

# 1138 TRACTOR AND 38" MOWER OPERATORS MANUAL

**▲ SAFETY MESSAGE ▲**

The product for which you have requested information or replacement parts is not a current product. The replacement models incorporate product designs, safety features, safety instructions or warnings which represent the latest "State Of The Art" developments. For your safety and those around you please contact your nearest Ariens/Gravely Dealer for a demonstration of the current product safety provisions and features.

NOTE

Read this manual carefully and learn to operate and service your tractor and mower before using it.

To keep the warranty, the tractor and mower must be maintained and operated as directed in this manual.

All references to "left-side", "right-side", "front", and "back" are given from the operator's position.

Use the serial numbers to ensure prompt and correct service when ordering parts, requesting service, or making inquiries.

TRACTOR SERIAL NUMBER \_\_\_\_\_  
MOWER SERIAL NUMBER \_\_\_\_\_  
ENGINE SERIAL NUMBER \_\_\_\_\_  
ENGINE SPEC NUMBER \_\_\_\_\_



Look for this symbol to point out important safety precautions. It means -- ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED.

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## SECTION 1

### Instructions for Safe Operation

Improper use of this tractor and mower can injure people and damage the equipment. People using or servicing this equipment must read and follow the instructions in this manual.

It is important to understand that this manual and any other Gravely instruction manuals do not cover every possible danger. It is impossible for Gravely to know of all possible dangers in operating and servicing the tractor and attachments.

The purchaser must give these instructions to the people operating and maintaining this equipment. These people must use eye and foot protection.

#### 1.1 Preparation

1. Read this operator's manual carefully.
2. Learn the location and function of all tractor and attachment controls.
3. Learn how to use the controls to stop the tractor and attachment.
4. Use caution with gasoline. Gasoline is very flammable. Keep it in a clean and tight container away from flames or hot items. Never put gasoline in the fuel tank while the engine is running or hot. Clean up spilled gasoline before starting engine.
5. Be certain that all shields, guards, and interlock switches are in the correct positions.
6. When hauling the tractor, connect the chassis and rear hitch to the transporting vehicle. Never connect from control levers, rods, or like items that could be damaged.
7. Inspect area to be mowed and remove all material which could be thrown by the mower.
8. Sit on seat, shift transmission to the neutral "N" position, and move the PTO control to the "OFF" position before starting.



9. To reduce fire hazard, keep the engine free of grass, leaves, or excessive grease.
10. Check the mower blade bolts for proper tightness frequently.

## 1.2 Operation

1. Wear foot and eye protection. Do not wear loose clothing.
2. Do not use the tractor in the dark without adequate lighting.
3. Keep the tractor in good condition. Maintain it as directed in this manual.
4. Replace all parts that become damaged or lost.
5. USE ONLY GRAVELY ACCESSORIES AND ATTACHMENTS OR ATTACHMENTS GRAVELY HAS APPROVED FOR USE WITH THIS TRACTOR.
6. Do not overspeed the engine. Do not override the governor.
7. Keep away from moving parts.
8. Keep people and animals away from the operating area.
9. Do not let people other than the operator ride on the tractor.
10. Use a slow speed and engage the clutch slowly when operating on slopes.
11. Look for and keep away from hazards.
12. Use caution when pulling heavy loads. Go slow and keep away from slopes. Do not tow free rolling loads of over 500 pounds.
13. Look behind when operating in reverse.
14. After hitting an object with the tractor or attachment, stop the engine and check for damage. Repair any damage before continuing operation.
15. Operate the tractor only from the seat.
16. Travel up and down, not across, slopes.
17. Never permit children to operate the tractor.

18. Before leaving the tractor, move the PTO control to "OFF", lower attachment, lock the brake, and remove the ignition key.
19. If there is a sudden change in the sound or vibration of the tractor or attachments, stop the engine and check for damage. Repair any damage or failure before continuing operation.
20. Never run the engine indoors except to move it outside. Exhaust fumes are dangerous.
21. Go slow on slick surfaces.
22. Follow traffic laws when operating on or near a road.
23. Before making adjustments or servicing, move the PTO to "OFF", turn the ignition switch to "OFF", and wait until all moving parts completely stop.
24. Put PTO in the "ON" position only when mowing.
25. Always direct discharge of attachment away from people.

## SECTION 2

### Controls

2.1 See Figure 1 for location of controls.

2.2 Ignition and Starter Switch:

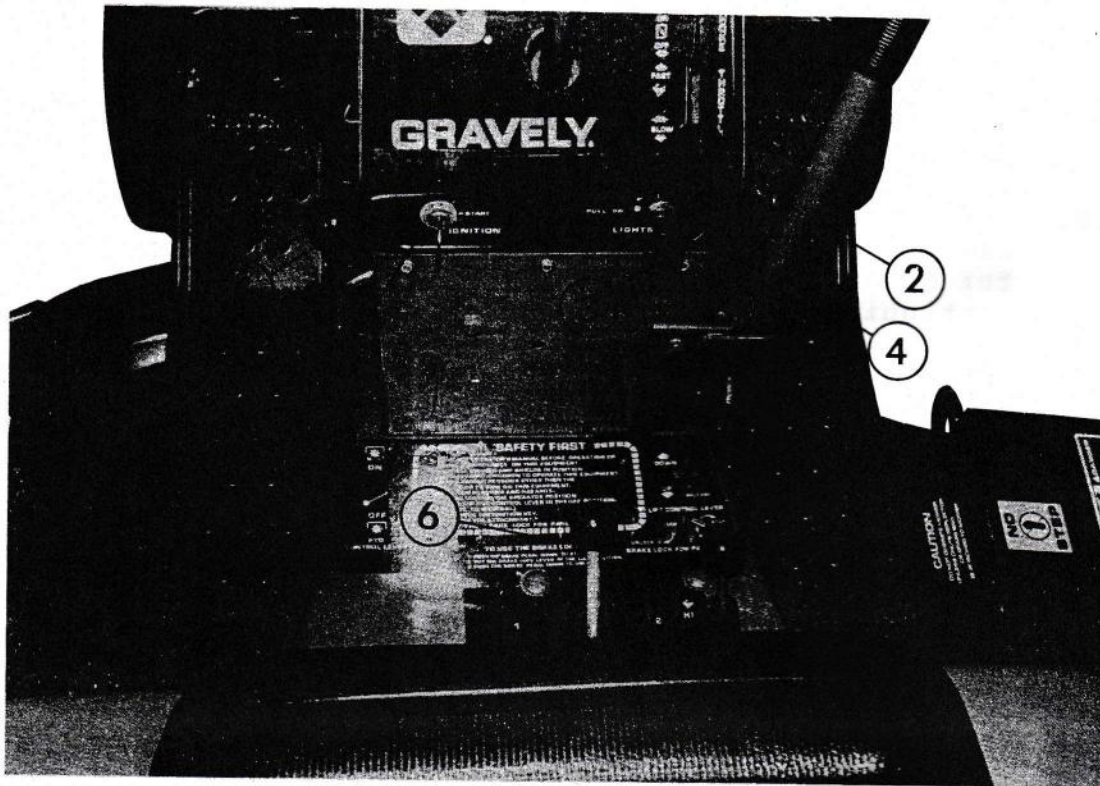
The ignition and starter switch has three positions--"OFF", "RUN", and "START". Start the engine by turning the key fully clockwise to "START" position and then release the key as soon as the engine starts. Stop the engine by turning the key counterclockwise to the "OFF" position.

2.3 Throttle - Choke Control:

This control operates both the throttle and choke. When starting a cold engine, raise the lever past the offset and into the "CHOKE" position. After the engine has started, lower the lever to the throttle operating range and allow the engine to warm at 1/2 throttle. Select the appropriate engine speed in the throttle range after the engine has warmed up.

NOTE: Unless otherwise specified, the attachments should be operated at full throttle. The throttle is not to be used to select desired travel speeds. Operate at full throttle and regulate ground speed with the gear shift lever.





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- 1 - Ignition and Starter Switch
- 2 - Throttle-Choke Control
- 3 - Light Switch
- 4 - Attachment Lift Lever
- 5 - PTO Control
- 6 - Gear Selector Lever
- 7 - Range Selector Lever
- 8 - Clutch Pedal
- 9 - Brake Pedal

FIGURE 1

#### 2.4 Light Switch:

Turn lights on by pulling control knob out. Turn lights off by pushing the knob in.

#### 2.5 Attachment Lift Lever:

To raise the attachment, depress thumb button, pull the lever to the rear, and release thumb button. This will hold the attachment in the raised position. When using the mower attachment, select the "notch" that allows the mower to cut at the desired height.

To lower the attachment, pull the lever to the rear, depress the button to release the latch and allow the lever to move forward.

## 2.6 PTO Control:


The PTO Control is used to operate the attachments. Push the lever forward to engage the clutch and drive the attachment. Pull the lever rearward to disengage the clutch and stop the attachment. The lever must be in the rear ("OFF") position to start the engine. THIS IS A SAFETY FEATURE. The engine will not start until the lever has been placed in the "OFF" position.

## 2.7 Gear Selector Lever:

The Gear Selector Lever is used to select any of three forward gears or one reverse gear. The markings "1,2,3" and "R" on the floor plate indicate the locations of the gears. The slowest forward gear is indicated by "1", the secondary gear, "2", and the fastest gear, "3". The "R" indicates reverse. The Gear Selector Lever must be in the "NEUTRAL" position as shown in Figure 1 to start the engine. THIS IS A SAFETY FEATURE.

## 2.8 Range Selector Lever:

The Hi-Lo Range Selector gives a choice of six forward speeds: three in "HI" range; and three in "LO" range. The speed in reverse gear is the same in both ranges.

 **CAUTION:** When using tractor or attachment for the first time use "LO" range speeds and lower gears to make sure of your controls.

## 2.9 Clutch Pedal:

Depressing the Clutch pedal disengages the transaxle from the engine and permits shifting the gear selector to any desired gear. Always release the clutch pedal slowly for smooth acceleration. Do not allow foot to rest on pedal except when clutching.

**IMPORTANT:** Always depress clutch pedal to ease engine starting. Depressing clutch pedal releases parking brake. Be ready to depress brake pedal when starting from park position.

## 2.10 Brake Pedal:

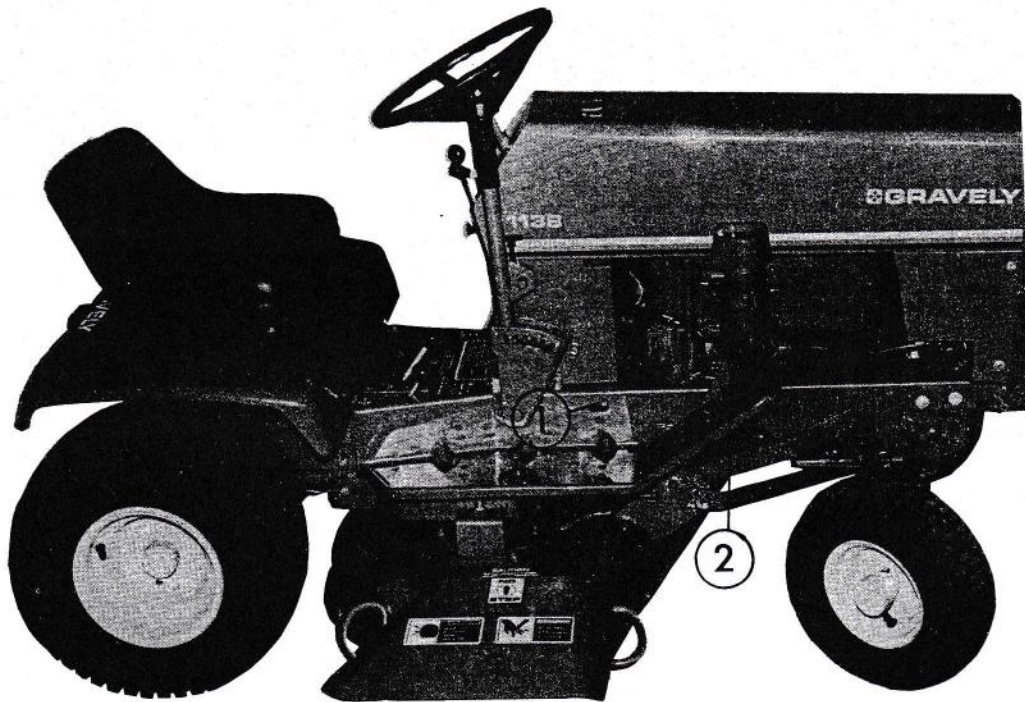
Depressing the brake pedal applies pressure to the disc brake and stops the tractor (with the clutch depressed). Be sure to depress clutch pedal to disengage the clutch before braking. Brake will not stop tractor without depressing clutch pedal.



## 2.11 Parking Brake:

A Brake Lock is provided to prevent the tractor from moving when parked or left unattended. To lock the brake, pull the brake lock up with the pedal fully depressed. Then release the brake pedal. Clutch pedal must not be depressed when locking brake. Brake lock may be disengaged by depressing either brake or clutch pedal. See Figures 2 and 3.

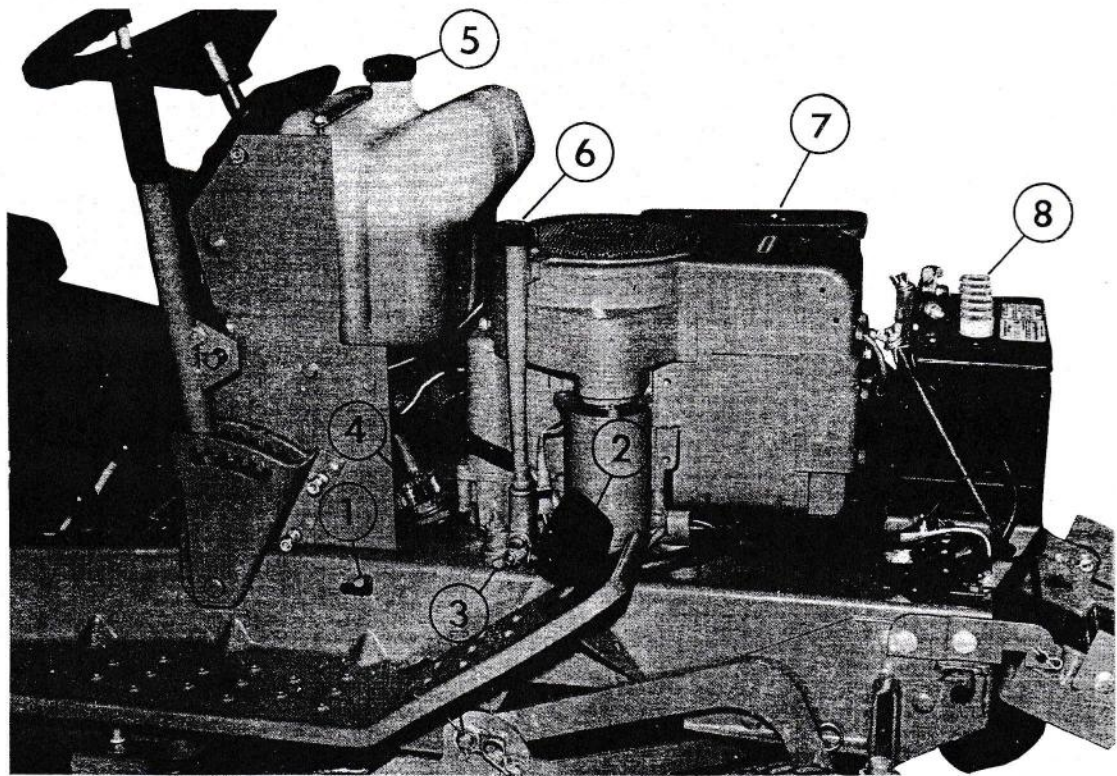
**⚠ CAUTION:** Engage the brake lock before dismounting the tractor or any time it is left unattended.



- 1 - Parking Brake Lock
- 2 - Brake Pedal

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FIGURE 2



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- 1 - Parking Brake Lock
- 2 - Brake Pedal
- 3 - Oil Drain
- 4 - Steering Gear
- 5 - Fuel Cap
- 6 - Oil Fill Cap
- 7 - Air Cleaner
- 8 - Battery Fill Cap

FIGURE 3

## SECTION 3

### Operating Instructions

#### 3.1 Accessories:

A rear weight box and wheel weights are available to increase traction when using the snow thrower or the dozer blade attachments. Rear tire chains are also available for use in snow.

NOTE: Too much rear wheel traction will result in drive train overload and possible damage. Therefore weight box limit is 125 lbs. Rear tire chains are not to be used on dry soil or gravel.

#### 3.2 Preparation:

1. Check oil in engine crankcase. Add oil as required to maintain proper level. See Section 4.
2. Check fuel supply. Fill with clean, fresh gasoline only. See Engine Instructions manual provided for fuel recommendation.
3. Check air cleaner and tire pressures.
4. Check for engine, transmission, or differential oil leaks. See your Gravely dealer for repairs.
5. Make visual checks regarding obstructions and maintenance.



#### CAUTION:

1. Before servicing any attachment:
  - a. Disengage power to attachment.
  - b. Shut off engine.
  - c. Make sure attachment has stopped revolving.
  - d. Disconnect engine spark plug cable to prevent accidental restart.
2. Keep children, bystanders, and pets out of the working area.
3. Keep hands, feet, and clothing away from power driven parts.



4. Keep all shields and guards in place.
5. Gravely recommends grass collection with a Grass Bagger without using blade vanes. If performance is satisfactory without vanes, do not use vanes. The vanes use more power and generate more noise. Use vanes only if satisfactory performance cannot be obtained without them. Generally, broadleaf grasses can be cut and bagged without vanes. The finer grasses may require the use of vanes. In damp conditions, vanes may also be of help.

### 3.3 Starting and Stopping the Engine:

USE THE FOLLOWING PROCEDURE TO START THE ENGINE:

1. Depress Clutch Pedal and hold the tractor in position by depressing the Brake Pedal. See Figure 1.
2. Place the Gear Selector Lever in the "NEUTRAL" position as shown in Figure 1.

NOTE: The engine will not start unless the Gear Selector Lever is in the "NEUTRAL" position.

3. Place PTO in the rear ("OFF") position.

NOTE: THIS IS A SAFETY FEATURE. The engine will not start unless the PTO control is in the "OFF" position.

4. Raise Throttle-Choke Control Lever past the offset in the slot to the "CHOKE" position.

NOTE: Operator must be on seat to start unit. Tractor has a seat switch for safety.

5. Turn ignition key clockwise all the way. Release key as soon as the engine starts and gradually lower the Throttle-Choke Control Lever past the offset until the engine runs at 1/2 throttle.

NOTE: A warm engine will require less choking than a cold engine.

If the engine fails to start on the first attempt, turn key to the "OFF" position, wait a few minutes and try again. Do not operate starter continuously for more than 15 seconds.

Always allow engine to warm up before applying load. In below freezing weather, allow engine to run at a fast idle for a period of at least five minutes before moving the tractor or starting the attachment. SERIOUS DAMAGE TO THE ENGINE AND TRANSMISSION COULD RESULT IF THIS PROCEDURE IS NOT FOLLOWED.

ALWAYS USE THE FOLLOWING PROCEDURE TO STOP THE ENGINE:

1. Move the Gear Selector Lever to the "NEUTRAL" position.
2. Disengage the PTO Control.
3. Engage Parking Brake Lock by depressing the Brake Pedal and pulling up on the Parking Brake Lock.
4. Lower Attachment to the ground.
5. Lower Throttle-Choke Control Lever and allow the engine to idle for a short period of time. DO NOT STOP A HOT ENGINE AT HIGH SPEED AS INTERNAL ENGINE DAMAGE COULD RESULT.
6. Turn ignition key counterclockwise to the "OFF" position to stop the engine.
7. BE CAREFUL: REMOVE IGNITION KEY BEFORE LEAVING TRACTOR. THIS WILL PREVENT CHILDREN AND INEXPERIENCED OPERATORS FROM STARTING THE TRACTOR.

#### 3.4 Operating:

1. Start the engine using the procedure explained in Section 3.3.

NOTE: The Gear Selector Lever must be in the "NEUTRAL" position, the PTO control in the "OFF" position, and the operator on seat to start the engine.

2. Release Parking Brake Lock by depressing the Brake or Clutch Pedal (Figure 1) until the lock disengages.



3. Depress Clutch Pedal, place Gear Selector Lever and Hi-Lo Range Selector into the desired gear and range and slowly release the pedal to provide smooth acceleration.
4. Select the desired throttle speed with the Throttle-Choke Control Lever. When operating a power-driven attachment, operate the engine at full throttle, (3250 RPM) unless otherwise specified and control travel speed by selecting an appropriate gear.
5. To raise or lower the attachment use the Attachment Lift Lever.
6. To start the attachment, engage the PTO Control slowly with the engine running at 1/2 throttle, then increase speed to full throttle.
7. To stop the tractor, fully depress Clutch and Brake Pedals and place Gear Selector Lever in "NEUTRAL". Fully depress Brake Pedal and engage the Parking Brake Lock when parking or leaving the tractor. (See Figure 2 and 3).

NOTE: Do not force Gear Selector Lever if gear does not engage. Apply slight pressure on the Gear Selector Lever while releasing the Clutch Pedal. The Clutch Pedal must be depressed to engage any selected gear. Depressing the pedal too little will cause gear clash and possible damage to the transmission. Hold lever toward engaged position while declutching.

### 3.5 Operating Tips:

NOTE: Operate engine at "FAST" throttle setting and select Gear Selector Lever as described in following instructions.

1. The tractor may be operated at one of three forward speeds or one reverse speed in each of two speed ranges. Depress Clutch Pedal and use Gear Selector Lever to shift from "NEUTRAL" (N) to First Speed (1) or Reverse (R).
2. The operator should acquaint himself with the area to be mowed and slow down using Gear Selector Lever, not Clutch, to maintain control in restricted spaces.



3. In heavy cutting conditions, where grass may be extremely high or thick, the Attachment Lift Lever should be set at a higher setting than normal and the Gear Selector Lever set at Second or First Speed.
4. The use of higher attachment lift lever settings will allow grass cutting in heavy conditions without lugging the engine. A second cutting may be required in some cases to mow grass to the desired height.
5. With a grass catcher the use of lower ground speeds may be required depending on grass conditions. Avoid cutting at too low a height which may lug engine and cause plugging of the discharge area or catcher.
6. Generally, try tractor operation at lower ground speeds until you are familiar with the controls of the unit, then experiment with higher speeds if desired. Be sure that safe operation is possible at the speed travelled. Avoid cutting grass when wet.

## SECTION 4

### Service Instructions

Gravelly dealers will provide service which may be required to keep your equipment operating efficiently. Refer to the engine manual for engine service instructions.

#### 4.1 Seat:

The seat is adjustable front or back. Adjustment is made by removing the bolts mounting the seat springs to the rear deck and remounting in the set of holes.

When cleaning seat use a vinyl cleaner (not a solvent). Protect the seat from weather damage by storing tractor inside an enclosure or by covering the seat. If the seat is damaged, repair it with a vinyl repair kit.

#### 4.2 Engine:

See engine manual for fuel, fuel filter, lubrication, air cleaner, and other item service.

#### 4.3 Tires:

Check tire pressures at least once each month. Inflate tires to pressures shown using a low pressure tire gauge for accurate readings. Keep tires properly inflated at all times. Over-inflation will cause operator discomfort. Under-inflation will cause short tire life. Make sure the tire valve caps are in place.

<u>TIRE SIZE</u>	<u>LOADING</u>		
	Light	Medium	Heavy
Front 13 x 5.00 - 6	(Lawn Work) 10 psi	(Tilling) 12 psi	(Snow Work) 16 psi
Rear 18 x 8.50 - 8	(Lawn Work) 6 psi	(Snow Work) 8 psi	(Tilling) 10 psi

TABLE 1

#### 4.4 Battery:

1. Keep the battery clean. Remove electrolyte with a cleaning solution containing ammonia. Take care not to allow the cleaner to get into the battery.
2. If the battery should get discharged, charge at 6 to 8 amps for 20 minutes. The battery should be charged every 3 to 4 weeks when the tractor is in storage.
3. Keep the battery filled to the bottom of the fill tube by adding clean distilled water (after charging).

**⚠ WARNING:** Remove battery from tractor before tipping or lifting the unit for adjustments. Battery is not sealed and spilled acid will damage equipment. When handling battery, be sure to avoid contact with battery acid, which can cause serious injury to eyes, etc.

Storage batteries give off highly inflammable hydrogen gas. Do not allow sparks or flame near battery. Do not lay tools across battery terminals which may cause a spark resulting in an explosion.

Electrolyte contains sulphuric acid which is harmful to skin, eyes, and clothing. Handle with extreme care. If spillage occurs on body or clothing, rinse at once with water.

Reversed battery cables or reversed cables from a battery charger or booster battery can cause damage to the product. Sparks and potential hazards to operator could result. Make certain the ground cable is connected to the engine and the positive cable is connected to the positive (+) terminal.

#### 4.5 Gear Lever:

Check tightness of screws holding shift handle in the detent positions. Screws must be tightened securely. This will eliminate jumping out of gear. See Figure 4.

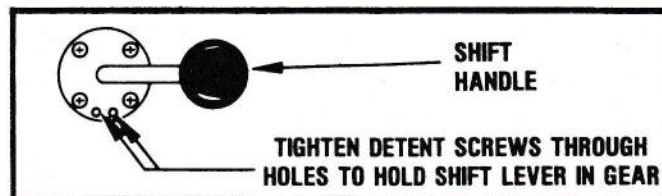


FIGURE 4



#### 4.6 Brakes:

Once each season, or if the brake begins to slip and does not hold the tractor, it is necessary to adjust the disc brake located on the lower left side of the transaxle assembly. See Figure 5. Adjust as follows:

1. Position the tractor on a smooth level surface and place the Gear Selector Lever in "NEUTRAL" so the tractor can be pushed by hand to check the brake.
2. Adjust the set screw in the brake jaw assembly clockwise until the brake just starts to lock. This can be felt by pushing the tractor by hand. Leave the brake pedal up during this adjustment.
3. Turn set screw 1/2 turn counterclockwise from locking point to adjust the brake.

The tension on the brake pedal itself is adjustable. If the brake pedal does not return or feels loose, adjust the nut on the end of the brake rod just inside the frame next to the parking brake slot. Tighten the nut until the spring adjacent to the nuts is 1-1/4 inches in length.

#### 4.7 Main Drive Belt

NOTE: If the main drive belt is damaged or worn and in need of replacement, cut the belt out and remove it from the tractor.

Installation of Main Drive Belt:

1. Remove mower from tractor per Section 4.10.
2. Remove spark plug wire.
3. Examine engine drive sheave, making sure it is secure and free of damage.
4. Disconnect the attachment idler spring from anchor on right side of transaxle. See Figure 6.
5. Remove cotter pin, washer, and PTO rod from attachment idler arm. See Figure 6.
6. Loosen bolts holding two belt fingers around traction drive belt. Rotate fingers away from belt. See Figure 7.
7. Depress clutch pedal and unwrap traction drive belt from transaxle and center groove of three groove sheave. See Figure 7.

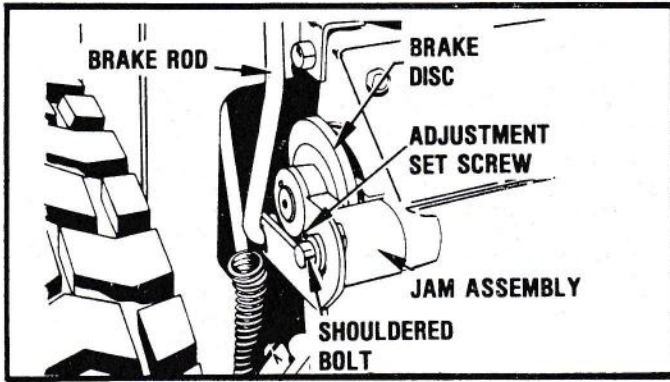


FIGURE 5

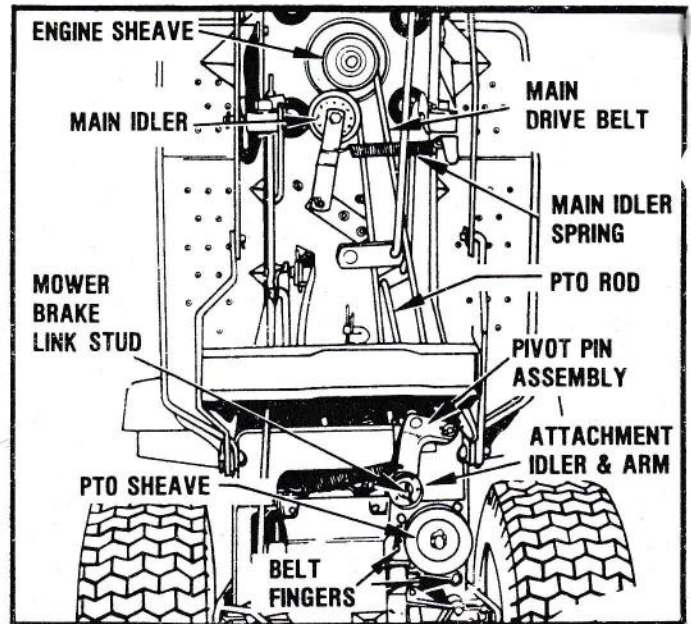


FIGURE 6

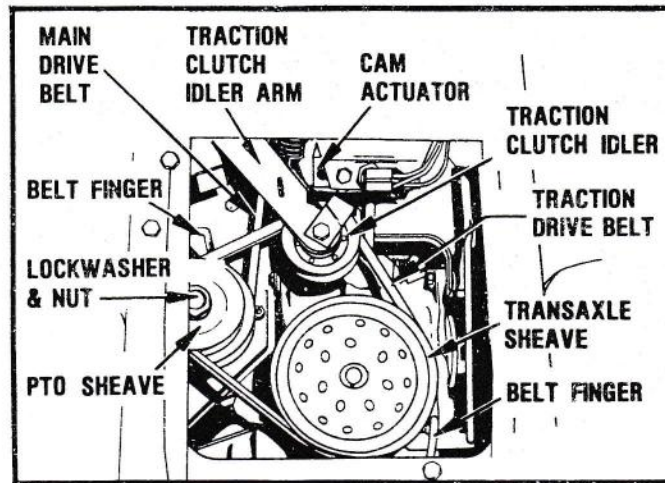


FIGURE 7

8. Disconnect traction clutch spring from traction clutch idler arm. See Figure 7.
9. Rotate attachment idler until hair pin at top of idler pivot pin assembly can be removed. See Figure 6.
10. Remove the hair pin and washer.
11. Lower attachment idler assembly until traction clutch idler arm is free of pivot pin. See Figure 6 and 7.
12. Disconnect main idler spring from anchor point at left side of frame. See Figure 6.
13. Thread a new main drive belt through the tractor so that the belt is above the steering arm and through the attachment idler pivot.
14. Wrap the new belt around the engine drive sheave.



15. Push attachment idler arm upward until the pivot pin is through the traction clutch idler.
16. Install a washer and hair pin into location. See Figure 8.
17. Feed PTO rod between main drive belt and install in through hole in attachment idler arm. Secure with washer and cotter pin.
18. Wrap main drive belt around bottom groove of PTO sheave.
19. Reconnect the main idler spring and the attachment idler spring.
20. Reconnect the traction clutch spring and wrap the traction clutch belt around center groove of PTO sheave.
21. Position and tighten the traction belt fingers to 1/16th of an inch from belt.
22. Check for any interference with the main drive belt.
23. Replace spark plug wire.
24. Reinstall mower to tractor per Section 4.11.

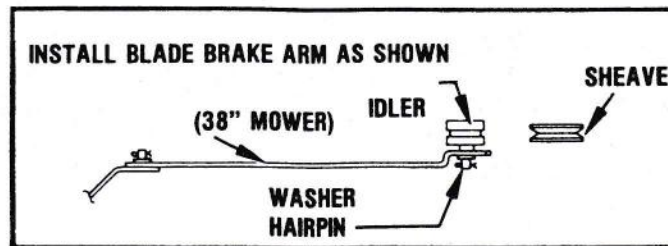


FIGURE 8

#### 4.8 Traction Drive Belt:

The traction drive belt is easily replaced by lifting the rear deck; loosening the belt fingers, including belt finger on traction clutch idler arm; depressing the clutch pedal and removing the belt. Replacement is similar; depress the clutch pedal, install the belt and replace the belt fingers. Adjust the three belt fingers to provide 1/8 to 1/16 inch clearance from the belt with clutch engaged (pedal up).



#### 4.9 Mower Blade:

Mowers are equipped with high lift blades standard. Vanes may be bolted to the blades to improve discharge or collecting of grass. These vanes may or may not be helpful depending on your type of grass and cutting conditions.

Gravely recommends that the user try the mower without vanes first and if the performance is satisfactory, use without vanes since the vanes use more power and generate more noise. Use vanes only if satisfactory performance cannot be obtained without them. Generally, broadleaf grasses can be cut and bagged without vanes. The finer grasses may require vanes. In damp conditions, vanes may also be of help.

Routinely check for wear on the mower blade and vanes, if used. This is especially true in sandy soil conditions.

**⚠ CAUTION:** Wear of the mower blade can cause structural weakness. Do not install new or replacement vanes on worn blades. This is a potential hazard.

Replace worn parts with Gravely original equipment, blades, vanes, and Grade 8 hardware as specified. Cap screws must be installed with heads on top of the vanes and vanes on top of the blade. See Figure 9.

**IMPORTANT:** The vanes must be used in pairs. They cannot be interchanged with different or worn vanes on the same blade. Using one of each of a different type or worn vane will cause the blade to be out of balance and severe vibration will occur. Even wear on the parts and proper balance is ensured by replacing vanes in pairs.

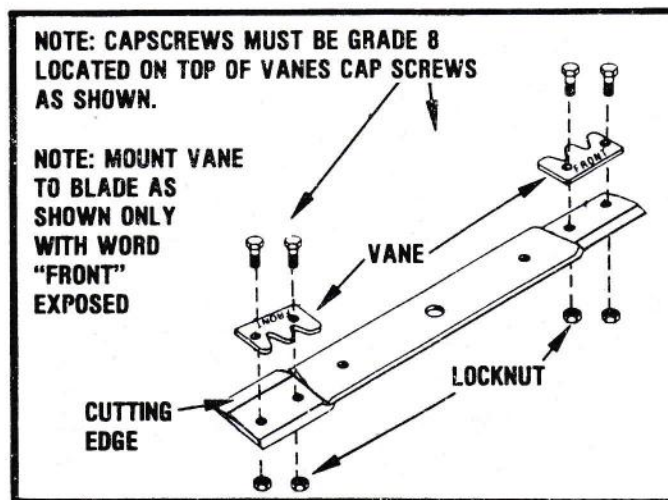


FIGURE 9

The mower blade should always be kept sharp and properly balanced. Disconnect spark plug wire. Remove mower, clear dirt and grass from underside, and check blade. Use a heavy glove or padding for hand protection while removing mower blade. Remove the nut and lockwasher securing the blade and remove blade.

See your Gravely dealer to replace or sharpen blade.

Replace mower blade in position on mower and secure with lockwasher and nut. Use a heavy wrench; torque to 50-55 lbs. Be sure to use a heavy glove or padding for hand protection while fastening blade.

#### 4.10 Mower Removal

1. Lower the mower to the lowest position. Disengage PTO handle.
2. Remove the tow pin from the mower strap and set aside.
3. Detach the mower brake link.
4. Slip the PTO belt off of jack shaft pulley (belt fingers must be loosened).
5. Remove hair pins holding front mower hanger brackets (right and left) at the deck and tractor frame. Remove front mower hanger brackets and set aside.
6. Slide the mower forward to front wheels and off rear hanger.
7. Raise the mower lift.
8. Slide the mower out from under tractor. See Figure 10.

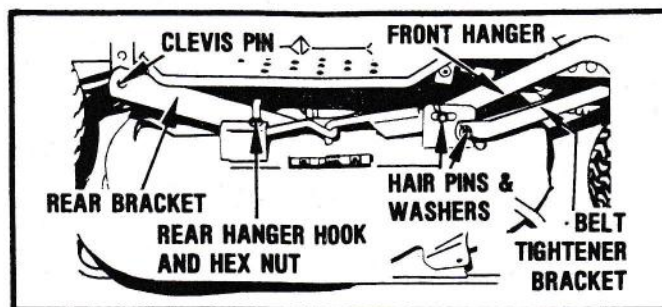


FIGURE 10

#### 4.11 Mower Installation:

1. Raise the lift fully.
2. Slide the mower under tractor and forward against front wheels.




3. Turn the hanger hooks out.
4. Lower lift.
5. Attach the front hanger arms (right and left) to the mower with hair pins and washers. See Figure 10.
6. Turn the hanger hooks in and hang the rear of the mower to the rear hanger assembly. See Figure 10.
7. Attach the mower strap to the mower with the tow hook. Leave the jam nut on the tow hook loose.
8. Grasp the mower and check that it is free to move on the hanger assembly.
9. Raise the lift to the mid-height position.
10. Install the PTO belt around the jack shaft pulley.

NOTE: It may be necessary to remove one bolt from the transaxle to slip the belt onto the jack shaft pulley.

11. Engage PTO, allowing the PTO idler to press against the PTO belt.
12. Adjust the PTO belt tension using the locknut on the tow hook until the distance between the faces of the belt is 1-1/4" to 1-1/2".

NOTE: A block of wood (1-1/4" thick) between the belt will assist in determining when the distance is correct. See Figure 11.

13. Set the belt fingers 1/16" away from jack shaft pulley and tighten jam nut on the tow hook.
14. Attach the blade brake link to the PTO idler with a washer and a hair pin.
15. With the PTO disengaged, adjust the spring length to 7/8" on the brake rod. See Figure 12.

 **CAUTION:** Adjustment too far forward will not allow mower belt to declutch! Check for proper mower belt declutching in all height positions. If mower belt does not declutch, adjust mower backward until proper declutching occurs. (PTO sneave must not have a tendency to drive mower belt and/or override brake.)



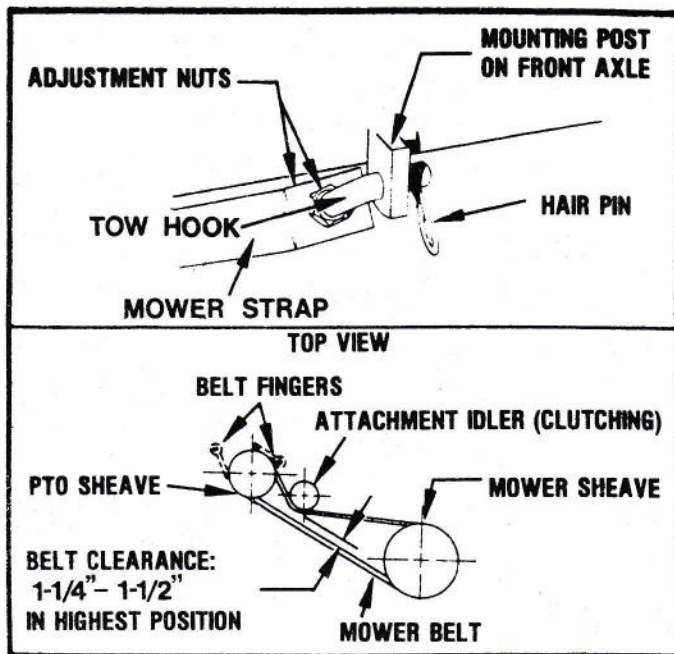


FIGURE 11

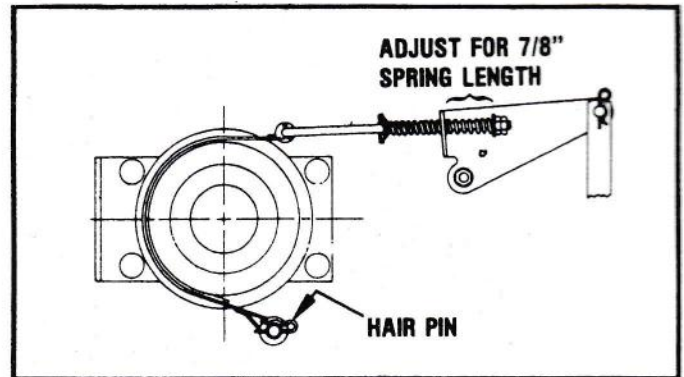


FIGURE 12

#### 4.12 Mower Leveling:

Check tire pressure. Uneven tire pressure may cause uneven grass cutting. See Section 4.3.

The mower is designed to cut evenly with the rear of the mower  $1/8$ " to  $1/4$ " higher than the front. To level the mower, proceed as follows:

1. Position tractor on a smooth level surface.
2. Measure the distance between each mower blade tip and the surface. The rear of the blade tips should be  $1/8$ " to  $1/4$ " higher than the front. The blades should be even side to side.
3. If adjustment is required, turn the hex nuts on the hanger hooks up or down to secure the proper adjustment. See Figure 10.

#### 4.13 Mower Height of Cut:

After the mower has been leveled properly, minor adjustments can be made in the mower cutting height by increasing or decreasing the center distance between rod end and adjustment link. Increasing center distance lowers cutting height. Decreasing center distance raises cutting height. Raising the attachment lift lever to another notch in the lift quadrant will also raise the cutting height of the mower. Adjust to suit individual grass cutting conditions. See Figure 13.

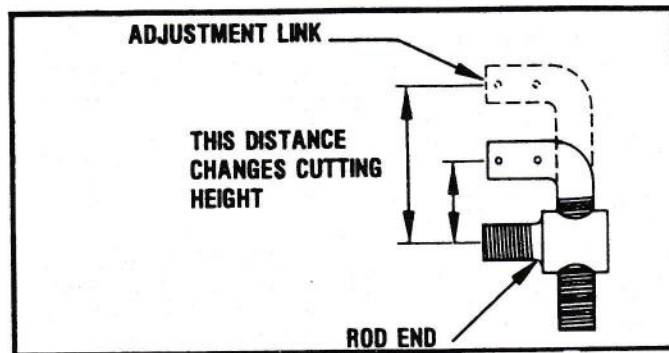


FIGURE 13

#### 4.14 Mower Drive Belt Replacement:

##### 1. Removal:

- a. Remove the mower. See Section 4.10.
- b. Remove the belt cover.
- c. Remove the brake band and PTO belt from the center drive pulley.
- d. Disconnect the spring from the idler arm.
- e. Remove the mower belt from the mower.

NOTE: Inspect all parts for damage.

##### 2. Installation:

Reverse the removal procedure. See Section 4.11 for mower installation.

#### 4.15 Engine Lubrication:

Fill crankcase with oil as recommended in Engine Manufacturer's Instructions supplied with the product. Check oil level before each use and change oil regularly according to Engine Manufacturer's Instructions. Check oil level with tractor on a level surface. Keep dipstick area clean.

IMPORTANT: Engine will smoke excessively if dipstick is not pushed down until it snaps into place.

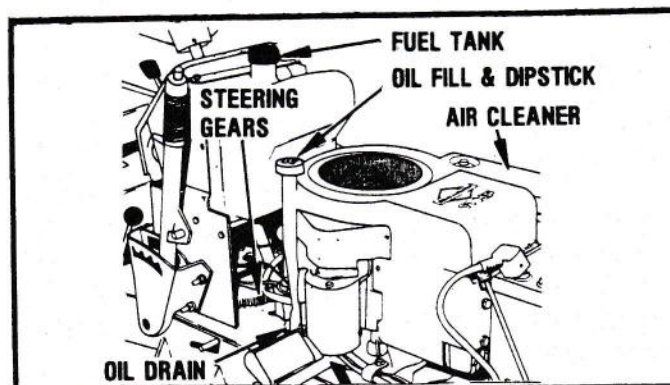


FIGURE 14



1. When the tractor is new, the oil should be changed after the first five hours of operation. Thereafter under normal operating conditions, the oil should be changed every 25 hours of operation. If extremely dusty or dirty conditions prevail, change oil more frequently.
2. Drain crankcase by opening petcock or removing the drain plug (Figure 14) while the engine is warm. Allow the oil to run into a container.

NOTE: With the engine warm, the oil will flow freely permitting more contaminants to be drained from the crankcase.

3. Close petcock or replace the drain plug. Remove dipstick and refill crankcase with the proper type and viscosity of oil as shown in Engine Instruction Manual. Check oil on the dipstick to make sure that the level is to the "FULL" mark. DO NOT OVERFILL.

#### 4.16 Steering Lubrication:

Apply a light coat of multi-purpose grease to steering gears every 50 hours of operation. See Figure 14.

#### 4.17 Transaxle Lubrication:

The transaxle is lubricated at the factory and should require no further lubrication by the owner.

#### 4.18 Grease Fittings:

Each fitting should be wiped clean before and after lubrication. Grease each fitting every 50 hours of operation with multi-purpose grease. Following is a list of the grease fittings with reference numbers that identify each location on the corresponding illustration. See Figures 15, 16, and 17.

1. Right and Left Steering King Pins.
2. Right and Left Front Wheels.
3. Jackshaft Spindle Housing.
4. Grease mower input (center) spindle.
5. Transaxle is sealed for dirt-free operation. However, should repairs be needed requiring additional lubrication, use a multi-purpose grease.
6. Grease mower idler arm.
7. Grease each axle at fitting on the bottom side of the transaxle.



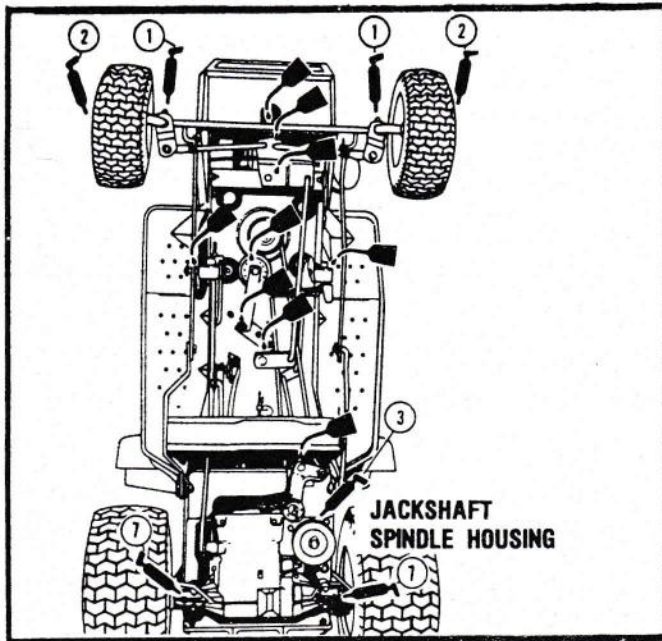


FIGURE 15

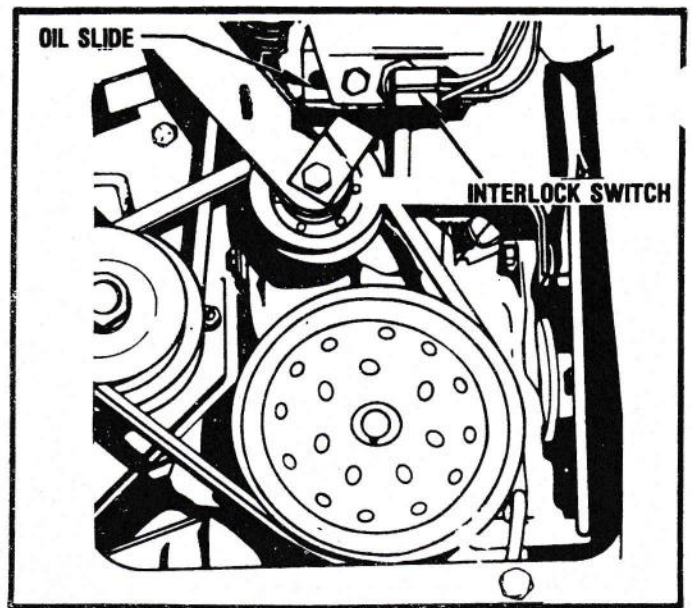


FIGURE 16

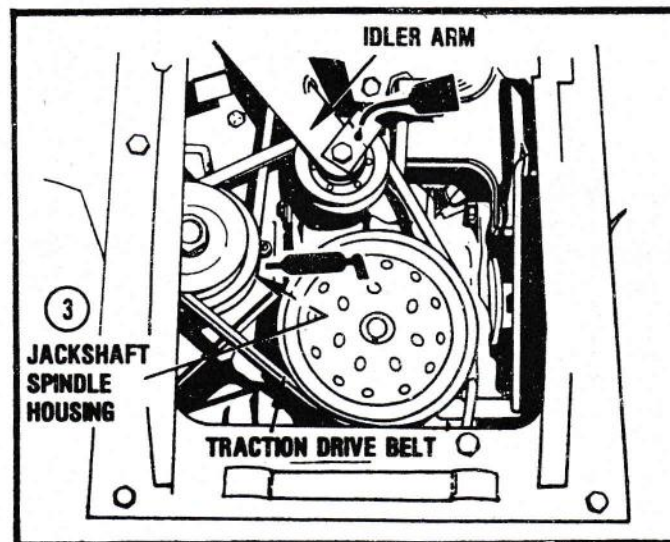


FIGURE 17

4.19 Point to Oil:

1. Periodically oil the lift point pivots, front axle pivot, control linkage pivots and the shaft pivots to insure long life and smooth operation of the parts. See Figures 15, 16, and 17.
2. Lubricate slide for shift interlock switch.

**IMPORTANT:** Keep grease and oil off the belts to avoid belt slippage and deterioration.

## SECTION 5

### Storage

If tractor is not to be used for thirty days or more, prepare engine according to Engine Instructions Manual.

Store tractor and mower in a cool, dry place.

Inspect tractor and mower for visible signs of wear, breakage, or damage. Order any parts required and make necessary repairs to avoid delays when beginning use again. Your Gravely dealer will be able to assist you.

Clean the tractor and mower thoroughly. Touch up all scratched and exposed areas with paint to avoid rust. See your Gravely dealer.

## SECTION 6

### General Specifications

Fuel	See Engine Manual
Engine Oil	See Engine Manual
Engine	11 hp Synchro-Balanced
Starting	Electric Std.
Keyswitch	Standard
Transaxle Gears:	
Forward	.8, 1.2, 1.7, 2, 3, 4, 5 mph (1.28-7.2 kmph)
Reverse-one speed	2.5 mph (4.0 kmph)
Tires:	
Front	Pneumatic -- 13-5.00 x 6
Rear	Pneumatic -- 18-8.50 x 8
Total Oscillation Front Axle	5-1/2" (14 cm)
Geared Steering	Yes
Fuel Tank Capacity	7 qts. (6.6 liters)
Drive	Gear
Lift	Manual
Travel Brakes	Disc
Headlights	Standard
Tail Light	Standard
Dimensions:	
Height	36" (91 cm)
Width	34" (86 cm)
Length	61" (155 cm)
Wheelbase	46" (116 cm)
Turning Radius--(Inside Rear Tire)	32" (81 cm)
Shipping Weight	540 lbs. (245 kg)
Cutting Width	38" (98 cm)
Cutting Height	1-1/2" - 4" (3.8-10 cm)



## SECTION 7

### Assembly and Pre-Service

- 7.1 Remove the battery and place on a bench or other place which is well ventilated and an acid spill will not create damage. Fill the battery to the bottom of the fill tubes with 1.265 specific gravity electrolyte. Twenty minutes after filling with electrolyte, charge the battery at 6 to 8 amps for 20 minutes. Follow charger manufacturer's instructions for safe procedure.

Wait 20 minutes after charging before replacing the battery vent caps and placing on chassis.

- 7.2 Place the steering wheel on the steering post while aligning the holes. Secure with a roll pin. See Figure 18.
- 7.3 Install the mower according to the instructions in Section 4.11.
- 7.4 Mount the seat to the seat springs with four 5/16-18x3/4 bolts and four 5/16 lockwashers.
- 7.5 Follow the instructions in the engine manual and lubricate the engine and fill fuel tank.

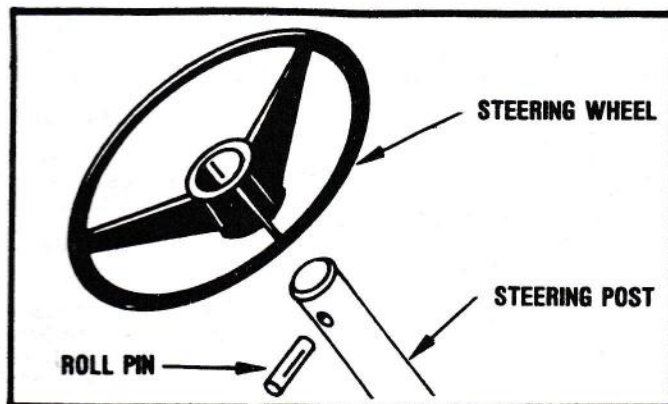


FIGURE 18

## SECTION 8

### LIMITED TWO-YEAR WARRANTY

1. This Limited Two-Year Warranty is issued by Gravely International, Inc., only to the original purchaser. If Gravely equipment is leased by Gravely, this Warranty shall extend also to the original lessee as if such lessee were the original purchaser.
2. Gravely warrants that all new equipment manufactured by Gravely ("Gravely Products") shall be free of defects in material and workmanship for the term described in paragraph 4, below. Except as hereinafter provided, this Warranty does not cover any engine, tires or battery forming a part of the Gravely Product. Engine and tires are covered by and subject to separate warranties of the manufacturers thereof.
3. In the event that any Gravely Product warranted hereunder shall be defective or fail to conform with this Warranty, Gravely shall, subject to the provisions hereof, pay for, or provide labor and materials for, the repair or replacement of such defective Gravely Product.
4. This Warranty is for two years (24 months) from purchase date for Gravely Products used exclusively for personal, family or household purposes, and 90 days for products used for other purposes (commercial use).

Batteries are warranted by Gravely for a period of twelve (12) months only. If a battery shall fail within twelve (12) months of purchase, the replacement cost thereof shall be prorated over a twelve-month term based upon the number of months since purchase.
5. To obtain Warranty Service on a Gravely Product (including any battery or other component not manufactured by Gravely), use this procedure:
  - a. Notify the Gravely dealer from whom you purchased the equipment.
  - b. If you have moved and it is not convenient to notify the selling dealer, notify the nearest Gravely dealer. You should supply this dealer with a copy of the bill of sale as proof of the date of purchase.
  - c. Make arrangements to have the equipment delivered to the dealer (refer to paragraph 6 a., below).
  - d. If you have any questions concerning the Gravely Limited Warranty, they should be referred to:

Gravely International, Inc.  
One Gravely Lane  
Clemmons, NC 27012  
Attn: Customer Service Department
  - e. Warranty service on Gravely Products must be performed by an authorized Gravely dealer.
6. This Warranty does not cover the following:
  - a. Transportation to the Gravely dealership. (If the Gravely dealer provides transportation, he will charge for such service.)
  - b. Normal maintenance services and normal replacement of items such as spark plugs, belts, oil, oil filters, air filters, and mower, plow or cultivator blades, gauge wheels, skids and other wear items.
  - c. Any Gravely Product which has been altered or modified in any way.
  - d. Any repair or replacement occasioned by customer neglect or lack of proper maintenance. (The purchaser is responsible for making sure that Gravely Products are operated and serviced as directed in the applicable manual or service instruction. Incorrect use or maintenance will void this Warranty.)
  - e. Any repair occasioned by the use of any attachment not approved by Gravely. (The use of any such unapproved attachment will void this Warranty.)
7. GRAVELY MAKES NO OTHER EXPRESS OR IMPLIED WARRANTIES, OR WARRANTIES AS TO THE MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. ALL WARRANTIES ARE LIMITED IN DURATION TO THE TERMS SET OUT IN PARAGRAPH 4, ABOVE. GRAVELY SHALL HAVE NO LIABILITY FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE BREACH OF ANY WARRANTY, INCLUDING, BUT NOT LIMITED TO, LIABILITY FOR INCONVENIENCE, RENTAL OR PURCHASE OF REPLACEMENT EQUIPMENT, OR FOR LOSS OF PROFITS OR OTHER COMMERCIAL LOSS.
8. Some states do not allow limitations on how long an implied warranty lasts, so the above statement may not apply to you. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.
9. This Warranty gives you specific legal rights, and you may have other rights which vary from state to state.
10. A Gravely product registration card is supplied with each Gravely Product. Please complete the card and return it to Gravely at the address listed on the card. The equipment registration card will be used by Gravely for:
  - a. Recording date of purchase.
  - b. Notification of owners in compliance with the Consumer Product Safety Act, should any notification be necessary.The return of such card is necessary for your warranty to be effective.
11. This Warranty is not subject to change or modification by anyone, including Gravely dealers and no Gravely dealer is authorized to make any representations or promises on Gravely's behalf.



One Gravely Lane, Clemmons, NC 27012