

Tech Sheet 005

Ford Windsor, Cleveland, Big Block, FE, Y-block and MEL starters

Ford Windsor and Cleveland manual transmission starters

There are two distinct starters available for OEM manual transmission Ford Windsor and Cleveland engines. These were fitted as original equipment from the factory. The first is what we call the “true manual”, our RS807. This starter has a pinion depth (measurement from starter mounting face on sandwich plate to the ring gear) of 6-10mm and a register (the circular hole diameter in the sandwich plate and corresponding raised machined spigot on the starter) of 104.3mm. The second is the same as the automatic transmission starter, our RS806. This starter has a pinion depth of 16-20mm and a register of 103.6mm.

Some shimming may be required to reduce pinion depth (see Tech sheet 003). If aftermarket components are being used (crank shafts, bellhousings and flywheels) this is especially true, so measure both pinion depth and sandwich plate register diameter. If required we can supply a “hybrid” starter with the shallow pinion depth and the automatic transmission register size.

Ford large bellhousing and small flywheel mismatch

We have seen many cases over the years of a mismatched large flywheel bellhousing and small flywheel and clutch being used. Unsurprisingly the starter pinion misses the flywheel ring gear by 12mm or so. We struck this problem often enough to design a starter, our RS807B to enable this mismatched combination to remain intact as quite often the flywheel and clutch assembly have already been balanced with the engines other rotating components.

Aftermarket “oversized” Ford ring gears

In recent years we have seen replacement aftermarket ring gears and flex plates installed that are oversize (the outside diameter of the ring gear can be up to 3mm larger). This applies to small block, big block and FE engines. When this is the case any starter that is fitted will have insufficient pinion backlash and the pinion will fail to engage in the ring gear. We have re-developed our RS1106 starter with an offset 10t pinion to correct this problem.

Ford sandwich/engine plates

It is essential that a sandwich plate is installed on your V8 Ford engine. Ford starters rely on the sandwich plate register to align the starter to the ring gear and provide the required pinion backlash measurement. As a rule the automatic transmission plate with the 103.6 register is a “half” plate (covers half the bell housing) and the manual transmission plate with the 104.3mm register is a “full” plate (covers all the bell housing).

Ford starter fastening bolts

Ford V8 starter bolt size varies from 5/16” to 11mm. Some applications require one threaded hole in the starter. To enable our starters to be more universal in their fitment we usually supply them with one 3/8” UNC threaded hole. If the bellhousing suits a 5/16” bolt, the bolt will snug fit inside the 3/8” thread. If the bellhousing suits a 3/8” or 11mm bolt, drill out the thread to the required size. We also supply bolt “sleeve shims” to assist with alignment.