



1138 TRACTOR AND 38" MOWER

OPERATORS MANUAL

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.

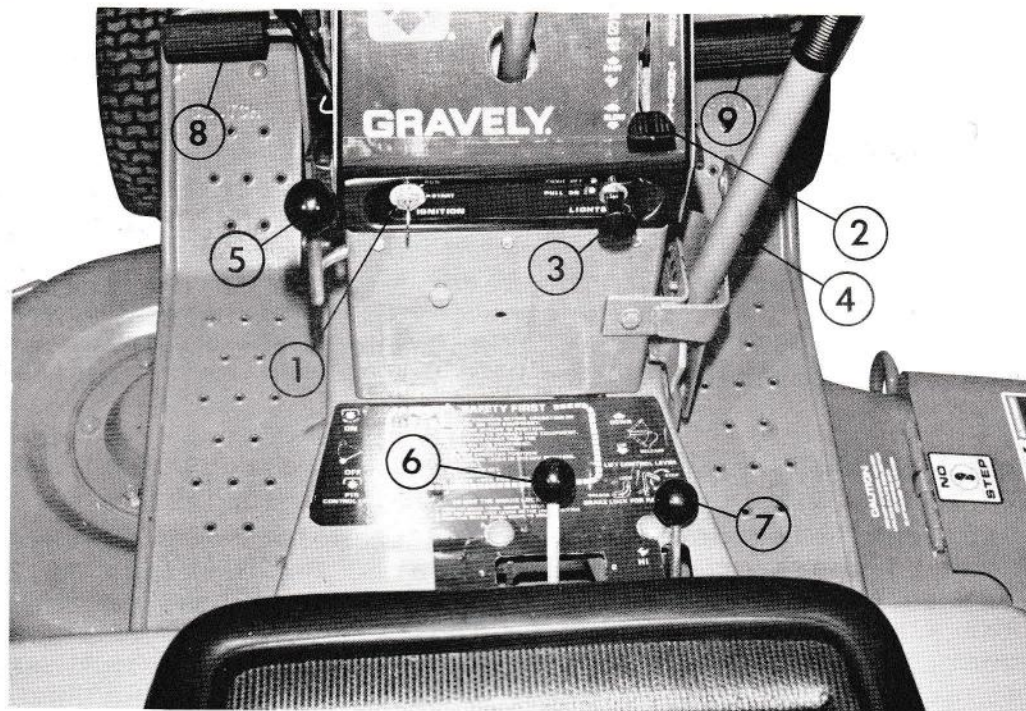
2.2 Ignition and Starter Switch:

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.

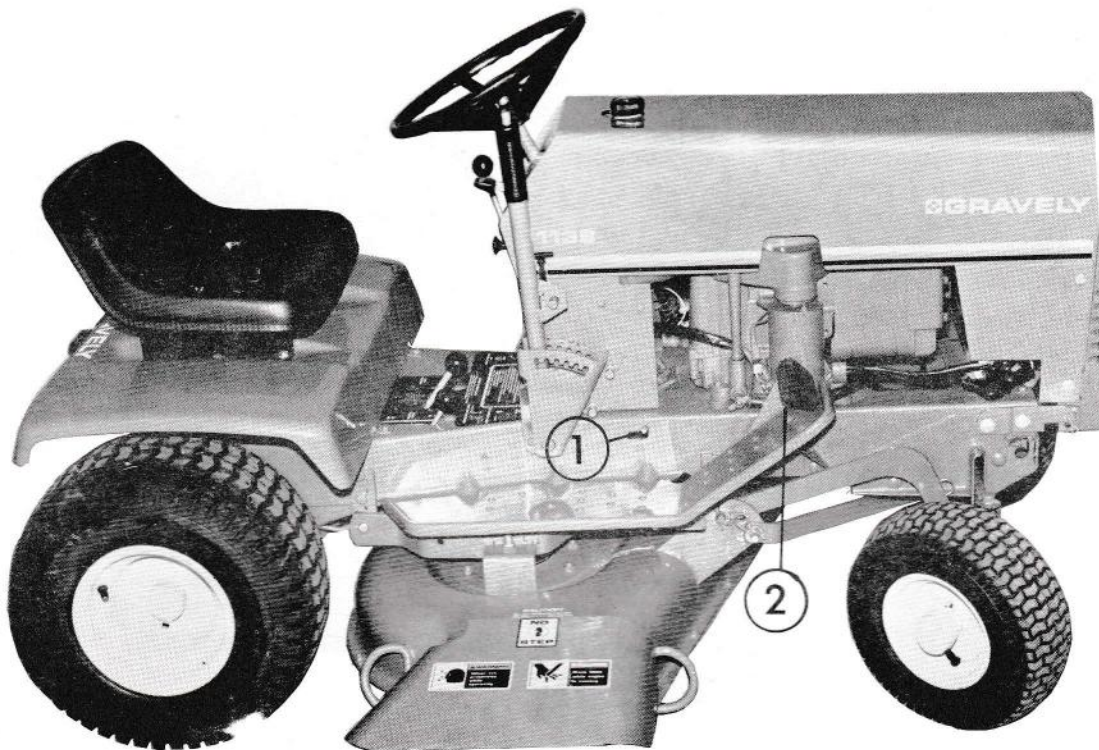
2.10 Brake Pedal:

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.

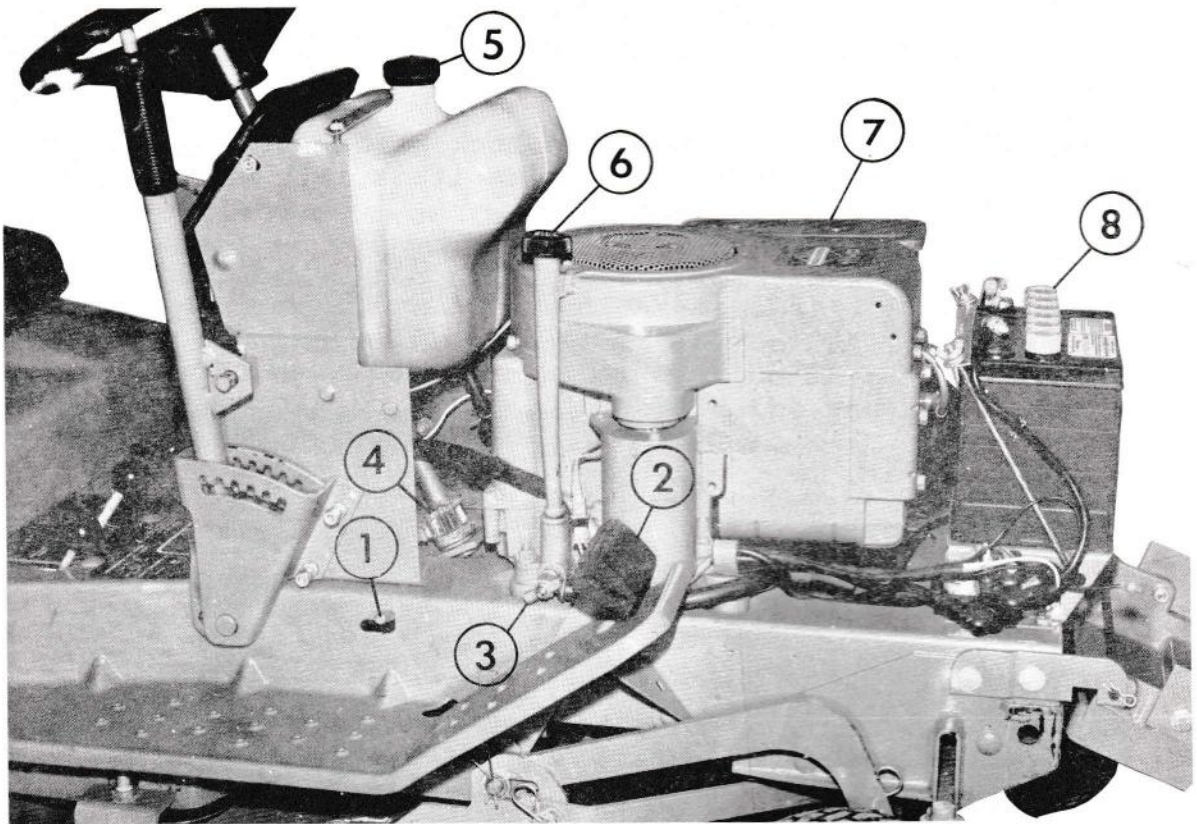
CAUTION: Engage the brake lock before dismounting the tractor or any time it is left unattended.



- 1 - Parking Brake Lock
- 2 - Brake Pedal

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FIGURE 2



83003

- 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 30 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

Gravely 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 to many positions. Adjustment is made by loosening the two rear mounting bolts located under rear of the seat, sliding the seat to the most comfortable position and then tightening the mounting bolts.

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.

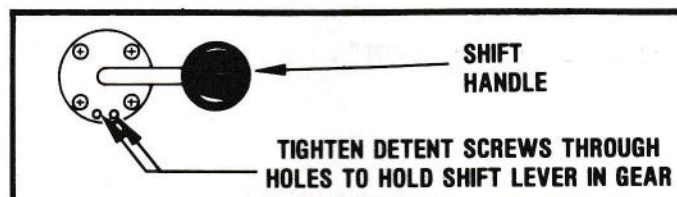


FIGURE 4

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 setscrew 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 setscrew 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:

Removal of main drive belt:

NOTE: Remove spark plug wire.

1. Loosen or remove the three fasteners holding spindle housing and belt fingers near PTO sheave and rotate fingers away from PTO Sheave. See Figure 6 and 7.
2. Move PTO Lever to "OFF".
3. Raise mower to highest position with Attachment Lift Lever.
4. Unwrap mower drive belt from PTO Sheave (DO NOT PRY).
5. Lower mower to lowest position with Attachment Lift Lever.
6. Move PTO Lever to "ON".

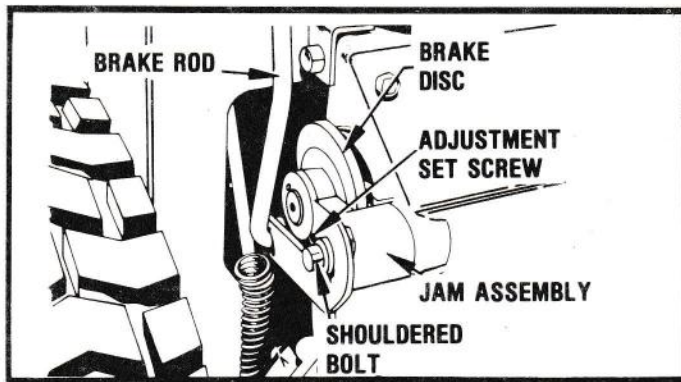


FIGURE 5

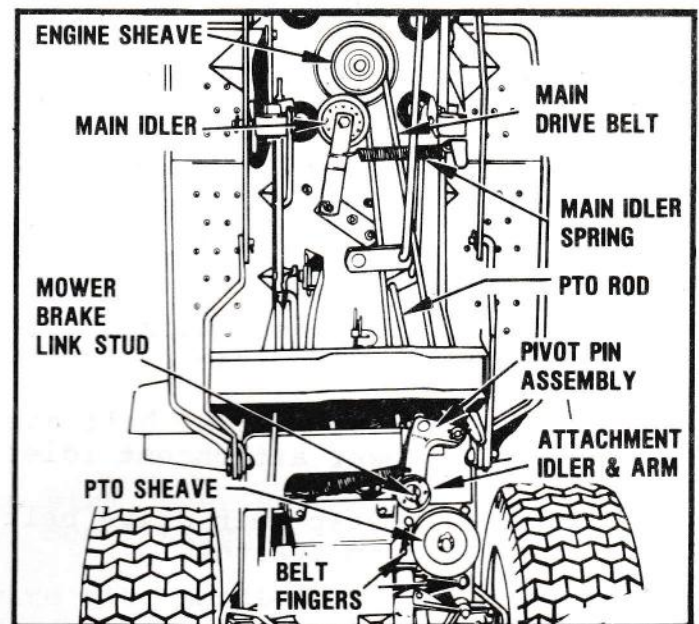


FIGURE 6

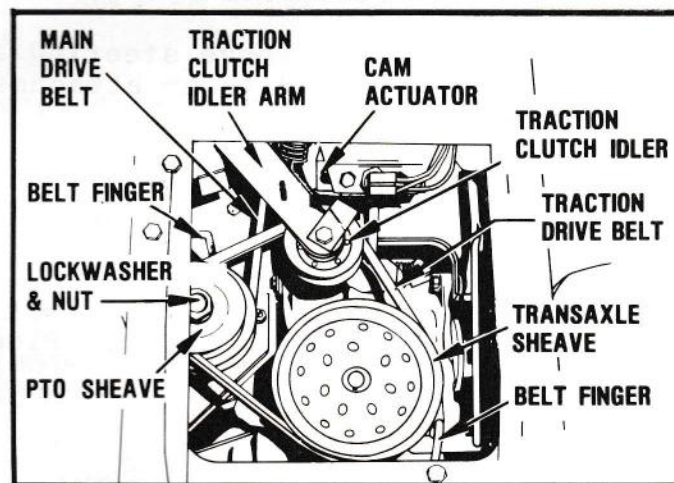


FIGURE 7

7. Remove hair pin and mower brake link from attachment idler.
8. Disconnect attachment idler spring from anchor on right side of transaxle. (Use vise grips.)
9. Remove cotter pin, washer, and PTO Rod from attachment idler arm.
10. Loosen fasteners holding two belt fingers around traction drive belt to frame, and rotate fingers away from belt.
11. Depress Clutch Pedal with left foot and unwrap traction drive belt from transaxle and upper groove of top PTO sheave.
12. Release clutch, disconnect traction clutch spring from traction clutch idler arm. (Use vise grips).

13. Rotate attachment idler until hair pin at top of idler assembly pivot pin can be removed rearward.
14. Remove PTO pivot pin, hair pin, and washer.
15. Lower Attachment idler assembly until traction clutch idler arm is free of pivot pin.
16. Disconnect main idler spring from anchor point at left side of frame. (Use vise grips).
17. Slide rear of belt ahead and between upper traction and lower attachment idler assemblies.
18. Unwrap main drive belt from engine sheave and remove from tractor.

Installation of New Belt:

1. Wrap new main drive belt around engine sheave.
2. Feed other end rearward, above steering arm and through, between upper traction and lower attachment idler pivot assemblies.
3. Push attachment idler arm upward until pivot pin is completely positioned through the traction clutch idler arm pivot.
4. Rotate attachment idler arm so that hair pin can be reinstalled in a forward direction. Place washer over pivot pin, install hair pin.
5. Move PTO Lever to "ON".
6. Feed PTO rod between main drive belt lengths and install end through hole in attachment idler arm.
7. Install washer and cotter pin in PTO Rod.
8. Connect attachment idler spring to anchor on right front corner of transaxle. (Use vise grips.)
9. Wrap main drive belt around lower (larger) groove on top PTO sheave.
10. With the main drive belt in the groove, reassemble the spindle housing and belt fingers.
11. Reconnect main idler spring to anchor hole on left side of frame. Be sure main idler is on backside of main drive belt and spring is above steering link.
12. Grasp traction clutch idler spring with vise grips and connect hook to traction clutch idler arm.
13. Depress traction clutch pedal and wrap traction drive belt around upper groove on PTO sheave and transaxle sheave. DO NOT PRY.

14. Release clutch pedal and align and tighten traction belt fingers to 1/16" to 1/8" from belt.
15. Move PTO Lever to "OFF" and move Attachment Lift Lever to highest position.
16. Wrap mower belt around bottom PTO sheave. DO NOT PRY.
17. Realign fingers around bottom PTO sheave 1/16" to 1/8" away from pulley and tighten.
18. Move PTO Lever to "ON".
19. Attach mower brake link to stud under attachment idler and secure with hair pin. See Figure 8.
20. NOTE: Leave spark plug wire disconnected.
21. Move Attachment Lift Lever to lowest position.
22. Move PTO Lever to "OFF". Place Gear Selector Lever in "NEUTRAL".
23. Crank engine (with starter only) about six revolutions.
24. Inspect main drive belt and main idler for alignment and clearance from sharp edges.
25. Replace spark plug wire and test function.

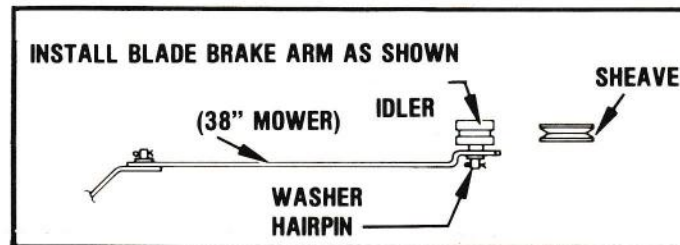


FIGURE 8

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).

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.

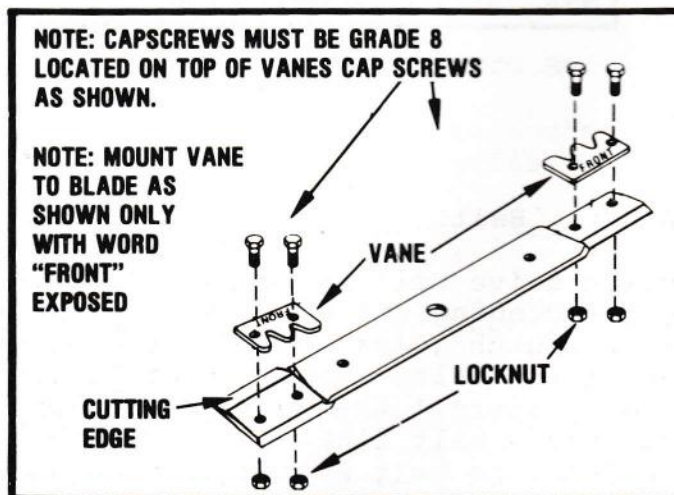


FIGURE 9

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

In order to perform some maintenance it may be necessary to remove the mower as follows:

1. Lower the mower. Remove the hairpin cotter and washer from the stud on the attachment idler (Figure 6) and disconnect the mower brake link.
2. Raise the mower. Loosen the belt fingers on the tractor PTO sheave, slide them to one side, and remove the mower belt from this sheave.
3. Lower the mower and remove the hairpin cotters and washers. The two pins and washers on the front secure the mower to the front hangers and can be disconnected to free the front of the mower. The other two pins and washers join the front of the mower to the belt tightener bracket. Loosen the hex nuts and turn the rear hanger hooks to the side to free them from the rear hangers. See Figure 10.

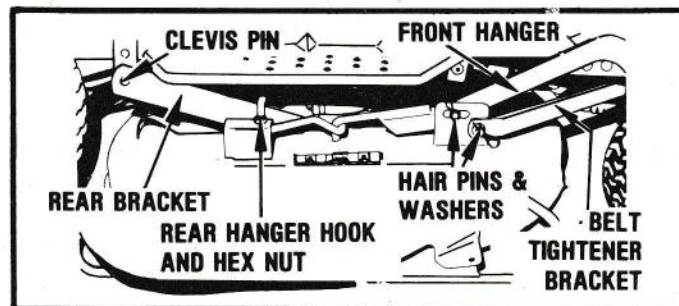


FIGURE 10

4. Place front hanger on top of rear hanger. Raise the Attachment Lift Lever to pull the hangers up out of the way. Pull the mower from under the tractor.

The front and rear hangers may be assembled and engaged with washers and hairpin cotters.

4.11 Mower Installation:

Position the tractor on a smooth, level surface and install the mower as follows:

1. Lower the Attachment Lift lever. One front set of pins and washers will connect the tabs on the front of the mower to the front hangers, the second set of pins and washers connect the front of the mower to the belt tightener bracket. The rear set of pins and washers connect the rear hangers to the frame. See Figure 8.
2. With the Mower Belt in place on the mower and the lift arm in its highest position, position the mower under the tractor and forward against the front wheels.
3. Lower the Attachment Lift Lever. Slide the mower back (while lifting the rear) so that the mower hanger hooks slide up on the rear hanger. Assemble the front hangers to the tabs on the mower while, at the same time, assembling the front and rear hangers. Secure with four washers and hairpin cotters. Connect the Belt Tightener Bracket to the mower.
4. Raise the Attachment Lift Lever to maximum height. Connect Mower Belt to PTO Sheave.
5. Connect the blade brake arm to the stud on the center of the Attachment Clutch Idler. Secure with a washer and a hairpin cotter.
6. Adjust the belt fingers on the tractor PTO Sheave to clear the belt by $1/8$ to $1/6$ ". Tighten the belt finger hardware.

4.12 Mower Leveling

Check tire pressure. Uneven tire pressure may cause uneven grass cutting.

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

1. Position the tractor on a smooth level surface. Adjust tire pressure as follows (light loading):

Front - 10 psi/Rear - 6 psi

2. Measure the distance from surface to mower blades at the front and rear of the mower. The rear of blades should be 1/8 inch higher than front and blades should hang even side to side.
3. If adjustment is required, turn the hex nuts on the rear hanger hooks to move the hooks up or down to secure the proper adjustment. When the mower is leveled and hangs evenly, tighten the hex nuts securely. See Figure 10.
4. Adjust Mower Belt for proper center distance. See Figure 11. Adjust nuts on the adjustor rod to move mower forward or rearward. Adjust for 1 to 1-1/2 inch clearance between belt as shown in Figure 11 with mower in highest position.

! 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 sheave must not have a tendency to drive mower belt and/or override brake.)

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 12.

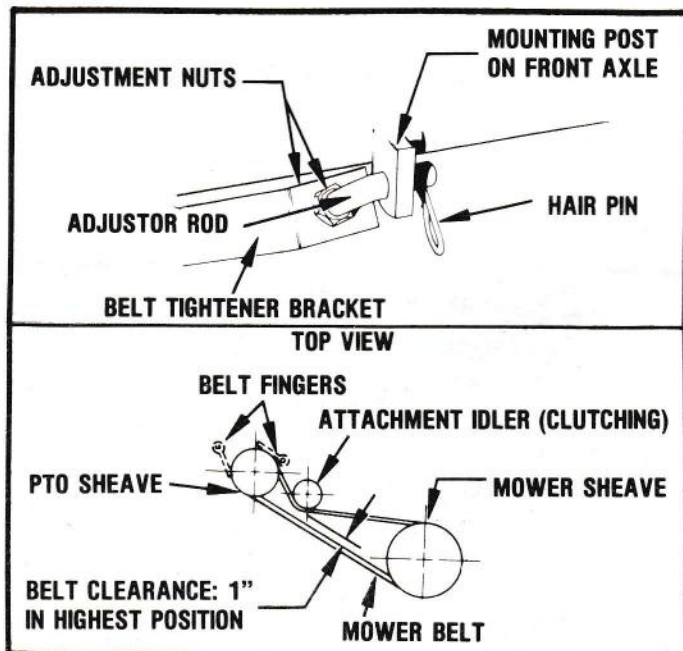


FIGURE 11

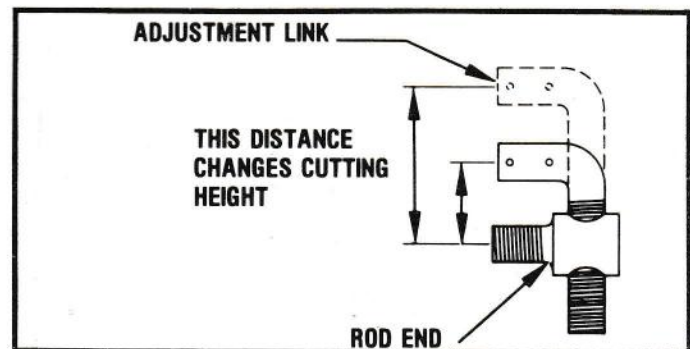


FIGURE 12

4.14 Mower Drive Belt:

If belt squeals when PTO Control is properly engaged, check adjustment of belt. If squeals continue, belt may require replacement. See Figures 11 and 13.

A. Removal:

1. Place the Attachment Lift Lever in the lowest position, (forward). Put PTO Control in the "OFF" position.
2. Loosen the belt fingers at the PTO sheave and turn them away from the sheave.
3. Remove the hair pin or cotter pin securing the brake band and rotate the band away from the sheave.
4. Raise the mower to its mid position and remove the mower belt from the PTO sheave; lower the mower and remove the belt from mower.

B. Replacement:

1. Position the replacement mower belt around the sheave on the mower. Reposition the brake band around the sheave and secure with the cotter or hair pin.
2. Raise the mower to its center position and install the mower belt around the PTO sheave.

C. Adjustment:

Adjust mower belt for proper center distance. Adjust nuts on adjustor rod to move mower forward or rearward. Adjust for 1 inch clearance between belt with mower in highest position.

With the mower belt adjusted and the PTO "OFF", adjust the nut on the end of the brake rod until the spring is $7/8$ " in length.

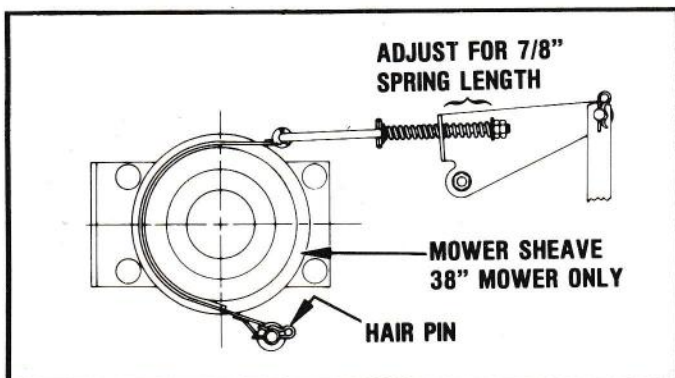


FIGURE 13



FIGURE 14

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.

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.

4.19 Points 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.

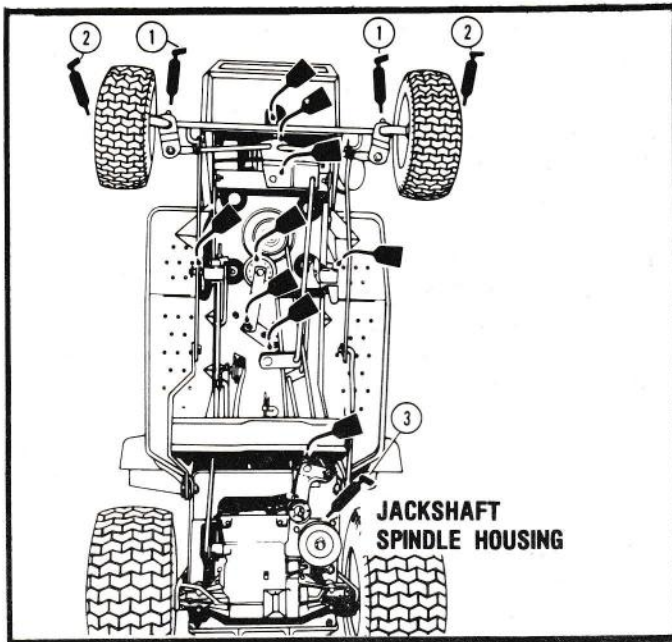


FIGURE 15

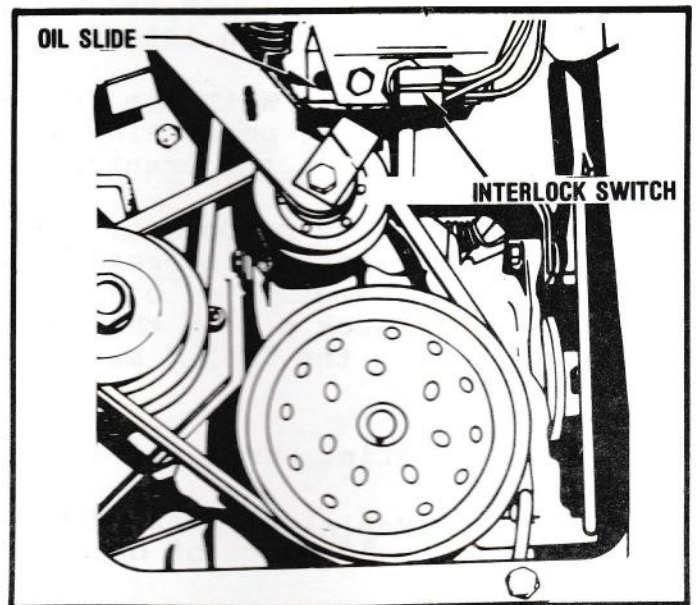


FIGURE 16

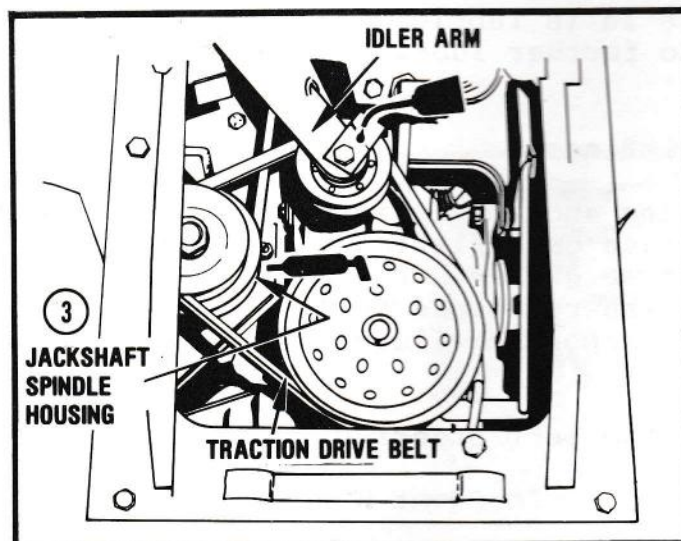


FIGURE 17

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 Follow the instructions in the engine manual and lubricate the engine and fill fuel tank.

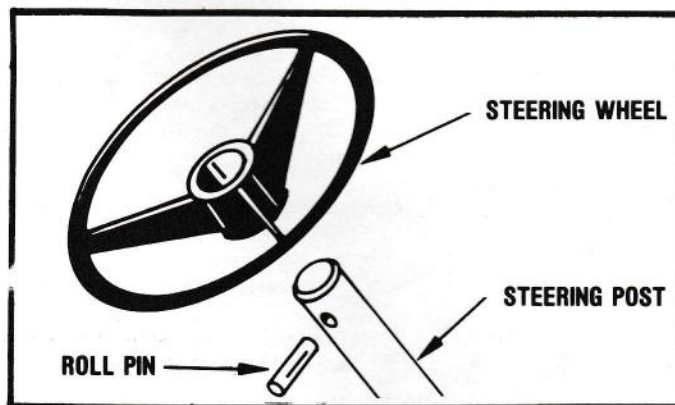


FIGURE 18

SECTION 8

GRAVELY LIMITED WARRANTY

This Limited Warranty is issued by Gravelly International, Inc., and consists of the following terms:

1. Only the original purchaser of new Gravelly equipment is covered by this Warranty.
2. This Warranty covers repair or replacement of parts manufactured by Gravelly which are defective in material or workmanship. Gravelly will pay for parts and labor only.
3. The Warranty starts the date of purchase and lasts for NINETY (90) DAYS for products used in commercial applications, and TWELVE (12) MONTHS for products used by the owner to maintain his personal residence. Commercial means any use other than to maintain the grounds around the personal residence of the owner of the product.
4. Some components of Gravelly equipment are not covered by the Gravelly Warranty. These components are covered by the original manufacturer's warranty, which is included with the product. They are:
 - a. Engines
 - b. Tires
5. To obtain warranty service on Gravelly equipment including components not manufactured by Gravelly, use this procedure:
 - a. Notify the Gravelly 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 Gravelly 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 Gravelly Limited Warranty, they should be referred to:

Gravelly International, Inc.
One Gravelly Lane
Clemmons, NC 27012

Attn: Manager of Customer Services
 - e. Warranty service on Gravelly equipment must be performed by an authorized Gravelly dealer or Gravelly factory branch.
6. Alterations or Modifications - All obligations under this warranty shall be terminated if the equipment is altered or modified in any way.
7. Customer Neglect or Lack of Proper Maintenance - The purchaser is responsible for making sure that the tractor is operated and serviced as directed in the operator's manual. Incorrect use or maintenance will void the warranty.
7. GRAVELLY MAKES NO OTHER EXPRESS WARRANTIES. ANY IMPLIED WARRANTIES, INCLUDING WARRANTIES AS TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED IN DURATION TO THE PERIOD SET OUT IN PARAGRAPH 3 ABOVE. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE STATEMENT MAY NOT APPLY TO YOU.
8. GRAVELLY SHALL HAVE NO RESPONSIBILITY FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE BREACH OF ANY WARRANTY, INCLUDING, BUT NOT LIMITED TO, INCONVENIENCE, RENTAL OR PURCHASE OF REPLACEMENT EQUIPMENT, LOSS OF PROFITS OR COMMERCIAL LOSS. 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 Gravelly product registration card is supplied with each Gravelly product. Please complete the card and return it to Gravelly at the address listed on the card. The equipment registration card will be used by Gravelly for:
 - a. Recording date of purchase.
 - b. Notification of owners in compliance with the Consumer Product Safety Act, should any notification be necessary.
11. The return of registration card is not required in order to take advantages of this Warranty.
11. This Warranty is not subject to change or modification by anyone, including Gravelly dealers and no Gravelly dealer is authorized to make any representations or promises on Gravelly's behalf.

This Warranty does not cover the following:

- a. Transportation between owner's home or place of business and the dealership. If the dealer provides the transportation of the equipment, he will charge the owner his usual rate 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.

 **GRAVELLY**
One Gravelly Lane, Clemmons, NC 27012