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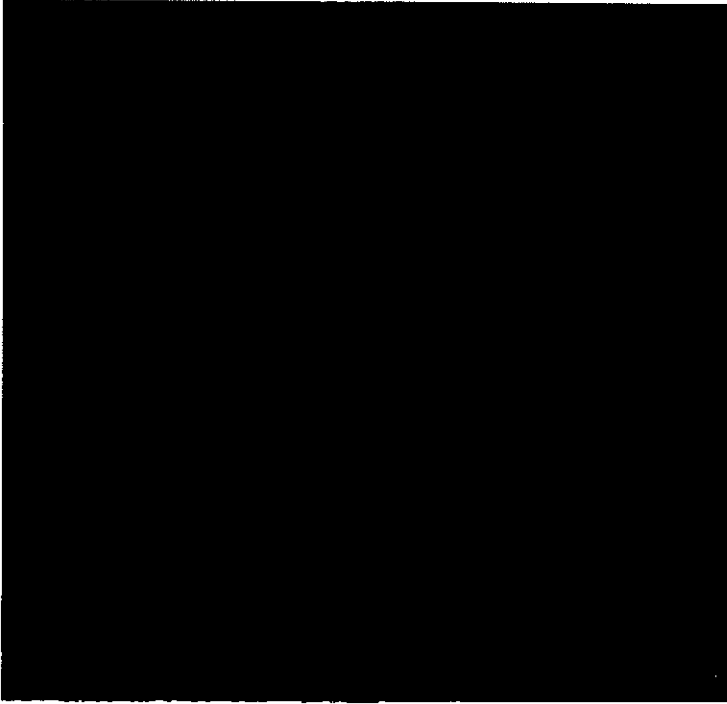
CUB CADET®

1100

TRACTOR

INTERNATIONAL®

OPERATOR'S MANUAL



To The Owner

Assembled in this manual are operation, lubrication, and maintenance instructions for the International Cub Cadet 1100 Tractor. The material has been prepared in detail to help you better understand the correct care and efficient operation of your tractor. Before you operate the tractor, study this manual carefully. Additional copies may be ordered from your dealer at a nominal price.

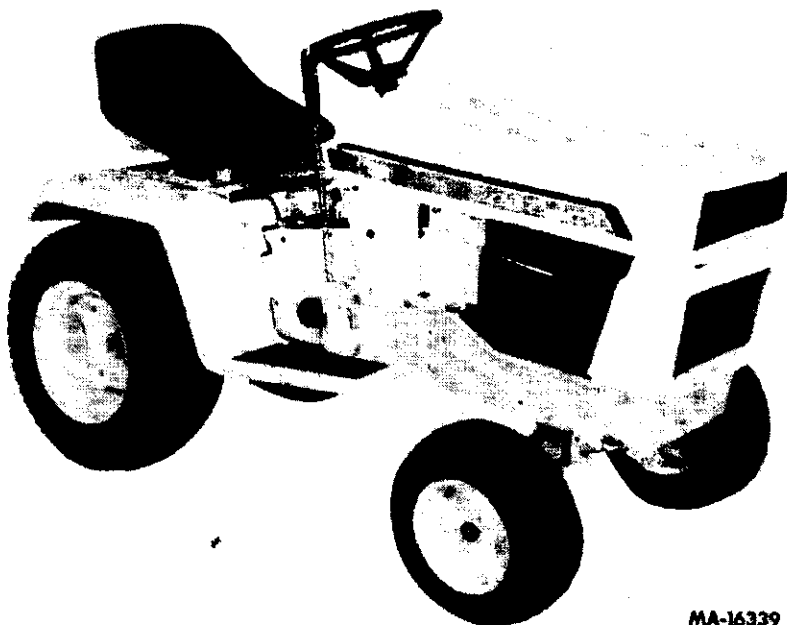
Your local International Harvester dealer is interested in the performance you receive from this tractor. He has factory-trained servicemen, informed in the latest method of servicing tractors, modern tools, and original-equipment IH service parts which assure proper fit and good performance.

To obtain top performance and assure economical operation the tractor should be inspected, depending on its use, periodically, or at least once a year, by your International Harvester dealer.

When in need of parts, always specify the model, chassis, and engine serial numbers, including the prefix and suffix letters. Write these serial numbers in the space provided on page 3.

Should you desire additional information not found in this manual, contact your International Harvester dealer.

"Compliance with Radio Interference Regulations Certified." (Canada D.O.C.)



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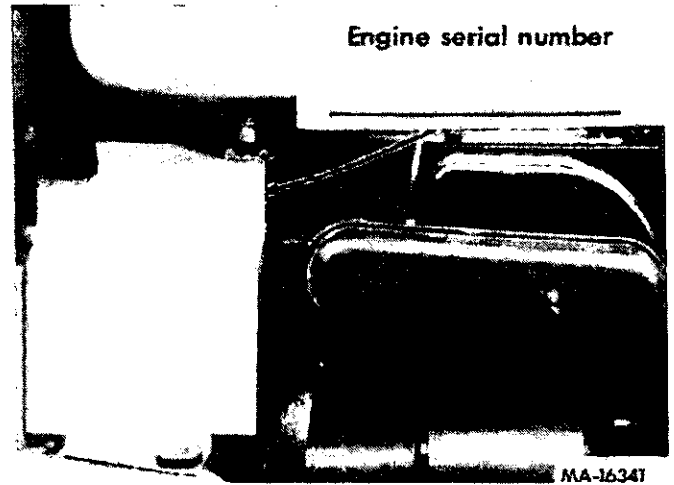
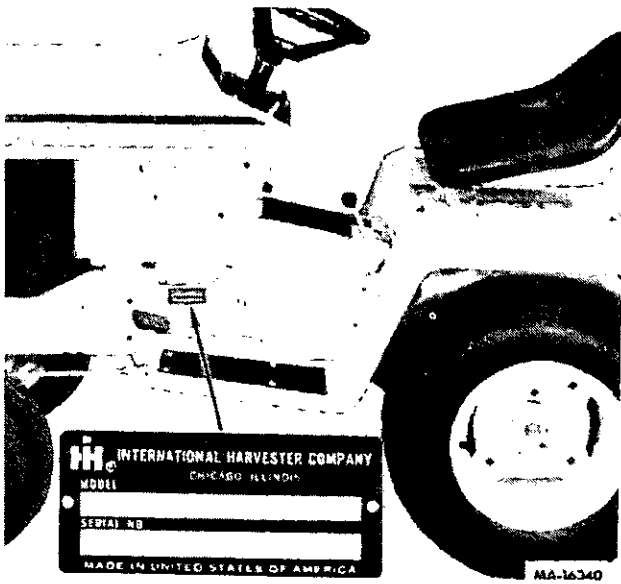
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SERIAL NUMBER LOCATION



DELIVERY
DATE _____

INTRODUCTION

A variety of extra equipment and accessories is available. Where operating and maintaining instruction is required, it is included in the instruction for operating and maintaining the tractor. Disregard the instructions for equipment not on your tractor.

LEFT and RIGHT indicate the left and right sides of the tractor when facing forward in the driver's seat. Reference to FRONT indicates the grille end of the tractor; to REAR the drawbar end.

WORK SAFELY — FOLLOW THESE RULES



This symbol is used to call your attention to instructions concerning your personal safety. Be sure to observe and follow these instructions.

Disengage all clutches and shift into neutral before starting the engine.

To avoid injury, disengage power to any attachments and stop engine before leaving operator's seat or making any repairs or adjustments.

Know the controls and how to stop quickly. **READ THE OPERATOR'S MANUAL.**

To avoid an accident or injury, do not allow children or adults to operate the equipment without proper instructions. Keep children, pets, and bystanders a safe distance away.

Clear work area of objects which might be picked up and thrown.

Disengage power to any attachment when transporting or not in use.

To prevent an accident, always disengage the power take-off, shift transmission into neutral, set the parking brake, stop the engine, and remove ignition key when leaving the machine unattended.

Reduce speed on slopes and in sharp turns to prevent tipping or loss of control.

Stay alert for holes in terrain and other hidden hazards.

Before backing the tractor, always look for obstacles or bystanders in the area where the tractor will move.

To avoid the possibility of an upset, always engage the clutch slowly, especially on steep slopes. Avoid quick starts and stops.

NO RIDERS! This machine is designed to safely carry only the operator. Do not carry passengers or give rides as serious injury could result.

Use care when pulling loads or using heavy equipment. Use only approved hitch points, and limit loads to those you can safely carry. Use counterweight or wheel weights when suggested in Operator's Manual.

Handle gasoline with care — it is highly flammable: — A. Use approved gasoline container. B. Never remove the fuel tank cap or fill the fuel tank when the engine is running, is hot, or indoors. Also, do not smoke when working around flammable fuel. Wipe up spilled gasoline. C. Replace gasoline cap securely.

During operation do not run the engine in confined area such as storage building any longer than is necessary for immediate moving of the tractor outside into the air.

Keep machine in good operating condition and keep safety devices in place. Use guards or shields as instructed in Operator's Manual.

It is recommended that the machine be stopped and inspected for damage after striking a foreign object and that any damage be repaired before restarting and operating the machine.

Always turn the ignition "OFF", depress the brake pedal, and set the brake pedal lock before working on the machine. Disengage all implements and shift the transmission into neutral.

REMEMBER — A careful operator is the best insurance against an accident.

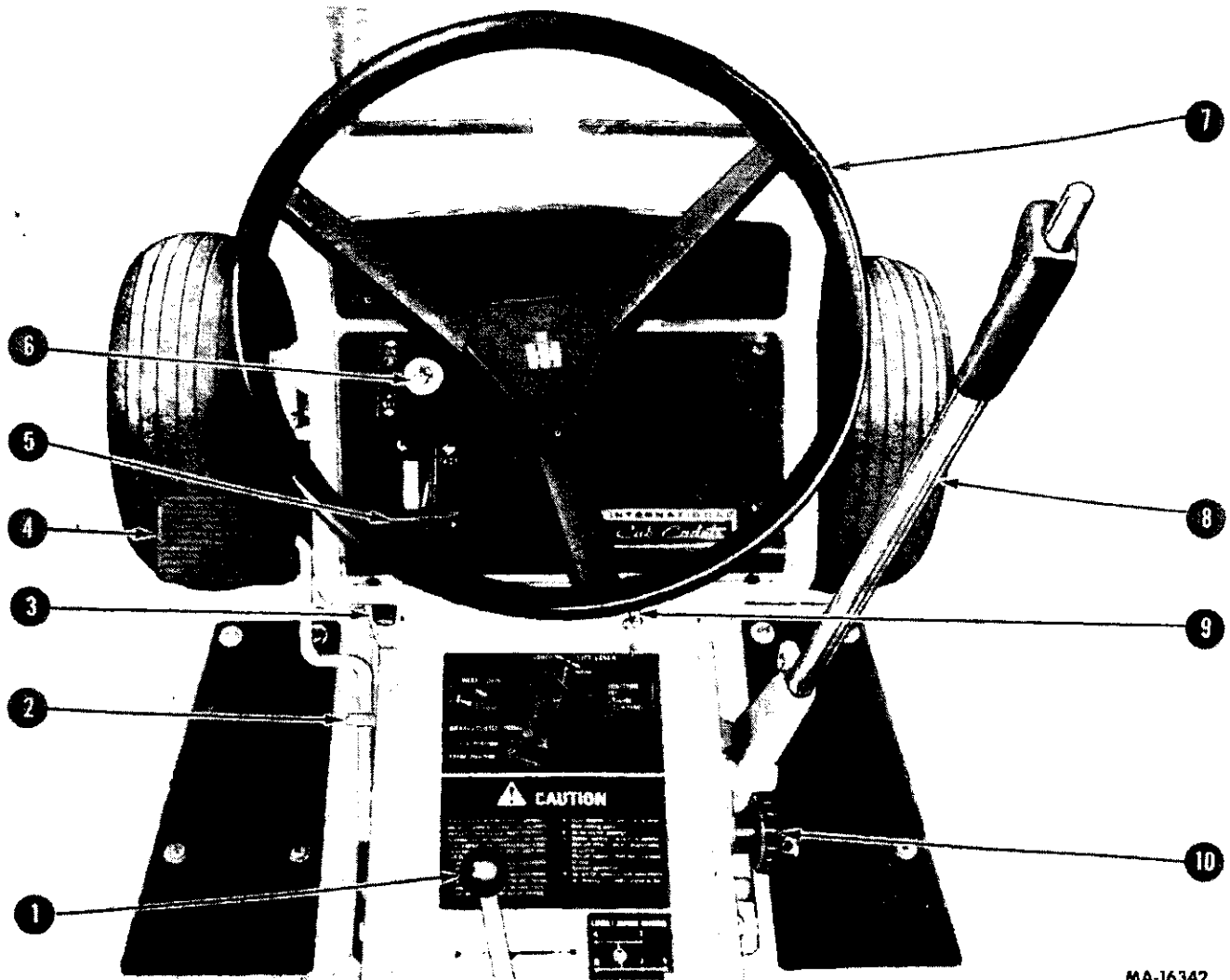
Avoid Overturns — Back the tractor up the steepest portion of the hill to be mowed! If the tractor cannot do this, the hill is too steep for safe operation. When mowing hills, cut down the face of the hill rather than across to avoid side tipping. Also, avoid sudden starts, stops, and turns, especially on steep slopes to avoid an upset.

Do not allow anyone in the area parallel to the discharge opening while mowing. Although the area has been supposedly cleared of foreign objects, small objects may have been overlooked and may be discharged by the mower causing serious injury.

INSTRUMENTS AND CONTROLS



Your Cub Cadet Tractor has been safety engineered. Thoroughly acquaint yourself with all the instruments and controls before attempting to start or operate the tractor.



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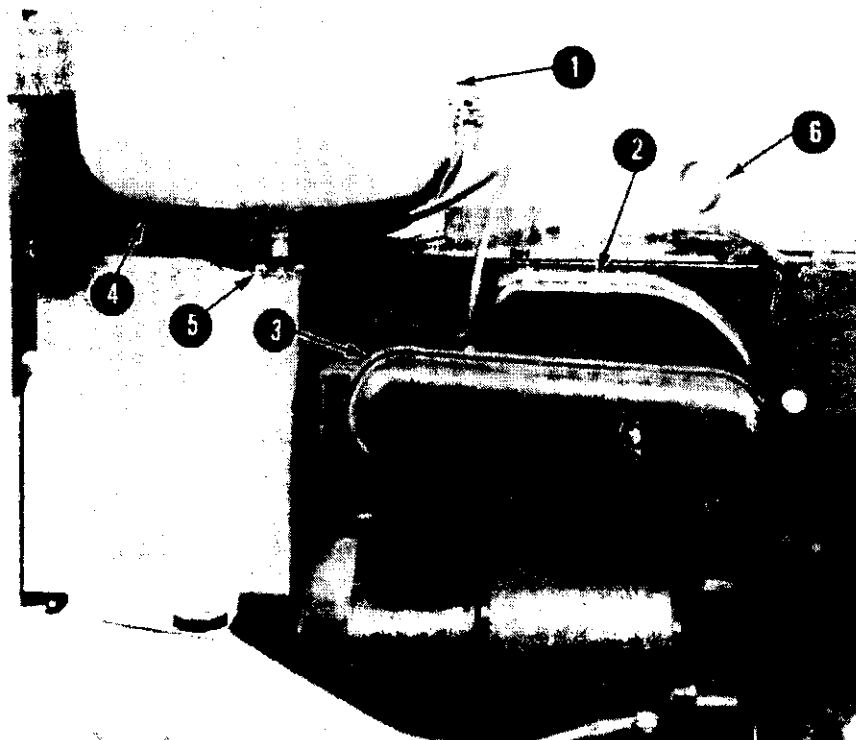
Instruments and controls

- | | |
|---|---|
| 1. Gear shift lever..... See page 10 | 6. Front power take-off control switch..... See page 12 |
| 2. Brake pedal lock See page 9 | 7. Steering wheel |
| 3. Fuses See page 14,15 | 8. Equipment lift handle..... See page 11 |
| 4. Clutch and brake pedal... See page 9 | 9. Ignition switch..... See page 14 |
| 5. Throttle lever..... See page 6 | 10. Lift handle cam stop..... See page 11 |

BEFORE OPERATING YOUR NEW TRACTOR

- Lubrication..... Lubricate the entire tractor.
- Tires Check the air pressure.
- Fuel System..... Fill the fuel tank with gasoline.

OPERATING THE ENGINE



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- | | |
|----------------|---------------------------------------|
| 1. Fuel tank | 4. Fuel line |
| 2. Air cleaner | 5. Fuel shut-off valve |
| 3. Carburetor | 6. Oil level gauge
and filler tube |

Fuel System

THROTTLE LEVER

This lever controls the speed of the engine. When set in a given position, it will maintain a uniform engine speed.

When using power take-off operated equipment, best performance is achieved with the throttle lever in the "FAST" position.

GOVERNOR

The governor is set at the time the engine is assembled and should not require readjustment unless the governor arm is removed or loosened from the governor shaft. Consult your International Harvester dealer if the governor does not function properly.

LIFTING THE HOOD

The tractor hood is arranged to swing up and forward for easy access to the fuel tank, and whenever engine maintenance is required. To raise the hood, lift up on both sides of the back of the hood.

STARTING THE ENGINE

1. Be sure there is an adequate supply of gasoline in the fuel tank.



CAUTION! To avoid fire or injury, tighten fuel cap securely. Never remove the fuel tank cap or fill the fuel tank when the engine is running, or hot, or indoors. Also, do not smoke when working around flammable fuel.

2. Be sure the fuel shut-off valve is open. Turn counterclockwise to open.

3. Pull choke control button to full choke position. Less choking may be necessary due to variations in temperature, grade of fuel, etc. Little or no choking will be needed when the engine is warm.

4. Set the throttle at 1/4, midway between 1/2 throttle and slow.

5. To start the engine, safety starting switches must be activated by pressing the clutch-brake pedal all the way down and moving the power take-off clutch switch to the disengaged position.

Check to see that the gearshift lever is in the neutral position.

Turn the ignition key clockwise to the "START" position and release it as soon as the engine starts; however do not operate the starter for more than 30 seconds at any one time. If the engine does not start within this time, turn the key to "OFF" and wait a few minutes, then try again.

6. After the engine starts, slowly release the clutch — brake pedal and gradually push the choke control button all the way in. Do not use the choke to enrich the fuel mixture, except as necessary to start the engine.

STOPPING THE ENGINE

Move the throttle lever to the "SLOW" position and allow the engine to idle for a short time before stopping. Then turn the key to the "OFF" position.

COLD WEATHER STARTING

Engine starting is possible in cold weather providing the correct weight of engine oil is used, the battery is fully charged, and the proper starting procedure is followed. The best procedure for starting at temperatures near or below freezing is as follows:

1. Pull the choke all the way out into the full choke position.

2. Set the throttle lever 1/4, midway between 1/2 throttle and slow.

3. Press the clutch-brake pedal all the way down and be sure the power take-off switch is in the off position. The safety interlocks will prevent starting unless this is done.

4. Move the key switch into the start position and hold until the engine starts. As soon as the engine starts, slowly push the choke in part way.



CAUTION! During operation do not run the engine in confined area such as storage building any longer than is necessary for immediate moving of the tractor outside into the air.

NOTE: In cold weather the starting motor may disengage prematurely. This is caused by the engine firing once but failing to continue running. If this happens several times, the engine will be flooded and it will be necessary to start as described in Step 5.

5. Leave the throttle in the slow position but push the choke in all the way; then turn the ignition key to the start position and slowly pull the choke out to the position which will cause the engine to start and continue running. If the engine falters after shifting into drive, pull the choke out part way until the engine runs smoothly, then gradually push the choke back in as the engine warms.

FUEL SYSTEM

FUEL SYSTEM

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

The use of unleaded gasoline will increase spark plug and valve life, maintain engine performance longer, and reduce rust and corrosion of the engine while stored.

The fuel tank filler cap has an air vent. Keep the vent open at all times to assure proper flow of the fuel.



CAUTION! Do not remove the fuel tank cap or fill the fuel tank when the engine is running, hot, or when near an open flame. Do not smoke when working around flammable fuel, as the air around the tractor is mixed with a highly explosive vapor.

FUEL SHUT-OFF VALVE

Be sure the shut-off valve under the fuel tank is open. Screw out the needle stem (shut-off valve) until the seat on the stem is tight against the stop to prevent leakage or seepage when the valve is in its full-open position.

CARBURETOR ADJUSTMENTS

NOTE: Air cleaner has been removed from illustrations in order to show carburetor.

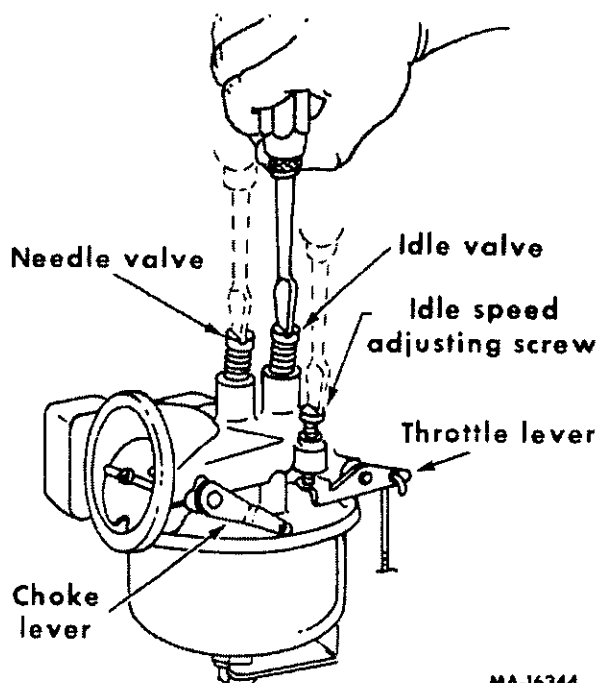


CAUTION! To avoid injury or an accident, be sure the brake pedal is in the locked position, transmission is in neutral, and the mower is disengaged before adjusting the carburetor.

Minor carburetor adjustments may be required to compensate for differences in fuel, temperature, altitude and load.

The carburetor is adjusted at the factory and under normal operating conditions it will not require readjusting. However, if the engine does not operate properly, installation of a new air cleaner is recommended.

NOTE: To prevent possible damage to the carburetor needles, be very careful closing the carburetor needles before basic adjustments are made. Improper adjustment of the carburetor may result in engine damage.



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Open needle valve 1-1/2 turns counterclockwise. Close idle valve in the same manner and open one turn. This initial adjustment will permit the engine to be started and warmed up prior to final adjustment.

Set the throttle control lever in "FAST" position. Turn needle valve in until engine misses (lean mixture) then turn it out past smooth operating point until engine runs unevenly (rich mixture). Now turn needle valve to the mid-point between rich and lean so the engine runs smoothly. Hold throttle at idle position and set idle speed adjusting screw until fast idle is obtained (1750 RPM). Hold throttle in idle position and turn idle valve in (lean) and out (rich). Now turn idle valve to the mid-point between rich and lean until engine idles smoothly. Then reset idle speed adjusting screw so that engine idles at 1750 RPM. Release throttle — engine should accelerate without hesitation or sputtering. If engine does not accelerate properly, the carburetor should be readjusted to a slightly richer mixture.



CAUTION! Carbon monoxide fumes can be fatal! Do not make any adjustments to the carburetor in a confined area such as a storage building. Move the tractor outside into the air.

DRIVING THE TRACTOR

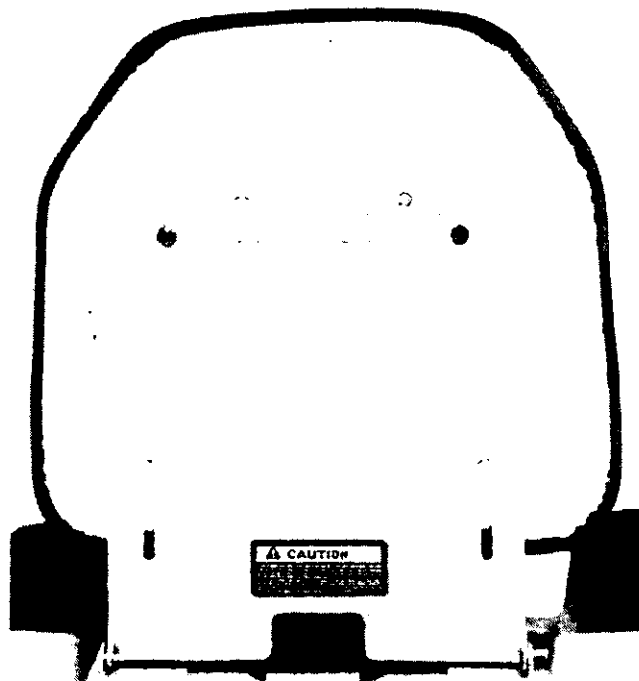
PREPARING THE TRACTOR FOR EACH DAY'S WORK

Check the crankcase oil level and add new oil if necessary.

Clean the air cleaner element if necessary.

Inspect the tires for general condition.

ADJUSTING THE SEAT

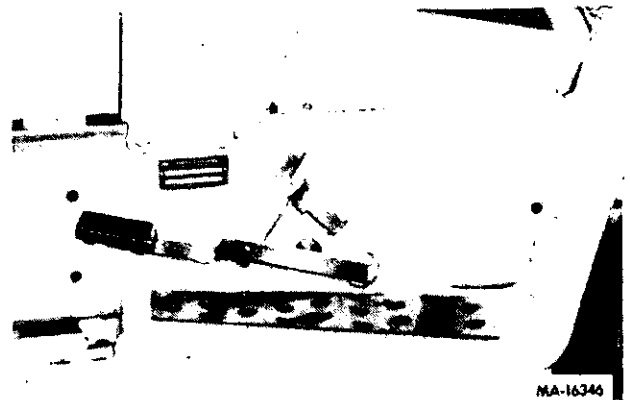


Before starting the tractor, adjust the seat to the most comfortable driving position. Tilt the seat forward over the steering wheel, loosen the four cap screws in the seat support, and slide the seat assembly forward or rearward to the position which is most comfortable for the operator.

Retighten the cap screws after the seat is adjusted.

NOTE: The battery is located in a well under the operator's seat for ease in servicing or replacement when necessary.

CLUTCH AND BRAKE PEDAL



Brake pedal lock in the engaged position.



CAUTION! To prevent injury, always turn ignition "OFF", depress the brake pedal, and set the brake pedal lock before working on the machine. Disengage all implements and shift the transmission into neutral.

LOCKING THE BRAKE

Always lock the brake when the tractor is parked on a grade. To lock the brake, press down on the pedal; then place the brake pedal lock in the engaged position. To disengage the lock, press down on the pedal, lift the lock up and place it in the disengaged position.

CLUTCH-BRAKE PEDAL

The combination clutch-brake pedal is used to disengage the engine from the transmission when shifting gears to actuate the brake to stop the tractor. The pedal must be pressed all the way down to activate the safety starting switch when starting the engine. To disengage the clutch, and apply the brake, press the pedal all the way down.

DRIVING THE TRACTOR

GEARSHIFT LEVER

This lever is used to select various gear ratios provided in the transmission. There are four forward speeds and one reverse speed. Refer to "SPECIFICATIONS".

STARTING THE TRACTOR

Disengage the clutch by pressing the clutch pedal all the way down, and release the brake lock. Move the gearshift lever to the desired speed.



CAUTION! To avoid the possibility of an upset, always engage the clutch slowly, especially on steep slopes. Avoid quick starts, stops.

Start the tractor in motion by **slowly** releasing the clutch pedal and moving the throttle lever to the position where the engine operates best for the load to be handled.

NOTE: When using power take-off operated equipment, best performance is achieved with the throttle lever in the "Fast" position.

NOTE: Do not shift gears while the engine clutch is engaged or while the tractor is in motion.

NOTE: Do not rest your foot on the pedal while driving the tractor, as this will result in excessive belt wear.

Always be sure the rear wheels are free to turn. Under any adverse conditions, do not attempt to free the tractor by speeding up the engine and suddenly engaging the clutch. Try backing out instead of going forward.



CAUTION! Do not leave the seat of the tractor without disengaging the brake pedal and setting the brake lock. If leaving the tractor unattended, also turn the ignition key off and remove the key.

STOPPING THE TRACTOR

Disengage the clutch by pressing the pedal all the way down. Move the gearshift lever to the "N" position. Before dismounting always lock the pedal, disengage the power take-off, and turn the ignition "OFF".



CAUTION! To prevent injury or an accident, do not carry passengers or give rides. Keep children, pets and bystanders out of the area.

EQUIPMENT LIFT HANDLE

The lift handle is used to lift or lower equipment used with the tractor. The equipment can be set in multiple positions by depressing the button on the top of the handle and releasing it when the desired position is reached.

HEIGHT ADJUSTMENT

If a single implement height is normally used, the handle may be adjusted to locate the desired position by use of the cam stop.

With lift handle in desired implement height position, release cam by turning locking knob counterclockwise. Turn cam until it contacts tang.

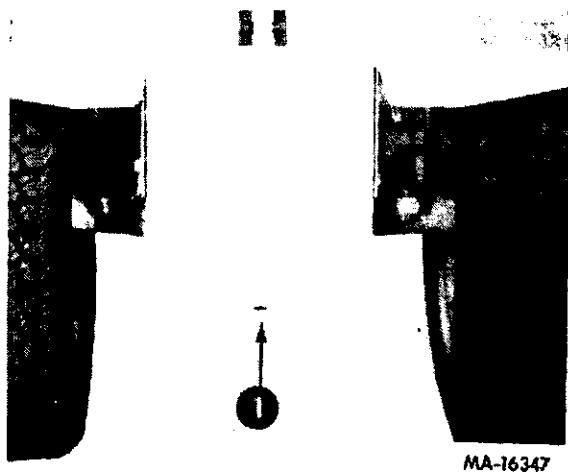
Lock cam into this position by turning knob clockwise.

If free handle travel between cam stop and fully raised position is desired (Float Position), depress the release button on top of the handle, press in the lock button located at the front of the handle and release the top button.

NOTE: To disengage the lift handle from the float position, pull lift handle back slightly and depress top button.

NOTE: Refer to the equipment manual for proper hitching instructions.

HITCHING EQUIPMENT TO THE TRACTOR

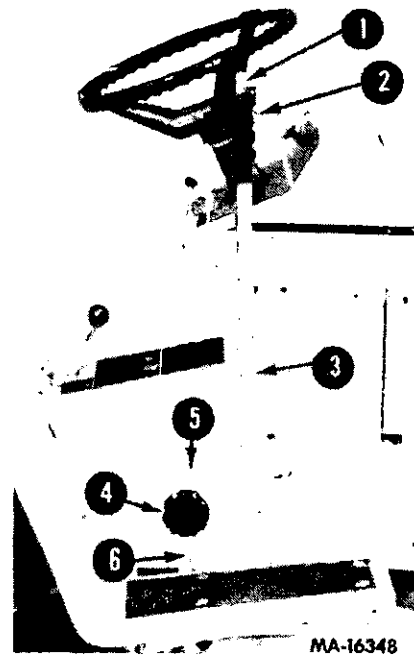


DRAWBAR

Drawbar equipment must be hitched to the tractor only at the hitch hole in the drawbar.

THREE-POINT HITCH (OPTIONAL)

When the tractor has a three-point hitch, equipment adaptable to this hitch is raised and lowered with the lift handle or power lift control. The lift handle can be set to hold the equipment at various positions by use of the notches in the lift handle quadrant or cam stop. The lower mounting bracket at the rear has three holes which are used for additional adjustment.



- 1. Release Button
- 2. Lock button
- 3. Lift handle

- 4. Cam lock knob
- 5. Cam stop
- 6. Tang

Adjustable stop limiting handle travel.



use.

CAUTION! To prevent an accident disengage power to any attachment when transporting or not in

NOTE: Refer to the equipment manual for proper hitching instructions.

FRONT POWER TAKE-OFF

OPERATING THE FRONT POWER TAKE-OFF CLUTCH

The front power take-off clutch is an electric clutch operated by a toggle switch on the left side of the instrument panel.

1. Move the throttle lever back to the medium or "slow" position.
2. Flip the toggle switch to the "ON" position.
3. Advance throttle to operating speed (full speed).

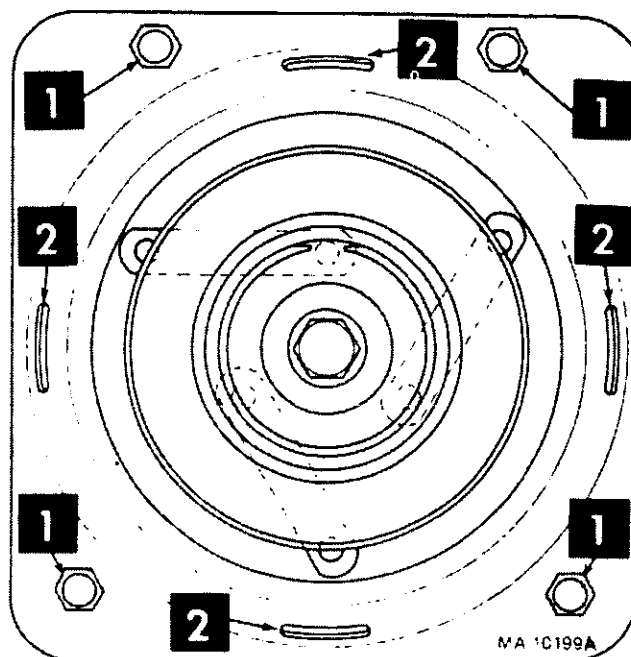
ADJUSTING THE POWER TAKE-OFF CLUTCH

The clutch is factory adjusted and should not require further adjustment under normal operating conditions. However, if the clutch fails to operate properly check as follows:

Check fuse on pedestal.

Using a feeler gauge, check the air gap! Insert the feeler gauge into one of the access slots (Ref. 2 in illustration) and between the clutch plates. If the air gap is not .015/.010 inches, adjust the self-locking nuts (Ref. 1) to obtain the proper clearance. Repeat the operation in all four slots.

If the above procedure does not work, see your International Harvester dealer.



1. Self-locking nuts (4)
2. Feeler gauge openings (4)



CAUTION! To avoid an accident or possible injury, always disengage all clutches and shift into neutral before starting the engine.



CAUTION! To avoid possible injury, always disengage all clutches, shift the transmission into neutral, depress the brake, set the brake pedal lock and turn the ignition "OFF" before working on the machine.

ENGINE COOLING AND AIR CLEANER

ENGINE COOLING

This tractor has an air cooled engine. Air must be able to circulate freely around the engine, through the screen, shroud, and over the fins of the cylinder head and cylinder block. Keep these areas free of accumulated dirt and trash or engine will overheat and result in damaged moving parts.

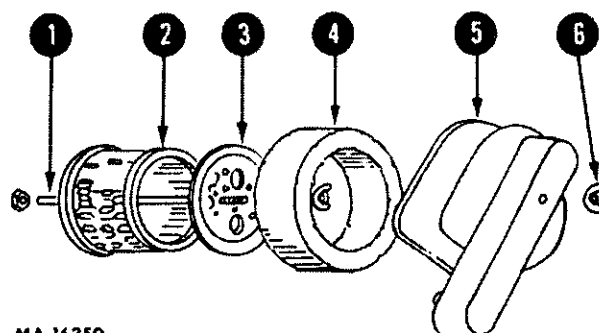
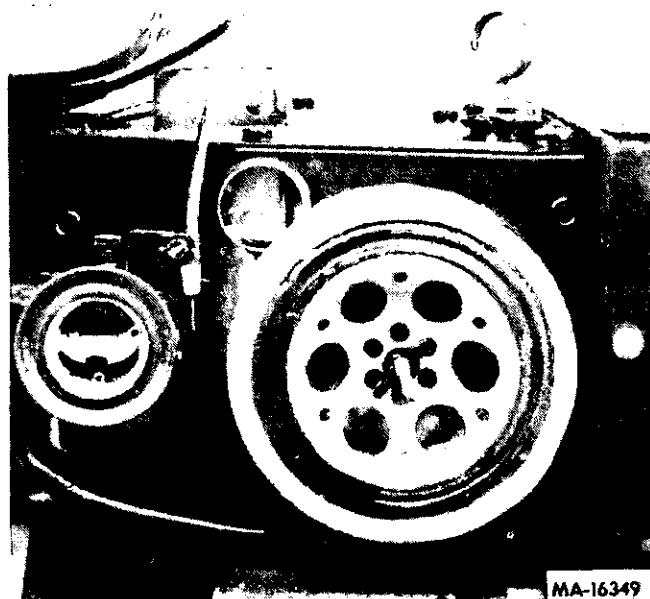
DRY TYPE AIR CLEANER WITH FOAM PRE-CLEANER

Clean and re-oil the foam element pre-cleaner at three month intervals or every 25 hours, whichever occurs first.

NOTE: Service air cleaner more often under dusty conditions.

To clean the dual element air cleaner proceed as follows: Remove wing nut and cover. Remove the foam pre-cleaner element by sliding it off of the paper cartridge. Wash the foam element in liquid detergent and water. Wrap the foam element in cloth and squeeze dry. Saturate the foam element in engine oil. Squeeze to distribute and remove excess oil. Install foam element over paper cartridge. Reassemble cover and screw down tight.

Yearly or every 100 hours, whichever occurs first, remove paper cartridge and use compressed air to blow the element clean. Direct air hose from the inside of the element. Do not water wash or use solvents to clean paper elements. Use care when handling the element; it will not withstand tapping or knocking against solid objects as an alternative cleaning method.



- 1 - Stud
- 2 - Cartridge
- 3 - Cup

- 4 - Foam element
- 5 - Cover
- 6 - Wing nut

NOTE: Petroleum solvents are not to be used to clean cartridge. They may cause deterioration of the cartridge. **DO NOT OIL CARTRIDGE.**

Properly cleaned and installed air cleaner elements are the best guarantee to continued long and satisfactory engine life.

ELECTRICAL SYSTEM

The twelve-volt electrical system consists principally of a rectifier, alternator, starting motor, and a twelve-volt battery.

All connections must be clean and securely fastened.

IGNITION SWITCH

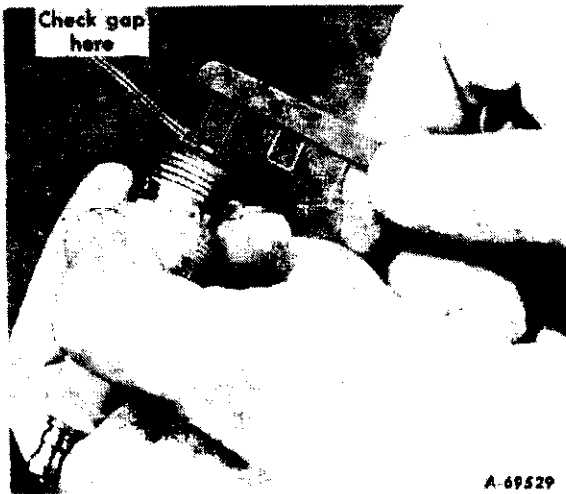
Turn the key clockwise to turn on the ignition. A further turn actuates the starting motor. The key cannot be removed when in the "ON" position.

NOTE: When the engine is not operating, the key must be turned to the "OFF" position to prevent battery discharge.

SAFETY STARTING SWITCH

The safety starting switches activated by the clutch-brake pedal and the power take-off clutch switch serve to prevent starting the engine accidentally.

SPARK PLUG



Checking the spark plug gap.
Set gap at .030-inch.

NOTE: Remove all dirt from around the spark plug before removing.



CAUTION! To avoid possible injury, be sure engine is off and cool before making any adjustments or repairs.

Remove the spark plug after every 100 hours of operation for cleaning and checking the gap. When adjusting the gap, always bend the outer electrode. Never bend the insulator. If gap between the electrodes is too great, the engine will misfire and be hard to start.

Always use a spark plug wrench when removing or reinstalling the plug.

Be sure the gasket is in good condition, screw plug in tightly. Do not tighten more than enough to compress the gasket to seat the plug and assure a good heat transfer between the plug and cylinder head.

Replace defective plug with new plug. Use a Champion RCJ-8 spark plug or equivalent. See your International Harvester dealer for a correct replacement plug.

Cleaning Spark Plug

Clean spark plug with a pen knife or wire brush and solvent. If electrode is burned away or the porcelain is cracked, replace with new plug.

NOTE: Do not use abrasive cleaning machine; because any grit introduced into the engine could cause severe damage.

LIGHTS (Optional)

The headlights are sealed-beam units. Refer to "SPECIFICATIONS" when replacement is necessary.

To replace the taillight lamp, remove the lens from the taillight and replace. Refer to "SPECIFICATIONS".

FUSES (Electric Lighting and Electric Power Take-Off Clutch)

Always use the same capacity fuse for replacement. Refer to "Specifications". If the lights fail or the electric clutch does not engage, check the appropriate fuse.

FUSE — Continued

NOTE: On tractors equipped with optional lighting attachments, there are two fuses adjacent to the lighting switch on the tractor pedestal (left side). The lower fuse is for the lights; the upper fuse is for the electric clutch.

To install a new fuse, press in on the fuse housing cap and turn counterclockwise to remove it from the fuse housing. Remove the old fuse and replace it with a new one. Then reassemble the cap to the housing.

Before working on any part of the electrical system, disconnect the battery ground cable at the battery negative (-) terminal. Do not reconnect this cable until all work has been completed. This will prevent shorting and damage to any of the electrical units. Examine the electrical cables occasionally to be sure they are not being frayed by contact with adjacent parts.

When replacing a battery, make certain the ground cable is connected to the negative (-) terminal on the battery. Be sure the rubber boot is properly positioned over the positive (+) terminal on the battery. **NOTE:** Both cables must be assembled with the nuts to the inside of the terminals to prevent shorting against fender well.

Cleaning and Servicing the Battery

Occasionally remove the battery cables and brighten the terminal contact surfaces with wire wool, and reassemble them. Apply a light coat of vaseline or chassis lubricant. Be sure the terminals are clamped tightly and that the battery is fastened securely in the battery box. Replace unserviceable cable. Keep the vent holes in the battery filler caps open.

Keeping the battery fully charged not only adds to its life but makes it available for instant use when needed.

Liquid Level

Check the battery at least once a month for electrolyte level.

NOTE: Under charging of the battery may occur when using the tractor for short periods of time (under 1/2 hour) with a snow blower in very cold weather. Under this condition run the engine at high idle with the power take-off clutch disengaged.

Over-charging may occur when using the tractor for long periods of time (8 hours or more) without the power take-off clutch engaged. Run the engine with the power take-off clutch engaged, if safely possible. Also, check the water level of the battery and keep filled.

The electrolyte (acid and water) in each cell should be at ring level at all times to prevent battery failure. When the electrolyte is below this level, add pure, distilled water.

Acid or electrolyte should never be added except by a skilled battery man. Under no circumstances add any special battery "dopes", solutions or powders.



CAUTION! If the tractor is to be tipped up or on its side remove the batteries to avoid spilling the electrolyte. Battery electrolyte is poisonous and can be injurious to eyes, skin, and clothing. If electrolyte is spilled, flush immediately with water, followed by a solution of one part baking soda to four parts water.

Connecting Booster Batteries

When required, a booster 12-volt battery may be connected in parallel with the 12-volt system on International Cub Cadet Tractors.



CAUTION! Gas discharged by batteries is explosive. Avoid sparks near the batteries.

NOTE: All circuits must be turned "off". Electrical system is NEGATIVE (-) grounded only. Reversed polarity will result in permanent damage to components of the electrical system.

ELECTRICAL SYSTEM

Connecting Booster Batteries — Continued

The first jumper cable must connect the positive (+) terminal of the booster battery and the positive terminal of the battery on the tractor.

The second jumper cable must first be connected to the negative (-) terminal of the booster battery; and then to a point on the frame of the tractor, away from the battery, having a good ground, so no spark occurs near the battery.

For dependable battery service, see your International Harvester dealer.

PNEUMATIC TIRES

23 x 8.50-12 rear tires are standard equipment on the International Cub Cadet 1100 Tractor.

The high floatation tires provide maximum mobility in sand, snow, and soft soil conditions. The reduced ground pressure and low inflation provides maximum protection for turf, soil and crops.

CARE OF TIRES

Avoid stumps, stones, deep ruts, curbs, and other hazards. Cuts in tires should be repaired immediately as neglect decreases the tire life.

Keep tires free from oil and grease as both destroy rubber.

After using the tractor for spraying use water to remove any chemicals that may be on the tires.

INFLATION

Keep the pneumatic tires properly inflated. Over-inflation will cause operator discomfort. Under-inflation will cause short tire life.

Always see that the tire valve caps are in place and tightened securely to prevent loss of air and protect the valve core and stem.

OPERATING PRESSURE FOR TIRES

Inflate the front and rear tires for normal or heavy load operations as shown in the following table.

Tire Size	Pounds per square inch
Front Tires	
16 x 6.50-8	12
Rear Tires 6-12	12
23 x 8.50-12	12

REAR WHEEL WEIGHTS

Rear wheel weights increase traction and reduce wheel slippage. The weights weigh approximately 26 pounds each. They are attached to each rear wheel with two bolts, lock washers, and hex nuts.

If additional weight is desired, a second set of weights can be attached to each first weight by using two longer bolts.

MOUNTING TIRES ON THE RIM

After mounting a new or old tire on the rim, inflate it to 20 pounds pressure to seat the tire bead on the rim flange. Then deflate the tire to the correct operating pressure.

TIRE CHAINS

Tire chains will provide additional traction for wet ground conditions, when plowing snow, or pulling heavy loads. Rear wheel weights are recommended when using chains.

OVERLOADING

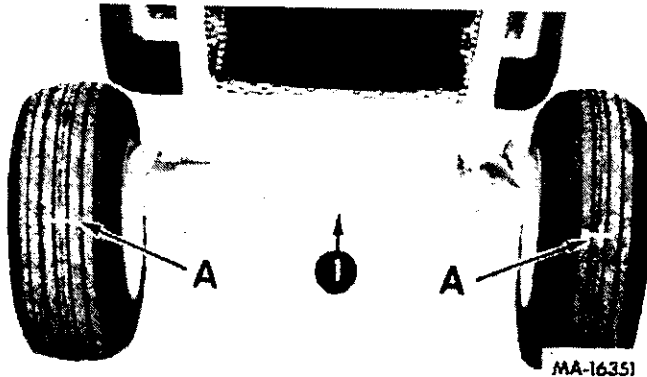
Do not overload the tractor tires by mounting equipment on the tractor which exceeds the load capacity of the size of the tires on the tractor.

FRONT WHEELS

FRONT QUICK ATTACHING LATCH

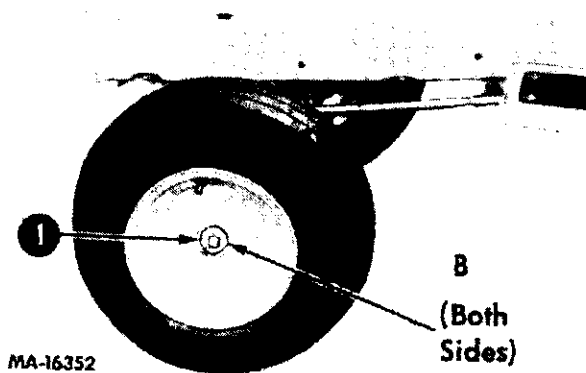
This latch is used for front and center mounted equipment. Refer to the equipment manual for proper instructions.

FRONT WHEEL TOE-IN



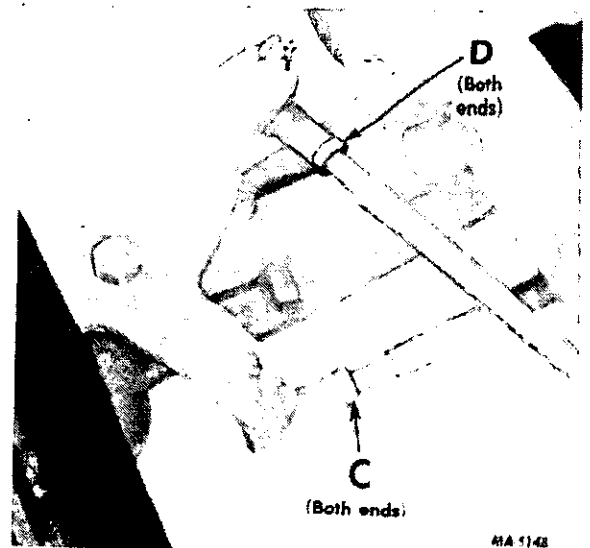
1. Front quick attaching latch

Front wheel adjustments.



1. Wheel hub

Front wheel adjustments.



Tie rod and drag link ball joints.

The front wheel toe-in dimension is approximately 1/8-inch closer in front than in the rear. To measure for proper toe-in, make a chalk mark on the centerline of each tire the same height from the ground as the front wheel hubs. Measure the distance between the marks "A", then rotate the tires so that the marks are toward the rear of the tractor, the same height from the ground as they were in front. The dimension should be approximately 1/8-inch larger at the rear. See "B".

To adjust the toe-in remove one ball joint, loosen the lock nut "C" at the ball joint and turn the tie rod ball joint in or out as required.

STEERING WHEEL ADJUSTMENT

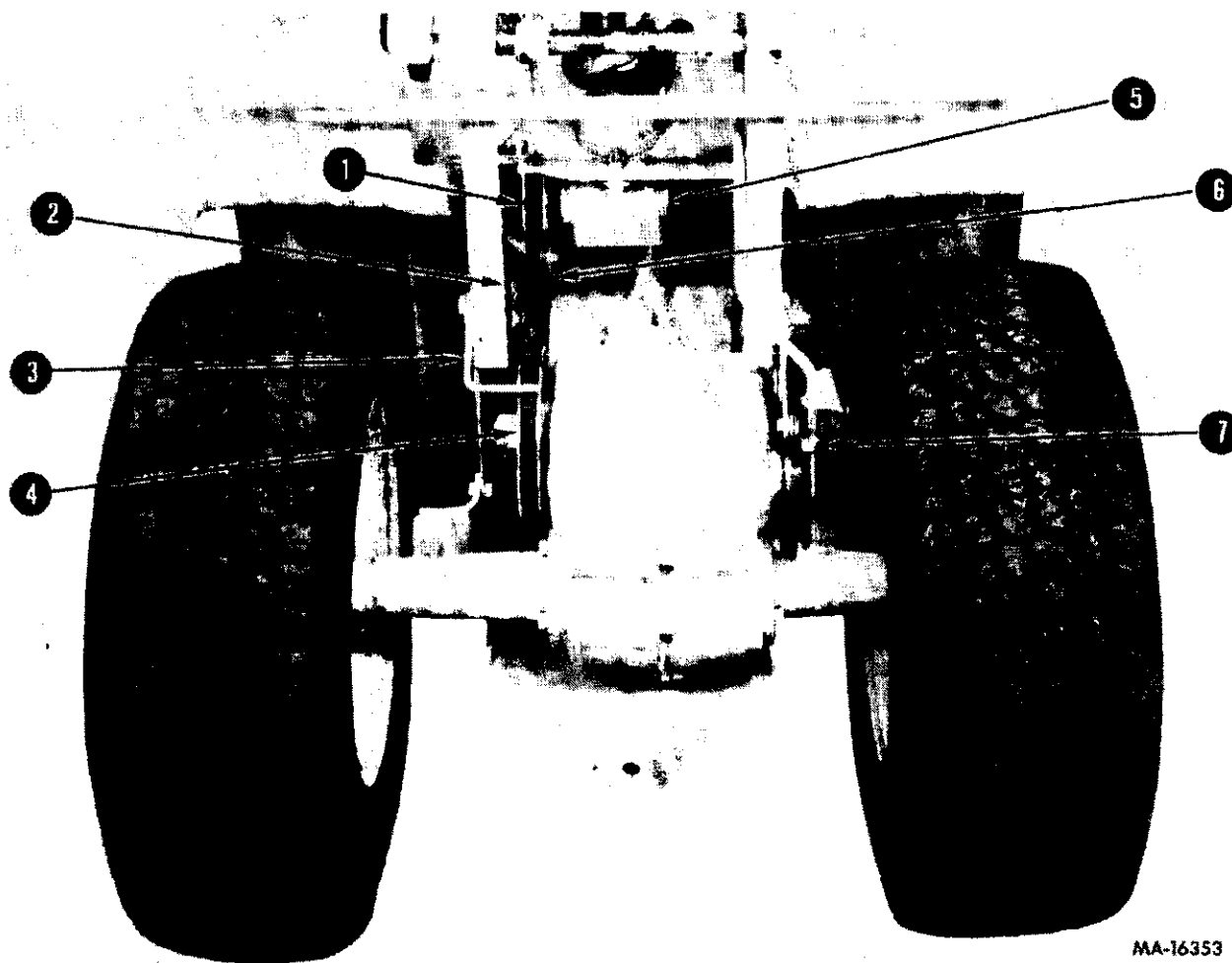
The steering wheel should turn an equal number of revolutions for left or right turns. If adjustment is necessary, remove ball joint and loosen lock nut "D", turn the drag link ball joint clockwise or counterclockwise as required.



CAUTION! Be sure all parts are reassembled tight with cotter pins in place and spread.

ADJUSTING AND OPERATING

DRIVE BELT



MA-16353

- 1. Gear box pulley
- 2. Drive belt
- 3. Belt guide
- 4. Transaxle pulley

- 5. Right angle gear box
- 6. Drive belt idler pulley
- 7. Brake adjusting nut

The drive belt is set at the factory and requires no adjustment. When the belt has worn or stretched to a point where slippage occurs in forward or reverse, a new belt should be installed.



CAUTION! Always disconnect the high tension wire to the spark plug before making any adjustments to your lawn tractor or to the mower.

Proceed as follows to install a new belt:

Disconnect the battery.

Remove the drawbar assembly.

Remove the center frame cover.

Depress the clutch-brake pedal and lock into its lowest position.

ADJUSTING AND OPERATING

DRIVE BELT — Continued

Loosen the bolts securing the two drive belt guides.

Remove the idler pulley.

Remove the two mounting bolts securing the right angle drive gear box to the cross support.

Rotate the right angle drive gear box to bring the pulley down. Remove the drive belt.

Slip the drive belt into position on the drive pulley and the transaxle pulley.

Rotate the right angle drive back into position and secure with the mounting bolts.

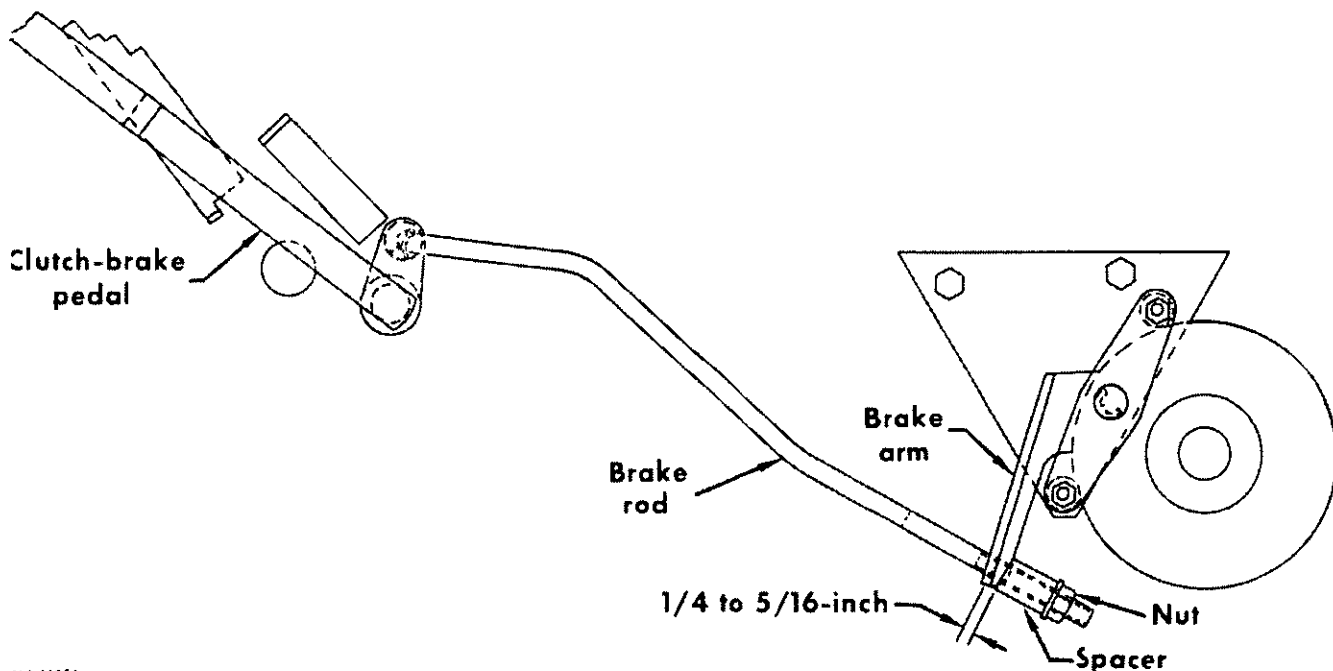
Install the idler pulley.

Release the clutch-brake pedal and adjust and secure the drive belt guides. There should be a gap of 3-5 mm (1/8-3/16-inch) between the belt and the guides.

Install the center frame cover.

Install the drawbar assembly and reconnect the battery.

ADJUSTING THE BRAKES



With the brake pedal in the up position, take all the slack out of the linkage by moving the brake arm up and pulling the brake rod down. Then adjust the nut to allow 1/4 to 5/16-inch

clearance between the spacer and the brake arm. After adjusting, insure proper brake operation before operating the tractor.

STORING THE TRACTOR

When your tractor is not to be used for some time, it should be stored in a dry and protected place. Leaving your tractor out-doors, exposed to the elements materially shortens its life.

Follow the procedure outlined below when storing a tractor for an extended period of time.

1. Wash or clean and completely lubricate the tractor. **See the "Lubrication Guide".**

2. Store the tractor so the tires are protected from sunlight. Before storing the tractor, clean the tires thoroughly. Jack up the tractor so the load is off the tires when it is to be out of service for a long period. If not jacked up, inflate the tires at regular intervals.



CAUTION! If tractor is jacked up or placed on blocks, be sure it is done so it cannot be tipped over or fall on someone.

3. Run the engine long enough to thoroughly warm the oil in the crankcase and then drain the oil. Refill the crankcase with fresh oil as specified in the "Lubrication Table" and run the engine for about five minutes.

4. Drain the fuel tank and run the engine until the fuel is exhausted from the fuel system.

NOTE: Gum will eventually form in the fuel tank, line, and carburetor if the fuel system is not drained.

5. After the engine has cooled, remove the spark plug and pour two tablespoonsful of a rust inhibited oil such as Hy-Tran® or IH No. 1® engine oil into the cylinder. Crank engine slowly to distribute the oil over the cylinder walls. Then replace spark plug.

6. Clean the exterior of the engine.

7. Remove the battery and place it in a cool, dry place above (+32°F.). Check battery at least once a month for electrolyte level and amount of charge.

REMOVING FROM STORAGE

1. Fill the fuel tank and be sure the grade of oil in the crankcase is according to the temperature range in the "Lubrication Table".

2. Install a fully charged battery and properly connect.

3. Start the engine and let it run slowly. Do not accelerate it rapidly or operate at high speed immediately after starting.



CAUTION Keep doors wide open or release brake pedal lock and move the machine outside the storage room before engine is started to avoid the danger from exhaust gas.

4. Check air pressure in tires.

EXTRA EQUIPMENT AND ACCESSORIES

When you purchased your tractor, you probably had it completely equipped for your particular needs at the time. However, later you may wish to obtain some of the equipment or accessories shown below. These items and other allied equipment can be purchased from, and installed by, your International Harvester dealer.

The tractor is used for so many different types of work, and because it is called on to operate under so many different conditions, a

variety of equipment is available to adapt it to the requirements of the user.

Dual Rear Wheels
Electric Lighting
Implement Handle Helper Spring
Rear Wheel Weights
Three-Point Hitch
Tire Chains
Tractor Cover
Utility Box

TROUBLE SHOOTING

Possible Cause

Possible Remedy

HARD TO START

No gasoline in fuel tank or carburetor.....	Fill the tank with gasoline; open the fuel shut-off valve. Check the fuel line, and carburetor.
Fuel line or carburetor clogged	Clean the fuel line and carburetor with commercial carburetor cleaner.
Water in gasoline	Drain the fuel tank and carburetor. Use new fuel and dry the spark plug.
Choked improperly. Flooded engine.....	Follow the starting instructions.
Defective ignition or loose wiring	Check the wiring, spark plug, or breaker.
Defective battery.....	Check and service, or replace.
Spark plug dirty or improper gap	Clean, adjust the gap to .030 inch, or replace the plug.

ENGINE OPERATES IRREGULARLY OR KNOCKS

Engine incorrectly timed.....	*
Spark plug dirty; wrong gap or wrong type ...	Clean, reset the gap, or replace.
Poor or weak spark	Check the breaker points and breaker point opening, spark plug, and wiring.*
Carburetor setting incorrect	Adjust; see "Carburetor".
Poor grade fuel or water in fuel.....	Drain and use a good grade of clean fuel.
Engine overheating.....	See "Engine Cooling"
Engine valves at fault	*
Engine smokes	Adjust the carburetor. Check for worn piston and rings.*
Other engine problems	*
Excessive oil in air cleaner.....	Be sure that oil dipstick is fully seated.

LACK OF POWER

Air cleaner clogged	Replace the air cleaner element.
Engine overloaded	Reduce the load.
Engine overheated	Run the engine until it warms up before putting it under load. See "Engine Overheats" below.*
Poor fuel, too rich, or too lean a mixture.....	See "Carburetor"
Fuel tank air vent clogged.....	Open the vent in the cap.
Air leakage between carburetor and engine...	Replace the air cleaner. Tighten the carburetor and manifold mounting nuts.
Incorrect timing or faulty ignition	*
Clutch slipping.....	Install new belt.
Brake drags	Adjust the brake.

ENGINE OVERHEATS

Insufficient cool air, dirty air intake screen, shroud, or cooling fins	Keep the air intake area and cooling fins clean; see "Engine Cooling and Air Cleaner."
Carburetor set to lean.....	Richen; see carburetor.

***See your International Harvester dealer.**

LUBRICATION

The life of any machine depends upon the care it is given. Proper lubrication is a very important part of that care.

ENGINE OIL

The engine crankcase is filled with ship-away oil. This oil may be used for the first 30 hours of engine operation at temperatures between +90 degrees F. and 0 degrees F. If temperatures are not within this range, drain the oil from the crankcase and replace with new oil as specified in the "Lubrication Table". The engine oil must be drained and replaced with new oil every 30 hours of engine operation.

To aid starting, the selection of crankcase lubricating oils should be based on the lowest anticipated temperatures until the next drain period.

We recommend IH Low Ash Engine Oil for gasoline engines. IH Low Ash Engine Oil exceeds API Service Classification SE. It is specifically designed for heavy duty service in gasoline engines, and is formulated to minimize metallic deposits, lengthen spark plug and valve life. IH Low Ash Oil used with unleaded gasoline is the ideal combination to maintain performance and extend engine life.

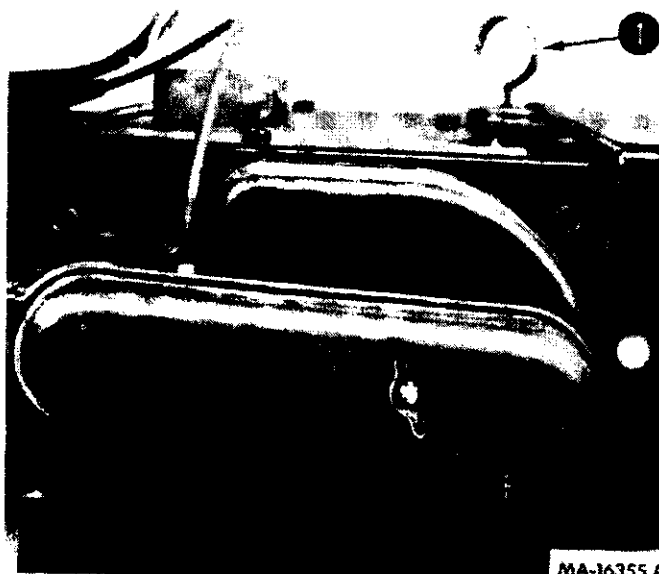
If other than IH Low Ash Engine Oil is used it must meet API Service Classification SE. For maximum engine life select API SE oils with lowest levels of barium, calcium, or magnesium additives and minimum ash content (approximately 0.5%). Lubricant suppliers will normally furnish this information on their engine oils.

Multi-viscosity numbered oils such as SAE 10W-30 or SAE 10-40 must not be used above 32 degrees Fahrenheit.

Regularly check the oil levels of the engine crankcase and transmission to see that they are filled to the correct levels. **NOTE:** Check the oil level only while the engine is stopped.

Always keep the oil level between the "FULL" and the "LOW" marks on the gauge. When checking the oil level the gauge must be withdrawn and wiped clean, then inserted all the way and withdrawn for a true reading.

NOTE: Never overfill the engine crankcase. Engine damage may result if the crankcase is below the "LOW" mark or over the "FULL" mark.



MA-16355 A

1 - Oil filler cap and oil level gauge

LUBRICATION

ENGINE OIL — Continued

To fill the crankcase with oil, place the engine on a level surface. Clean the area around oil fill before removing combination oil filler cap and level gauge.

Remove the cap and dipstick and fill to the full mark on the dipstick. **POUR SLOWLY.** (Capacity 3 pints.) When checking the oil level, push the dipstick assembly firmly but slowly until cap bottoms on tube. **DO NOT OVERFILL.** Dipstick assembly must be pushed fully into tube at all times when engine is operating.

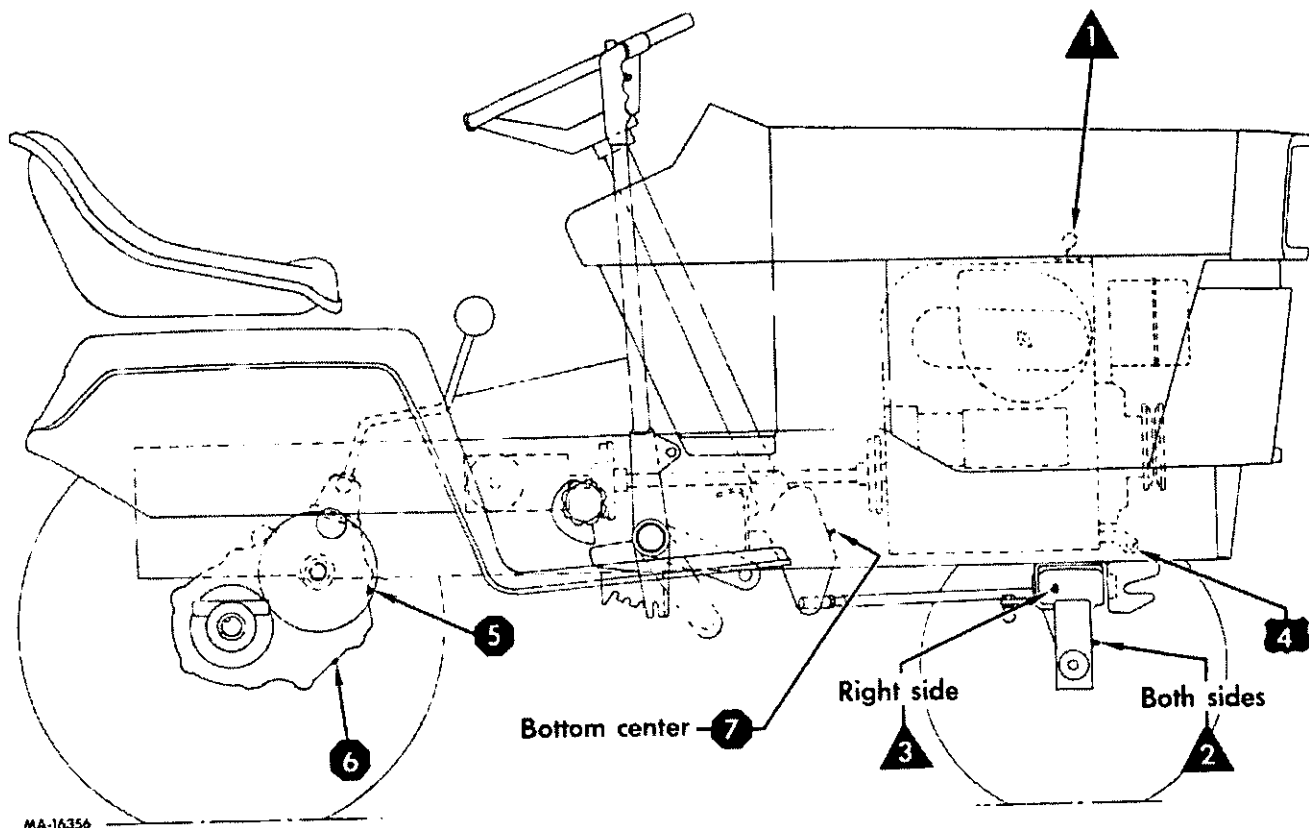
Keep your supply of lubricating oil absolutely clean and free from dust. Always use clean containers. Keep the lubricator clean and wipe dirt from the lubrication fittings before applying the lubricator.

Lubricate the entire tractor, using only high quality lubricating oils and grease as specified in the "Lubrication Table". For your own protection, select only oils and greases of recognized manufacture.

LUBRICATION TABLE

Point of Lubrication	Check at Hours	Change at Hours	Capacity	Anticipated Air Temperature		
				Above +32°F.	+32°F. to 0°F.	Below 0°F.
Engine Crankcase	10	30	3 pt.	I.H. Low Ash Engine Oil SAE-30 Note: Do not substitute 10W-30 or 10W-40	I.H. Low Ash Engine Oil SAE-10W	I.H. No. 1® Engine Oil SAE-5W-20 or SAE-5W
Transmission	100	Add as needed	4 pt.	IH-135H EP gear lubricant.		
Steering gear housing	Yearly	—	1/4 lb.	Two strokes of the lubricator using IH-251H EP grease or equivalent No. 2 multi-purpose lithium grease.		
Steering knuckles	10		Use IH-251 IH EP grease or equivalent No. 2 multi-purpose lithium grease and apply two or three strokes of the lubricator or sufficient grease to flush out old grease and dirt.			
Front wheel bearings	Yearly			Remove front wheels and pack bearings with IH-251H EP grease or equivalent No. 2 multi-purpose lithium grease and reinstall wheels.		
Right angle gear box	Sealed unit		4 oz.	Not serviced! If repairs require disassembly, gear box must be refilled with IH-251H EP or equivalent No. 2 multi-purpose lithium grease.		

LUBRICATION GUIDE



Lubrication View



— After Every 10 Hours of Operation

1 - Oil filler cap and bayonet-type level gauge

Check the oil (with the engine stopped) and add sufficient new oil to bring it to the "FULL" mark on the gauge. Do not overfill. Do not operate the engine if the oil level is below the "LOW" mark on the gauge.

Always check the oil level prior to operating.

2 - Steering knuckles (2).

Use IH 251H EP grease or equivalent No. 2 multi-purpose lithium grease and apply sufficient grease to flush out old grease and dirt.

3 - Front axle pivot pin.

Use IH 251H EP grease or equivalent No. 2 multi-purpose lithium grease and apply sufficient grease to flush out old grease and dirt. **NOTE:** It may be necessary to rotate the front axle to reach the grease fitting.

LUBRICATION GUIDE



— After Every 30 Hours of Operation

4 - Engine crankcase.

{ While the oil is warm, remove the drain plug (4) and drain all of the oil from the crankcase. Replace the drain plug. Refill the crankcase with new oil up to the "FULL" mark on the oil level gauge. Refer to the "Lubrication Table" for the proper quantity and viscosity to use.



Periodic

Transmission

- 5 - Oil level and filler plug
- 6 - Oil drain plug.

{ Check the oil level periodically. Keep the lubricant up to the level plug (5) on the rear of the transmission case.

7 - Steering gear housing.

{ Once a year, apply two strokes of the lubricator, using IH 251H EP grease or equivalent No. 2 multi-purpose lithium grease.

Miscellaneous

{ **NOTE:** To locate the lubrication fitting, remove bottom shield and turn the front wheels to the maximum right turn position. Then reach up under the right side of the tractor frame to locate the fitting.

{ Lubricate the clutch pedal shaft and linkage with eight or ten drops of engine oil.

SPECIFICATIONS

CAPACITIES

(APPROXIMATE U.S. MEASURE)

Fuel Tank	8 qt.
Crankcase	3 pt.
Transmission case	4 pt.
Steering gear housing	1/4 lb.

TRANSMISSION GEARS

Speed: 1st63 mph
2nd	1.87 mph
3rd	3.34 mph
4th	4.93 mph
Rev.	2.56 mph

ENGINE

Make and model	Briggs and Stratton
(electric starting)	253417
Cylinders	1
Bore	3.4375
Stroke	2.625
Displacement	24.36
Engine Speed	
(governed)	
Low speed	1750 rpm
High idle speed	
(no load)	3600 rpm
Valve clearance	
(engine cold)005 to .007 (intake)
	.009 to .011 (exh.)
Ignition (electric starting)	Magneto
Spark plug gap	
(14mm plug) (Champion RCJ-8 or equivalent)030 gap
Breaker points020 gap

ELECTRICAL SYSTEM

System voltage	12 volt neg. ground
Battery	9948X
Alternator	Tri-circuit
Fuse (cartridge type) (1 or 2)	AGC-10 amp.
	Slow Blow
Headlights (optional equipment) —	
all glass, sealed beam units	Lamp No. 4411
	I.H. Part No.
	373 662 R92
	67
Taillight	I.H. Part No.
	142 450

Specifications are subject to change without notice.

SPECIFICATIONS

FOOT BRAKE

Single disc, external 5 inch dia.

CLUTCH Belt and pulley

TIRE SIZES

Front 16 x 16.50-8

Rear 23 x 8.50-12

DIMENSIONS

Front — with 16 x 6.50-8 floatation tires 29.0-inches

Rear 29.0-inches

Wheelbase 44-inches

Length, over-all 69-inches

Width, over-all 37.5-inches

Height, over-all (to top of steering wheel) 42.5-inches

Ground clearance 7.5-inches

Turning radius 6 ft. 9-inches

Specifications are subject to change without notice.

Accidents can be prevented with your help

No accident-prevention program can be successful without the wholehearted co-operation of the person who is directly responsible for the operation of equipment.

To read accident reports from all over the country is to be convinced that a large number of accidents can be prevented only by the operator anticipating the result before the accident is caused and doing something about it. No power-driven equipment, whether it be transportation or processing, whether it be on the highway, in the harvest field or in the

industrial plant, can be safer than the man who is at the controls. If accidents are to be prevented—and they can be prevented—it will be done by the operators who accept a full measure of their responsibility.

It is true that the designer, the manufacturer, the safety engineer can help; and they will help, but their combined efforts can be wiped out by a single careless act of the operator.

It is said that *'the best kind of a safety device is a careful operator.'* We ask you to be that kind of an operator.

INTERNATIONAL HARVESTER COMPANY

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