210 TRACTOR
P.I.N. 9760975 and after
Operator’s Manual No. 9-7060

Written in Clear And Simple English
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.

751253

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 first 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 Lawn and Garden Tractor.

* Rule Number 24, which does not apply to this product, has been omitted.

Separate Operator's Manuals are provided with the attachments purchased with your tractor. Refer to the appropriate attachment operators manual for specific operating instructions and safety messages that apply to the attachment.

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. (This ANSI rule modified)

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 overspeed 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 unloading 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 attachment 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 wear loose clothing which may catch in moving parts.

CAUTION: Do not smoke when working near fuel.

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

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

CAUTION: Keep all shields in place.
Before leaving operator's position:
Shift transmission to neutral.
Set parking brake.
Disengage attachment drive clutch.
Shut off engine.
Remove ignition key.
Wait for all movement to stop before servicing machine.
Keep people and pets a safe distance away from machine.

CAUTION: Place the transmission in neutral, set the parking brake and stop the engine before standing between the tractor and attachment when hitching.

CAUTION: If necessary to move tractor on a trailer, always back up onto the trailer and drive off of trailer.
Become thoroughly familiar with all tractor and attachment controls before operating.

WARNING: Improper operation of your tractor 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.

CAUTION: When adjusting steering wheel free play make certain that some free play remains between the sector gear and pinion gear, since a tight fit, with no clearance between the two gears may cause binding and tooth failure.

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

CAUTION: Storage areas for batteries must be well ventilated to prevent accumulation of hydrogen gas from newly recharged batteries.
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.

WARNING: To jump start this machine, connect positive jumper cable to battery terminal on starter solenoid and connect negative jumper cable to good engine ground. Start engine only when seated in operator’s seat. Stop engine before leaving machine. Disconnect jumper cables. Any other method could result in uncontrolled machine movement.

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.
WARNING: Improper operation of your tractor 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 tractor 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 tractor correctly. Know your tractor's limitations.

3. Knowing the terrain on which you are operating your tractor. There are terrain conditions on which your tractor cannot be operated.

4. Learning to expect changes in operating conditions. Adding or removing attachments or weight to your tractor will make your tractor 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 tractor.

Case Lawn and Garden Tractors are designed and built to comply with the Voluntary Standard ANSI B71.1-1972 and B71.1a-1974 (American National Standards Institute).

The diagram depicts the maximum angles that the stationary tractor, less mounted equipment, was subjected to without tipping, measured on a perfectly flat, smooth, and hard surface. This illustration does not recommend safe operating limits as the slope, type of terrain and all applicable factors as discussed in this manual must be taken into consideration by any person whenever operating the tractor.

THE OPERATOR IS THE SOLE JUDGE AS TO THE DEGREE OF SLOPE ON WHICH THIS TRACTOR CAN BE SAFELY OPERATED. IF IN DOUBT THAT THIS TRACTOR 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 tractor and in the operator's manuals. These **must** be understood by the tractor operator to be of value. Be sure that these messages are studied before starting and/or operating the tractor by an operator not familiar with this particular tractor.

Learn to Operate:

Learn your tractor's controls from decals on the tractor 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 tractor's 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 tractor'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 tractor 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 tractor at a ground speed slow enough to insure complete control at all times.

Place the transmission in low range and 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 tractor on slopes or hillsides.

You may encounter some terrain on which your tractor 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 or ballast (such as wheel weights or fluid) change the weight and weight distribution of your tractor and, therefore, change your tractors operating characteristics.

  Be alert to these changes. Practice, operating the tractor after each change has been made.

- Adding an attachment (weight) to the rear of the tractor reduces the weight on the front axle. Adding an attachment (weight) to the front of the tractor reduces weight on the rear of the tractor. You must add counterweight to the front if a rear mounted attachment is installed. You must add counterweight to the rear if a front mounted attachment is installed.

  Tractive conditions will vary with weather and terrain and equipment.

- Areas wet with dew, rain or snow 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 tractor sideways. The addition of tire chains will provide more traction to the rear wheels in the forward-reverse direction but less stability in the sideways direction. Chains will cause more abrupt starting and stopping.

The final word in safe tractor operation rests on your judgement.

If in doubt of your safety - **STAY OFF THE SLOPE**.
FIGURE 1 Left Hand View of Case 210 Compact Tractor

FIGURE 2 Right Hand View of Case 210 Compact Tractor
TO THE OWNER OF A CASE TRACTOR

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:

1. Tractor Model Number
2. Product Identification Number (P.I.N.)
3. Engine Serial Number
4. Engine Model Number
5. Engine Specification Number

For reference, write the numbers on the lines below:

Tractor Model Number

Tractor Product Identification Number (P.I.N.)

Engine Model Number

Engine Serial Number

Engine Specification Number

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.
OVERALL MEASUREMENTS

A 66" (1680 mm) — overall length
B 46" (1170 mm) — wheel base
C 40" (1020 mm) — overall height
D 35-1/2" (900 mm) — hood height - rear
E 7-1/8" (180 mm) — minimum ground clearance at gear case
27-3/4" (700 mm) — rear wheel tread
28-3/4" (730 mm) — front wheel tread
37" (940 mm) — overall width
655 lbs. (297 kg) — shipping weight

FIGURE 5
ENGINE SPECIFICATIONS

GENERAL

Type ........................................ Kohler
Model ....................................... K241AS
Cycle ........................................ 4
Cylinders ................................... 1
Cylinder Bore ............................... 3-1/4 in. (82.6 mm)
Stroke ....................................... 2-7/8 in. (73.0 mm)
Piston Displacement ...................... 23.9 cu. in. (392 cm³)
Horsepower .................................. 10 HP (7.46 kw)
Compression Ratio ...................... 6 to 1
Full Load Speed ........................... 3500 RPM
No Load Speed ............................. 3600 RPM
Idle Speed .................................. 1000 RPM
Valve Clearance Cold (Intake) .......... .010 in. (0.25 mm)
Valve Clearance Cold (Exhaust) ........ .020 in. (0.50 mm)

PISTON AND CONNECTING ROD

Piston ....................................... Aluminum
Compression Rings ...................... 2
Oil Rings ................................... 1
Connecting Rod .......................... Aluminum

FUEL SYSTEM

Carburetor .................................. 1” SAE Flange (25.4 mm)
Filter Screen ............................. In fuel tank outlet fitting
Fuel Tank Capacity ....................... 3 Galons (11.4 L)

IGNITION SYSTEM

Contact Point Gap ......................... .020” (0.50 mm)
Ignition Timing .......................... 5 mark 20 degrees before TDC
Spark Plug ................................. Prestolite 14L7 or equivalent
........................................ Prestolite 14RL7 or equivalent
........................................ in Canada
Thread ..................................... 14MM
Gap ......................................... .025” (0.64 mm)

COOLING SYSTEM

Flywheel Blower .......................... Air cooled with baffles that send the
........................................ air around fins on the cylinder and
cylinder head area.
GENERAL SPECIFICATIONS

ELECTRICAL SYSTEM
Type of System
Battery
Headlights
Starter
Flywheel Alternator
12 Volt, Negative Ground
Case, 24 Ampere Hour at 20 Hour Rate
12 Volt
12 Volt, Gear Drive
12 Volt, 15 Ampere

BRAKE
Type
Mechanical compression band. The brake drum is driven by the transmission differential. Includes a parking brake lock.

TRANSAXLE
Type
Peerless Model No. 2326
Differential
Standard Bevel Gear
Oil Capacity
3 Pints (1.4 l)

SPEED RANGE

<table>
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<th>Forward</th>
<th>MPH</th>
<th>Km/h</th>
<th>Reverse</th>
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<tr>
<td>1st</td>
<td>1.12</td>
<td>1.80</td>
<td>R</td>
</tr>
<tr>
<td>2nd</td>
<td>3.32</td>
<td>5.34</td>
<td>4.57 MPH</td>
</tr>
<tr>
<td>3rd</td>
<td>5.95</td>
<td>9.57</td>
<td>(7.35 Km/H)</td>
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<td>4th</td>
<td>8.76</td>
<td>14.06</td>
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WHEELS & TIRES

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<th>PLY</th>
<th>TYPE</th>
<th>Recommended Pressure</th>
<th>Max. Pressure</th>
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<td>PSI (kilopascal)</td>
<td>PSI (kilopascal)</td>
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<td>6.50-8</td>
<td>2</td>
<td>Front</td>
<td>8 (55 kPa)</td>
<td>14 (96 kPa)</td>
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<td>8.50-12</td>
<td>2</td>
<td>Transport Rear Traction</td>
<td>8 (55 kPa)</td>
<td>10 (69 kPa)</td>
</tr>
</tbody>
</table>

- 5 -
FUEL SPECIFICATIONS

FIGURE 6

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.

CAUTION: Do not smoke when working near fuel.
GASOLINE

Clean gasoline is important for correct carburetion in small engines. Always use clean gasoline and a funnel with a filter.

If a restriction of fuel occurs, clean the filter in the outlet of the fuel tank.

Do not use a mixture of oil and gasoline in this engine.

Engines used in Case tractors can operate on Regular or Unleaded gasoline with the minimum octane ratings as follows:

<table>
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<th>Method</th>
<th>Octane Number</th>
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<tr>
<td>Research</td>
<td>90.7</td>
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<tr>
<td>Motor</td>
<td>82</td>
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<tr>
<td>Average</td>
<td>86</td>
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</table>

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.
# LUBRICATION CHART

<table>
<thead>
<tr>
<th>SERVICENUM</th>
<th>SERVICE POINTS</th>
<th>NO. OF POINTS</th>
<th>GREASE</th>
<th>DRAIN</th>
<th>CHECK</th>
<th>CLEAN</th>
<th>CHANGE</th>
<th>OIL (Some Drained)</th>
<th>FREQUENCY</th>
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<td>1</td>
<td>Front Spindles (king pins)</td>
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<td>Front Wheel Bearings</td>
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<td>Engine Oil*</td>
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<td>Blower Air Intake Screen</td>
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<td>Air Leaks**</td>
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<td>Front Axle Pivot Pin</td>
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<td>Implement Lever, Brake Linkage</td>
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* Keep oil level between marks on dipstick. See page 10 for engine lubrication recommendations. Capacity 3 pints (1.9 l).

** Make sure there are no leaks between gaskets, joints at carburetor, air cleaner and cylinder.

*** More often in severe conditions.

Clean and set the gap.

**** Remove cylinder head and clean combustion deposits every 250 hours of yearly. Period may be extended to 500 hours if unleaded fuel is used exclusively.

Grease Fittings: Use number 1 grease (Lithium Base) for all lubrication fittings (as many strokes as required).
ENGINE LUBRICATION

SELECTION OF OIL

It is important that you use a detergent oil with high quality. Use oil with an API service classification of "SE" or "CC". Case "HDM" oil has this classification.

OIL SAE VISCOSITY RATING

SAE 30 Or 20W40________ Air temperature 30°F (-1°C) or more
SAE 10W30___________ Air temperature 0°F (-18°C) to 30°F (-1°C)
SAE 5W20___________ Air temperature 0°F (-18°C) or less

OIL CHANGE

Change the engine oil at every 25 hour interval of operation. Run the engine before you change the oil. Hot oil will flow more freely and carry away more foreign material.

Change the engine oil more frequently if you:

1. Start and stop many times during operation.
2. Operate during severe temperatures (high or low).

Foreign material will occur faster in the engine crankcase during the above conditions.

IMPORTANT

1. When you drain all the old oil from the engine crankcase. Fill with 4 pints (1.9 l) of recommended oil.
2. Run the engine for five minutes.
3. Stop the engine.
4. After the oil has run off the internal engine parts check the oil with the dipstick. This will prevent too much or too little oil in the crankcase. Too much or too little oil can cause:
   a. engine damage
   b. wrong records of the use of oil

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

OPERATING CONTROLS AND INSTRUMENTS

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.

2. CHOKE

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

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

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

ENGINE LOW IDLE: Pull the throttle lever rearward. Put the throttle in the “SLOW” position when starting and when stopping the engine. This permits a warming and and cooling period.

TO INCREASE ENGINE SPEED: Push the throttle lever forward 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.

4. GEAR SHIFT LEVER

TO SELECT GEAR: Push the clutch/brake pedal fully down. Stop the tractor completely.

Move the gear shift lever to the needed gear. (The gear shift pattern is on the decal on the control tower.)

Slowly release the clutch/brake pedal.

First gear is for the slowest speed and the most power. The speed increases and the power decreases with higher gears.

IMPORTANT: You must stop the tractor completely before you move the gear shift lever. Fully engage the gear shift lever to prevent gear damage.

5. CLUTCH/BRAKE PEDAL

TO DISENGAGE: Push the clutch/brake pedal approximately half of full travel. This movement will actuate the clutch and permit you to change the shift lever position.

TO ENGAGE: After the gear shift is fully engaged, slowly release the clutch/brake pedal.

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

6. PARKING BRAKE LOCK

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

Push down on the parking brake lock. Engage one of the notches with the bottom of the slot.

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

A spring will disengage the parking brake lock.
7. HEADLIGHTS

TO ILLUMINATE: Turn the key to the "LIGHTS" position after the engine is started.

If you use the lights while the engine is off or at low idle, the battery will discharge.

TO TURN OFF: Turn the key from the "LIGHTS" position.

8. AMMETER

The ammeter indicates the rate of current flowing to the battery. The ammeter reading will be high when the battery voltage is low. When the engine is cranked, the reading will also be high.

The ammeter reading will gradually go back to zero as the battery voltage increases.

Stop the tractor and have the cause corrected if:

a. The ammeter remains at "0" when the battery voltage is low.

b. If the ammeter continues to give a high reading.

9. MANUAL ATTACHMENT LIFT LEVER

TO LIFT: Pull the lever rearward until the lever engages the latch.

TO LOWER: Pull the lever rearward a small amount to decrease the tension on the latch. Push the button on top of the lever to disengage the latch.

Push the lever forward.
10. ATTACHMENT DRIVE LEVER

TO ENGAGE: Push the lever forward until it is fully engaged.

TO DISENGAGE: Pull the lever rearward.

A neutral start switch is actuated by the attachment drive lever. The lever must be in the rear position (disengaged) before you can start the engine.

FIGURE 11

CAUTION: Keep all shields in place.
Before leaving operator's position:
Shift transmission to neutral.
Set parking brake.
Disengage attachment drive clutch.
Shut off engine.
Remove ignition key.
Wait for all movement to stop before servicing machine.
Keep people and pets a safe distance away from machine.
PRESTARTING CHECK LIST

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 acid 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.

6. Check the area around the fuel cap before you remove the cap.

7. 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)

![Diagram](image)

**FIGURE 12**

**FIGURE 13**

---

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

---

**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 gear shift lever in the "NEUTRAL" position.
3. Pull the attachment drive lever rearward.
CAUTION: Disengage all attachment clutches and shift into neutral before attempting to start the engine (motor).

4. Push the choke lever forward to close the choke.

The choke setting will change according to the air temperature, engine temperature, and grade of fuel.

5. Push the throttle lever forward approximately 1/3 of the way between the "SLOW" and "FAST" positions.

6. Turn the ignition 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.

7. Pull the choke lever rearward slowly after the engine starts running.

8. Permit the engine to warm before applying a load.

9. Set the 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 gear shift lever in the "NEUTRAL" position.

3. Engage the parking brake lock.

4. Pull the throttle lever rearward 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.

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

FIGURE 14
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 you do the first job.

1. Select the correct gear for the job. Speed increases and power decreases as you use higher gears.

**IMPORTANT:** You must stop the tractor completely before you move the gear shift lever. Fully engage the gear shift lever to prevent gear damage.

**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.

![Diagram of Gear Shift Pattern]

**FIGURE 15** Gear Shift Pattern

2. Use first gear for heavy snow removal, tilling, cutting heavy grass, pulling heavy loads, and operating the tractor in small areas.

3. Use second gear for cutting normal grass, light snow removal, and operating the tractor in larger areas.

4. Use third gear to pull light loads.

5. Use fourth gear for transport only.

6. Reverse gear speed in between second and third gear speed. Be careful and look rearward while you use reverse gear. Never use reverse gear to move down a slope.

7. The maximum travel speed of each gear is shown in the general specifications section of this manual.
8. After you select the correct gear, slowly release the clutch/brake pedal.

9. Control travel speed and engine power with the throttle lever.

10. Decrease the throttle setting for safe operation. Use a lower gear if the decreased throttle setting causes the engine to lug. Lugging the engine will cause more than normal heat and damage to the engine.

11. Use a low gear for operation on hills or slopes. Select this gear before you are on the hill or slope. Do not stop on hills or slopes to change gears. Use reverse gear to move up a hill or slope. Use a forward gear 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 tractor 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.

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

**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.

13. Engage the attachment drive before you put a load on the attachment.

14. Actuate the lawnmower over an area of thin grass or an area that has been cut.

**CAUTION:** When using any attachments, never direct discharge of material toward bystanders nor allow anyone near the vehicle while in operation.
15. Actuate the tiller while in the transport position. Then lower the tiller into the soil to the needed depth.

16. Actuate the snowcaster before you make contact with the snow.

17. Read your attachment manual for complete attachment operation information.

CAUTION: Clear the work area of objects which might be picked up and thrown.
FIGURE 16

You are the owner of a Case tractor. 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 adjustment of your tractor.
CARBURETOR

HIGH SPEED ADJUSTMENT

Before you start the engine:

1. Turn the adjusting screw for high speed to the fully closed position (in).

2. Open this adjusting screw approximately 2 turns (counterclockwise).

Start the engine and put the throttle lever in the "FAST" position.

1. Turn the adjusting screw clockwise (in) until the engine runs bad.

2. Turn the adjusting screw counterclockwise (out) until the engine runs smoothly. (Approximately 2 turns.)

Apply a work load to the tractor. If the engine does not run smoothly turn the adjustment screw counterclockwise 1/8 of a turn. Repeat this procedure until the engine runs good while a work load is applied. Use this procedure to adjust the carburetor if the work load changes.

LOW IDLE SPEED and MIXTURE ADJUSTMENT

Before you start the engine:

1. Turn the adjusting screw for low idle speed to the fully closed position (in).

2. Open this adjusting screw approximately 1-1/4 turns.

3. Start the engine. Put the throttle lever in the "SLOW" position.

4. Turn this adjusting screw until the engine is running at 1000 RPM.

5. Turn the adjusting screw for low idle mixture until the engine runs smoothly.

6. Adjust the idle speed if necessary to keep the engine running at 1000 RPM.
CAUTION: Shut off engine, remove key and spark plug wire and allow engine to cool before replacing belt.
PRIMARY DRIVE BELT REPLACEMENT

1. Remove the belt guard from the rear of the engine.

2. Push up on the idler arm with spring tension. This will loosen the belt.

3. Remove the belt from the pulleys.

4. To install the new belt use this procedure:
   a. Put the belt over the drive pulley on the engine.
   b. Put the left strand of the belt under the pulley with the flat groove and over the driven pulley.
   c. Put the right strand of the belt under the pulley with the "V" groove.
   d. Push up on the idler arm with the spring tension. Put the flat side of the belt under the pulley on this arm.

   It is not necessary to disconnect this spring to install the belt.

5. Install the belt guard on the rear of the engine. Make sure this guard does not make contact with the belt.

6. Install the battery ground strap.

7. Put the transmission in the "NEUTRAL" position.

   Start and operate the engine at medium speed for approximately 10 minutes. This will extend the belt to the correct length before a work load is applied.
SECONDARY DRIVE (CLUTCH) BELT REPLACEMENT

1. Remove the R.H. foot pad.

2. Loosen the belt keeper on the idler pulley.

3. Push the clutch/brake pedal to decrease the tension of the clutch belt. Actuate the parking brake lock.

4. Remove the belt from the driving pulley and driven pulley.

5. Remove the belt from the idler pulley.

6. Install the new belt between the idler pulley and idler pulley belt keeper. Install the belt around the driven pulley and driving pulley.

7. Align the belt keeper in a vertical position on the idler pulley. Adjust the clearance between the belt and belt keeper to 1/16" (1.5 mm). Tighten the belt keeper.

8. Release the parking brake lock and check the belt clearance again.

9. Install the foot pad.

10. Adjust the clutch/brake. See the section in this book on clutch/brake adjustment.

(Tire and Wheel Removed for a Clear View)

FIGURE 19
STEERING ADJUSTMENT

LOCKNUT
PIVOT SHAFT
SHIM WASHERS
GREASE FITTING
STEERING GEAR
SHIM WASHER
LOCK WASHER
SUPPORT BRACKET
PLAIN WASHER
STEERING SHAFT
MOUNTING BOLT
CAP
LOCKNUT
WASHER

FIGURE 20

**CAUTION:** When adjusting steering wheel free play, make certain that some free play remains between the sector gear and pinion gear, since a tight fit with no clearance between the two gears may cause binding and tooth failure.

**IMPORTANT:** Check for the following before you adjust the steering gears.

1. Loose or worn ball joints, drag links and tie rods. Tighten or replace as required.
2. Tighten the lock nut on the steering wheel if needed. A small amount of free movement up and down is necessary to allow the steering wheel to turn freely.

The tractor is assembled with shim washers between the steering gear and the support bracket. See the illustration. When the gear teeth wear, more free movement occurs. If too much free movement occurs adjust the steering gear:

1. Disconnect the drag link from the steering gear.
2. Remove the bolt and washers from the pivot shaft.
3. Remove the steering gear.
4. Remove one or more shim washers from the pivot shaft.
5. Put the steering gear in place on the pivot shaft.
6. Put the shim washers, washers and the bolt on the pivot shaft. The total number of the shim washers must always be the same.

Apply grease to the teeth of the steering gear after each 50 hours of operation.

- 27 -
CLUTCH AND BRAKE ADJUSTMENT

IMPORTANT: You must have 1/4" (6 mm) clearance between the spring arm on the clutch/break pedal and the tractor tower at all times. Check this clearance daily. (More frequently when a new belt is first installed.) If the spring arm makes contact with the tractor tower, the belt can slip and be damaged.

1. Disengage the clutch/break pedal so the clutch belt has tension.

2. Check the clearance between the spring arm (on the clutch/break pedal) and the tractor tower. The clearance must be 1/4" (6 mm).

3. To adjust the clutch rod follow this procedure:
   a. Loosen the two lock nuts on the clutch rod.
   b. Turn the lock nuts as required to get the 1/4" (6 mm) clearance.
   c. Tighten the lock nuts and check the clearance again.

4. To adjust the brake follow this procedure:
   a. Push the clutch/break pedal and engage the parking brake lock in the middle notch.
   b. Put the transmission in the "NEUTRAL" position.
   c. Manually push the tractor. The brake drum must not rotate in the brake band.
   d. If the brake drum rotates, turn the adjusting nuts an equal amount toward the front of the tractor. Adjust the brake rod until the brake drum does not rotate.
IMPORTANT: The length of the compression spring for the brake must be kept at 1-1/4" (30 mm) with the clutch/brake pedal disengaged.

e. Disengage the parking brake lock and the clutch/brake pedal.

f. Manually push the tractor. The brake drum must rotate freely in the brake band. If the brake band does not rotate freely, turn the adjusting nuts equally toward the rear of the tractor. Adjust these nuts until the brake drum rotates freely. Repeat the adjustment procedure.

AIR CLEANER

Remove and clean the element after each 25 hours of operation or at weekly intervals.

Lightly hit the element on a flat surface until the dirt falls off. Carefully handle the element to prevent damage.

Replace the element if:

1. the element is damaged

2. the dirt can not be easily removed

Make sure the new element fits tightly around the inside edge of the air cleaner base. Install the cover. Install the wing nut.

An optional precleaner is available from your J I Case dealer. The precleaner can be washed. The precleaner will extend the life of the air cleaner element.
TOE-IN ADJUSTMENT

1. Put the tractor 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 cannot find 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.

![Diagram of measurement A and B](image)

6. Loosen both lock nuts on the tie rood.

NOTES: Do not remove the ball joints from the king pins. Turn the tie rod to change the toe-in.

7. Turn the ball joints off of the tie rod to decrease the toe-in.

8. Turn the ball joints onto the tie rod to increase the toe-in.
SEAT

ADJUSTMENT

1. Remove the four bolts that hold the seat to the seat hinge.

2. Move the seat either forward or rearward to get the correct position on the seat hinge.

3. Install the bolts.

![Seat Diagram]

FIGURE 24

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 tractor in a building when not in use.

3. During operation in severe weather conditions, you can easily damage the seat. Be careful not to damage the seat while you get on and off of the tractor.

4. If your seat gets a small tear, apply a vinyl repair tape over the damaged area. Black vinyl repair tape can be purchased locally.
To replace the headlight bulb:

1. Remove the two screws and retainers.
2. Remove the headlight receptacle.
3. Push in and turn counterclockwise to remove the bulb.
4. Push in and turn clockwise to install the new bulb.
5. Install the receptacle. Put one gasket between the lens and grille. Put the other gasket in the groove between the lens and the receptacle.
6. Install the retainers with the mounting screws.

**NOTE:** The new bulb will not illuminate until the receptacle has a ground connection.
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. Antidotes: 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.

1. Add distilled water, as required, to keep the water level above the cell 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 regulator rectifier 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 will 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).

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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 battery caps
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.

BATTERY CAPS

Always keep the battery caps in place and tight. Make sure the holes in the caps are open. 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 decrease additional 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 tractor 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.

- 34 -
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.

To remove the jumper cables, reverse the sequence.

To prevent any possible sparks near the battery:

1. Make the last connection as far as possible from the battery.
2. Do not let the ends of the cables make contact with each other.
3. If the booster battery is on another machine, make sure machines do not make contact.

WARNING: To jump start this machine, connect positive jumper cable to battery terminal on starter solenoid and connect negative jumper cable to good engine ground. Start engine only when seated in operator's seat. Stop engine before leaving machine. Disconnect jumper cables. Any other method could result in uncontrolled machine movement.

BATTERY TERMINAL ON THE SOLENOID

![Diagram of battery terminal on the solenoid]

ENGINE BLOCK

BOOSTER BATTERY

FIGURE 27
SPARK PLUG

The original spark plug in your engine has a medium heat range. For replacement, use a Prestolite 14L4 or equivalent. (Prestolite 14 RL4 or equivalent in Canada).

<table>
<thead>
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<th>Tip length</th>
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<tr>
<td>Thread size</td>
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<tr>
<td>Gap setting</td>
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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 29

COLOR CODE
1. Black and white
2. Red
3. Orange
4. Pink
5. Yellow
6. White
7. Black
AVAILABLE ATTACHMENTS

SLEEVE HITCH

MECHANICAL DRIVE TILLER

1000 POUND CAPACITY DUMP CART

UTILITY AND SNOW BLADE WITH SPRING TRIP
LAWN SWEEPER

SNOWCASTER

THREE-SHANK ROTARY MOWER

MANY OTHER USEFUL ATTACHMENTS ARE AVAILABLE THROUGH YOUR J I CASE DEALER.
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.

NOTICE

With the delivery of your new tractor, your Case dealer will show you operation and maintenance instructions. The description of these instructions is in the “Owner Warranty Registration and Delivery Report”. After these instructions you will sign this report and get a copy.

AFTER DELIVERY CHECK

Your Authorized Case Dealer will make the “After Delivery Check” on your new Case tractor if:

1. He sold you the tractor.
2. It is 60 days or 100 hours of operation, whichever comes first.
3. You make arrangements to bring your tractor to the dealer.

The “AFTER DELIVERY CHECK” is shown on the following page.

NOTE: Your dealer will only charge you for oil, filter or other accessories.
AFTER DELIVERY CHECK

(Owner's Name) (Date)

(Owner's Address)

(Dealer) (City)

Tractor has been operated ___ days

(Tractor Model and Serial Number)

☐ Operator's Manual included with machine.
☐ Check attachment drive clutch operation. Adjust if necessary.
☐ Check clutch brake operation. Adjust if necessary.
☐ Check gear shift operation for correct engagement.
☐ Check operation of all instruments and controls. Adjust if necessary.
☐ Check steering wheel free movement. Adjust if necessary
☐ Check tension and alignment of all belts and adjust if necessary.
☐ Check position of all belt guides and adjust if necessary.
☐ Check the torque of the cylinder head bolts.
☐ Inspect spark plug, clean and set the gap if necessary.
☐ Check carburetor operation and adjust if necessary.

☐ Check high governed speed with no load and low idle speed.
☐ Check and clean air cleaner.
☐ Check and clean engine air cooling fins.
☐ Check crankcase oil level. Change if necessary.
☐ Check transmission oil level. Add oil if necessary.
☐ Apply grease to steering gears.
☐ Lubricate all lubrication fittings.
☐ Check tire air pressure. Adjust if necessary.
☐ Check front wheel bearings. Adjust if necessary.
☐ Check battery. Add water or charge if necessary.
☐ Inspect wiring and headlights.
☐ Tighten all nuts and bolts, including wheel rims.

DEALER: Check carefully with the owner to find what he knows about maintenance and operation. Give instructions on the procedures that are not clear to him.

______________________________
Checked by

______________________________
Dealer

______________________________
Owner

First copy - Dealer
Second copy - Owner