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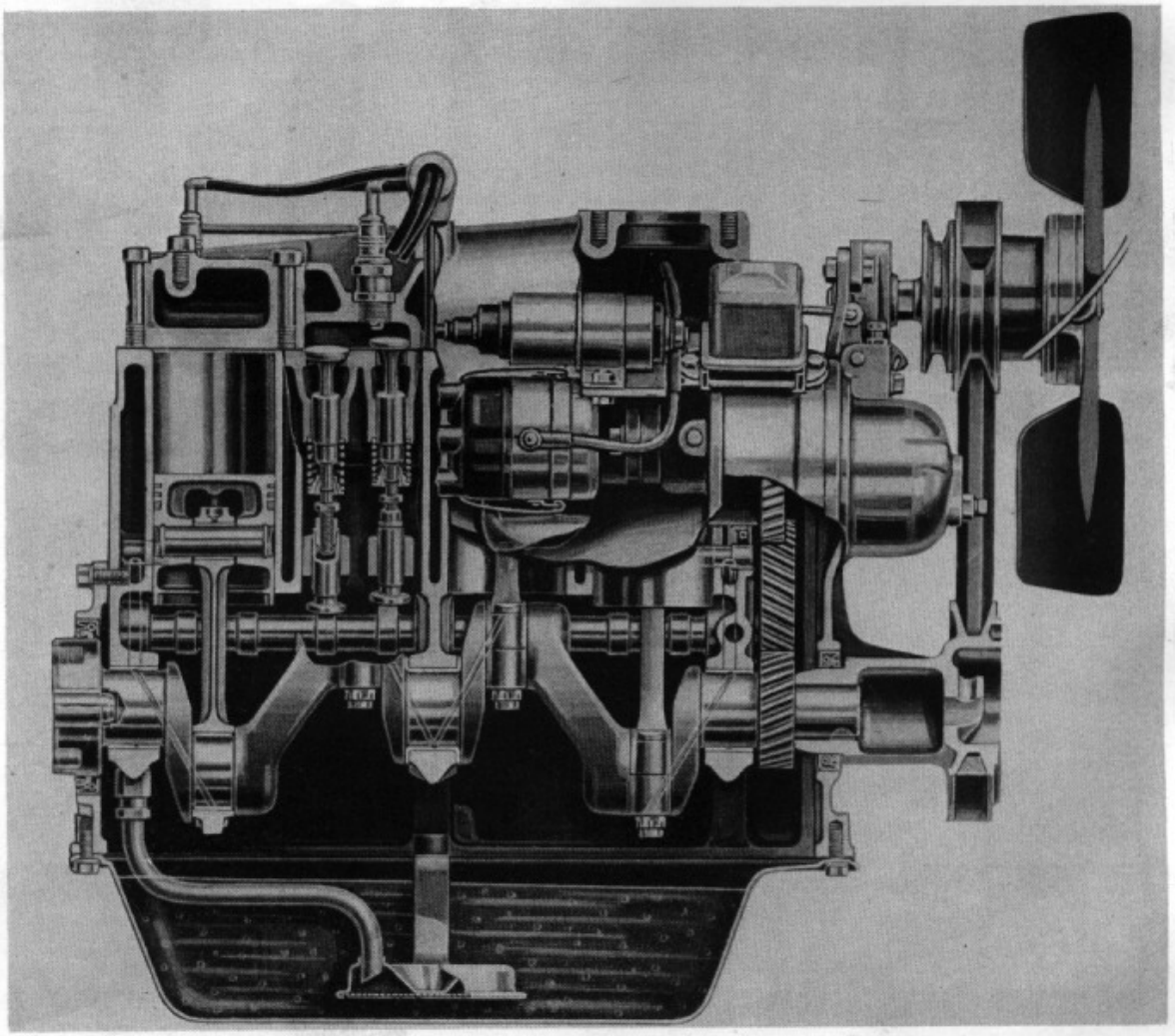


Illust. 1 -- Cross section of Farmall Cub engine, side view.

GENERAL DESCRIPTION

For a list of engine specifications, see Form GSSS-1008 in the BRS Manual.

The Cub engine produces smooth operation and high thermal efficiency for low operating costs and long engine life.

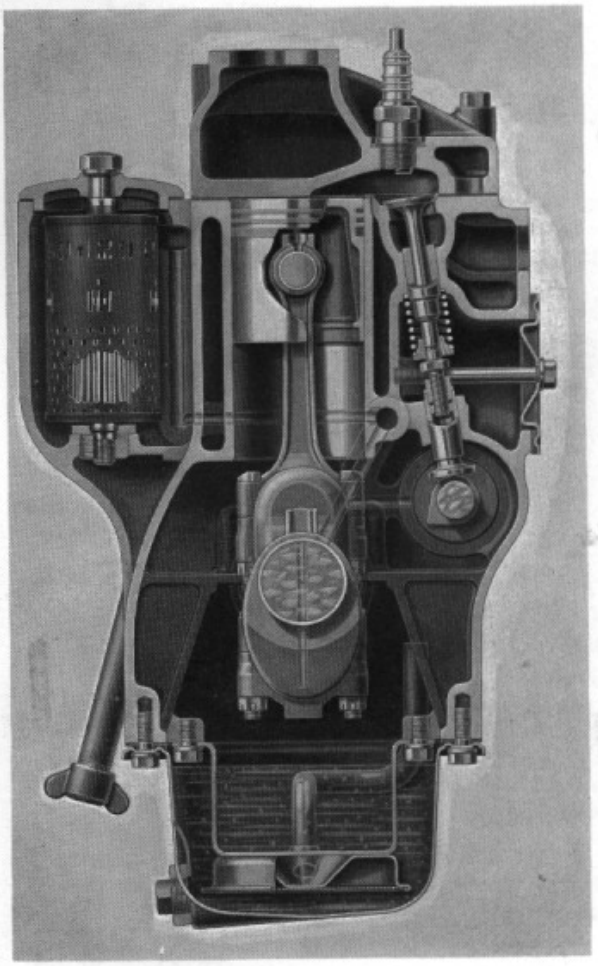
The engine is protected against entry of dust and abrasive material by (1) an oil bath cleaner, (2) a large-area, replaceable oil filtering element, and (3) a cleanable element incorporated in the crankcase breather. Efficient dust and oil seals at the crankshaft prevent the entry of dust at these points. The ignition drive is flange-mounted to the crankcase as another precaution in sealing the engine against the entry of dirt.

Ignition is provided by the International Harvester J-4 waterproof, fixed-spark, high-tension magneto. The automatic impulse coupling insures a hot spark for easy starting and retards the ignition timing at cranking speed for the protection of the operator or cranking motor. A battery-type ignition system incorporating automatic spark advance and waterproof construction is available as an attachment for Cub tractors already equipped with starting and lighting attachments. When the starting and lighting attachment is factory-installed as original equipment, battery ignition is included in place of the magneto.

A variable-speed, centrifugal-type engine governor makes it possible for the operator to select the most economical speed for the job being done. The governor is simple in construction. The rockshaft and connections are small and of light weight, which results in the snappy governor action so desirable for operation under variable loads.

The carburetor, manifold and compression ratio are designed for maximum power and economy when burning gasoline with an octane rating of 75 or higher.

Connecting rod and crankshaft bearings are of replaceable babbitt-lined, steel-backed micro-precision type. The engine lubrication system is the conventional force-feed type. A gear pump supplies oil under pressure to the various bearings and oil filter element through galleries and drilled passages in the crankcase and crankshaft. The crankcase is ventilated to reduce condensation of moisture to a minimum.



Illust. 2 -- Cross section of Farmall Cub engine, front view.

REMOVING ENGINE FROM TRACTOR

To perform complete Blue Ribbon overhaul service on the Farmall Cub engine or to remove and service the crankshaft, camshaft and valve tappets, the engine must be removed from the tractor.

Utmost cleanliness is necessary when performing service operations because of the precision parts incorporated in the construction of modern tractors. Service work on the tractor engine should always be performed in the dealer's shop, where parts and surroundings can be kept clean and where service equipment is adequate. Before starting any major service work, the tractor should be steam cleaned and each individual part should be cleaned as soon as removed. Be sure you have all necessary tools and equipment. Proceed as follows to remove the engine:

1. Drain water, crankcase, oil and Touch-Control reservoir.

2. Disconnect battery cables (at battery) and headlight wires.

3. Remove air intake cap and radiator grill. (On old model Cub tractors the vertical muffler will also have to be removed at this time.)

4. Shut off fuel at fuel strainer and remove fuel pipe, hood and fuel tank.

5. Remove water outlet and inlet elbows.

6. Disconnect or remove all control rods and wires extending forward of the clutch housing.

7. Remove muffler and exhaust pipe, Touch-Control manifold and hydraulic pump. Cover openings in manifold, reservoir and hydraulic pump to prevent the entrance of dirt.

8. Remove governor connecting rod, air cleaner, exhaust and intake manifold with carburetor, and oil level gage with breather cap.

9. Remove generator, voltage regulator, fan assembly with belts, magneto or distributor assembly with spark plug wires, and cranking motor.

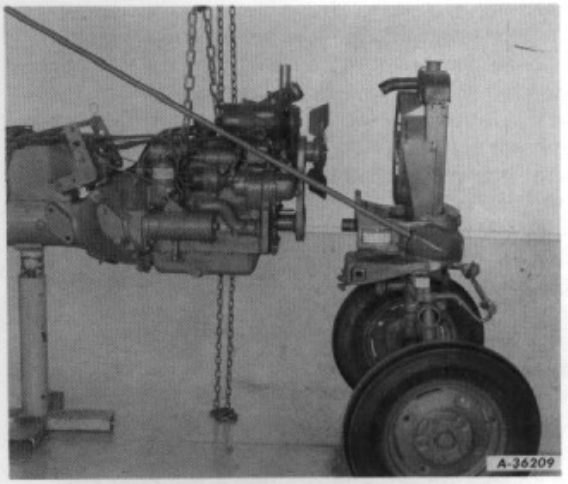
10. Disconnect steering shaft support arm bracket from steering shaft support arm.

11. Remove clutch housing cover immediately below the rear flange of the crankcase oil pan.

12. Attach chain hoist to the engine and adjust to eliminate slack.

13. Use wood blocks between the steering gear assembly housing and the front axle on both sides to eliminate movement on the front axle pivot shaft.

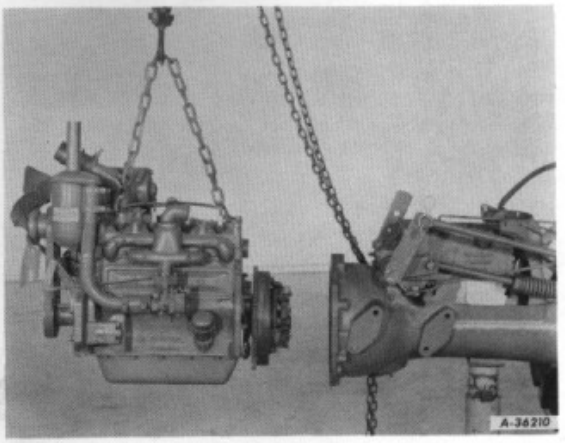
14. Remove the two bolts and two capscrews between the crankcase and steering gear housing. Roll front axle and radiator assembly away from the tractor. See Illust. 3



Illust. 3 -- Front axle and radiator assemblies being removed from tractor.

15. Adequately support the clutch housing and remove the four bolts and two capscrews between the clutch housing and the rear of the crankcase.

16. Separate the engine from the rear section of the tractor at the clutch housing.



Illust. 4 -- Removing engine from rear section of tractor.