Hydro 70
Tractor

Operators Manual

1084275R1

Reprinted

CASE IH

WORK SAFELY – FOLLOW THESE RULES

Be sure power take-off lever is in the "OFF" or disengaged position before starting engine.

Before starting engine make sure helpers or observers stand clear of equipment.

Operate the engine only in well ventilated areas.

Release park brake completely prior to moving tractor.

Be sure muffler and exhaust pipe extensions are in place so exhaust gases are discharged above operator.

Check overhead clearance carefully before driving under power lines, guy wires, bridges, low hanging tree branches, entering or leaving buildings, etc.

DURING OPERATION

Hydraulic fluid escaping under pressure can have enough force to penetrate the skin. Hydraulic fluid may also infect a minor cut or opening in the skin. If injured by escaping fluid, see a doctor at once. Serious infection or reaction can result if medical treatment is not given immediately. Make sure all connections are tight and that hoses and lines are in good condition before applying pressure to the system. Relieve all pressure before disconnecting the lines or performing other work on the hydraulic system. To find a leak under pressure use a small piece of cardboard or wood. Never use hands.

Power take-off master shield must always be in place on the tractor.

Use the drawbar in lowest position when hitching to a heavy load, such as manure spreaders, loaded two-wheel trailers, and heavy wagons.

Pull only from drawbar; never hitch to axle housing.

Shift transmission to neutral and set park brake before dismounting from tractor for any reason.

Always keep safety shields in place.

Disengage P.T.O. and shut-off the engine before adjusting or unclogging power driven machinery.

Only the operator should ride on the tractor. He should sit on seat. If the tractor has roll over protective frame, he should sit on the seat with the safety belt fastened.

Keep others, especially children, from riding on steps, fenders, or drawbar, and away from tractor and equipment.

Always keep the tractor in gear when going down steep hills. A towed vehicle having a gross weight greater than the weight of the towing tractor must be equipped with its own brakes.

Always avoid sudden starts, excessive speed, and sudden stops.

Carefully supervise inexperienced operators.

Stop the engine before leaving the tractor and engage the park brake.

To assure the protection provided by design, the protective structure must not be altered by welding, cutting, drilling, or in any other manner.

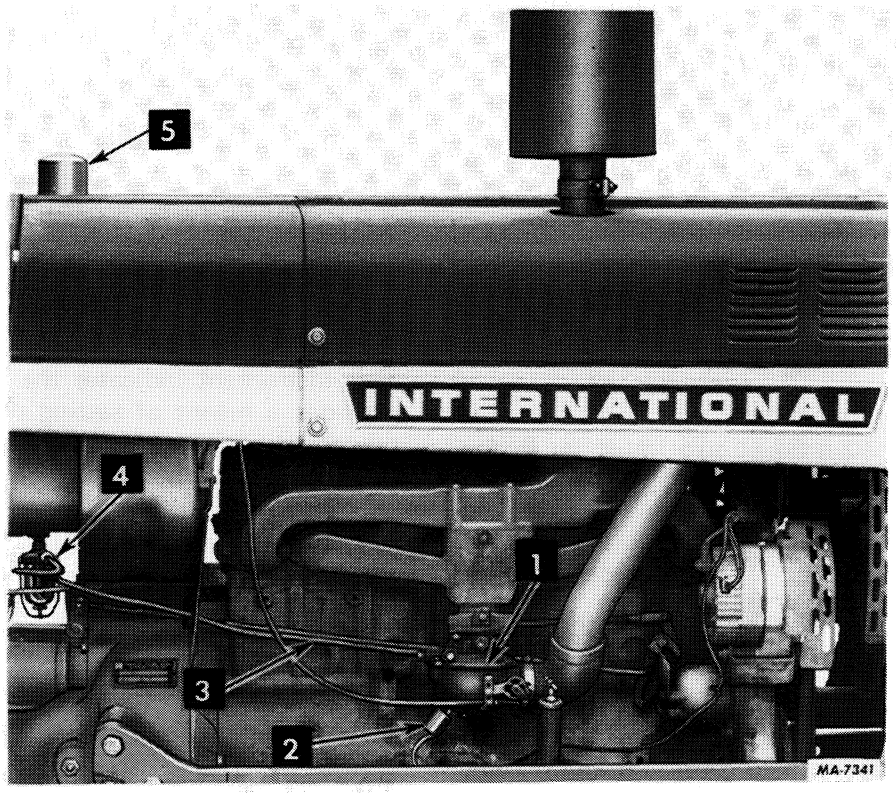
After an upset, no attempt should be made to straighten, weld, or otherwise repair the protective frame for further service. It must be replaced in its entirety.

NOTE: Do not operate the tractor or run the engine until a thorough inspection has been made to determine that all components, controls, etc. are operating correctly. The tractor must be inspected for other damage, preferably by your International Harvester dealer, and all necessary corrections made.

Always use the seat belts, if they are furnished with the unit. However, do not install seat belts if the tractor has no rollover protective structure.

GASOLINE ENGINE AND FUEL SYSTEM

This engine is designed to operate on leaded gasoline with a 93 minimum octane rating or an unleaded or low lead gasoline with a 91 minimum octane rating (Research Method).



1 — Carburetor
2 — Fuel shut-off solenoid valve
3 — Choke control wire
4 — Fuel strainer
5 — Fuel tank filler cap

Fuel system at right side of engine.

STARTING THE ENGINE

Put the transmission range and speed ratio control lever in the neutral position.

Pull the choke control button all the way out.

The use of the choke for starting will vary, depending on temperature and altitude.

Advance the engine speed control lever one-half.

Depress the Foot-N-Inch pedal.

Turn the ignition key clockwise to a horizontal position. Then press the push button starting switch and release it as soon as the engine starts; however, do not operate the cranking motor for more than 30 seconds at any one time. If the engine does not start within this time, wait one minute, and then try again.

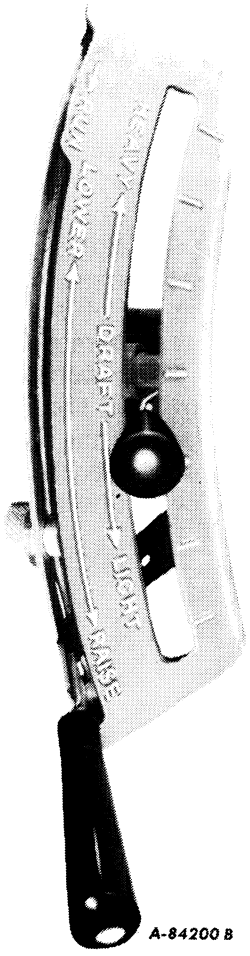
When the engine starts, check the engine oil pressure tellite. If there is no oil pressure (flashing tellite), stop the engine immediately and investigate the problem.

If there is oil pressure after the engine starts, slowly release the Foot-N-Inch pedal.

If the engine fails to start after following the starting procedure, see your International Harvester dealer.

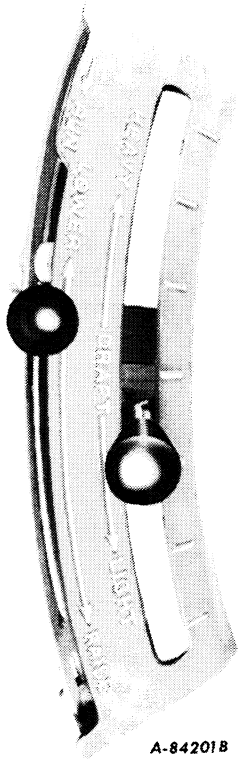
NOTE: Do not engage the cranking motor while the engine is running.

HYDRAULIC CONTROLS FOR THREE-POINT HITCH



Inside control lever used to raise the equipment without moving the draft control lever.

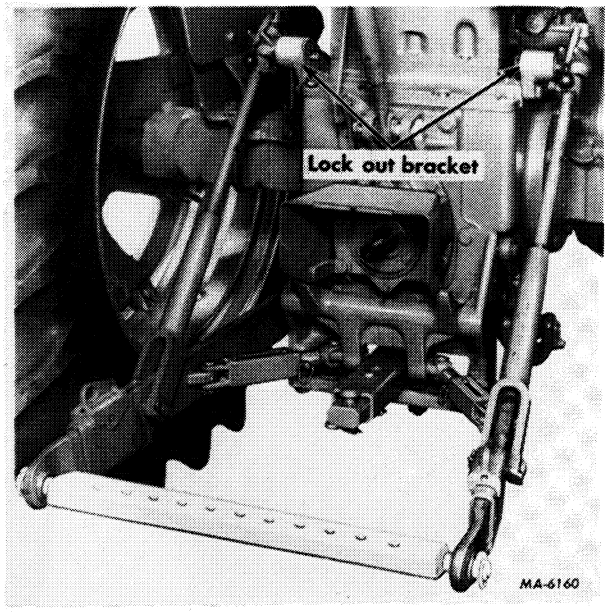
The hitch is now operating under draft control and will automatically raise or lower to maintain a constant draft load when changes in soil texture or uneven terrain are encountered. The equipment is raised at the end of the field and lowered again by operating the inside control lever without moving the draft control lever.



Levers set to control depth of below-ground-working tools in conditions of extreme soil variations.

When operating in a field with extreme variations in soil, such as sand at one end and heavy clay at the other, a bottom limit (or depth limit) can be established by placing the inside control lever above the offset so the plow will not go below this predetermined depth when going through the sand. The placing of the draft control lever then establishes the desired load and operating depth for operating in the heavy clay.

HITCHING TRAILING EQUIPMENT TO THE TRACTOR



Connecting the lift links to the lockout brackets.

Insert the ends of the cross drawbar into the hitch lower link swivel sockets. Remove the drawbar pins from the storage holes in the lower link latches and insert them through the holes in the ends of the drawbar.

CAUTION! When the cross drawbar is used for trailing-type equipment, the lift links must be connected to the lockout brackets and the set collars must be in the upper positions on the leveling screws. Be sure that the point of each set screw is in the spot hole in the lift links. When side movement of the hitch is undesirable or hazardous, the lateral swing lockout pins must be inserted in the holes in the lateral limiter housings.

AUXILIARY VALVES, REMOTE CYLINDERS AND HYDRAULIC OUTLETS

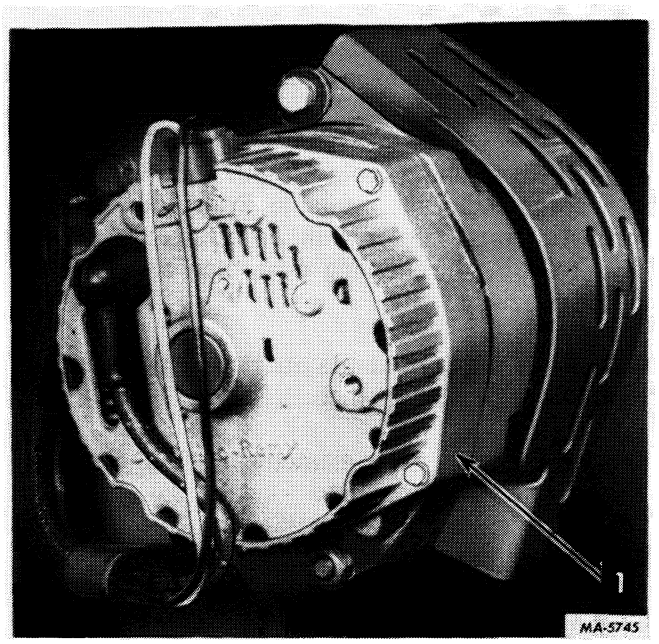
One or two auxiliary valves may be added on the right side of the load control housing to provide hydraulic control of various mounted and trailing-type equipment. Control levers are located on the right side of the seat, ahead of and below the control levers for the three-point hitch.

Each valve provides independent lifting and lowering and may be set for float operation when equipment is to follow the ground contour. However, when the levers are operated at the same time or with the three-point hitch, the cylinder with the lightest load will move before the more heavily loaded one moves.

The inner or single control lever operates the left front and left rear hydraulic outlets simultaneously, or the left rear outlet when not equipped with the front outlets.

The outer control lever operates the right front and right rear hydraulic outlets simultaneously, or the right rear outlets when not equipped with the right front outlets.

ELECTRICAL SYSTEM



1 — Alternator-generator with integral voltage reulator

The complete electrical system and its components as described in the following separate groups are for use on a 12-volt negative ground system. Description of the electrical system will be defined as follows:

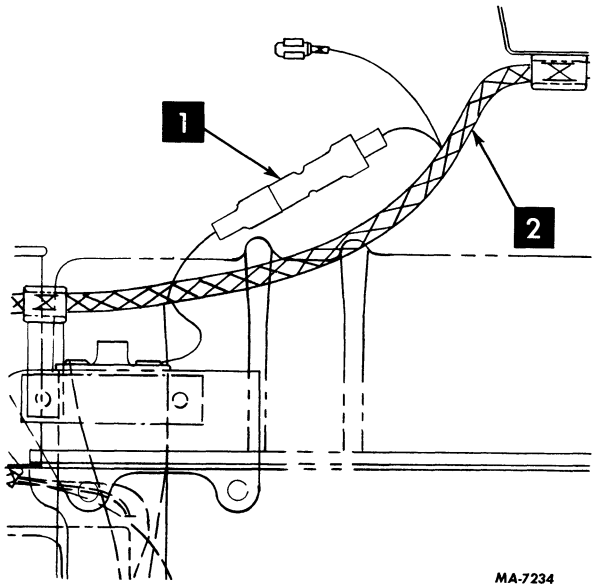
Charging System
Cranking System
Ignition System (Gasoline engine only)
Lighting System
The Battery

CAUTION! Before working on any part of the electrical system, disconnect the battery ground strap from the battery terminal. Do not reconnect it until all electrical work has been completed. This will prevent shorting and causing damage to any of the electrical units.

In order to assure satisfactory operation of the electrical system, a periodic check should be made of the following:

Connections at the solenoid switch should be kept clean and tight.

Battery cable terminals should be kept clean and tight.



1 — Diode
2 — Cable harness

Diode located near front left side of engine valve cover.

Battery terminal post should be kept clean and the electrolyte at the proper level.

CHARGING SYSTEM FOR ALTERNATOR-GENERATOR

The charging system consists of alternator-generator with integral voltage regulator, charge indicator, cable harness leads, diode, and the battery.

The alternator-generator is hinge mounted on the right side of the engine.

In order to assure satisfactory operation of the charging system, a periodic check should be made as follows:

Keep proper belt tension. Mounting bolts must be tight.

To prevent possible damage to the system avoid the following:

Do not polarize the alternator.

Do not short-out or ground across the terminals of the alternator.

Do not operate the charging system with the output cable disconnected.

WEIGHTS

Front and rear cast iron weights are available to provide safe and efficient operation with various equipment under different conditions. Tillage operations are more efficient and overall cost is less when tractors are operated at a speed range of 4.0 to 6.5 miles per hour, using only enough ballast to limit tire slippage and to insure steering control.

Operating at as high a speed as possible has the following advantages:

Less ground compaction.
More work done.
Less equipment cost in the form of ballast and tools.
Less wheel slippage.

Rear ballast should be added to the tractor to prevent excessive tire slippage and tread wear. The amount of rear weight needed will depend upon the type of soil or operating surface. However, excessive weight is not to be added to the rear wheels to obtain continuous pulls greater than the maximum pull obtained at 4.0 miles per hour.

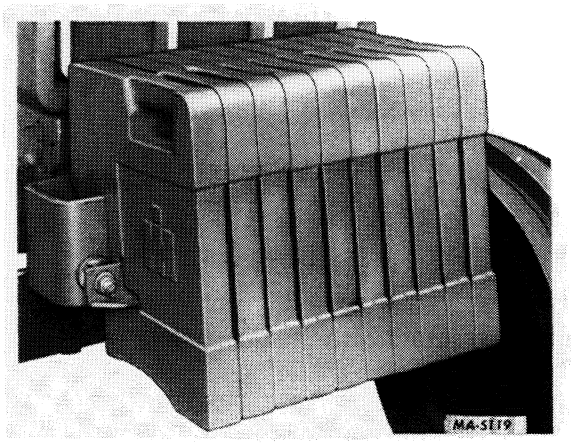
Rear ballast may be in the form of rear wheel cast iron weights, or liquid fill in the rear tires, or a combination of both.

FRONT END WEIGHTS

Front end weights are available for use with various equipment combinations. In adding front end weight, consideration must be given to both transport and field operation of the equipment, and whether the tractor is to be operated over hills and on side slopes.

Unnecessary front end weight is a hindrance to efficient operation.

Add front end weight for safe transport of mounted equipment with heavy rear overhang or semi-mounted equipment that imposes heavy loads on the hitch lower links.



Front end weights.

Add front end weight for steering control. Soil-working equipment, because of weight position, method of hitching, or soil condition, may cause enough weight to be transferred from the tractor front end to the drive wheels to cause a loss of steering control.

Up to ten front end weights can be mounted. Either the 67 or 100 pound size are conveniently installed upon a front mounting bracket.

FRONT END WEIGHT HOLD DOWN AND LOCKING DEVICE

Weights are securely held in place by an angle iron bar inserted through an "L" shaped opening in the weights and bolted at both ends to the front weight mounting bracket.

Install a locking cam on each of the end bolts. The cam assembly should be installed between the mounting bracket and angle iron bar with the hex. portion against the angle.

Locking the Weights in Place

With all parts assembled as described above, assemble a nut on each end bolt. Tighten finger tight. Do not tighten securetly at this time.

Secure one end of the angle iron bar, using a wrench on the hex. portion of the locking cam. Turn so the cam presses firmly against the side of the weight, then tighten the end bolt nut to hold the cam in place.

LUBRICATION

LUBRICATION FITTING GREASE

Use IH 251H EP grease or equivalent #2 multi-purpose lithium grease, for lubrication fittings on which the hand lubricator is applied.

NOTE: Keep your supply of lubricating oil and grease absolutely clean and free from dust. Always use clean containers. Keep the lubricant clean and wipe dirt from the fittings before applying the lubricator.

ENGINE OIL FILTERS

The life of your engine depends upon clean oil being circulated to all bearings.

The purpose of the oil filters is to separate and remove the dirt and other foreign substances from the oil to prevent these injurious materials from being circulated to the engine. The filters will keep the circulating oil free of harmful materials.

If the filters are not replaced and become clogged the by-pass valve will open and unfiltered oil will be circulated through the engine.

NOTE: To avoid delays, we recommend that you carry extra filters on hand so replacement can be made at the proper time.

CHANGING THE GASOLINE ENGINE FILTER ELEMENT

Do not change the element while the engine is running. Stop the engine.

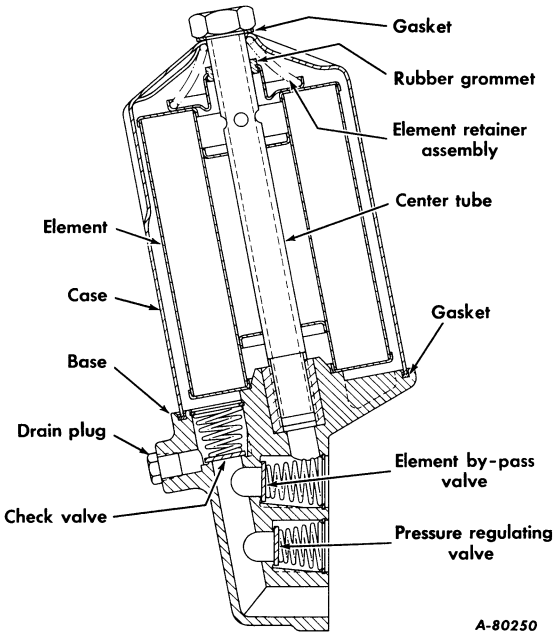
Remove the oil filter base drain plug and allow the oil filter to drain completely.

Clean the outside of the filter case to prevent dirt from dropping into the base.

Unscrew the center tube.

Lift up and remove the center tube and case.

Discard the old element.



Cutaway view of the oil Filter (Gasoline Engines).

NOTE: If any equipment on the tractor prevents lifting the case over the element, remove the case and the element together.

Clean the base and the case with a clean cloth dampened with kerosene.

Install the new filter element as follows:

Replace the drain plug in the filter base and install the new filter element.

Inspect the center tube and make sure it is clean. Do not allow dirt to go into the threaded center of the base as this passage leads to the bearings.

Make sure that the case, center tube, and drain plug gaskets are in good condition. Replace with new ones if necessary.