"LUC" Engine Attachment No. 12-A Combine (Serial No. 12-33268 and up)

JOHN DEERE

OPERATORS MANUAL

"LUC" Engine Attachment No. 12-A Combine
(Serial No. 12-33268 and up)

OMH11651 F1 English

OMH11651 F1

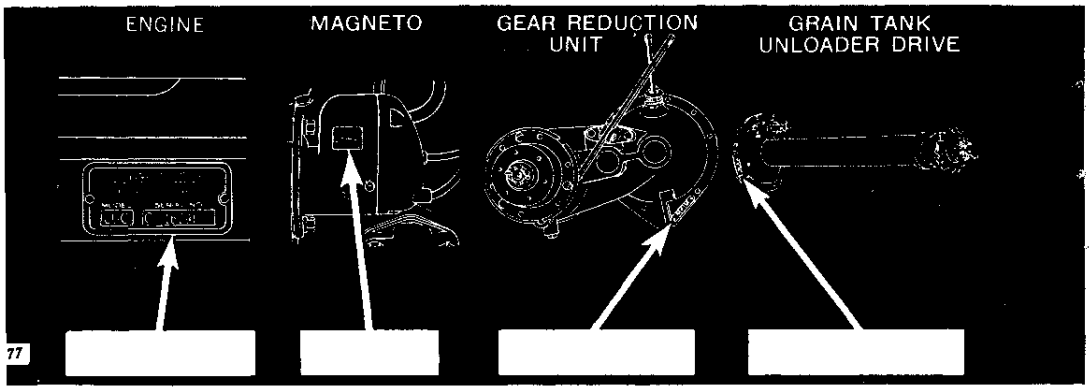
LITHO IN U.S.A.
ENGLISH

TO THE PURCHASER:

Your John Deere Combine is equipped with a high-quality Power Unit. It comes to you from one of the most up-to-date factories and is manufactured from the highest quality materials, by a staff of well-trained engineers and other craftsmen. Every part of this unit has been carefully inspected before assembly and each assembly has been carefully matched with composite assemblies in order to assure long and efficient life. It has been designed to give you sufficient power for regular usage, plus additional power for those adverse conditions which are usually present in everyday farming. It is usable not only as an integral part of your No. 12-A Combine but, with additional simple parts available from your John Deere dealer, it can be used to drive other labor-saving equipment you may be operating by less efficient methods.

The continued satisfaction and service you receive from the Power Unit depends almost entirely upon the care used in its operation, as well as the protective maintenance it is given. This manual has been prepared carefully through consultation with engineers, as well as operators of this equipment, in order to give you all possible information to assure the efficiency you desire. We suggest you make it your guide. Study it carefully and follow the suggestions it offers. At any time additional information is desired, consult your John Deere dealer who has factory-trained servicemen available to assist you. All dealers are kept informed on additional service suggestions and carry a good supply of genuine John Deere replacement parts for your needs.

When in need of parts, be sure to give your John Deere dealer the serial number of your engine and magneto. If replacement parts are necessary for the Gear Reduction Unit or the Grain Tank Unloader Drive, the serial numbers should also be made available so that the correct parts are received. Get these numbers NOW and insert them in the spaces provided below.



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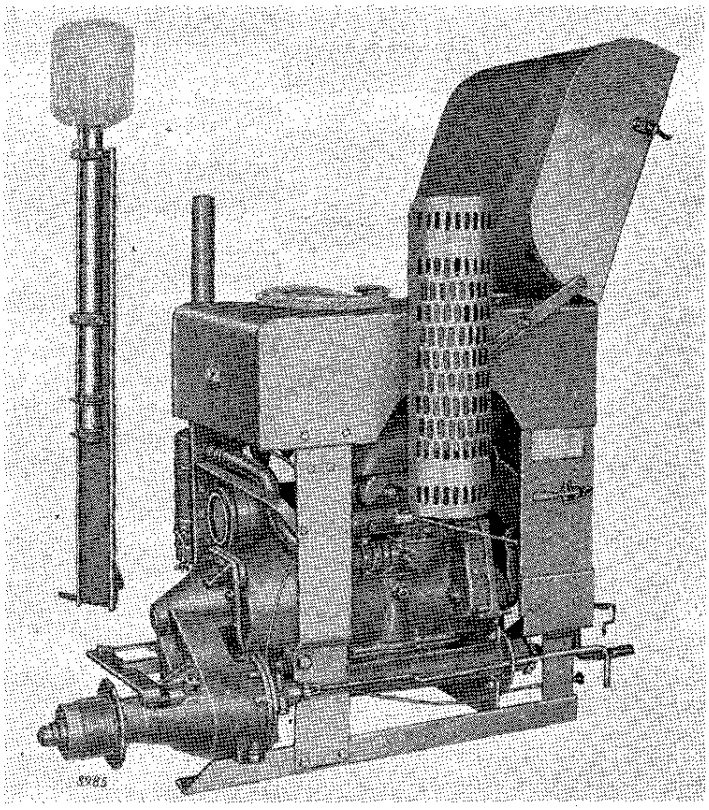


SPECIFICATIONS

John Deere Model

CAPACITY: 12.5 H.P. continuous load; 13.9 H.P. intermittent load; 16.5 H.P. maximum.

TORQUE: At normal governed speed, at full load—562-inch-pounds.

DRIVE SPEED: Gear reduction shaft—795 R.P.M. at rated speed.

MOTOR: Two-cylinder, vertical, cast in block; L-head; bore—3-1/2″; stroke—4″. 1850 R.P.M. at rated speed. Piston displacement—77.3 cubic inches.

CRANKSHAFT: Heat-treated alloy. Bearings—2 main, each 2″ dia. Removable, precision type, steel back, babbitt-lined.

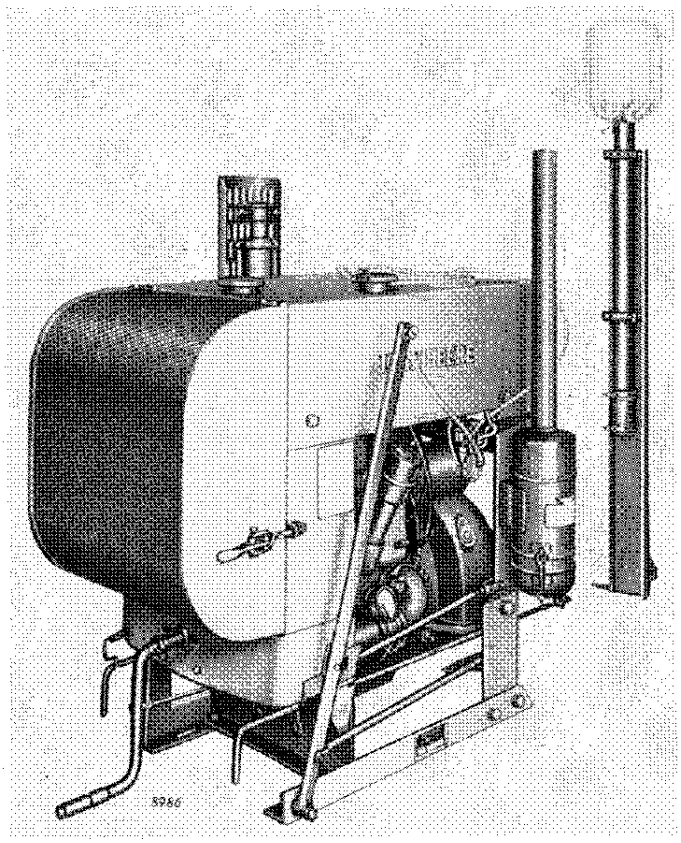
CONNECTING RODS: Special—quality drop-forged steel, heat-treated. Bearings—spun babbitt; 1-3/4″ dia.; 1-1/8″ long.

GOVERNOR: Enclosed flyball type with ball thrust bearing.

CARBURETOR: Updraft type with fixed power jet and adjustable idle jet.

IGNITION: High-tension magneto with enclosed automatic impulse.

AIR CLEANER: Heavy-duty type, oil bath, with prescreener.

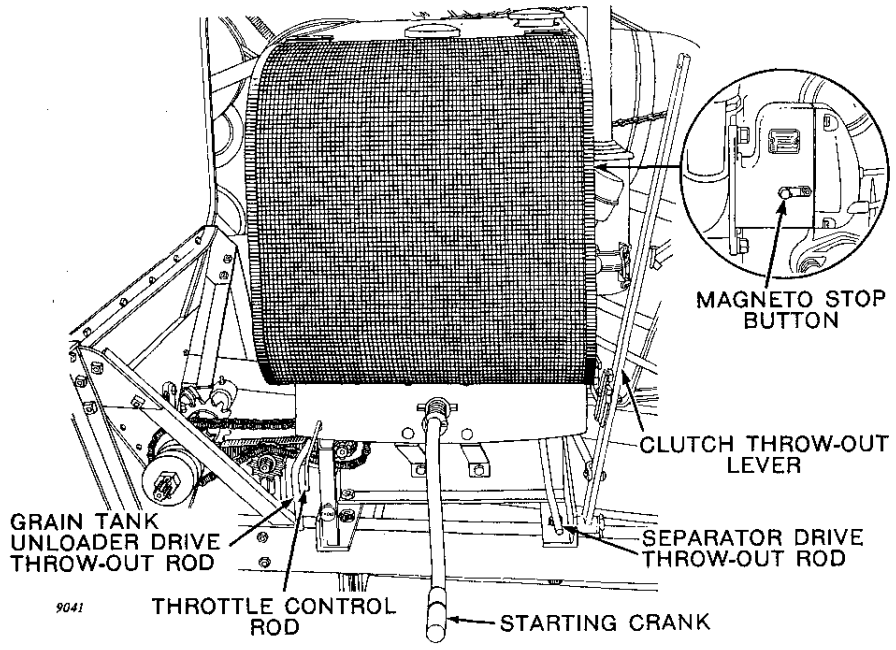


AND DATA . . . .

LUC" Power Unit

LUBRICATION: Force-feed pressure system. Drilled crankshaft.
OIL CAPACITY: 3 quarts in crankcase.
COOLING SYSTEM: Thermo-siphon.
RADIATOR CAPACITY: 2-1/2 gals.
FUEL TANK CAPACITY: 8 gals.
FUEL: Regular gasoline.
FUEL FEED: Gravity.
CLUTCH: 8-1/2" single dry plate.
OVER-ALL DIMENSIONS: Length—47"; width—28"; height—41".
REGULAR EQUIPMENT: Engine house, governor, magneto, carburetor, fan, flywheel housing, clutch, crankcase breather and cleaner, radiator, 8-gal. fuel tank, air cleaner, oil pressure gauge, gasoline filter, starting crank, muffler, gear reduction unit, and necessary attaching and operating mechanism for use on combine.
APPROXIMATE WEIGHT: 438 lbs. (Shipping weight 480 lbs., engine only.)

CONTROLS



Your John Deere Power Unit Attachment is designed to be placed on your No. 12-A Combine so that you have unobstructed access to the necessary adjusting parts and controls. Each control is placed in a convenient position. In order that you may become familiar with these controls, we are describing each control, its location, and operating effect upon unit. Study the instructions thoroughly so that you may have control of unit at all times.

ENGINE STARTING AND OPERATING CONTROLS

Choke Control. Located on engine house front panel (to left of starting crank). This control is operated in the same manner as the manual choke on your automobile or tractor. When starting engine, pull choke control button outward to full choke position. When engine starts, or after it has been cranked through two or three revolutions, return choke control to its normal operating position. The gasoline supply to engine is usually sufficient to start engine by this time. Flooding carburetor is virtually impossible while engine is running due to construction of choke fly assembly.

Throttle Control. Located above choke control. Governs engine operating speed. When lever is extended, throttle is closed (slow idle) and in opposite position, throttle is open (fast idle).

Throttle control connects directly to governor. Movement of lever permits governor to operate carburetor lever through governor-to-carburetor linkage. *This linkage is correctly set at factory and no field adjustment should be required.*

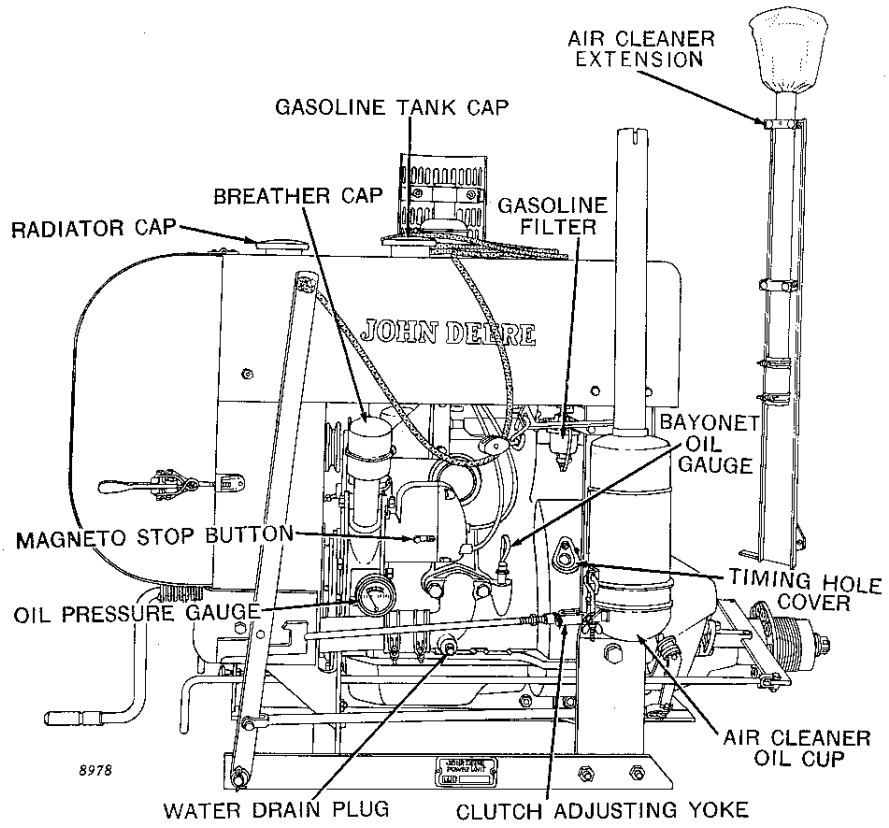
Magneto Stop Button. Located on outside of magneto. By depressing button, ignition system is shut off by grounding magneto; therefore, it is necessary to hold stop button in depressed position until engine comes to a complete stop. The ignition system is on when stop button is released, and power unit may be started merely by cranking engine.

If engine is not to be used overnight or for longer periods of time, it should be stopped by shutting off fuel supply at valve on fuel filter. After engine stops, drain carburetor by removing drain plug located on underside of carburetor (see "Checking Points for Increasing Efficiency," Page 10.)

Clutch Throw-Out Lever. Located on magneto side of unit. To engage clutch, push lever to back of unit (towards separator) until latch is released; allow lever to come forward slowly, engaging clutch. To disengage clutch, push lever all the way back, then allow it to come forward until latch engages. Rope attachment is furnished to permit operation of clutch throw-out lever without leaving seat of tractor.

Separator Drive Throw-Out Rod. Located directly below engine house front panel (to right of starting crank when facing power unit). Pushing lever toward power unit engages separator drive, and pulling lever disengages drive.

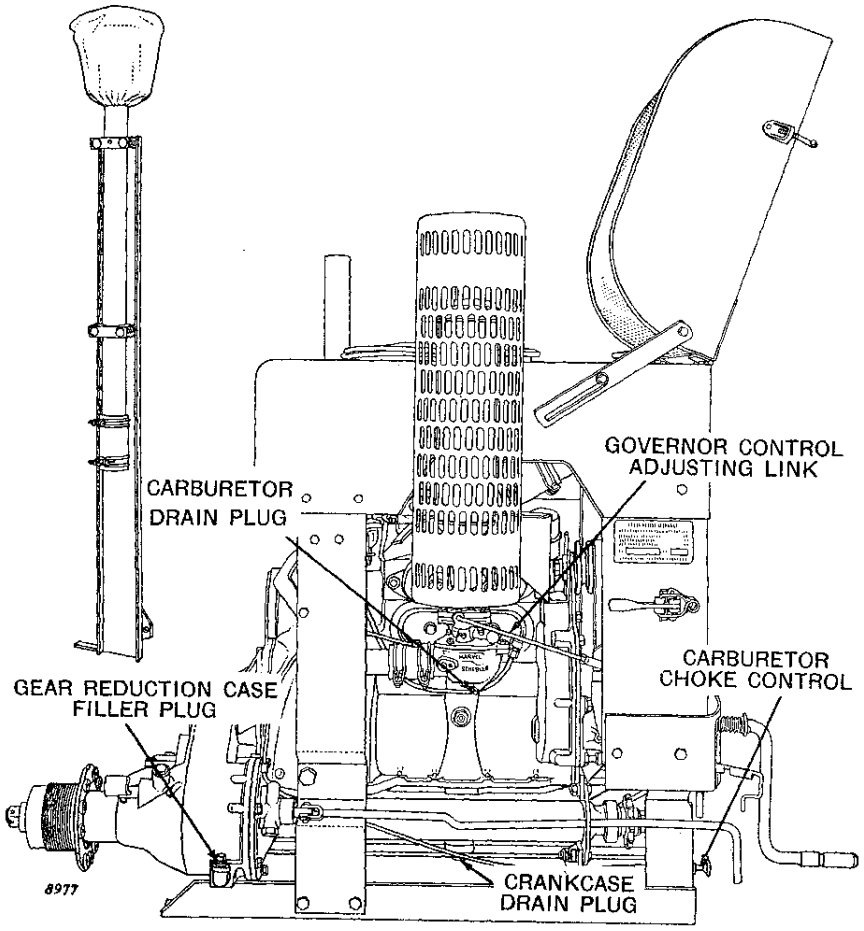
Grain Tank Unloader Drive Throw-Out Rod. Located directly below engine house front panel (to left of starting crank when facing power unit). This control rod is operated same as separator drive throw-out rod (extended to disengage, and reverse to engage). *Grain tank unloader drive is not used on combines equipped with sacking attachment.*



CHECKING POINTS FOR

Before starting and operating your John Deere power unit attachment, familiarize yourself with location and function of the following parts. For best operation, they will need frequent checking. Illustrations on this and following pages will show you their location.

Bayonet Oil Gauge. Located below and to right of magneto, shows quantity of oil in crankcase. *It is extremely important that bayonet gauge always be checked before starting engine, in order to insure proper lubrication.* If gauge shows oil at "ADD 1 QT." mark or below, oil should be added before starting unit. (Capacity of crankcase is 3 qts.) For proper grade oil, see "Lubrication Chart," Page 17.



INCREASING EFFICIENCY

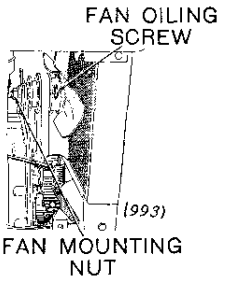
Breather Cap. This cover for oil filler and crankcase breather tube is also a crankcase air filter and ventilator. The cap permits air to pass through finely-packed copper filter wire, built into the upper end of cap. This filter aids in preventing dust from entering the crankcase. After every two weeks' operation or at each oil change, cap should be removed and washed in solvent. If operated in unusually dusty conditions, it must be cleaned more often. The filter becomes covered by a film of oil from crankcase which will collect dust. Therefore, these cleaning instructions should be followed in order to insure proper crankcase ventilation.

Oil Pressure Gauge. Located below breather cap and tube. It is not intended to show quantity or quality of oil in crankcase but, as the name implies, it shows pressure of the oil passing through oiling system, and if oiling system is operating satisfactorily.

If pressure on gauge shows below "NORMAL" while engine is operating at fast idle, it is a danger signal indicating possible failure of oiling system. Engine should be shut off immediately. (See "Engine Difficulties" for correction.)

Fan Oiling Screw Plug. Located on fan hub. Fan should be oiled at same time crankcase oil is changed. To oil fan bearing, turn fan hub until filler plug is facing you (as shown in illustration below). Remove filler plug with screw driver and, without moving position of fan hub, fill reservoir with oil until oil begins to flow from filler hole. *NOTE: If serial number of Power Unit is C42327 or above, the fan retains a lesser amount of oil. Oil should be added, only to a point where it will begin to flow from filler hole when it is turned to its lowest downward position.* (For correct viscosity of oil, see "Lubrication Chart," Page 17.)

Fan Belt. If at time of filling reservoir in fan hub, you notice fan belt has become loose (one side of belt should have about 1/2″ slack), belt should be tightened. To tighten belt, loosen mounting nut located on end of fan hub toward engine. Move fan upward in slot until there is about 3/4″ slack in belt, then when nut is tightened, it will pull fan to correct position and remove additional slack, leaving approximately 1/2″ slack.



Crankcase Drain Plug. Located directly beneath engine, in crankcase oil pan. This plug should be checked between oil changes to insure that plug is tight and oil supply has not drained from the crankcase.

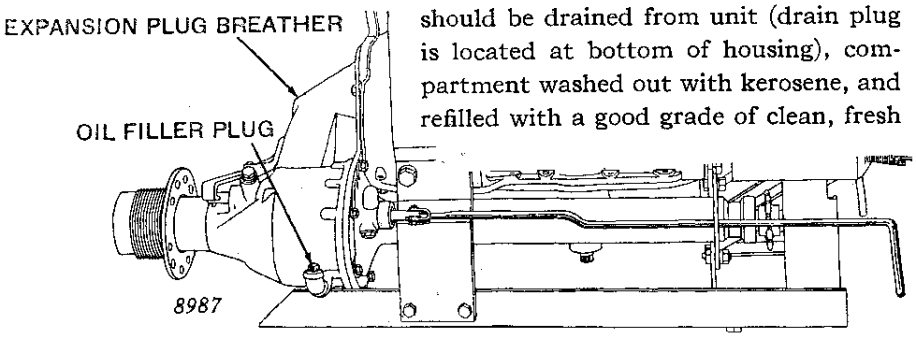
Radiator Filler Cap. This cap must be kept tight at all times. If it should become lost, cover filler immediately to prevent chaff and dirt from entering radiator. Obtain new cap as soon as possible.

SAFETY FIRST

MACHINERY SHOULD BE OPERATED ONLY BY THOSE WHO ARE RESPONSIBLE AND DELEGATED TO DO SO

Governor Control Adjusting Link. This link is adjusted approximately 8-5/8″ long, and together with governor stop screw, located at lower right-hand corner of governor case, controls maximum engine speed for best performance. Proper adjustments are made at factory and no attention should be needed in field.

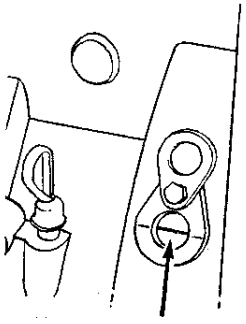
Gear Reduction Case Filler Plug. Oil in gear reduction case should be inspected at end of each 30 hours' operation to see that it is filled to level of filler plug. Once each season, oil should be drained from unit (drain plug is located at bottom of housing), compartment washed out with kerosene, and refilled with a good grade of clean, fresh



oil. Keep small hole in expansion plug, at rear of gear reduction case, always open to permit proper ventilation of gear housing. (For correct viscosity of oil, see "Lubrication Chart," Page 17.)

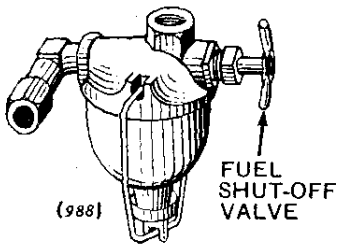
Radiator Screen. This screen is used to prevent clogging of radiator fins, thus preventing engine from overheating. This screen should be cleaned of chaff and dirt before starting each day's operation. When starting engine, it is necessary that screen be swung back over engine house, giving clearance for starting crank. The latch on side of screen frame is attached for this purpose. To return screen to its normal position, lift end of latch to unhook it from its locked open position.

Timing Hole Cover. Located on magneto side of unit within flywheel housing. Always keep covered except when using flywheel timing marks. Keeping this cover tight over timing hole will prevent any unnecessary damage or delays due to foreign matter entering flywheel housing. There are two marks on flywheel—"D.C." (Dead Center) and "*Spark*" mark. When using either of these marks they should be lined up exactly with marks on edge of timing hole as shown in illustration at right. (See "Servicing Instructions," Page 22 for the proper method of timing engine.)



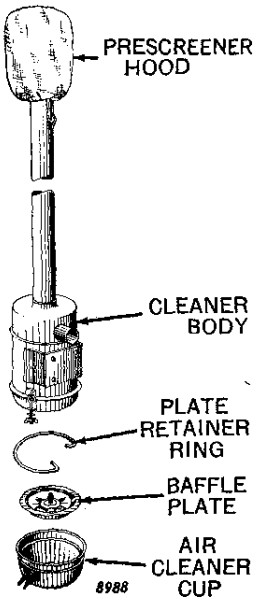
TIMING HOLE AND COVER
(995)

Gasoline Filter. Located on magneto side of power unit on bottom of gasoline tank. This filter is a combination of screen and glass sediment bulb. The sediment bulb allows foreign matter to settle, and the screen prevents balance of foreign matter from entering carburetor. Once each week sediment bulb should be removed, drained, and wiped with a clean cloth. For long and efficient operation of your power unit, this cleaning operation must be performed.

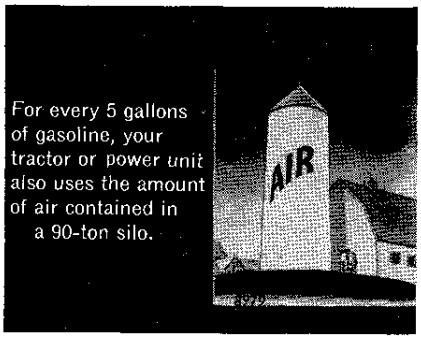


Also located on the gasoline filter is a fuel shut-off valve for stopping flow of gasoline from tank to carburetor. If engine is to be stopped overnight or for a longer length of time, this shut-off valve should be closed and fuel supply drained from carburetor. Allowing gasoline to remain in carburetor for any great length of time may cause a gum mixture to form in carburetor jets, making a thorough cleaning of these jets necessary before operating the power unit. If condensation has caused water to collect in gasoline tank, it can be drawn off by removing glass sediment bulb, opening fuel shut-off valve, and draining water-gasoline mixture from tank.

Carburetor Drain Plug. Located on bottom of carburetor. It is employed to drain gasoline from carburetor and should be used when engine is to stand idle for any great length of time. This will prevent gum deposits, caused by evaporation of gasoline mixture, from forming in carburetor.



Air Cleaner. CLEAN AIR LESS WEAR. Long, efficient and economical life of your power unit is governed almost entirely by cleanliness of air taken in through air cleaner. If air cleaner is neglected even for a few days, life of power unit is greatly shortened. The air cleaner removes dust particles which would otherwise go directly into cylinders, becoming an abrasive to wear friction surfaces. For every five gallons of gasoline used in power unit, an amount of air is also taken into engine which would fill a 90-ton silo. In one season, the average farm tractor and power unit will use approximately 1050 gallons of gasoline and an amount of air which would fill 210 90-ton silos or, if converted into gallons, would equal 10,500,000 gallons. Under just ordinary conditions, this air would contain about 50 lbs. of dust; in very dusty conditions, as much as twice this amount. The air cleaner on this power unit was designed to prevent



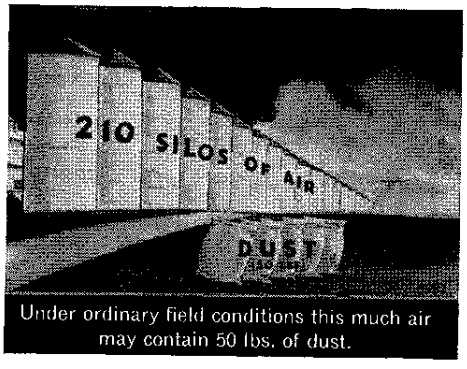
this dust from entering engine. A few hours operating without an air cleaner or with a dirty air cleaner can wear out a new engine in a short time. This air cleaner is designed with capacity to fulfill needs of this engine, and proper servicing will more than pay you for the time spent in this operation by:

1—Longer engine life.
2—Lower maintenance costs.
3—Maximum power.
4—Maximum economy.

Servicing Air Cleaner:

Air cleaner should be serviced every day or more often if operated in extremely dusty conditions. To service, loosen wing nuts at bottom of air cleaner body, slip eyebolts from clips on sides of oil cup and remove cup. Pour out old, dirty oil. Remove baffle plate retaining ring and baffle plate. Wash all parts including oil cup in solvent. Replace baffle plate and ring in cup and refill with oil to peak of baffle plate. Fill with oil of same viscosity as used in crankcase (never refill with used oil). Replace cup to air cleaner body, making certain that it is tightly attached and gasket is in good shape and in place.

In order to be assured that clean air is always being taken into cylinders in the proper quantities, air cleaner intake pipe (running through center of cleaner) should be swabbed out at regular monthly intervals. This can be done by removing oil cup and air cleaner cap and swabbing this long tube with a clean cloth wrapped around the end of a stick. At the same time, remove prescreener hood from air cleaner cap and shake the dust and chaff from it. If this hood should become lost or very dirty, it should be replaced immediately. If a new hood is not readily available, a 10-pound salt sack can be substituted until a new hood can be obtained.



Under ordinary field conditions this much air may contain 50 lbs. of dust.

At end of each operating season, it is recommended that entire air cleaner be removed and all parts washed in gasoline. This will remove any dust which may be clinging to oily interior surfaces of air cleaner. When reattaching air cleaner, make certain all connections at rubber tubes and pipes are air-tight.

By following the above instructions, your power unit will give long and efficient service as **"Clean Air Means Less Wear."**

Suggest:

If the above button click is invalid.

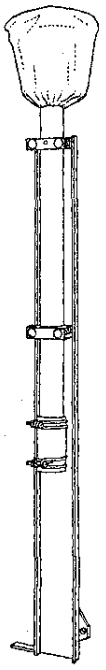
Please download this document

first, and then click the above link

to download the complete manual.

Thank you so much for reading

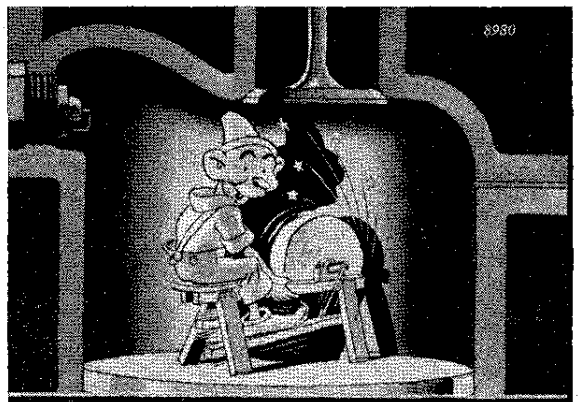
Air Cleaner Extension. To increase the efficiency and long life of your "LUC" Power Unit when used on a 12-A Combine, an extension has been shipped with this unit. This extension moves air intake of air cleaner from an area which is extremely dusty, in some field conditions, to a point higher on the combine where the air is much cleaner.



A great amount of study has been made by our Engineering Department to determine the correct length, location and construction of this extension to prevent output reduction of engine. Length of extension must not be increased, as it has been manufactured to an exact length. Any increase to the length of this extension might cause a loss in engine horsepower.

When extension is attached to intake pipe of air cleaner with rubber hose coupling, make certain there is approximately a one-half-inch space between end of extension tube and end of intake pipe of air cleaner. When extension has been installed, air intake screen and weather cap must be attached to extension. Make certain all air cleaner hose connection clamps are tight. This will prevent dirty air from entering at these connections rather than through the prescreener. Always be sure prescreener hood is installed.

Dust directly entering the cylinder bore, rather than through the air cleaner, or air entering the cylinder bore through a dirty air cleaner, mixes with lubrication oil, becoming a lapping compound which, in a short time, will cause so much wear to cylinder bores, pistons, and piston rings that there will be a great amount of "blow-by," reducing engine power until engine becomes useless.



Dust drawn into the cylinder bore will cause excessive wear to cylinder bore, pistons, and piston rings.