INTERNATIONAL®

INTERNATIONAL® CUB CADET® 682 AND 782 TRACTORS

OPERATOR'S MANUAL

To The Owner

Assembled in this manual are operation, lubrication, and maintenance instructions for the International Cub Cadet 682 and 782 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. 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.

The International Cub Cadet 682 and 782 Tractors have a hydrostatic drive. It is the best hydrostatic drive unit available and will require minimum service if recommended operation and maintenance procedures are followed.

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 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.

MA-17394

International Cub Cadet 682 Tractor Shown.

TECHNICAL PUBLICATIONS AVAILABLE

Your International Harvester Dealer and his factory trained servicemen are best qualified to service your equipment. Up-to-date instructions and adequate special tools are also a part of your Dealer's service facilities.

This Operator's Manual was prepared to instruct you in proper operation and maintenance of your equipment. If you desire additional information you may purchase Service Manuals and/or Parts Catalogs. Additional copies of the Operator's Manual are also available.

Fill out the order blank and forward together with your check or money order in the appropriate amount (U.S. Funds) to:

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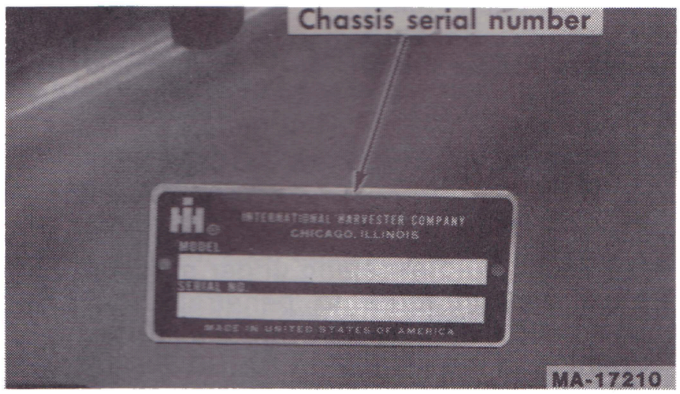
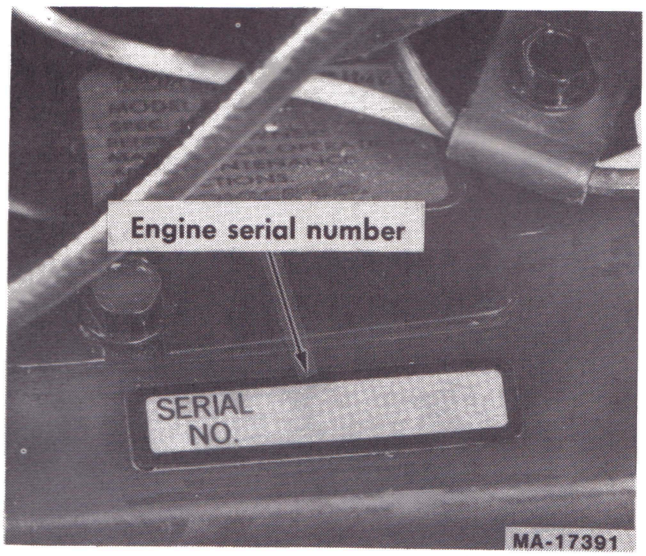
CONTENTS

SERIAL NUMBER LOCATION



Serial number plate is located near left rear fender.



MODEL _____

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

Instructions given with this symbol are for personal safety. Be sure you and your workers follow them.

A CAREFUL OPERATOR IS THE BEST INSURANCE AGAINST AN ACCIDENT

SERVICING AND BEFORE STARTING

CAUTION! Before handling ANY equipment, READ the OPERATOR'S MANUAL. MA-16875

No one should operate the machine while intoxicated or while taking medication that impairs the senses or reactions.

Know how to use the controls and how to stop the tractor and/or implement quickly. Read the tractor and implement operator's manuals thoroughly.

To reduce the possibility of an accident or injury, the operator must be capable of safely operating all controls of the tractor and attachments. The person who operates the tractor must be instructed in the safe operation of the tractor controls and attachments.

Hydraulic fluid escaping under pressure can have enough force to penetrate the skin. Hydraulic fluid may also infect a minor cut or opening in the skin. IF INJURED BY ESCAPING FLUID, SEE A DOCTOR AT ONCE. Serious infection or reaction can result if medical treatment is not given immediately. Make sure all connections are tight and that hoses and lines are in good condition before applying pressure to the system. Relieve all pressure before disconnecting the lines or performing other work on the hydraulic system. To find a leak under pressure use a piece of cardboard or wood. Never use hands.

Wear sturdy, rough-soled work shoes and close-fitting slacks and shirts to avoid entanglement in the moving parts. Never operate a tractor in bare feet, sandals, or sneakers.

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. Before starting the engine, check the fuel tank cap to be certain it is tightened completely against the stop.

Carefully supervise inexperienced operators.

Check engine oil level and perform any other necessary services before starting the engine.

Turn off power take-off, depress brake pedal, and shift into neutral before starting the engine.

DURING OPERATION

Keep machine in good operating condition and keep safety devices in place.

Use guards or shields as instructed in Operator's Manual.

To prevent injury, do not carry passengers or give rides. (Keep children, pets and by-standers out of the area while mowing.) Only the operator should ride on the tractor and only in the seat.

Do not run the engine in confined areas such as storage buildings any longer than is necessary. Immediately move the tractor outside into the air. EXHAUST GASES ARE TOXIC. OPENING DOORS AND WINDOWS MAY NOT PROVIDE ADEQUATE VENTILATION.

Check overhead clearance carefully before driving under power lines, guy wires, bridges, low hanging tree branches, entering or leaving buildings, or other situations where the operator may be struck or pulled from the tractor which could result in serious injury.

To reduce possibility of serious injury, never direct discharge of material from any attachment toward bystanders nor allow anyone in the area of the machine while in operation.

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

To maintain control of the tractor and reduce the possibility of upset or collision operate the tractor smoothly — avoid erratic operation and excessive speed.

Reduce speed on slopes and in sharp turns to prevent tipping or loss of control. Always keep the tractor in gear when going down steep hills to take advantage of engine braking action.

Whenever possible, avoid driving the tractor on an incline such as a ramp or slope. If necessary to move the tractor on an incline, whenever practical back the tractor up the incline and drive the tractor forward down the incline. Use extreme caution if it is necessay to drive the tractor up an incline or back the tractor down an incline because the front of the tractor could lift and rapidly flip over backward which could cause serious injury.

Stay alert for holes, rocks, tree stumps and other hazards in terrain which could cause an upset or loss of control which could result in injury.

Shift transmission to neutral, set the brake pedal lock, turn off power to any attachments and stop engine before leaving operator's seat to make any repairs or adjustments, to unclog power driven machinery or to attach implements. Wait for all motion to stop before dismounting the tractor.

Stop the machine and inspect for damage after striking an object. Repair any damage before restarting and operating the machine.

Watch out for traffic when near or crossing roadways.

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

TRANSPORTING

Use flags, S.M.V. emblem, lights, and/or other warning devices which are approved for use by your local government agencies, when moving equipment on public roads. Keep these devices clean and in good working condition.

Be sure hitches and/or drawbars are properly stabilized before towing equipment to reduce possibility of loss of control and upset or collision.

Shut off power to any attachment when transporting or not in use.

Avoid heavily-traveled roads when moving equipment, if at all possible.

Reduce speed when traveling on rough roads to avoid loss of control and upset or collision.

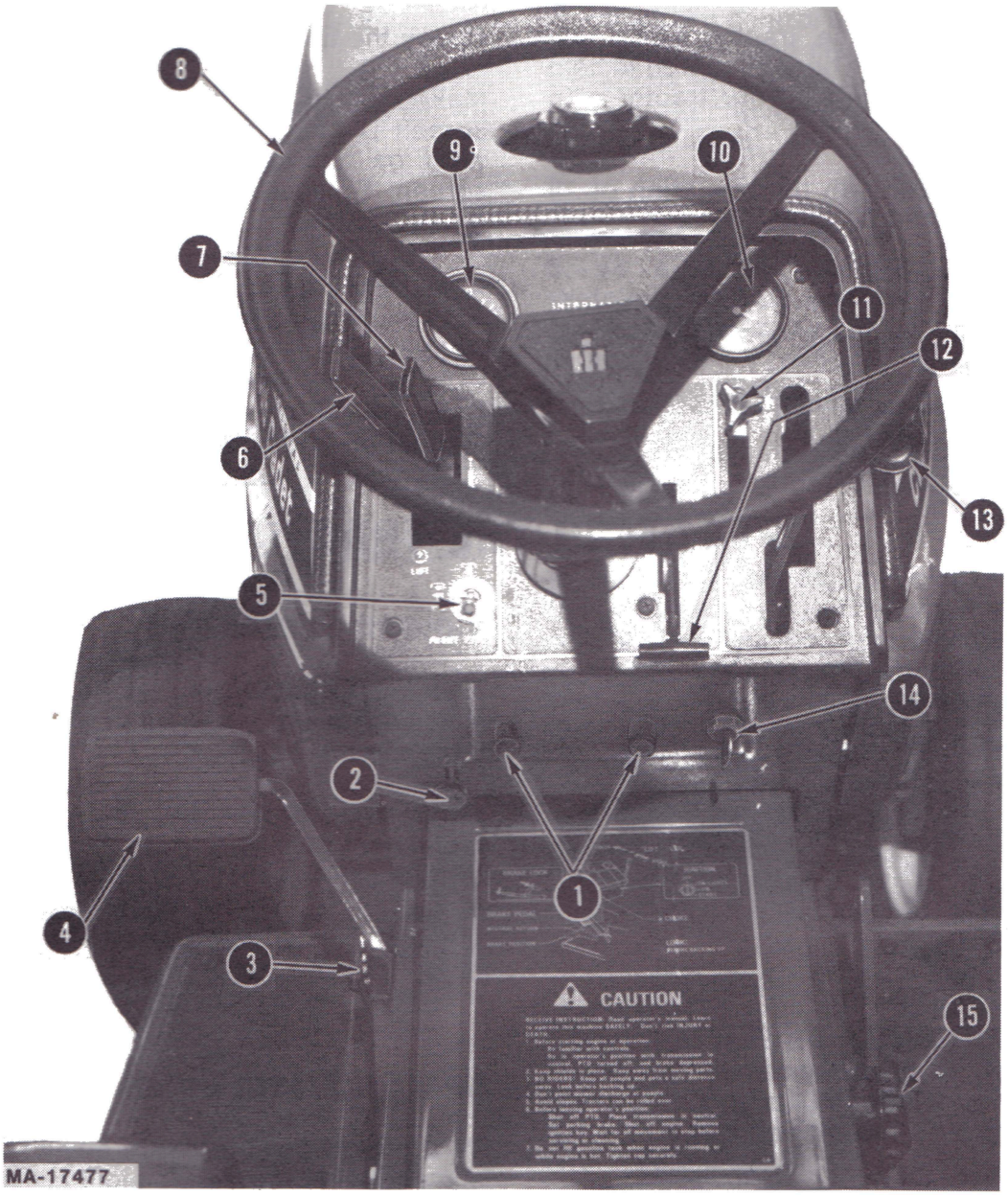
Be courteous, have consideration for other traffic using the road. Drive defensively.

AFTER OPERATING

Lower equipment to ground before leaving tractor to avoid the possibility of the equipment dropping and causing injury.

To reduce the possibility of unattended movement of the tractor or its use by unauthorized operators which could result in an accident and injury, always turn off the power take-off, shift transmission into neutral, set the parking brake, stop the engine, and remove ignition key when leaving the machine unattended.

INSTRUMENTS AND CONTROLS



1. Fuses
2. Choke control
3. Brake pedal lock
4. Brake pedal
5. Front power take off control switch
6. Hydraulic lift control lever
7. Hydraulic front power outlet control lever*
8. Steering wheel
9. Charge indicator
10. Hourmeter
11. Speed control lever stop
12. Throttle lever
13. Speed control lever
14. Combination lights and ignition switch
15. Cam lock knob

*Optional Equipment

782 Tractor Shown.

BEFORE OPERATING YOUR TRACTOR

Before you operate the tractor study this manual carefully. It has been prepared to help you operate and maintain your tractor with utmost efficiency.

Familiarize yourself with the operation of all the instruments and controls.

Fill the fuel tank.

Check the engine oil level.

Clean the air cleaner element if necessary.

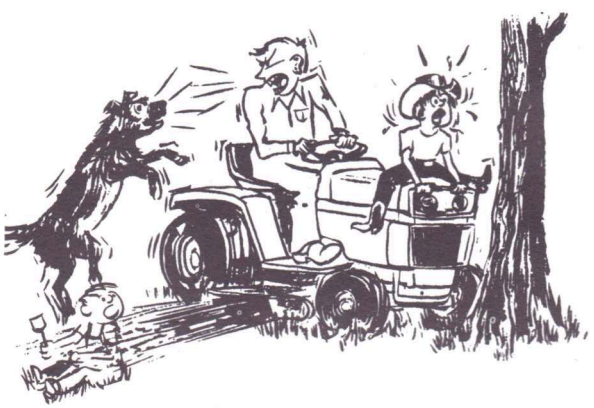
Check the tire inflation pressures.

Make certain that the backside of the grille screen is clean and unobstructed. Pull forward on top edge to expose rear side of screen. Remove by hand any accumulated grass and debris.

Adjust the seat for operator's maximum comfort, visibility, and complete control of the tractor.

Refer to various sections of the operator's manual for additional information.

OPERATING THE TRACTOR



CAUTION! To prevent injury, do not carry passengers or give rides. Keep children, pets, and by-standers a safe distance away.

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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.

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.

This symbol shows slow position.

This symbol shows fast 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.

TRACTOR BREAK-IN PROCEDURE

Never operate a new engine immediately under full load. Break it in carefully as shown in the table below.

Period	Engine Thottle Control Lever Position			Load
	1/2	3/4	Full	
1st hour		X		None
2nd hour	X			Light drawbar load
				or
			X	Mowing with tractor at slow speed
3rd through 13th hour		X		Medium drawbar load
				or
			X	Normal mowing

SPEED CONTROL LEVER STOP

An adjustable speed control lever stop is provided to allow the operator to return to a predetermined speed.

Do not bypass the speed control lever stop to obtain a higher tractor speed. If a higher speed is desired, reset the stop. **Refer to "Instrument and Controls".**

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.

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. Place the throttle just off "SLOW" position.

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

NOTE: The speed control lever will return to neutral when the brake pedal is pressed all the way down.

6. 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 "OFF" and wait a few minutes, then try again.

7. After the engine starts, slowly release the 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. Move the throttle lever just off slow position.

3. Press the 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; however, do not operate the starter for more than 30 seconds at any one time. 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. Immediately move 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.

OPERATING IN COLD WEATHER

While operating this tractor equipped with a 17 HP 2 cylinder engine, at light loads and usually in low temperature conditions, it is possible to foul out a spark plug. This will result in gasoline entering the crankcase by way of the piston rings on the cylinder which is not firing.

Some symptoms are:

1. Oil level will rise due to gasoline in crankcase.

2. Air filter becomes oil and fuel soaked

3. Engine leaks oil

4. Mis-firing

This condition does not necessarily mean that the carburetor, piston rings, ignition coil-wires-points, or gaskets are defective.

Correction:

1. Replace both spark plugs.

2. Check air filter element, replace if needed.

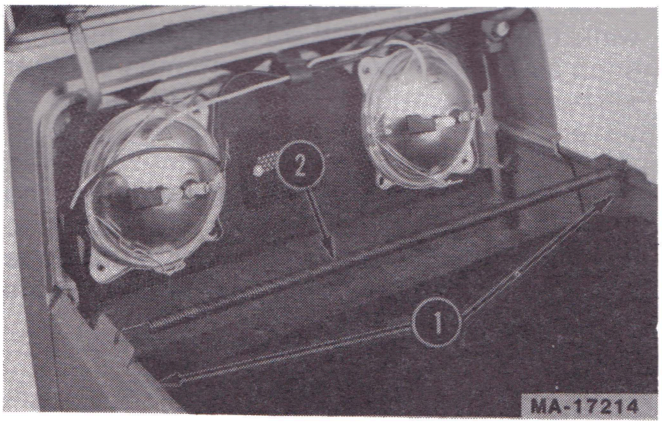
3. Change oil.

4. Adjust carburetor if needed.

5. Service spark plugs regularly when using tractor under light duty or low temperature conditions.

HOOD AND NOISE ISOLATION PANELS

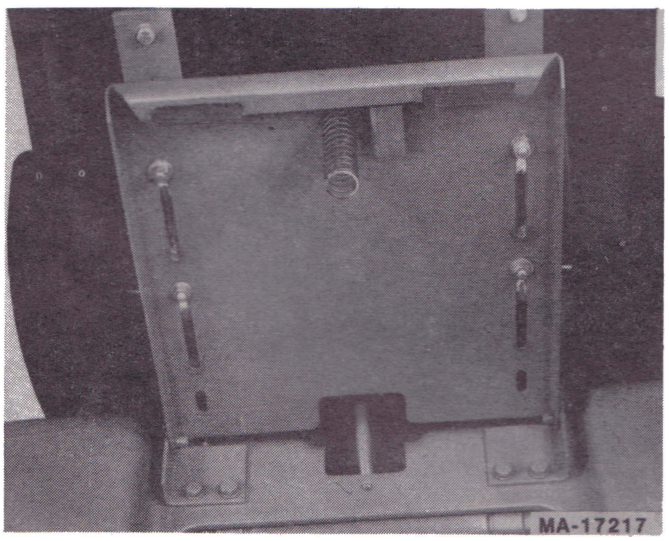
The tractor hood is arranged to swing up and forward for easy access to the engine compartment. Also, whenever engine maintenance is required, the noise isolation panels can be readily removed by removing the two wing nuts (one on each side) and disconnecting the panel spring.



1. Noise isolation panel (one on each side)
2. Panel spring

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.

BRAKE PEDAL

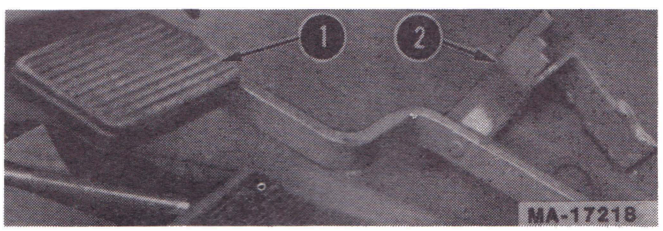
Brake pedal must be pressed all the way down to activate the safety starting switch. When brake pedal is in the depressed position it automatically moves the speed control lever to the "N" position.

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

NOTE: Do not rest your foot on the brake pedal while driving the tractor, this will cause the speed control lever to return to the "N" 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.



1. Brake pedal
2. Brake pedal lock

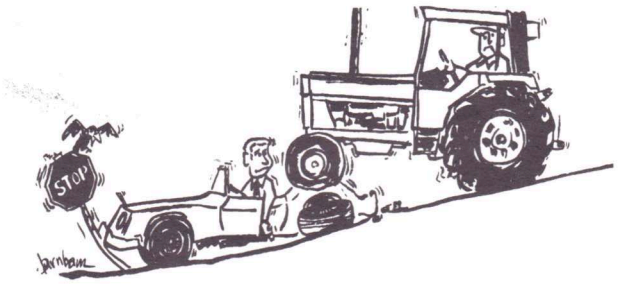
Brake pedal lock in the engaged position.

CAUTION! The hydrostatic transmission will not hold the tractor on a hill. In a short period of time (depending on the hill) the oil will drain from the transmission and allow the tractor to roll down hill. To avoid an accident and/or possible injury, lock the brake.

DRIVING THE TRACTOR

1. Depress the brake pedal, release the brake lock, and let the pedal up. 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.



CAUTION! Avoid sudden starts, excessive speed, sudden stops. Keep vehicle in gear when going down hills.

MA-16853

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

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

Seat Safety Switch

When using power take-off operated equipment, the operator must remain in tractor seat at all times. If operator should leave tractor seat without turning off the power take-off switch, the engine will automatically shut off.

DRIVING ON SLOPES

Before operating the tractor on any slope, walk the slope to look for possible hazards such as rocks, mounds, ruts, stumps or other surface irregularities which could cause an upset.

Back the tractor with implement up the steepest portion of each slope you intend to work. If the tractor can not negotiate the slope in reverse, the slope is too steep to be worked.

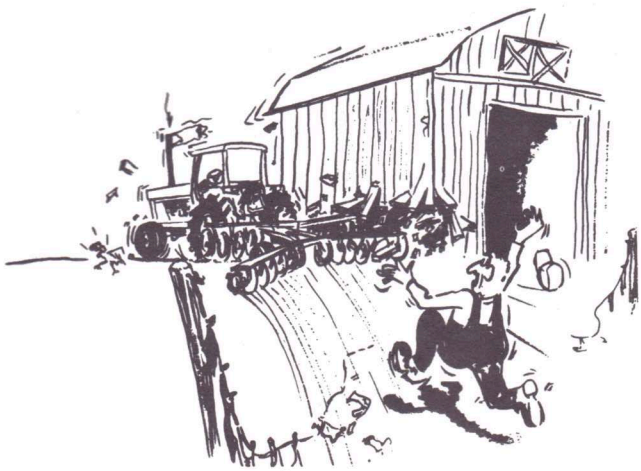
Drive up or down the face of a slope.

Avoid turns when driving on a slope. If a turn must be made, turn down the slope. Turning up a slope greatly increases the chance of a roll over.

Avoid stopping when driving up a slope. If it is necessary to stop while driving up a slope, start up smoothly and carefully to reduce the possibility of flipping the tractor over backward.

STOPPING THE TRACTOR

Move the speed control lever to the "N" position or use the brake. Before dismounting always lock the brake pedal and turn the ignition "OFF". Also disengage the power take-off control switch.



CAUTION! Whenever dismounting from a vehicle stop all power sources, lower equipment to the ground, shut off engine, use park brake or lock, and remove key.

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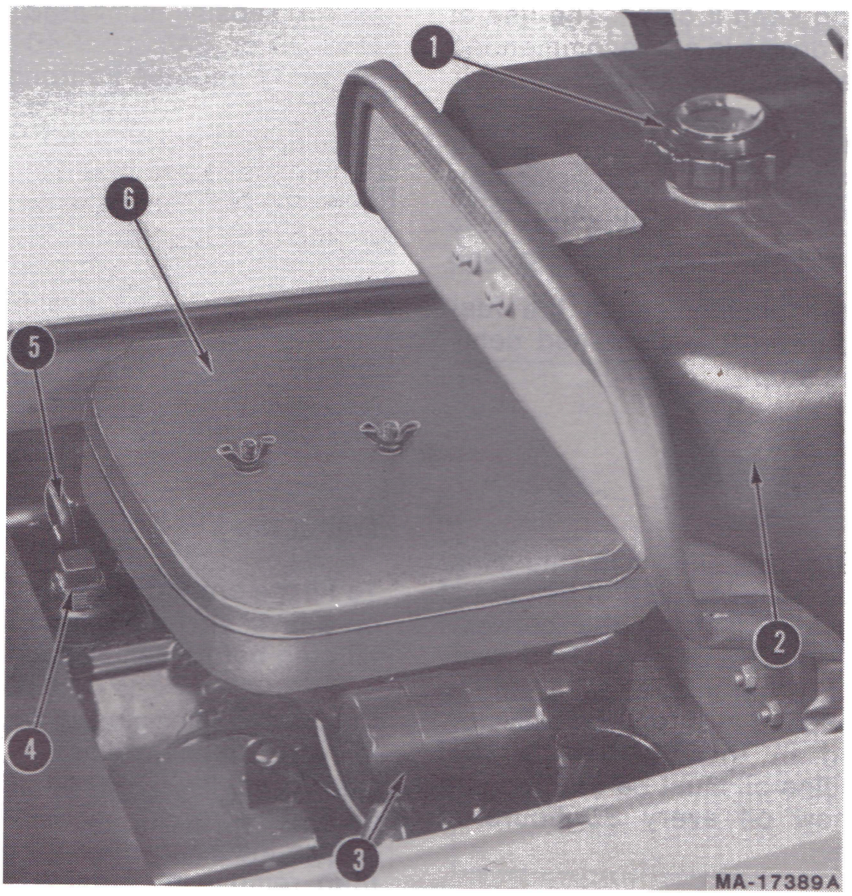
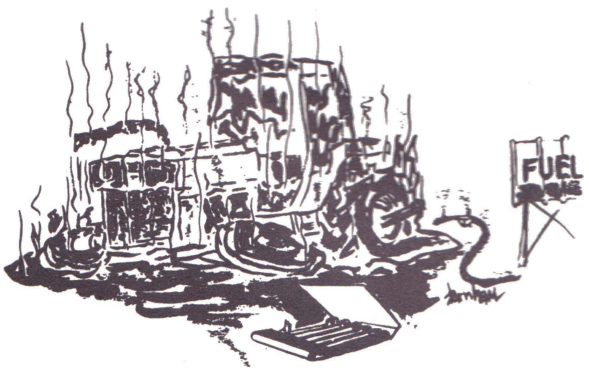
ENGINE AND FUEL SYSTEM



1. Fuel tank filler cap and gauge
2. Fuel tank
3. Coil
4. Oil fill plug
5. Oil level gauge
6. Air cleaner

Fuel System



CAUTION! NEVER SMOKE while refueling. Shut off engine and electrical equipment.

MA-16866 A

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.

Use clean fuel and keep it clean. The use of funnels, cans and drums is not recommended because they are difficult to keep clean.

Allow space for fuel expansion when adding fuel to the tank. A tank filled to capacity may overflow if exposed to a rise in temperature or direct sunlight.

Before starting the engine, check the fuel tank cap to be certain it is tightened completely against the stop.

ENGINE OIL

The engine crankcase is filled with ship-away oil. This oil may be used for the first 5 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. **Refer to "LUBRICATION TABLE".**

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 10W-40 must not be used above 32 degrees Fahrenheit.

Regularly check the oil level of the engine crankcase to see that it is filled to the correct level. **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.

Filling the Crankcase

To fill the crankcase with oil, place the tractor on a level surface. Clean the area around oil fill plug before removing.

Remove oil filler plug and fill crankcase to the full mark on oil level gauge. (Capacity 3 pints). Check oil level on oil level gauge before adding more oil. Wipe off oil level gauge before inserting it all the way into the tube, then remove oil level gauge and check oil level. DO NOT OVERFILL. Oil level gauge must be pushed fully into tube at all times when engine is operating.

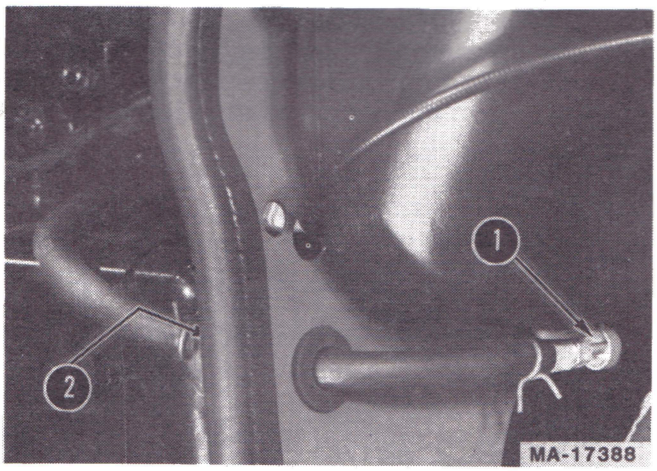
NOTE: Never overfill the engine crankcase. Engine may overheat and/or damage may result if the crankcase is below the "LOW" mark or over the "FULL" mark. For oil capacity refer to the **"SPECIFICATION"** and **"LUBRICATION TABLE"** section.

FUEL SHUT-OFF VALVE

Be sure the shut-off valve under the fuel tank is open.

To turn the fuel on, turn the knob counterclockwise to the stop.

To turn the fuel off, turn the knob clockwise until it is tight.



1. Fuel shut-off valve
2. Fuel filter (not seen)

TRANSMISSION OIL FILTER

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

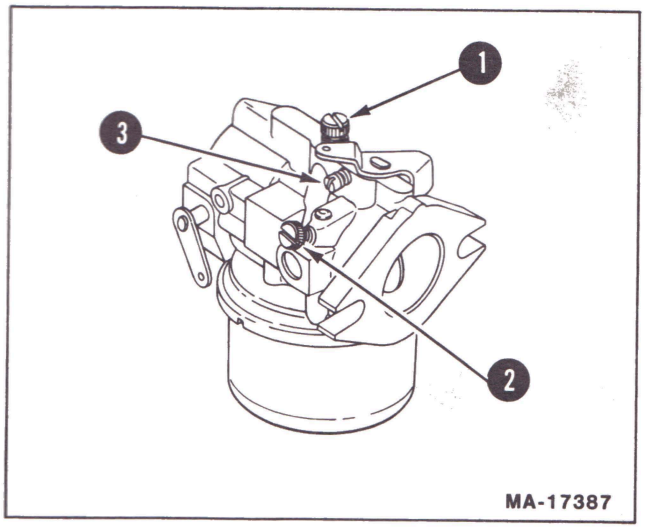
NOTE: Clean the outside area before removing the filter to keep dirt from getting into the transmission case. If a mower is mounted on the tractor, the mower must be lowered to facilitate removal of the filter.

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.

CARBURETOR ADJUSTMENTS

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



1. Main fuel screw
2. Idle fuel screw
3. Idle speed screw

The side draft adjustable jet 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. **Refer to "ENGINE COOLING AND AIR CLEANER."**

If readjustment becomes necessary, stop the engine, then turn the MAIN and IDLE fuel adjusting screws all the way in, until they bottom lightly.

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.

Main Fuel Adjustment

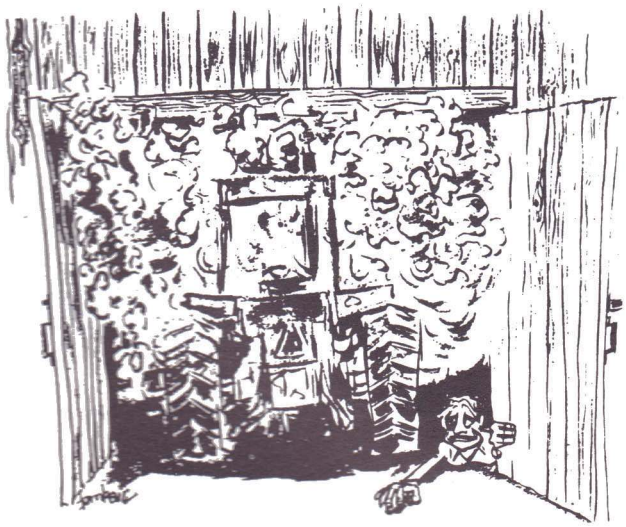
Preliminary setting — turn screw out 2-1/2 turns. Final setting — start engine and raise engine speed to maximum governed, no load speed. Turn screw in just until engine speed decreases and note the position of the screw. Now turn the screw out. The engine speed will first increase, but then decrease as screw is turned out. Note the position of screw when engine speed starts to decrease. Set the screw midway between the two points noted above.

Idle Speed Adjustment

Run engine at maximum governed, no load speed for a minimum of 30 seconds, then allow engine speed to fall to idle or put throttle into idle position. Set engine speed to 1200 (±75 RPM) by turning the idle speed screw in or out.

Idle Fuel Adjustment

Set the idle fuel mixture by turning the idle fuel screw out, from the closed position, 3/4 to 1 full turn.



CAUTION! EXHAUST FUMES CAN KILL. Never operate vehicle in an enclosed area.

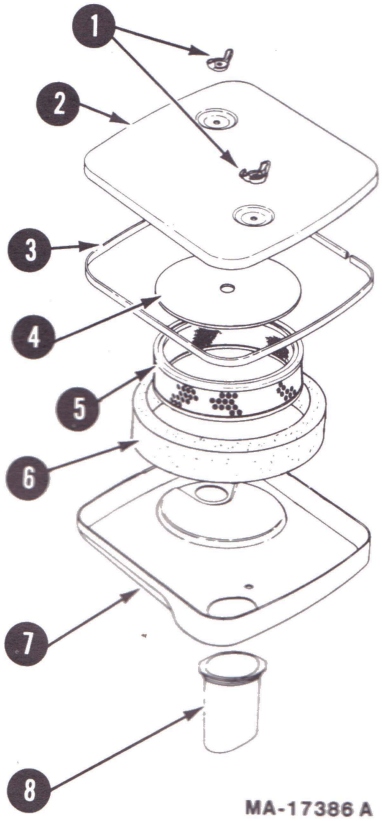
MA-16870

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. **Periodically** clean the inside of the side panels and grill screen for adequate cooling.

NOTE: This machine is designed to cool properly with the engine side panels in place. Operating the machine without panels in place may result in inadequate cooling. Never operate engine with blower housing or cooling shrouds removed. These direct air flow past cooling fins. Removal results in improper air circulation, overheating and engine damage.



MA-17386 A

1. Wing nuts
2. Cover
3. Seal
4. Cover plate
5. Paper cartridge
6. Foam pre-cleaner
7. Back plate
8. Tube

Air cleaner assembly

NOTE: Service more ofter under dusty conditions.

DRY TYPE AIR CLEANER WITH FOAM PRE-CLEANER ELEMENT

Cleaning Foam Pre-cleaner Element

Clean and re-oil foam pre-cleaner element at 1 month intervals or every 10 hours, whichever occurs first.

NOTE: Service more often under dusty conditions.

1. Remove two wing nuts and cover.
2. Remove foam pre-cleaner element by sliding it up off of the paper cartridge.
3. A — Wash pre-cleaner element in liquid detergent and water. B — Squeeze dry in cloth. C — Saturate in engine oil. Squeeze to distribute oil evenly. D — Wrap in shop towel and squeeze to remove excess oil.

Discard used element and replace with new one at least once a year.

Servicing Paper Cartridge

This engine is equipped with a dry type air cleaner element, which should be checked every 100 operating hours and replaced if dirty. It should be checked and if necessary replaced more often under extremely dirty dusty conditions. Do not wash element in any liquid or attempt to blow dirt off with air hose as this will puncture filter element. Carefully handle new element — do not use if gasket surfaces are bent or twisted. Check the following when installing new element.

1. Back plate must be flat on gasket of carburetor elbow. Replace back plate if bent or cracked.
2. Gasket surfaces of element must be flat against back plate and cover to seal effectively.
3. Seal on cover must be in place to reduce noise and vibration of the cover. Vibration can cause stud hole in cover to enlarge, thus permitting dirt to enter carburetor.
4. Wing nuts must be finger tight — do not overtighten.

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, ignition coil, condenser, breaker points and spark plugs.

All connections must be clean and securely fastened.

SAFETY STARTING SWITCH

The safety starting switches activated by the brake pedal and the power take-off clutch switch serve to prevent starting the engine accidentally. The brake pedal must be depressed and the power take-off switch in "OFF" position before engine will start.

CHARGE INDICATOR

This instrument indicates whether the alternator 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 charging circuit.

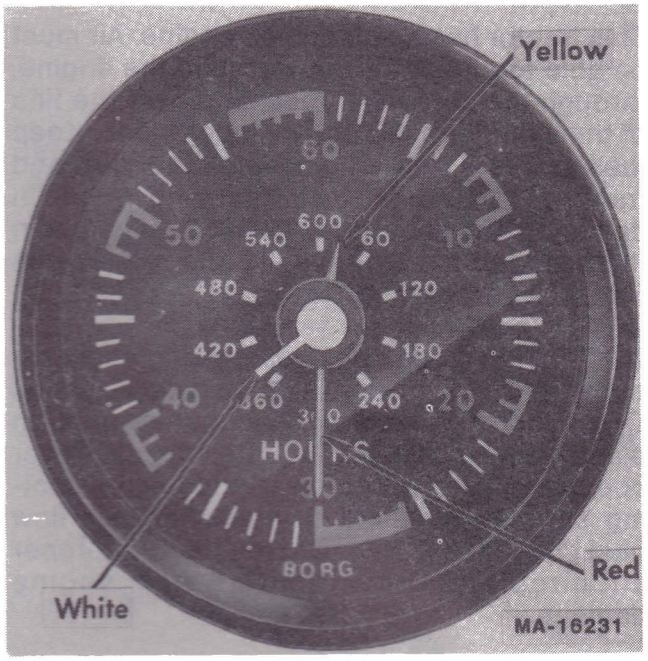
HOUR METER

The hour meter is located on the instrument panel. It indicates the actual hours of engine operation, enabling the operator to determine without guesswork, when lubrication, change of oil or periodic inspections are necessary. It also provides a means of computing cost of specific jobs. The hour meter operates whenever the engine is running or the ignition key is in the "ON" position.

When the red hand is located on the red areas of the hour meter dial (every 10 hours), this indicates a service period is necessary. Refer to **"Maintenance Chart"** and **"Lubrication Guide"** for 10 and 30 hour service requirements.

SEAT SAFETY SWITCH

When using power take-off operated equipment, the operator must remain in tractor seat at all times. If operator should leave tractor seat without turning off the power take-off switch, the engine will automatically shut off.



The red dial indicates the number of hours from 0 to 60. The yellow dial indicates the total hours of operation up to 600. For one revolution of the red dial the yellow dial moves 1/10 of a revolution. The white dial indicates that the hourmeter is operating.

COMBINATION LIGHTS AND IGNITION SWITCH

The combination lights and ignition switch is a four position switch.

Refer to chart for various operating positions.

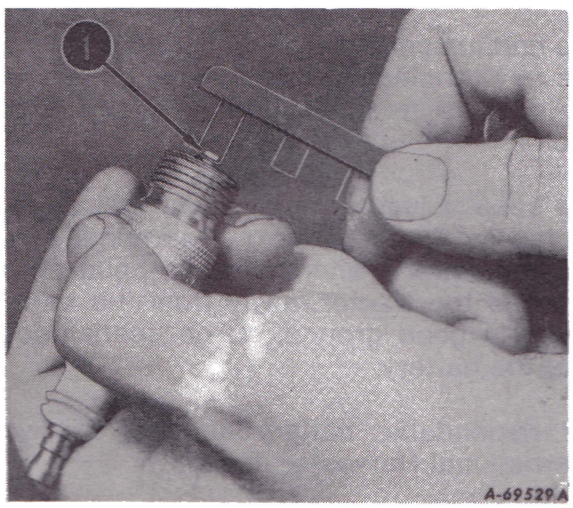
Switch Position	Lights	Ignition
1	Off	Off
2	On	On
3	Off	On
4	Off	Actuates starting motor

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

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

To replace the taillight lamp, remove socket and bulb from the back of the taillight. **Refer to "SPECIFICATIONS".**

SPARK PLUGS



Checking the spark plug gap. Set gap at .025-inch (.64 mm).

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

To remove spark plugs, always use a spark plug wrench. Check gap after every 100 hours of operation.

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

Replace a defective plug with a new plug. Tighten plug to 10-15 ft-lbs. (l.4-2.8 Kgm). See your International Harvester dealer for the correct replacement plug.

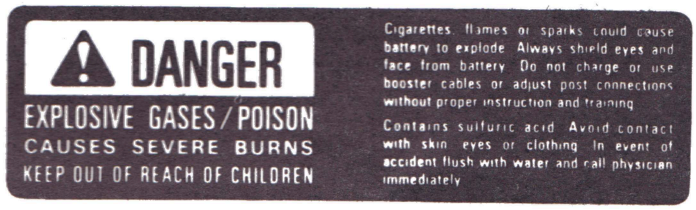
FUSES (Electric Lighting and Electric Power Take-Off Clutch)

There are two fuses on the tractor pedestal. The fuse on the left is for the lights; the fuse on the right is for the electric 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.

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.

BATTERY



MA-17150

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.

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 battery 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 the tractor.

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

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.

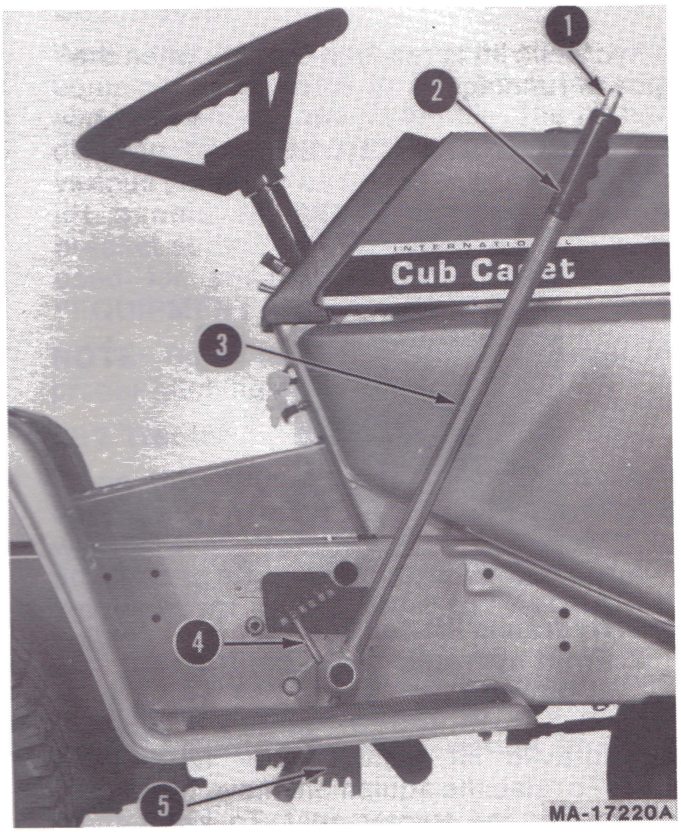
For dependable battery service, see your International Harvester dealer.

EQUIPMENT LIFT HANDLE

HEIGHT ADJUSTMENT (682 Tractor)

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.

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



1. Release button
2. Handle grip
3. Lift handle
4. Lift pointer
5. Lift handle ratchet

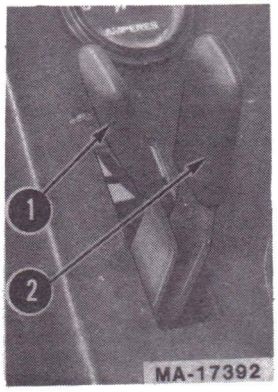
682 Tractor

HYDRAULIC LIFT

782 Tractor Only

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

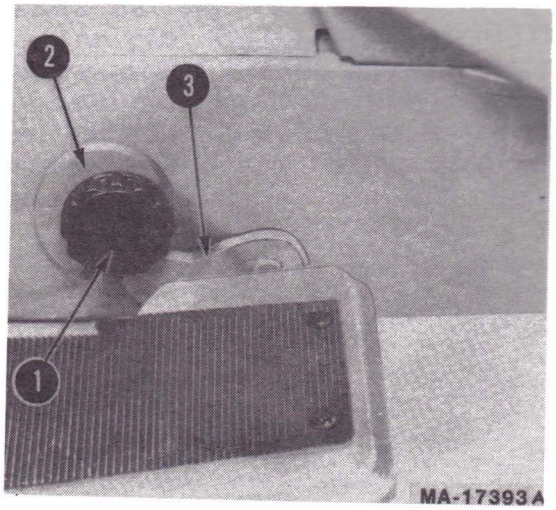
OPERATING INSTRUCTIONS



1. Hydraulic lift control lever
2. Front hydraulic outlet control lever (Optional)

The hydraulic lift 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.

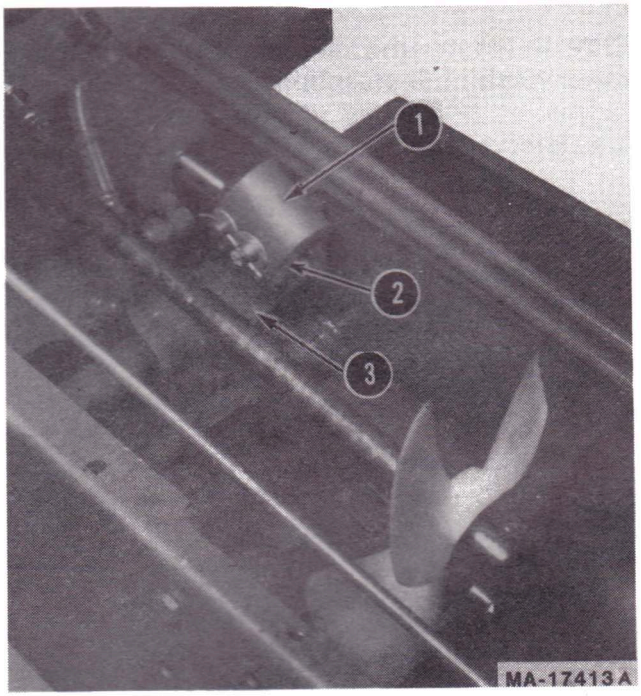
The front hydraulic outlet control lever (optional) provides for "on-the-go" angling of a front mounted blade.



1. Locking knob
2. Cam stop
3. Tang

The cam stop may be adjusted to allow the implement to return to a single preset height.

With implement in desired height position, release cam stop by turning locking knob counterclockwise. Turn cam stop until it contacts tang. Lock cam stop into this position by turning cam knob clockwise.

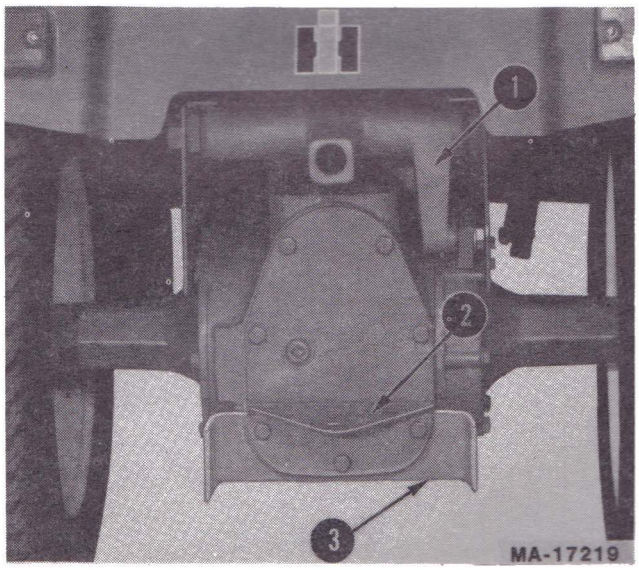


1. Lift bracket
2. Hole (not seen) for bolt
3. Lift arm

Equipment is normally operated in a "Float" position (implement free to move upward).

To operate equipment in a fixed "Locked" position, where down pressure of the implement is required (blade work), remove frame cover and install bolt, 1/2 x 1-1/8-inch, (not furnished with tractor) between the lift arm and lift bracket.

HITCHING EQUIPMENT TO THE TRACTOR



1. Lift lever
2. Drawbar
3. Lower mounting bracket

Drawbar and three-point hitch.

DRAWBAR

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

THREE-POINT HITCH

682 Tractor

When the tractor has a three-point hitch, equipment adaptable to this hitch is raised and lowered with the lift handle. The lift handle can be set to hold the equipment at various positions by use of the notches in the lift handle ratchet. The lower mounting bracket at the rear has three holes which are used for additional adjustment. **Refer to "EQUIPMENT LIFT HANDLE".**

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

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When the tractor has a three-point hitch, equipment adaptable to this hitch is adjusted with a cam stop. The cam stop may be adjusted to allow the implement to return to a single preset height. **Refer to "HYDRAULIC LIFT".**

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

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 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).

4. The operator must remain in tractor seat at all times. If operator should leave tractor seat without turning off the power take-off switch, the engine will automatically shut off.

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.

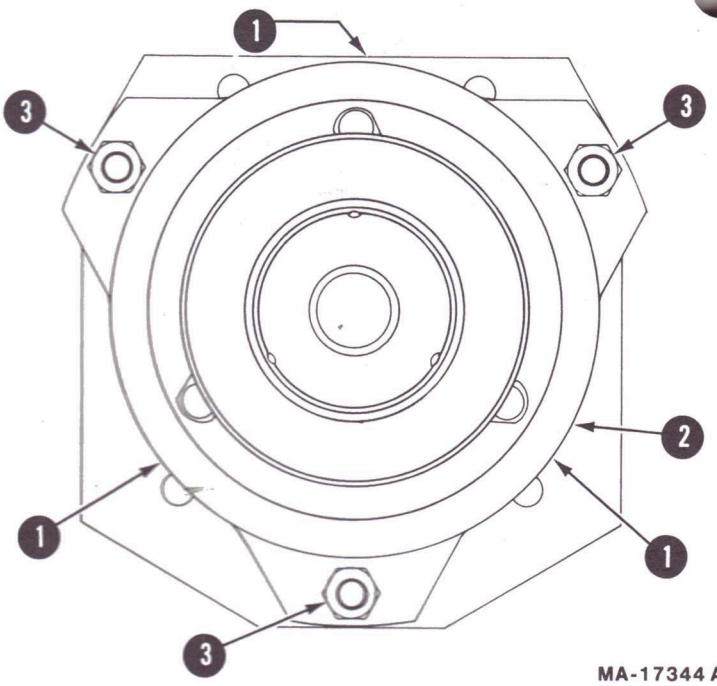
CAUTION! To avoid possible injury, always disengage all clutches, shift the transmission into neutral, depress the brake, set the brake pedal lock and turn the ignition "OFF" before working on the machine.

Using a feeler gauge, check the air gap. Insert the feeler gauge into one of the three access slots located around the outside of the brake plate. The air gap should be .010-.015-inches (.254-.381 mm), adjust the self-locking nuts to obtain proper clearance. Repeat adjustment at all three access slots.

NOTE: If brake plate drags on clutch at.010-.015-inches (.254-.381 mm) air gap, increase air gap to .020-inch (.508 mm).

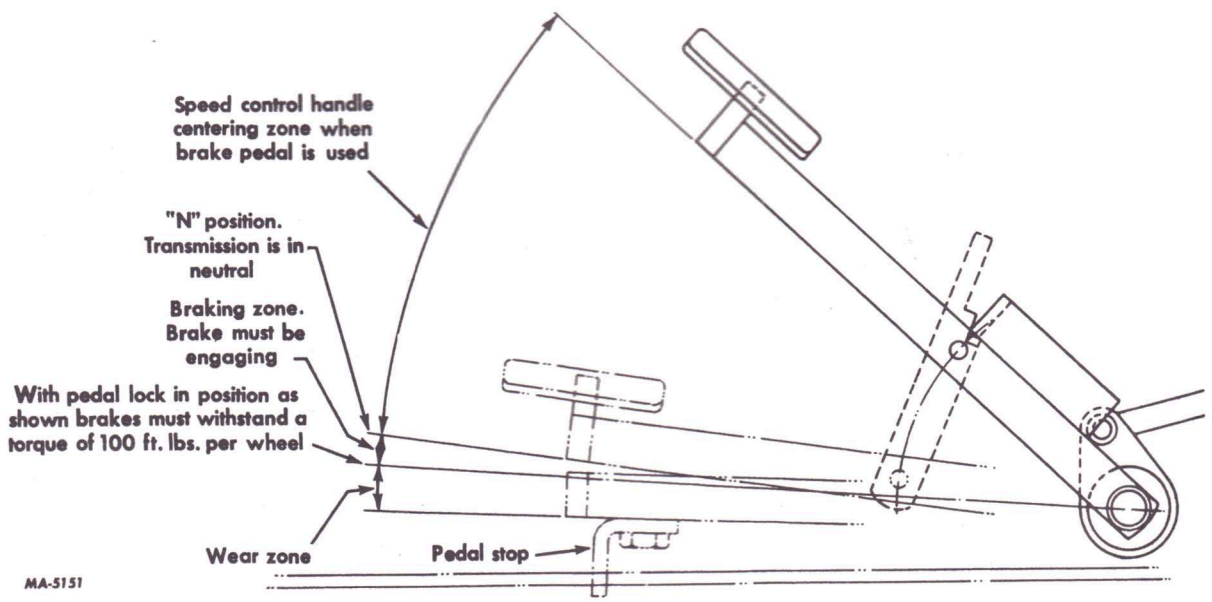
If the above procedure does not work, see your International Harvester dealer.

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



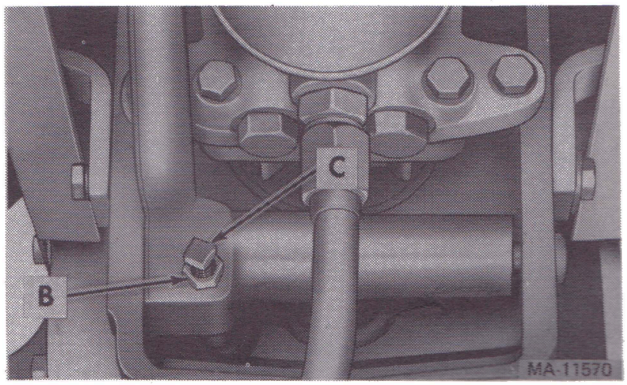
1. Access slots
2. Brake plate
3. Self-locking nuts

BRAKES



Brake adjustments.

CAUTION! To avoid injury or possible accident, be very careful and take necessary precautions when raising tractor off the ground.



Internal wet brakes.

To adjust the brake, loosen jam nut **"B"**. Next, tighten the brake lever adjusting screw **"C"** until finger tight (8-10-inch pounds). Tighten jam nut **"B"** while holding the adjusting screw.

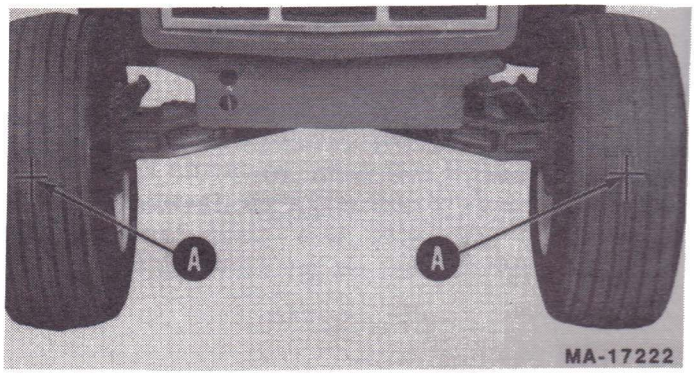
If brake drags after tightening jam nut **"B"**, loosen the jam nut and back off adjusting screw **"C"** slightly and retighten jam nut **"B"**. Recheck brake adjustment and insure proper brake operation before operating tractor.

CAUTION! Remember — A careful operator is the best insurance against an accident.

FRONT WHEELS

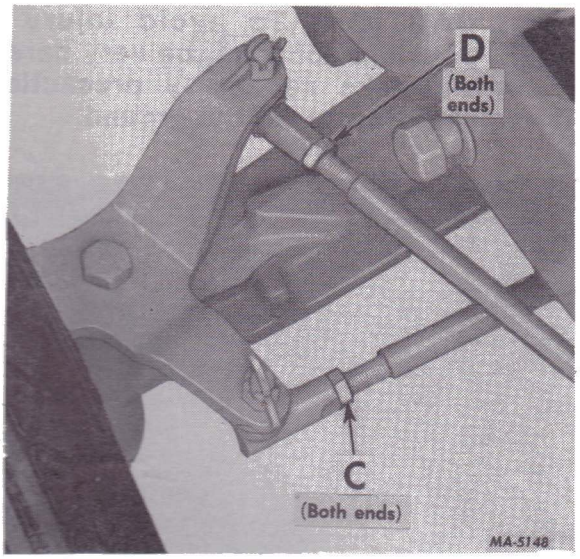
FRONT WHEEL TOE-IN

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.



Front wheel adjustments.

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.



Tie rod and drag link ball joints.

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"**, 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.

PNEUMATIC TIRES

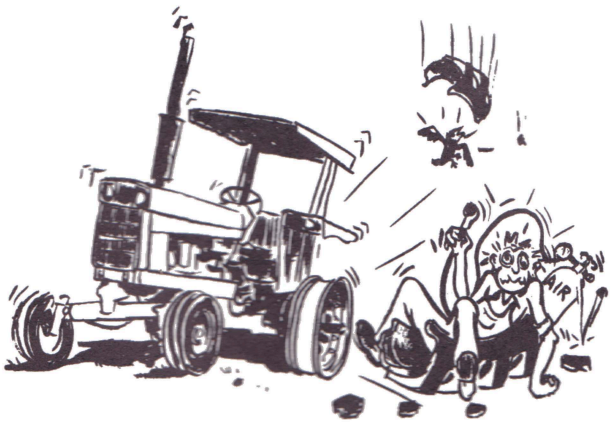
23 x 10.50-12 rear turf tread and 16 x 6.50-8 front 2 ply tubeless tires with wheels are standard equipment.

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.

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.



CAUTION! Read the operators manual thoroughly for proper installation, inflation and maintenance procedures. Tires can explode.

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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 23 x 10.50-12	12

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 operations, use water to remove any chemicals that may be on the tires.

REAR WHEEL WEIGHTS (Optional)

Rear wheel weights increase traction and reduce wheel slippage. The weights weigh approximately 75 pounds (34KG) 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.

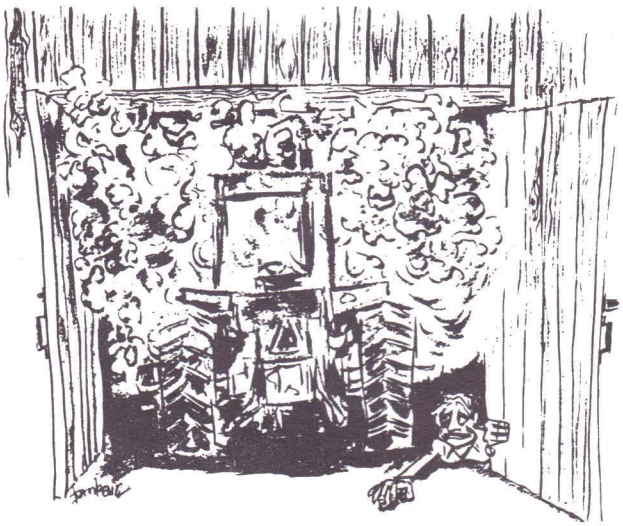
TIRE CHAINS (Optional)

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.

STORING THE TRACTOR



CAUTION! EXHAUST FUMES CAN KILL. Never operate vehicle in an enclosed area.

MA-16870

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. **Refer to 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 plugs and pour two tablespoonsful of a rust inhibited oil such as Hy-Tran® or IH No. 1® engine oil into each 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. **Refer to "BATTERY".**

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. Check air pressure in tires.

4. 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.

OPTIONAL 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.

Type of Equipment

Implement Handle Helper Spring (682 Tractor)
Rear Wheel Weights
Three-Point Hitch
Tire Chains
Tractor Cover
Utility Box

MAINTENANCE CHART

Operation to be performed	Before each use	10 hours or once a month	**30 hours or three times a season**	50 hours or twice a season	100 hours or yearly	Before storage
Clean grille screen (front & backside) & engine inlet air screen		More often under dirty conditions X				
Check engine oil	X					
Fill fuel tank	X					
Grease front axle pivot pin			X			X
Brake Shaft			X			
Re-oil & clean Foam air precleaner		X				
Service air cleaner paper cartridge					More often under dirty conditions	
Check spark plugs					X	X
Change engine oil	After first 5 hours		X			
Check Transmission oil level			X			
Transmission oil filter		X		X	X	
Steering gear housing					X	
Drain fuel						X
Clean cooling fins & external surfaces			X			
Steering knuckles (2)		X				
Speed control linkage cam plates					X	
Check battery electrolyte level		X				

NOTE: When the red hand of the hour meter is in the red areas maintenance is required.

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.
Gas filter plugged	Replace
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. Refer to "BATTERY".
Spark plug dirty or improper gap	Clean, adjust the gap to .025 inch (.635 mm), 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. Refer to "ENGINE AND FUEL SYSTEM".
Poor grade fuel or water in fuel	Drain and use a good grade of clean fuel.
Engine overheating	Refer to "ENGINE COOLING AND AIR CLEANER".
Engine valves at fault	*
Engine smokes	Adjust the carburetor. Check for worn piston and rings.*
Oil level will rise due to gasoline in crankcase	Refer to "OPERATING IN COLD WEATHER".
Air filter will become oil and fuel soaked	Refer to "OPERATING IN COLD WEATHER".
Engine leaks oil	Refer to "OPERATING IN COLD WEATHER".
Mis-firing	Refer to "OPERATING IN COLD WEATHER".
Other engine problems	*
Excessive oil in air cleaner	Be sure that dip stick is fully seated and all excess oil is squeezed out of pre-cleaner foam element.

*See your International Harvester dealer.

TROUBLE SHOOTING

Possible Cause	Possible Remedy
LACK OF POWER	
Air cleaner clogged	Service the air cleaner element. Refer to "ENGINE COOLING AND AIR CLEANER".
Engine overload	Reduce the load.
Engine overheated	Make sure air intake screen, shrouding, engine fins, and grille screen are free of accumulated dirt and trash. Refer to "ENGINE COOLING AND AIR CLEANER".
Poor fuel, too rich, or too lean a mixture	Refer to "ENGINE AND FUEL SYSTEM".
Fuel tank air vent clogged	Open the vent in the cap.
Air leakage between carburetor and engine	Remove air cleaner. Tighten the carburetor and manifold mounting nuts. Replace as instructed in "ENGINE COOLING AND AIR CLEANER".
Incorrect timing or faulty ignition	*
Brake drags	Adjust the brake. Refer to "CLUTCH-BRAKE".
ENGINE OVERHEATS	
Insufficient cool air, dirty air intake screen, shroud, cooling fins, or dirty grille screen	Keep the air intake area and cooling fins clean; Refer to "ENGINE COOLING AND AIR CLEANER".
Lean carburetor adjustment	Readjust; Refer to "ENGINE AND FUEL SYSTEM".
Oil level incorrect	Engine oil level must not be over the "FULL" mark or below the "LOW" mark. Refer to "ENGINE AND FUEL SYSTEM".

See your International Harvester dealer.

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	Check before each use	30	3 pt. (1.4 L)	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-30
Hydro-drive unit mounted on transmission case with filter	30	Add as needed	14 pts. (6.6L) Approx.	**IH Hy-Tran® Fluid** If fluid is used which does not meet requirements of IH B-6 Specifications, International Harvester Co. will not be responsible for substandard performance such as lack of proper control, power or premature wear out of hydraulic components. Failures due to use of improper fluid or filters are not covered by warranty. **For maximum protection, used IH Hy-Tran Fluid and IH filters.**		
Steering gear housing	100 or Yearly	—	1.4 lb. (0.6KG)	Two strokes of the lubricator using IH-251H EP grease or equivalent No. 2 multi-purpose lithium grease.		
Steering knuckles & front axle pivot	10		Use IH-251H 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	100 or Yearly			Remove front wheels and pack bearings with IH-251H EP grease or equivalent No. 2 multi-purpose lithium grease and reinstall wheels.		
Drive shaft lubricating bushing	30		Use IH-251H EP grease and apply two or three strokes of the lubricator.			

LUBRICATION GUIDE

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

Be certain that all lubrication fittings are assembled in place, using the lubrication illustrations as a guide.

Always lubricate the tractor thoroughly before taking it to the field. Use a pressure lubricating gun.

Be sure all fittings are free from dirt and paint so the lubricant is certain to enter the bearing.

Always force the lubricant through the full length of each bearing until it emerges at the end, carrying with it the worn lubricant and any dirt that may have entered the bearing.

Miscellaneous working parts not provided with lubrication fittings should be oiled daily with a good grade of lubricating oil.

Lubricant is cheap. Use plenty of it. Worn parts can be expensive to replace.

Keep your supply of lubricating oil and grease stored in clean containers, and covered to protect from dust and dirt.

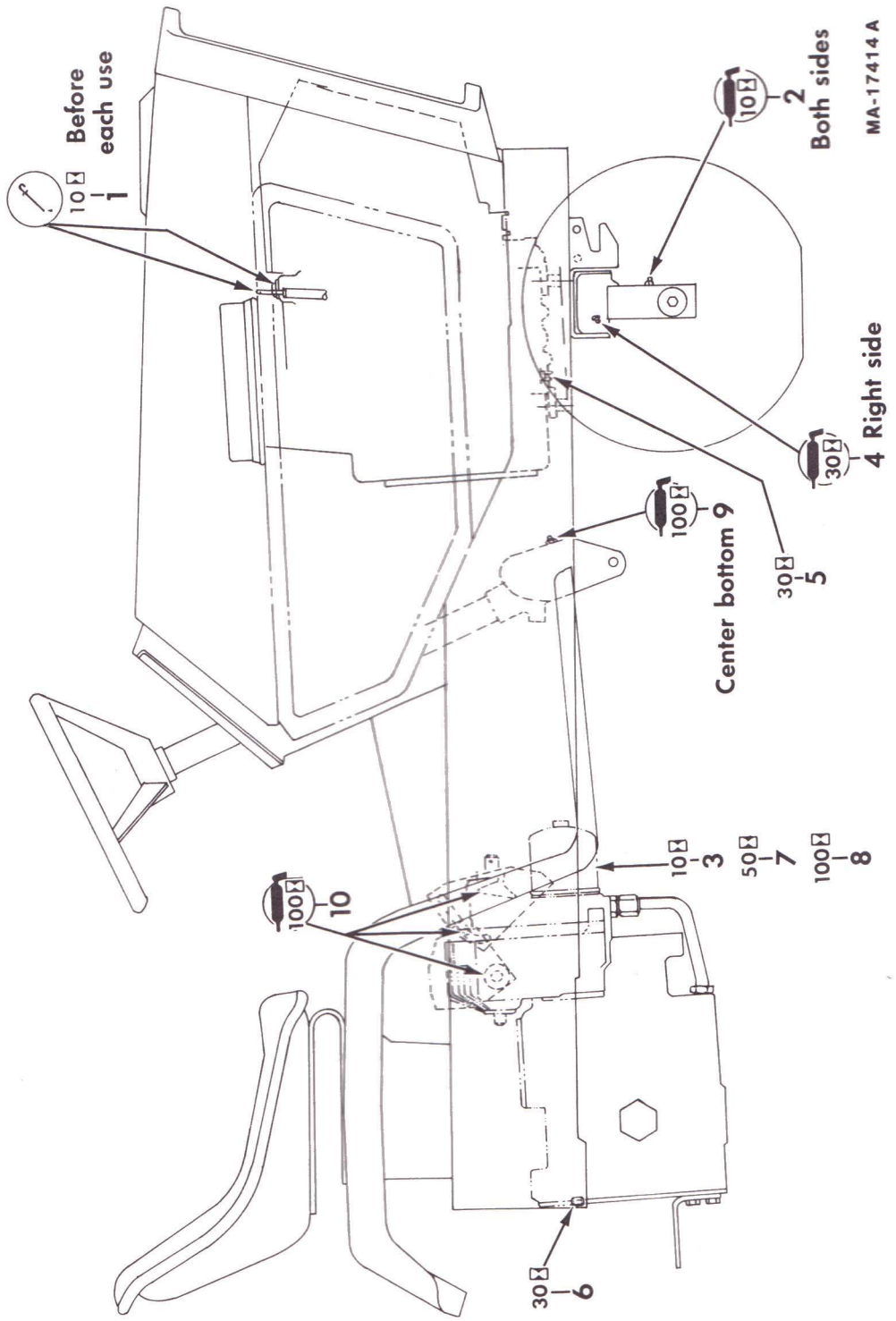
Keep the lubricating gun nozzle clean and wipe dirt from grease fittings before lubricating.

The symbols in the illustration indicate the method of application and the hourly intervals to apply the lubricant.

Use a pressure lubricating gun and apply IH 251H EP grease (or equivalent No. 2 multi-purpose lithium grease) sufficient to flush out the old grease and dirt. Lubricate at hourly intervals indicated on symbols.

Use oil can at hourly intervals shown on symbols.

Hand lubricate these areas at the hourly intervals shown, using IH 251H EP grease or equivalent No. 2 multi-purpose lithium grease.


Before each use
10
1
2
Both sides
10
4 Right side
30
5
30
Center bottom 9
100
10
100
10
3
50
7
100
8
30
6
MA-17414 A

LUBRICATION GUIDE

— After Every 10 Hours of Operation

1 - Engine oil level gauge. (check before each use)	Check the oil (with the engine stopped) and add sufficient new oil to bring it to the **"FULL"** mark on the level 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).	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 - Transmission oil filter.	**NOTE:** After the first 10 hours only, remove the oil filter and replace with a new filter. Refer to **"ENGINE AND FUEL SYSTEM".** Change the oil filter after 50 hours and every 100 hours of operation thereafter.

— After Every 30 Hours of Operation

4 - 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.
5 - Engine oil drain plug.	While the oil is warm, remove the drain plug (5) 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.
6 - Transmission oil level and filler plug.	Check the oil with the engine stopped. Keep the lubricant up to level plug 6 on the rear of the transmission case.

NOTE: When the red hand of the hour meter is in the red areas maintenance is required.

— After Every 50 Hours of Operation

7 - Transmission oil filter.	**NOTE:** After the first 50 hours only, remove the oil filter and replace with a new filter. Refer to **"ENGINE AND FUEL SYSTEM"**. Change the oil filter every 100 hours of operation thereafter.

— Every 100 Hours of Operation

8. Transmission oil filter.	Change the oil filter and replace with a new filter. Refer to **"ENGINE AND FUEL SYSTEM"**.
9 - 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. **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.
Speed Control Linkage	
10 - Cam plates.	Once a year, apply a light amount of IH 251H EP grease or equivalent No. 2 multi-purpose lithium grease.
Miscellaneous	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 No. 2 multi-purpose lithium grease.

SPECIFICATIONS

CAPACITIES

Fuel Tank	4 gals. (15.1 L)
Crankcase	3 pts. (1.4 L)
Transmission case with Hydro-drive unit mounted	14 pts. (6.6 L)
Steering gear housing	1/4 lb. (0.1 KG)

HYDROSTATIC DRIVE

Speed: Forward	0 to 8.64 mph (13.89 Km/h)
Reverse	0 to 4.25 mph (6.83 Km/h)

ENGINE

Make and model	Kohler
(electric starting)	KT17
Cylinders	2
Bore	3.125-in. (79.4 mm)
Stroke	2.750 (69.8 mm)
Displacement (cubic inches)	42.18 (691.2 cc)
Engine Speed	
(governed)	
Low speed	1200
High idle speed	
(no load)	3600
(full load)	3350
Valve clearance	
(engine cole)	.008-.011-in (.203-.279 mm) (intake)
	.011-.014 (.279-.355 mm) (exh)
Ignition	Battery
Spark plug gap	
(14 mm plug) (Champion RBL-154 or equivalent)	.025-in. (.635 mm) gap
Breaker points	.017-.023-in. (.432-.584 mm) gap

Specifications are subject to change without notice.

ELECTRICAL SYSTEM

System voltage ..... 12 volt neg. ground
Battery 1HPRLU
Alternator ..... 15 amp.
Fuse (cartridge type)(1 or 2) ..... AGC-10 amp. Slow Blow

Headlights
all glass, sealed beam units ..... Lamp No. H7610
IH Part No. 131 508 C1

Taillight ..... Lamp No. 194
IH Part No. 20 627 R1

BRAKES

Internal wet brakes

TIRE SIZES

Front ..... 16 x 6.50-8

Rear ..... 23 x 10.50-12

DIMENSIONS

Tread:
Front with 16 x 6.50-8 tires ..... 29-in. (73.7 mm)

Rear with 23 x 10-50-12 tires ..... 27.0-in. (68.6 mm)

Wheelbase ..... 44-in. (1.12 m)

Length, over-all ..... 72.0-in. (1.82 m)

Width, over-all ..... 37.75-in. (95.89 mm)

Height, over-all (to top of steering wheel) ..... 43-in. (1.09 m)
Ground clearance ..... 6-in. (152 mm)
Turning radius ..... 6.75 ft. (2.06 m)

Specifications are subject to change without notice.

MEASUREMENT UNITS

English Unit	Metric Equivalent (SI)
Area	
1 square inch (in^2)	6.45 square centimetre (cm^2)
1 acre	0.405 hectare(ha)
Force	
1 pound-force (lbf)	4.45 newton (N)
Length	
1 foot (ft)	304.8 millimetre (mm), 30.5 centimetre (cm), 0.305 metre (m)
1 inch (in)	25.4 millimetre (mm), 2.54 centimetre (cm)
1 mile	1609 metre (m), 1.61 kilometre (km)
Mass	
1 pound (lb)	0.454 kilogram (kg)
Power	
1 horsepower (hp)	0.746 kilowatt (kW)
Pressure	
1 pound-force per square inch, psi (lbf/in^2)	6.89 kilopascal (kPa), 0.00689 megapascal (MPa)
Temperature	
t degree Fahrenheit (°F)	$\frac{(t - 32)}{1.8}$ degree Celsius (°C)
Torque	
1 pound-force foot (lbf·ft)	1.356 newton metre (N·m)
Velocity	
1 mile per hour (mph)	1.61 kilometre per hour (km/h)
Volume	
1 US bushel	0.035 cubic metre (m^3)
1 US gallon (US gal)	3.79 litre (L)
1 US quart (US qt)	0.946 litre (L)

THIS PAGE REPLACES TECHNICAL PUBLICATIONS PAGE IN OPERATOR'S MANUAL 1 096 351 R2 FOR INTERNATIONAL® CUB CADET 682 & 782 TRACTORS

TECHNICAL PUBLICATIONS AVAILABLE

Your International Harvester Dealer and his factory trained servicemen are best qualified to service your equipment. Up-to-date instructions and adequate special tools are also a part of your Dealer's service facilities.

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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.

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