F12 McCormick-Deering Farmall Tractor

Operators Manual

INT-5119A

CASE

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This symbol means ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED. The message that follows the symbol contains important information about your safety. Carefully read the message. Make sure you fully understand the causes of possible injury or death. SB001

IF THIS MACHINE IS USED BY AN EMPLOYEE, IS LOANED, OR IS RENTED, MAKE SURE THAT THE OPERATOR UNDERSTANDS THE TWO INSTRUCTIONS BELOW.

BEFORE THE OPERATOR STARTS THE ENGINE:

1. GIVE INSTRUCTIONS TO THE OPERATOR ON SAFE AND CORRECT USE OF THE MACHINE.
2. MAKE SURE THE OPERATOR READS AND UNDERSTANDS THE OPERATOR'S MANUAL FOR THIS MACHINE.

WARNING

IMPROPER OPERATION OF THIS MACHINE CAN CAUSE INJURY OR DEATH.

BEFORE STARTING THE ENGINE, DO THE FOLLOWING:

1. READ THE OPERATOR'S MANUAL.
2. READ ALL SAFETY DECALS ON THE MACHINE.
3. CLEAR THE AREA OF OTHER PERSONS.

LEARN AND PRACTICE SAFE USE OF MACHINE CONTROLS IN A SAFE, CLEAR AREA BEFORE YOU OPERATE THIS MACHINE ON A JOB SITE.

It is your responsibility to observe pertinent laws and regulations and to follow manufacturer's instructions on machine operation and maintenance.

See your Authorized Case dealer for additional operator's manuals, parts catalogs, and service manuals.

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NOTE:- Pages 11 to 15 are for Gasoline Operation.
Pages 5 to 10 are for Distillate Operation.
Page 4 is for both Gasoline and Distillate Operations.
The balance of the book is for both Gasoline and Distillate Operation, except as noted.

TO OWNERS:

This Tractor is designed and built to give good performance and maximum Service. Quality materials and good workmanship are employed throughout the entire unit.

The suggestions and requirements for operating outlined in this book are essential to maintain satisfactory performance and economical service. The care and daily attention given the Tractor will largely determine its maintenance cost and success of operation.

Tractor Owners should use the extensive facilities offered by McCormick-Deering and International dealers when service is needed that requires the knowledge of an experienced service man. This is advisable as Dealers are kept informed on the best methods of servicing Tractors and are in a position to give satisfactory service.

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OPERATING PRECAUTIONS

Read Instruction Book carefully.

Follow "Lubrication Chart."

Before cranking tractor engine, be sure:-
1. Gear shift lever is in neutral position.
2. Radiator is filled with water.
3. Engine has sufficient oil in crankcase pan.

When cranking the engine, retard spark control. Operator should take his position so as to avoid being struck by starting crank if there is a reversal of the direction of the engine from any cause whatsoever.

When starting the Tractor always engage clutch gradually, so engine will pick up the load slowly. This is particularly necessary when going up a steep hill, climbing out of ditches or when hitched to a heavy or difficult load. Never hitch to a stump or other object by means of a long chain or rope with slack so that when Tractor moves forward it will jerk into the load.

Never operate engine at more than the regular governed speed. Excessive speeds are dangerous.

Warning:-
Do not hitch to the tractor at any point except to the draw bar.
Do not attempt to pull when draw bar is removed.
Always use draw bar and braces.

Drawbar and braces must be kept tight.

Never fill tank when lamps are lighted or open flame is near, or engine is running. Keep funnel in contact with metal of fuel tank when pouring in fuel, to avoid possibility of an electric spark igniting the gas. Be very careful about lighting matches near gasoline, as the air within the radius of several feet is permeatec with a highly explosive vapor.

Care should be exercised when Tractor is in motion to prevent accidents and personal injuries.

Do not use the clutch pedals as a foot rest; this causes undue wear on clutch parts.

Never pour cold water into radiator if engine is hot.

Do not overload the Tractor at any time.

When pneumatic tires are used, keep correct air pressure in tires.

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GASOLINE OR DISTILLATE OPERATION

Paragraphs are numbered to correspond with numbers on the illustrations.

PREPARATIONS FOR STARTING

LUBRICATION *(See "Lubrication Chart").*

Para.	Illust.	
1	....	Oil magneto. Check oil level of air cleaner. Check oil level of engine crankcase. Check oil level of transmission case. Check oil level of steering gear case. Check Tractor carefully with "Lubrication Chart". If any lubrication connections are missing, replace before starting. Lubricate each place throughout entire Tractor as instructed on "Lubrication Chart".

ENGINE COOLING SYSTEM - *(Water capacity 3½ U.S. gallons Approximately).*

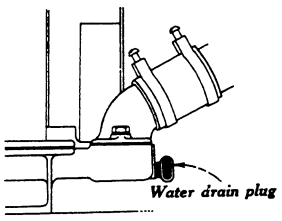


Illustration No. 1

2	1	See that drain plug on radiator drain pipe is closed.
3	2 and 3	Remove radiator filler cap and fill radiator with clean water. Keep filled to full level. Use soft or rain water if possible.
4	2	Do not pour cold water into an empty system when engine is very hot.
5	.....	In temperatures below 32° F. *see "Cold Weather Operation", pages 17 and 18.*

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DISTILLATE CARBURETOR (1" DOWNDRAFT) (IHC MODEL A-10)

Ref. No.	Description
1	Air intake.
2	Starting shutter shaft and lever assembly.
3	Fuel pipe connection and screen retainer.
4	Fuel adjusting screw.
5	Idling adjusting screw.
6	Idle throttle adjusting screw.
7	Throttle shaft assembly.

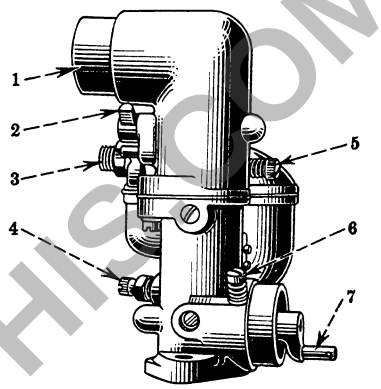


Illustration No. 6

The I H C Model A-10 Carburetor is of conventional downdraft, plain tube construction, and is mounted on a hot-spot manifold with adjustable heat control.

The proper mixture of fuel and air is controlled by the main fuel adjustment (see Ref. No.4) and the idle fuel adjustment (No. 5). The throttle position to give the proper idling engine speed is controlled by the idle throttle stop screw (No. 6).

Before starting the engine for the first time, set the main fuel adjusting screw (No. 4) 2-1/2 to 3 turns open and the idle fuel adjusting screw (No. 5) 1-1/2 to 2-1/2 turns open. Also set manifold heat control valve in "Hot" position.

MAIN FUEL ADJUSTMENT

After starting, allow engine to run on gasoline about 20 minutes with engine speed control hand lever fully advanced and manifold heat control valve in "Hot" position. Have radiator completely covered with curtain during this period. Before turning over to distillate and with spark in 1/2 advanced position, slowly screw main fuel adjusting screw (No. 4) in until engine slows down slightly, then turn over to distillate. Now turn adjusting screw in until engine starts to miss or operate unsteadily, then unscrew until steady running is obtained at this speed. For best operation and minimum dilution, keep adjustment as lean as possible. Screw in for lean and out for rich load mixture.

IDLE FUEL ADJUSTMENT

While operating on gasoline, retard engine speed control hand lever to about 1/4 advance, spark 1/2 advance. Screw in idle throttle stop screw (No. 6) until the engine speed increases slightly. Now screw idle fuel adjusting screw (No. 5) until engine runs steadily. Unscrew idle throttle stop screw (No. 6) until the engine idles at desired speed with engine speed control hand lever in full retard position. It may be necessary to correct this adjustment slightly after completing main load adjustment on distillate. Idle adjusting screw turns in for rich and out for lean mixture.

CARE OF CARBURETOR

The fuel screen should be cleaned occasionally. Fuel screen is removed by unscrewing filter plug (No. 3). Flange nuts which hold carburetor to manifold should be checked periodically for tightness.

NOTE: Periodically check the screws fastening the fuel bowl to fuel bowl cover and see that cover screws are kept tight to avoid any air leak past the fuel bowl cover gasket.

HOT SPOT MANIFOLD - DISTILLATE OPERATION

A full range of mixture temperatures is available by changing the setting of the heat control valve on the hot spot manifold. The engine should never be operated on kerosene or distillate with the valve in all "Cold" position. At normal air temperatures, the valve should be in 1/2 to 3/4 "Hot" when operating on kerosene or distillate. At lower temperatures, 50° to 35°, the valve should be 3/4 to full "Hot". At lower temperatures, the valve should be in full "Hot" position and the winterfront closed. For satisfactory cold weather operation on distillate, the winterfront must be closed, the amount depending on load and temperature.

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DISTILLATE OPERATION

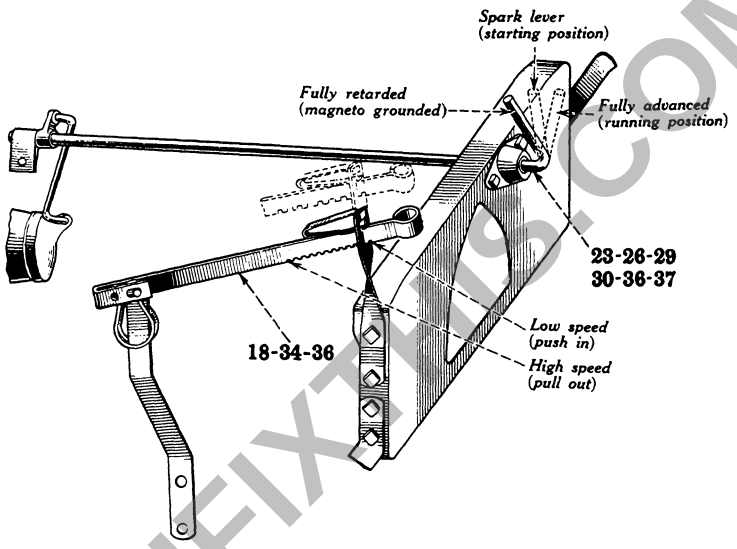


Illustration No. 4 - Engine Controls.

Paragraphs are numbered to correspond with numbers on the illustrations.

TO START ENGINE - Continued

Para.	Illust.	
32	....	Should engine still on distillate it can be started by cranking if it is hot enough.
33	....	If engine has been stopped on distillate and is cold, drain carburetor fuel bowl. Then proceed in accordance with starting engine instructions. If difficulty is experienced, *see Corrective Measures, on page 33.*

ENGINE SPEED CONTROL

34	4	Since the governor maintains constant engine speed under variable loads, the engine speed control hand lever should be used only to reduce the speed of the engine below normal operating speed; with engine speed control hand lever retarded, very little load can be handled by the engine.

AFTER ENGINE IS WARMED UP

35	3	After engine is thoroughly warmed up, which should be in from 5 to 8 minutes, change over to operate on distillate by closing gasoline shut-off valve tight, and quickly open distillate valve. *Never have both valves open, or partly open, at the same time, otherwise distillate will mix with gasoline, making it unsatisfactory for starting.*
36	4	Advance spark and engine speed control levers for load to be handled.

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CORRECTIVE MEASURES

Study the problem before making any changes.

If any adjustments are to be disturbed, the original setting should be noted, so this same setting may be restored in case the part changed does not remedy the trouble.

Failure to Start:
- No gasoline in carburetor.
- Fuel valve closed.
- Carburetor choked too much.
- Magneto grounded.
- Engine speed control lever not advanced.
- Gears engaged.
- Distillate instead of gasoline in carburetor. (for starting)

Irregular Speed:
- Governor sticking, out of adjustment, or worn.
- Throttle shaft bent or out of alignment.

Lack of Power:
- Governor out of adjustment.
- Exhaust pipe clogged.
- Engine speed control lever not advanced.
- Clutch slipping.
- Air cleaner pipe clogged.

Overheating:
- Spark retarded.
- Insufficient amount of water.
- Fan belt slipping.
- Excess load.
- Inside of radiator and cylinder block lined up or clogged with dirt.
- Outside of radiator or radiator screen covered with dirt or chaff.
- Excess carbon in the cylinders.
- Carburetor improperly adjusted.

Missing and Backfiring:
- Water in the fuel.
- Air leaks around the intake manifold.
- Engine not warmed up.
- Red-hot carbon deposits in cylinder.

Lack of Oil Pressure:
- Insufficient amount of oil.
- Oil diluted or not as specified.
- Oil filter clogged.
- Dirt under the oil pressure regulating valve.
- Broken oil pressure indicator.
- Oil pump strainer clogged or pump not working.

Knocking:
- Spark too far advanced.
- Excess carbon in the cylinders.
- Sticky valve or improperly adjusted valves.
- Loose piston pin, connecting rod, camshaft, or crankshaft bearings.
- Broken piston rings or loose pistons.

Lack of Compression:
- Sticky, dirty, pitted or improperly adjusted valves.
- Stuck, worn or broken piston rings.
- Worn pistons.
- Leaky cylinder head gasket.

Excess Fuel Consumption:
- Choke out.
- Spark retarded too far.
- Air pipe screen or air cleaner clogged.
- Incorrect amount or improper grade of oil.
- Leaky carburetor fuel valve.
- Carburetor adjustment too rich.

Lack of Fuel:
- Fuel low in the tank.
- Vent hole in fuel tank filler cap plugged.
- Fuel valve closed or only partially opened.
- Clogged fuel strainer screen, fuel line or carburetor strainer.
- Fuel pump defective.

Defective Ignition:
- Wrong kind, old, cracked, dirty or poorly set spark plugs.
- Broken, loose or improperly connected wiring.
- Dirty distributor block disk.
- Stuck or broken brushes.
- Dirty, pitted or improperly set breaker points.
- Breaker arm not free on its bearing or the breaker arm spring weak or broken.
- Magneto not timed correctly with the engine.
- Impulse coupling dirty, dry or lubricated with heavy oil.

Explosions in exhaust pipe often occur just after starting, due to first charges not firing in cylinder and passing through into exhaust pipe, where burning gases from first few explosions will ignite them.

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