

Cub Cadet

Owner's Manual

TRACTORS



Important:

**Read Safety Rules and
Instructions Carefully**

Thank you for purchasing an
American built product.

Model Numbers

**682142
and
782142**

CUB CADET CORPORATION • P.O. BOX 36900 • CLEVELAND, OHIO 44136

PRINTED IN U.S.A.

FORM NO. 772-3038



Cub Cadet Corporation Limited One Year Warranty For Outdoor Power Products

Cub Cadet Corporation's Promise To You

We promise you, the first user purchaser, that we will replace or repair any part or parts of your new outdoor power product which is defective in material or workmanship without charge for either parts or labor during the first year following delivery to you.

What You Must Do

We recommend that you take the product back to the dealership where you purchased it at your expense; however, you may also take it to the most convenient authorized Cub Cadet dealer. Transportation charges are your responsibility.

Replacement Parts Warranty

Cub Cadet parts which are furnished and installed under this warranty are themselves within the coverage of this warranty for the duration of the original one year warranty period or for ninety days after installation, whichever period shall expire last.

What Is Not Covered

Tires and tubes are not covered by this warranty, but are warranted by their manufacturer. Regular maintenance replacement items such as spark plugs, ignition points, condensers, filters, and lubricants and maintenance adjustments such as fuel system cleaning, engine tune-up, brake and/or clutch inspection or adjustment, when such replacement or adjustments are made as part of normal maintenance service are excluded from coverage. Any non-Cub Cadet product which you may have installed in or upon the product is also excluded.

No person is authorized to give any other warranties or to assume any other liabilities 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.

Limitations On Our Responsibility

Please carefully note that this is a two-way agreement. We promise to make free repairs or replacements as stated, but you agree that except for our obligation to make good on this promise we shall not be responsible for any expenses or inconvenience which you might incur or experience with respect to our product, nor shall we be liable for defects, damage, or failures caused by unauthorized alterations, unreasonable use, accident, or abuse, including failure to provide reasonable and necessary maintenance, after our product has been delivered to you. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Personal Use

The foregoing paragraphs constitute Cub Cadet Corporation's entire warranty with respect to any product purchased and used for personal, family, or household purposes as distinguished from commercial usage.

Commercial Use

In the event our product is used for commercial purposes, INCLUDING FARMING OPERATIONS, the following additional limitations upon the application of this warranty will be applicable to such product.

THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSE ARE EXCLUDED, AS ARE ALL OTHER REPRESENTATIONS TO THE USER-PURCHASER, AND ALL OTHER OBLIGATIONS OR LIABILITIES, INCLUDING LIABILITY FOR INCIDENTAL AND CONSEQUENTIAL DAMAGES, ON THE PART OF THE COMPANY OR THE SELLER.

Cub Cadet Corporation, P.O. Box 36900 Cleveland, Ohio 44136

To The Owner

Assembled in this manual are operation, lubrication, and maintenance instructions for the 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 authorized Cub Cadet 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 service parts which assure proper fit and good performance.

The 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 authorized Cub Cadet 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 authorized Cub Cadet dealer.



International Cub Cadet 682 Tractor Shown.

CONTENTS

TO THE OWNER	1	Combination Lights and Ignition Switch	17, 18
SERIAL NUMBERS	3	Spark Plugs	18
INTRODUCTION	3	Fuses	18
SAFE OPERATING PRACTICES	4, 5	Battery	18, 19
ENERGY CONSERVATION		EQUIPMENT LIFT HANDLE	19, 20
FOLLOW THESE RECOMMENDATIONS	5	Height Adjustment (682 Tractor)	19, 20
INSTRUMENTS AND CONTROLS	6	HYDRAULIC LIFT	20, 21
BEFORE OPERATING YOUR TRACTOR	7	(782 Tractor Only)	
OPERATING THE TRACTOR	7 to 11	Operating Instructions	20, 21
Governor	7	HITCHING EQUIPMENT TO THE TRACTOR	21
Throttle Lever	7	Drawbar	21
Speed Control Lever	8	Three-Point Hitch (Optional)	21
Speed Control Lever Stop	8	FRONT POWER TAKE-OFF	21, 22
Tractor Break-In Procedure	8	Operating the Front	
Starting the Engine	8	Power Take-Off Clutch	21
Stopping the Engine	8	Adjusting the Power Take-Off Clutch	21, 22
Cold Weather Starting	8, 9	BRAKES	22, 23
Operating in Cold Weather	9	FRONT WHEELS	23
Hood and Noise Isolation Panels	9	Front Wheel Toe-In	23
Adjusting the Seat	9, 10	Turning Radius	23
Brake Pedal	10	PNEUMATIC TIRES	23, 24
Locking the Brake	10	Inflation	23
Driving the Tractor	10	Operating Pressure for Tires	24
Seat Safety Switch	10	Care of Tires	24
Driving on Slopes	10, 11	Rear Wheel Weights (Optional)	24
Stopping the Tractor	11	Mounting Tires on the Rim	24
ENGINE AND FUEL SYSTEM	12 to 15	Tire Chains (Optional)	24
Engine Oil	14	Overloading	24
Fuel Shut-Off Valve	14	SEAT MAINTENANCE	24
Hydrostatic Drive		STORING THE TRACTOR	24, 25
Hydraulic Fluid Filter	14, 15	Removing from Storage	25
Carburetor Adjustments	15	OPTIONAL EQUIPMENT AND ACCESSORIES	25
ENGINE COOLING AND AIR CLEANER	16, 17	MAINTENANCE CHART	26
Engine Cooling	16	TROUBLE SHOOTING	27, 28
Dry Type Air Cleaner with Foam Pre-Cleaner Element	16, 17	LUBRICATION TABLE	28
ELECTRICAL SYSTEM	17 to 21	LUBRICATION GUIDE	29 to 31
Safety Starting Switch	17	SPECIFICATIONS	32, 33
Charge Indicator	17	METRIC (SI) MEASUREMENTS	33
Hour Meter	17		



CAUTION

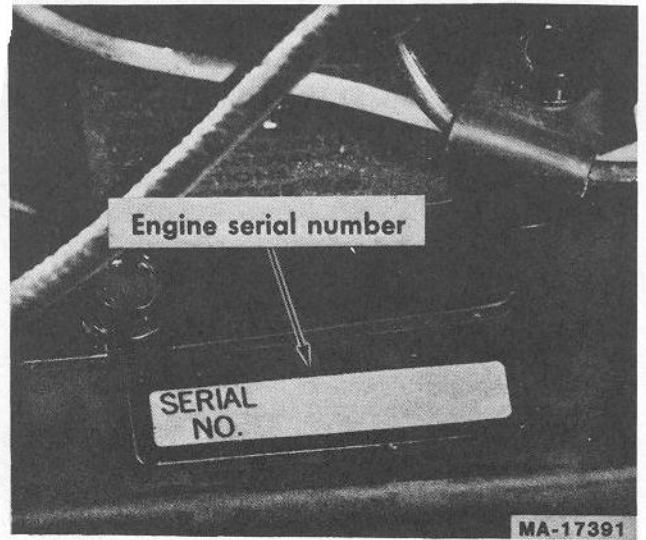
**TO PURCHASERS
OF INTERNAL COMBUSTION ENGINE EQUIPPED
MACHINERY OR DEVICES IN THE STATE OF CALIFORNIA**

The equipment which you have just purchased does not have a spark arrester. If this equipment is used on any forest covered land, brush covered land, or grass covered unimproved land in the State of California, before using on such land, the California law requires that a spark arrester be provided. In addition, the spark arrester is required by law to be in effective working order. The spark arrester must be attached to the exhaust system and comply with Section 4442 of the California Public Resources Code.

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.



WARNING

To reduce the potential for any injury, comply with the following safety instructions. Failure to comply with the instructions may result in personal injury.

SAFE OPERATION PRACTICES FOR RIDING VEHICLES

1. It is suggested that this manual be read in its entirety before attempting to assemble or operate this unit. Keep this manual in a safe place for future reference and for ordering replacement parts.
2. This unit is a precision piece of power equipment, not a plaything. Therefore exercise extreme caution at all times.
3. Know the controls and how to stop quickly—**READ THIS OWNER'S MANUAL.**
4. Do not allow children to operate vehicle. Do not allow adults to operate it without proper instruction. Only persons well acquainted with these rules of safe operation should be allowed to use your mower.
5. No one should operate this unit while intoxicated or while taking medication that impairs the senses or reactions.
6. 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.
7. To prevent injury, do not carry passengers or give rides. (Keep children, pets and bystanders out of the area while mowing.) Only the operator should ride on the unit and only in the seat.
8. Check overhead clearance carefully before driving under power lines, guy wires, bridges, low hanging tree branches, before entering or leaving buildings, or in other situations where the operator may be struck or pulled from the tractor which could result in serious injury.
9. To maintain control of the tractor and reduce the possibility of upset or collision operate the tractor smoothly—avoid erratic operation and excessive speed.
10. Keep the area of operation clear of all persons, particularly small children and pets. Stop engine when they are in the vicinity of your mower. Although the area of operation should be completely cleared of foreign objects, a small object may have been overlooked and could be accidentally thrown by the mower in any direction and cause injury.
11. Clear work area of objects which might be picked up and thrown by the mower in any direction and cause injury.
12. Stop the blade(s) when crossing gravel drives, walks or roads.
13. Disengage all attachment clutches and shift into neutral before attempting to start engine.
14. Disengage power to attachment(s) and stop engine before leaving operating position.
15. Do not put hands or feet near or under rotating parts. Keep clear of the discharge opening at all times as the rotating blade(s) can cause injury.
16. Disengage power to attachment(s) and stop engine before making any repairs or adjustments. Disconnect the spark plug wire and keep the wire away from the plug to prevent accidental starting.
17. Before attempting to unclog the mower or discharge chute, stop the engine. The mower blade(s) may continue to rotate for a few seconds after the engine is shut off. Therefore, be sure the blade(s) have stopped completely. Disconnect the spark plug wire and keep the wire away from the plug to prevent accidental starting.
18. Disengage power to attachment(s) when transporting or not in use.
19. Take all possible precautions when leaving vehicle unattended such as disengaging power-take-off, lowering attachments, shifting into neutral, setting parking brake, stopping engine and removing key.
20. Do not stop or start suddenly when going uphill or downhill. Mow up and down face of steep slopes; never across the face.
21. 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.
22. Stay alert for holes in terrain and other hidden hazards.
23. Use care when pulling loads or using heavy equipment.
 - A. Use only approved drawbar hitch points.
 - B. Limit loads to those you can safely control.
 - C. Do not turn sharply. Use care when backing.
 - D. Use counterweight(s) or wheel weights when suggested in owner's manual.
24. Watch out for traffic when crossing or near roadways.
25. When using any attachments, never direct discharge of material toward bystanders nor allow anyone near vehicle while in operation.
26. Handle gasoline with care. It is highly flammable.
 - A. Use approved gasoline container.
 - B. Never remove cap or add gasoline to a running or hot engine or fill fuel tank indoors. Wipe up spilled gasoline.
 - C. Open doors if engine is run in garage. Exhaust fumes are dangerous. Do not run engine indoors.
27. Keep the vehicle and attachments in good operating condition, and keep safety devices in place. Use guards as instructed in operator's manual.

28. Keep all nuts, bolts, and screws tight to be sure the equipment is in safe working condition.
29. Never store the equipment with gasoline in the tank inside a building where fumes may reach an open flame or spark. Allow engine to cool before storing in any enclosure.
30. To reduce fire hazard, keep engine free of grass, leaves or excessive grease.
31. The vehicle and attachments should be stopped and inspected for damage after striking a foreign object. The damage should be repaired before restarting and operating the equipment.
32. Do not change the engine governor settings or overspeed the engine.
33. When using the vehicle with mower, proceed as follows:
 - (1) Mow only in daylight or in good artificial light.
 - (2) Never make a cutting height adjustment while engine is running if operator must dismount to do so.
- (3) Shut the engine off and wait until the blade comes to a complete stop before removing the grass catcher.
- (4) Check blade mounting bolts for proper tightness at frequent intervals.
34. Check grass catcher bags frequently for wear or deterioration. For safety protection, replace only with new bag meeting original equipment specifications.
35. Look behind to make sure the area is clear before placing the transmission in reverse and continue looking behind while backing up.
36. 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 necessary 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.

ENERGY CONSERVATION FOLLOW THESE RECOMMENDATIONS

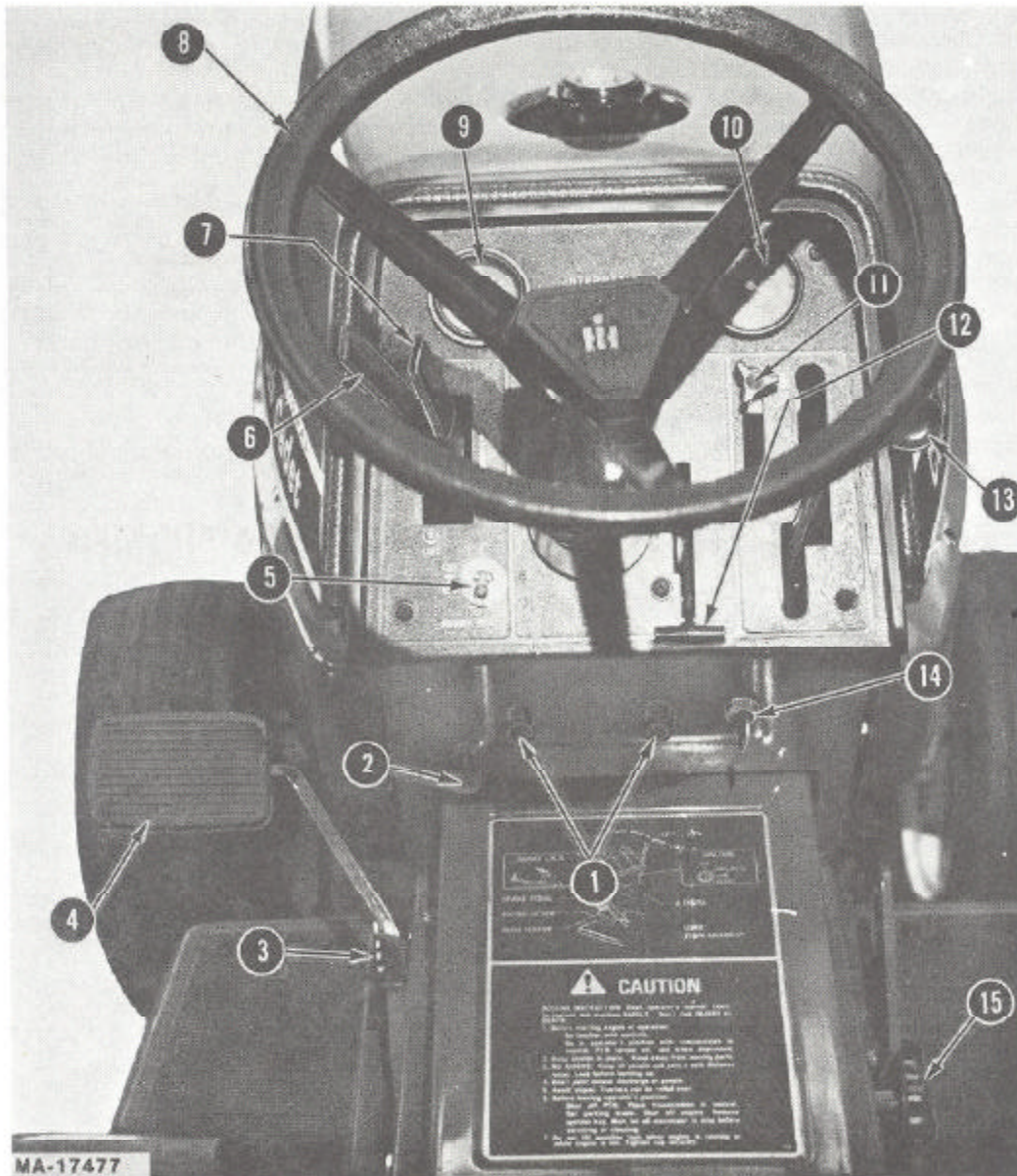


An Energy Conservation Plan is your best insurance against waste. Energy is Money. Don't Waste It!!

An Energy Conservation Plan consists of:

1. Being sure the equipment is properly adjusted to the task being performed. Review Operator's Manual thoroughly.
2. Being sure the operator is thoroughly trained in the operation of the equipment. Review Operator's Manual thoroughly.
3. Being sure that proper lubrication and maintenance procedures are followed. Review Operator's Manual thoroughly.
4. Matching as closely as possible the tractor size (horsepower) to the implement size and soil conditions.
5. Make sure the engine is properly adjusted. This includes:
 - A. Proper carburetor adjustment.
 - B. Fuel and air filter servicing at the proper intervals.
 - C. Check air gap of the ignition points and spark plugs.
6. Use the proper lubricants and fuel for the particular season of the year the tractor is being operated.
7. Do not overfill the fuel tank.
8. Do not idle the engine for long periods of time.
9. Make sure the tires are inflated properly. Refer to "Tires" for various inflation pressures.
10. Many tractor operations do not require full load operation. Whenever possible shift to a higher gear and throttle back to increase fuel economy.
11. Excessive ballast is wasteful of fuel. Use only enough ballast to insure stability and traction for the job being performed.
12. Make the minimum number of passes over the field.
13. Maintain sharp mower blades.
14. Level the mower properly.
15. Keep the underside of the mower deck clean.

INSTRUMENTS AND CONTROLS



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

*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.

Remove noise isolation panels and clean any accumulated grass and debris from the intake fan on engine.

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



WARNING

1. Keep all shields in place.
2. Before leaving operator's position:
 - a. Shift transmission to neutral
 - b. Set parking brake
 - c. Disengage attachment clutch
 - d. Shut off engine
 - e. Remove ignition key
3. Wait for all movement to stop before servicing machine.
4. Keep people and pets a safe distance away from machine.
5. Look to the rear before backing up.



WARNING

To prevent injury, do not carry passengers or give rides. Keep children, pets and bystanders a safe distance away.



DANGER

**DO NOT OPERATE
MOWER UNLESS
GUARD OR ENTIRE
GRASS CATCHER IS
IN ITS PROPER PLACE.**

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 authorized Cub Cadet 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 fast position.



This symbol shows slow position.

SPEED CONTROL LEVER

The 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. Refer to "Instruments and Controls."

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.

SPEED CONTROL LEVER STOP

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

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 Throttle 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

STARTING THE ENGINE

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



WARNING

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 in—doors. 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 on the "FAST" 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.

IMPORTANT:

If you strike a foreign object, stop the engine. Remove wire from spark plug, thoroughly inspect the mower for any damage, and repair the damage before restarting and operating the mower.

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

To start engine in cold weather use correct weight of engine oil, be sure 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. Place the throttle lever just off "FAST" 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.



WARNING

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 leave the throttle in the fast 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 putting tractor into motion, 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.

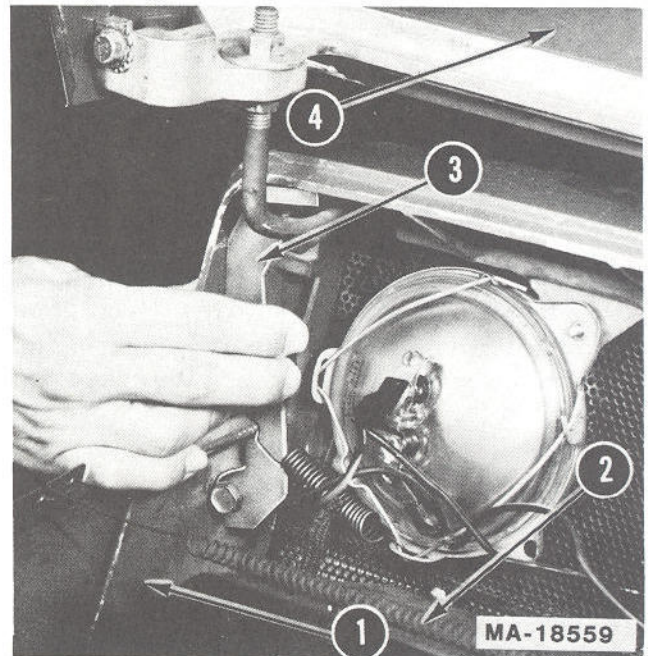
This condition does not necessarily mean that the carburetor, piston rings, ignition coil-wires-points, or gaskets are defective.

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

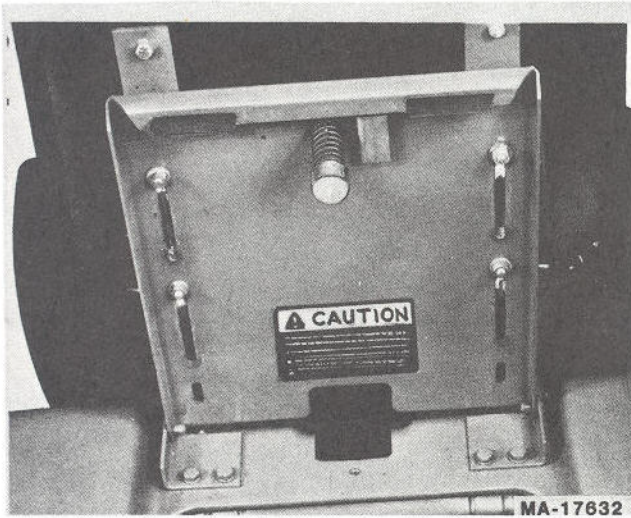
The tractor hood is arranged to swing up and forward for easy access to the engine compartment. The hood locks automatically when raised. To lower hood, release latch on left side by gently pushing hood up to release tension and pull latch to left. Also, whenever engine maintenance is required, the noise 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
3. Latch
4. Hood

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:

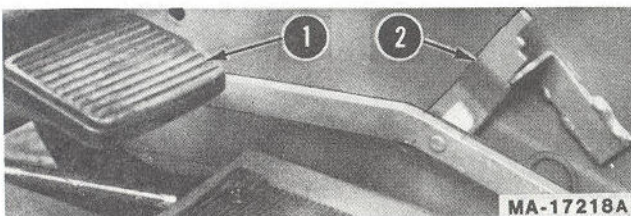
The battery is located in a well under the operator's seat for ease in servicing or replacement when necessary.

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.

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.

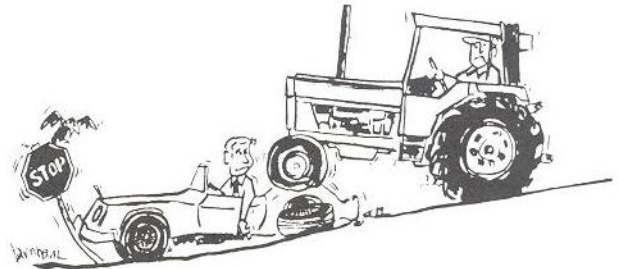


WARNING

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 standard 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.



WARNING

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

NOTE:

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



WARNING

Always drive up or down the face of a slope. Do not drive so that the tractor may tip over sideways.

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 standard brake pedal. Before dismounting always lock the brake pedal and turn the ignition "OFF." Also disengage the power take-off control switch.



WARNING

Always engage park, lower equipment and shut off engine before dismounting. Never start engine from ground.

ENGINE AND FUEL SYSTEM



WARNING

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

This engine is designed to operate on unleaded or leaded gasoline with a 91 minimum octane rating (Research Method), or a minimum Antiknock Index (RON + MON)/2 or 87. Antiknock Index is posted on dispensing pumps.

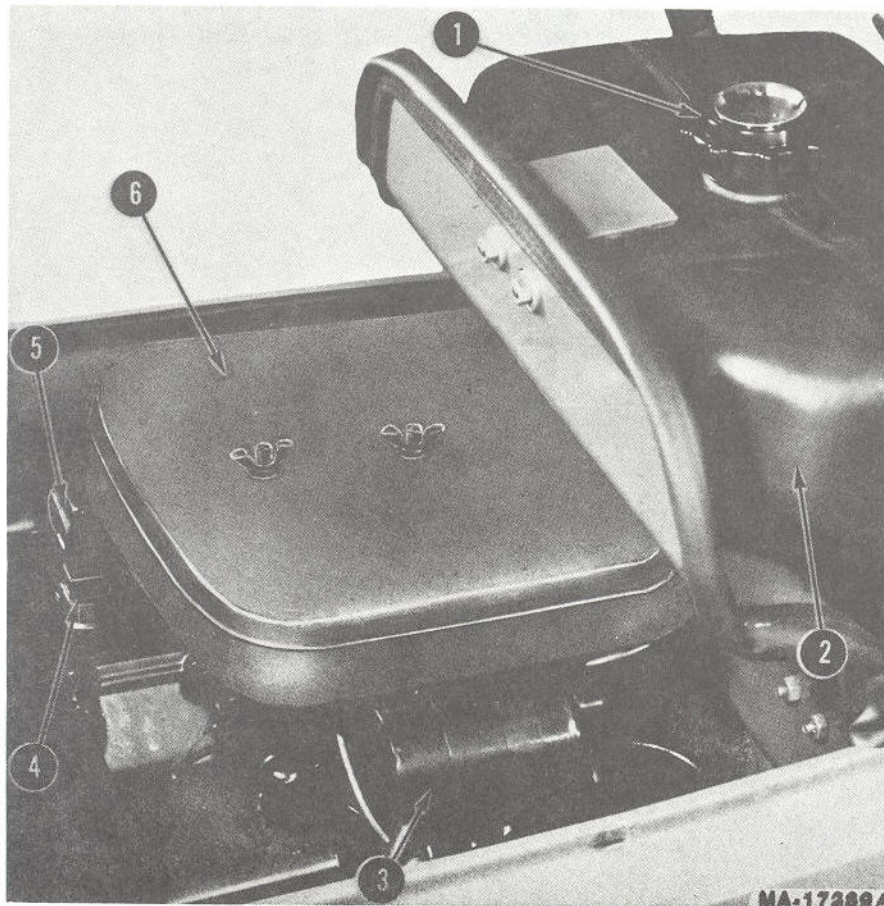
The use of unleaded gasoline will increase spark plug and valve life, maintain engine performance

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.

NOTE:

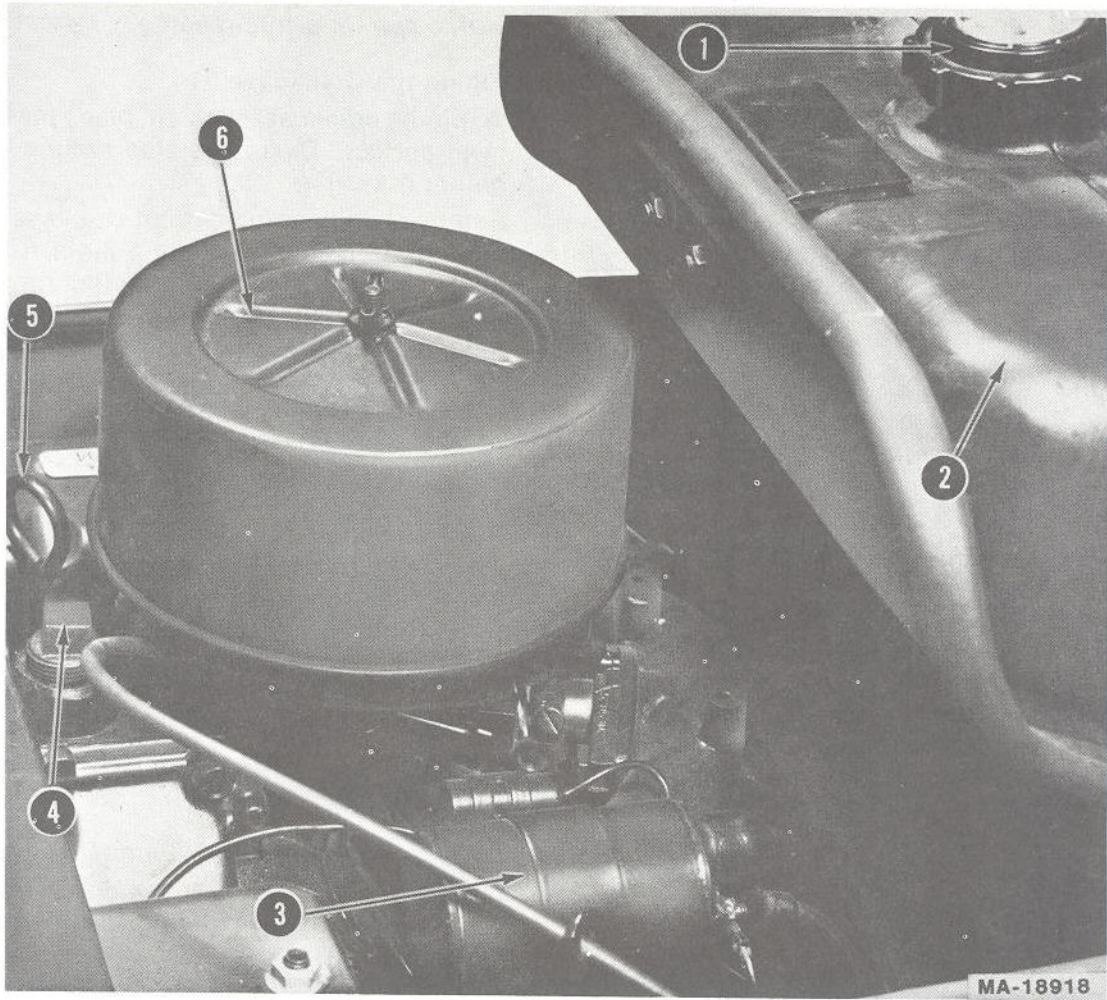
Gasohol is not approved for use by the engine manufacturer and should not be used. The use of gasohol may damage the engine.



1. Fuel tank filler cap and gauge
2. Fuel tank
3. Coil

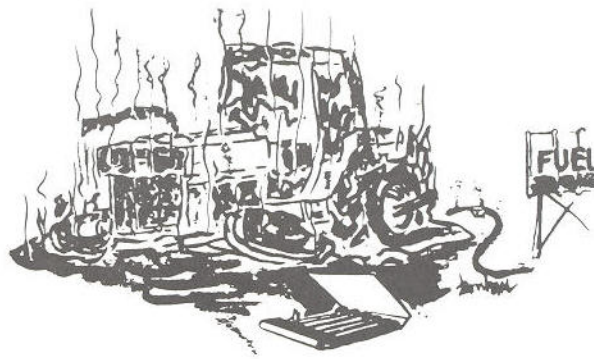
4. Oil fill plug
5. Dipstick
6. Air cleaner

Fuel System



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

Fuel System



WARNING

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

Use clean fuel and keep it clean. Store fuel in tanks equipped with hose and nozzle to prevent contamination of the fuel. The use of funnels, cans and drums is not recommended because they are difficult to keep clean.

Allow space for 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.

ENGINE OIL

The engine crankcase is filled with break-in oil. This oil may be used for the first 5 hours of engine operation at temperatures between +90°F. and 0°F. (32°C. and -22°C.). 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 (0 degrees Celsius).

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 dipstick. When checking

the oil level the dipstick 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 dipstick, (capacity 3 pints, 1.4 L). Check oil level on dipstick before adding more oil. Wipe off dipstick before inserting it all the way into the tube, then remove dipstick and check oil level. DO NOT OVERFILL. Dipstick must be pushed fully into tube at all times when engine is operating.

NOTE:

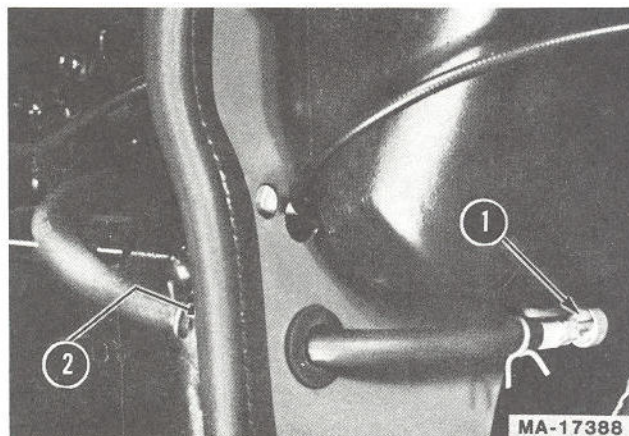
Never overfill the engine crankcase. Engine may overheat and/or damage may result if the crankcase is over the "FULL" mark (or below the "LOW" mark). For oil capacity refer to the "SPECIFICATION" and "LUBRICATION TABLE" section.

FUEL SHUT-OFF VALVE

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

To turn the fuel on, turn the knob counter-clockwise 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)

HYDROSTATIC DRIVE HYDRAULIC FLUID 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.

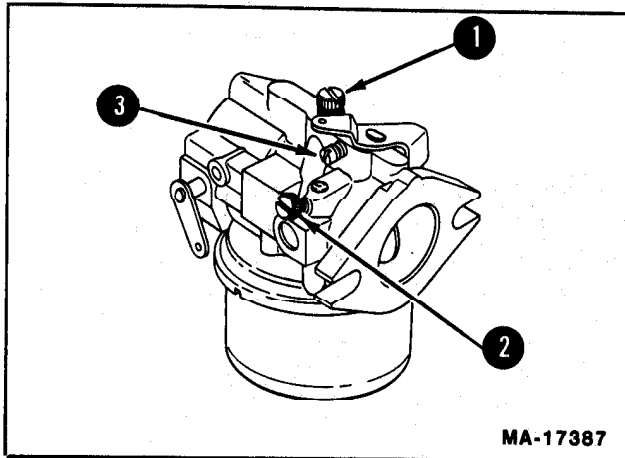
To remove the filter, turn the filter counter-clockwise using an automotive type filter wrench. Before installing the new filter, apply a coating of oil on the filter gasket. Thread the filter on by hand until tight enough to seat the gasket. Loosen the filter. Then turn it until the gasket contacts the base. Tighten the filter an additional one half turn. Start engine and allow it to run for a few minutes. Shut engine off and check for leaks, check oil level in transmission case.

CARBURETOR ADJUSTMENTS



WARNING

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 starting engine to make carburetor adjustments. Keep clear of all moving parts. Be careful of heated surfaces and muffler.



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

The carburetor is adjusted at the factory and under normal operating conditions it will not require readjusting. If the engine does not operate properly what may appear to be a faulty carburetor adjustment is in many cases a clogged air filter. This possibility should be ruled out before attempting to readjust carburetor. Refer to "ENGINE COOLING AND AIR CLEANER" (page 16).

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 $2\frac{1}{2}$ 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, $\frac{3}{4}$ to 1 full turn.



WARNING

Exhaust fumes can kill. Never run engine inside buildings.

ENGINE COOLING AND AIR CLEANER

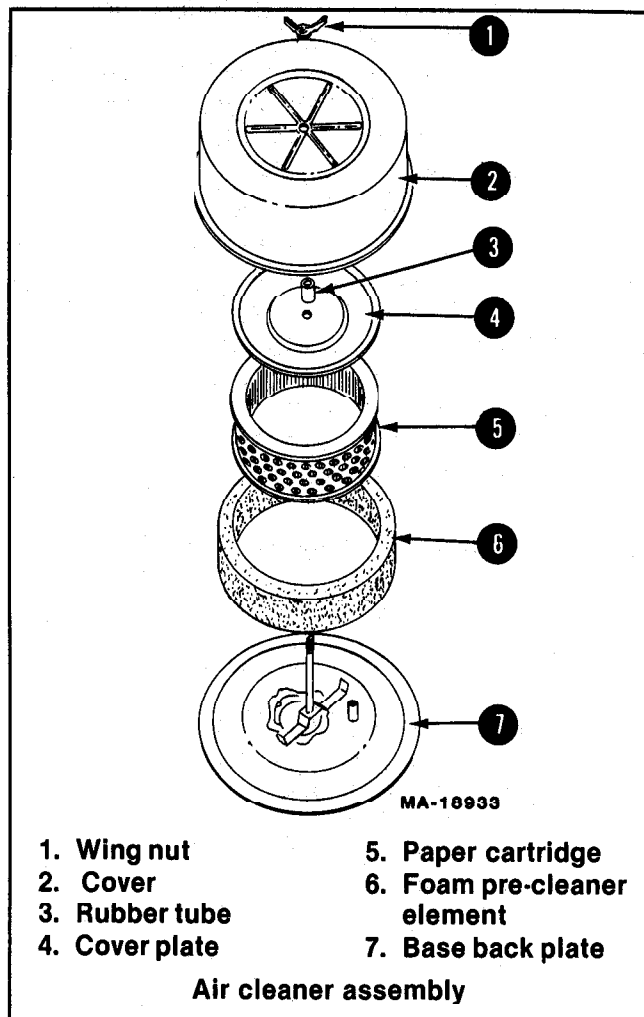
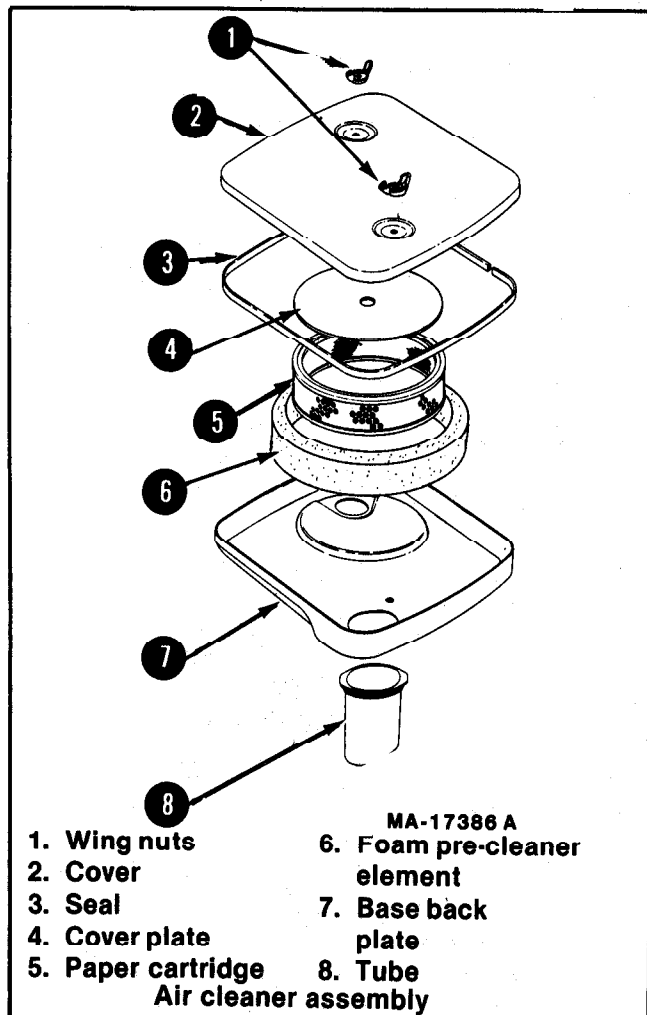
ENGINE COOLING

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 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 grille screen for adequate cooling.

NOTE:

This machine is designed to cool properly with the engine side panels in place. Operating the machine in place 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.

DRY TYPE AIR CLEANER WITH FOAM PRE-CLEANER ELEMENT



Servicing 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 wing nut(s) 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 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 a new element.

1. Back plate must be flat on gasket of carburetor or 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 over-tighten.

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.



WARNING

Do not operate the tractor if the interlock system is malfunctioning because it is a safety device, designed for protection.

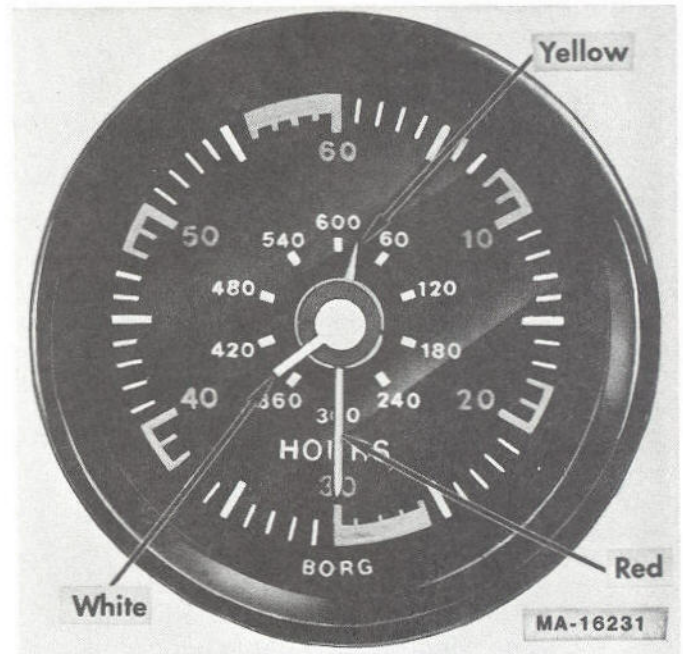
CHARGE INDICATOR

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.



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 hour meter 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

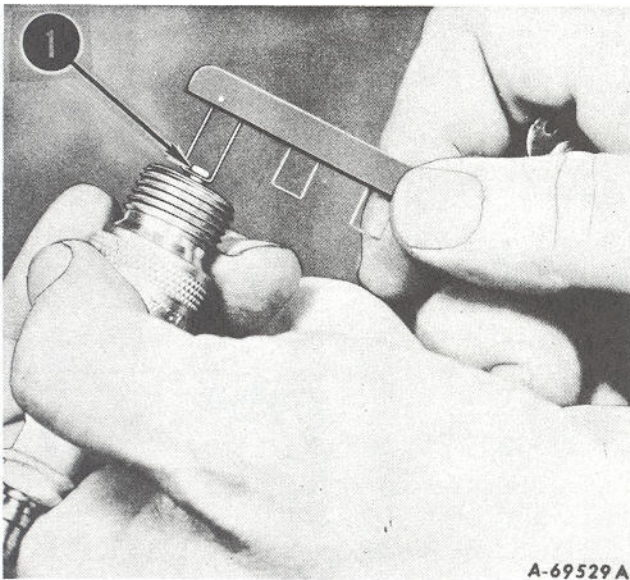
NOTE:

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 by rotating socket 1/4 turn. 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.



WARNING

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. (13.5-20.3 N-m). See your authorized Cub Cadet dealer for the correct replacement plug.

Cleaning Spark Plug

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

NOTE:

Do not sandblast or use any abrasive machines to clean spark plugs; because any grit introduced into the engine could cause severe damage.


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

 <p>DANGER</p> <p>EXPLOSIVE GASES / POISON CAUSES SEVERE BURNS KEEP OUT OF REACH OF CHILDREN</p>	<p>Cigarettes, flames or sparks could cause battery to explode. Always shield eyes and face from battery. Do not charge or use booster cables or adjust post connections without proper instruction and training.</p> <p>Contains sulfuric acid. Avoid contact with skin, eyes or clothing. In event of accident flush with water and call physician immediately.</p>
---	---

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 un-serviceable 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.



WARNING

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.

NOTE:

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

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

Connecting Booster Batteries

When required, a booster 12-volt battery may be connected in parallel with the 12-volt system on the tractor.



WARNING

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.

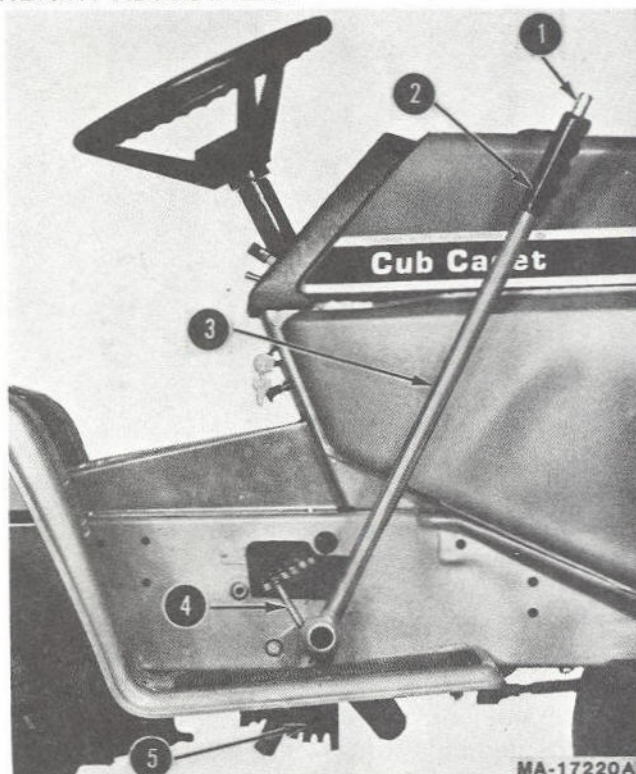
The second jumper cable must first be connected to the negative (-) terminal of the booster battery; and then to a point on the frame of the tractor, away from the battery, having a good ground, so no spark occurs near the battery.

For dependable battery service, see your authorized Cub Cadet dealer.

EQUIPMENT LIFT HANDLE

682 TRACTOR ONLY

HEIGHT ADJUSTMENT



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

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:

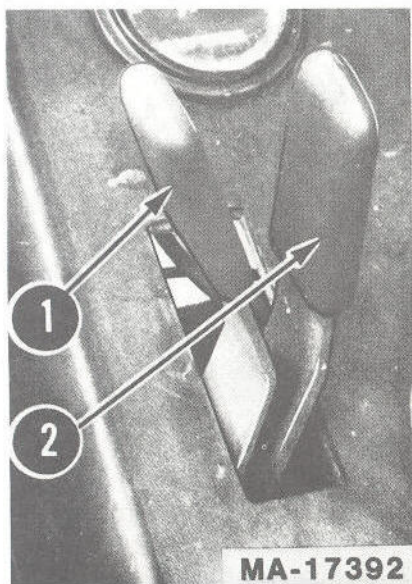
Refer to the equipment manual for proper hitching instructions.

HYDRAULIC LIFT

782 TRACTOR ONLY

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

OPERATING INSTRUCTIONS

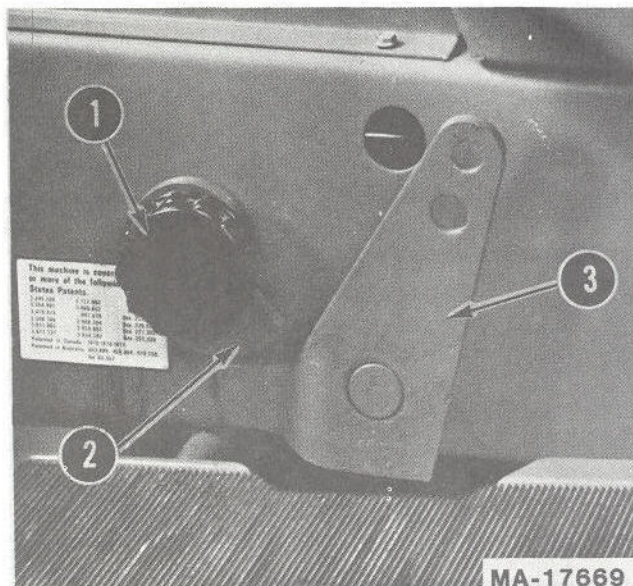


1. Hydraulic lift control lever
2. Front hydraulic outlet control lever (Optional)

782 Tractor

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.

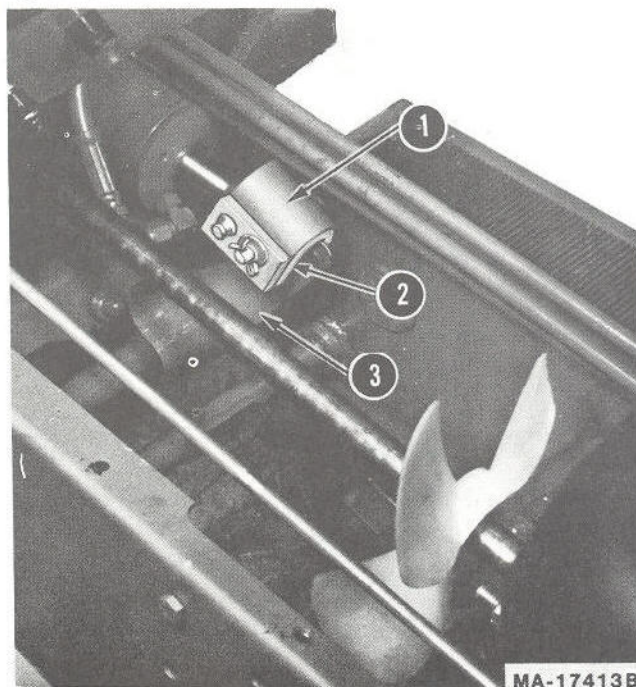


1. Locking knob
2. Cam stop
3. Rockshaft arm

782 Tractor

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 counter-clockwise. Turn cam stop until it contacts lift bracket. Lock cam stop into this position by turning cam knob clockwise.



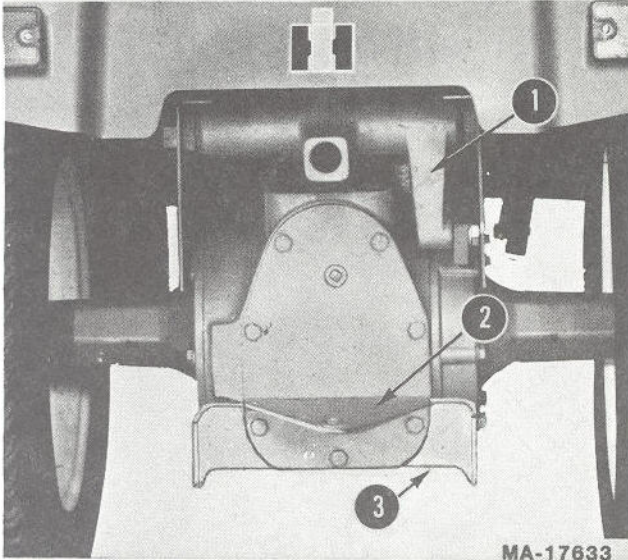
1. Lift bracket
2. Hold (not seen) for bolt
3. Lift arm

782 Tractor

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 (12.7 x 28.55 mm), (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 (OPTIONAL)

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.

782 Tractor

When the tractor has a three-point hitch, equipment adaptable to this hitch is raised or lowered with the hydraulic lift control lever. **Refer to "Hydraulic Lift".**



WARNING

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:



WARNING

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.

Check fuse on pedestal.

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:

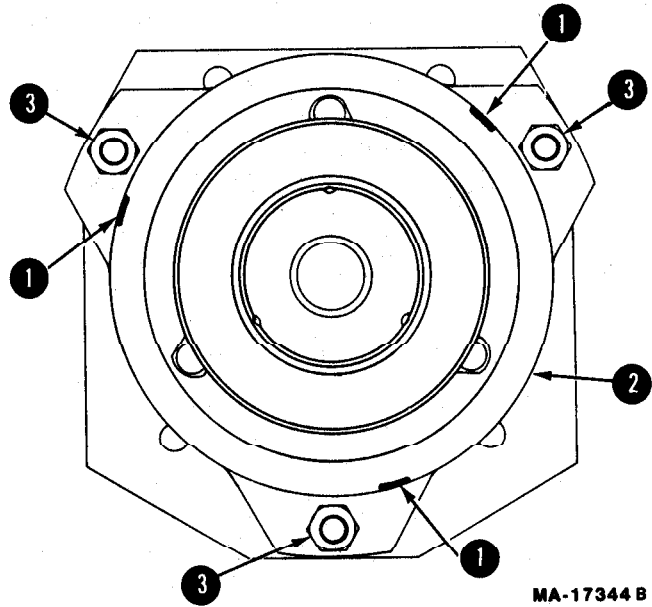
If brake plate drags on clutch at .010-.015-inches (.254-.381 mm) air gap, increase air gap to .020-inch (.508 mm).

If the above procedure does not work, see your authorized Cub Cadet dealer.



WARNING

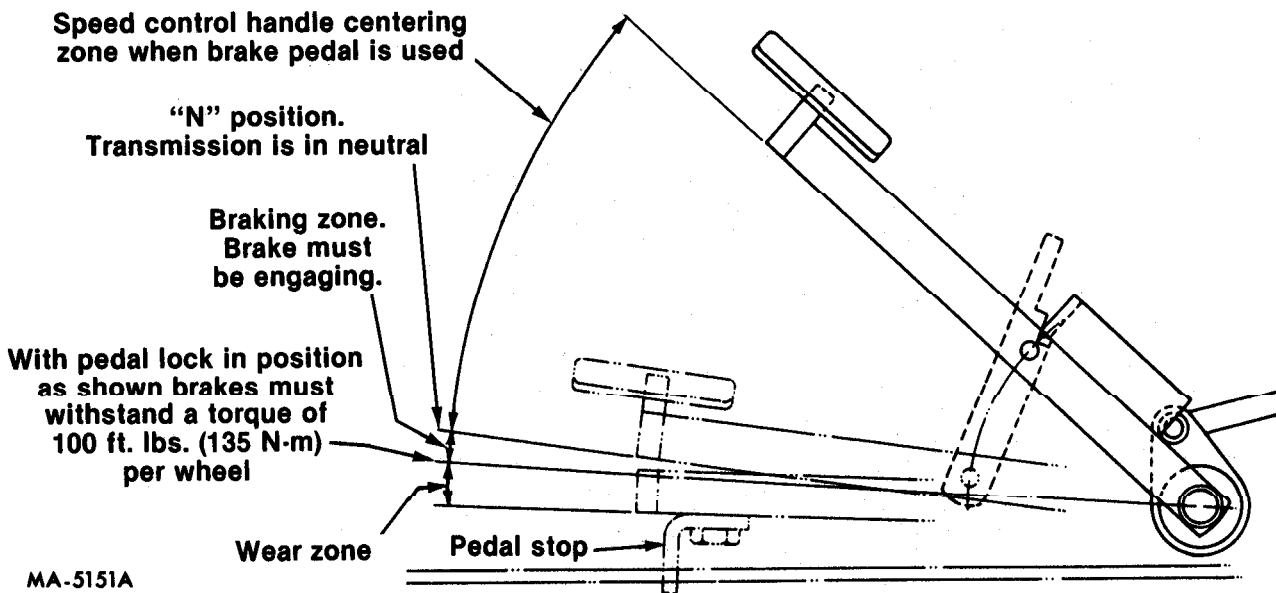
To avoid an accident or possible injury, always disengage all clutches, shift the transmission into the neutral, depress the brake, set the brake pedal lock and turn the ignition "OFF" before working on the machine.



MA-17344 B

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

BRAKES



MA-5151A

Brake adjustments.



WARNING

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

During normal operation of this machine, the brakes are subject to wear and will require periodic examination and adjustment.

To adjust the brake, loosen jam nut "B." Next, tighten the brake lever adjusting screw "C" until finger tight (8-10-inch pounds) (.904-1.130 N-m).

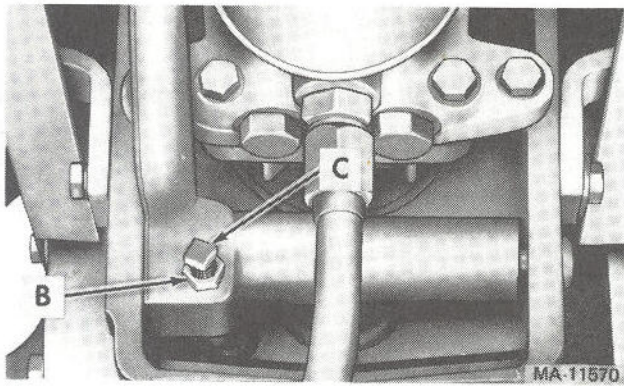
Tighten jam nut "B" while holding the adjusting screw.

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.

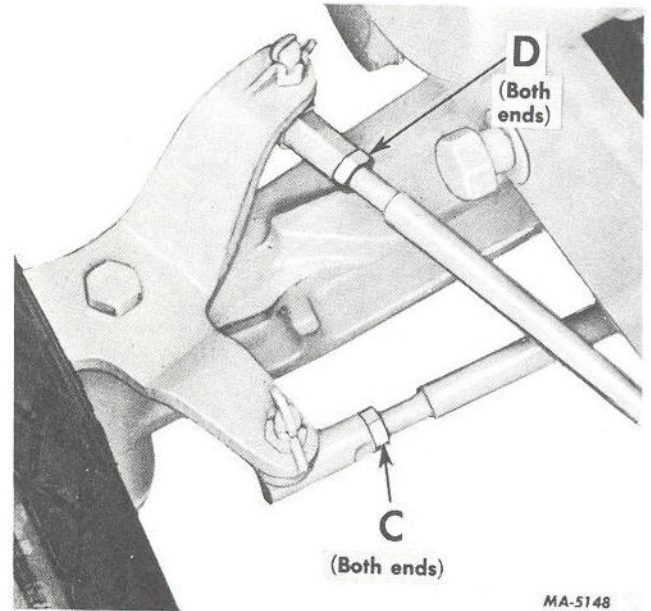


WARNING

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



Internal wet brakes.

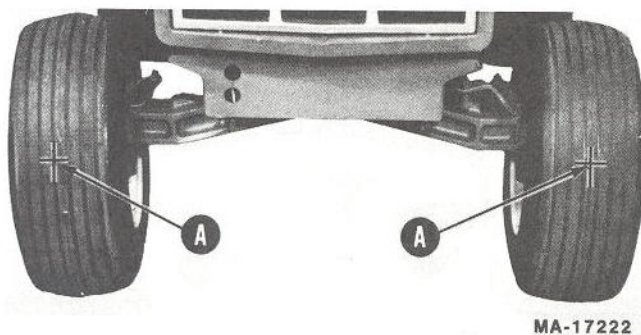


Tie rod and drag link ball joints.

FRONT WHEELS

FRONT WHEEL TOE-IN

The front wheel toe-in dimension is approximately 1/8-inch (3.2 mm) 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 (3.2 mm) 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.

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.



WARNING

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

PNEUMATIC TIRES

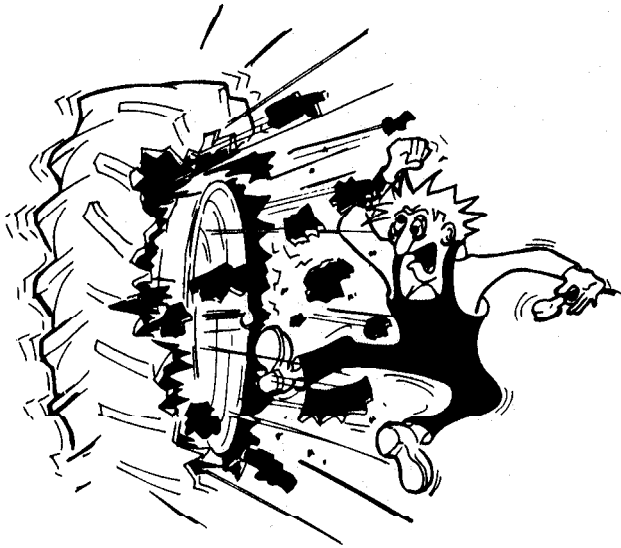
23 x 10.50-12 rear turf tread and 16 x 6.50-8 front 2 ply tubeless tires with wheels are standard equipment.

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.



WARNING

Use a clip on air chuck, extension hose with gauge, and stand away from the tire while inflating to prevent the possibility of personal injury due to blowoffs, etc.

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	10

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.

NOTE:

After the first 10 hours of operation, check and retorque the five tapered neck hex head cap screws (both sides) to 47 lbf. ft. (64 N-m) to make sure they have seated properly.

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.

SEAT MAINTENANCE

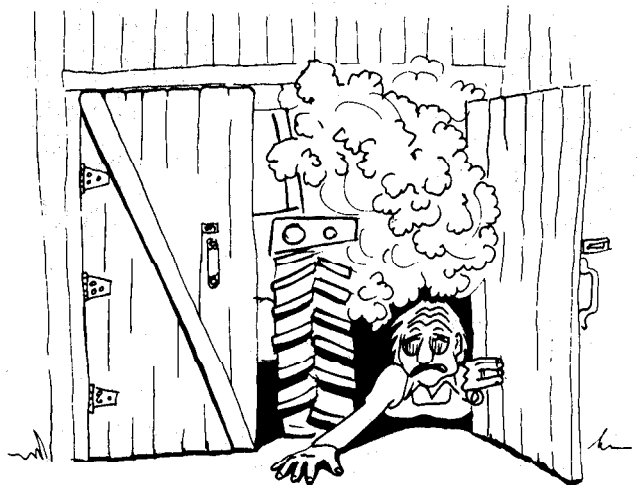
Clean the seat regularly, using a silicone base vinyl cleaner. Do not use solvents or vinyl cleaners with a toluene or alcohol base as these will damage the seat.

Avoid prolonged exposure to sunlight as sunlight deteriorates vinyl. When not in use, store tractor indoors if possible. If stored outdoors, keep seat covered to protect it from weather extremes.

In extremely cold weather vinyl becomes brittle and care must be taken to avoid cracking the seat by sudden pressures or sharp cornered objects.

Small tears can be repaired using ordinary vinyl electrical tape, available in hardware stores.

STORING THE TRACTOR





WARNING

Exhaust fumes can kill. Never run engine inside buildings.

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 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."



WARNING

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

2. 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.
3. 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.

4. 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.
5. Clean the exterior of the engine.
6. Remove the battery and place it in a cool, dry place above (+ 32° F.) (0°C.). Check battery at least once a month for electrolyte level and amount of charge. Refer to "BATTERY."
7. 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.

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.



WARNING

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

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 authorized Cub Cadet 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
 Front Weight Package

MAINTENANCE CHART

Operation to be performed	Before each use	10 hours or once a month	30 hours 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 Level	X					
Fill fuel tank	X					
Change engine oil	After first 5 hours		X			X
Replace transmission oil filter		After first 10 hours X		After first 50 hours X	Every 100 hours there-after	
Re-oil & clean foam air precleaner		X				
Check battery electrolyte level		X				
Grease front axle pivot bolt		X				X
Lubricate steering knuckles (2) and steering arm		X				
Retorque rear wheel lug bolts		After first 10 hours X				
Lubricate brake shaft			X			
Check transmission oil level			X			
Clean cooling fins & external surfaces			X			
Service air cleaner paper cartridge					More often under dirty conditions	
Check spark plugs					X	X
Lubricate steering gear housing					X	
Lubricate speed control linkage cam plates					X	
Check and regrease front wheel bearings					X	X
Drain fuel						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 improperly gaped	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 dipstick is fully seated and all excess oil is squeezed out of pre-cleaner foam element.

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".

*See your authorized Cub Cadet dealer.

TROUBLE SHOOTING

Possible Cause

Possible Remedy

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 authorized Cub Cadet dealer.

LUBRICATION TABLE

Point of Lubrication	Check at Hours	Change at Hours	Capacity	Anticipated Air Temperature		
				Above +32°F. (0°C.)	+32°F. to 0°F. (0° to -17.1°C)	Below 0°F. (-17.1°C.)
Engine Crankcase	Check before each use	30	3 pt. (1.4L)	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 sub-standard 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, use IH Hy-Tran Fluid and IH filters.		
Steering gear housing	100 or Yearly	—	1.4 lb. (0.1KG)	Two strokes of the lubricator using IH-251H EP grease or equivalent No. 2 multi-purpose lithium grease.		
Steering knuckles, front axle pivot bolt, & steering arm	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.		

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.

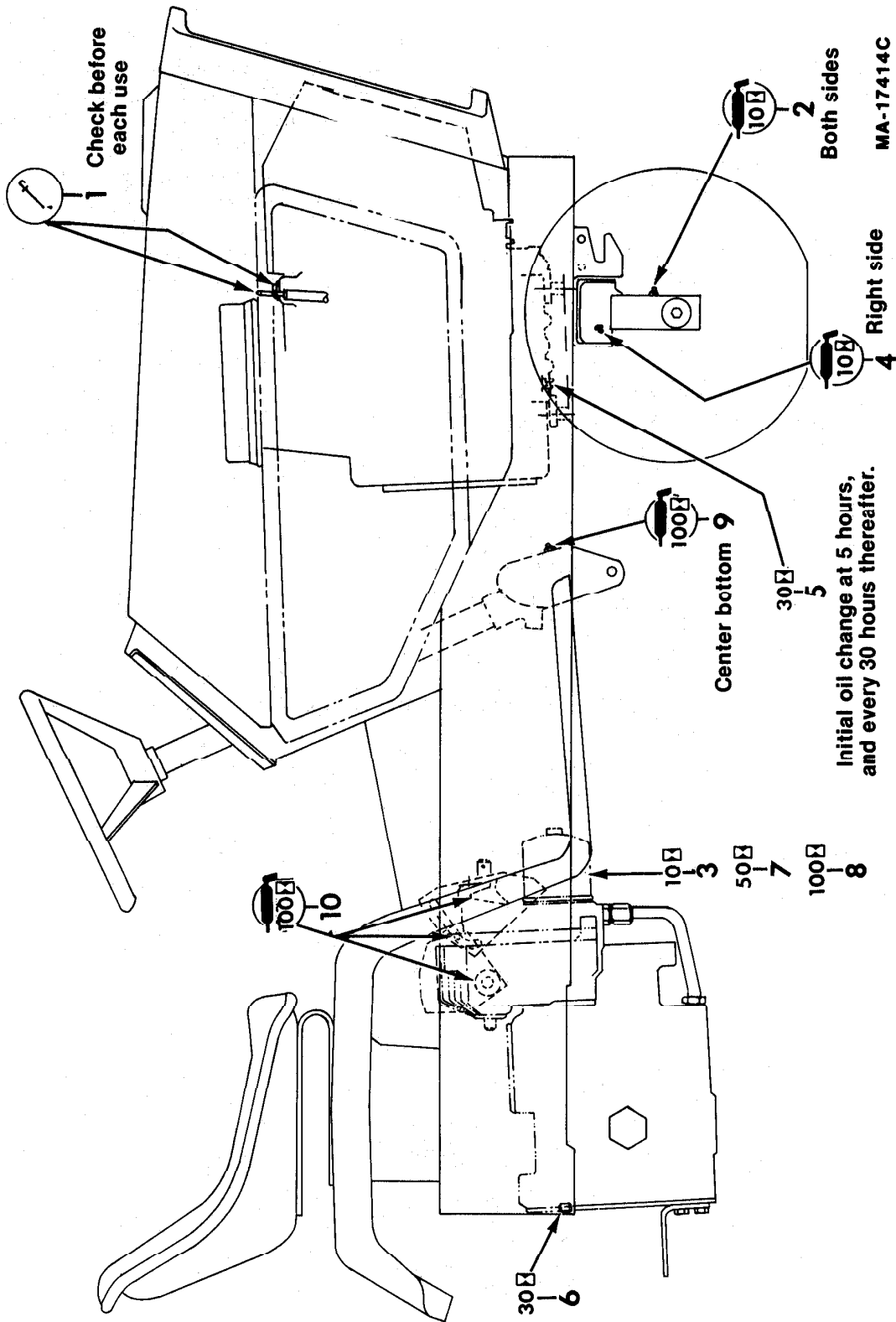


Use a pressure lubricating gun and apply IH 251H EP grease (or equivalent No. 2 multi-purpose lithium grease) sufficient to flush out the old grease and dirt. Lubricate at hourly intervals indicated on symbols.



Dipstick, use to check engine oil before each use.

LUBRICATION GUIDE



LUBRICATION GUIDE

—Before Each Use

- 1—Engine filler cap and dipstick.

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

—After Every 10 Hours of Operation

- 2—Steering knuckles (2).
(Both sides)

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.

- 4—Front Axle pivot bolt.
(Right side)

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.

—After Every 30 Hours of Operation

- 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.

—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.
(Center bottom)

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, 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 small amount of IH 251H EP grease or equivalent No. 2 multi-purpose lithium grease in the slots.

Miscellaneous Brake pedal shaft

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

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

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)	K117
Cylinders	2
Bore	3.125-in. (79.4 mm)
Stroke	2.750-in. (69.8 mm)
Displacement (cubic inches)	42.18 (691.2 cc)
Engine Speed	
(governed)	
Low speed	1200 rpm
High idle speed	
(no load)	3600 rpm
(full load)	3350 rpm
Valve clearance	
(engine cold)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 points017-.023-in. (.432-.584 mm) gap

ELECTRICAL SYSTEM

System voltage	12 volt neg. ground
Battery	1HPRLU
Alternator	15 amp.
Fuse (cartridge type) (1 or 2)	AGC-10
	10 AMP Slow Blow
Headlights	
all glass, sealed beam units	Lamp No. H7610
	IH Part No. 126 470 C1
Taillight	Lamp No. 194
	IH Part No. 20 627 R1

BRAKES (Single disc internal transmission brake)

Internal wet brake

TIRE SIZES

Front	16 x 6.50-8
Rear	23 x 10.50-12

Specifications are subject to change without notice.

SPECIFICATIONS

DIMENSIONS

Tread:

Front with 16 x 6.50-8 tires	29-in. (737 mm)
Rear with 23 x 10-50-12 tires	27.0-in. (686 mm)
Wheelbase	44-in. (1.12 M)
Length, over-all	72.0-in. (1.82 M)
Width, over-all	37.75-in. (959 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 centimeter (cm ²)
1 acre	0.405 hectare (ha)
	Force
1 pound-force (lbf)	4.45 newton (N)
	Length
1 foot (ft)	304.8 millimeter (mm), 30.5 centimeter (cm), 0.305 meter (m)
1 inch (in)	25.4 millimeter (mm), 2.54 centimeter (cm)
1 mile	1609 meter (m), 1.61 kilometer (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 meter (N-m)
	Velocity
1 mile per hour (mph)	1.61 kilometer per hour (km/h)
	Volume
1 US bushel	0.035 cubic meter (m ³)
1 US gallon (US gal)	3.79 liter (L)
1 US quart (US qt)	0.946 liter (L)

Accidents can be prevented with your help

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

To read accident reports from all over the country is to be convinced that a large number of accidents can be prevented only by the operator anticipating the result before the accident is caused and doing something about it. No power-driven equipment, whether it be transportation or processing, whether it be on the highway, in the harvest field or in the industrial plant, can be safer than the man who is at the controls. If accidents are to be prevented—and they can be prevented—it will be done by the operators who accept a full measure of their responsibility.

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

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