

JOHN DEERE 350B CRAWLER



JOHN DEERE

OPERATORS MANUAL JOHN DEERE 350B CRAWLER

OMT46859 E4 English

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ENGLISH





To the Operator

This new crawler was carefully designed and manufactured to give years of dependable service. To keep it running efficiently, read the instructions in this operator's manual. Each section is clearly identified so you can easily find the information you need - whether it is operation, lubrication or service.

Read the Contents to learn where each section is located. Use the alphabetical index for fast reference.

Note that throughout this manual, directions left, right, front and rear are determined by facing in the direction of crawler forward travel.

Record your crawler serial numbers in the spaces provided on page 76. Your dealer needs this information to give you prompt, efficient service when you order parts. If your crawler

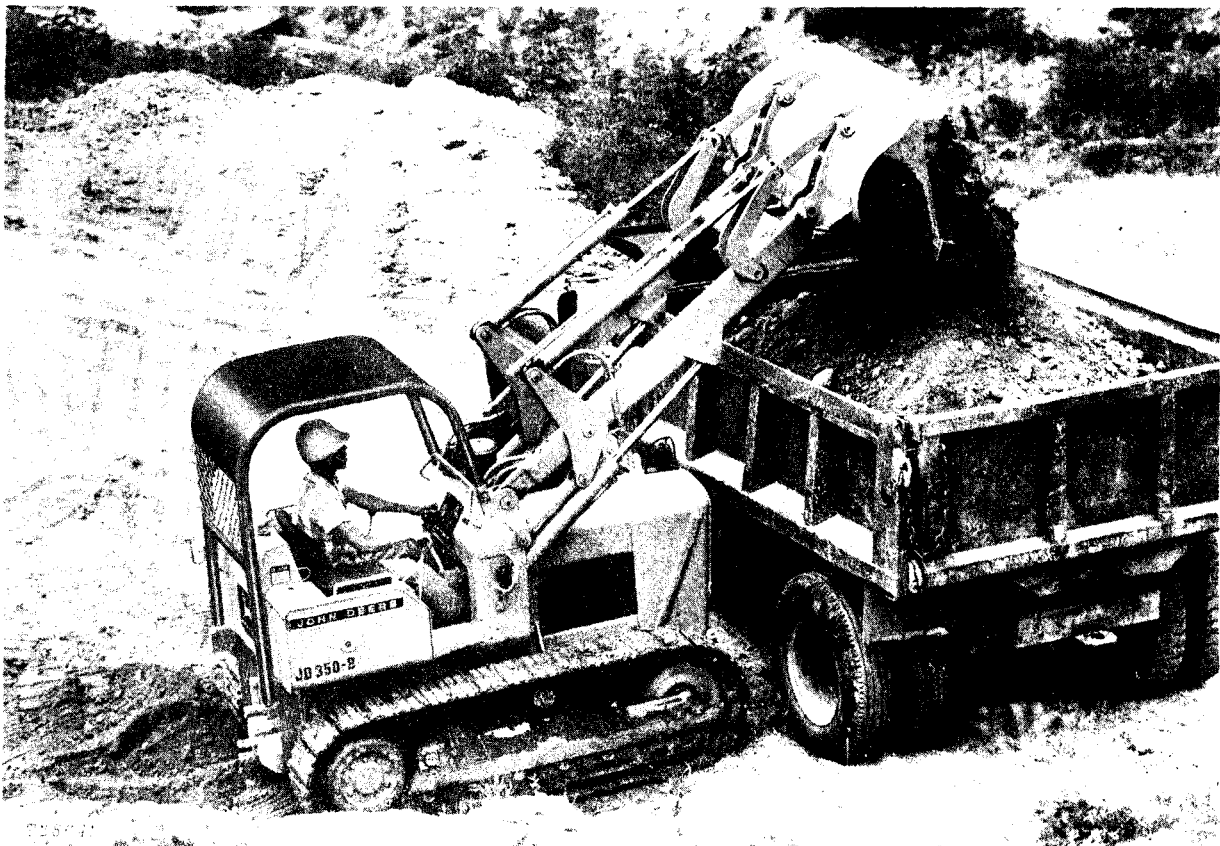
requires replacement parts, go to your John Deere dealer where you can obtain Genuine John Deere parts - accept no substitutes.

The warranty on this crawler appears on your copy of the purchase order which you received from your dealer when you purchased the crawler.



This safety alert symbol indicates important safety messages in this manual. When you see this symbol, be alert to the possibility of personal injury and carefully read the message that follows.

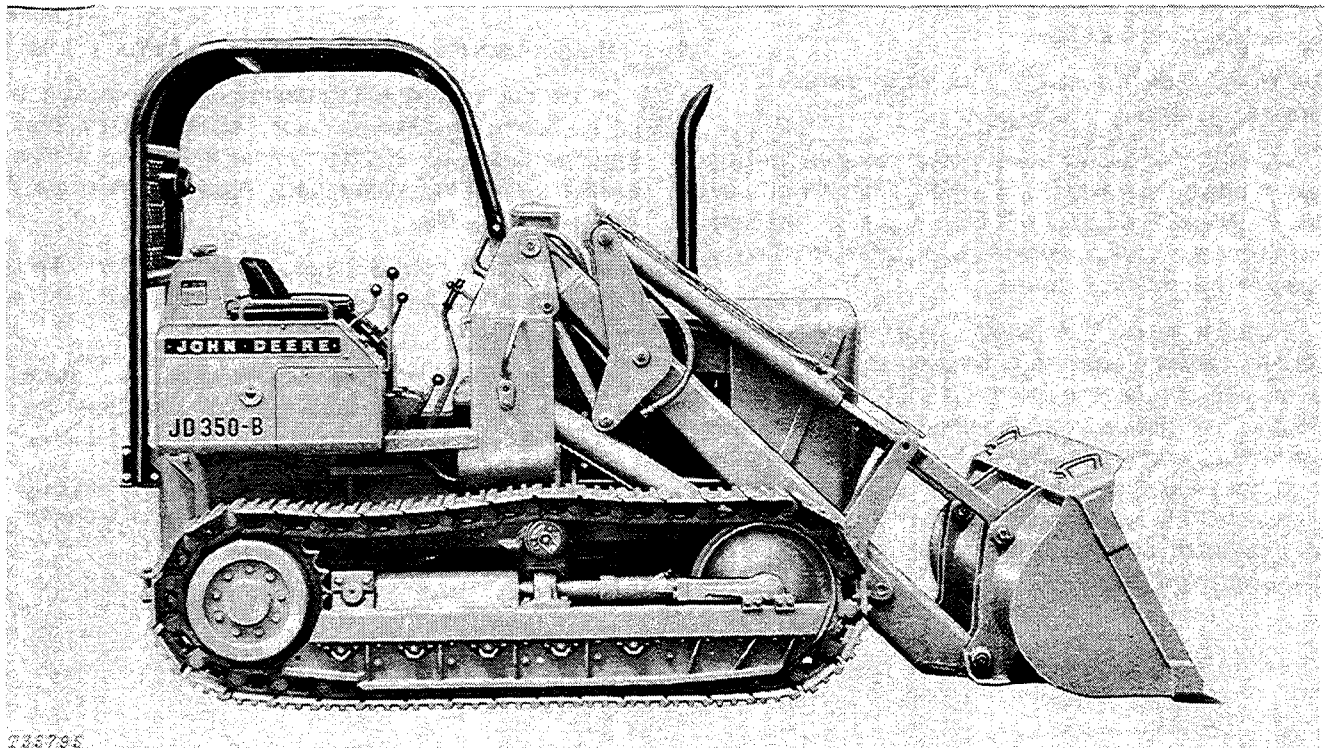
Your operator's manual contains SI Metric equivalents which follow immediately after the U.S. customary units of measure.





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Safety Rules

⚠ The safety of the operator is a prime consideration in the design of this machine. Guards, shields, and other safety features are built in wherever possible. However, reports on accidents show that the careless use of machinery causes a high percentage of accidents. You can avoid many accidents by observing the safety rules on these pages. Study these rules carefully and enforce them on the job.

Never leave the machine unattended with the engine running.

Always lower equipment to the ground before leaving the operator's seat. When using the multipurpose bucket or log loader, also close the clam or grapple before dismounting.

Never drive too close to the edge of a ditch or excavation.

Drive at speeds slow enough to insure your safety.

Always keep crawler in gear when going down steep grades.

Do not wear loose clothing near moving parts.

Never operate engine in a closed garage or shed.

Shut off engine before refueling. Never smoke while filling the fuel tank.

Never allow riders on a moving crawler or its drawn equipment.

When driving out of a ditch or excavation, or up a steep hillside, or when crawler is hitched to a heavy load, **ENGAGE CLUTCH SLOWLY**, and be prepared to disengage clutch promptly should the front of the crawler rise off the ground.

Escaping fluid under pressure can have sufficient force to penetrate the skin, causing serious personal injury. Before disconnecting lines, be sure to relieve all pressure. Before applying pressure to the system, be sure all connections are tight and that lines, pipes and hoses are not damaged. Fluid escaping from a very small hole can be almost invisible. Use a piece of cardboard or wood, rather than hands, to search for suspected leaks.

If injured by escaping fluid, see a doctor at once. Serious infection or reaction can develop if proper medical treatment is not administered immediately.

Carry the load as low as possible at all times, especially when working on a hillside or backing up a steep incline.

Keep working areas as level as possible.

Never lower a loaded bucket or fork with the control lever in float position.

Be sure bystanders are clear of the unit before lowering the loader, ripper, or backhoe.

On units equipped with a suction radiator fan, be sure to periodically check all engine exhaust parts for leaks, as exhaust gases can be dangerous to the operator.

Do not use the crawler loader as a battering ram.

When driving connecting pins or wedges in or out, care should be taken to guard against injury from particles that may chip from either the pin or wedge or object used to striking them. Always protect eyes with safety glasses.

Add coolant only with engine stopped or idling. Turn radiator cap slowly to relieve pressure before removing.

Provide a first-aid kit for use in case of accident, and use the proper antiseptics on cuts and scratches without delay, to prevent the possibility of infection.

Always disconnect battery ground strap before adjusting engine or electrical system. This will prevent fire hazards or accidental starting.

Travel slowly when moving over rough terrain.

Never allow anyone to work under a raised bucket, fork, grapple or ripper.

When towing equipment or driving on a public road at night or during other periods of poor visibility, use warning lamps to prevent a collision. Your John Deere dealer can supply you with equipment-mounted warning lamps which clearly mark the "passing side" of both the crawler and equipment.

It is a good practice to carry a fire extinguisher on the crawler at all times.

Lock instrument panel, reservoir cover, battery cover and fuel tank cap when crawler is left unattended.

It is a good practice to mount a slow moving vehicle emblem on the back of the crawler. See your John Deere dealer for this emblem.

Never attempt to start or operate the crawler except from the operator's station.

Never operate the crawler loader without the minimum recommended counterweights.

When loading logs with the log loader, make sure the logs are balanced.

Never transport the ripper without raising it to full height.

Never dismount from the crawler when it is in motion. Wait until the crawler stops before dismounting.

Be sure the stabilizers are properly set before operating backhoe.

Do not change backhoe relief valve setting. They are factory set for best machine performance and safety.

Be sure swing lock pin and boom lock pin are in transport position before transporting backhoe.

Always operate the backhoe control levers from operator's station.

Watch for overhead wires. Never touch wires with any part of the backhoe.

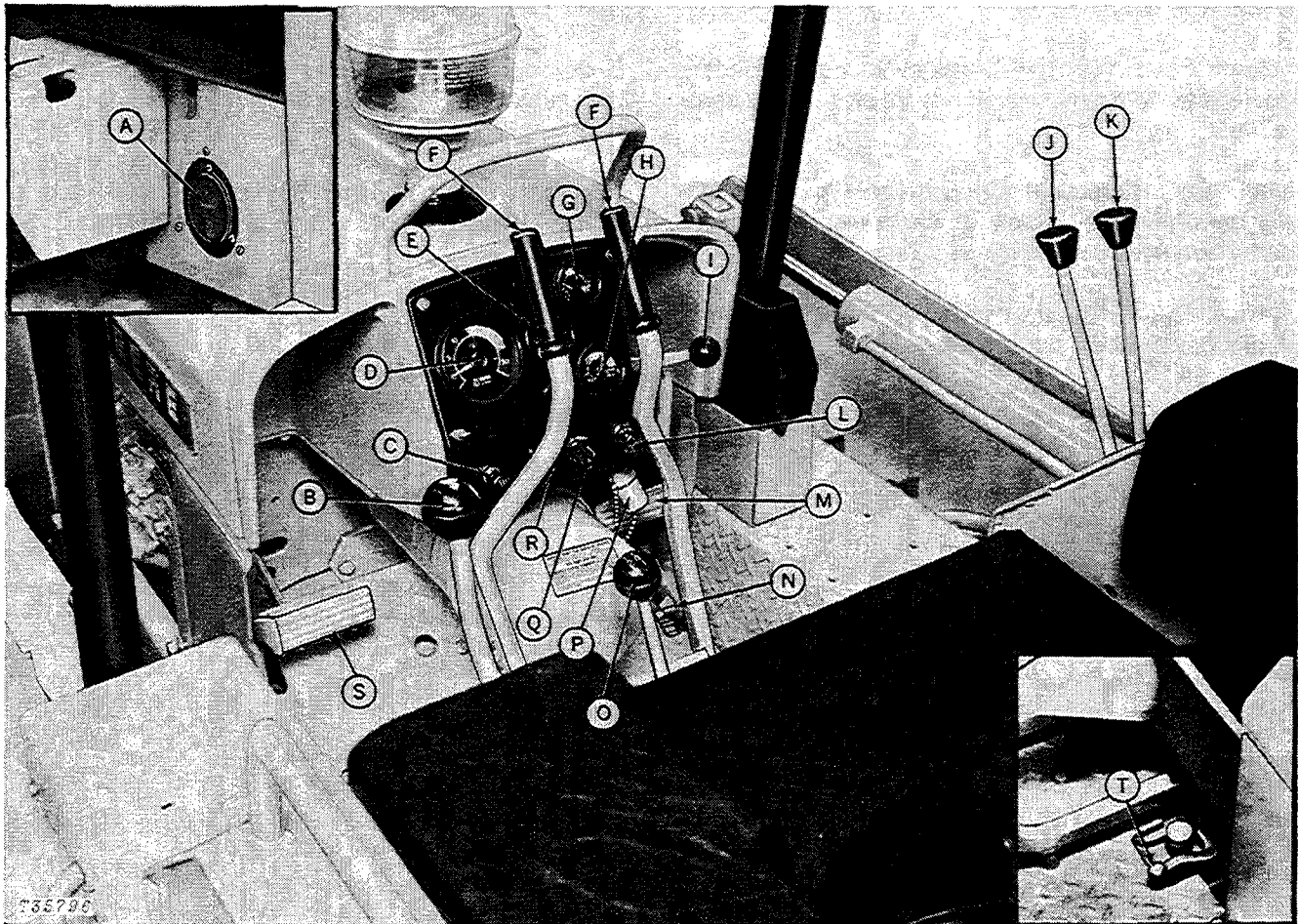
Don't dig under the stabilizers or machine. Soft ground or sandy soil might cause cave-in.

When operating on a slope, avoid swinging the bucket in the downhill direction, if possible. This will reduce the stability of the machine. Always dump on the uphill side.



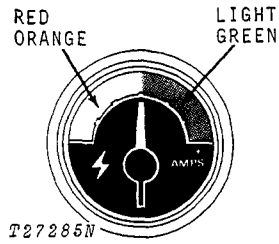
Controls and Instruments

For safe and efficient operation, first become familiar with the location and purpose of all controls and instruments. Study this page carefully, regardless of your previous experience.



- | | | |
|------------------------------------|--------------------------------------|--|
| A—Hour Meter | H—Engine Oil Pressure Gauge | O—Shift Lever |
| B—Direction Reverser Lever | I—Hand Throttle | P—Diesel Engine Starting Fluid Adapter |
| C—Light Switch | J—Bulldozer Control Lever | Q—Key Switch |
| D—Tachometer | K—Attachment Hydraulic Control Lever | R—Starter Button |
| E—Ammeter | L—Cigaret Lighter | S—Engine Clutch Pedal |
| F—Steering Levers | M—Brake Pedal | T—PTO or Winch Drive Control Lever |
| G—Engine Coolant Temperature Gauge | N—Brake Lock | |

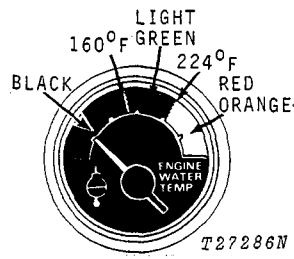
GAUGES



Ammeter

If the indicator hand of the engine coolant temperature gauge goes into the red-orange zone, check the cooling system.

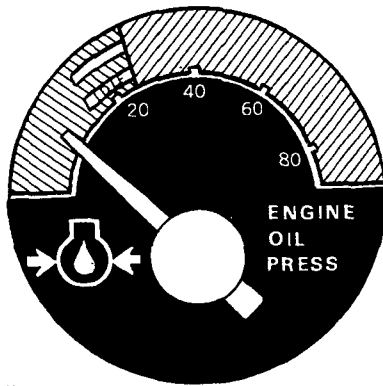
If the ammeter needle is in the red-orange zone while the engine is running, the alternator is discharging. Shut off the engine immediately and trouble shoot the electrical system.



Engine Coolant Temperature Gauge

The engine oil pressure gauge indicates the pressure of the engine lubricating oil. Oil pressure will vary slightly with wear, but with recommended oil, the gauge indicator hand should be in the operating range (indicated by green zone on the dial). If oil pressure drops into the orange zone on the dial, stop crawler immediately and check the crankcase oil level. If oil level is not low, check for restrictions in oil lines or incorrect viscosity oil.

After starting the engine do not accelerate or apply a load until the engine oil pressure gauge indicates pressure. In cold weather, or after the engine has been idle for several weeks, idle the engine for several minutes at speeds below 1000 rpm before accelerating or operating engine under load.



Engine Oil Pressure Gauge



Operation

Complete instructions for operating your crawler safely and efficiently are given on the following pages. By following these directions carefully, you can be sure that you are taking full advantage of the many features built into your crawler.

OPERATING THE ENGINE

PRE-STARTING INSPECTION

Perform the following checks and services before starting the engine for the first time each day:

1. Check the engine crankcase oil level.
2. Check the fuel filter sediment bowl.
3. Inspect air cleaner restriction indicator.
4. Check radiator coolant level.

ENGINE WARM-UP

IMPORTANT: If the coolant temperature rises above the normal range, (light green zone on the dial) reduce the load on the engine.

Warm up engine before operating under full load. Oil will then circulate freely, preventing excessive wear on piston rings, cylinders and bearings. Do not race or idle the engine during warm-up.

It is good practice to operate the crawler under a lighter load and lower speeds than normal for the first 30 minutes.

ENGINE IDLING

Avoid unnecessary engine idling. Prolonged idling may cause the engine coolant temperature to fall below its normal range. This causes crankcase oil dilution due to incomplete fuel combustion, permitting formation of lacquer or gummy deposits on valves, pistons, and piston rings. It also promotes rapid accumulation of engine sludge and unburned fuel in the exhaust system.

When the engine is to remain idle for a considerable length of time, shut off the engine.

ENGINE SPEEDS

The engine is designed to operate at working speeds ranging from 1500 to 2500 rpm. The engine can be operated at any speed in the working range to meet various operating conditions.

BREAK-IN PERIOD

The FIRST 100 hours of operation is designated as the unit break-in period. During this period, warm the engine up thoroughly before operating under full load. Do not race or idle the engine. Operate the unit under a lighter load and lower speeds than normal for the first 30 minutes of daily operation.

Before the unit was shipped from the factory, all bearings and friction surfaces were correctly fitted and lubricated as required. The crankcase was filled with John Deere Torq-Gard Supreme 10W-20 oil.

Check the crankcase oil level frequently during the first 100 hours of operation. If it becomes necessary to add oil during the break-in period, use John Deere Torq-Gard Supreme 10W-20 oil.

STARTING THE ENGINE



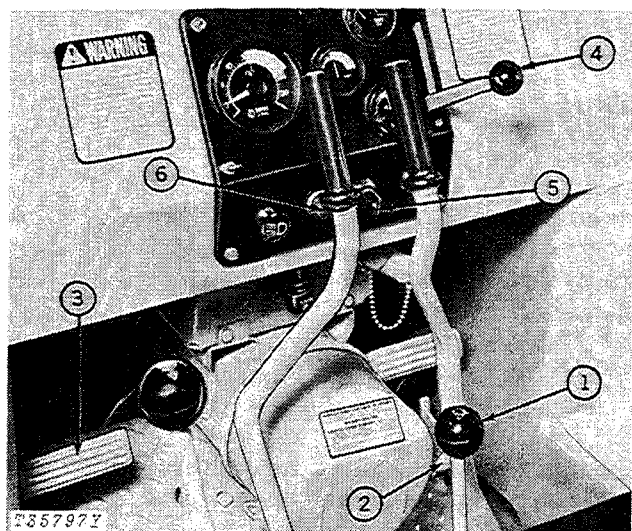
CAUTION: Never start the engine unless you are in the operator's seat.

During the cold weather, use starting aids as necessary (page 8).

Perform the prestarting checks. Start the engine by the following procedure:

CAUTION: Before starting engine, be sure there is plenty of ventilation. Never operate the engine in a closed shed or garage.

1. The crawler is equipped with a starter safety switch, so shift lever must be in neutral.
2. Apply brake.
3. Depress clutch pedal to decrease drag on engine.
4. On gasoline engines, advance hand throttle and pull choke out fully. Return throttle to slow idle before starting. If engine is warm, start without choking. On diesel engines, advance throttle to approximately half throttle.



Engine Starting Controls

5. Turn key switch clockwise.
6. Depress starter button. Do not hold starter button in the cranking position for more than 20 seconds at a time. Longer operation may overheat the starter. If the engine does not start the first time, wait two minutes before trying again.

If the starter button is released before the engine starts, wait until the starter stops turning before depressing the starter button again. This will prevent possible damage to the starter.

As soon as the engine starts, release the starter button and adjust the engine speed to approximately half throttle. Release clutch pedal. In cold weather, warm engine and transmission for five minutes by operating engine at half throttle. On gasoline engines, push choke in as necessary for smooth engine operation. The engine oil pressure gauge should now indicate pressure.

After the engine starts, the air cleaner restriction indicator should show green. If the restriction indicator shows red, stop the engine and service the air cleaner element.

A portion of the red signal may be visible at times during operation (this is normal).

If the engine stops when operating under load, immediately restart the engine to prevent overheating caused by stopping the flow of engine coolant and lubrication.

IMPORTANT: Never attempt to start a crawler with direction reverser by towing or pushing. These units cannot be started by this method and the direction reverser clutches and bearings may be damaged. On units with sliding gear transmission, never tow while starting at a speed greater than normal for the gear the machine is being started in. For safety, use higher gears at these times.

STOPPING THE ENGINE

Idle engine for a few minutes to cool the engine. Sudden stopping of an engine may cause overheating by stopping the flow of water and oil for cooling and lubrication.

After idling engine, turn key switch off and remove key to prevent tampering. Removing the key also prevents the switch from being accidentally left in the "START" or the "ACCESSORY" position causing battery discharge.

Before dismounting, be sure the bucket is lowered to the ground and the light switch is turned off.

HAND THROTTLE

Use the hand throttle to select any of the variable engine speeds between slow idle and fast idle. Push lever forward to speed up engine; pull lever rearward to slow down engine.

COLD WEATHER OPERATION

IMPORTANT: In extremely cold conditions park on a hard surface to avoid crawler track freeze-down.

Starting aids are effective at low temperatures only when the engine is otherwise operating satisfactorily. They will not correct such deficiencies as low battery charge, crankcase oil of too heavy viscosity, high electrical resistance, which may prevent the engine from starting.

For cold weather starting, the crawler is available with an ether starting fluid adapter, a coolant heater, and a second battery.

NOTE: A John Deere battery charger is available to assist in starting the engine in cold weather. See page 59 for operating precautions.

Ether Starting Fluid Adapter (Diesel)

The crawler may be equipped with an adapter to inject atomized starting fluid into the engine air intake system. Pressurized cans of starting fluid are available from your John Deere dealer.

Store starting fluid cans where they will not be subject to extreme cold or warm temperatures. For best results, store fluid at room temperature.

CAUTION: Ether starting fluid is highly flammable. Do not puncture or incinerate starting fluid containers.

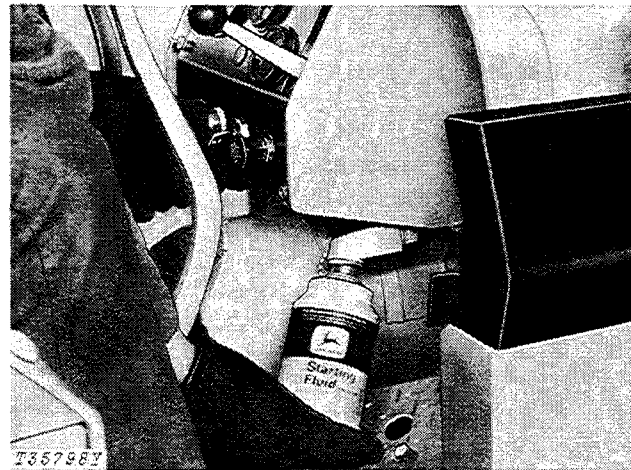
To use the can of starting fluid, remove the safety cap and plastic spray button from the can.

1. Remove the cap from the adapter and position the can under the adapter.
2. Turn key switch clockwise.

3. To inject starting fluid, momentarily push up on the can.

4. Depress starter button.

IMPORTANT: To avoid damage, turn engine with starter one or two revolutions before injecting starting fluid. Inject starting fluid only while the engine is turning.



Injecting Starting Fluid

Relax pressure on the can between "shots" of starting fluid. Stop injecting fluid after the engine starts. If the engine begins to die during the first few minutes of operation, inject another "shot" of fluid. When the engine is operating satisfactorily, remove the can from the adapter and replace the safety cap on the can.

Be sure to install the cap on the adapter when it is not in use. This will prevent dust from being drawn into the engine.

Coolant Heater

A thermostatically controlled tank-type coolant heater (available from your dealer) will improve cold weather starting. This attachment will keep the coolant warm, reducing oil drag and shortening the engine warm-up period.

CAUTION: Always use grounded cord to connect coolant heater to power source.

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