

ENGINE

ENGINE SPECIFICATIONS PASSENGER CAR AND COMM'L:—Eight cyl., 90° Vee, 'L' head type with both cylinder blocks and crankcase cast enbloc.

Bore—3.062". **Stroke**—3.75".

Piston Displacement—221 cubic inches.

Rated Horsepower—30.

Developed Horsepower—85 at 3800 RPM.

Compression Ratio—6.3-1 Std. aluminum head.

Compression Pressure—140 lbs. at 2700 R.P.M. or 113 lbs. at cranking speed of 100 R.P.M.

Vacuum Reading—Gauge should show steady reading of 18-20" with engine idling at 5-7 M.P.H.

ENGINE SPECIFICATIONS FOR TRUCKS:—Same as for Passenger Car & Commercial except as follows:

Developed Horsepower—30 at 3800 R.P.M.

Compression Ratio—5.32-1 Std. cast-iron head.

Compression Pressure—110 lbs. at 2500 R.P.M. or 90 lbs. at cranking speed of 100 R.P.M.

CYLINDER HEAD: Tightening Torque and Cylinder Head Diagram—See *Ford Shop Notes*.

PISTONS—ALUMINUM ALLOY TYPE:—Split skirt, Cam ground type. Length 2.97". Recondition engines to take finished replacement pistons.

Weight—287-291 grams (stripped), 389.5-396.5 grams with rings and pin.

Removal—Pistons and rods removed from above.

Clearance—.002" Min., .003" Max. See Fitting Pistons.

Replacement Pistons:—See *Ford Special Shop Notes*.

Fitting New Pistons:—Use .002" feeler ½" wide inserted between piston and cylinder wall at right angles to pin on side opposite slot. Pull to withdraw feeler should be 6-10 lbs. NOTE—On engines with inserted hardened sleeves, use .0025" feeler with 6-10 lbs. pull.

Installing Pistons:—Slot to left (viewed from driver's seat) for all pistons.

PISTONS—STEEL ALLOY TYPE:—Heat treated, steel-alloy, Cam ground type with domed head and cut-away skirt. Recondition cylinders to take finished replacement pistons.

NOTE—Original equipment steel-alloy pistons furnished as an assembly with fitted pins and connecting rods. For replacement, separate pistons, pins, and connecting rods must be used. Piston assembly with fitted pins and rods discontinued.

Replacement Pistons:—See *Ford Special Shop Notes*.

Fitting New Pistons:—Use .0025" feeler ½" wide inserted between piston and cylinder wall at right angles to pin. Pull required to withdraw feeler must be 7-12 lbs. NOTE—On engines with inserted hardened sleeves, use .003" feeler with 7-12 lbs. pull.

PISTON RINGS—ALL PISTONS:—Two compression, one oil control ring per piston, all above pin. Oil ring groove drilled with eight ⅛" oil drain holes (slot on each side also used on aluminum pistons).

Ring	Width	End Gap	Side Clearance
Compr. #1	.0915-.092"	.012-.017"	.0025-.003"
Compr. #2	.0915-.092"	.012-.017"	.002-.0025"
Oil Contr.	.1545-.155"	.012-.017"	.0015-.002"

PISTON PIN—ALUMINUM PISTONS:—Diam.—.7501-.7504". Length 2.780". Pin floats in piston & rod and is held by retaining ring in connecting rod. Heat piston to 200° F. (dip in boiling water for one minute) to remove or install pins.

Pin Fit in Piston—.0001" tight to .0001" loose.

Pin Fit in Rod Bushing—.0001" clearance.

See *Ford Shop Notes for Pin Fitting directions*.

Installing Pins:—Use tapered pilot inserted ahead of pin to expand retainer in rod.