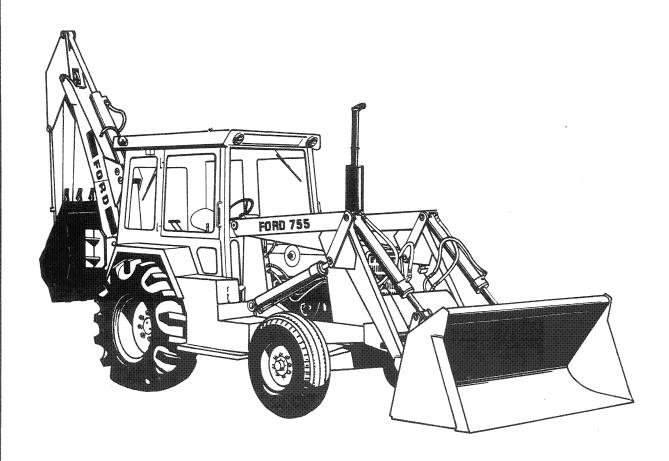
FORD

Service Manual



Tractor Loader Backhoe 755, 755A, and 755B



40075510

Part 1

ENGINES

Chapter 1

ENGINES AND LUBRICATION SYSTEM

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Part 1

ENGINES

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1. DESCRIPTION AND OPERATION

This part of the manual covers the diesel engine for the 755 Tractor. The Ford 755 engine is a 4 cylinder turbocharged diesel.

This part of the manual deals with disassembly, inspection and repair, and the assembly of engines; the lubrication system and the cooling system.

Cylinder Head Assembly - Including Valve Train Components

The cylinder head assembly incorporates the valves, valve springs, and rotators. The valve rocker arm shaft assembly is bolted to the head. The intake and exhaust manifolds are bolted to the head. The intake manifold is on the right side from the rear of the engine, and the exhaust manifold is on the left side. The water outlet connection and thermostat are attached to the front of the cylinder head. Valve guides are an integral part of the cylinder head, and valves with oversize stems are available for service. Special replaceable cast alloy

valve seats are pressed into each valve port of the cylinder head. The exhaust valves are fitted with positive valve rotators. The Ford 755 intake valves do not have seals.

Exhaust valves have a square section O-ring seal.

Valve lash is maintained by self-locking adjusting screws. The camshaft is supported by five replaceable bearings. The camshaft is driven by the camshaft drive gear which is in mesh with the camshaft gear. Camshaft thrust is controlled by a plate secured to the block and located between the camshaft gear and the front journal of the camshaft.

The cylinder head has six evenly spaced head bolts per cylinder. The fuel injectors are mounted outside the rocker cover.

The engine cylinder head is designed with the face of the cylinder head flat. The combustion chambers are in the heads of the pistons.

1

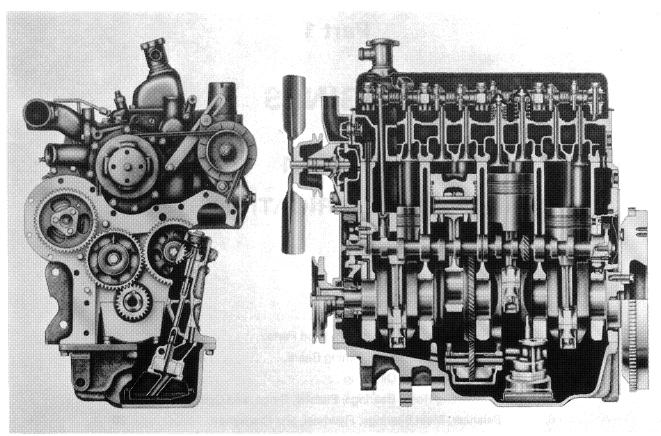


Figure 1
Four Cylinder Diesel Sectional View

Manifolds

The aluminum alloy intake and cast iron exhaust manifolds are on opposing sides of the cylinder head to provide better heat distribution in the head. Tractors can be equipped with exhaust manifolds for either horizontal or vertical exhaust systems. The intake manifolds are connected through tubing to the air cleaner and are provided with a tapped hole for installation of a thermostart or an ether cold starting aid kit.

NOTE: If cold start equipment is not installed, the plug assembled in the manifold should remain securely assembled at all times. Considerable damage to the cylinder bores could result from its absence. The cylinder bores can also be damaged by grit and other foreign matter passing through the air cleaner hose connections if they are not properly secured.

Cylinder Block Assembly

The cylinder block is alloy cast iron with heavy webbing and deep cylinder skirts. The block features full length water jackets, bored integral with the block, to cool the cylinders. Cylinder arrangement is vertical inline with the cylinders numbered from 1 to 4, starting at the front of the block. The firing order is 1 - 3 - 4 - 2.

The oil pan sump is heavy cast iron. The cast iron pan is used as part of the attaching area for the front axle of the tractor. The oil pan is attached to the bottom of the cylinder block and is the sump for the lubrication system. The engine front cover is attached to the front engine adapter plate, forming a cover for the timing gears. The crankshaft gear is keyed and press fitted on the front of the crankshaft. The crankshaft gear drives the camshaft drive gear, which is attached to the front of the cylinder block. The camshaft drive gear drives the camshaft gear and the injection pump drive gear.

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