

**INGERSOLL**

**RIDING MOWER**

**80**

**Operator's Manual 9-8103**





**This Safety Alert Symbol Indicates Important Safety Messages In This Manual When You See This Symbol Carefully Read The Message That Follows and Be Alert To The Possibility Of Personal Injury Or Death**

**IF THIS MACHINE IS USED BY AN EMPLOYEE OR IS LOANED OR RENTED, MAKE ABSOLUTELY CERTAIN THAT THE OPERATOR(S), PRIOR TO OPERATING:**

- 1. IS INSTRUCTED IN SAFE AND PROPER USE.**
- 2. REVIEWS AND UNDERSTANDS THE MANUAL(S) PERTAINING TO THE MACHINE.**

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# **WARNING**

## **BEFORE STARTING ENGINE**

**STUDY OPERATOR'S MANUAL SAFETY MESSAGES  
READ ALL SAFETY SIGNS ON MACHINE  
CLEAR THE AREA OF OTHER PERSONS**

## **LEARN & PRACTICE SAFE USE OF CONTROLS BEFORE OPERATING**

IT IS YOUR RESPONSIBILITY TO UNDERSTAND AND FOLLOW MANUFACTURER'S INSTRUCTIONS ON MACHINE OPERATION, SERVICE, AND TO OBSERVE PERTINENT LAWS AND REGULATIONS. OPERATOR AND SERVICE MANUALS MAY BE OBTAINED FROM YOUR EQUIPMENT DEALER.

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## SAFETY MESSAGES

The twenty-three safety messages which follow are provided by the American National Standards Institute \* (ANSI). Safety rules to supplement those provided by ANSI also appear on the following pages.

Study these rules carefully before starting and operating your Case Riding Lawn Mower.

\* Rule Number 10 has been modified for greater safety and rule number 24, which does not apply to this product, has been omitted.



**CAUTION:** Know the controls and how to stop quickly. **READ THE OWNER'S MANUAL.**



**CAUTION:** Do not allow children to operate the vehicle. Do not allow adults to operate it without proper instruction.



**CAUTION:** Do not carry passengers. Keep children and pets a safe distance away.



**CAUTION:** Clear the work area of objects which might be picked up and thrown.



**CAUTION:** Disengage all attachment clutches and shift into neutral before attempting to start the engine (motor).



**CAUTION:** Disengage power to attachment(s) and stop the engine (motor) before leaving the operator's position.



**CAUTION:** Disengage power to attachment(s) and stop the engine (motor) before making any repairs or adjustments.



**CAUTION:** Disengage power to attachment(s) when transporting or not in use.



**CAUTION:** Take all possible precautions when leaving the vehicle unattended, such as disengaging the power take-off, lowering the attachment(s), shifting into neutral, setting the parking brake, stopping the engine, and removing the key.



**CAUTION:** Do not stop or start suddenly when going uphill or downhill. Mow down the face of steep slopes; never across or up the face.



**CAUTION:** Reduce speed on the slopes and in sharp turns to prevent tipping or loss of control. Exercise extreme caution when changing direction on slopes.



**CAUTION:** Stay alert for holes in the terrain and other hidden hazards.



**CAUTION:** Use care when pulling loads or using heavy equipment.

- a. Use only approved drawbar hitch point.
- 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 the owner's manual.



**CAUTION:** Watch out for traffic when crossing or near roadways.



**CAUTION:** When using any attachments, never direct discharge of material toward bystanders nor allow anyone near the vehicle while in operation.



**CAUTION:** Handle gasoline with care — it is highly flammable.

- a. Use approved gasoline container.
- b. Never remove the cap of the fuel tank or add gasoline to a running or hot engine, or fill the fuel tank indoors. Wipe up spilled gasoline.
- c. Open doors if the engine is run in the garage — exhaust fumes are dangerous. Do not run the engine (motor) indoors.



**CAUTION:** Keep the vehicle and attachments in good operating condition, and keep safety devices in place.



**CAUTION:** Keep all nuts, bolts, and screws tight to be sure the equipment is in safe working condition.



**CAUTION:** Never store the equipment with gasoline in the tank inside a building where fumes may reach an open flame or spark. Allow the engine to cool before storing in any enclosure.



**CAUTION:** To reduce fire hazard, keep the engine free of grass, leaves, or excessive grease.



**CAUTION:** The vehicle and attachments should be stopped and inspected for damage after striking a foreign object, and the damage should be repaired before restarting and operating the equipment.



**CAUTION:** Do not change the engine governor settings or over-speed the engine.



**CAUTION:** 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 the engine (motor) is running if the operator must dismount to do so.
- (3) Shut the engine (motor) off when removing the grass catcher or unclogging chute.
- (4) Check the blade mounting bolts for proper tightness at frequent intervals.



Remember, a careful operator is always the best insurance against an accident. Give complete and undivided attention to the job at hand.



**CAUTION:** Always shut off engine, remove key, set parking brake, and wait until all engine and mower motion has stopped before dismounting from the operator's seat.



**CAUTION:** Only operate controls from the operator's seat to prevent injury.



**CAUTION:** Do not smoke when working near fuel.



**CAUTION:** Be sure gasoline is thoroughly drained and battery removed as described in the "Storage" section of this manual before standing mower on end for storage or service.



**CAUTION:** If necessary to move riding lawn mower on a trailer, always back up onto the trailer and drive off of trailer.



**CAUTION:** Highway travel should be avoided. If necessary, use SMV safety emblem for warning to the operators of other vehicles. Check local government regulations.



**WARNING:** Be sure that the mower drive lever is off, the engine is shut off, the key removed and the blade has stopped spinning before attempting to clean a plugged discharge chute.



Become thoroughly familiar with all riding lawn mower controls before operating.



Be certain whoever operates the mower has read and understands the safety rules in this manual.





**DANGER:** Spinning Blade. Keep clear. Contact can injure. Keep hands and feet away from mower discharge opening. Contact with the high speed spinning mower blade can cause severe injury.



**CAUTION:** An unbalanced blade is hazardous and will cause premature wear and failure of bearings and spindle. If the blade cannot be balanced by sharpening, replace it with a new one.



**CAUTION:** Move attachment drive clutch lever in OFF position, shut off engine, allow engine to cool, remove key and spark plug wire before making adjustments to or servicing the Riding Lawn Mower.



**CAUTION:** When working around storage batteries, remember that all of the exposed metal parts are "live". Never lay a metal object across the terminals as a spark or short circuit may result. Sparks, lighted matches and exposed flames must be kept away from the battery due to the presence of explosive gas in the battery. The liquid in the batteries is acid. Use care not to spill it on hands or clothing.



**POISON:** Batteries contain sulfuric acid which can cause severe burns. Avoid contact with skin, eyes or clothing. Antidote: EXTERNAL, flush with water; INTERNAL, drink large quantities of water or milk. Follow with milk of magnesia, beaten egg or vegetable oil. Call physician immediately; EYES, flush with water for 15 minutes and get prompt medical attention. Keep out of reach of children.



**DANGER:** Batteries produce explosive charges. Keep sparks, flame and cigarettes away. Ventilate when charging or using in enclosed space. Always shield eyes when working near batteries.



**CAUTION:** Never wear rings or metal watch bands when working with the tractor electrical system or battery as you may ground a live circuit.



**WARNING:** To jump start this machine:

1. Place travel control lever in neutral, set parking brake, and place mower drive lever in OFF.
2. Raise engine enclosure and prop open with support rod.
3. Connect positive (Red) (+) jumper cable to battery terminal on starter solenoid.
4. Connect other end of positive (Red) (+) jumper cable to the positive (+) terminal post of the booster battery.
5. Connect negative (Black) (-) jumper cable to negative (-) terminal of booster battery.
6. Connect other end of negative (Black) (-) jumper cable to the engine block. Avoid connection near fuel tank, carburetor and battery.
7. Stand on left side of machine and start using ignition key switch.
8. Disconnect jumper cables in the reverse order, that is, remove the negative (Black) (-) cable first. Keep ends from touching to prevent sparks.



**CAUTION:** Drive at a speed slow enough to insure safety and complete control at all times.



**CAUTION:** Do not wear loose clothing which may catch in moving parts.



- CAUTION:**
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.



**WARNING:** Before starting engine study operator's manual safety messages. Read all safety signs on machine. Clear the area of other persons. Learn & practice safe use of controls before operating. Stop engine and wait for all movement to stop before dismounting, servicing, or making any adjustments. It is your responsibility to understand and follow manufacturer's instructions on machine operation, service, and to observe pertinent laws and regulations. Operator manuals may be obtained from your equipment dealer.



**CAUTION:** Either the entire grass catcher or the mower discharge chute guard must be in place before you operate the mower.



**CAUTION:** Avoid contacting hot exhaust pipe when you are adjusting carburetor.



**WARNING:** Improper operation of your riding lawn mower on hill-sides and slopes can be dangerous. Avoid improper operation! Read and follow the instructions given in the section titled "Hill-side Operation" in this manual before operating your tractor.



**WARNING:** Flying debris. Operate mower only with discharge chute guard or complete grass catcher in place. Debris may cause injury.

**IMPORTANT:** Always install new decals whenever the old decals are destroyed, lost, painted over or illegible. When individual parts are replaced that have decals attached, be sure to install a new decal with the new part. Replacement decals are available from your Case dealer.

## HILLSIDE (SLOPE) OPERATION



**WARNING:** Improper operation of your riding lawn mower on hillsides and slopes can be dangerous. Avoid improper operation! Read and follow the instructions given in the section titled "Hillside Operation" in this manual before operating your tractor.

Avoid operating riding lawn mower on hillsides and slopes. To minimize the possibility of accidents while operating on hills and/or rough terrain, obey a combination of rules, practices and good common sense.

These include:

1. Reading, understanding, and obeying all written safety messages appearing on decals on the machine and in operator's manuals.
2. Learning from your operator's manual and carefully from EXPERIENCE how to operate your riding lawn mower correctly. Know your riding lawn mower's limitations.
3. Knowing the terrain on which you are operating your riding lawn mower. There are terrain conditions on which your riding lawn mower cannot be operated!
4. Learning to expect changes in operating conditions. Adding or removing attachments or weight to your riding lawn mower will make your riding lawn mower perform differently. Rain, snow, loose gravel, wet grass, etc., change the tractive conditions of the terrain requiring changes in your operating technique or not to operate on that terrain.

The following paragraphs will cover these practices one at a time. Read and study them. The examples provided are not all inclusive but will give you a firm understanding of the requirements for avoiding accidents while operating your riding lawn mower.

Case Riding Lawn Mowers are designed and built to comply with the Voluntary Standard ANSI B71.1 - 1980 (American National Standards Institute).

THE OPERATOR IS THE SOLE JUDGE AS TO THE DEGREE OF SLOPE ON WHICH THIS RIDING LAWN MOWER CAN BE SAFELY OPERATED. IF IN DOUBT THAT THIS RIDING LAWN MOWER CAN BE SAFELY OPERATED ON A PARTICULAR SLOPE, DO NOT OPERATE ON THAT SLOPE! COMMON SENSE MUST PREVAIL.

### **Read, Understand, Obey:**

Safety messages are found on the riding lawn mower and in the operator's manuals. These must be understood by the riding lawn mower operator to be of value. Be sure that these messages are studied before starting and/or operating the riding lawn mower by an operator not familiar with this particular riding lawn mower.

### **Learn to Operate:**

Learn your riding lawn mower controls from decals on the riding lawn mower and from instructions in the operator's manual. Practice how to properly manipulate these controls. Practice must be done in a flat area, clear of obstacles and bystanders. Learn your riding lawn mowers operating characteristics and limitations. These include:

- a. amount of engine power available
- b. engine governor response
- c. tractive ability
- d. steering characteristics
- e. braking characteristics
- f. movement of travel lever
- g. forward and reverse ground speeds
- h. speed of attachment lift
- i. and others

Attempting any operation which approaches or exceeds the riding lawn mower's limitation is risking an accident.

### **Know the Terrain:**

Know the terrain on which you are working. Find hidden obstacles by walking through and inspecting the area prior to operating your riding lawn mower on it. Mark obstacles, such as, rocks, ruts or holes with a 6 ft. long pole and red flag and stay well clear of these obstacles when operating.

Operate your riding lawn mower at a ground speed slow enough to insure complete control at all times.

Regulate the travel control lever slowly and smoothly to maintain this safe speed.

Always drive in a forward direction when proceeding downhill. Never drive up a hill. If necessary, back up a hill to the desired position. Always back up loading ramps and tilt bed trailers. If necessary to turn while on a hill, always turn downward.

Your judgement, based on operating experience is the final word in deciding if you should negotiate any given hill or slope. If you are in doubt about safety, **STAY OFF THE SLOPE.**

Under no circumstances should an inexperienced operator attempt to use your riding lawn mower on slopes or hillsides.

You may encounter some terrain on which your riding lawn mower cannot be operated even if a different piece of equipment has operated there in the past.

**Learn to Compensate for Changes in Operating Conditions:**

Adding or removing attachments (such as bagging attachment) change the weight and weight distribution of your riding lawn mower and, therefore, change your riding lawn mower's operating characteristics.

Be alert to these changes. Practice operating the riding lawn mower after each change has been made.

Adding an attachment (weight) to the rear of the riding lawn mower reduces the weight on the front axle.

Tractive conditions will vary with weather and terrain and equipment.

Areas wet with dew or rain will be more slippery than when dry. Areas covered with loose gravel are more slippery than firm dry ground. Greater stopping distances are required in these slippery areas.

Spinning rear wheels tend to move the riding lawn mower sideways.

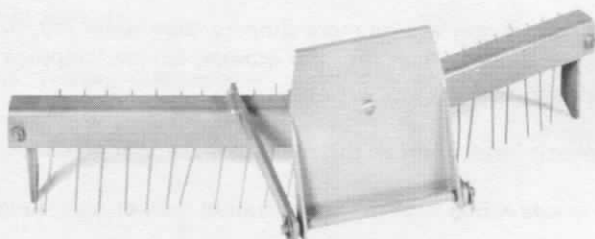
The final word in safe riding lawn mower operation rests on your judgement.

If in doubt of your safety, **STAY OFF THE SLOPE.**

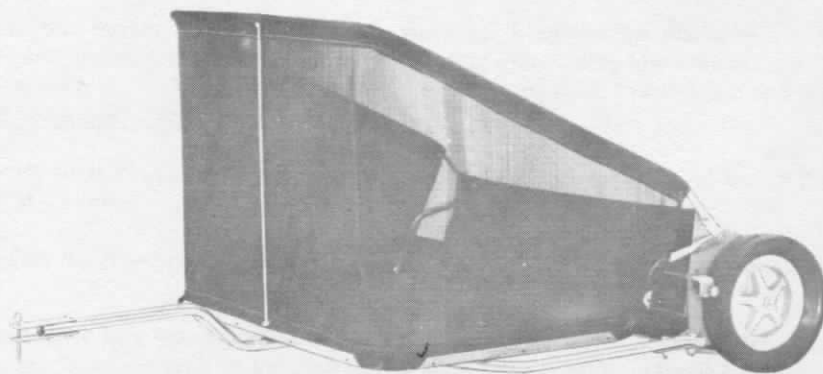
## ATTACHMENTS



BAGGER



THATCHER



SWEEPER





FIGURE I

## TO THE PURCHASER OF A CASE RIDING LAWN MOWER

The Maintenance you give your new Case tractor is important. Use this manual as your guide. Follow these instructions and tips to make sure your Case tractor operates efficiently for many years.

We are an authorized Case dealer. We have Case replacement parts which are the same as the original equipment.

If you need additional aid or information, contact us.

*Your Authorized Case Dealer*

### NOTICE

A spark arrester or spark arrester muffler must be used on some machines. Check the laws in your area.

Some states have regulations for the use of this machine in agriculture, forestry and construction. These laws control the maintenance of spark arrester equipment. These laws also control the installation of spark arrester equipment on the exhaust system of naturally aspirated engines (engines without a turbocharger).

### RADIO INTERFERENCE REGULATIONS OF CANADA

Case tractors taken into Canada after September 1, 1976 must have resistor spark plugs.

Resistor spark plugs and resistor wires for the spark plug must be used for replacement.

The regulation label is applied to the engine. Do not remove or destroy this label.

## PRODUCT IDENTIFICATION NUMBER

When you need parts or information, or when you write to your authorized Case dealer, always give the:

For reference, enter numbers below.

1. Mower Model Number \_\_\_\_\_
2. Production Identification Number (P.I.N.) \_\_\_\_\_
3. Engine Serial Number \_\_\_\_\_
4. Engine Model Number \_\_\_\_\_
5. Engine Specification Number \_\_\_\_\_

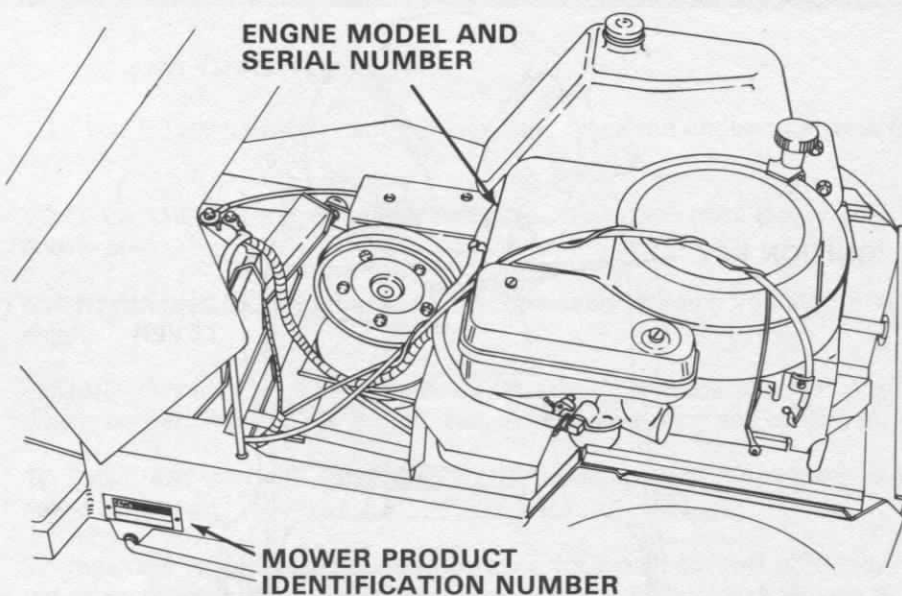


FIGURE 2

This manual is for the following tractor :

MODEL	P.I.N. and after
80	9776118

The words "Right, Left, Front and Rear" as used in this manual indicate directions when you are in the operator's seat in the normal operating position.

## OPERATING INSTRUCTIONS

### OPERATING CONTROLS AND INSTRUMENTS

**IMPORTANT:** This Riding Lawn Mower is equipped with NEUTRAL START SWITCHES.

The engine cannot be started unless the clutch-brake pedal is depressed and the mower drive lever\* is in the "OFF" position. Release pedal slowly after engine starts.

\* The engine may not start when the mower is in the lowest cutting position. Raise the mower or pull the mower drive lever toward the "OFF" position to allow the engine to start.

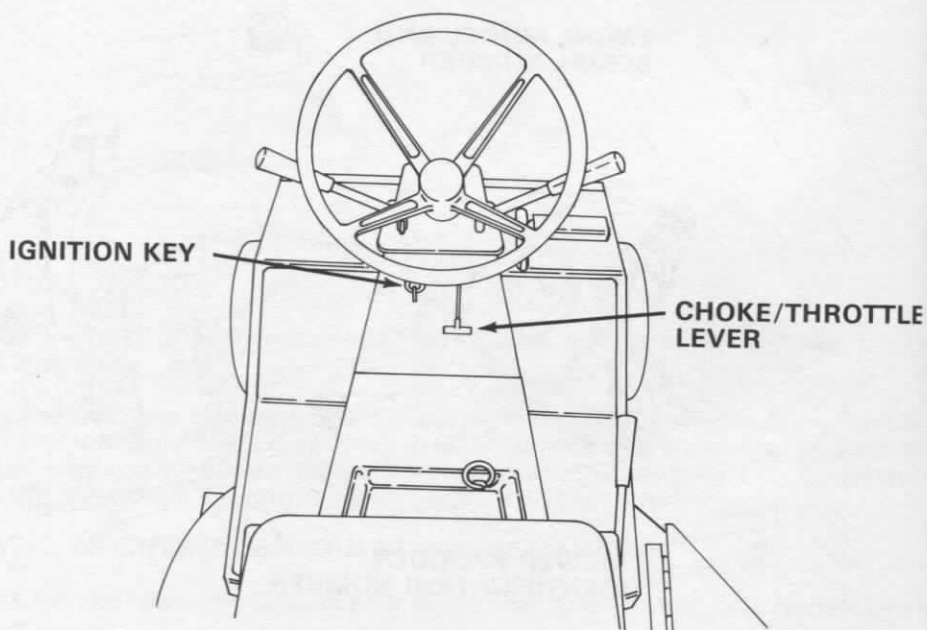


FIGURE 3

#### 1. IGNITION KEY AND STARTER SWITCH

TO START: Turn the key to the right and hold in the "START" position.

TO RUN: Release the key to the "RUN" position when the engine starts.

TO STOP: Turn the key to the left to the "OFF" position.



**CAUTION:** Know the controls and how to stop quickly. **READ THE OWNER'S MANUAL.**



**CAUTION:** Only operate controls from the operator's seat to prevent injury.



Become thoroughly familiar with all tractor and attachment controls before operating.

## 2. CHOKE AND THROTTLE

**TO CLOSE THE CHOKE:** Push the lever up. Close the choke to start a cold engine.

**TO OPEN THE CHOKE:** Pull the lever down. Open the choke slowly after the engine starts.

The choke must be open during normal operation or when you start a warm engine.

**ENGINE LOW IDLE:** Pull the lever down. Put the lever in the "SLOW" position when you start and stop the engine. This permits a warming and cooling period.

**TO INCREASE ENGINE SPEED:** Push the lever up until the needed engine speed is reached.

Decrease the engine speed during operation for maximum fuel efficiency. Do not cause engine lugging. Lugging will cause too much heat and damage to the engine.



**CAUTION:** Do not change the engine governor settings or over-speed the engine.

### 3. TRAVEL CONTROL LEVER

**TRAVEL CONTROL LEVER** - Shifting from neutral to forward and reverse can be done without use of the clutch-brake pedal. Smoother starts may be obtained by slowly and gradually moving the travel control lever from neutral into either forward or reverse. Depress the travel control lever to clear the neutral position before shifting to forward or reverse. Preventing jerky starts will eliminate shock loads and possible damage to the drive train.

If desired to start motion using the clutch-brake pedal, position the travel control lever in the **SLOWEST** position, release the pedal slowly and then increase forward speed slowly using the travel lever only. (There is only a single reverse speed.)

A third method for smooth starts is to place the engine throttle at 1/2 speed and then advance the throttle after drive engagement.

Maximum reverse speed is less than forward, therefore, the travel control lever will not move as far in the reverse arc of travel as in the forward arc of travel. The travel control lever must be held in the reverse position.

### 4. CLUTCH/BRAKE PEDAL

**TO DISENGAGE CLUTCH:** Push the clutch/brake pedal approximately half of full travel. This movement will actuate the clutch and permit you to change the travel control lever position. (The travel control lever position can be changed while the engine is running without disengaging the clutch).

**TO ENGAGE CLUTCH:** Slowly release the clutch/brake pedal.

**TO ACTUATE THE BRAKE:** Push the pedal fully down to actuate the brake.

The clutch/brake pedal actuates a neutral start switch. This pedal must be fully depressed before the engine will start.

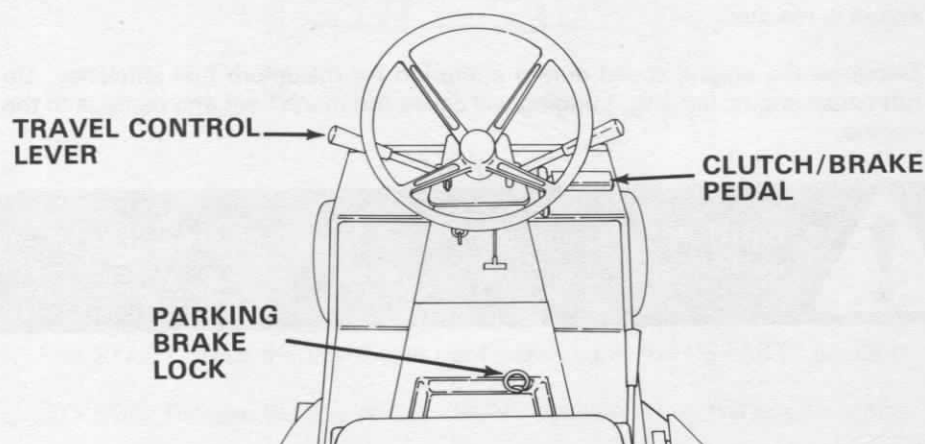


FIGURE 4



## 5. PARKING BRAKE LOCK

TO ENGAGE: Push the clutch/brake pedal fully down.

Lift the parking brake lock. Engage the notch with the top of the slot.

TO DISENGAGE: Push the clutch/brake pedal a small amount and release.

A spring will disengage the parking brake lock.

## 7. HEIGHT SELECTOR LEVER

TO LIFT: Pull the lever outward to disengage the pin from the hole and push forward to lift the mower. Push the lever inward to lock in position.

TO LOWER: Pull the lever outward to disengage the pin from the hole and pull rearward to lower the mower. PUSH the lever inward to lock in position.

## 8. MOWER DRIVE LEVER

TO ENGAGE: Push the lever forward to the full on position.

TO DISENGAGE: Pull the lever rearward to the FULL OFF POSITION. and release.

The mower drive lever actuates a neutral start switch. This lever must be in the rear position (disengaged) before the engine will start.

**IMPORTANT:** To increase drive belt life, engage mower Drive Lever at slow engine speed and also before encountering heavy grass.

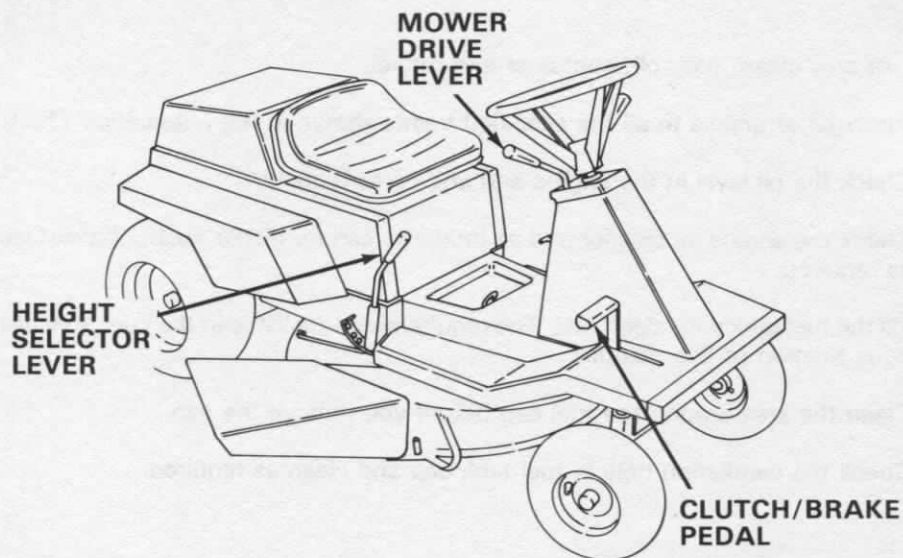


FIGURE 5

## PRESTARTING CHECK LIST



**WARNING:** Before starting engine study operator's manual safety messages.

Read all safety signs on machine.

Clear the area of other persons.

Learn & practice safe use of controls before operating.

Stop engine and wait for all movement to stop before dismounting, servicing, or making any adjustments.

It is your responsibility to understand and follow manufacturer's instructions on machine operation, service, and to observe pertinent laws and regulations.

Operator manuals may be obtained from your equipment dealer.



**CAUTION:** Do not wear loose clothing which may catch in moving parts.



**CAUTION:** Disengage power to attachment(s) and stop the engine (motor) before making any repairs or adjustments.

1. Use only clean, fuel, oil, container and funnel.
2. Apply oil or grease to all the specified points shown in the Lubrication Chart.
3. Check the oil level in the engine and add oil as required.
4. Check the engine air cleaner and air intake screen for dirt or obstructions. Clean as required.
5. Fill the fuel tank with clean fuel. The requirements are listed in the Fuel Specifications Section of this manual.

Clean the area around the fuel cap before you remove the cap.

Check the ventilation hole in fuel tank cap and clean as required.



**CAUTION:** Handle gasoline with care — it is highly flammable.



- a. Use approved gasoline container.
- b. Never remove the cap of the fuel tank or add gasoline to a running or hot engine, or fill the fuel tank indoors. Wipe up spilled gasoline.
- c. Open doors if the engine is run in the garage — exhaust fumes are dangerous. Do not run the engine (motor) indoors.

6. Check all operating controls and instruments for correct function before using the tractor.



**CAUTION:** Do not smoke when working near fuel.

## STARTING PROCEDURE (OPERATING THE TRACTOR)

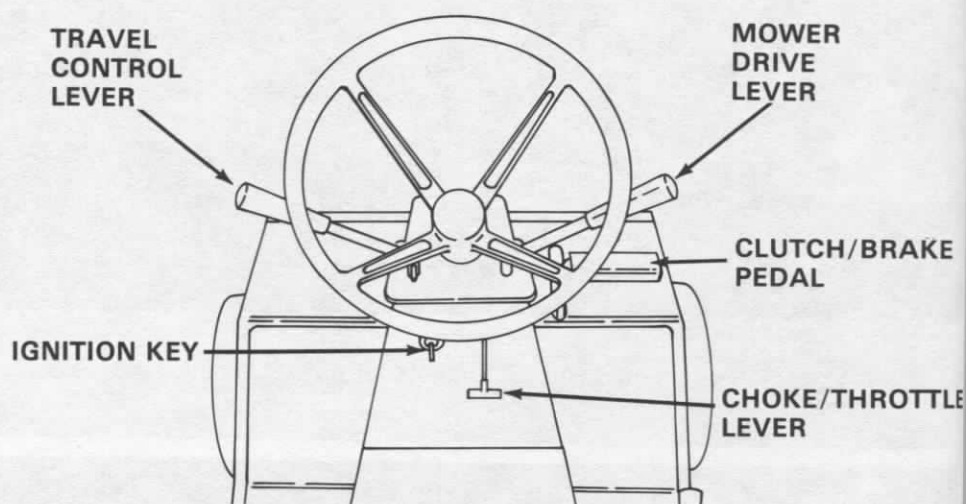


FIGURE 6



**CAUTION:** Only operate controls from the operator's seat to prevent injury.



**CAUTION:** Do not wear loose clothing which may catch in moving parts.



**CAUTION:** Do not allow children to operate the vehicle. Do not allow adults to operate it without proper instruction.



**CAUTION:** Do not carry passengers. Keep children and pets a safe distance away.

1. Push the clutch/brake pedal fully down.
2. Put the travel control lever in the "NEUTRAL" position.
3. Pull the mower drive lever rearward.

**NOTE:** The engine may not start when the mower is in the lowest cutting position. Raise the mower or pull the mower drive lever toward the "OFF" position to allow the engine to start.



**CAUTION:** Disengage all attachment clutches and shift into neutral before attempting to start the engine (motor).

4. Push the choke/throttle lever up to close the choke. The choke setting will change according to the air temperature, engine temperature, and grade of fuel.
5. Turn the key to the right and hold in the "START" position. Release the key to the "RUN" position when the engine starts running.

**NOTE:** Release the key immediately when the engine starts. If you hold the key in the "START" position after the engine is running damage can occur. Release the key after 30 seconds if the engine does not start running. Wait 3 minutes before you try again.

6. Push the choke/throttle lever down slowly after the engine starts running.
7. Permit the engine to warm before applying a load.
8. Set the choke/throttle lever approximately 3/4 of the way between the "SLOW" and "FAST" positions for normal operation.

Decrease the engine speed during most operations for maximum fuel efficiency.

Do not permit engine lugging. Lugging will cause more than normal heat and damage to the engine.

**IMPORTANT:** DO NOT TRY TO START THE TRACTOR BY PUSHING OR TOWING. SERIOUS DAMAGE WILL HAPPEN TO THE DRIVE SYSTEM.

## STOPPING PROCEDURE (OPERATING THE TRACTOR)

1. Push the clutch/brake pedal fully down to stop the tractor.
2. Put the travel control lever in the "NEUTRAL" position.
3. Engage the parking brake lock.
4. Push the choke/throttle lever down to the "SLOW" position.
5. Permit the engine to cool. Run the engine at idle for several minutes if the work load was severe.
6. Turn the key to the left to the "OFF" position.
7. Remove the ignition key.

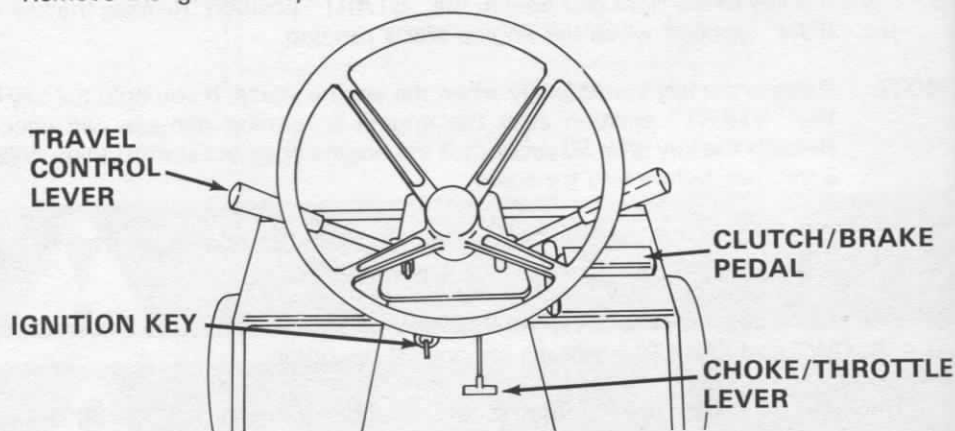


FIGURE 7



**CAUTION:** Take all possible precautions when leaving the vehicle unattended, such as disengaging the power take-off, lowering the attachment(s), shifting into neutral, setting the parking brake, stopping the engine, and removing the key.



**CAUTION:** Always shut off engine, remove key, set parking brake, and wait until all engine and attachment motion has stopped before dismounting from the operator's seat.



**CAUTION:** Know the controls and how to stop quickly. READ THE OWNER'S MANUAL.

## OPERATING PROCEDURE (OPERATING THE TRACTOR)

Operate the tractor for the first time on a flat area clear of obstructions and persons. Learn the operating characteristics of your tractor before trying the first job.

1. Select the travel control lever position for the job. Speed increases and power decreases as you use faster positions. Depress the travel control lever to clear the neutral position before shifting to forward or reverse.

**CAUTION:** Use care when pulling loads or using heavy equipment.



- a. Use only approved drawbar hitch point.
- 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 the owner's manual.

### DEPRESS TO SHIFT



FIGURE 8 Travel Control Pattern

2. Use low speed position for cutting heavy grass and operating the mower on inclines and in small areas.
3. Use one of the middle speed positions for cutting normal grass and operating the mower in larger areas.
4. Use one of the higher speed positions to pull light loads.
5. Be careful and look rearward while you use reverse speed. Never use reverse speed to move down a slope.
6. After you select the correct speed position, slowly release the clutch/brake pedal.

7. Control travel speed with the travel control lever and engine power with the choke/throttle lever.
8. Use a low speed position for operation on hills or slopes. Select this speed position before you are on the hill or slope. Do not stop on hills or slopes to change speed positions. Use reverse speed to move up a hill or slope. Use a forward speed position to move down a hill or slope.



**CAUTION:** Do not stop or start suddenly when going uphill or downhill. Mow down the face of steep slopes; never across or up the face. (This ANSI rule modified)



**WARNING:** Improper operation of your riding lawn mower on hill-sides and slopes can be dangerous. Avoid improper operation! Read and follow the instructions given in the section titled "Hill-side Operation" in this manual before operating your tractor.

9. Decrease your travel speed before you make a turn. Either decrease the throttle setting or select a lower speed position.



**CAUTION:** Reduce speed on the slopes and in sharp turns to prevent tipping or loss of control. Exercise extreme caution when changing direction on slopes.

10. Actuate the lawnmower over an area of thin grass or an area that has been cut.
11. Read your attachment manual for complete attachment operation information.



**CAUTION:** When using any attachments, never direct discharge of material toward bystanders nor allow anyone near the vehicle while in operation.



**CAUTION:** Clear the work area of objects which might be picked up and thrown.



## MOWING CONDITIONS

Mowing conditions can be different. You must use the correct operating methods according to the following chart:

### CONDITION

### METHOD

1. Short or thin grass.

1. a. move the height selector lever to the cutting height needed.
- b. move the throttle lever to a position between 3/4 and full throttle.
- c. adjust ground speed as needed.
- d. you may decrease engine speed if this doesn't cause an overload to the engine. The engine will become too hot and the mower will not work correctly if the engine is operated with an overload.

2. Long or thick grass.

2. a. move the height selector lever to the highest position.
- b. increase engine speed to the "FULL THROTTLE" position.
- c. reduce ground speed.
- d. cut long or thick grass twice.
- e. operate with the chute facing the cut area.

3. Wet grass.

3. a. do not cut wet grass.

4. Rough terrain.

4. a. raise the mower into the transport position.
- b. reduce ground speed.

5. Cutting near objects.

5. a. use the left side of the mower.

The cut material will be moved away from the object.

6. When grass will not be swept.

6. a. operate with chute facing the cut area.

7. When grass will be swept.

7. a. operate with chute facing the uncut area.

b. the grass will be in one strip and can be removed with a sweeper.

8. Wind.

8. turn the riding lawn mower so the wind will move grass away from you.



**CAUTION:** Stay alert for holes in the terrain and other hidden hazards.

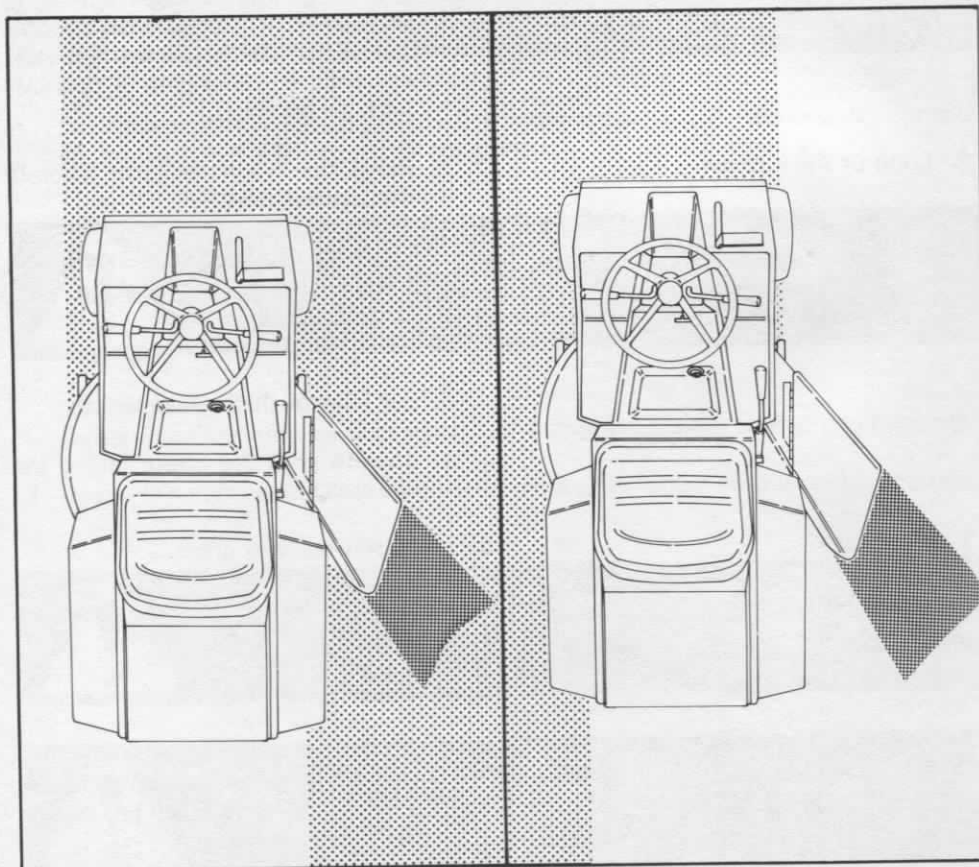


FIGURE 9  
Chute Facing Uncut Area

FIGURE 10  
Chute Facing Cut Area



## PREVENTIVE MAINTENANCE



FIGURE 11

You are the owner of a Case riding lawn mower. You have a machine that is made to high standards.

Preventive maintenance is important to you.

Preventive maintenance is the easiest and most efficient way to keep your tractor working good for many hours of operation.

The first part of this manual covers instructions needed for daily operation. The following instructions will help you in maintenance and adjustments.



**WARNING:** Rotating Fan. Contact with rotating engine flywheel fins can injure. Keep clear. Do not allow anything to enter engine cooling air intake duct while engine is running. This duct is exposed only when the engine enclosure is raised. Avoid running engine with enclosure raised.

## MAINTENANCE CHART

MAINTENANCE PROCEDURE	PAGE	FREQUENCY
Check and clean obstructions from air intake screen	41	Daily
Check engine oil level. Add if required	38	Daily
Clean and re-oil foam air cleaner	32	25 Hours
Change engine oil	38	25 Hours
Grease front wheel bearings, transmission pivot support plate, steering gear	56	25 Hours
Check and clean obstructions from cooling fins and external surfaces	41	50 Hours
Chassis lubrication	56	50 Hours
Oil choke/throttle cable	43	50 Hours
Oil mower anti-scalp wheels	52	50 Hours
Check and adjust (if necessary) drive belts	48-49	50 Hours
Check battery electrolyte level. Add if necessary	28	50 Hours
*Have cylinder head removed and cleaned (leaded fuel)	42	100 Hours
Check air cleaner filter - replace if necessary	32	100 Hours
Check and clean or replace spark plug	31	200 Hours
*Have cylinder head removed and cleaned (unleaded fuel)	42	200 Hours

\*Have these services done by an authorized dealer

25 50 75 100 125 150 175 200 225 250 275 300 325 350 375 400 425 450 475 500

A 10x10 grid with the word "DAILY" written in the top-left cell. The grid is composed of 10 columns and 10 rows. The top-left cell (row 1, column 1) contains the word "DAILY". The rest of the grid is empty.

## SPECIFICATIONS

### ENGINE

Make .....	Briggs & Stratton - vertical crankshaft
Model .....	190707
Cycle .....	4
Number of Cylinders .....	1
Horsepower .....	8 (5.9 kw)
Cylinder Bore .....	3" (76.2 mm)
Piston Stroke .....	2.75" (69.8 mm)
Displacement .....	19.44 cu. in. (320 cc)
Maximum No Load Speed .....	3600 RPM
Low Idle Speed .....	1750 RPM
Intake Valve Clearance (Cold) .....	.006" (0.15 mm)
Exhaust Valve Clearance (Cold) .....	.010" (0.25 mm)
Spark Plug Gap .....	.030" (0.76 mm)
Spark Plug Thread .....	14 mm
Spark Plug Type .....	Champion J-8 or equivalent
Breaker Point Gap (if equipped) ...	.020" (9.51 mm)
Magneto Armature Air Gap .....	.012 in. (0.30 mm)
Cooling .....	Air cooled with baffles that direct air around fins on the cylinder and cylinder head

### ELECTRICAL SYSTEM

Battery .....	12 Ampere Hour at 20 Hour Rate 12 Volt Negative Ground
Starter .....	12 Volt Gear Drive
Flywheel Alternator (P.I.N. 14095750 and after) .....	Single Circuit
Battery Charger (before P.I.N. 14045750) .....	Input: 120v AC, 60 Hz, 25 Watts Output: 12v DC, 1 Amp DC For Use Indoors Only

## COMBINATION CLUTCH AND BRAKE

CLUTCH-BRAKE ..... Friction drive clutch-brake  
mechanically operated  
with park lock.

## TRANSMISSION

Type ..... Friction drive  
Speed Range -- Forward ..... 0 - 5.5 MPH (0 - 8.8 Km/hr)  
Reverse ..... 2 MPH (3.2 Km/hr)

## WHEELS AND TIRES

Tires	Tire Size	Ply	Type	Pressure
FRONT	11 x 4 - 5	2	High Flotation	8 PSI (55 kPa)
REAR	16 x 6.50 - 8	2	High Flotation	8 PSI (55 kPa)



**CAUTION:** Too much air pressure in the tires can cause tire or rim failure. Never put more air pressure in a tire than specified in the operator's manual or on the sidewall of the tire. If the tire or rim explode because of too much pressure, injury can result.

## MOWER

Type ..... Single Spindle rotary mower  
Size ..... 30 inch (760 mm)

## CAPACITIES

Fuel Tank ..... 6.7 pints (3.2 l)  
Engine Crankcase ..... 2.25 Pints (1.0 l)

## OVERALL MEASUREMENTS

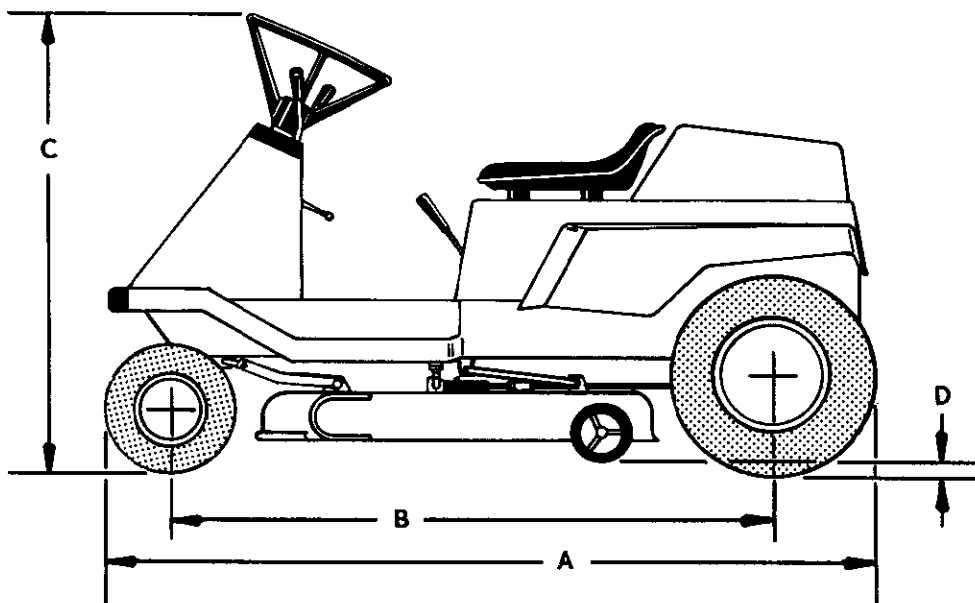


FIGURE 12

A	Overall Length . . . . .	61" (1540 mm)
B	Wheel Base . . . . .	47" (1200 mm)
C	Overall Height . . . . .	36" (920 mm)
D	Minimum Ground Clearance With Mower Fully Raised . . . . .	2" (50 mm)
	Rear Wheel Tread . . . . .	22-3/4" (580 mm)
	Front Wheel Tread . . . . .	23-7/8" (610 mm)
	Overall Width With Discharge Chute . . . . .	41-1/2" (1060 mm)
	Shipping Weight . . . . .	340 lbs. (154 Kg)
	Turning Radius . . . . .	84" (2134 mm)

## **TROUBLESHOOTING CHART**

### **LAWN MOWER NOT CUTTING EVEN OR LEAVING A STRIP OF GRASS**

#### **POSSIBLE CAUSE**

#### **CORRECTION**

- |   |   |
|---|---|
| 1. Obstruction in bottom of mower deck. | 1. Remove deck and clean.                                       |
| 2. Blade not sharp.                     | 2. Cutting edge must be sharp and at least 2-1/2" (65 mm) long. |
| 3. Engine speed too slow.               | 3. Adjust engine speed to 3600 RPM.                             |
| 4. Travel speed too fast.               | 4. Decrease travel speed.                                       |
| 5. Grass too long.                      | 5. Cut twice. First at highest position then at needed height.  |
| 6. Drive or deck belt slippage.         | 6. Check belt. Adjust tension or replace.                       |
| 7. Mower drive clutch slippage.         | 7. Adjust or repair mower drive clutch.                         |

### **TOO MUCH POWER CONSUMPTION AND CUTS BADLY**

- |   |  |
|---|--|
| 1. Blade not sharp.                         | 1. Make blade sharp.   |
| 2. Lawn mower deck not level front to rear. | 2. Deck must be level or no lower than 1/8" (3 mm) in front (first check air pressure in tires). |
| 3. Blade installed upside down.             | 3. Install correctly. Blade rotates clockwise. Cutting edge must lead.                           |
| 4. Blade not straight.                      | 4. Replace blade.  |

### **LAWN MOWER CUTS HIGH ON ONE SIDE**

- |  |   |
|--|---|
| 1. Lawn mower deck not level side to side. | 1. Adjust side to side level (first check for equal tire pressure). |
|--|---|



## BATTERY CHARGER (Used before PIN 14045750)

**NOTE:** An onboard charging system is provided on units with PIN 14045750 and after.

Your Model 80 Riding Lawn Mower is equipped with a 12 volt, 12 amp hour lead acid storage battery, used for starting the engine only. The engine has magneto ignition which does not drain the battery while operating.

In order to maintain the battery state of charge, the battery charger supplied with your machine should be used as follows:

1. During average usage charge battery for one 24 hour interval at least once every 30 days.
2. If engine is stopped and started frequently, charge battery at least once every 2 weeks for one 24 hour interval or more often if necessary.
3. To increase battery service life, avoid allowing it to discharge completely between charge intervals.
4. If a battery charger other than the one supplied with your machine is used, do not charge battery at a rate to exceed 1.8 AMPS.
5. Battery charger is designed for inside use only.

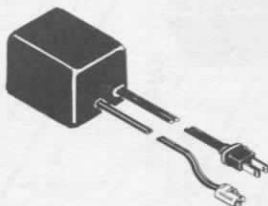


FIGURE 13 BATTERY CHARGER

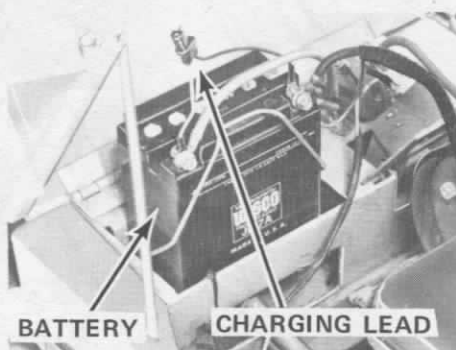


FIGURE 14

### CONNECTING THE BATTERY CHARGER

1. Raise engine enclosure and prop open with rod.
2. Connect the special polarized plug from the battery charger to the matching plug at the battery.
3. Plug battery charger into 110 volt A.C. outlet. (240 volt charger supplied where required. Read the label on your charger.)
4. Charge battery for a 24 hour interval.
5. To disconnect charger, first unplug from A.C. outlet, then disconnect special plug at battery.

# WIRING DIAGRAM

(use before P.I.N. 14045750)

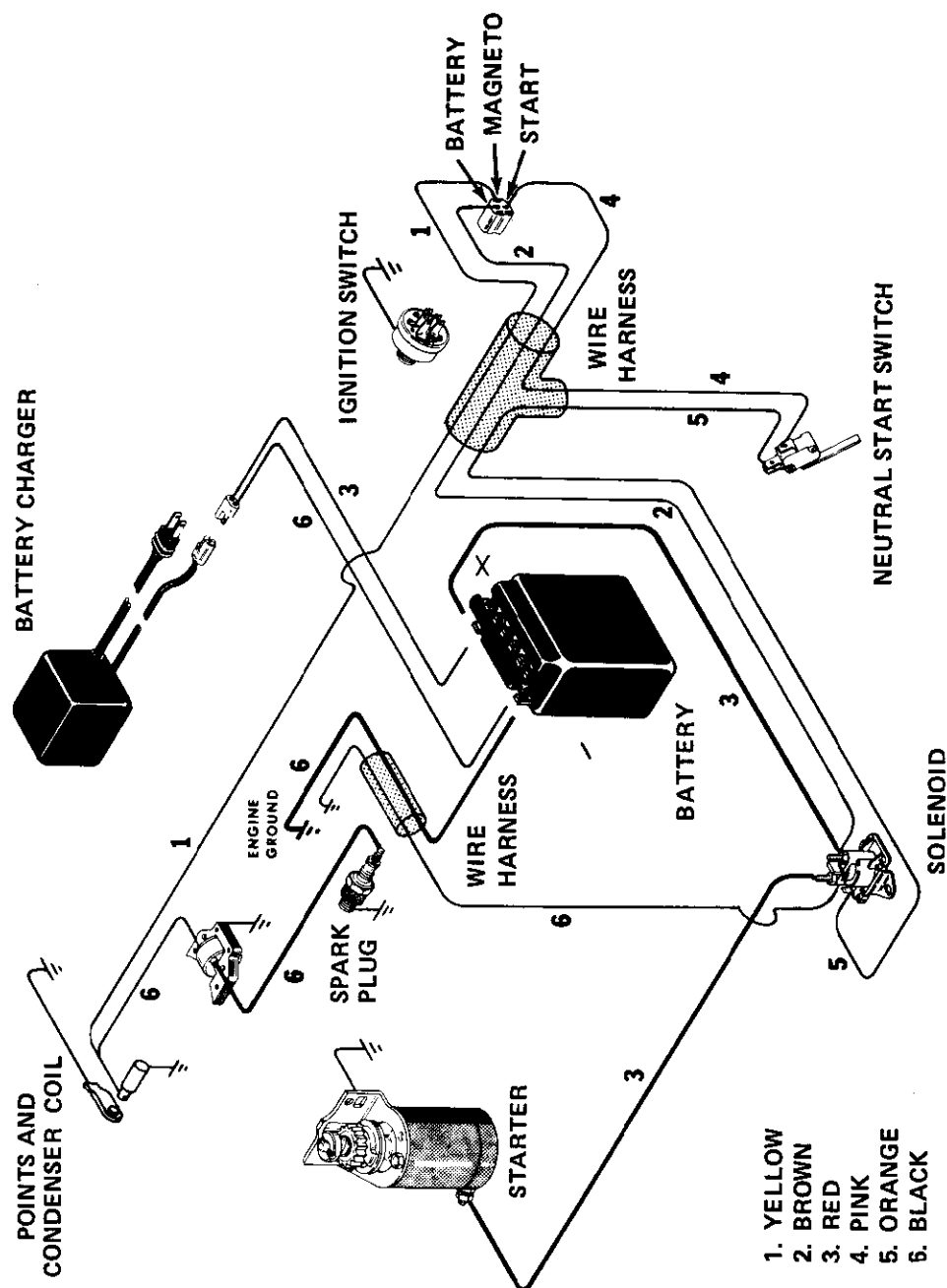


FIGURE 15

# WIRING DIAGRAM

(use P.I.N. 14045750 and after)

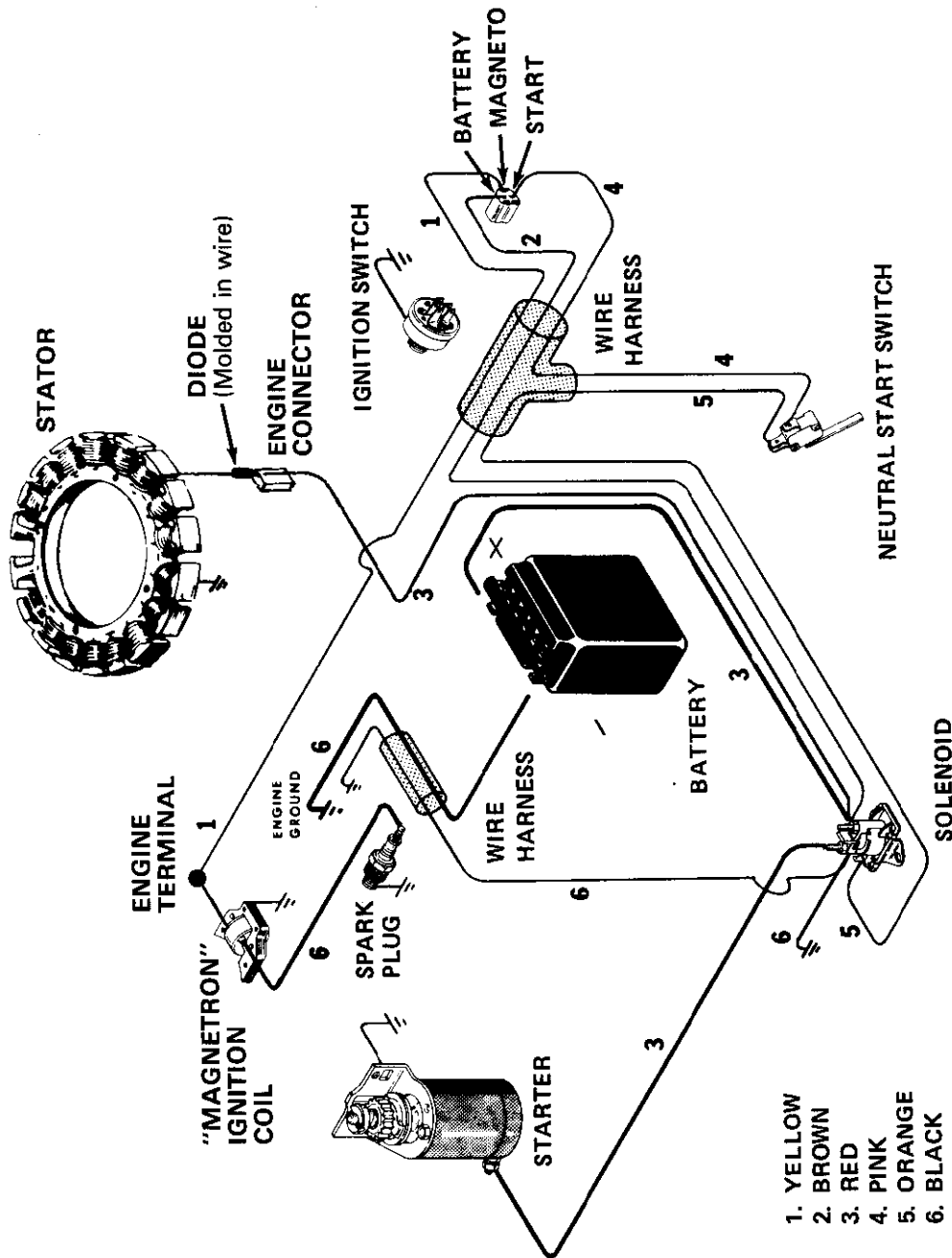


FIGURE 16

## WIRING I (use before

## STORAGE BATTERY

### BATTERY MAINTENANCE



**DANGER:** Batteries produce explosive charges. Keep sparks, flame and cigarettes away. Ventilate when charging or using in enclosed space. Always shield eyes when working near batteries.



**CAUTION:** Never wear rings or metal watch bands when working with the tractor electrical system or battery as you may ground a live circuit.



**CAUTION:** When working around storage batteries, remember that all of the exposed metal parts are "live". Never lay a metal object across the terminals as a spark or short circuit may result. Sparks, lighted matches and exposed flames must be kept away from the battery due to the presence of explosive gas in the battery. The liquid in the batteries is acid. Use care not to spill it on hands or clothing.

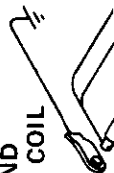


**POISON:** Batteries contain sulfuric acid which can cause severe burns. Avoid contact with skin, eyes or clothing. Antidote: **EXTERNAL**, flush with water; **INTERNAL**, drink large quantity of water or milk. Follow with milk of magnesia, beaten egg or vegetable oil. Call physician immediately; **EYES**, flush with water for 15 minutes and get prompt medical attention. Keep out of reach of children.

BATTERY CHARGER



POINTS AND  
CONDENSER COIL



1. Add distilled water, as required, to keep the water level above the separators. Check at 25 HOUR intervals of operation or every week. Normal water consumption is 1 ounce (30 ml) every 25 HOURS of operation. More than normal water consumption indicates:
  - a. a battery with a leak
  - b. a charging system that is charging too much
2. Make sure the battery is fastened in position. The battery cables must not contact the battery surface except at the connection.
3. Keep the battery in a clean and dry condition.
4. Use a hydrometer to check the specific gravity of the battery. If your battery does not keep the correct specific gravity, replace it. For the correct replacement battery see the specification section of this manual.

**IMPORTANT:** A battery having a specific gravity reading of 1.175 will become frozen at approximately 0°F (-18°C).

## ADDING WATER

Always use mineral free or distilled water in your battery. When the temperature is 32°F (0°C) or less, immediately charge the battery after adding water. This will mix the water and electrolyte. If the water is not mixed, it will stay on top and become frozen.

Make a weekly check of the electrolyte level.

1. Remove the cell covers.
2. Visually check each cell.
3. Add water before you see the separators.

**NOTE:** Do not fill too much. Keep the electrolyte level below the base of the filler tubes.

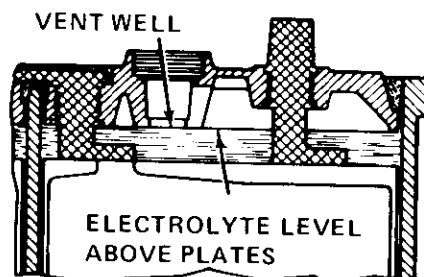


FIGURE 17

## CELL COVERS AND VENT TUBE

Always keep the cell covers in place and tight. Make sure the vent tube is in place and free of dirt. Ventilation must occur to prevent pressure in the cells.

## CABLE TERMINALS AND BATTERY POSTS

Keep the battery terminals clean and tight.

1. Remove all corrosion with a wire brush.
2. Wash with a neutral solution.
3. Apply a thin layer of light grease to prevent corrosion.



**CAUTION:** When removing a battery, always disconnect the (-) negative ground cable first. When installing the battery, always connect the (-) negative ground cable last.

## IDLE BATTERY

When the lawn mower is not used regularly, the storage battery will slowly lose voltage. Charge the battery at regular intervals to keep the hydrometer reading at 1.250 or more.

## WIRING

(use before

## HOW TO USE JUMPER CABLES AND A BOOSTER BATTERY

Always wear protective goggles and clothing when you work near batteries. Prevent acid from coming in contact with your skin or clothing.

Connect the jumper cables as shown below. Follow the numbers for the correct sequence of installation.

**WARNING:** To jump start this machine:

1. Place travel control lever in neutral, set parking brake, and place mower drive lever in OFF.
2. Raise engine enclosure and prop open with support rod.
3. Connect positive (Red) (+) jumper cable to battery terminal on starter solenoid.
4. Connect other end of positive (Red) (+) jumper cable to the positive (+) terminal post of the booster battery.
5. Connect negative (Black) (-) jumper cable to negative (-) terminal of booster battery.
6. Connect other end of negative (Black) (-) jumper cable to the engine block. Avoid connection near fuel tank, carburetor and battery.
7. Stand on left side of machine and start using ignition key switch.
8. Disconnect jumper cables in the reverse order, that is, remove negative (Black) (-) cable first. Keep ends from touching to prevent sparks.



BATTERY CHARGER



POINTS AND  
CONDENSER COIL

BATTERY TERMINAL  
ON THE SOLENOID

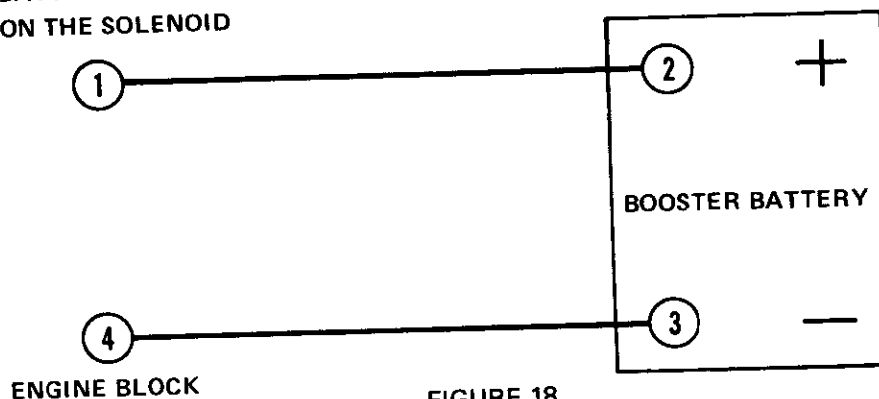


FIGURE 18

## SPARK PLUG

The original spark plug in your engine has a medium heat range. For replacement, use a Champion J8 or equivalent (Champion RJ8 or equivalent in Canada)

Tip length	7/16" (11.1 mm)
Thread size	14 mm
Gap setting	.030" (0.76 mm)

**NOTE:** During severe conditions of operation, the heat range of the spark plug is important. See your authorized dealer for the correct spark plug.

Frequently clean the outside of the spark plug to prevent a short circuit of the spark. Check, clean and gap the spark plug at 100 HOUR intervals of operation.

### REMOVING THE SPARK PLUG

It is important to use the exact size wrench. The wrong size or type of wrench can cause distortion or break the spark plug.

Use a spark plug wrench or deep socket wrench with a thin wall. Make sure it is the correct size.

### CLEANING AND SETTING THE GAP

Do not use a machine that cleans the spark plugs with grit.

1. Use a small knife or wire brush to clean the tip and threads.
2. Wash with a solvent to remove loose carbon and oil.
3. Dry with a clean cloth.
4. Set the gap. You will feel a small amount of pressure on the feeler gauge when the gap is correct.

**IMPORTANT:** Do not bend the center tip.

### INSTALLING THE SPARK PLUG

1. Put a new gasket on the spark plug.
2. Turn the spark plug into the engine.
3. After the spark plug is seated, tighten 3/4 of a turn with a wrench. Use a torque specification of 27 foot pounds (36.6 newton metre) with a torque wrench. This will make sure that the spark plug seats and seals correctly.

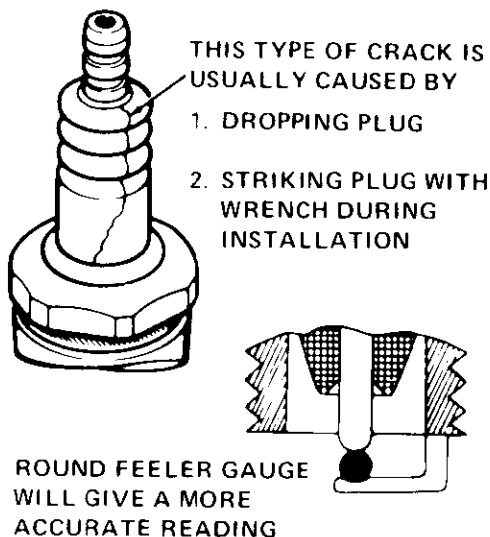


FIGURE 19

## AIR CLEANER

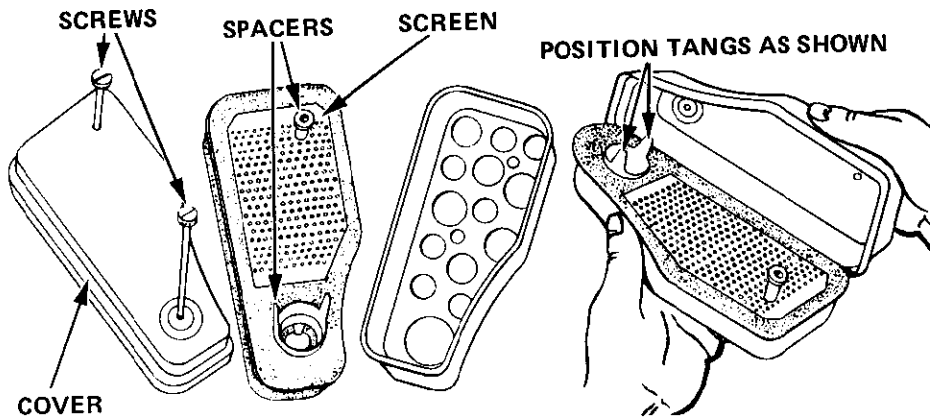


FIGURE 20

Your tractor is equipped with a washable foam air cleaner element.

Remove and wash the foam air cleaner element after each 25 HOURS of operation.

Remove and clean the element more frequently under extremely dirty, dusty conditions (most riding lawn mower working conditions are considered dirty and dusty).

Replace the element if (a) it is damaged or (b) dirt can not be easily removed.

**IMPORTANT:** Operating with a dirty or damaged air cleaner for only a brief period of time can ruin an engine.

1. Remove two screws and lift off complete air cleaner.
2. Remove the screen and the spacers from the element.
3. Remove the element from the air cleaner body.
4. A. Wash the element. Use kerosene or liquid detergent and water.  
B. Put cloth around the element. Apply pressure to dry. Do not twist.  
C. Fill the element with engine oil. Apply pressure to the element to remove extra oil.  
D. Assemble the air cleaner. Make sure the lip of the element extends over the edge of the air cleaner body.  
E. Use the two screws and install the air cleaner on the carburetor.



## CARBURETOR

Carburetors are set at the factory and normally should not have to be adjusted. If your engine exhibits conditions similar to those found in the following table, it may be necessary to adjust your carburetor.

An incorrect carburetor setting can cause a fouled spark plug, overheating, excessive valve wear or other problems. See your J I Case dealer for assistance.

CONDITION	POSSIBLE CAUSE/PROBABLE REMEDY
1. Black, sooty exhaust smoke*, engine sluggish.	1. Mixture too rich - turn main fuel adjusting screw clockwise.
2. Engine misses and backfires at high speed.	2. Mixture too lean - turn main fuel adjusting screw counterclockwise.
3. Engine starts, sputters and stops under cold weather starting.	3. Mixture too lean - turn main fuel adjusting screw counterclockwise.
4. Engine runs rough or stalls at idle speed.	4. Idle speed too low or improper idle mixture - turn idle speed adjusting screw, then idle fuel adjusting screw if needed.

\*If black exhaust smoke is noted, check the air filter first - an apparent "overrich" mixture can actually be a clogged air filter element. If, after element is replaced, black smoke or other problems continue, adjust carburetor immediately.

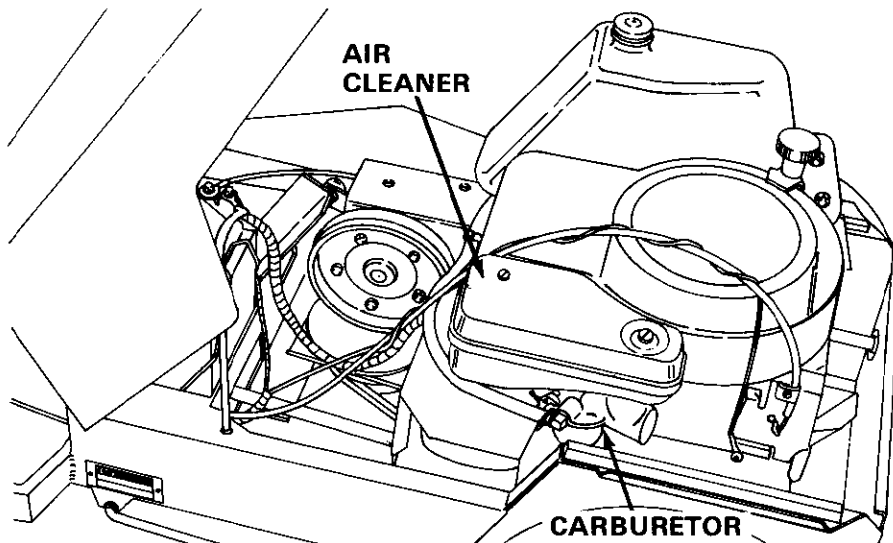


FIGURE 21

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BATTERY CHARGER

POINTS AND  
CONDENSER COIL

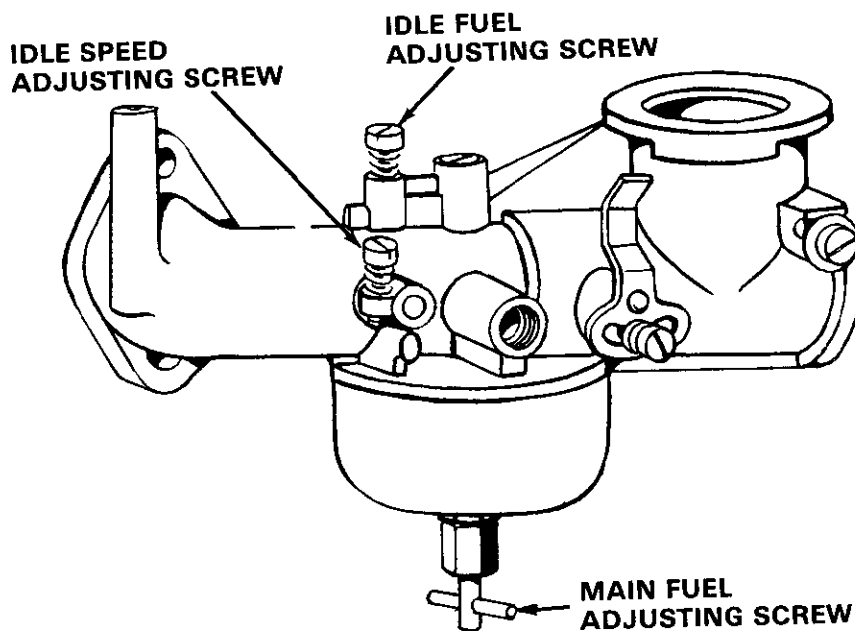


FIGURE 22



**CAUTION:** Avoid contacting hot exhaust pipe when you are adjusting carburetor.

### TO ADJUST CARBURETOR

Stop engine, turn main fuel and idle fuel adjusting screws clockwise, until the bottom lightly.

**IMPORTANT:** Damage to main fuel and idle fuel adjusting screws will result if they are turned in forcefully. Adjusting screws are screw-type needle valves which taper to critical dimensions.

### PRELIMINARY SETTING

MAIN FUEL  
ADJUSTING SCREW

Counterclockwise 1-1/8  
turns from bottom

IDLE FUEL  
ADJUSTING SCREW

Counterclockwise 1-1/8  
turns from bottom

#### FINAL SETTING - MAIN FUEL

1. START ENGINE and run at full throttle for 5 to 10 minutes to warm engine.
2. Turn main fuel adjusting screw clockwise until speed decreases. NOTE POSITION OF THE ADJUSTING SCREW.
3. Now turn main fuel adjusting screw counterclockwise - the engine speed will first increase and then decrease as the screw is turned. NOTE POSITION OF THE ADJUSTING SCREW WHEN THE ENGINE SPEED STARTS TO DECREASE.
4. Set the main fuel adjusting screw midway between the two points noted.

#### FINAL SETTING - IDLE FUEL

1. Start and run the engine until the operating temperature is reached.
2. Remove the load from the engine. Adjust the throttle lever until 1750 RPM is reached. Adjust the screw for low idle until you reach the maximum RPM at this throttle setting.

#### IDLE SPEED SETTING

1. Put the throttle lever in the "SLOW" position.
2. Turn the adjustment screw for the low idle speed in or out until 1750 RPM is reached.

**NOTE:** Bad engine operation can be caused by dirt or other foreign material in the carburetor. In small gasoline engines, clean gasoline is important. Always use a clean funnel with a filter. Always use clean gasoline. Periodically check and clean the filter screen in the outlet fitting of the fuel tank.



**CAUTION:** Do not change the engine governor settings or over-speed the engine.

WIR  
(use t

## FUEL

Always use clean fresh gasoline and a funnel with a filter. Use no-lead gasoline with minimum octane ratings as follows:

Research Method 90

Motor Method 82

Average 87

In the United States the average octane rating is shown on gasoline pumps. In other countries, if the method is not given, it is the Research Method. No-lead fuel leaves less combustion chamber deposits. Leaded gasoline may be used only if no-lead gasoline is not available.



**CAUTION:** Do not smoke when working near fuel.

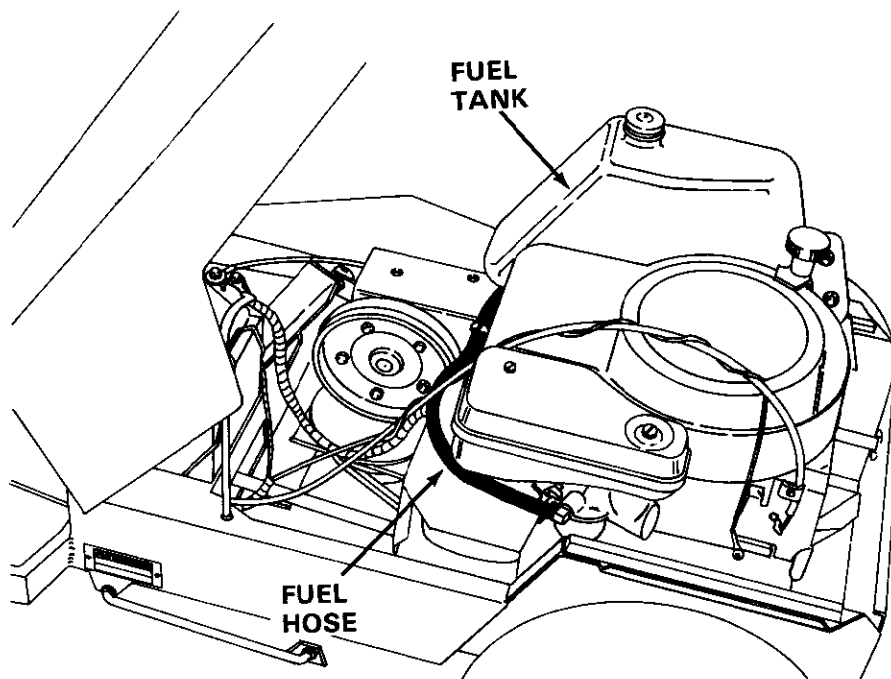


FIGURE 23

BATTERY CHARGER



POINTS AND  
CONDENSER COIL

**CAUTION:** Handle gasoline with care — it is highly flammable.



- a. Use approved gasoline container.
- b. Never remove the cap of the fuel tank or add gasoline to a running or hot engine, or fill the fuel tank indoors. Wipe up spilled gasoline.
- c. Open doors if the engine is run in the garage — exhaust fumes are dangerous. Do not run the engine (motor) indoors.



**CAUTION:** Never store the equipment with gasoline in the tank inside a building where fumes may reach an open flame or spark. Allow the engine to cool before storing in any enclosure.

Purchase gasoline in small quantities. Fresh gasoline reduces chance of gum deposits forming and clogging the fuel system and ensures a fuel blended for the season. Do not use gasoline left over from the previous season.

Do not add oil to the gasoline.

If a restriction of fuel occurs:

1. Clean the filter in the outlet of the fuel tank.
2. Clean the vent in the fill cap.
3. Check for fuel hose being routed higher than fuel in fuel tank.

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## ENGINE OIL

The importance of checking and changing crankcase oil cannot be overemphasized.  
**DIRTY OIL CAUSES PREMATURE ENGINE WEAR AND FAILURE.**

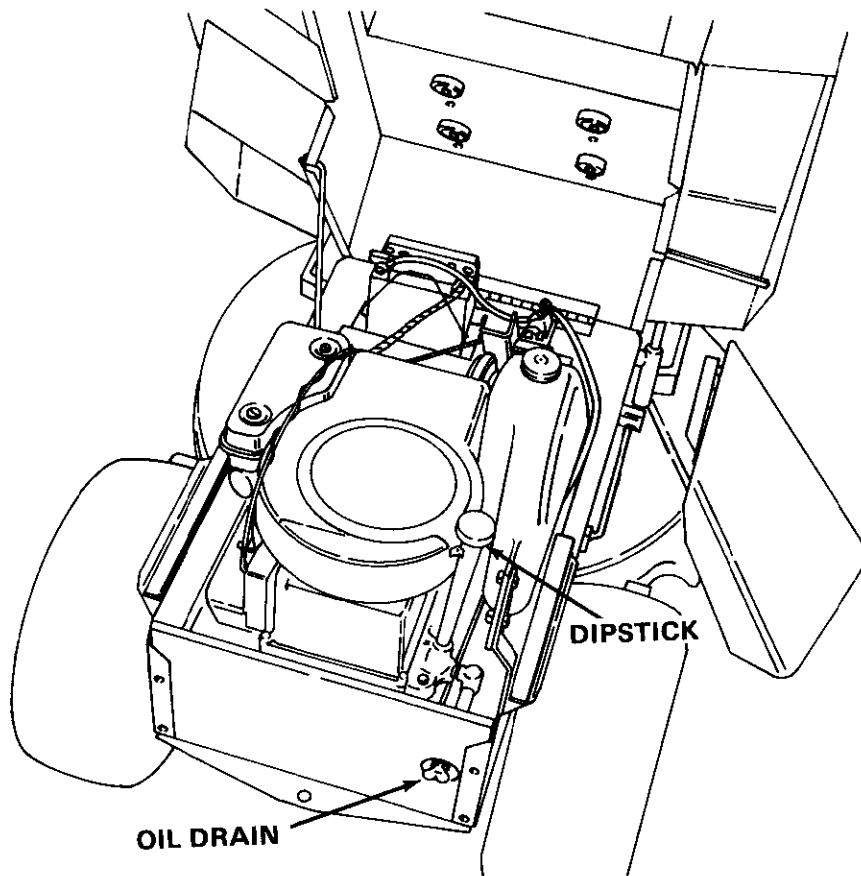


FIGURE 24

### OIL LEVEL CHECK

Check the oil level in the engine crankcase **BEFORE EACH USE** when the engine is cool and the oil has drained back into pan.

- a. Position the tractor (engine) on a level surface when checking the oil. Stop the engine.

BATTERY CHARGER

POINTS AND  
CONDENSER COIL

**IMPORTANT:** Always check the oil level when the engine is stopped. Do not remove the dipstick while the engine is running. Oil will be forced out the dipstick opening if the dipstick is removed while the engine is running.

- b. Before checking the oil level wipe the area clean around the dipstick to prevent dirt from entering the engine.
- c. Remove the dipstick and wipe the oil off.
- d. Install the dipstick.
- e. Remove the dipstick and read the oil level.
- f. Add oil through the dipstick opening if necessary to bring the oil level up to, but not over, the "F" mark on the dipstick.

**IMPORTANT:** Do not operate engine with oil level below the "L" mark or over the "F" mark.

#### OIL TYPE

Use oil meeting the requirements of API service class SC, SD, SE or SF. Select oil viscosity based on the air temperature at the time of operation, as shown.

##### AIR TEMPERATURE

Above 32°F (0°C)

Below 32°F (0°C)

##### OIL VISCOSITY

SAE-30

SAE 5W-20 or SAE 5W-30

Avoid using multi-viscosity oil above 32°F (0° C). The use of multi-viscosity oil above 32°F (0°C) causes increased oil consumption and combustion deposits.

**IMPORTANT:** Do not use oil additives or viscosity improvers. These products are not formulated for air cooled engines and will solidify, causing engine failure.

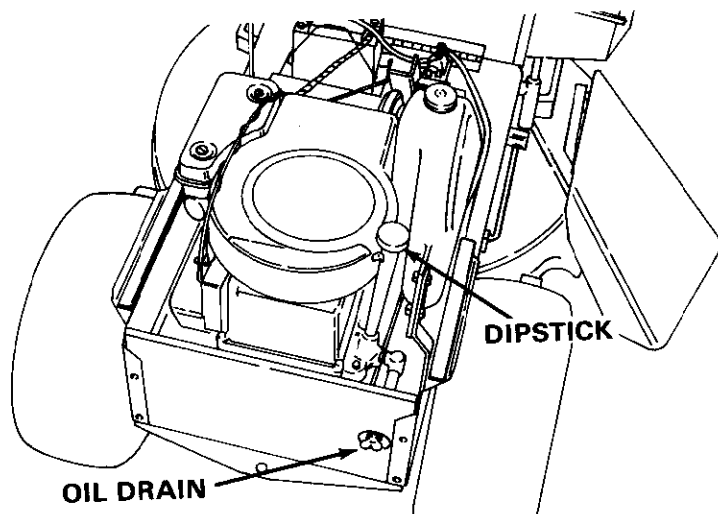


FIGURE 25

## OIL CHANGE

### FIRST CHANGE

Change the oil after the first 5 HOURS of operation when your engine is new.

### REGULAR CHANGE

Change the oil at every 25 HOUR interval of operation or sooner if the oil becomes discolored. CHANGE OIL MORE FREQUENTLY UNDER DIRTY, DUSTY CONDITIONS. (Most lawn and garden tractor working conditions are considered dirty and/or dusty.)

### OIL CHANGE PROCEDURE

1. Position tractor on a level surface.
2. Drain oil while engine is still warm from operation. Warm oil will flow more freely and carry away more impurities.
3. Install the drain plug.
4. Fill with the proper oil. See the OIL TYPE section of this manual.

Fill through the dipstick opening to the "F" mark on the dipstick.

**NOTE:** Tractor (engine) MUST be level when checking or changing the oil.

**IMPORTANT:** Do not operate the engine with oil level below "L" mark or above the "F" mark.



## ENGINE COOLING SYSTEM

The engine cooling air intake screen must be kept clean and unobstructed at all times.

Check the engine cooling air intake screen **DAILY** before operation and frequently during use.

If debris builds up on the screen during engine operation, **STOP** engine immediately and clean the debris off.

An obstructed screen can cause the engine to overheat and fail prematurely.

Remove the cooling shrouds and clean the cooling fins every 50 HOURS of operation (more often in extremely dusty conditions). Clean the external surfaces of your engine of dust, dirt and oil which can restrict cooling.

Reinstall the cooling shrouds before operating the engine. Operating the engine without the cooling shrouds in place can cause overheating and damage to the engine.

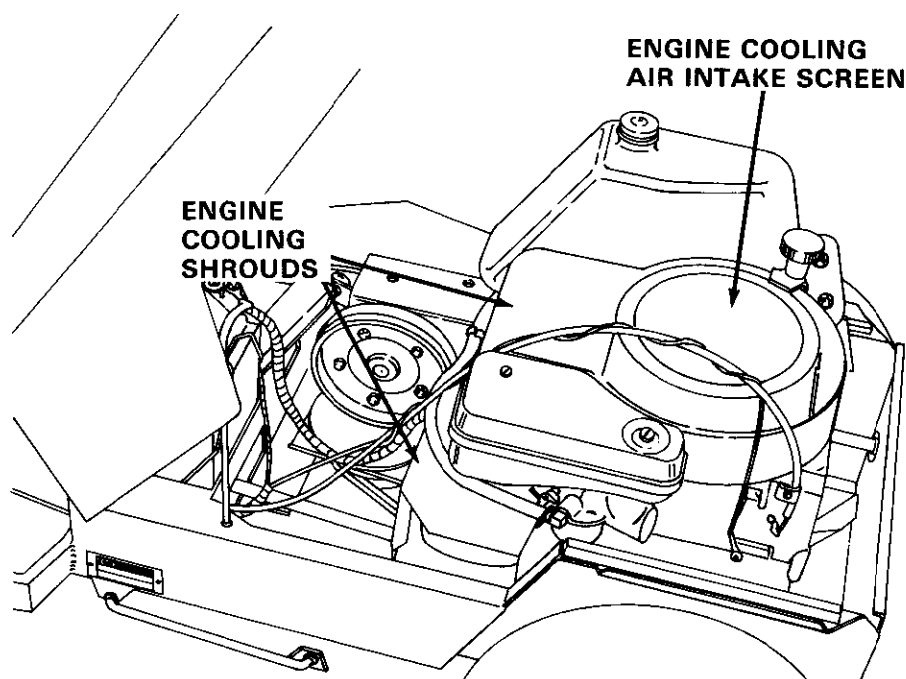


FIGURE 26

W  
(us

## ENGINE CYLINDER HEAD SERVICE

The cylinder head must be removed and the buildup of carbon and other deposits must be cleaned periodically to prevent premature engine wear. This must be done after each 100 HOURS of operation if leaded gasoline is used and after each 200 HOURS of operation if unleaded gasoline is used. Have this service done by an authorized dealer.

ENGINE CYLINDER HEAD  
(Located Under Cooling Shroud)

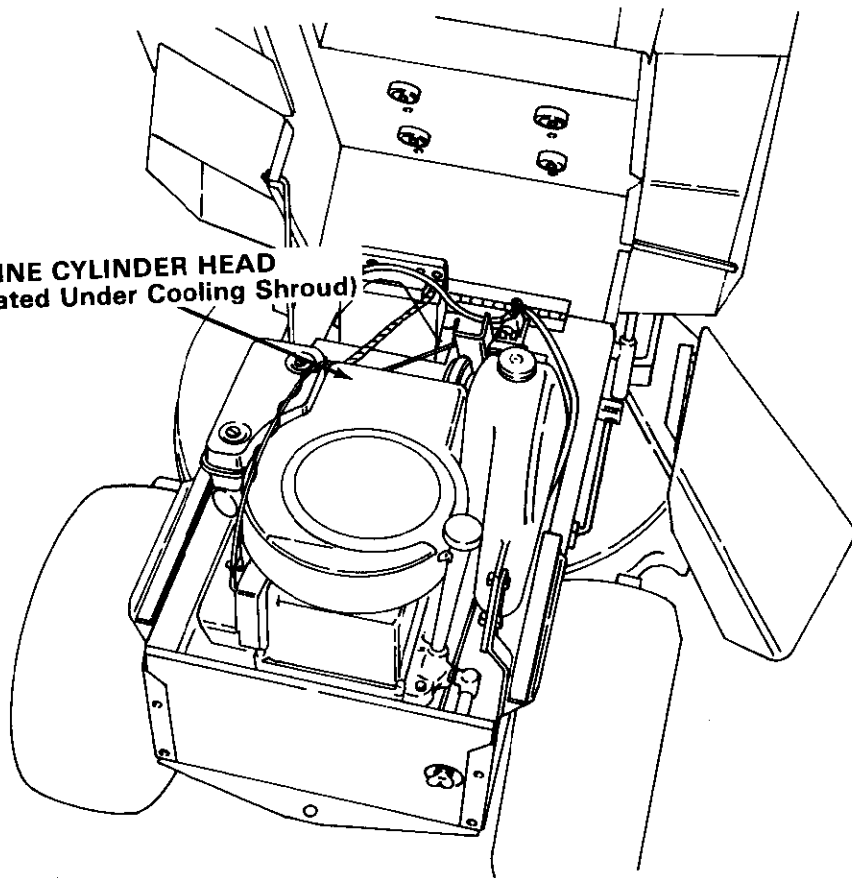


FIGURE 27

## THROTTLE AND CHOKE CABLE

Oil the cable with penetrating oil and/or light weight motor oil after each 50 HOURS of use. Do not oil the pivot at the handle as this will reduce the ability of the cable to hold its proper setting.

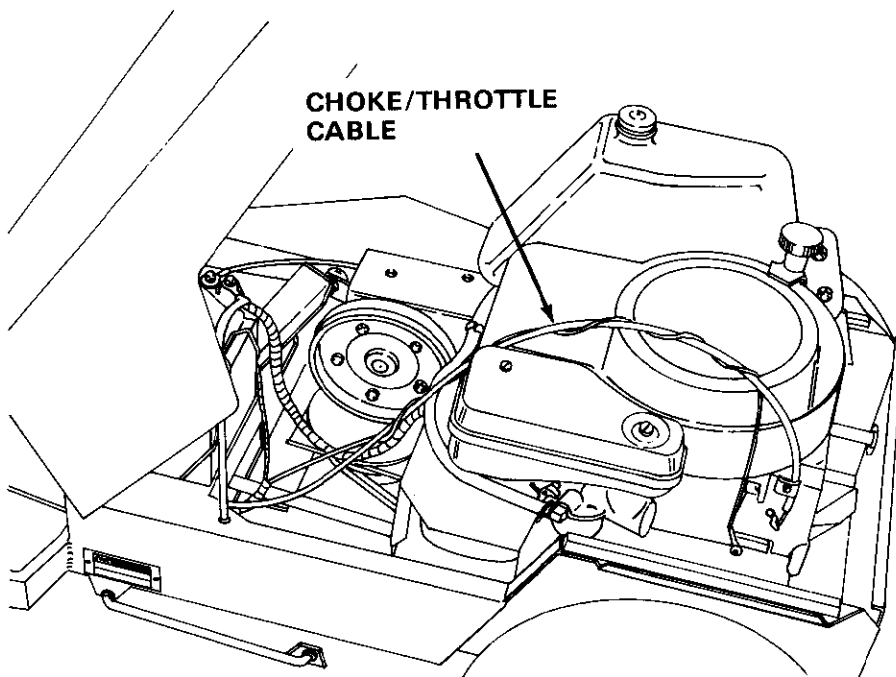


FIGURE 28

## TOE-IN ADJUSTMENT

1. Put the mower on a hard and level surface like a concrete floor.
2. Make sure the front tires have equal air pressure.
3. Find the centerline of the front tires. See the figure below.
4. If you can not fine the centerline:

- a. raise the front wheels off the ground
- b. spin each wheel and put a mark at the centerline with chalk

5. Measure the distance between each centerline or chalk mark.

Measurement "A" must be  $1/8$  to  $3/8$ " (3.2 mm to 9.5 mm) less than measurement "B".

Both measurements, front and rear, must be taken at spindle height above the floor.

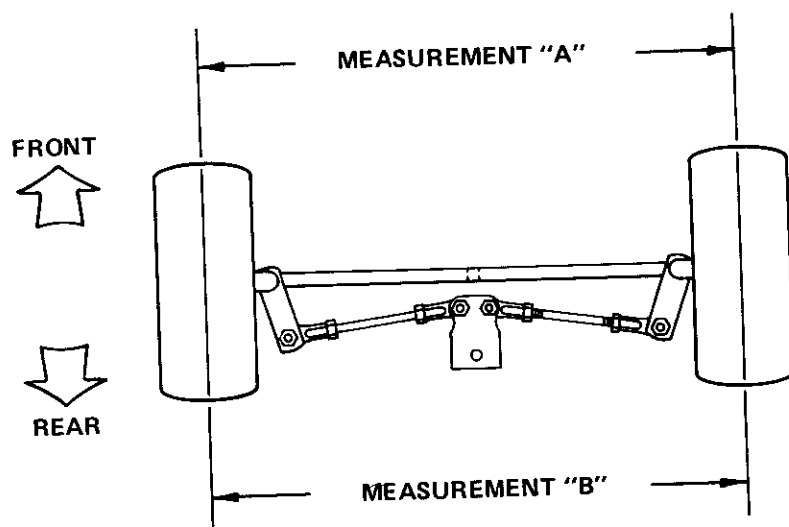


FIGURE 29 AS VIEWED FROM THE BOTTOM

6. Loosen both lock nuts on each drag link and turn links equally.

**NOTE:** Do not remove the ball joints. Turn the drag link to change the toe-in.

7. Turn the ball joints off of drag link to increase the toe-in.
8. Turn the ball joints onto the drag link, to decrease the toe-in.
9. Tighten lock nuts.

## SEAT

### ADJUSTMENT

1. Remove the four bolts that hold the seat to the engine enclosure.
2. Move the seat either forward or rearward to get the correct position on the engine enclosure.
3. Install the bolts.

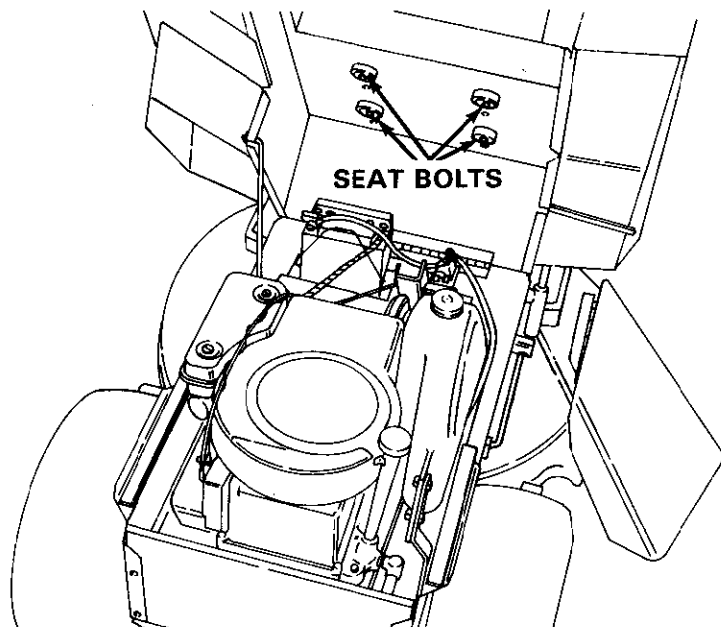


FIGURE 30

### MAINTENANCE

1. Clean the seat regularly. Use a special vinyl cleaner. Do not use a solvent as this will damage the seat.
2. Severe heat or cold can damage the seat. Protection from these conditions is important. Put a cover on the seat for protection against weather conditions and water. It is best to put the Riding Lawn Mower in a building when not in use.
3. During operation in severe weather conditions, you can easily damage the seat. Be careful while you get on and off the Riding Lawn Mower.
4. If your seat gets a small tear, apply a vinyl repair tape over the damaged area. Vinyl repair tape can be purchased locally.

## FRICION DRIVE WHEEL REPLACEMENT

1. Raise engine enclosure. Prop open with support rod.
2. Remove five (5) capscrews securing drive wheel to hub.
3. Install new drive wheel using new capscrews and self locking nuts.



**CAUTION:** Move attachment drive clutch lever in OFF position, shut off engine, allow engine to cool, remove key and spark plug wire before making adjustments to or servicing the Riding Lawn Mower.

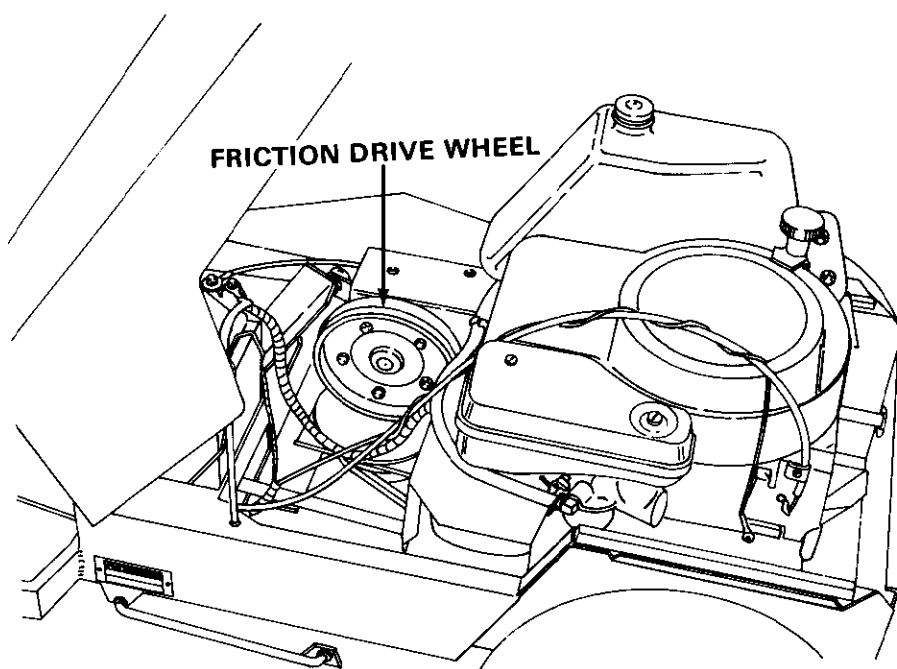


FIGURE 31

## ADJUSTING THE CLUTCH LINK

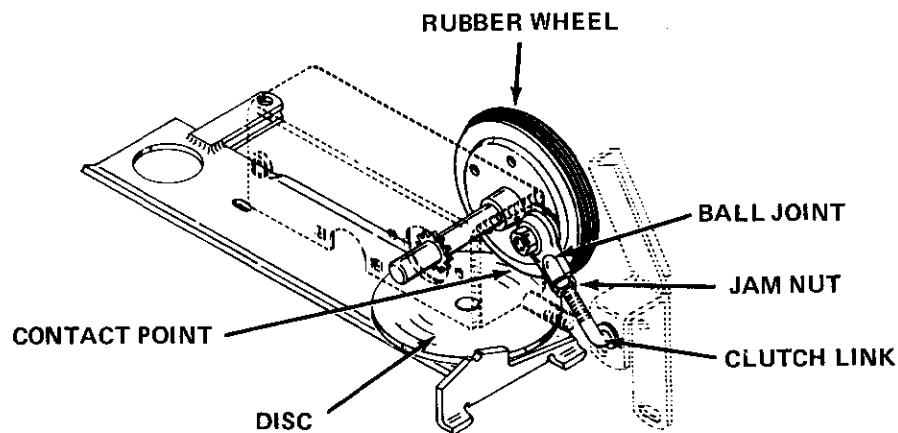


FIGURE 32

Ease of shifting and proper drive wheel engagement are controlled by the clutch link.

Correct adjustment exists when the:

- a. rubber drive wheel is in contact with disc when clutch-brake pedal is released and clutch link is free (that is under neither tension nor compression) and
- b. rubber wheel lifts clear of disc with clutch-brake pedal depressed halfway. (The second half of pedal travel applies the brake.)

To adjust:

- a. loosen jam nut
- b. remove bolt securing ball joint to tab on sprocket housing
- c. turn ball joint as required
- d. install bolt and tighten jam nut

## DRIVE BELT REPLACEMENT

1. The mower and mower drive belt must be removed before attempting to replace the traction drive belt. Refer to "Mower Drive Belt Service" and "Deck Removal" sections of this manual.
2. After the mower drive belt has been removed, push idler arm in to remove tension from belt.
3. Slip old belt off pulleys and install new belt.



**CAUTION:** Be sure gasoline is thoroughly drained and battery removed as described in the "Storage" section of this manual before standing mower on end for storage or service.

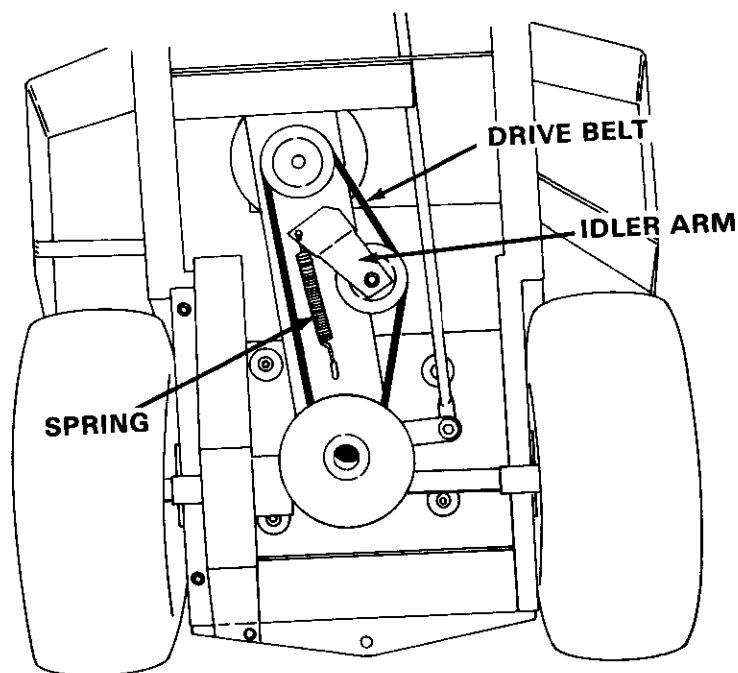


FIGURE 33 Mower Deck Removed for Clarity



## MOWER DRIVE BELT SERVICE

1. Place mower height selector in lowest position.
2. Approach mower from left side.
3. Place the mower drive lever in the OFF position. Slip belt off left side of mower drive pulley.
4. Place the mower drive lever in the ON position (this lifts belt-brake away from belt). Remove belt from right side of mower drive pulley.
5. Remove belt from engine pulley.
6. Reverse the above procedure for installation.



**CAUTION:** Move attachment drive clutch lever in OFF position, shut off engine, allow engine to cool, remove key and spark plug wire before making adjustments to or servicing the Riding Lawn Mower.

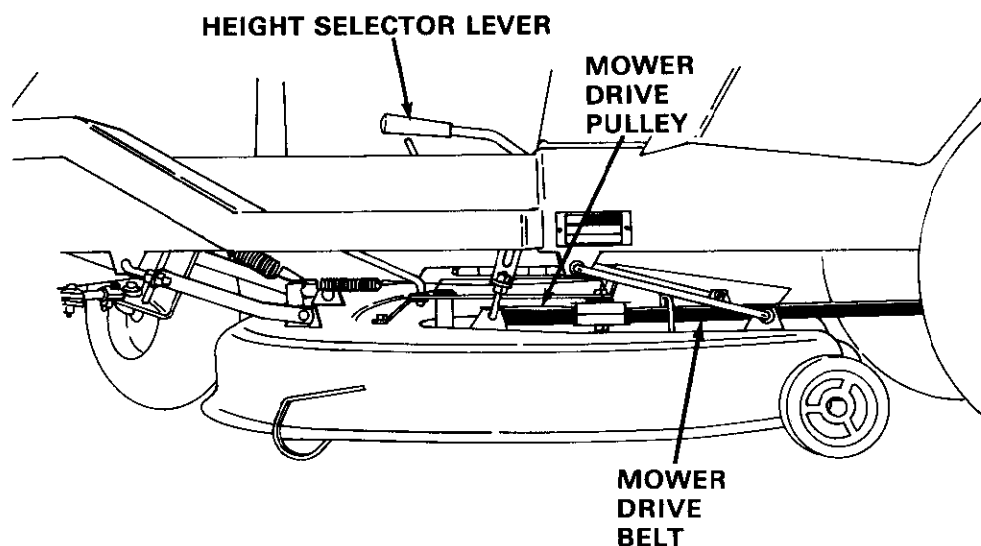


FIGURE 34

## MOWER DECK SERVICE

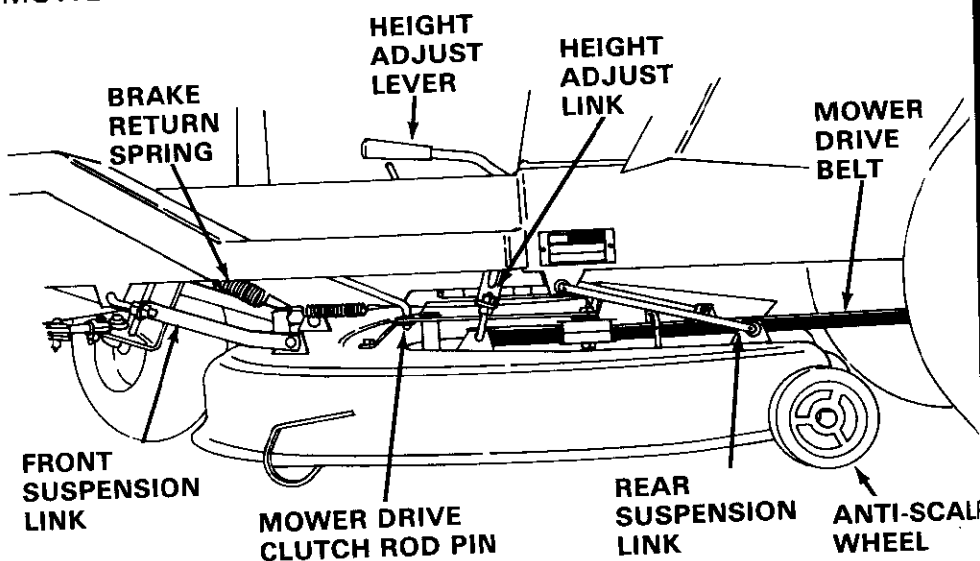


FIGURE 35

### DECK LEVELING PROCEDURE

#### 1. Side to Side Level

Position mower on level surface such as concrete garage floor. Adjust the air pressure in the tires to 8 psi (55 kPa).

- Set mower adjust lever in middle hole.
- Place mower drive lever in the OFF position.
- Position blade at right angles to the Riding Lawn Mower chassis.
- Turn Height-Adjust Link adjusting nuts until blade tips are the same height from the floor (about 2-1/2 inches (65 mm)).

#### 2. Fore-Aft Level

Position mower on level surface such as concrete garage floor. Follow Side to Side Level adjustments, above, first.

- Check to make sure that the mower drive lever is still in the OFF position and that the mower adjust lever is in the middle hole.
- Rotate the blade so it is parallel to the Riding Lawn Mower chassis.
- Turn the front suspension link adjustment nuts equally so the front tip of blade is:
  - 3/8" to 1/2" (10 mm to 12 mm) lower than rear if the Bagger is installed

- b. 1/4" to 3/8" (7 mm to 10 mm) lower than rear if NOT equipped with the Bagger.
- c. This adjustment should be made with operator's seat unoccupied and bagger (if so equipped) empty.
- d. Recheck side to side level as described and readjust if required.

## DECK REMOVAL

1. Place mower height adjust in lowest position.
2. Remove mower drive belt.
3. Remove front and rear suspension link and height adjust link cotter pin, left side first.
4. Remove mower drive clutch rod pin and brake return spring.
5. Remove right hand side suspension and height adjust link.
6. Remove deck from under mower chassis.

## CLEANING THE MOWER DECK

The deck should be cleaned periodically or the following can result:

1. bearing failure
2. loss of horsepower
3. plugging
4. corrosion
5. poor mowing appearance

To clean the deck:

1. Shut off engine and remove spark plug wire.
2. Remove grass wrappings from between spindle housing and blade mounting adaptor. (see figure 36)
3. Remove all other accumulation of grass from under the deck.



**WARNING:** Be sure that the mower drive lever is off, the engine is shut off, the key removed and the blade has stopped spinning before attempting to clean a plugged discharge chute.

## MOWER ANTI-SCALP WHEELS

Apply oil to anti-scalp wheels after each 50 HOURS operation. Make sure the oil penetrates to the inside of the bushings. Hold the deck at an angle while lubricating.

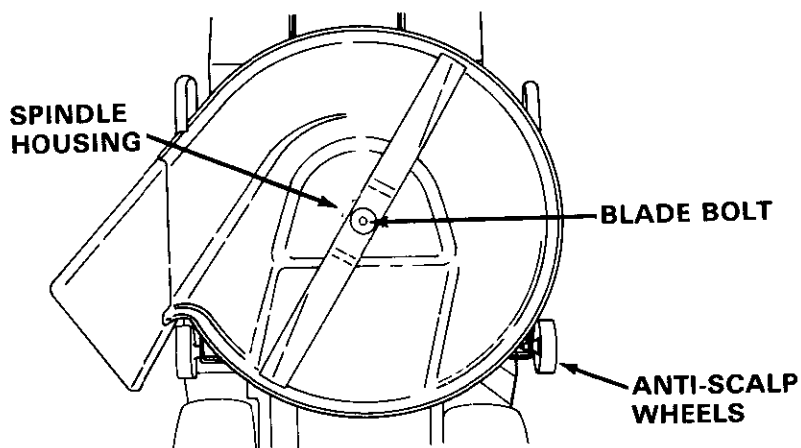


FIGURE 36



**CAUTION:** Keep the vehicle and attachments in good operating condition, and keep safety devices in place.

## MOWER BLADE BOLT

Before operating the mower for the first time, check the bolt holding the blade. It must be tight. After the first 8 hours of operation, check it again. Whenever the blade is removed, install a new lockwasher under the bolt, and again check tightness after the next 8 hours of operation.



**CAUTION:** Keep all nuts, bolts, and screws tight to be sure the equipment is in safe working condition.

## BENT BLADE

Check for a bent blade before mounting the mower and after hitting a foreign object. Blade tips should be within 1/4 inch (6 mm) of the same horizontal plane. Mowing with a bent blade will cause missed strips and a poor mowing job. A bent blade should be replaced immediately.



**CAUTION:** The vehicle and attachments should be stopped and inspected for damage after striking a foreign object, and the damage should be repaired before restarting and operating the equipment.

## SHARPENING BLADE

Shut off the engine and wait for all motion to stop. Remove the spark plug wire. Check the mower blade periodically for nicks and dullness. A damaged, dull or improperly sharpened blade can cause a shattered, rather than, clean cut. Brown areas of grass may develop.



**CAUTION:** Sharp mower blades. Wear gloves or wrap the mower blade with a rag when handling blades. Improper handling can cause cuts to the skin.



**CAUTION:** Move attachment drive clutch lever in OFF position, shut off engine, allow engine to cool, remove key and spark plug wire before making adjustments to or servicing the Riding Lawn Mower.

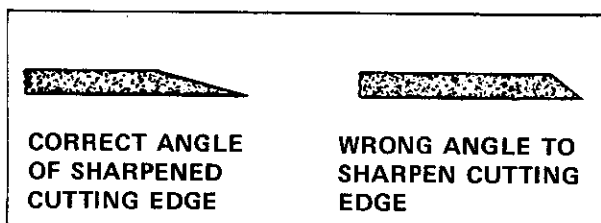


FIGURE 37

After a blade is sharpened always check it for balance. A balancing tool, such as shown, can be obtained from your local supplier. A balanced blade will level itself when placed on the balancing tool.

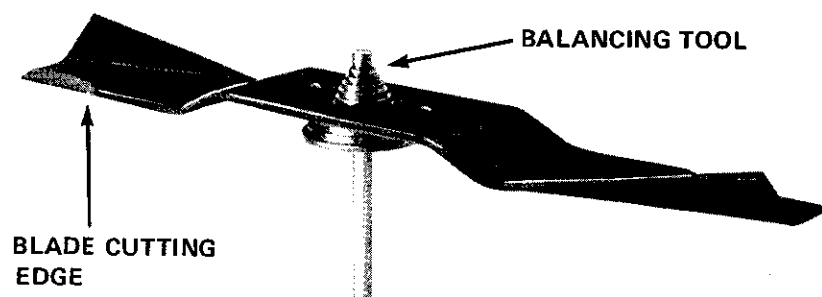


FIGURE 38



**CAUTION:** An unbalanced blade is hazardous and will cause premature wear and failure of bearings and spindle. If the blade cannot be balanced by resharpening, replace it with a new one.

## STORING THE RIDING LAWN MOWER

If your riding Lawn Mower will not be used for 30 days or more, the following storage procedures should be followed.

### ENGINE STORAGE

1. To prevent gum deposits from forming in the fuel system, completely drain fuel tank and run engine until gasoline in carburetor is completely consumed.
2. While engine is still warm, drain oil from crank case and refill with fresh oil. See Engine Lubrication page for proper type and weight.
3. Remove spark plug, pour 2 or 3 tablespoons (30 ml) of SAE 30 oil into cylinder and crank momentarily to distribute oil. Replace spark plug.
4. Clean dirt and chaff from cylinder head fins and blower housing.

### MOWER DECK

Clean grass accumulations from mower deck. See **CLEANING THE MOWER DECK** in **MOWER DECK SERVICE** section of this manual.

### BATTERY STORAGE

When your Riding Lawn Mower is put into storage the battery should be removed, cleaned and placed in a cool dry area.



**CAUTION:** When removing a battery, always disconnect the (-) negative ground cable first. When installing the battery, always connect the (-) negative ground cable last.

Reconnect the battery charging lead to the battery terminals after removal. Connect the red lead to the battery positive (+) terminal and the black lead to the battery negative (-) terminal. (Applies before P.I.N. 14030675)

The battery should then be recharged monthly as described under **BATTERY MAINTENANCE**. Under no conditions should the battery be allowed to stand with a specific gravity of 1.225 or less.

Recharge completely when battery is returned to service in the spring.

### LAWN MOWER CHASSIS

Thoroughly clean lawn mower chassis. Completely lubricate lawn mower as described in the Lubrication section of this manual.

The installation of a Bagger or Stand Up Kit will permit the Riding Lawn Mower to be stood on end.



**CAUTION:** Be sure gasoline is thoroughly drained and battery removed as described in the "Storage" section of this manual before standing mower on end for storage or service.

1. Be sure gasoline is thoroughly drained into an approved container to prevent leakage when mower is stood on end.
2. Be sure to **REMOVE BATTERY** before lifting. Tipping the battery on end will cause minute particles of sediment from the bottom of the battery to lodge between the cell plates and consequently ruin the battery. Warranty will not be allowed on this type of failure.
3. Care should be used when lifting the unit to avoid strain and physical injury. Be sure the unit is standing securely before working on it.
4. Reach under and lift by the front frame area and **NOT THE FRONT RUBBER BUMPER**.
5. Attach a cord or chain between the upper part of the Lawn Mower Chassis and the wall or ceiling. This will prevent the unit from falling if it is accidentally pushed or bumped.

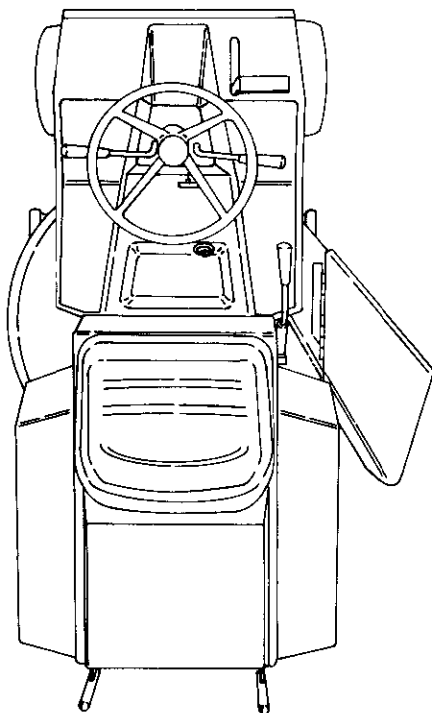


FIGURE 39 Shown in Storage Position

## CHASSIS LUBRICATION

Apply grease after every 25 HOURS of operation to the:

- a. front wheel bearings

**NOTE:** Remove dust caps from front wheel hubs before greasing front wheel bearings. The trapped air behind the dust caps can prevent the full lubrication of the bearings.

- b. transmission pivot support plate
- c. steering gear

Use number 1 multi-purpose grease (Lithium Base) to all lubrication fittings. Use as many strokes as required, until you see grease pushing out of assembly.

Always wipe dirt from fitting before applying the grease gun.

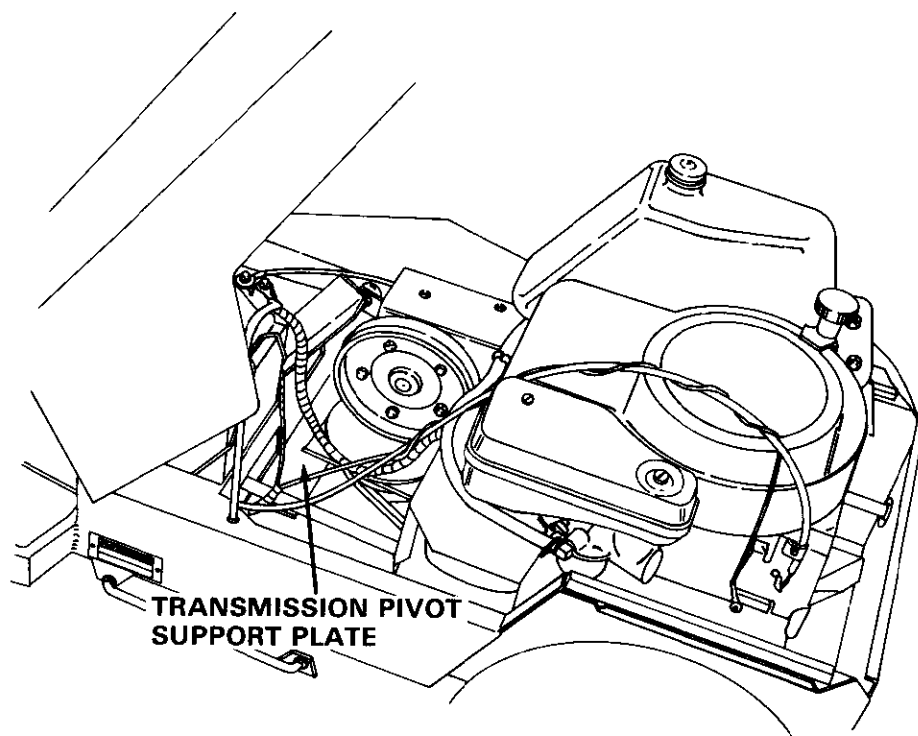
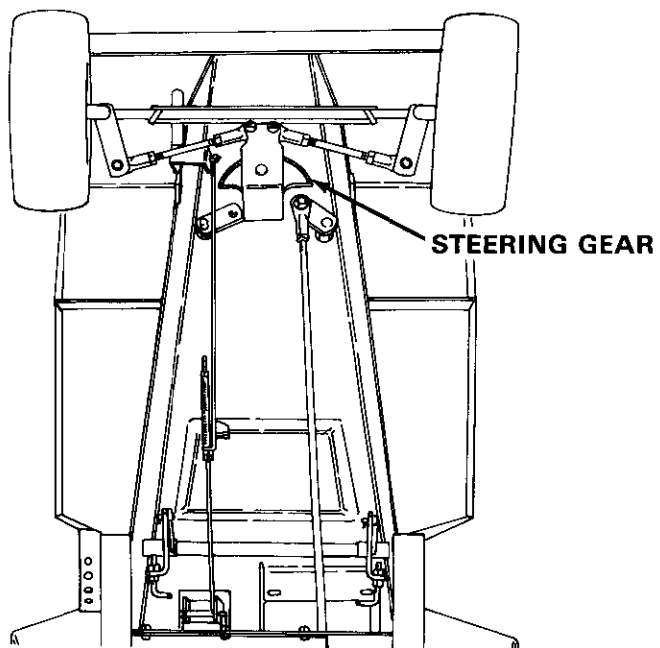
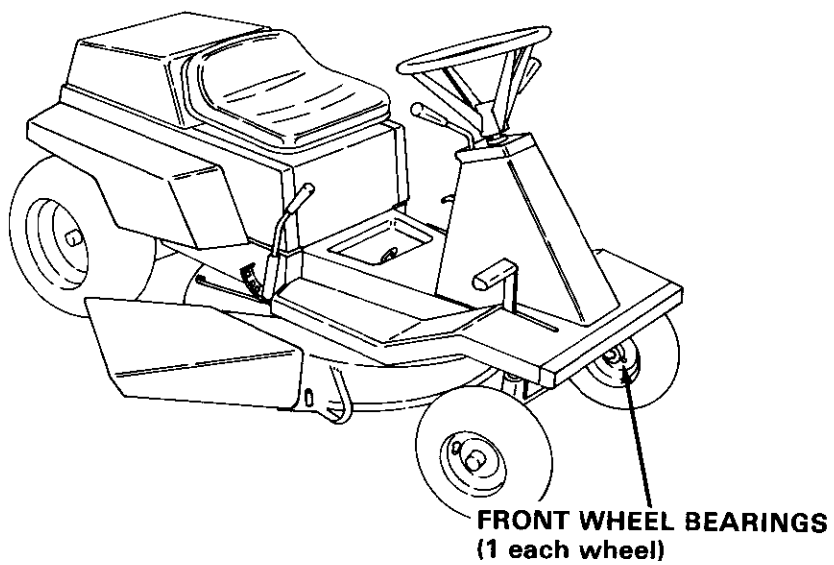


FIGURE 40





**FIGURE 41**



**FIGURE 42**

Apply oil after every 50 HOURS of operation to the:

- a. pivot points on mower height adjustment lever
- b. travel control lever and linkage
- c. sprocket housing pivot
- d. mower drive clutch linkage
- e. brake linkage
- f. front spindles (king pin)
- g. chain
- h. rear axle bearings
- i. steering shaft

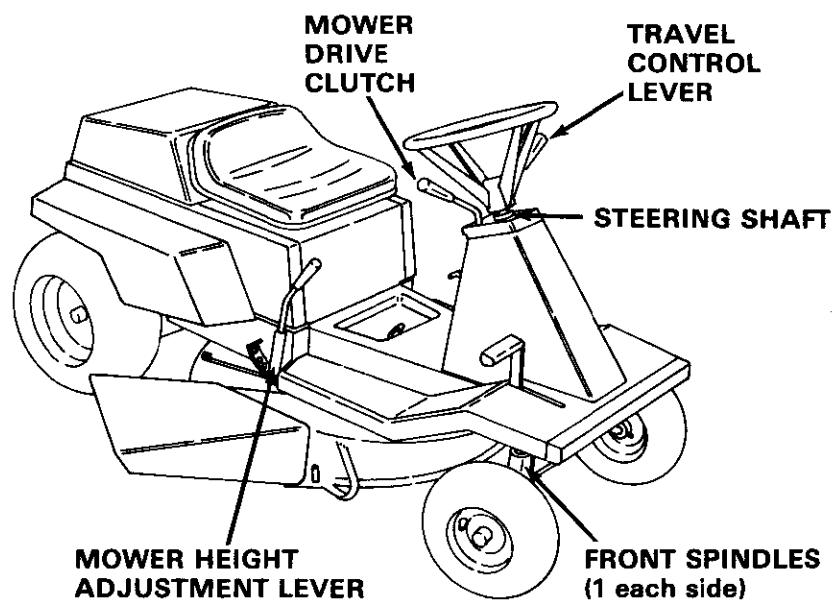


FIGURE 43

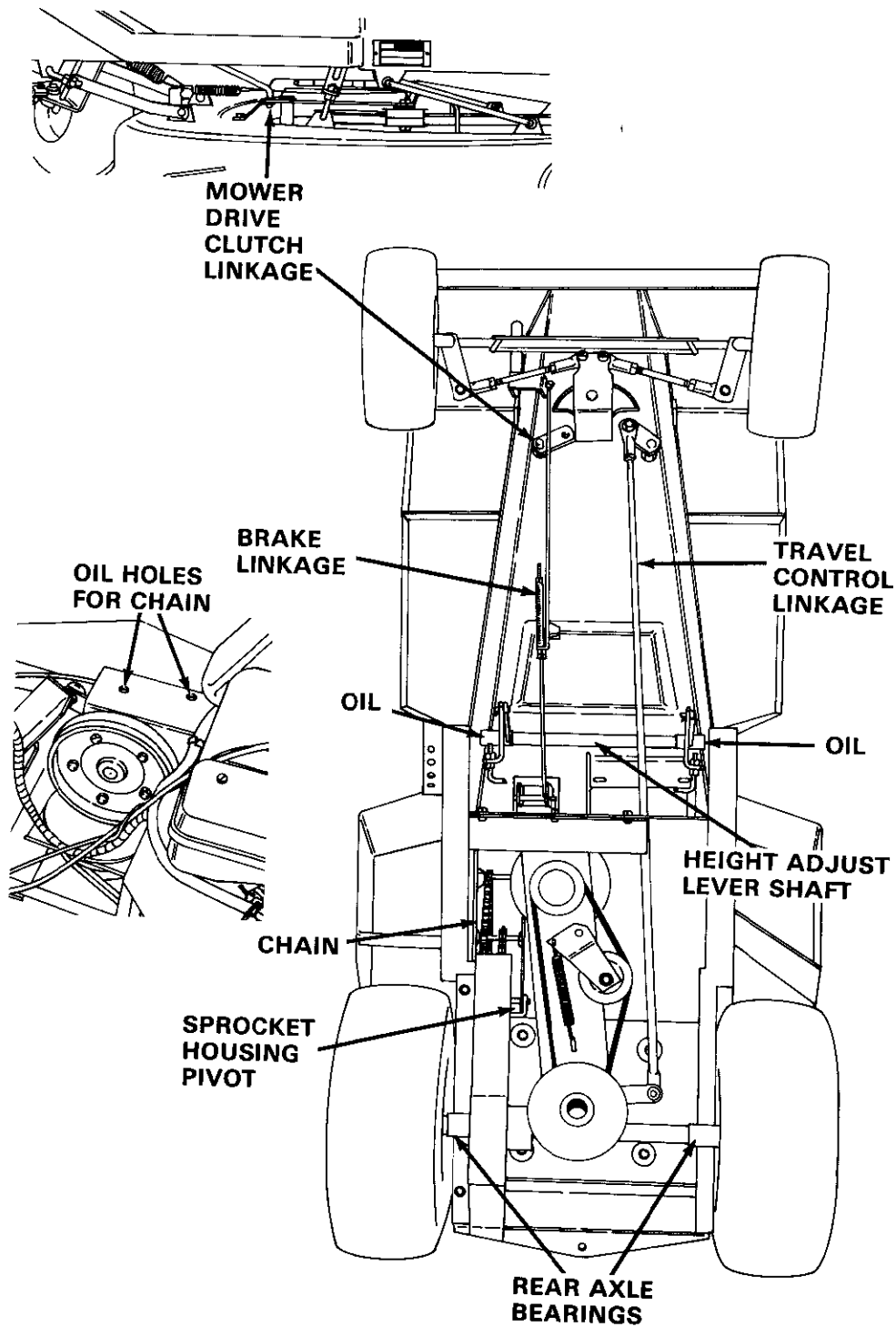


FIGURE 44

## MANUAL ORDERING PROCEDURE

1. Fill in your complete address (include street no.).
2. Fill in tractor serial number and model number (attachment model number also required for attachment manual orders).
3. Select manuals needed from manual list.
4. Fill in order form. Give:
  - a. equipment description (tractor, mower, etc.)
  - b. manual type (parts, service, operator's manual)
  - c. cost
  - d. quantity of each manual
5. Add up the total cost.
6. Include shipping and handling costs.
7. Send the order form and a check for the total cost to:

Ingersoll Service Parts  
P.O. Box 2262, Oshkosh, WI 54903  
Att: Literature Dept.

These manuals are available from the J I Case Co.:

- a. Parts Manual (includes part numbers and exploded views of your equipment assemblies).
- b. Operator's Manual (includes specifications, operating procedures and maintenance procedures for your equipment).
- c. Service Manual (includes repair procedures for your tractor).

### MANUAL LIST

DESCRIPTION	MANUAL TYPE & COST		
	PARTS MANUAL	OPERATOR'S MANUAL	SERVICE MANUAL
Riding Lawn Mower	\$2.50	\$2.00	\$10.00
Bagger	included w/mower	\$1.00	N/A
Thatcher	included w/mower	\$1.00	N/A
Sweeper	\$1.00	\$1.00	N/A
Other	Please contact us for information.		

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