an aluminum alloy casting with a fully machined combustion chamber. Rocker shaft bearing supports are cast integral with the head along with housings to form the rocker boxes. The cylinder barrels have deep integral cooling fins and the inside of the barrels are ground and honed to a specified finish.

Valve Operating Mechanism – A conventional type camshaft is located above and parallel to the crankshaft. The camshaft actuates hydraulic tappets, which operate the valves through push rods and valve rockers. The valve rockers are supported on full floating steel shafts. The valve springs bear against hardened steel seats and are retained on the valve stems by means of split keys.

Crankcase – The crankcase assembly consists of two reinforced aluminum alloy castings, fastened together by means of studs, bolts and nuts. The mating surfaces of the two castings are joined without the use of a gasket, and the main bearing bores are machined for use of precision type main bearing inserts.

Crankshaft – The crankshaft is made from a chrome nickel molybdenum steel forging. All bearing journal surfaces are nitrided.