

Engine

DESCRIPTION

The engine is a four cylinder, in line, indirect injection type and is available in either turbocharged or naturally aspirated (Non - Turbo) versions. Turbocharged engines (XUD 7TE) are of 1.8 litre capacity and Non - Turbo engines (XUD 9A) are of 1.9 litre capacity.

The aluminium cylinder head carries a single, overhead camshaft which operates the valves via inverted bucket type tappets; valve clearances being adjusted by means of selective shims. The camshaft is driven from the crankshaft by an internally toothed belt with belt tension being controlled by a spring loaded tensioner. A pulley on the rear of the camshaft drives the power steering pump (if fitted) and brake servo vacuum pump via 'V' belts. Three bearing caps are used to retain the camshaft with the centre cap controlling camshaft end - float. To improve combustion, swirl chambers are fitted in the cylinder head face below each injector orifice.

The cylinder block is of cast - iron construction and carries the five bearing crankshaft. The main bearings are of the split shell type and are available in oversizes to allow for regrinding of crankshaft journals. Crankshafts fitted to turbocharged engines have four counterbalance weights whereas those fitted to Non - Turbo engines have eight. Crankshaft end - float is controlled by selective thrust washers fitted to No. 3 main bearing cap. Cylinder blocks can be rebored to accept three piston oversizes.

The pistons are lead plated with a combustion cut - out machined in each piston crown. Three piston oversizes are available in addition to the standard production size. Grooves machined around the periphery of the piston skirt between the piston crown and top piston ring encourage the formation of carbon which improves piston sealing. Two compression and an oil control ring are fitted to each piston, the top and oil control ring being chrome plated to prevent wear. On turbocharged engines an oil jet inserted in the cylinder block directs oil to the underside of each piston to aid piston cooling. Each piston is secured to its respective connecting rod by a fully floating gudgeon pin. Connecting rod big - end bearings are of the split shell type and are available in oversizes to allow for regrinding of crankshaft journals.

The oil pump is chain driven from a gear on the front of the crankshaft. Oil is drawn from the wet sump via a remotely located strainer and directed through internal drillings to lubricate the camshaft and tappets, main and big - end journals, piston

rings and on turbocharged engines, the piston cooling jets and turbocharger. An oil cooler is fitted and is fed from the canister type oil filter. Turbocharged engines have an air cooled type, Non - Turbo engines have a water cooled type.