To The Owner

Assembled in this manual are operation, lubrication, and maintenance instructions for the International® Cub Cadet® 86, 108, 109, 128, 129 and 149 Tractors. 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. New 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.

The International Cub Cadet 109, 129, and 149 Tractors have a hydrostatic drive. It is the best hydraulic drive unit available and will require minimum service if recommended operation and maintenance procedures are followed. Should you have difficulties with the unit consult your International Harvester dealer. UNDER NO CIRCUMSTANCES SHOULD YOU ATTEMPT TO SERVICE THESE UNITS YOURSELF. Only your dealer is authorized to repair or replace units on this drive under the terms of the warranty. Should you desire additional information not found in this manual, contact your International Harvester dealer.

The International Cub Cadet 86, 108, and 128 Tractors have a conventional clutch and transmission.

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 in Illusts. 4 and 4A.
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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.

The illustrations in this manual are numbered to correspond with the pages on which they appear; for example, Illust. 7 on page 7.

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.

This manual is for tractors with Serial No. 400,001 and above.
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.

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

2. Disengage power to any attachments and stop engine before leaving operator's seat or making any repairs or adjustments.

3. Know the controls and how to stop quickly - READ THE OPERATOR’S MANUAL.

4. Do not allow children or adults to operate the equipment without proper instruction.

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

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

7. Do not carry passengers. Keep children and pets a safe distance away.

8. Take precautions, such as disengaging power take-off, shifting into neutral, setting the parking brake, stopping the engine and removing ignition key when leaving machine unattended.

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

10. Stay alert for holes in terrain and other hidden hazards.

11. Don't stop or start suddenly when going uphill or downhill.

12. Use care when pulling loads or using heavy equipment: A. Use only approved drawbar hitch points. B. Limit loads to those you can safety control. C. Don't turn too sharp, and use care when backing. D. Use counterweight or wheel weights when suggested in Operator's Manual.

13. Watch out for traffic when crossing or near roadways.

14. When using any attachments, never direct discharge of material toward bystanders nor allow anyone near the machine while in operation.

15. 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 inflammable fuel. Wipe up spilled gasoline. C. Replace gasoline cap securely. D. Open doors if engine is running in a garage - exhaust gases are dangerous.


17. 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.

18. Always depress the brake pedal and set the brake pedal lock before working on the engine.
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.

Illust. 6

1. Brake pedal lock ........................................ See page 12
2. Choke control button .................................... See page 9
3. Clutch-brake pedal ...................................... See pages 12 and 13
4. Creeper shift lever* ...................................... See page 13
5. Front power take-off clutch lever ....................... See page 18
6. Gearshift lever ........................................... See page 13
7. Lift handle cam stop ..................................... See page 15
8. Lighting switch button* .................................. See page 22
9. Ignition switch ........................................... See page 22
10. Throttle lever ............................................. See page 8
11. Electric lift control switch* .............................. See page 19
12. Charge indicator ........................................ See page 22

* Optional Equipment
Illustr. 7

Instruments and controls on the International Cub Cadet 109, 129, and 149 Tractors.

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* Optional Equipment

Electric lift * (Not shown.) Available on all but the Model 149 Tractor.
BEFORE OPERATING YOUR NEW TRACTOR

Lubrication .................. Lubricate the entire tractor. See pages 34 to 42.
Tires .......................... Check the air pressure. See pages 25 to 27.
Fuel system ..................... Fill the fuel tank with gasoline. See pages 10 and 11.

OPERATING THE ENGINE

1. Fuel tank filler cap
2. Fuel tank
3. Carburetor (not seen)
4. Fuel line
5. Fuel shut-off valve
6. Air cleaner

Illustr. 8
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 to make the engine and fuel tank readily accessible. To raise the hood take hold of the spring latches on each side of the pedestal and lift up and out to release the spring latches from the hood crossmember. (Illust. 9).

1. Hood spring latch
   (one on each side)
   Illust. 9

STARTING THE ENGINE

1. Be sure the fuel shut-off valve is open.

2. Pull the choke control button all the way out (see Illust. 6 or 7). More or 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.

3. Place the throttle lever half-way between "SLOW" and "FAST". See Illust. 6 or 7.

4. To start the engine the clutch-brake pedal must be pressed all the way down and the power take-off clutch handle must be in the disengaged position to actuate the safety starting switches.

On the International Cub Cadet 109, 129, and 149 Tractors the speed control lever will return to neutral when the clutch-brake pedal is pressed all the way down.

International Cub Cadet 86, 108, and 128 Tractors: Check to see that the gearshift lever is in the neutral position. See Illust. 6.

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

5. 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 when necessary to start the engine.

   Note: If no front power take-off driven equipment is attached to the power take-off pulley, the power take-off clutch must be engaged immediately after the engine starts to avoid excessive wear on the power take-off clutch wear button.

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.
FUEL SYSTEM

FUEL SYSTEM

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

The use of unleaded gasoline will lengthen spark plug and valve life, maintain engine performance longer, and reduce rust and corrosion of 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! Never 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 inflammable fuel, as the air around the tractor is mixed with a highly explosive vapor. When pouring fuel, keep the container or hose nozzle in contact with the metal of the fuel tank to avoid the possibility of an electric spark igniting the gas. Do not spill gasoline on a hot engine.

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 fully open position.

CARBURETOR ADJUSTMENTS

The carburetor is adjusted at the factory and under normal operation conditions it will not require readjusting. However, if the engine does not operate properly, it is recommended a new air cleaner be installed before performing carburetor adjustments. If this adjustment has been disturbed for any reason, proceed as follows:

1. Governor control rod
2. Idle adjustment screw
3. Throttle stop screw
4. High speed adjustment screw
5. Fuel shut-off valve
6. Fuel line
7. Air cleaner

CARBURETOR ADJUSTMENTS - Continued

Adjusting the High-Speed Adjustment Screw

Turn the high speed adjustment screw (Illusts. 10 and 10A) counter-clockwise approximately two turns from the closed position and start the engine.

After the engine has reached normal operating temperature, accelerate the engine and check its response.

Place the engine under load and turn the high speed adjustment screw (Illusts. 10 and 10A) to the leanest mixture that will allow satisfactory acceleration and steady governor operation.

If the engine misses and backfires under load, the high speed mixture is too lean. The high speed adjustment screw must be turned counter-clockwise 1/4 turn at a time until the condition is corrected.

If the engine shows a sooty exhaust and is sluggish under load, the high speed mixture is too rich. The high speed adjustment screw must be turned clockwise 1/4 turn at a time until the condition is corrected.

Adjusting the Idle Adjustment Screw

After the high speed adjustment screw is adjusted, it may be necessary to readjust the idle adjustment screw (Illusts. 10 and 10A), as each affects the other.

Close the idle adjustment screw to its seat by turning it clockwise; then open it one turn. Start the engine and operate it at fast idling speed (without any load) until thoroughly warm.

While the engine is running at fast idle speed, it is advisable to screw in the throttle stop screw (Illusts. 10 and 10A) a few turns to keep the engine from stopping when the throttle lever is moved to the fully retarded "SLOW" position. The engine will then be idling at a fairly high speed and the throttle stop screw can be backed out a little at a time until the desired idle speed is obtained.

If the engine misses or rolls while backing out the throttle stop screw, the idle adjustment screw may be adjusted in or out until the engine operates smoothly. Speed up the engine for a few seconds; then recheck the idle adjustment. A slight adjustment in or out will give the smoothest idle.

DRIVING THE TRACTOR

PREPARING THE TRACTOR FOR EACH DAY'S WORK

Check the crankcase oil level and add new oil if necessary. See pages 34 and 35.

Clean the air cleaner element if necessary. See page 21.

Inspect the tires for general condition. See pages 25 and 26.
DRIVING THE TRACTOR

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. See Illustr. 12.

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

Illustr. 12A
Brake pedal lock in the engaged position.

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 and 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.

GEARSHIFT LEVER

This lever is used to select various gear ratios provided in the transmission. There are three forward speeds and one reverse speed. See Illustration 6. Refer to "SPECIFICATIONS" on page 43.

STARTING THE TRACTOR

1. Advance the throttle lever slightly. See Illustration 6.

2. 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.

3. 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 clutch lining 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.

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".

CREEPER SHIFT LEVER

The creeper drive (optional) provides a slower speed in each respective gear, by a four-to-one reduction in speed from direct drive. When the creeper shift lever is all the way forward, it is in direct drive, or all the way rearward, it is in creeper drive. See Illustration 6.

OPERATING THE CREEPER DRIVE

To operate the tractor in creeper drive, depress the pedal and move the creeper shift lever (Illustration 6) all the way rearward. Then select the transmission speed desired and proceed as instructed under "Starting the Tractor".

Note: Do not use a mid-point position on the creeper drive as neutral. Neutral position must be selected only with the standard transmission gearshift lever.

The following table shows the speeds available in each of the three forward gears and the reverse gear.
OPERATING THE CREEPER DRIVE

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DRIVING THE TRACTOR

International Cub Cadet 109, 129 and 149 Tractors

BRAKE PEDAL

The brake pedal must be pressed all the way down to activate the safety starting switch. When the brake pedal is in the depressed position it automatically moves the speed control lever to the "N" position.

The tractor can be stopped either by pressing the pedal all the way down, or placing the speed control lever in the "N" position.

SPEED CONTROL LEVER

This lever is used to select any speed from a standstill "N" position to eight miles per hour in the forward direction and to four miles per hour in the reverse direction.

Moving the speed control lever forward provides increased forward speed, and moving the lever rearward provides the reverse speeds.

Note: Do not rest your foot on the brake pedal while driving the tractor as this would cause the speed control lever to return to the "N" position.

Note: On tractors with a rotary tiller the following instructions are required.

1. Engage the Power Take-Off clutch, and move the throttle to "Fast".

2. Lower the rotary tiller to the desired cutting depth.

3. Move the speed control lever to start forward motion. Note: In rotary tilling application, the tractor is used to hold the rotary tiller back rather than to pull the unit as in plowing or mowing.

4. Move the speed control lever back to a position to maintain proper mulching of the soil.

5. With a hydrostatic drive, it may be necessary to vary the speed control lever as the soil conditions vary. With a gear driven tractor, under similar conditions, it may be necessary to declutch or to use the brake.
STARTING THE TRACTOR

1. Depress the brake pedal and release the brake lock. Move the throttle lever to the position where the engine operates best for the load to be handled.

2. Start the tractor in motion by moving the speed control lever slowly forward or rearward as described above.

RELEASE LEVER

To push or move the tractor for a short distance, the release lever (Illust. 7) must be held in the (up) position and the speed control lever must be in the "N" position.

Caution! Never operate engine with release lever in (up) position. Towing or pushing the tractor for more than a few feet may result in transmission damage.

STOPPING THE TRACTOR

Move the speed control lever to the "N" position or use the brake. Before dismounting always lock the pedal and turn the ignition "OFF".

EQUIPMENT

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 counter-clockwise. Turn cam until it contacts tang. (Illusts. 16A and 19A). 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. See Illust. 16A.

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

1. Lift lever
2. Drawbar
3. Three-point hitch

Illust. 16
Drawbar and three-point hitch shown on International Cub Cadet 86 Tractor.

DRAWBAR

Drawbar equipment must be hitched to the tractor only at the hitch hole in the drawbar. See Illust. 16.

THREE-POINT HITCH

When the tractor has a three-point hitch, (Illusts. 16 and 16A) 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 has three holes which are used for additional adjustment.

Note: Refer to the equipment manual for proper hitching instructions.
REAR POWER TAKE-OFF
International Cub Cadet 86, 108 and 128 Tractors

1. Power take-off guard
2. Grease fitting
   Illustr. 17

If your tractor is equipped with a rear power take-off, the following instructions should be carefully studied and followed.

The rear power take-off is started and stopped by the same engine clutch as the tractor. Be sure to disengage the engine clutch before moving the power take-off shifter lever. See Illustr. 17A.

Caution! The shifter lever should always be in the disengaged (rearward) position when the power take-off is not in use. Always cover the power take-off exposed shaft with the guard when the power take-off is not being used.

OPERATING THE REAR POWER TAKE-OFF WITH THE TRACTOR STANDING STILL

1. Move the throttle lever back to the "SLOW" speed.

2. Depress the pedal and move the transmission gearshift lever to the neutral position.

3. Move the shifter lever (Illustr. 17A) forward to the engaged position.

4. Move the throttle lever forward to the "FAST" position and slowly release the pedal.

OPERATING THE REAR POWER TAKE-OFF WITH TRACTOR IN MOTION

Follow steps 1 thru 3 outlined above. Keep the pedal depressed, move the transmission gearshift lever to the speed desired and advance the throttle lever. Slowly release the clutch pedal. This will start the tractor in motion with the power take-off in operation.
FRONT POWER TAKE-OFF

OPERATING THE FRONT POWER TAKE-OFF CLUTCH

1. Move the throttle lever back to the medium or "slow" position.

2. Move the control lever forward slowly to the engaged position. See Illust. 18A.

3. Advance throttle to operating speed.

Note: If no front power take-off driven equipment is attached to the power take-off pulley, the power take-off clutch is to be engaged immediately after the engine starts to avoid excessive wear on the power take-off wear button.

ADJUSTING THE CLUTCH RELEASE LEVER

Illustr. 18
View showing engaging lever wear button and pressure spring thrust button.

The clutch is factory adjusted and should not require further adjustment under normal operating conditions. However, if clutch slips or fails to disengage, see your International Harvester dealer.

Illustr. 18A
1. Clutch lever bracket
2. Quick attachable cotter pin
3. Clutch lever rod
4. Clutch control handle

After considerable use, it may be necessary to readjust the button clearance as described below to secure proper clutch engagement.

With the clutch fully engaged (clutch control handle in the forward position) the clearance between wear button "A" and the pressure spring thrust button "B" should be approximately 1/32-inch. To adjust for proper clearance, loosen the jam nut on the clutch lever turnbuckle, and adjust the turnbuckle. After obtaining the proper clearance tighten the jam nut securely against the turnbuckle.

Note: Periodically lubricate the bushing in the clutch lever bracket with a few drops of engine oil.
The electric lift is a self-contained unit designed to provide power with fingertip control for raising and lowering mounted equipment.

The electric lift is available on all Cub Cadet Tractors except the Model 149 which is equipped with a hydraulic lift as standard.

**OPERATING INSTRUCTIONS**

The electric lift is operated by a control switch on the upper right-hand corner of the instrument panel (Illust. 6). To raise the implement push upward on control switch until desired height is reached, then release the switch. Switch will return to the center or neutral position. Equipment will stay in a given position when you release the switch. To lower equipment push down on the control switch. Switch will again return to the center or neutral position when you release it.

Note: Always operate electric lift with tractor engine running. Operation of electric lift off the battery will cause premature battery failure.

Note: Whenever raising or lowering equipment release control switch when equipment has reached a fully raised or lowered position. Holding control switch will cause protective switch to open the circuit. Lift will function after waiting 30 seconds.

Equipment is normally operated in a "Float" position (implement free to move upward) with lock pin (optional) positioned as shown in Illust. 19. Cam stop on the outside of the frame may be adjusted as described on page 15 to allow implement to return to a single preset height.

To operate equipment in a fixed "Locked" position, where down pressure of implement is required (that is blade work); remove frame cover and remove cotter pin in pivot pin (Illust. 19). Reverse lock pin (optional) and insert into pre-aligned holes in clevis
ELECTRIC LIFT

OPERATING INSTRUCTIONS - Continued

and lower portion of rockshaft arm. Replace washer and cotter pin.

Note: Remove or position cam stop on side of frame for full travel of rockshaft as shown in Illust. 19A before locking rockshaft arm as described above.

Note: To avoid possible damage, as soon as the operation requiring "Down Pressure" is completed, immediately return the float lockout pin to the "Free to Float" position.

Refer to equipment manual for proper mounting instructions.

Note: Periodically lubricate pin "A" (Illust. 19) with a few drops of engine oil.

HYDRAULIC LIFT

1. Float lockout pin (optional)
2. Hydrostatic drive unit
3. Cotter pin
   Illust. 20

The hydraulic lift is ready to operate when the engine is running.

OPERATING INSTRUCTIONS

The hydraulic control lever is spring loaded. To raise the equipment move the lever back, toward the tractor seat. To lower the equipment move the lever forward, as shown in Illust. 20A.

Equipment is normally operated in a "Float" position (implement free to move upward) with the lock pin (optional) positioned as shown in Illust. 20.

1. Hydraulic lift handle
2. Cam stop
3. Locking knob
   Illust. 20A

The cam stop (Illust. 20A) may be adjusted as described on page 15 to allow the implement to return to a single preset height.

To operate equipment in a fixed "Locked" position, where down pressure of the implement is required (that is blade work), remove frame cover and remove cotter pin (See Illust. 20), in pivot pin. Reverse lock pin (optional)
OPERATING INSTRUCTIONS - Continued

and insert into pre-aligned holes in clevis and lower portion of rockshaft arm. Replace washer and cotter pin.

Note: Remove or position cam stop on side of frame for full travel of rockshaft (Illust. 20A) before locking rockshaft arm as previously described.

Note: To avoid possible damage, as soon as the operation requiring "Down Pressure" is completed, imme-

diately return the float lockout pin to the "Free to Float" position.

Refer to equipment manual for proper mounting instructions.

Note: Periodically lubricate pin "A" in Illust. 20 and bushing "B" in Illust. 20A with a few drops of engine oil in both locations.

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. Periodic cleaning with compressed air will keep area clear for adequate cooling.

Clean or replace the element when loss of power is noticeable. Replace at least once a year.

Cleaning the Element - To clean the element, remove wing nut, air cleaner cover, then remove element and tap it lightly on a flat surface to cause loose dirt to fall off. Handle paper element with care to avoid dents or crushing local areas. Do not use compressed air to remove dirt as this can rupture the element. Do not wash or use a solvent. See Illust. 21.

Replacing the Element - Replace element with a new one if dirt does not drop off easily, or if it is bent or damaged. When replacing element be sure the back plate is securely tightened to the carburetor. Replace the back plate if bent or cracked, then be sure the element fits snugly around the inside edge of the air cleaner base. The gasket surfaces of the element must be flat against the back plate and cover to seal effectively. Replace cover and tighten wing nut finger tight.

DRY TYPE AIR CLEANER

Incoming air for combustion is filtered by a dry-type air cleaner having a filter element inside of the cover.

Illust. 21
Removing the air cleaner filter element.
ELECTRICAL SYSTEM

The twelve-volt electrical system consists principally of a motor-generator, voltage regulator, 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 motor-generator. 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 switch, activated by the clutch-brake pedal, serves to prevent starting the engine accidentally.

CHARGE INDICATOR

This instrument (Illust. 6) indicates whether the motor-generator is charging or the battery is discharging. If it shows discharge continuously, investigate the cause to avoid completely discharging the battery and possible damage to the motor-generator.

SPARK PLUG

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

Remove the spark plug, always using a spark plug wrench, after every 100 hours of operation to check the gap. See Illust. 22.

Be sure the gasket is in good condition. Tighten the plug 1/2 to 3/4 turns past finger tight.

Replace a defective plug with a new plug. See your International Harvester dealer for the correct replacement plug.

MOTOR GENERATOR

The motor-generator (12-volt, negative ground) will function as a cranking motor when the ignition key is turned to the "START" position, driving the engine by means of a belt.

When the engine is operating, the unit will function as a generator.
MOTOR-GENERATOR BELT

Check the tension of the motor-generator belt after the first 10 hours of operation and every 50 hours of operation thereafter. The tension is correct when the belt can be deflected a maximum of 1/4-inch by a ten pound force applied midway between the two pulleys.

Also follow this procedure when a new belt is installed.

Adjusting the Motor-Generator Belt

Loosen the motor-generator brace bolt and mounting bolts, Illust. 23A.

Move the generator away from the engine until the tension on the belt is correct. See Illust. 23.

Note: Under no circumstances should a pry bar be used on the motor-generator to obtain belt tension as damage to the bearings will result.

Tighten mounting bolts and brace bolt.

Removing and Replacing the Motor-Generator Belt

Replace the motor-generator belt when it becomes badly worn. To remove the old belt, loosen the motor-generator brace bolt and mounting bolts (Illust. 23A). Move the generator in toward the engine and slip the old belt off the pulleys and over the crankshaft. Install the new belt in the reverse order of removal and adjust the belt to the proper tension.

Note: If tractor is equipped with rotary mower, drive belt must also be removed when replacing generator belt.

VOLTAGE REGULATOR

A satisfactory generator charging rate is maintained by the voltage regulator. If the regulator fails to operate correctly, see your International Harvester dealer.
ELECTRICAL SYSTEM

VOLTAGE REGULATOR - Continued

Note: Never place a jumper lead between, or accidentally bridge, the "BAT" terminal and the "F" terminal on the regulator, as this will damage the regulator. 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.

LIGHTS

Lights are optional on all models except the Model 147.

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".

FUSE (Electric Lighting)

Always use the same capacity fuse for replacement. Refer to "Specifications". If the lights fail, check the fuse.

The fuse is located in a fuse housing in the line at the back of the instrument panel.

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. Remove the fuel tank if necessary to reach the fuse.

Before working on any part of the electrical system, disconnect the battery ground cable at the battery negative (−) terminal. 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 water level.

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.
Liquid Level - Continued

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! Be careful to avoid spilling any electrolyte on hands or clothing.

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.

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

REAR TIRES

6-12 rear tires are standard equipment on the International Cub Cadet 86, 108, and 109 Tractors.

23 x 8, 50-12 high floatation tires are standard equipment on the International Cub Cadet 128, 129, and 149 Tractors. They are also available as optional equipment when ordered for the International Cub Cadet 86, 108, and 109 Tractors.

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.
PNEUMATIC TIRES

INFLATION

Keep the pneumatic tires properly inflated. Overinflation will cause operator discomfort. Underinflation will cause short tire life.

Always see that the tire valve caps are in place and tightened securely to prevent the 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.

<table>
<thead>
<tr>
<th>Tire Size</th>
<th>Normal Load</th>
<th>Heavy Load</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front Tires</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.80/4.00-8</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>16 x 6.50-8</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>Rear Tires 6-12</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>23 x 8.50-12</td>
<td>12</td>
<td>12</td>
</tr>
</tbody>
</table>

deflate the tire to the correct operating pressure.

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.

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 exceed the load capacity of the size of the tires on the tractor.
FRONT WHEELS

FRONT QUICK ATTACHING LATCH

This latch (Illust. 27) 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

Illust. 27
Front wheel adjustments.

To adjust the toe-in (Illust. 27B) 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.

Turning Radius

The front wheels should have an equal angle for left and right turns. If adjustment is necessary, remove ball joint and loosen lock nut "D" (Illust. 27B), turn the drag link ball joint clockwise or counterclockwise as required.
ADJUSTING THE CLUTCH

It is important that a clearance of .050-inch be maintained between the clutch release lever and the clutch release bearing in order to maintain this clearance, the pedal should have a free movement of approximately 9/32-inch. See Illust. 28. This measurement is taken at the point of contact of the pedal arm with the front edge of the pedal return stop.

The clutch pedal adjustments are set at the factory and should not require frequent attention unless the linkage has been disturbed or when the pedal movement becomes less than 9/32-inch. When it is necessary to adjust the clutch, turn the adjusting nut (No. 3 in Illust. 29) on the clutch release rod in or out as required to get the proper measurements.

ADJUSTING THE BRAKES

The disc brakes should start to engage when the pedal is pressed down to a position where the engine clutch releases.

Push the pedal down until the clutch just begins to release. This can be checked by shifting the transmission into third gear and rocking the tractor back and forth. If the drive shaft turns free and does not turn the engine, the clutch is disengaged. Locate the pedal at this point with a "C" clamp and adjust the jam nuts on both brake rods until the brakes just begin to clamp the brake discs and create some drag. Make sure the brakes completely release when the pedal is up against the stop, and then tighten the jam nuts. See Illust. 28.

The tractor transmission should shift easily when the tractor is stopped and the clutch-brake pedal is depressed.

Note: To check the equalization of the brakes, drive the tractor in third gear on a concrete or blacktop surface. When making a sudden stop, both wheels should start to slide simultaneously. If one wheel stops before the other, make the proper adjustment to obtain uniform braking of both wheels.
With the rear wheels off the ground and the brake pedal in the locked position, the brake settings should be equalized as follows:

Disconnect the left brake rod at the pinned end, rotate the right wheel by hand and adjust the jam nuts on the brake rod until wheel brakes firmly. Then, disconnect the right brake rod at the pinned end and reconnect the left brake rod. Turn the left wheel by hand and adjust the jam nuts until the wheel brakes firmly. Reconnect the right rod.

Note: To check the equalization of the brakes start the engine and shift the gears to third speed. After the wheels are turning apply the brakes. Both wheels should stop at the same time. If one wheel stops and the other wheel continues to revolve when the brakes are applied, stop the engine, adjust the jam nuts on the brake rod of the wheel that does not stop, enough so that both wheels stop simultaneously.
ADJUSTING THE BRAKES

The disc brakes should engage when the pedal is pressed down to within a maximum of 1-3/16-inches and a minimum of 3/4-inch above the pedal stop. See Illust. 30.

The brake is engaged when the pedal arm is at least 3/4-inch above the pedal stop.

To adjust the brakes block the front wheels securely and raise the tractor so the rear wheels are off the ground.

Note: The brakes must not engage before the pedal is within the maximum distance of 1-3/16-inches. See Illust. 30.

With the rear wheels off the ground and the brake pedal in the locked position, the brake settings should be equalized as follows:

Disconnect left brake rod at the pinned end, rotate the right wheel by hand and adjust the jam nuts on the brake rod until the wheel brakes firmly. Then, disconnect the right brake rod at the pinned end and reconnect the left brake rod. Turn the left wheel by hand and adjust the jam nuts until the wheel brakes firmly. Reconnect the right rod.
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 outdoors, exposed to the elements materially shortens its life.

Follow the procedure outlines 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 light. 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.

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 unit 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 turning generator belt by hand 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 water level and amount of charge. See pages 24 and 25.

8. On all gear driven International Cub Cadet Tractors press clutch and brake pedal all the way down and engage the brake pedal lock. This will prevent clutch lining from sticking to pressure plate.


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.

* Trademark
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.

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.

<table>
<thead>
<tr>
<th>Type of Equipment</th>
<th>Models used on</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>86</td>
</tr>
<tr>
<td>Creeper Drive</td>
<td>x</td>
</tr>
<tr>
<td>Dual Rear Wheels</td>
<td>x</td>
</tr>
<tr>
<td>Electric Lift</td>
<td>x</td>
</tr>
<tr>
<td>Electric Lighting</td>
<td>x</td>
</tr>
<tr>
<td>Float lockout pin</td>
<td></td>
</tr>
<tr>
<td>Implement Handle Helper Spring</td>
<td></td>
</tr>
<tr>
<td>Rear Power Take-Off</td>
<td></td>
</tr>
<tr>
<td>Rear Wheel Weights</td>
<td>x</td>
</tr>
<tr>
<td>Three-Point Hitch</td>
<td>x</td>
</tr>
<tr>
<td>Tire Chains</td>
<td>x</td>
</tr>
<tr>
<td>Tractor Cover</td>
<td>x</td>
</tr>
<tr>
<td>Utility Box</td>
<td>x</td>
</tr>
</tbody>
</table>

**TROUBLE SHOOTING**

Possible Cause

**HARD TO START**

No gasoline in fuel tank or carburetor . . . .

Fuel line or carburetor clogged . . . . . . .

Water in gasoline . . . . . . . . . . . . .

Choked improperly. Flooded engine . . . .

Defective ignition or loose wiring . . . .

Defective battery . . . . . . . . . . . .

Spark plug dirty or improper gap . . . .

Possible Remedy

Fill the tank with gasoline; open the fuel shut-off valve. Check the fuel line, and carburetor.

Clean the fuel line and carburetor with acetone or 50-50 mixture of alcohol and benzol. Drain the fuel tank and carburetor. Use new fuel and dry the spark plug.

Follow the starting instructions.

Check the wiring, spark plug, or breaker.

Check and service; See page 24, or replace.

Clean, adjust the gap to .025 inch, or replace the plug.

*See your International Harvester dealer.*
**Possible Cause** | **Possible Remedy**
--- | ---
**ENGINE OPERATES IRREGULARLY OR KNOCKS**
Engine incorrectly timed | * Clean, reset the gap to .025 inch, or replace.  
Spark plug dirty; wrong gap or wrong type.  
Poor or weak spark | * Check the breaker points and breaker point opening, spark plug, and wiring.*
Carburetor setting incorrect | * Adjust; see "Carburetor" on pages 10 and 11.
Poor grade fuel or water in fuel | * Drain and use a good grade of clean fuel.
Engine overheating | * See "Engine Cooling" on page 21.
Engine valves at fault | * Adjust the carburetor.  Check for worn piston and rings.*
Engine smokes | *
Other engine problems | *

**LACK OF POWER**
Air cleaner clogged | Clean or replace the air cleaner element.  
See page 21.
Engine overheated | Reduce the load.
Engine overloaded | 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" on pages 10 and 11.
Fuel tank air vent clogged | Open the vent in the cap.
Air leakage between carburetor and engine | Clean the air cleaner as instructed on page 21.  
Incorrect timing or faulty ignition | Tighten the carburetor and manifold mounting nuts.
Brake drags | Adjust the free travel of the pedal; see page 28.

**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" on page 21.

**CREEPING**
Speed control out of adjustment (Models 109, 129, and 149) | Refer to Service Manual.*

*See your International Harvester dealer.
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.

We recommend I.H. No. 1* Engine Oil. If other than I.H. No. 1* Engine Oil is used, it must be designated "For Service MS". In new API Code these oils are usually designated as meeting either SD or SE requirements.

To aid starting, the selection of crankcase lubricating oils should be based on the lowest anticipated temperature until the next drain period. See page 36.

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.

Note: On the Cub Cadet 86 Tractor the oil filler cap has the oil level gauge attached and is located on the right side of the tractor as shown in Illust. 35.

Note: On all other models the oil filler cap and gauge is located on the gear cover on the left side of the tractor as shown in Illust. 35A.

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.

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

*Trademark
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.

**TRANSMISSION OIL FILTER**
(International Cub Cadet 109, 129, and 149 Tractors)

Remove the throw-away can-type filter and replace with a new filter after the first 10 hours and after 50 hours of operation, and every 100 hours of operation thereafter.

*Note:* Clean the outside area before removing the filter to keep dirt from getting into the transmission case. If a mower is mounted on the tractor, the mower must be lowered to facilitate removal of the filter.

To remove the filter, turn the filter counterclockwise using an automotive type filter wrench or an open end wrench.

Before installing the new filter, apply a coating of oil on the filter gasket. Thread the filter on by hand until tight enough to seat the gasket. Loosen the filter. Then turn it until the gasket contacts the base. Tighten the filter an additional one half turn. Check for leaks and check oil level of transmission case.
<table>
<thead>
<tr>
<th>Point of Lubrication</th>
<th>Check at Hours</th>
<th>Change at Hours</th>
<th>Capacity</th>
<th>Anticipated Air Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Above +32°F.</td>
</tr>
<tr>
<td>Engine Crankcase Model 86 Tractor</td>
<td>10</td>
<td>30</td>
<td>2-1/2 pt.</td>
<td>I. H. No. 1* Engine Oil SAE-30</td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
<td>Note: Do not substitute 10W-30</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>or 10W-40</td>
</tr>
<tr>
<td>Engine crankcase Models 108, 109,</td>
<td>10</td>
<td>30</td>
<td>3 pt.</td>
<td>I. H. No. 1* Engine Oil SAE-10W</td>
</tr>
<tr>
<td>128, 129, and 149 Tractors</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transmission Models 109, 129,</td>
<td>100</td>
<td>Add as needed</td>
<td>14 pt.</td>
<td>IH Hy-Tran® Fluid</td>
</tr>
<tr>
<td>and 149 Tractors</td>
<td></td>
<td></td>
<td></td>
<td>If fluid is used which does not</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>meet requirements of IH B-6</td>
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<td></td>
<td></td>
<td></td>
<td>Specification, International</td>
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<td></td>
<td>Harvester Company will not be</td>
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<td>responsible for substandard</td>
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<td></td>
<td>performance of transmission</td>
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<td></td>
<td></td>
<td>and hydraulic components. NOTE:</td>
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<td></td>
<td>Failures due to use of improper</td>
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<td></td>
<td>fluid or filters are not</td>
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<td></td>
<td></td>
<td>covered by warranty.</td>
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<tr>
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<td></td>
<td>-- FOR MAXIMUM PROTECTION USE</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>IH HY-TRAN® FLUID AND FILTERS.</td>
</tr>
<tr>
<td>Transmission Models 86, 108, and</td>
<td>100</td>
<td>Add as needed</td>
<td>7 pt.</td>
<td></td>
</tr>
<tr>
<td>128 Tractors</td>
<td></td>
<td></td>
<td>Approx.</td>
<td></td>
</tr>
<tr>
<td>Creeper drive housing Models 86, 108,</td>
<td>100</td>
<td>Add as needed</td>
<td>1/2 pt.</td>
<td>Two strokes of the lubricator</td>
</tr>
<tr>
<td>and 128 Tractors</td>
<td></td>
<td></td>
<td></td>
<td>using IH-251H EP grease or</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>equivalent #2 multi-purpose</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>lithium grease.</td>
</tr>
<tr>
<td>Steering gear housing All models</td>
<td>Yearly</td>
<td>-</td>
<td>1/4 lb.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Steering knuckles All models</td>
<td>10</td>
<td>-</td>
<td></td>
<td>Use IH-251H EP grease or</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>equivalent #2 multi-purpose</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>lithium grease and apply two or</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>three strokes of the lubricator</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>or sufficient grease to flush</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>out old grease and dirt.</td>
</tr>
</tbody>
</table>

*Trademark
LUBRICATION GUIDE

International Cub Cadet 86, 108 and 128 Tractors

Illustration view.

37
LUBRICATION GUIDE

International Cub Cadet 86, 108 and 128 Tractors

- After Every 10 Hours of Operation

1 - Oil filler cap and bayonet-type oil level gauge. Cub Cadet 86.
1A - Oil filler cap and bayonet-type oil level gauge for Cub Cadet 108 and 128.

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.

2 - Steering knuckles (2).
3 - Front axle pivot pin.

Use IH 251H EP grease or equivalent #2 multipurpose lithium grease and apply sufficient grease to flush out old grease and dirt.

- 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. Remove the crankcase oil filler cap (1). 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.

- After Every 150 Hours of Operation

5 - Power take-off shaft bearing.

Use IH 251H EP grease or equivalent #2 multipurpose lithium grease and apply two or three strokes of the lubricator to the lubrication fittings. See Illust. 17.
Transmission
6 - Oil level and filler plug.
7 - Oil drain plug.

Creeper drive housing
8 - Level plug.
9 - Breather and filler plug.
10 - Drain plug.

11 - Steering gear housing.

Miscellaneous

- Periodic

Check the oil level periodically. Keep the lubricant up to the level plug (6) on the rear of the transmission case.

Check the oil level periodically. Keep the lubricant up to the level plug (8) on the left side of the creeper drive housing.

Once a year, apply two strokes of the lubricator, using IH 251H EP grease or equivalent #2 multi-purpose lithium grease.

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.
International Cub Cadet 108, 109 and 149 Tractors

LUBRICATION GUIDE

- After Every 10 Hours of Operation

1. Oil filler cap and bayonet-type oil 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.

2. Steering knuckles (2).
3. Front axle pivot pin.
   Use IH 251H EP grease or equivalent #2 multi-purpose lithium grease and apply sufficient grease to flush out old grease and dirt.

4. Transmission oil filter.
   Note: After the first 10 hours only, remove the old filter and replace with a new filter as instructed on page 35. Change the oil filter after 50 hours and every 100 hours of operation thereafter.

- After Every 30 Hours of Operation

5. Engine crankcase.
   While the oil is warm, remove the drain plug (5) and drain all of the oil from the crankcase. Replace the drain plug. Remove the crankcase oil filler cap (1). 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.

- After Every 50 Hours of Operation

6. Transmission oil filter.
   Note: After the first 50 hours only, remove the old filter and replace with a new filter as instructed on page 35. Change the oil filter every 100 hours of operation thereafter.

- After Every 100 Hours of Operation

7. Transmission oil filter.
   Change the oil filter and replace with a new filter as instructed on page 35.

- Periodic

Transmission

8. Oil level and filler plug.
   Check the oil level periodically. Keep the lubricant up to the level plug (8) on the rear of the transmission case cover.

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LUBRICATION GUIDE
International Cub Cadet 109, 129 and 149 Tractors

9. Steering gear housing.
   - Periodic

   Once a year, apply two strokes of the lubricator, using IH 251H EP grease or equivalent #2 multi-purpose lithium grease.

   Note: To locate the lubrication fitting, 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.

10. Speed control rod.

11. Cam plates

   Once a year, apply a few drops of oil (six or eight) around the base of the control rod. When applying the lubricant move the control rod from one extreme to the other for more even distribution.

   Once a year, apply a light amount of IH 251H EP grease or equivalent #2 multi-purpose lithium grease.

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

   If the tractor is equipped with a Three-Point Hitch, once a year the Lift Bar at the implement rockshaft should be lubricated. Apply several strokes of IH 251H EP grease or equivalent #2 multi-purpose lithium grease.

SPECIFICATIONS

REAR POWER TAKE-OFF

The power take-off shaft connection is a 15/16-inch pitch diameter, ten-tooth involute spline with a 30 degree pressure angle, machined for outside diameter fit. The dimensions are shown in Illustr. 42.

Power take-off shaft governed speed .................. 515 r.p.m.

Direction of rotation (looking at rear of tractor) ........ counterclockwise

Center line of power take-off shaft above rear axle center line .. 3-1/4-in.

End of power take-off shaft to rear of rear axle center line ........ 7-7/16-in.

Illustr. 42
### SPECIFICATIONS

<table>
<thead>
<tr>
<th>CAPACITIES</th>
<th>Model 86</th>
<th>Model 108</th>
<th>Model 109</th>
<th>Model 128</th>
<th>Model 129</th>
<th>Model 149</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuel Tank</td>
<td>8 qt.</td>
<td>8 qt.</td>
<td>8 qt.</td>
<td>8 qt.</td>
<td>8 qt.</td>
<td>8 qt.</td>
</tr>
<tr>
<td>Crankcase</td>
<td>2-1/2 pt.</td>
<td>3 pt.</td>
<td>3 pt.</td>
<td>3 pt.</td>
<td>3 pt.</td>
<td>3 pt.</td>
</tr>
<tr>
<td>Steering gear housing</td>
<td>1/4 lb.</td>
<td>1/4 lb.</td>
<td>1/4 lb.</td>
<td>1/4 lb.</td>
<td>1/4 lb.</td>
<td>1/4 lb.</td>
</tr>
<tr>
<td>Creeper drive housing</td>
<td>1/2 pt.</td>
<td>1/2 pt.</td>
<td>--</td>
<td>1/2 pt.</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>

### TRANSMISSION GEARS

<table>
<thead>
<tr>
<th>Speed</th>
<th>Model 86</th>
<th>Model 108</th>
<th>Model 109</th>
<th>Model 128</th>
<th>Model 129</th>
<th>Model 149</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>2.3 mph</td>
<td>2.3 mph</td>
<td>--</td>
<td>2.3 mph</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>2nd</td>
<td>3.9 mph</td>
<td>3.9 mph</td>
<td>--</td>
<td>3.9 mph</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>3rd</td>
<td>6.9 mph</td>
<td>6.9 mph</td>
<td>--</td>
<td>6.9 mph</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Reverse</td>
<td>2.5 mph</td>
<td>2.5 mph</td>
<td>--</td>
<td>2.5 mph</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>

### HYDROSTATIC DRIVE

<table>
<thead>
<tr>
<th>Speed: Forward</th>
<th>Model 86</th>
<th>Model 108</th>
<th>Model 109</th>
<th>Model 128</th>
<th>Model 129</th>
<th>Model 149</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 8 mph</td>
<td>--</td>
<td>--</td>
<td>0 to 8 mph</td>
<td>--</td>
<td>0 to 8 mph</td>
<td>0 to 8 mph</td>
</tr>
<tr>
<td>Reverse</td>
<td>--</td>
<td>--</td>
<td>0 to 4 mph</td>
<td>--</td>
<td>0 to 4 mph</td>
<td>0 to 4 mph</td>
</tr>
</tbody>
</table>

### ENGINE

<table>
<thead>
<tr>
<th>Make and model (electric starting)</th>
<th>Kohler</th>
<th>Kohler</th>
<th>Kohler</th>
<th>Kohler</th>
<th>Kohler</th>
<th>Kohler</th>
</tr>
</thead>
<tbody>
<tr>
<td>K 161S</td>
<td>K 241 AS</td>
<td>K 241 AS</td>
<td>K 301 AS</td>
<td>K 301 AS</td>
<td>K 301 AS</td>
<td>K 321 A</td>
</tr>
<tr>
<td>Cylinders</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Bore</td>
<td>2-7/8 in.</td>
<td>3-1/4 in.</td>
<td>3-1/4 in.</td>
<td>3-3/8 in.</td>
<td>3-3/8 in.</td>
<td>3-1/2 in.</td>
</tr>
<tr>
<td>Stroke</td>
<td>2-1/2 in.</td>
<td>2-7/8 in.</td>
<td>3-1/4 in.</td>
<td>3-1/4 in.</td>
<td>3-1/4 in.</td>
<td>3-1/4 in.</td>
</tr>
<tr>
<td>Displacement</td>
<td>16.23</td>
<td>23.9</td>
<td>23.9</td>
<td>29.07</td>
<td>29.07</td>
<td>31.27</td>
</tr>
<tr>
<td>Engine speed (governed)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low Speed</td>
<td>1000 rpm</td>
<td>1000 rpm</td>
<td>1000 rpm</td>
<td>1000 rpm</td>
<td>1000 rpm</td>
<td>1000 rpm</td>
</tr>
<tr>
<td>High idle speed (no load)</td>
<td>3780 rpm</td>
<td>3800 rpm</td>
<td>3800 rpm</td>
<td>3800 rpm</td>
<td>3800 rpm</td>
<td>3800 rpm</td>
</tr>
<tr>
<td>Full load</td>
<td>3600 rpm</td>
<td>3600 rpm</td>
<td>3600 rpm</td>
<td>3600 rpm</td>
<td>3600 rpm</td>
<td>3600 rpm</td>
</tr>
<tr>
<td>Valve clearance (engine cold)</td>
<td>.006(intake)</td>
<td>.010(intake)</td>
<td>.010(intake)</td>
<td>.010(intake)</td>
<td>.010(intake)</td>
<td>.010(intake)</td>
</tr>
<tr>
<td></td>
<td>.017(exh.)</td>
<td>.020(exh.)</td>
<td>.020(exh.)</td>
<td>.020(exh.)</td>
<td>.020(exh.)</td>
<td>.020(exh.)</td>
</tr>
</tbody>
</table>
### ENGINE - Cont'd.

<table>
<thead>
<tr>
<th></th>
<th>Model 86</th>
<th>Model 108</th>
<th>Model 109</th>
<th>Model 128</th>
<th>Model 129</th>
<th>Model 149</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ignition (electric starting)</td>
<td>Battery</td>
<td>Battery</td>
<td>Battery</td>
<td>Battery</td>
<td>Battery</td>
<td>Battery</td>
</tr>
<tr>
<td>Spark plug gap</td>
<td>.025 in. gap</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>(14mm plug)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Champion J-8 or equivalent)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Champion H-10 or equivalent)</td>
<td>.025 in. gap</td>
<td>.025 in. gap</td>
<td>.025 in. gap</td>
<td>.025 in. gap</td>
<td>.025 in. gap</td>
<td>.025 in. gap</td>
</tr>
<tr>
<td>Breaker points</td>
<td>.020 in. gap</td>
<td>.020 in. gap</td>
<td>.020 in. gap</td>
<td>.020 in. gap</td>
<td>.020 in. gap</td>
<td>.020 in. gap</td>
</tr>
<tr>
<td>Timing</td>
<td>20 degrees before TDC</td>
<td>20 degrees before TDC</td>
<td>20 degrees before TDC</td>
<td>20 degrees before TDC</td>
<td>20 degrees before TDC</td>
<td>20 degrees before TDC</td>
</tr>
</tbody>
</table>

### ELECTRICAL SYSTEM

<table>
<thead>
<tr>
<th>System voltage</th>
<th>12 volt neg. ground</th>
<th>12 volt neg. ground</th>
<th>12 volt neg. ground</th>
<th>12 volt neg. ground</th>
<th>12 volt neg. ground</th>
<th>12 volt neg. ground</th>
</tr>
</thead>
<tbody>
<tr>
<td>Battery</td>
<td>9943X</td>
<td>9948X</td>
<td>9948X</td>
<td>9948X</td>
<td>9948X</td>
<td>9948X</td>
</tr>
<tr>
<td>Motor generator, Delco-Remy</td>
<td>15 amp.</td>
<td>15 amp.</td>
<td>15 amp.</td>
<td>15 amp.</td>
<td>15 amp.</td>
<td>15 amp.</td>
</tr>
<tr>
<td>Voltage regulator, Delco-Remy</td>
<td>2 unit</td>
<td>2 unit</td>
<td>2 unit</td>
<td>2 unit</td>
<td>2 unit</td>
<td>2 unit</td>
</tr>
<tr>
<td>Fuse (cartridge type)</td>
<td>AGC-10 amp.</td>
<td>AGC-10 amp.</td>
<td>AGC-10 amp.</td>
<td>AGC-10 amp.</td>
<td>AGC-10 amp.</td>
<td>AGC-10 amp.</td>
</tr>
</tbody>
</table>

### Lamp No. | IH Part No.
--- | ---
Headlights - all glass, sealed beam units | 4411 | 373 662 R91
Taillight | 67 | 142 450
FOOT BRAKE
Rear wheel disc type .................................................................

CLUTCH
Double-plate, dry disc, spring loaded (Models 86, 108, and 128 Tractors) ... 4-1/2 in.

WHEELS AND TREAD
Front wheels, pneumatic tire size
- Models 86, 108, 109, 128, and 129 Tractors ................. †4.80/4.00-8
- Model 149 Tractor .......................................................... 16 x 6.50-8
Rear wheels, pneumatic tire size
- Models 86, 108, and 109 Tractors .................................. †6-12
- Models 128, 129, and 149 Tractors .............................. 23 x 8.50-12
Wheelbase ........................................................................... 44 in.
Tread, .................................................................................. 27 in.

GENERAL
Length, over-all ..................................................................... 64 in.
Width, over-all
- Models 128, 129, and 149 Tractors ................. 36 in.
Height, over-all (to top of steering wheel) ................. 39-3/4 in.
Ground clearance ................................................................. 6 in.
Turning radius .................................................................... 6-3/4 ft.

† Other pneumatic tire sizes are available.

Specifications are subject to change without notice.
OPERATING INSTRUCTIONS

INTERNATIONAL®

ROTARY MOWERS

(38, 42, and 48-inch, 3 spindle)

with wide-oval runners

and

Quick-attachable mounting

Illustr. 47

47
To The Owner

Your new rotary mower is designed to meet today's exacting operating requirements. The ease of operation and ability to adjust to field conditions lighten your work and shorten your hours on the job.

You are urged to consult your International Harvester dealer concerning unusual field conditions or special applications. Let the experience of your dealer and the organization associated with him serve you.

Be sure to read the instructions for Adjusting and Operating in this manual. Check each item referred to and acquaint yourself with the adjustments required to obtain efficient operation and maximum trouble-free performance. Remember, a machine which is properly lubricated and adjusted saves time, labor, and fuel.

After the operating season, thoroughly clean your mower and inspect it. Preventive maintenance pays dividends. Your dealer has original-equipment parts which assure proper fit and best performance. He is able to recondition your equipment to a like new condition.
INTRODUCTION

The 3 spindle, center mounted, 38-, 42-, and 48-inch rotary mowers, are designed for use on International® Cub Cadet® Tractors having serial number 400, 001 and higher, and are quick detachable by the use of two spring loaded handles and two bayonet type hangers.

The mower extends beyond the tractor wheels to permit cutting close to shrubbery, trees, fences, buildings, drive and walkway edges, etc.

The mower is driven by a V-belt from the engine mounted power take-off clutch. The clutch is engaged and disengaged by means of a hand lever mounted on the cowl pedestal.

A heavy-duty V-belt connects the three spindles and permits independent turning of the blades when an obstruction is struck by a blade. A spring-loaded belt tightener maintains proper belt tension.

The 48-inch mower has a spindle drive system wherein each spindle; from left to right, is driven progressively faster to aid in cutting and discharging the cut material.

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

The blade spindle bearings are automotive type tapered roller bearings that can be relubricated and are carefully enclosed and protected by seals.

The three cutting blades are designed to create a suction to lift the grass and hold it for an even cut.

Raising and lowering of the mower is done by means of the tractor lift handle or the power lift.

The lift linkage provides and maintains a true parallel lift for the mower throughout the cutting height range of 1-1/2 to 4-1/2 inches, depending on tires and mower combination.

The lift linkage with mounting brackets can be quickly detached by removing the quick-attachable cotter pins and releasing the tractor quick hitch.

The tapered discharge chute terminates at a large, protected opening for efficient air and material flow across the front of the mower to minimize clogging.

OPERATING YOUR MOWER

1. Mower must be supported by the tractor. See page 51.
2. Level the mower. See page 51.
3. Engine Speed: Operate the engine at full throttle.
4. Ground Speed: Choose a ground speed that will satisfactorily handle the amount of material to be cut.
1. Power take-off clutch lever
2. Mower support brackets
3. Mower support clevises
4. Runners
5. Lift stop
6. Hydraulic lift handle
7. V-belt tension bolt
8. Extension spring measurement
9. Front hanger cover
10. Quick hitch
11. Power take-off clutch rod
12. Support pins (spring loaded)
13. Deflector shield
14. Extension spring

Illust. 50
STARTING THE MOWER

With the engine operating at idle speed, slowly engage the power take-off clutch lever. Advance the throttle to full throttle.

STOPPING THE MOWER

Disengage the power take-off clutch lever (to the rear position) and reduce the engine speed.

LEVEL ADJUSTMENT

Note: Check the tires for proper inflation before making a level and height adjustment.

To adjust the mower for level, first place the tractor on a level surface, preferably a hard surface area such as a garage floor or sidewalk. Set the lift handle stop (No. 5 in Illust. 50) for the desired mowing height. To set the lift handle stop raise the mower to the desired cutting height and adjust the stop so it contacts the lift handle. Then tighten the knob securely. The mower can then be raised to cross an obstacle, etc., and lowered, maintaining the preset height.

Side to Side

Lower the mower almost to the surface making sure the runners do not touch. Add $13/32 \times 13/16 \times .065$-inch flat washers, as many as required, under the left or right mower support bracket (No. 2 in Illust. 50) so the height from the top of the mower housing to the surface is equal on each side. Then tighten support brackets securely.

Front to Rear

Move the tractor lift handle to the stop to lower the mower to the mowing height. Rotate the center and one outer blade so they are parallel and pointing straight to the front and rear. Then adjust the two support clevises at the front of the mower (No. 3 in Illust. 50) so the front edge of the center blade is level with the back edge of the outer blade.

Note: If mower is not level, it will adversely affect the performance.

HEIGHT OF CUT

Set the lift handle stop for the desired height of cut. To lock the handle in the float position depress the release button and press in the lock button located in front of the handle.

To disengage the lift handle from the "Unlocked" or "Float" position, pull the handle back slightly and depress the release button. This releases the lock button. Refer to pages 15 and 16.

For tractors equipped with the electric lift see page 19.

For tractors equipped with the hydraulic lift see page 20.
ADJUSTING AND OPERATING

V-BELT

Main Drive Belt

The main drive V-belt is adjusted for tension by the V-belt tension bolt (No. 7 in Illust. 50). Tighten the lock nut to increase belt tension and loosen the lock nut to decrease the belt tension.

When installing a new belt, the initial tension is obtained by adjusting the bolt so the distance (No. 8 in Illust. 50) measures approximately 3-1/2-inches from the center of the pulley (at the extension spring) to the inner face of the front hanger cover (No. 9).

The main drive belt is properly tensioned when the extension spring coils are spread approximately 1/16-inch. Note: After the first half hour of mowing, readjust belt to this dimension.

When belt slippage occurs or spring coils touch, readjust to 1/16-inch spread. Under no condition should the tension adjustment distance be allowed to fall under 3-1/8-inches (No. 8 in Illust. 50).

Note: When installing a new belt always check the condition of the pulleys and if they are not in satisfactory condition, replace them with new pulleys available at your International Harvester dealer.

To install or remove the belt, loosen the V-belt tension bolt, pull the lift handle to the rearward position and disconnect the power take-off clutch lever rod. This will provide sufficient clearance between the wear and thrust buttons on the clutch to allow V-belt to pass through. See Illusts. 18, 18A, and 50. Readjust V-belt tension as described above.

Spindle Drive Belt

The spindle drive belt tension is maintained by a spring-loaded belt tightener and requires no adjustment.

CLEANING

Clean the underside of the mower at the end of the mowing season and when the build-up of cut material on the underside is noticed.

BLADE CARE

The cutting blades must be kept sharp at all times. The blades can be sharpened on the mower with a few strokes of a file or they can be removed from the mower and sharpened on a grinding wheel. Note: Sharpen ends evenly so that the blades remain balanced. However, if the cutting edge of a blade is within 3/8-inch of the wind wing, it is recommended that new blades be installed. New blades are available at your IH dealer.

Flats are provided on outside pulleys to keep spindles from rotating when blade nuts are removed. When removing other blade nuts, a block of wood may be wedged between cutting edge and housing.

After replacing blades, grease the threaded end of the shaft to prevent rust build-up.
BLADE CARE - Continued

When replacing the blades, be sure they are assembled on the friction discs so the cutting edges are in the direction of rotation with the wind wings pointed upward and the cap screws tightened securely.

Note: If the spindle nuts are removed for any reason, they should be retightened to 55 to 60 foot-pounds torque when replaced.

LUBRICATION

1. Spindle bearings
   Illust. 53A

After every 16 hours of operation, and before putting in winter storage, lubricate the three spindle bearings (one fitting in each spindle), using IH 251H EP grease or equivalent No. 2 multi-purpose lithium grease. See Illust. 53A.

GENERAL

After first 1/2 hour and every 4 hours thereafter of running, check and adjust for V-belt tension. Refer to "V-BELT ADJUSTMENT" on page 52.

After the first 10 hours of operation check and retighten, if necessary, all nuts and bolts on the machine paying particular attention to the hex. nuts securing the blades to the spindles and the cap screws or hex. nuts at the top of the spindle. These nuts and bolts should be tightened securely. Check and retighten if necessary, all nuts and bolts at least once a year thereafter.

Attaching and Detaching the Mower

To facilitate changing of the blades, sharpening of the blades, cleaning, etc., the mower may be detached from the tractor in the following manner:

MOWING

For best results it is recommended that the first two laps should be cut with the discharge being thrown towards the center. After the first two laps, reverse the direction to throw the discharge to the outside for the balance of cutting. This will give a better appearance to the lawn. See Illust. 53.

Do not cut the grass too short, as it will give a scalping effect and invite weed growth.
ADJUSTING AND OPERATING

GENERAL - Continued

Pull out the left and right spring loaded support pins "12" (Illust. 50) and turn them until the end of the "U" shaped handles rest against the side of the brackets "2".

Move mower forward so left and right support clevises "3" are free of the front pivot links and lower mower to ground. Remove the V-belt from the center pulley.

Pull tractor lift handle "6" back to raise the lift linkage for clearance.

Slide the mower out from under the tractor on the right side. To aid in removing the mower, turn the tractor front wheels to the right.

A block of wood may be placed between housing and cutting edge of blade to assist in removal of hex. nuts securing blades or pulleys.

To attach the mower to the tractor, reverse the above procedure.

Install the belt before attaching mower to tractor by backing adjusting bolt off to provide slack belt; then readjust belt to 3-1/2-inches spring measurement after attaching mower to tractor.

WORK SAFELY—FOLLOW THESE RULES

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

The discharge shield on the mower must be attached at all times while operating the mower.

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

Children should not be allowed to operate the mower unless properly supervised.

Never place hands or feet under the mower, in the discharge chute, or near any moving parts while the tractor engine is running. Do not work on the mower with the engine running.

Never leave the tractor engine running unattended or permit it to be operated by persons not acquainted with its use and the rules for safe operation.

Be sure all stones, branches, or other objects that might be picked up and thrown by the mower blades are removed before starting to mow.

Do not allow anyone in the area opposite the discharge chute 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.

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.
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Price $1.00 (U.S. Funds)
NEW EQUIPMENT
WARRANTY
INTERNATIONAL HARVESTER
FARM and INDUSTRIAL EQUIPMENT

International Harvester Company warrants to the original purchaser each item of new farm and industrial equipment bearing either the identification "McCormick" or "International", or a combination thereof, to be free from defects in material and workmanship under normal use and service. The obligation of the Company under this warranty is limited to repairing or replacing as the Company may elect, free of charge and without charge for installation, at the place of business of a dealer of the Company authorized to handle the equipment covered by this warranty, any parts that prove, in the Company's judgment, to be defective in material or workmanship within twelve months or 1500* hours of use, whichever occurs first, after delivery to the original purchaser.

This warranty shall not apply (1) to normal maintenance services or adjustments, including but not limited to fuel system cleaning, engine tune-up, brake inspection or adjustment, nor to the replacement of spark plugs, ignition points, condensers or filters when such replacements are made as a part of any normal maintenance service; nor (2) any items which shall have been operated in a manner not recommended by the Company nor which shall have been repaired, altered, neglected, or used in any way which, in the Company's opinion, adversely affects its performance.

This warranty and the Company's obligation thereunder is in lieu of all warranties, express or implied, including without limitation, the implied warranties of merchantability and fitness for particular purpose, all other representations to the original purchaser and all other obligations or liabilities, including liability for incidental and consequential damages on the part of the Company or the seller with respect to the sale or use of the items warranted.

International Harvester Company makes no representations or warranties of any character as to tires and tubes nor to any item of new equipment not specifically covered by the first paragraph of this warranty, whether or not sold on or for use with such warranted items.

No person is authorized to give any other warranties or to assume any other liability on the Company's behalf unless made or assumed in writing by the Company, and no person is authorized to give any warranties or to assume any liabilities on the seller's behalf unless made or assumed in writing by the seller.

*2000 hours on a crawler tractor with 65 or more net flywheel horsepower.
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You have just purchased one of the finest pieces of equipment available today. You can look forward to years of good service because International Harvester machines are designed better and built better to last longer.

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Sincerely,

Your IH dealer