

GREENMAN

ZERO-TURN MOWER

OPERATOR'S MANUAL

100SERIES

MODELS: GMZT42RL

Jul.31 , 2020

General Information

Thank you for choosing GREENMAN as your preferred lawn mowing machine.

This owner's manual contains information on safety instructions, assembly requirements, operation instructions and maintenance requirements to assist you in the correct use of the machine.

The manual also contains information on adjustment settings and troubleshooting procedures should you require them.

We advise that you read this manual in its entirety before operating the units performance features, assembly and maintenance requirements, to ensure that you prolong the life of your machine and promote quality and maximum efficiency.

As with all mechanical equipment, your machine will require cleaning and upkeep, remembering that it's important to regularly lubricate the machine as specified in the manual.

If the owner's manual becomes lost or damaged in any way, please ensure that you seek a replacement copy immediately by contacting our sales department.

If additional information is required please contact our sales department. [or your preferred dealer]

The illustrations and data used in this manual were current at the time of printing.

However due to possible in-line production changes, your machine may vary slightly in detail.

The manufacturer reserves the right to make changes or add improvements to its products at any time without incurring any obligation to make such changes to previously manufactured products.

IMPORTANT

This machine is a ride-on, rotary-blade lawnmower intended to be used by homeowners in residential applications. It is primarily designed for cutting grass on well-maintained lawns. It is not designed for cutting brush, mowing grass and other growth alongside highways, or for agricultural uses. But it also should be treated carefully as such, any misuse or mistreatment of the machine may result in death or serious injury to the operator. Any mishandling or misuse of the machine may result in direct damage to the machine. It is the responsibility of the operator to practice safe handling of the machine at all times and adhere to the safety instructions outlined in the manual to avoid death or serious injury or damage to the machine.

CONTENTS

SPECIFICATIONS.....	- 1 -
1. SAFETY SYMBOLS	- 2 -
2. SAFETY DECALS.....	- 2 -
3. SAFETY INFORMATION.....	- 5 -
3.1. Trainings.....	- 5 -
3.2. Preparation.....	- 5 -
3.3. Fuel Handling Safety	- 5 -
3.4. Operational Safety	- 6 -
3.5. Maintenance Safety	- 7 -
3.6. Storing Safely	- 7 -
4. ASSEMBLY INSTRUCTIONS.....	- 8 -
4.1. Uncrate Mower.....	- 8 -
4.2. Install Seat	- 8 -
4.3. Install Steering Lever.....	- 8 -
4.4. Install Discharge Chute	- 8 -
4.5. Service Battery	- 9 -
4.6. Service Engine.....	- 9 -
5. OPERATION.....	- 9 -
5.1. Controls And Switches	- 9 -
5.2. Pre-Start Check List	- 11 -
5.3. Mounting And Dismounting The Mower	- 12 -
5.4. Starting The Engine	- 12 -
5.5. Cold Weather Starting Tips.....	- 13 -
5.6. Steering Lever Operation.....	- 13 -
5.7. Mowing	- 15 -
5.8. Uneven Terrain	- 16 -
5.9. Stopping The Engine	- 17 -
5.10. Transporting Machine.....	- 17 -
5.11. Loading Machine	- 17 -
5.12. Storing Safely	- 17 -
6. MAINTENANCE.....	- 18 -
6.1. Check Engine Oil Level	- 18 -
6.2. Lubrication	- 18 -
6.3. Capacities	- 19 -
6.4. Tire Air Pressure	- 19 -
6.5. Crankcase Oil And Air Filter	- 19 -
6.6. Battery Maintenance.....	- 19 -
6.7. Deck Cleaning	- 19 -
6.8. Blade Inspection	- 20 -
6.9. Blade Removal	- 20 -
6.10. Blade Sharpening.....	- 20 -
6.11. Balancing the Mower Blades.....	- 20 -

6.12. Blade Installation.....	- 21 -
7. ADJUSTMENTS.....	- 21 -
7.1. Cutting Height Adjustment.....	- 21 -
7.2. Deck Leveling Adjustment.....	- 22 -
7.3. Deck Belt Adjustment.....	- 22 -
7.4. Dump Drive Belt Adjustment.....	- 23 -
7.5. NeutralAdjustment.....	- 23 -
7.6. Seat Adjustment.....	- 23 -
7.7. Parking Brake Adjustment.....	- 24 -
8. TROUBLESHOOTING.....	- 24 -

SPECIFICATIONS

Machine Model	GMZT42RL	
Engine		
Engine Type	BRIGGS&STRATTON	
Model No.	40S877	
Net Power	14.91Kw	
Displacement	656cc	
No-load r.p.m.	3600r/min	
Starter	Electric	Electric
Electrical System	Safety interlocked	
Deck Drive	Electric clutch	
Drive System	EZT	
Steering	Dual levers independently control speed and direction of travel Zero turning radius	
Speed		
Forward (variable)	0 to 7mph. (11.3 km/h)	
Backward (variable)	0 to 3.4mph. (5.5 km/h)	
Fuel Tank Capacity	3.5U.S. gal. (13L.)	
Tire Sizes		
Drive Wheels	18×7.5—8 2 ply rated	
Front Wheels	11×4—5 4 ply rated	
Dimensions of Tractor		
Seat Back Height	37.5" (0.95m)	
Seat Cushion Height	26.5" (0.6m)	
Tractor Width (No Discharge Chute)	44.3" (1.1m)	
Tractor Length	68.1" (1.73m)	
Wheel Base	33.9" (0.86 m)	
Weight - Uncrated	496 lbs. (225 kg.)	
Weight - Crated	650 lbs. (295 kg.)	
Cutting		
Cutting Height	1-4"(2.5-10 cm)	
Cutting Width	42"	

SAFETY SYMBOLS



This SAFETY ALERT SYMBOL is used both in this manual and on the machine to alert you to important safety messages which must be followed to avoid accidents. This symbol means: **ATTENTION! BECOME ALERT!**

The safety alert symbol is to alert you to the unsafe action or situation and is accompanied by the word

DANGER, WARNING, or CAUTION.

⚠ DANGER: the safety instructions **WILL** result in death or serious injury.

⚠ WARNING the safety instructions **COULD** result in death or serious injury.

⚠ CAUTION: the safety instructions **COULD** result in minor or moderate injury.

SAFETY DECALS

- All DANGER, WARNING, CAUTION and instructional messages on your machine should be carefully read and obeyed. Personal injury can result when these instructions are not followed. The information is for your safety and it is important! The safety decals below are on your machine. The position of decals refer to Figure 1 and Figure 2.
- Keep all safety decals legible. Remove all grease, dirt, and debris from safety decals and instructional labels.

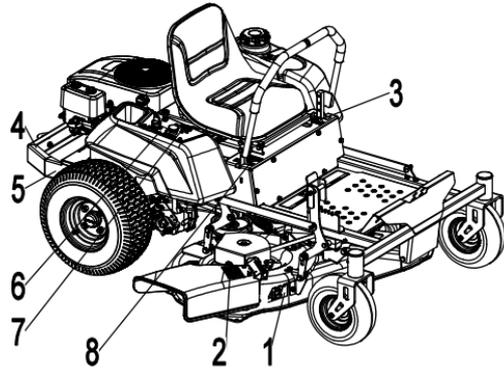


Figure 1

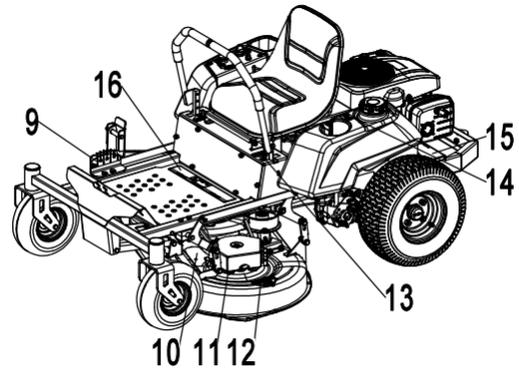


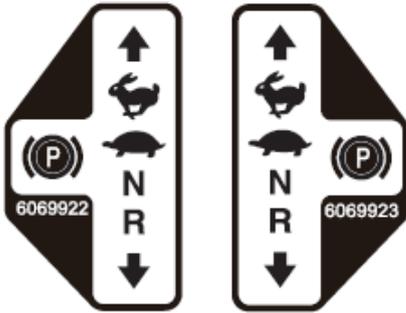
Figure 2

- Safety decals must be replaced if they are missing or illegible.
- When new components are installed, be sure that current safety decals are affixed to the replaced components.
- New safety decals may be obtained from Your authorized equipment dealer or distributor.
- Familiarize yourself with the following safety decals and instruction labels. They are critical for the safe operation of your machine.



6069370

Besides The Fuse



6069922

6069923

On The Front Fender,LH&RH



6069750

6069760

Behind Of The Rear Wheel,LH&RH



6069921

On The Console



6069927

On The Console



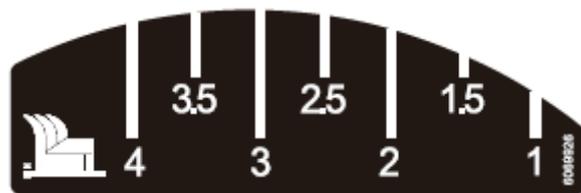
6069430

Rear Of The Shield,LH&RH



6069680

On The Tank



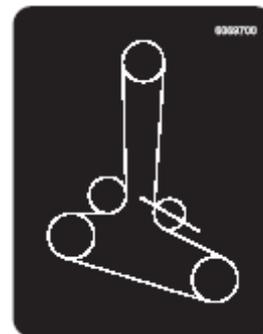
6069926

On The Carrier Ratchet



6069730

On The Front Of Deck,42"



6069700

On the mower deck



6069420

Besides The Belt Shields,LH&RH



6069410

On The CHUTE



6069450

Besides The Belt Shields,LH&RH

42D

6969925

On The Left Side Of The Frame

WARNING



SERIOUS INJURY OR DEATH MAY RESULT FROM MACHINE UPSET

- Read manual for safe operation.
- Do not operate machine on slopes over 15°(27%) or near drop offs.
- Avoid sharp and/or quick turns.
- Always use seatbelt.
- Do not jump off if machine tips.
- Do not modify, repair, or remove any OPS components including seatbelts.

6069770

6069770
On the seat bracket



6069460
On the footboard

SAFETY INFORMATION



The safety of this machine relies on it being operated within the conditions that explained in this manual. Please read the manual carefully before operating. Make sure the operator is thoroughly familiar with the safety rules.

Trainings

- Regard the machine as a piece of power equipment, so any person who operates the machine **MUST** be trained and capable of the safe operation of the equipment and controls.
- Know your controls and how to stop the machine, engine and mower deck in an emergency.
- To avoid accident or injury, **DO NOT** allow anyone to operate this machine without reading the instruction.
- Never allow young children, or unqualified individuals to operate the equipment.
- Keep young children and pets, away from the zone of operation to avoid accidents or hazards to other people or their property.

Preparation

- While mowing, always wear tight and belted clothing. Wear protected footwear. Never operate the machine in bare feet, open toed footwear.
- Walk around machine and visually inspect for damaged, loose, or missing components. **DO NOT** operate unless all components are properly installed, adjusted and in good working condition.
- Make sure all safety switches function properly. See Operation section for details.
- Make sure all safety shielding is in good condition and properly installed.
- Check brake action before you operate. Adjust or check brakes as required.

- Make sure all safety decals are installed and in good condition.
- Remove accumulated debris from machine to avoid fire hazard.
- Thoroughly inspect area to be cut and remove stones, branches, wires and accumulated debris that might be thrown causing personal injury or damage.
- Evaluate the terrain to determine what accessories and attachments are needed to properly and safely perform the job.
- Never permit any person, besides the operator, to ride or operate the mower at any time.
- Operate only in daylight or good artificial light.

Fuel Handling Safety

- In certain conditions, gasoline is extremely flammable and highly explosive. A fire or explosion from gasoline can burn you and others and can damage property.
- Fill the fuel tank outdoors, in an open area, when the engine is cold. Wipe up any spill gasoline.
- **DO NOT** fill the fuel tank completely full. Add gasoline to the fuel tank until the level of the filler neck. This empty space in the tank allows gasoline to expand.
- Never smoke when handling gasoline, and keep away from open flames or where gasoline fumes may be ignited by a spark.
- Store gasoline in an approved container and keep it out of the reach of children. Never buy more than a 30-day supply of gasoline.
- Always place gasoline containers on the ground away from your vehicle before filling.
- **DO NOT** fill gasoline containers inside a vehicle or on a truck or trailer bed, because interior carpets or plastic truck bed liners may insulate the container and slow the loss of any static charge.
- When practical, remove gas-powered equipment from the truck or trailer and

refuel the equipment when its wheels are on the ground

- If this is not possible, then refuel such equipment on a truck or trailer from a portable container, rather than from a gasoline dispenser nozzle.
- If a gasoline dispenser nozzle must be used, keep the nozzle in contact with the rim of the fuel tank or container opening at all times until fueling is complete.
- Never use cellular phones or other portable electronic devices when handling fuel.

Operational Safety

- Read “Operation” section of this manual before attempting to operate this machine.
- DO NOT operate without ROPS (Roll Over Protection System) deployed.
- Fenders serve as shields. DO NOT operate without them.
- DO NOT drive machine without mower deck installed. The proper stability of the machine depends on the weight of the mower deck.
- Keep bystanders away from equipment while it is in operation.
- Keep children and pets a safe distance. Never directly discharge towards a person.
- Start engine from operator’s seat after disengaging PTO and placing steering levers into the swing-out (neutral lock) position.
- Keep hands and feet away from underneath mower deck while engine is running. Keep clear of all moving parts on machine.
- Wear suitable hearing protection devices to protect engine noise.
- DO NOT operate in backward unless absolutely necessary and ensure the area behind you is clear and safe.
- DO NOT move steering levers from forward to backward or backward to forward position rapidly. The sudden direction change may cause loss of control.
- DO NOT operate on steep slopes greater

than 15 degrees.

- DO NOT stop, start or change directions suddenly on slopes.
- Use extra care and maintain minimum ground speed when traveling or operating on a slope, over rough ground, or when operating close to ditches and fences.
- Keep alert for holes, rocks, roots and other hidden hazards in the terrain. Keep away from drop-offs and soft embankments.
- Stop machine and mower deck immediately while striking an obstruction or hard object. Turn engine off, inspect machine and mower deck. Repair any damage before resuming operation.
- Disengage PTO, stop engine, select park brake, remove key and wait for all movement to stop before dismounting, making adjustments, cleaning, or unclogging the machine.
- Never transport mower with blades running. Disengage PTO before crossing streets, sidewalks, driveways, etc.
- Watch for traffic when operating near or crossing roadways.
- This machine is not equipped for highway use, especially when safety lighting and marking is required. It is NOT a recreational vehicle.
- This unit is not equipped with a drawbar. DO NOT pull loads.
- Take all possible precautions when the machine is unattended: disengage PTO, lower mower deck, place steering levers in neutral, set parking brake, stop engine and remove key from ignition.
- Never carry passengers.
- DO NOT run engine in an enclosed area without adequate ventilation. Exhaust gases contain carbon monoxide, which is an odorless and deadly poison.

Maintenance Safety

- Always undertake maintenance with the machine parked on a hard level surface;

with the engine stopped and the PTO disengaged; with the park brake set; and with the key removed from the ignition.

- Always remove the grounded (-) clamp from the battery when performing maintenance on the engine, clutch, or any other electrical system.
- Always wear tight fitting clothing and safety equipment when performing maintenance . Keep work area clean and dry.
- Never work under the machine without jack stands or other equivalent safety blocks. DO NOT depend solely on mechanical or hydraulic jacks or lifts for support. Always use adequate wheel chocks on tires remaining on the ground.
- If it is necessary to run an engine in an enclosed area, remove the exhaust gases from the area with an exhaust pipe extension. If an exhaust pipe extension is not available, work near the open doors and windows.
- Waste products such as used oil, fuel, and batteries can harm the environment and people. Dispose of waste products properly.
- Never attempt to disconnect or alter any part of the safety interlock systems.
- DO NOT change engine governor settings.
- Keep engine free of grass, leaves, or excess grease to reduce fire hazard and minimize engine overheating.
- Keep machine and mower deck in good operating condition and all safety devices in proper place.
- Periodically tighten all bolts, nuts and screws. Check that all locking pins are properly installed and in good condition.
- Check brake operation frequently. Adjust and service as required.

Storing Safely

- Never store the machine with gasoline in the tank inside a building where fumes may reach an open flame, spark or pilot light as

on a furnace, water heater, clothes dryer, or other gas appliance. Allow engine to cool before storing .

- If engine is to be unused for 30 days or more, add a fuel stabilizer to the fuel system. A fuel stabilizer is an acceptable additive in minimizing the formation of fuel gum deposits during storage. Add stabilizer to gasoline in fuel tank or storage container. Always follow mix ratio found on stabilizer container. Run engine at least 10 minutes after adding stabilizer to allow it to reach the carburetor.
- If draining fuel tank, drain fuel into an approved container outdoors and away from open flame.
- Always provide adequate ventilation when running engine indoors. Exhaust gases contain carbon monoxide, which is an odorless and deadly poison.
- Remove all accumulated debris from mower deck and tractor.
- Sand areas where paint is chipped and repair to prevent rust. Lubricate all locations to prevent moisture damage during storage.

ASSEMBLY INSTRUCTIONS

Uncrate Mower

Install Seat

Locate and align the seat with the seat pan (Refer to Figure 3), torque all the nuts until the seat is snug.

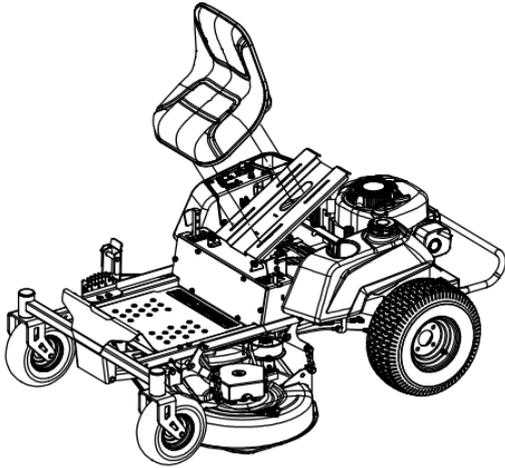


Figure 3

Install Steering Lever

4.3.1 Loosen and remove the two bolts and springs which attach to the control arm shaft .

4.3.2 Place the lever on the outside of the control arm shaft and secure with bolts and washers (Refer to Figure 4),tighten until snug. Repeat on opposite side of unit.

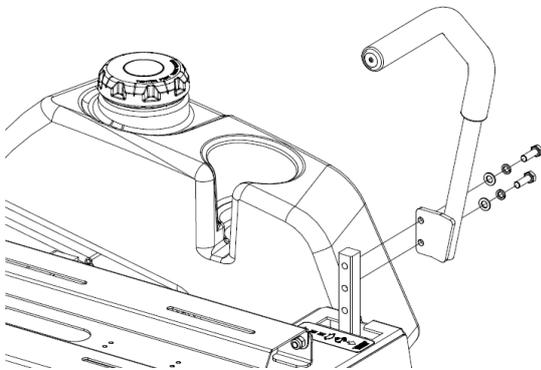


Figure 4

NOTE: There are two lever height options

available. Place the levers in the first and the second hole (from the top) to increase height of the levers, or in the second and the third hole(from the top) to decrease the height of the levers.

Install Discharge Chute

Locate the discharge to the mower deck(Refer to Figure 5) and tighten knob until chute is snug.

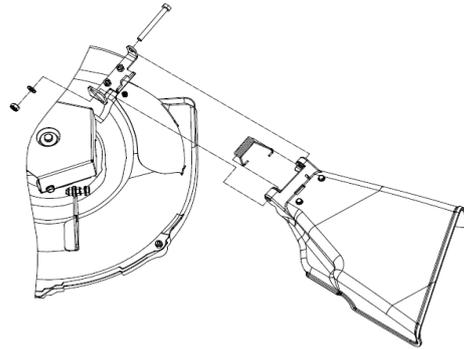


Figure 5

Service Battery



Charging the battery may produce explosive gases that can explode causing serious injury.Keep sparks, flames, or cigarettes away from battery.

4.5.1 Remove seat to gain access to the battery.

4.5.2 Check the voltage of the battery with adigital voltmeter, Locate the voltage of the battery in the table below and charge the battery for the recommended time (Refer to Table 1) interval to bring the charge up to a full charge of 12.6Volts or greater.

IMPORTANT: Make sure the negative & positive battery cables are correctly connected , and the battery charger used for charging the battery has an output of 16 volts and 7 amps or less to avoid damaging the battery.

Table 1			
Voltage Reading	Percent Charge	Maximum Charger settings	Charging Interval
12.6 or greater	100%	16Volts/7 amps	No charging Required
12.4-12.6	75%-100%	16Volts/7 amps	30 Minutes
12.2-12.4	50%-75%	16Volts/7 amps	1 Hour
12.0-12.2	25%-50%	14.4Volts/4 amps	2 Hours
11.7-12.0	0-25%	14.4Volts/4 amps	3 Hours
11.7 or less	0%	14.4Volts/4 amps	6 Hours or more

4.5.3 Connecting the negative battery cables:

Note: If the positive cable is also disconnected, connect the positive (red) cable to the positive battery terminal first, then the negative (black) cable to the negative battery terminal. Slip insulator boot over the positive terminal.

Note: If time does not permit charging the battery, or if charging equipment is not available, connect the negative battery cables and run the vehicle continuously for 20 to 30 minutes to sufficiently charge the battery.

 **CAUTION**

- Battery contains sulfuric acid, avoid contact and always shield eyes, face, skin and clothing from battery ,cigarettes. Flames or sparks could cause battery to explode.
- DO NOT charge or use booster cables or adjust post connection without proper training.
- If battery acid comes in contact with skin or eyes then flush with water and call a physician immediately.
- Keep out of reach of children.

Service Engine

Engine is shipped with oil, check oil lever and if necessary fill to the appropriate lever.

OPERATION

The safe operation of this machine is the responsibility of the operator. Any person who operates the machine **MUST** be

instructed in and capable of the safe operation of the machine and all controls. Read all safety information on pages 5 through 8.

Controls And Switches

Know your controls and how to stop the machine, engine, and mower deck quickly in an emergency. **DO NOT** operate this machine until you are completely familiar with the controls and comfortable with your ability. We recommend you practice in a flat open area at half throttle until you are comfortable with all the controls.

The two **Steering Levers** control speed, motion, and direction of the machine and are located on each side of the seat. The left lever controls flow of hydraulic oil from the left pump to the left drive wheel motor. The right lever controls flow of hydraulic oil from the right pump to the right drivewheel motor. This allows left and right drive wheels to turn independently, which provides the “zero turn” ability. Each lever has two positions: The swung “out” neutral lock position, where the lever will not activate the pump; and the swung “in” operation position, where the lever will activate the pump.

The following controls are located on or beside the Operator’s Console which is located to the right side of the seat. Refer to Figure 6.

- The Ignition Switch (A) is the key switch

located on the console. The ignition switch is used to start and stop the engine. The switch has three positions OFF, ON and START. Insert the key into the switch and rotate clockwise to the ON position.

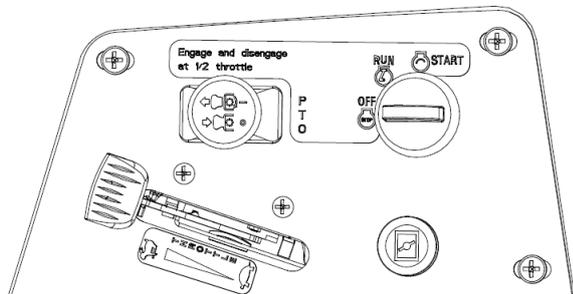


Figure 6

- The Choke Control (B) is the black knob on the console. Choke control is used to aid in starting a cold engine. Put the Choke control up or down can control the opening degree of the engine choke, the higher the knob is, the wider choke will be.
- The Throttle Control (C) is the large black lever located beside the console to the right of the seat. The throttle is used to control engine speed. Move the throttle lever forward to increase engine speed and backward to decrease engine speed.
- The PTO Switch (D) is the red push/pull knob located on the console. Pull PTO knob “up” to engage the electric clutch that drives the belt connected to the mower deck that driving the cutting blades. Push the PTO knob “down” to disengage the electric clutch that stops the blades from turning within a few seconds.
- The Electric Change and Hour Meter (E) is the number indicator located on the console. The meter is connected to the ignition circuit and is provided to record the number of hours the engine runs. If the ignition switch is left on, without the engine running, the hour meter will continue to record. The meter is also connected to the battery and is provided to show the

remaining power of the battery.

- When the levers are centered in the T-slot, the drive system is in the neutral position. With levers moved out in the T-slot, the drive system is in the parking brake position. See Figure 7.

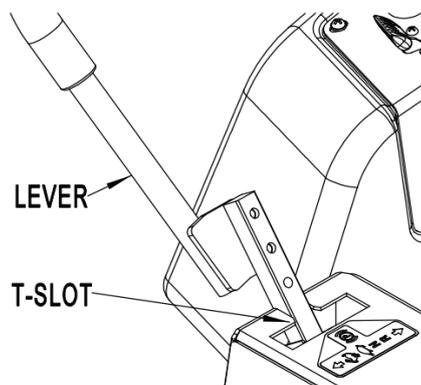


Figure 7

Several **Safety Switches** are incorporated in this machine’s design to prevent the engine from being started in certain conditions and to cease the running engine in certain conditions. These circuits should be checked before each operation to ensure they are working properly. See page 12 for check list on these circuits.

The **Start Circuits** will keep engine from starting unless:

- Both steering levers are swung out in their neutral locked position, and the PTO switch is down in it’s disengaged position.

The **Kill Circuits** will stop the running engine if:

- The operator comes off the seat any time during operation of the machine with PTO engaged or steering levers in operating position.
- The steering levers are in their operating position and the park brake lever is moved into engaged locked (up) position.



WARNING

DO NOT operate this machine unless all

safety systems are working properly as described above.

Pre-Start Check List

Maintain desirable operational standards and help ensure the safety of the operator by routinely checking the following on a daily basis:

- Walk around the machine and visually check for loose or missing components. Make sure all components are mounted properly and are in good working condition.
- Make sure all fenders, guards and shields are safely and securely attached.
- Make sure the discharge shield or restriction plate is installed at the discharge opening on the mower deck.
- Make sure all safety decals are clearly readable (see page 3 to 5).
- Check hydrostatic transmission fluid level. **DO NOT operate machine with low fluid. Low fluid could cause damage to transmission and loss of control of the machine.**
- Check for oil and fuel leaks.

IMPORTANT

When mowing in dusty conditions, dry grass or long grass, it may be necessary to frequently clean air intake screen to prevent engine overheating.

- Check air cleaner (refer to “Engine Manual”). When mowing in dusty conditions, dry grass or long grass, it may be necessary to frequently clean the air cleaner cartridge.
- Make sure the engine is free of dirt and debris.
- Check fuel level. Make sure fuel is enough .



DANGER

DO NOT fill fuel tank while engine is

Table 2

running. Allow engine to cool two minutes before adding fuel. If fuel is spilled, DO NOT start engine and avoid creating a source of ignition until the fuel is wiped clean and evaporated.

- Check tire pressure (see page 18 to 19). Improper pressure will adversely affect traction, steering and level cutting height.
- Check tires for damage or cracking.
- Check hydrostatic pump drive belt for damage or cracking.
- Check mower deck belt for damage or cracking.
- Check mower deck level.
- Check to ensure blades are sharp and secure; the cutting edge should be positioned in the direction of blade rotation (clockwise as viewed from top of mower deck).
- Adjust cutting height if necessary.
- Check operation of park brake.
- Remove grass and debris from machine.
- Test safety interlock systems (Refer to Table 2). Perform these tests in a clear open area and keep bystanders away. If there is a malfunction during one of these procedures, **DO NOT operate machine.** (See your GREENMANdealer).

Action	Left Steering Lever	Right Steering Lever	PTO Switch	Parking Brake	Proper Result
Start Circuits					
Try starting engine	Out	Out	Off	On	Engines Cranks
Try starting engine	In	Out	Off	On	Engine will not crank
Try starting engine	Out	In	Off	On	Engine will not crank
Try starting engine	Out	Out	On	On	Engine will not crank
Kill Circuits (with engine running at 1/2 throttle)					
Raise off seat	Out	Out	Off	On	Engine does not stop
Raise off seat	In	Out	Off	Off	Engine Stops
Raise off seat	Out	In	Off	Off	Engine Stops
Raise off seat	Out	Out	On	On	Engine Stops
Move left steering lever in		Out	Off	On	Engine Stops
Moveright steering lever in	Out		Off	On	Engine Stops

Mounting And Dismounting The Mower

Always mount and dismount the mower from the left side, with the brake on, the PTO disengaged (down), the engine off, and the steering levers in their swung out (neutral lock) position. Mount the mower by stepping from the ground to the left side of the deck with your right foot, then step over the frame to the footrest with your left foot. Always keep the top of the deck and footrest clean and dry. Wait for all moving parts to stop before dismounting. Dismount the mower by standing up on the footrest, then turn to the left and step from the footrest, over the frame, to the left side of the deck with your right foot, and then step to the ground with your left foot. The left steering lever can be used to stabilize your movement; however, it is not strong enough to support all your weight. Never leave the mower unattended with the key in the ignition.

Starting The Engine



Never start the engine in confined rooms. Exhaust gases contain carbon monoxide, an odorless and deadly poison.

DO NOT allow children to approach the machine while the engine is running.

DO NOT operate the machine around open flames .

DO NOT operate the engine when an odor of fuel is present or other explosive conditions exist.

5.4.1 Position yourself on the tractor seat.

5.4.2 Engage the park brake.

5.4.3 Place both steering levers in neutral lock position.

5.4.4 Place electric clutch switch(PTO) in “OFF (down)” position.

5.4.5 Set the throttle at 1/3 open.

5.4.6 Insert the key into the ignition switch and turn to “ON” .

5.4.7 Continue by turning the key to

“START”. When engine starts release key immediately.

5.4.8 Warm the engine up at medium speed for several minutes.

You will enhance the starter life by using short starting cycles of several seconds. Engaging starter motor more than 15 seconds per minute can result in damage to starter.

Cold Weather Starting Tips

- Use proper viscosity oil for temperature expected (see “Engine Manual”).
- Set throttle at half open.
- A warm battery has better starting capacity than a cold one.
- Use fresh winter grade fuel. It is better for winter starting than leftover summer grade fuel.

Steering Lever Operation



DO NOT move steering levers from forward to backward or backward to forward position rapidly. Sudden direction changes could cause loss of control or damage to the machine.



Help prevent personal injury. Learn use of the steering levers and practice at half throttle until you become proficient and comfortable with the operation of the machine.

The steering levers control speed, motion and direction of the machine. The steering levers have two positions: (1) **Neutral Lock**, where the lever(s) are swung completely outward and cannot be moved front and back; (2) **Operating**, where the lever(s) are swung in and can be moved front and back.

Neutral Lock Position:

- Forward and backward movement of the motion control levers is prevented when levers are in the swung out (neutral lock)

position. Machine should not move with the steering levers in the swung out (neutral lock) position and the park brake released. If machine does move, see “Neutral Adjustment” section page 23.

- Steering levers must be in the swung out (neutral lock) position to start the engine.
- Steering levers must be in the swung out (neutral lock) position to safely enter and exit the operator seat.

Operator can exit mower with the engine running when the steering levers are in the swung out (neutral lock) position, PTO switch is disengaged, and the park brake is engaged.

Operating Position:

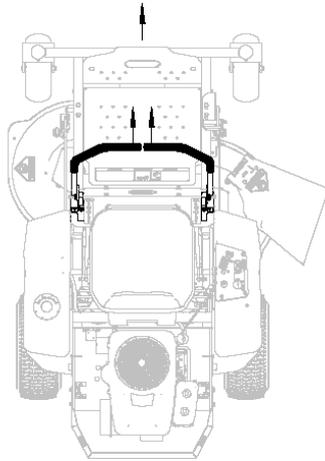
- Machine speed, motion and direction can be controlled when the engine is running, park brake is released, and steering levers are in the swung in (operating) position.

Neutral:

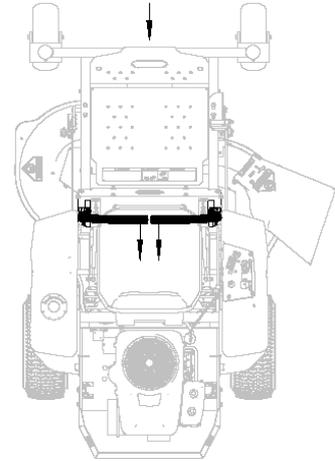
- When the steering levers are swung in and centered front and back, they are in operating (neutral). In operating (neutral), the hydrostatic pumps do not deliver fluid to the wheel motors.
- **Forward and backward Motion(Refer to Figure 8):**
 - Pushing both levers forward at the same time will move the machine forward.
 - Pulling both levers backwards at the same time will move the machine in backward..The further forward or backward the steering levers are moved, the faster the machine will move in that direction.

STEERING LEVER OPERATION

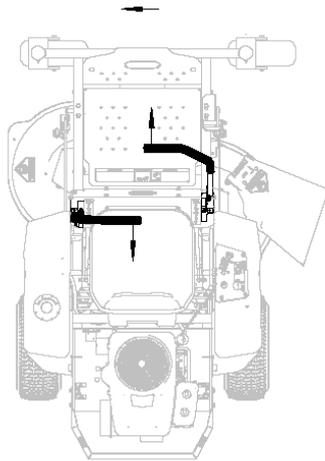
FORWARD



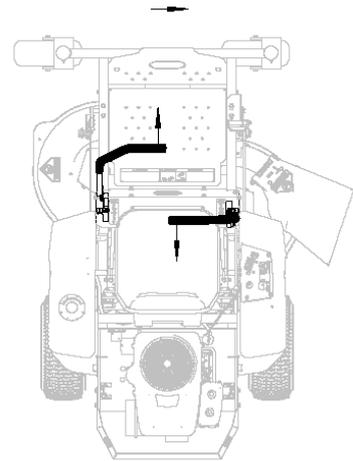
REVERSE



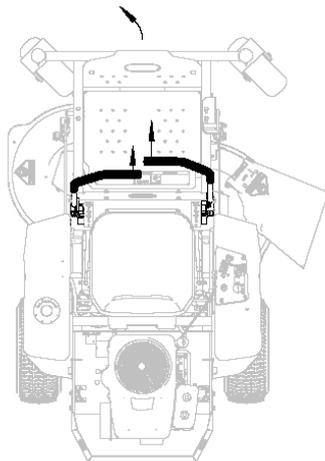
**SHARP
LEFT**



**SHARP
RIGHT**



**GENTLE
LEFT**



**GENTLE
RIGHT**

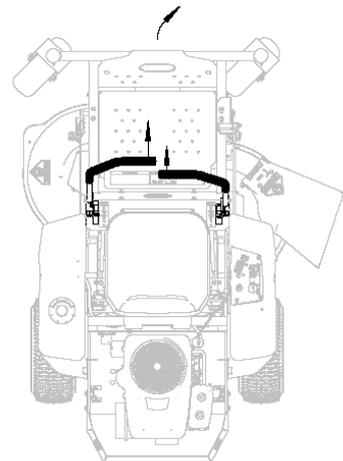


Figure 8

Turning(Refer to Figure 8):

- While moving forward, turn gently right by pushing the left lever further forward than the right.
- While moving forward, turn gently left by pushing the right lever further forward than the left.
- Make a sharp turn right by pushing the left lever forward and pulling the right lever backward at the same time.
- Make a sharp turn left by pushing the right lever forward and pulling the left lever backward at the same time.
- DO NOT turn the machine by leaving one lever in neutral and moving the other lever. This will cause damage to the turf under the tire that is not rotating.

Stopping:

To stop motion, move both steering levers back to neutral. Machine is equipped with springs to automatically return both levers to neutral. If levers DO NOT automatically return to neutral, see your authorized GREENMANdealer for adjustment.

IMPORTANT

If you become confused during operation, release both steering levers. They will automatically return to the centered neutral position and the machine will stop.

Mowing



Inspect area before mowing, picking up all rocks, twigs and other debris. Enter new areas carefully. Cut grass higher the first time to allow mower to clear unseen objects. Never assume an area is clear, always check!

Clear mowing area when operating mower. Flying objects could injure bystanders.



Before starting to machine, position the

machine in the area to be mowed with the mower deck set at the desired cutting height. With the engine at half throttle, pull up on the PTO switch knob to start the blades turning. Accelerate to full throttle to begin mowing.



To avoid serious injury or death from flying objects or contact with blades, NEVER operate mower without discharge shield or restriction plate installed.

Keep hands and feet away from discharge opening.

Before mowing, inspect the area to determine the best mowing procedure. Consider height, type of grass and terrain type (rolling, level or rough).

Proper ground speed for mowing will depend on the height, type and density of grass to be cut. Normally, ground speed will range from three to six miles per hour. Tall dense grass should be mowed at a low speed, while thin medium height grass can be cut at a faster ground speed. Always operate engine at full governed RPM when mowing. This is necessary to maintain proper blade speed to produce a clean cut.

Follow local recommendations for the suitable cutting height in your area. Avoid mowing grass too short to increase mowing intervals. This may stress the grass during hot weather and encourage weed growth during the growing season.

Mow with uncut grass to the left. This will distribute the clippings over the cut area. Discharging clippings over the uncut area will cause a grass buildup and may prevent uniform cutting.

Remember that sharp blades produce cleaner cuts and use less power.

Extremely tall grass should be mowed twice. Cut grass higher first, then cut the second time

at desired height and 90 °to the first pass.

Uneven Terrain

Be careful when operating mower on uneven ground.

DO NOT operate on steep slopes. Operation on a steep slope could cause loss of control, machine to overturn and personal injury or death.

- DO NOT operate on steep slopes. This machine was not specifically designed to operate on steep slopes.
- The operator is responsible for safe operation on slopes. Only the operator can determine the stability of the mower on a given slope based on existing conditions like: machine speed and direction, slope variation, slipperiness, drop-offs, holes, obstacles, etc.
- To determine stability on a slope, start at the bottom and try to back the mower up the slope slowly. If you cannot back up the slope or if you feel uneasy on it, DO NOT operate on it.
- Always start mowing at the bottom of slopes. Traveling up slopes, this machine has more traction traveling forward than backward. Be careful on slopes to avoid driving forward into a position where there is not enough traction to enable backing out or stopping.
- Tires may lose traction on slopes even though the brakes are functioning properly.
- Avoid sudden starts and acceleration when traveling forward uphill as mower may tip backwards.
- DO NOT mow slopes when grass is wet because slippery conditions will reduce traction and braking which in turn affects steering.
- Use caution when making turns. Slow the mower down before making sharp turns. Unit can spin very rapidly by positioning one lever too much ahead or behind the other.

- Look around you to be sure the area is clear before turning or backing up.
- Avoid starting or stopping on a slope. If tires lose traction, disengage the blades and proceed slowly straight down the slope.
- Keep all movement on slopes slow and gradual. DO NOT make sudden changes in speed or direction.
- Use extra care with grass catchers or other attachments. These can change the stability of the machine. DO NOT use grass catcher on steep slopes.
- DO NOT operate without ROPS deployed.
- If machine is equipped with a fixed ROPS, always wear seatbelt.
- Wear seatbelt when mowing.
- Be certain that the seatbelt can be released quickly if the machine is driven or rolls into ponds or water.
- Check carefully for overhead clearances such as, branches, doorways, or electrical wires, before driving under any objects and DO NOT contact them or contact them.

Stopping The Engine

5.9.1 Set the throttle at 1/3 open. Allow engine to idle at this setting for several minutes, then move the throttle to slow idle.

5.9.2 Move ignition switch to “OFF” position (upright) and remove key.



Always remove key from ignition switch when leaving unit unattended or when not in use.

Transporting Machine



Always back machine onto trailer to avoid accidental upset.

Use a heavy-duty trailer to transport your machine. Trailer must have signs and lights required by law.

5.10.1 Raise mower deck to the transport

(highest) height position so that the transport latch hooks over the catch on the latch tube guide. Place the height adjustment pin in the top (5 inch) hole.

5.10.2 Back machine onto trailer. See "Loading Machine" below.

5.10.3 Stop the engine, engage the park brake and remove the key.

5.10.4 Place the height adjustment pin in the bottom (1 inch) hole and lower the mower deck to the lowest position.

5.10.5 Securely fasten machine to trailer with heavy-duty straps, chains or cables. Both front and rear straps must be directed down and outward from machine.

Loading Machine



WARNING

Loading a machine onto a trailer or truck increases the possibility of backward-tip-over and could cause serious injury or death.

- Use extreme caution when operating a machine on a ramp. Move slowly.
- Avoid sudden acceleration and deceleration when operating a machine on a ramp.
- Back machine up ramp and drive forward down ramp.
- Use only a single, full width ramp; **DO NOT use individual ramps for each side of the machine.**
- If individual ramps must be used, BACK machine up ramp and drive forward down ramp.
- **DO NOT** exceed a 15 degree angle between ramp and ground or between ramp and trailer or truck.

Storing Safely



CAUTION

Never store machine with fuel in the tank inside a building where fumes may reach an open flame, spark or pilot light as on a

furnace, water heater, clothes dryer, or other gas appliance. Allow engine to cool before storing in an enclosure.



CAUTION

Always provide adequate ventilation when running engine indoors. Exhaust gases contain carbon monoxide, an odorless and deadly poison.

- If engine is to be unused for 30 days or more, add a fuel stabilizer to the fuel system. Fuel stabilizer is an acceptable additive in minimizing the formation of fuel gum deposits during storage. Add stabilizer to fuel in fuel tank or storage container. Always follow mix ratio found on stabilizer container. Run engine at least 10 minutes after adding stabilizer.
- Remove all accumulated debris from mower deck and tractor.
- Sand areas where paint is chipped and repaint to prevent rust. Lubricate all locations to prevent moisture damage during storage.

MAINTENANCE



CAUTION

Always perform maintenance with the machine parked on a hard level surface; with the engine stopped and the PTO disengaged; with the park brake set; and with the key removed from the ignition.



CAUTION

Always remove the grounded (-) clamp from the battery when performing maintenance on the engine, clutch, or any other electrical system. To access battery, remove the left fender.



CAUTION

Always wear safety glasses and ear protection when performing any

maintenance function that could cause injury to eyes or ears.

Check Engine Oil Level

Service Interval: Before each use or daily

6.1.1 Stop engine and wait for all moving parts to stop. Make sure unit is on a level surface.

6.1.2 Check when engine cold.

6.1.3 Clean area around dipstick. Remove dipstick and wipe oil off. Reinsert the dipstick according to the engine manufacturer's recommendations. Remove the dipstick and read the oil level.

6.1.4 If the oil level is low, wipe off the area around the oil fill cap, remove cap and fill to the "FULL" mark on the dipstick. **DO NOT** overfill.

Important:

DO NOT operate the engine with the oil level below the "ADD" mark on the dipstick, or over the "FULL" mark.

Lubrication

DO NOT let excess grease collect on or around parts, particularly when operating in sandy areas. See accompanying illustrations (Figure 9 and Figure 10) for the lubrication frequency points.

In addition to these lubrication points, lightly oil all linkage pivot points.

Be sure to clean fitting thoroughly before using grease gun.

Every 49 Hours of Usage
Mower Blade Spindles (A) and (B)

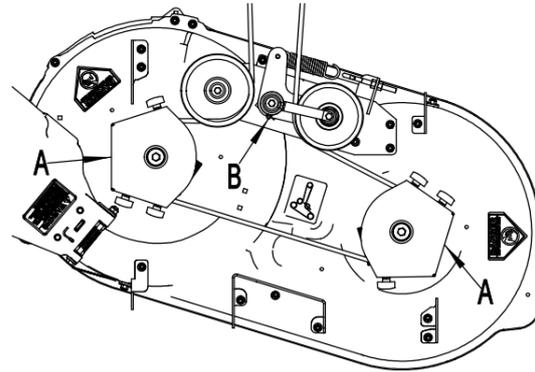


Figure 9

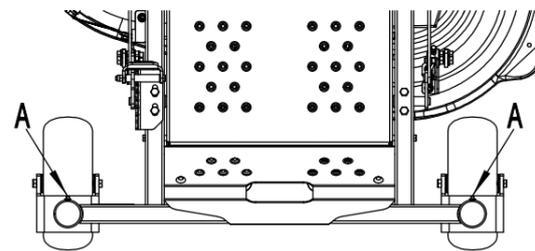


Figure 10

Capacities

Fuel Tank 3.5U.S. gal. (13 L)

Tire Air Pressure

Drive Tires

18×7.5—8 26 psi (179kPa)

(Refer to decal on wheel for correct tire air pressure)

Front Tires

11×4—5 20 psi (137.9kPa)

Apply 4 Strokes

Crankcase Oil And Air Filter

Refer to the “Engine Manual” for the timetable for changing or service.

 **CAUTION**

DO NOT use high-pressure water or steam to clean the engine or drive compartment. Water and cleaning detergent may damage electrical components and terminals, possibly leading to component and safety circuit failure.

Use a vacuum cleaner or air blower to remove foreign material from the engine and drive compartment.

Battery Maintenance

Battery is located under the left fender. Remove three bolts and fender for access. Follow the procedure below for battery maintenance.

- 6.8.1**Clean battery.
- 6.8.2**Inspect cables for loose connection.
- 6.8.3** Clean terminals.
- 6.8.4**Inspect battery tray and hold-down.
- 6.8.5**Inspect battery case for cracks or leaks.

 **WARNING**

Batteries contain sulfuric acid. Avoid contact with skin, eyes and clothing. Batteries produce a highly explosive hydrogen gas while being charged. Always keep cigarettes, sparks, open flame and other sources of ignition away from battery. Always shield eyes and face from battery. In the event of accident, flush with water and call a physician immediately. Keep batteries and acid out of the reach of children.

Deck Cleaning

IMPORTANT

After each use remove grass buildup from under the mower deck. Excessive grass buildup will interfere with the operation

and performance of the mower deck. Excessive grass buildup may also cause component failure.

6.9.1Park machine on hard level surface, stop engine and set the park brake. Remove key from the ignition switch.

Position the mower deck in the transport (all the way up) setting with the latch hooked and the height adjustment pin in the 5 inch cutting height hole.

6.9.2Lift the front of the machine, using the front cross member of the deck carrier frame, and support the machine using jack stands or other equivalent safety blocks. **DO NOT** rely solely on mechanical or hydraulic jacks or lifts for support. Always use adequate wheel chocks on tires remaining on the ground.

6.9.3Use a long flat bar to clean under the deck, to avoid positioning yourself under the machine.

6.9.4Clean out all grass and debris build-up from the underside of the deck, around blade spindles and the deck discharge chute.

Blade Inspection

 **WARNING**

DO NOT handle mower blades with bare hands. Use heavy leather gloves or wrap blade with protective material and block securely when removing blades. Careless or improper handling may result in serious injury.

Inspect blades before each use to determine that they are mounted securely and are in good condition. Replace any blade that is bent, excessively nicked, worn, or has any other damage. Small nicks can be ground out when sharpening.

Blade Removal

Remove bolt (A), which has right hand threads(Refer to Figure11),Remove lock

flat washer (B), fiberwasher (C), blade.

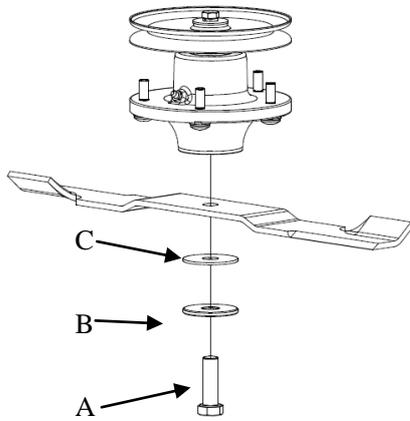


Figure 11

Blade Sharpening

CAUTION

Always wear gloves when handling the mower blades. Always wear safety eye protection when grinding

6.10.1 Sharpen the mower blades with grinder, hand file, or electric blade sharpener.

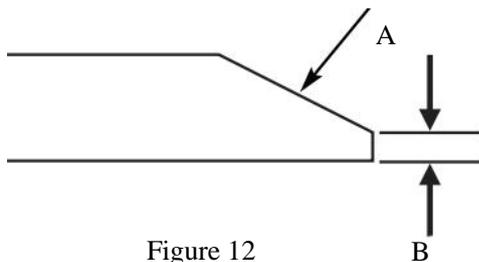


Figure 12

6.10.2 Sharpen the mower blade by removing an equal amount of material from each end of the mower blade.

6.10.3 Keep the original bevel (A, Figure 13) when grinding. **DO NOT** change the mower blade bevel.

6.10.4 The mower blade should have a maximum 1/64" (0.40mm) cutting edge (B, Figure 12) or less.

Balance the mower blades before installing.

Balancing the Mower Blades

CAUTION

An unbalanced mower blade can create excessive vibration and damage the unit or cause mower blade failure.

6.11.1 Clean the mower blade to remove any dried grass or other debris.

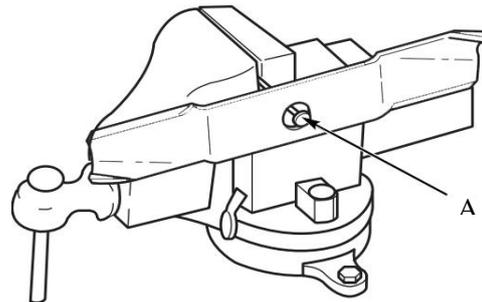


Figure 13

6.11.2 Refer to Figure 13. Put the mower blade on a nail (A) in a vise and turn the mower blade to the horizontal position.

6.11.3 Check the balance of the mower blade. If either end of the mower blade moves downward, sharpen the heavy end until the mower blade is balanced. See Sharpening the Mower Blades for proper sharpening instructions.

6.11.4 Repeat the process until the mower blade remains in the horizontal position.

Blade Installation

WARNING

Your dealer can supply GREENMAN replacement blades. They are made of special steel alloys and subjected to rigid heat-treat and inspection requirements. Substitute blades may not meet these rigid specifications and may be dangerous.

backward the removal procedure. Be sure fiberwashers are installed as shown (Refer to Figure 12).

6.12.1 Reinstall each mower blade with the lift of blade pointing upwards the mower deck as shown in Figure 12. Secure with the mower blade mounting bolt and flat washer (B&C Figure 12) and torque to 70 ft. lbs (94 N.m).

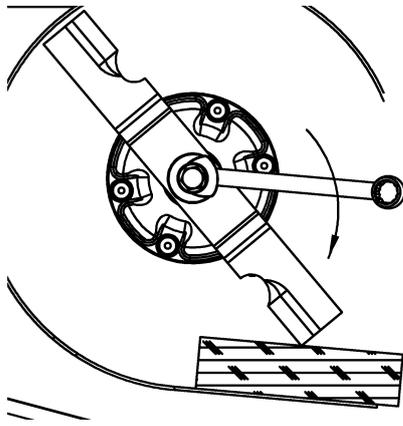


Figure 14

6.12.2 If there are no flats on the spindle shaft, wedge a wooden block (Refer to Figure 14) between the mower blade and the mower deck housing to keep the mower blade from turning.

ADJUSTMENTS

IMPORTANT

Disengage PTO, shut off engine, wait for all moving parts to stop, and remove key before servicing, cleaning or making adjustments to the unit.

Cutting Height Adjustment

(Refer to Figure 15)

To raise the mower deck, push forward with right foot on upper portion of foot pedal. When deck reaches desired height, push on lower portion of foot pedal until the bottom edge of pedal catches in corresponding notch of cut height indicator.

To lower the mower deck, push forward with right foot on upper portion of foot pedal until pedal disengages the cut height indicator notch.

Lower deck to desired height and push lower portion of foot pedal until the bottom edge of pedal catches in corresponding notch of cut height indicator.

Do not operate foot pedal with hands.

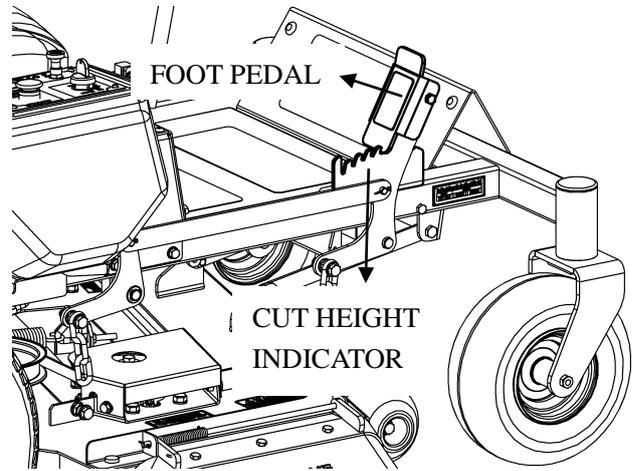


Figure 15

Deck Leveling Adjustment.

7.2.1 Position mower on a flat surface.

7.2.2 Stop engine, wait for all moving parts to stop, and remove key.

7.2.3 Check air pressure on all four tires and adjust to the correct pressure if necessary.

7.2.4 Mower deck can be leveled at any cut height position. If blade heights do not match cut height setting, do not adjust at this time. Mower deck must be leveled side to side and front to rear before cut height setting is adjusted. See appropriate sections below.

7.2.5 Position left blade in the side to side position and measure from the outside blade tip to the level surface (Refer to Fig. 16).

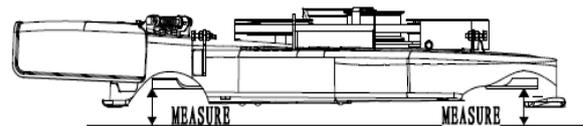


Figure 16

7.2.6 If the difference between both measurements is greater than 3mm,

adjustment unnecessary.

7.2.7 Locate the level adjust bolt (A) on the left front mower deck hanger (Refer to Fig.17).

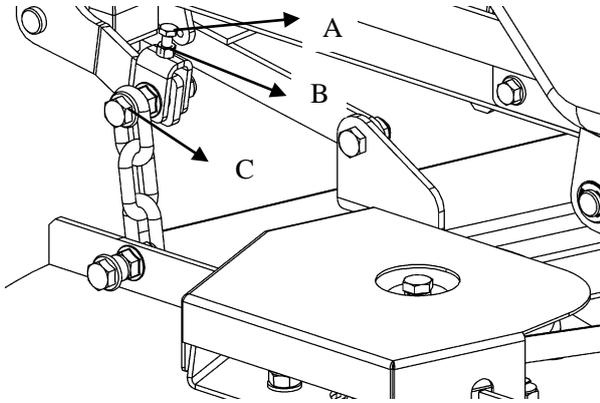


Figure 17

7.2.8 Slightly loosen the chain bolt (C) on the left front mower deck hanger and level adjust bracket (B).

7.2.9 Adjust the left front of the mower deck up or down as required to match the right front by turning the level adjust bolt (A) clockwise to raise and counter-clockwise to lower.

7.2.10 Adjust the level adjust bolt (A) until blades on both sides are the same height above the level surface.

7.2.11 With blades leveled side to side, tighten the chain bolt (C) securely.

Deck Belt Adjustment

The belt tension is set at the factory, but may need adjustment after the first hour of initial use. Periodically belt should be checked for proper tension, following the procedure below (Refer to Figure 19).

7.3.1 Position the mower deck in the lowest (1 inch) cut height setting.

7.3.2 Loosen the lock nut (A) and adjust the draw nut (C) to change belt tension.

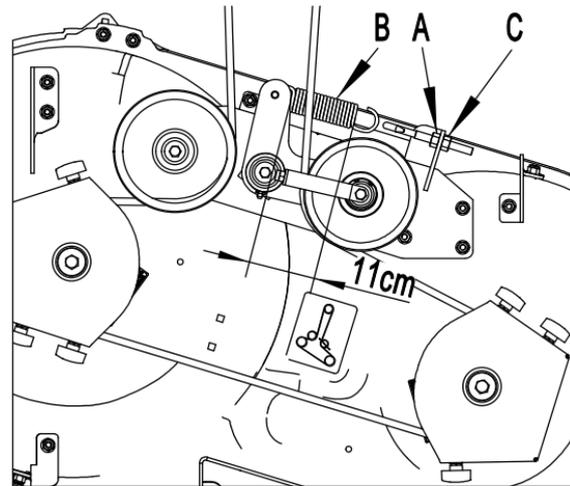


Figure 18

7.3.3 Increase belt tension by turning the draw nut (C) clockwise and decrease belt tension by turning the draw nut counter-clockwise (Refer to Fig. 18).

7.3.4 The idler spring (B) body length should measure approximately 11cm for proper belt tension.

7.3.5 Tighten the lock nut (A) when the proper belt tension is achieved.

Dump Drive Belt Adjustment.

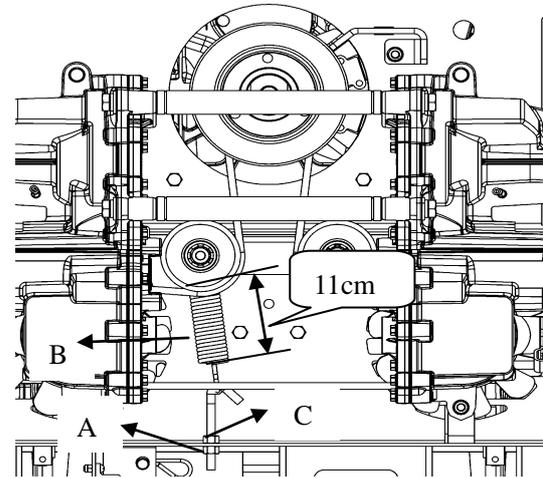


Figure 19

The way is similar to the above of Deck Belt Adjustment, The idler spring (B) body length should measure approximately 11cm inches for proper belt tension (Refer to Figure 19).

Neutral Adjustment.

If drive wheels travel forward or backward

when the steering lever is in their neutral lock position, adjustment is required.

7.5.1 Lift and support the rear of machine using jack stands or other equivalent safety blocks. **DO NOT** rely solely on mechanical or hydraulic jacks or lifts for support. **Make sure** two drive wheels keep away from the ground.

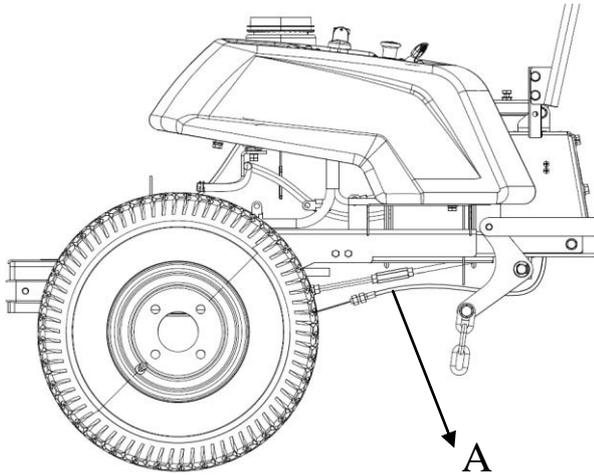


Figure 20

7.5.2 Start the engine and put the steering levers in their neutral lock position of operation, then observe which drive wheel is rotating. That side will need to be adjusted.

7.5.3 If the left wheel need to be adjusted, locate the position A (Refer to Figure 20), the more detail of the position A is shown as the Figure 21.

7.5.4 If the right wheel rotates clockwise (From the outside view see Figure 21), slightly loosen the nut (B and C), then turn the neutral buckle (A of Figure 21) counterclockwise (from the direction of arrow, see Figure 21) until the wheel does not rotate. On the other hand, turn the nut clockwise. At last, tighten the nut (B and C) securely.

7.5.5 If the left wheel needs to be adjusted, use the same way to adjust the left wheel.

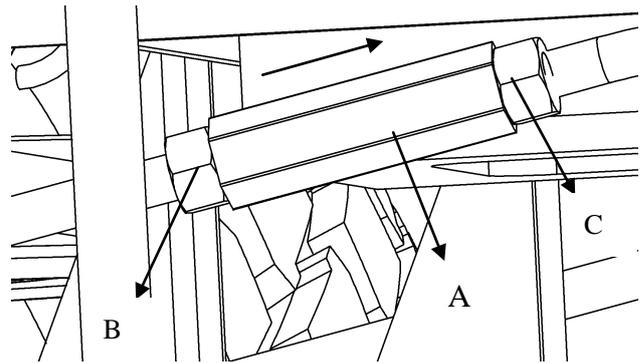


Figure 21

Seat Adjustment.

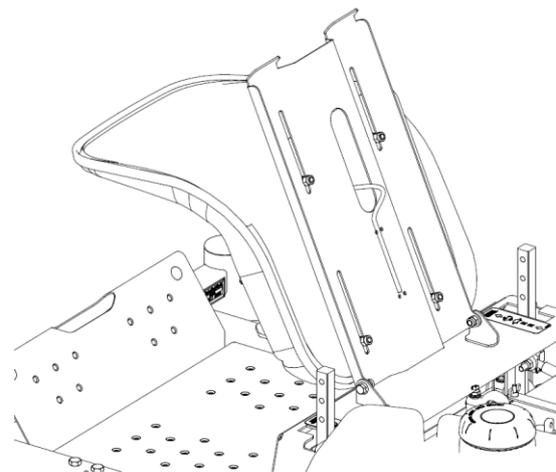


Figure 22

The seat can be adjusted forward and backward. Loosen the nut under the seat, then you can adjust freely, then lock the nut.

Refer to Figure 22.

Parking Brake Adjustment

7.7.1 Disengage the PTO, stop the engine, block the front wheels, remove the ignition key, and engage the parking brake.

7.7.2 Locate the brake spring (A, Figure 23).

7.7.3 Move out the tow levers in the T-slot position.

7.7.4 If the spring is not within this range, release the parking brake and turn the adjustment nut (B and C, Figure 23) to compress or release the spring.

7.7.5 Move out the two levers, engage the parking brake and remeasure the spring again.

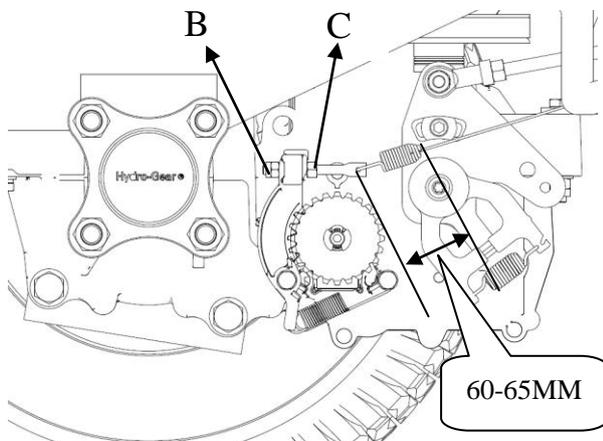


Figure 23

TROUBLESHOOTING

WARNING

To avoid serious injury, perform maintenance on the tractor or mower only when the engine is stopped and the parking brake engaged.

Always remove the ignition key, disconnect the spark plug wire and fasten it away from the plug before beginning the maintenance, to prevent accidental starting of the engine.

While normal care and regular maintenance will extend the life of your equipment, prolonged or constant use may eventually require a service to be performed to allow it to continue operating properly.

The troubleshooting guide below lists the most common problems, their causes and remedies.

See the information on the following pages for instructions on how to perform most of these minor adjustments and service repairs yourself. If you prefer, all of these procedures can be performed for you by your local authorized dealer.

Problem	Possible Cause	Corrective Action
Starter does not crank	<ol style="list-style-type: none"> 1.PTO is engaged. 2.Parking brake is not engaged. 3.Drive levers are not in neutral lock position. 4.Battery does not have a full charge. 5.Electrical connections are corroded, loose or faulty. 6.Fuse is blown. 7.Relay or switch is defective. 8.Faulty module. 	<ol style="list-style-type: none"> 1.Disengage the PTO. 2.Set the parking brake. 3.Ensure the drive levers are in the neutral lock position. 4.Charge the battery. See Check Battery Charge and Recommended Jump Starting Procedure sections in Maintenance. 5.Check the electrical connections for good contact. Clean connector terminals thoroughly with electrical contact cleaner, apply dielectric grease and reconnect. 6.Replace the blown fuse. 7.Contact an Authorized Service Dealer. 8.Replace module.
Engine will not start, starts hard, or fails to keep running	<ol style="list-style-type: none"> 1.Fuel tank is empty. 2.Oil level in the crankcase is low. 3.The throttle and choke are not in the correct position. 4.Dirt in fuel filter. 5.Dirt, water, or stale fuel is in the fuel system. 6.Air cleaner is dirty. 7.Seat switch is not functioning properly. 8.Electrical connections are corroded, loose or faulty. 9.Relay or switch is defective. 10.Faulty spark plug. 11.Spark plug wire is not connected. 12.Faulty module. 	<ol style="list-style-type: none"> 1.Fill the fuel tank. 2.Add oil to the crankcase. 3.Be sure the throttle control is midway between the "SLOW" and "FAST" positions, and the choke is in the "ON" position for a cold engine or the "OFF" position for a warm engine. 4.Replace the fuel filter. 5.Contact an Authorized Service Dealer. 6.Clean or replace the air cleaner element. 7.Check the seat switch indicator. Replace seat if needed. 8.Check the electrical connections for good contact. Clean connector terminals thoroughly with electrical contact cleaner, apply dielectric grease and reconnect. 9. Contact an Authorized Service Dealer. 10. Clean, adjust or replace spark plug. 11. Check the spark plug wire connection. 12. Replace module.

Problem	Possible Cause	Corrective Action
Engine loses power	<ol style="list-style-type: none"> 1.Engine load is excessive 2.Air cleaner is dirty. 3.Oil level in the crankcase is low. 4.Cooling fins and air passages for the engine are plugged. 5.Dirt in fuel filter. 6.Dirt, water, or stale fuel is in the fuel system. 	<ol style="list-style-type: none"> 1.Reduce the ground speed. 2.Clean or replace the air cleaner element. 3.Add oil to the crankcase. 4.Remove the obstructions from the cooling fins and air passages. 5.Replace the fuel filter. 6.Contact an Authorized Service Dealer.
Machine does not drive	<ol style="list-style-type: none"> 1.Drive or pump belt is worn, loose or broken. 2.Drive or pump belt is off a pulley. 3.Broken or missing idler spring. 	<ol style="list-style-type: none"> 1.Change the belt. 2.Change the belt. 3.Replace the spring.
Uneven cutting height.	<ol style="list-style-type: none"> 1.Blade(s) not sharp. 2.Cutting blade(s) is/are bent. 3.Mower deck is not level. 4.Underside of mower is dirty. 5.Tire pressure in drive tires not correct. 6.Blade spindle bent. 7.Tips of adjacent blades are at an uneven cutting height. Blades tips should be even within 3/16 inch which is approximately one blade thickness. 	<ol style="list-style-type: none"> 1.Sharpen the blade(s). 2.Install new cutting blade(s). 3.Level mower deck from side-to-side and front-to-rear. 4.Clean the underside of the mower. 5.Adjust tire pressure in the drive tires. 6.Contact an Authorized Service Dealer. 7.Replace blades, spindles and (or) check for damage to mower deck.
Abnormal vibration	<ol style="list-style-type: none"> 1.Cutting blade(s) is/are bent or unbalanced. 2.Blade mounting bolt is loose. 3.Engine mounting bolts are loose. 4.Loose engine pulley, idler pulley, or blade pulley. 5.Engine pulley is damaged. 6.Blade spindle is bent. 7.Belt is damaged. 	<ol style="list-style-type: none"> 1.Install new cutting blade(s). 2.Tighten the blade mounting bolt. 3.Tighten the engine mounting bolts. 4.Tighten the appropriate pulley. 5.Contact an Authorized Service Dealer. 6.Contact an Authorized Service Dealer. 7.Install new belt.

Problem	Possible Cause	Corrective Action
Blades DO NOT rotate.	<ol style="list-style-type: none"> 1. Drive belt is worn, loose or broken. 2. Deck belt is worn, loose or broken. 3. Deck belt is off pulley. 4. Broken or missing idler spring. 5. Drive belt not routed correctly. 	<ol style="list-style-type: none"> 1. Check the belt tension. 2. Install new deck belt. 3. Install belt on clutch and deck pulleys, idlers, and tensioning idler per routing decal on deck. 4. replace the spring. 5. Refer to belt routing decal on deck.
Clutch will not engage.	<ol style="list-style-type: none"> 1. Fuse is blown. 2. Low voltage supply at the clutch. 3. Damaged coil. 4. Inadequate current supply. 5. Rotor/armature airgap is too large. 	<ol style="list-style-type: none"> 1. Replace fuse. Check coil resistance, battery charge, charging system, and wiring connections and replace if necessary. 2. Check coil resistance, battery charge, charging system, and wiring connections and replace if necessary. 3. Replace clutch. 4. Repair or replace clutch lead wire or electrical system. Clean connector contacts. 5. Remove shim or replace clutch.