

# Operator's Manual



**Push Mower—Model GLM 51G**

## **⚠ WARNING**

READ AND FOLLOW ALL SAFETY RULES AND INSTRUCTIONS IN THIS MANUAL  
BEFORE ATTEMPTING TO OPERATE THIS MACHINE.  
FAILURE TO COMPLY WITH THESE INSTRUCTIONS MAY RESULT IN PERSONAL INJURY.

## ThankYou

ThankyouforpurchasingaLawnMowermanufacturedbyGAMA GARDEN.

Itwascarefullyengineeredtoprovideexcellentperformance whenproperly operatedandmaintained.

Pleaseadthisentiremanualpriortooperatingtheequipment. Itinstructsyouthowtosafelyandeasilysetup,operateand maintainyourmachine.Pleasebesurethatyou,andanyother personswhowilloperatethemachine,carefullyfollowthe recommendedsafetypracticesatalltimes.Failuretodosocould resultinpersonalinjuryorpropertydamage.

Allinformationinthismanualisrelativetothemostrecent productinformationavailableatthetimeofprinting.Review thismanualfrequentlytofamiliarizyourselfwith themachine, itsfeaturesandoperation.PleasebeawarethatthisOperator's Manualmay cover arangeofproductspecificationsforvarious models.Characteristicsandfeaturesdiscussed and/orillustrated inthismanualmaynotbeapplicabletoallmodels.Wereserve

therighttochangeproductspecifications,designsand equipmentwithoutnoticeandwithoutincurringobligation.

Throughoutthismanual,allreferencestorightand/leftsideofthe machineareobservedfromtheoperatingposition.

## TableofContents

<i>SafeOperationPractices.....</i>	<i>3</i>	<i>Troubleshooting.....</i>	<i>18</i>
<i>Assembly&amp;Set-Up.....</i>	<i>9</i>	<i>ReplacementParts.....</i>	<i>19</i>
<i>Controls&amp;Features.....</i>	<i>14</i>		
<i>Operation.....</i>	<i>15</i>		
<i>Maintenance&amp;Adjustment.....</i>	<i>16</i>		
<i>Service.....</i>	<i>17</i>		



**WARNING:** This symbol points out important safety instructions which, if not followed, could endanger the personal safety and/or property of yourself and others. Read and follow all instructions in this manual before attempting to operate this machine. Failure to comply with these instructions may result in personal injury. When you see this symbol, **HEED THIS WARNING!**



**DANGER:** This machine was built to be operated according to the safe operation practices in this manual. As with any type of power equipment, carelessness or error on the part of the operator can result in serious injury. This machine is capable of amputating fingers, hands, toes and feet and throwing objects. Failure to observe the following safety instructions could result in serious injury or death.

## General Operation

1. Read this operator's manual carefully in its entirety before attempting to assemble this machine. Read, understand, and follow all instructions on the machine and in the manual(s) before operation. Keep this manual in a safe place for future and regular reference and for ordering replacement parts.
2. Become completely familiar with the controls and the proper use of this machine before operating it.
3. This machine is a precision piece of power equipment, not a plaything. Therefore, exercise extreme caution at all times. This machine has been designed to perform one job: to mow grass. Do not use it for any other purpose.
4. Never allow children under 14 years of age to operate this machine. Children 14 and over should read and understand the instructions and safe operation practices in this manual and on the machine and should be trained and supervised by an adult.
5. Only responsible individuals who are familiar with these rules of safe operations should be allowed to use this machine.
6. Thoroughly inspect the area where the equipment is to be used. Remove all stones, sticks, wire, bones, toys and other foreign objects, which could be tripped over or picked up and thrown by the blade. Thrown objects can cause serious personal injury.
7. Plan your mowing pattern to avoid discharge of material toward roads, sidewalks, bystanders and the like. Also, avoid discharging material against a wall or obstruction, which may cause discharged material to ricochet back toward the operator.
8. To help avoid blade contact or a thrown object injury, stay in operator zone behind handles and keep children, bystanders, helpers and pets at least 75 feet from mower while it is in operation. Stop machine if anyone enters area.
9. Always wear safety glasses or safety goggles during operation and while performing an adjustment or repair to protect your eyes. Thrown objects which ricochet can cause serious injury to the eyes.
10. Wear sturdy, rough-soled work shoes and close-fitting slacks and shirts. Shirts and pants that cover the arms and legs and steel-toed shoes are recommended. Never operate this machine in bare feet, sandals, slippery or lightweight (e.g. canvas) shoes.
11. Do not put hands or feet near rotating parts or under the cutting deck. Contact with blade can amputate fingers, hands, toes and feet.

12. A missing or damaged discharge cover can cause blade contact or thrown object injuries.
13. Many injuries occur as a result of the mower being pulled over the foot during a fall caused by slipping or tripping. Do not hold onto the mower if you are falling; release the handle immediately.
14. Never pull the mower back toward you while you are walking. If you must back the mower away from a wall or obstruction, first look down and behind to avoid tripping and then follow these steps:
  - a. Step back from mower to fully extend your arms.
  - b. Be sure you are well balanced with sure footing.
  - c. Pull the mower back slowly, no more than halfway toward you.
  - d. Repeat these steps as needed.
15. Do not operate the mower while under the influence of alcohol or drugs.
16. Do not engage the self-propelled mechanism on machines so equipped while starting engine.
17. The blade control is a safety device. Never attempt to bypass its operation. Doing so makes the safety device inoperative and may result in personal injury through contact with the rotating blade. The blade control must operate easily in both directions and automatically return to the disengaged position when released.
18. Never operate the mower in wet grass. Always be sure of your footing. A slip and fall can cause serious personal injury. If you feel you are losing your footing, release the blade control handle immediately and the blade will stop rotating within three seconds.
19. Mow only in daylight or good artificial light. Walk, never run.
20. Stop the blade when crossing gravel drives, walks or roads.
21. If the equipment should start to vibrate abnormally, stop the engine and check immediately for the cause. Vibration is generally a warning of trouble.
22. Shut the engine off and wait until the blade comes to a complete stop before removing the grass catcher or unclogging the chute. The cutting blade continues to rotate for a few seconds after the blade control is released. Never place any part of the body in the blade area until you are sure the blade has stopped rotating.
23. Never operate mower without proper trail shield, discharge cover, grass catcher, blade control or other safety protective devices in place and working. Never operate mower with damaged safety devices. Failure to do so can result in personal injury.
24. Muffler and engine become hot and can cause a burn. Do not touch.
25. Never attempt to make a wheel or cutting height adjustment while the engine is running.
26. Only use parts and accessories made for this machine by the manufacturer. Failure to do so can result in personal injury.
27. When starting engine, pull cord slowly until resistance is felt, then pull rapidly. Rapid retraction of starter cord (kickback) will pull hand and arm toward engine faster than you can let go. Broken bones, fractures, bruises or sprains could result.
28. If situations occur which are not covered in this manual, use care and good judgement. Contact Customer Support for assistance or the name of the nearest service dealer.

## Slope Operation

Slopes are a major factor related to slip and fall accidents, which can result in severe injury. Operation on slopes requires extra caution. If you feel uneasy on a slope, do not mow it. For your safety, use the slope gauge included as part of this manual to measure slopes before operating this machine on a slope or hilly area. If the slope is greater than 15 degrees, do not mow it.

### Do:

1. Mow across the face of slopes; never up and down. Exercise extreme caution when changing direction on slopes.
2. Watch for holes, ruts, rocks, hidden objects, or bumps which can cause you to slip or trip. Tall grass can hide obstacles.
3. Always be sure of your footing. A slip and fall can cause serious personal injury. If you feel you are losing your balance, release the blade control handle immediately and the blade will stop rotating within three (3) seconds.

### Do Not:

1. Do not mow near drop-offs, ditches or embankments, you could lose your footing or balance.
2. Do not mow slopes greater than 15 degrees as shown on the slope gauge.
3. Do not mow on wet grass. Unstable footing could cause slipping.

## Children

Tragic accidents can occur if the operator is not alert to the presence of children. Children are often attracted to the mower and the mowing activity. They do not understand the dangers. Never assume that children will remain where you last saw them.

1. Keep children out of the mowing area and under watchful care of a responsible adult other than the operator.
2. Be alert and turn mower off if a child enters the area.
3. Before and while moving backwards, look behind and down for small children.
4. Use extreme care when approaching blind corners, doorways, shrubs, trees, or other objects that may obscure your vision of a child who may run into the mower.
5. Keep children away from hot or running engines. They can suffer burns from a hot muffler.
6. Never allow children under 14 years of age to operate this machine. Children 14 and over should read and understand the instructions and safe operation practices in this manual and on the machine and be trained and supervised by an adult.

## Service

### Safe Handling Of Gasoline:

1. To avoid personal injury or property damage use extreme care in handling gasoline. Gasoline is extremely flammable and the vapors are explosive. Serious personal injury can occur when gasoline is spilled on yourself or your clothes, which can ignite. Wash your skin and change clothes immediately.
2. Use only an approved gasoline container.
3. Never fill containers inside a vehicle or on a truck or trailer bed with a plastic liner. Always place containers on the ground away from your vehicle before filling.
4. Remove gas-powered equipment from the truck or trailer and refuel it on the ground. If this is not possible, then refuel such equipment on a trailer with a portable container, rather than from a gasoline dispenser nozzle.
5. Keep the nozzle in contact with the rim of the fuel tank or container opening at all times until fueling is complete. Do not use a nozzle lock-open device.
6. Extinguish all cigarettes, cigars, pipes and other sources of ignition.
7. Never fuel a machine indoors because flammable vapors will accumulate in the area.
8. Never remove gas cap or add fuel while engine is hot or running. Allow engine to cool at least two minutes before refueling.
9. Never overfill fuel tank. Fill tank no more than 1 inch below bottom of filler neck to provide for fuel expansion.
10. Replace gasoline cap and tighten securely.
11. If gasoline is spilled, wipe it off the engine and equipment. Move machine to another area. Wait 5 minutes before starting engine.
12. Never store the machine or fuel container near an open flame, spark or pilot light as on a water heater, space heater, furnace, clothes dryer or other gas appliances.
13. To reduce fire hazard, keep machine free of grass, leaves, or other debris build-up. Clean up oil or fuel spillage and remove any fuel soaked debris.
14. Allow machine to cool at least 5 minutes before storing.
3. Check the blade and engine mounting bolts at frequent intervals for proper tightness. Also, visually inspect blade for damage (e.g., bent, cracked, worn). Replace blade with the original equipment manufacturer's (O.E.M.) blade only, listed in this manual. "Use of parts which do not meet the original equipment specifications may lead to improper performance and compromise safety!"
4. Mower blades are sharp and can cut. Wrap the blade or wear gloves, and use extra caution when servicing them.
5. Keep all nuts, bolts, and screws tight to be sure the equipment is in a safe working condition.
6. Never tamper with safety devices. Check their proper operation regularly.
7. After striking a foreign object, stop the engine, disconnect the spark plug wire and ground against the engine. Thoroughly inspect the mower for any damage. Repair the damage before starting and operating the mower.
8. Never attempt to make a wheel or cutting height adjustment while the engine is running.
9. Grass catcher components, discharge cover, and trail shield are subject to wear and damage which could expose moving parts or allow objects to be thrown. For safety protection, frequently check components and replace immediately with original equipment manufacturer's (O.E.M.) parts only, listed in this manual. "Use of parts which do not meet the original equipment specifications may lead to improper performance and compromise safety!"
10. Do not change the engine's governor setting or over-speed the engine. The governor controls the maximum safe operating speed of the engine.
11. Check fuel line, tank, cap, and fittings frequently for cracks or leaks. Replace if necessary.
12. Do not crank engine with spark plug removed.
13. Maintain or replace safety and instruction labels, as necessary.
14. Observe proper disposal laws and regulations. Improper disposal of fluids and materials can harm the environment.

### Do not modify engine

To avoid serious injury or death, do not modify engine in any way. Tampering with the governor setting can lead to a runaway engine and cause it to operate at unsafe speeds. Never tamper with factory setting of engine governor.

### General Service:

1. Never run an engine indoors or in a poorly ventilated area. Engine exhaust contains carbon monoxide, an odorless and deadly gas.
2. Before cleaning, repairing, or inspecting, make certain the blade and all moving parts have stopped. Disconnect the spark plug wire and ground against the engine to prevent unintended starting.

## Spark Arrestor











**WARNING:** This machine is equipped with an internal combustion engine and should not be used on or near any unimproved forest-covered, brush covered or grass-covered land unless the engine's exhaust system is equipped with a spark arrestor meeting applicable local or state laws (if any).



## Safety Symbols

This page depicts and describes safety symbols that may appear on this product. Read, understand, and follow all instructions on the machine before attempting to assemble and operate.

Symbol	Description
	<b>READ THE OPERATOR'S MANUAL(S)</b> Read, understand, and follow all instructions in the manual(s) before attempting to assemble and operate.
	<b>DANGER — ROTATING BLADES</b> To reduce the risk of injury, keep hands and feet away. Do not operate unless discharge cover or grass catcher is in its proper place. If damaged, replace immediately.
	<b>DANGER — BYSTANDERS</b> Do not mow when children or others are around.
	<b>DANGER — HAND/FOOT CUT</b> Keep hands and feet away from rotating parts.
	<b>DANGER — THROWN DEBRIS</b> Remove objects that can be thrown by the blade in any direction. Wear safety glasses.
	<b>DANGER — SLOPES</b> Use extra caution on slopes. Do not mow slopes greater than 15°.
	<b>WARNING — GASOLINE IS FLAMMABLE</b> Allow the engine to cool at least two minutes before refueling.
	<b>WARNING — CARBON MONOXIDE</b> Never run an engine indoors or in a poorly ventilated area. Engine exhaust contains carbon monoxide, an odorless and deadly gas.
	<b>WARNING — HOT SURFACE</b> Engine parts, especially the muffler, become extremely hot during operation. Allow engine and muffler to cool before touching.



**WARNING:** Your Responsibility—Restrict the use of this power machine to persons who read, understand and follow the warnings and instructions in this manual and on the machine.

**SAVE THESE INSTRUCTIONS!**

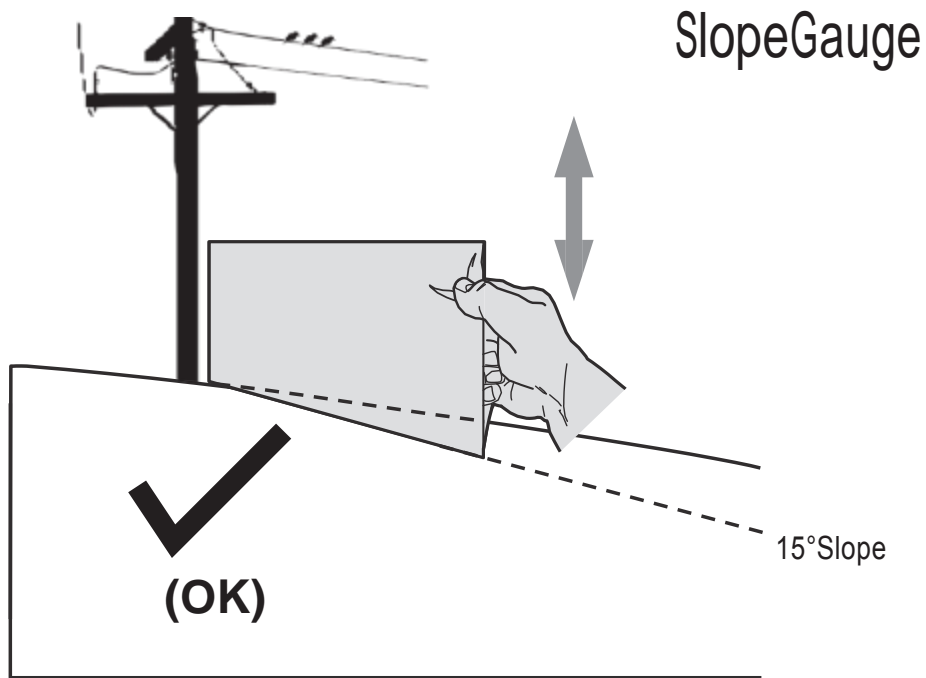


Figure 1

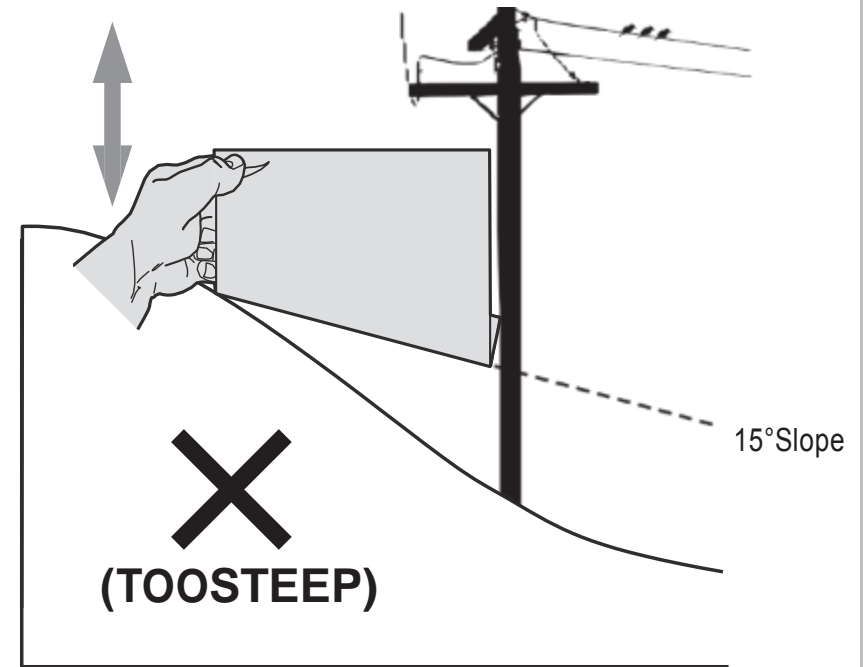


Figure 2

**USE THIS SLOPE GAUGE TO DETERMINE  
IF A SLOPE IS TOO STEEP FOR SAFE OPERATION!**

To check the slope, proceed as follows:

1. Remove this page and fold along the dashed line.
2. Locate a vertical object on or behind the slope (e.g. a pole, building, fence, tree, etc.).
3. Align neither side of the slope gauge with the object (See Figure 1 and Figure 2).
4. Adjust gauge up or down until the left corner touches the slope (See Figure 1 and Figure 2).
5. If there is a gap below the gauge, the slope is too steep for safe operation (See Figure 2 above).



**WARNING!** Slopes are a major factor related to tip-over and roll-over accidents which can result in severe injury or death. Do not operate a machine on slopes in excess of 15 degrees. All slopes require extra caution. Always mow across the face of slopes, never up and down slopes.





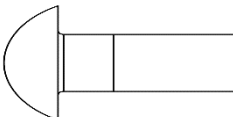

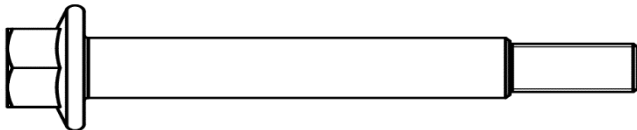
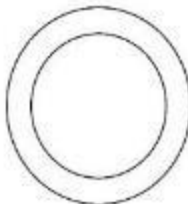
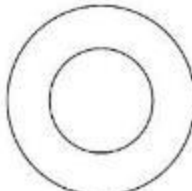

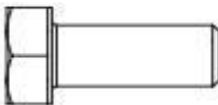

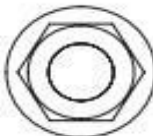


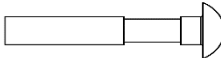
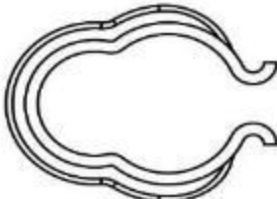
# Assembly&Set-Up

3

## ContentsofCarton

- OneLawnMower
  - OneHardware Pack
  - OneBladeControl
- One LawnMowerOperator'sManual •
  - FourWheels
  - One Upper&LowerHandle
- OneEngineOperator'sManual

### HardwarePack

Group1	<div> Qty.1</div> <div> Qty.1</div>		
Group2	<div> Qty.4</div> <div> Qty.4</div>		
Group3	<div> Qty.4</div> <div> Qty.4</div> <div> Qty.4</div> <div> Qty.4</div>		
Group4	<div> Qty.2</div> <div> Qty.2</div> <div> Qty.2</div>		
Group5	<div> Qty.2</div> <div> Qty.1</div> <div> Qty.2</div>		
Group6	<div> Qty.1</div>		

## Assembly

**NOTE:** This lawn mower is shipped without gasoline or oil in the engine. Fill up the gasoline and oil as instructed in the accompanying engine manual BEFORE operating your mower.

### Chute Deflector

**NOTE:** Use the hardware in Group 1 to complete the following steps.

1. Align the holes on the chute deflector with the corresponding holes on the deck surface.
2. Insert carriage screws up through the underside of the deck and through the chute deflector. See Figure 3-1.

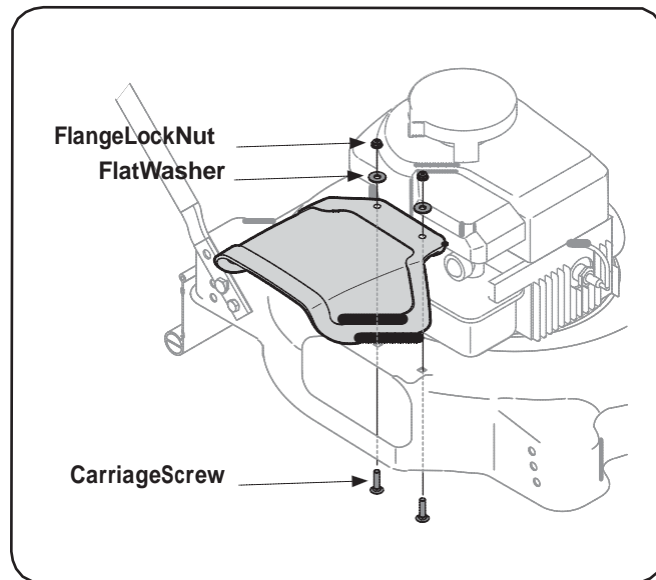


Figure 3-1

3. Secure each screw with a washer and locknut.

### Handles

**NOTE:** Use the hardware in Groups 2 and 4 to complete the following steps.

#### Lower Handle

1. Lift the rear of the deck and place it on a block of wood to secure it.
2. Place the lower handle over the deck and align the holes on the deck with the corresponding holes on the handle.

3. Secure the lower handle to the deck using the hex screws, shoulder screws, and flange locknuts. See Figure 3-2.

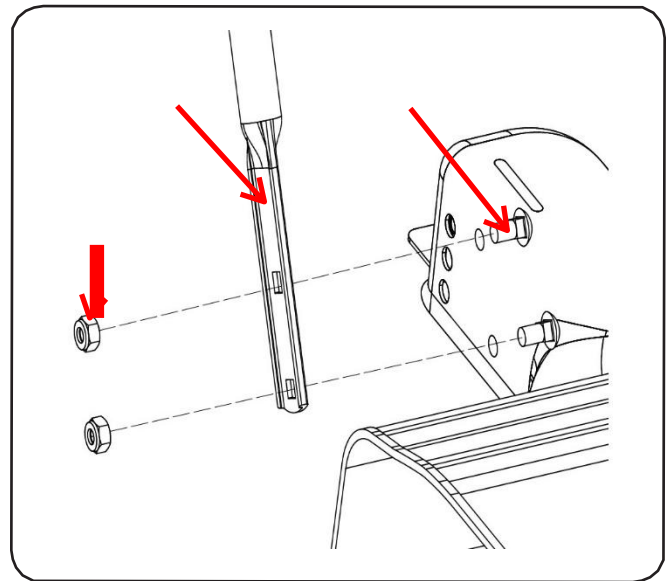


Figure 3-2

#### Upper Handle

1. Place the upper handle in position over the lower handle keeping the blade control handle facing up.
2. Secure the upper handle to the lower handle using the carriage bolts and locknuts from Group 4 of the hardware pack. See Figure 3-3.

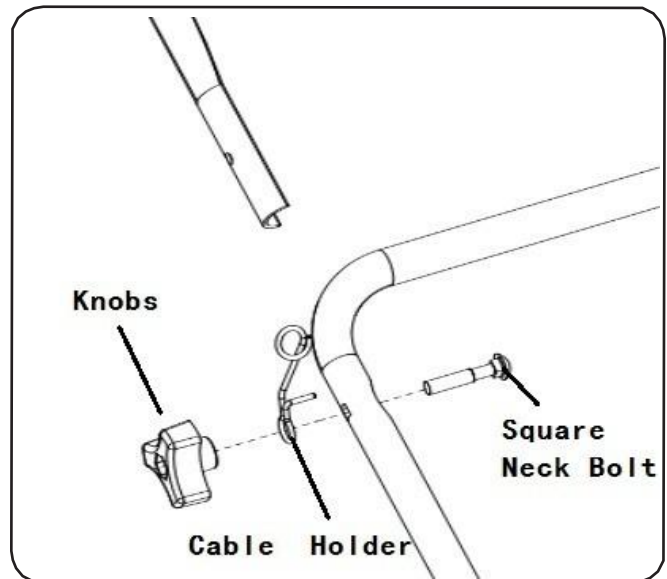


Figure 3-3

## Wheels

**NOTE:** Use the hardware in Group 3 to complete the following steps.

The holes in the deck provide three cutting heights. Use corresponding holes when attaching all four wheels (i.e. for the lowest cutting position, assemble each wheel at the highest hole on the deck). Refer to the Cutting Height Adjustment section for more information.

1. Secure each wheel to the deck as shown in Figure 3-4.

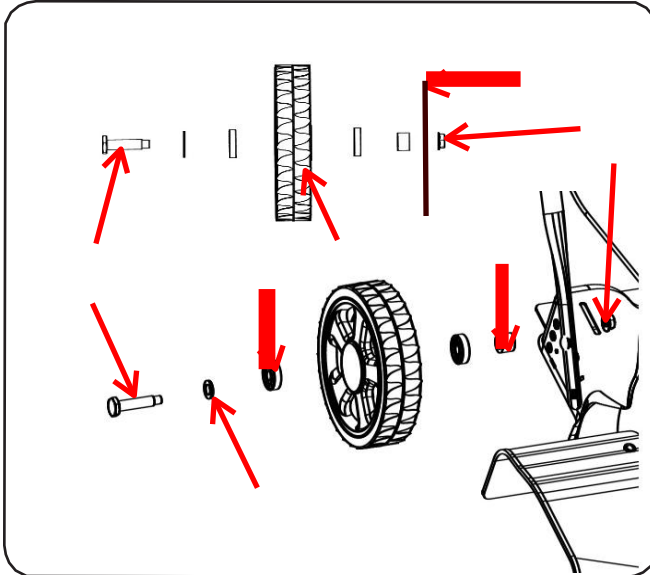


Figure 3-4

**NOTE:** The cupped side of each washer should be pressed against the deck.

## Blade Control

**NOTE:** If the blade control is secured and in place on the upper handle, you may skip the following three steps. If, however, the blade control became displaced either during shipping or during assembly, reattach it as follows:

1. Insert the curved end of the blade control into the center hole located on the right side of the upper handle. See Figure 3-5.

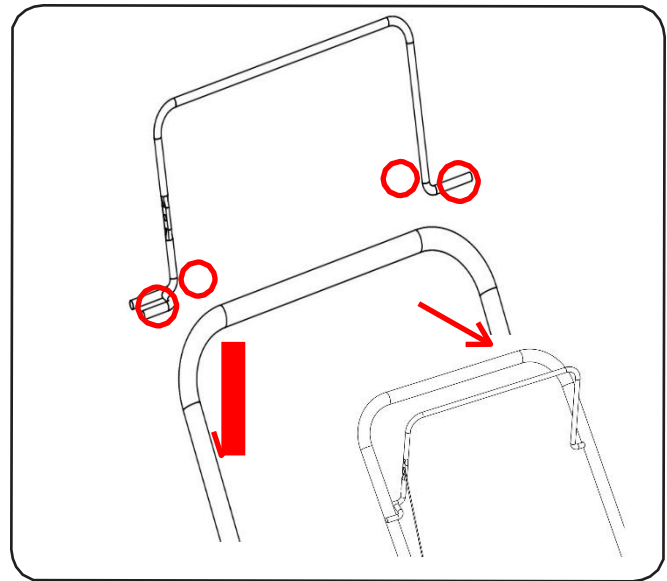


Figure 3-5

2. Gently squeeze the blade control inward and insert the straight end into the lower hole located on the left side of the upper handle. See Figure 3-5.
3. Check to confirm that the blade control pivots freely against the upper handle.

**NOTE:** Your mower has been supplied with one of two types of control cables—one that is secured with a snap fitting as shown in Figure 3-7 or one that is secured with a stud as shown in Fig. 3-8. Make note of the cables supplied with your mower and follow the appropriate steps below.

## Control Cable (Snap Fitting)

Unwrap the control cable from the engine and route it under the lower handle.

### Z Fitting

1. To make it easier to attach the Z fitting, temporarily remove the left side of the blade control as shown in Figure 3-6.

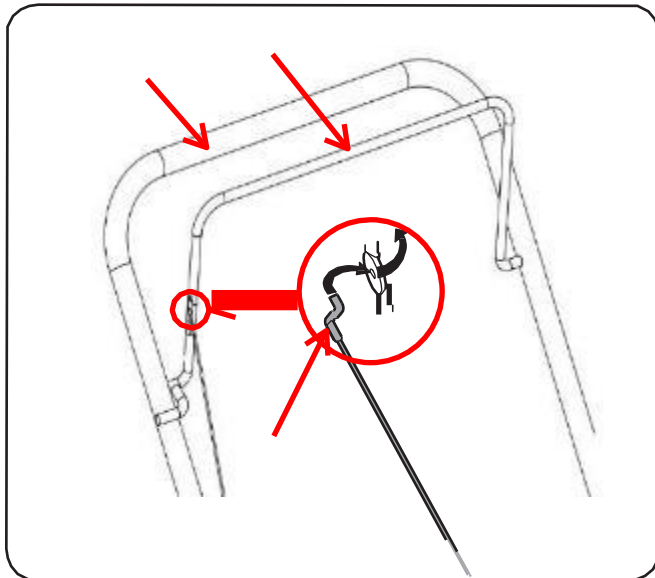


Figure 3-6

2. Hook the Z end of the brake cable into the control from the inside to outside. See Figure 3-6.
3. Reattach the left side of the blade control.

### Securing Control Cable

**NOTE:** Use the hardware in Group 6 to complete the following steps.



**WARNING:** The cable must be routed properly to avoid contact with all sharp edges and hot surfaces. Such contacts damage the cable and render the controls inoperative.

1. Press the stud found inside the snap fitting into the hole found on the left side of the upper handle, as shown in Figure 3-7.

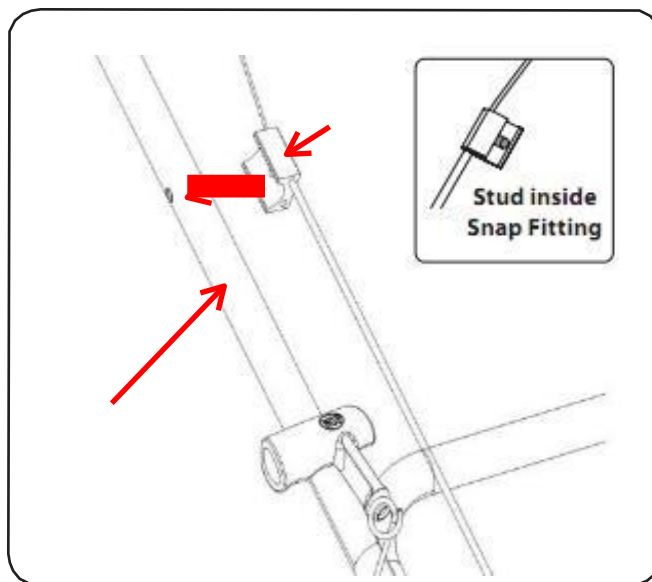


Figure 3-7

2. Secure the cable to the lower left handle with a cable tie. Trim off the extra length of the cable tie.

## Control Cable (Stud)

Unwrap the control cable from the engine and route it under the lower handle.

### Securing Control Cable



**WARNING:** The cable must be routed properly to avoid contact with all sharp edges and hot surfaces. Such contacts damage the cable and render the controls inoperative.

## Z Fitting

**NOTE:** Use the hardware in Group 6 to complete the following steps.

1. To make it easier to attach the Z fitting, temporarily remove the left side of the blade control as shown in Figure 3-9.

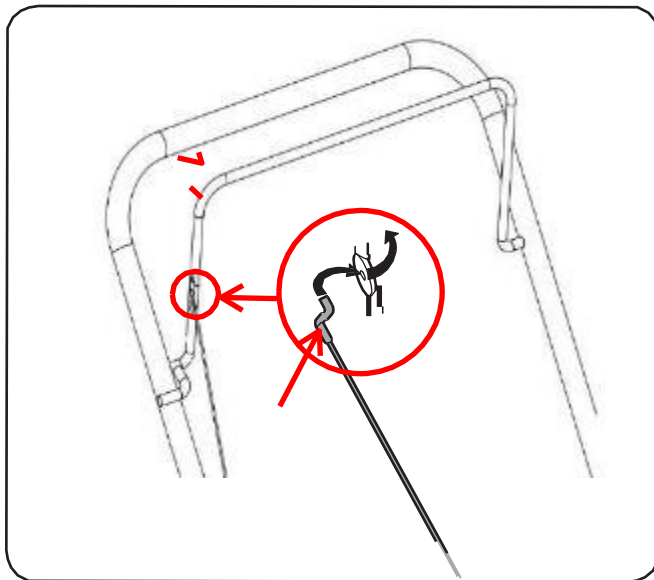


Figure 3-9

2. Pull up on the Z end of the brake cable and hook it into the control from the inside to outside. See Figure 3-9.
3. Reattach the left side of the blade control.
4. Secure the cable to the lower left handle with a cable tie. Trim off the extra length of the cable tie.

## Starter Rope

**NOTE:** Use the hardware in Group 5 and refer to Figure 3-10 to complete the following steps.

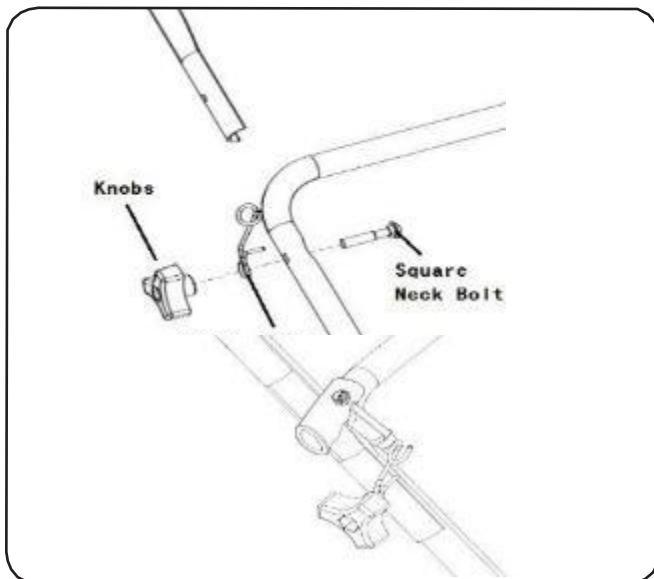


Figure 3-10

1. Attach the eye bolt to the upper handle and loosely thread the lock nut to secure it. Do NOT tighten. See Figure 3-10.
2. With the spark plug wire disconnected and grounded, depress the blade control and pull the rope out of the engine.
3. Loop the rope through the eye bolt. See Figure 3-10.
4. Tighten the eye bolt to the handle using the lock nut. DO NOT overtighten.

## Adjustments

### Cutting Height

1. Remove the carriage bolts and related hardware from the wheels. See Figure 3-11.

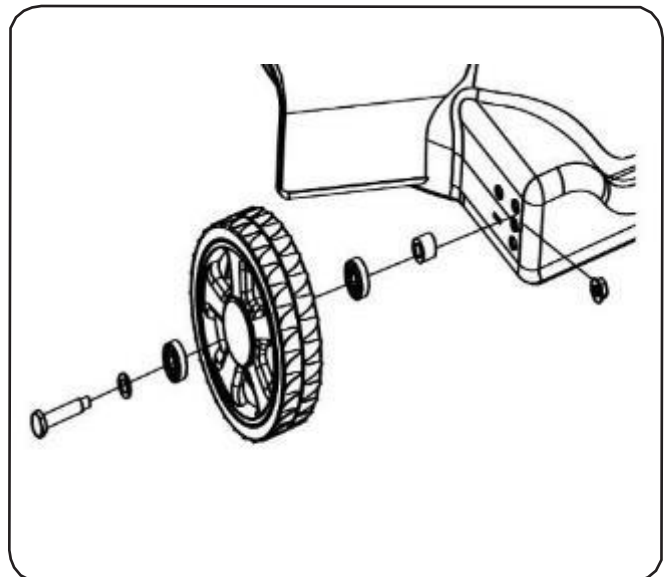


Figure 3-11

2. Reattach the wheels with carriage bolts at another hole. Remember to attach ALL wheels at the same relative position to ensure an even cut. Refer to instructions for Attaching The Wheels earlier in this section. For a higher cutting height, use the lower hole on the deck. For a lower cutting height, use the upper hole.

## Set-Up

### Gas and Oil Fill-Up

Refer to the separate engine owner's manual for additional engine information.

1. Add oil provided before starting unit for the first time out of the box.
2. Service the engine with gasoline as instructed in the separate engine owner's manual.



**WARNING:** Use extreme care when handling gasoline. Gasoline is extremely flammable and the vapors are explosive. Never fuel the machine indoors or while the engine is hot or running. Extinguish cigarettes, cigars, pipes and any other sources of ignition.

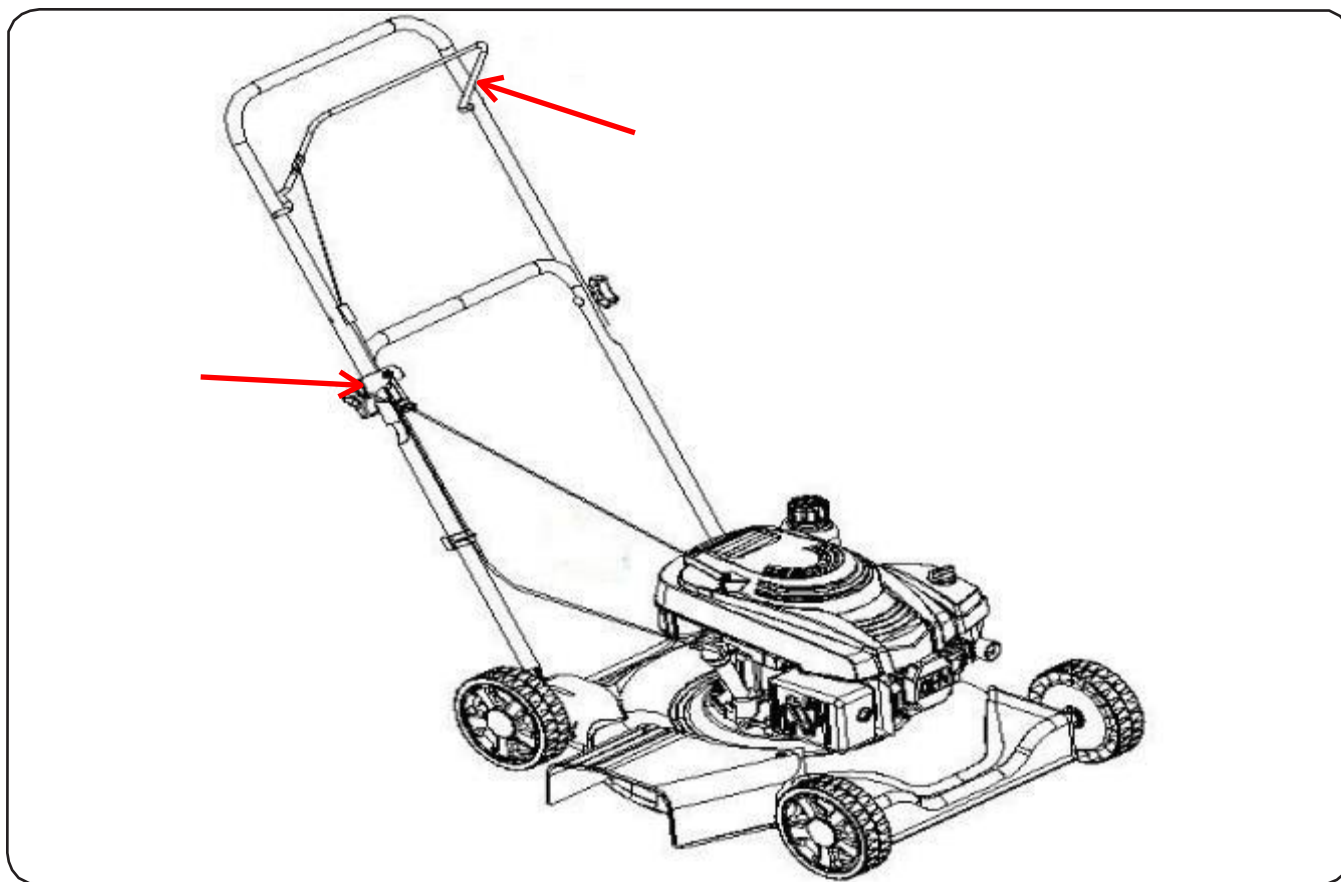


Figure 4-1

### Blade Control

The blade control is attached to the upper handle of the mower. Depress and squeeze it against the upper handle to operate the unit. Release it to stop the engine and blade.



**WARNING:** This blade control is a safety device. Never attempt to bypass its operations.

### Recoil Starter

The recoil starter is attached to the right upper handle. Stand behind the unit and pull the recoil starter rope to start the unit.



## Starting Engine



**WARNING:** Be sure no one other than the operator is standing near the lawn mower while starting engine or operating mower. Never run engine indoors or in enclosed, poorly ventilated areas. Engine exhaust contains carbon monoxide, an odorless and deadly gas. Keep hands, feet, hair and loose clothing away from any moving part on engine and lawn mower.

Follow these set of instructions pertaining to your unit. Refer to engine manual for help with the engine.

### GP140-B Engine:

1. When starting the engine for the first time, push primer five times. For all future starts, push the primer three times. Wait about two seconds between each push. See Figure 5-1. Do not prime to restart a warm engine.
2. Standing behind the mower, squeeze the blade control against upper handle.
3. Holding these two handles together firmly, grasp recoil starter handle and pull rope out with a rapid, continuous, full arm stroke. See Figure 5-1. Keeping a firm grip on the starter handle, let the rope rewind slowly. Repeat until engine cranks. Let the rope rewind each time slowly.

**IMPORTANT:** Do not allow the recoil starter to snap back against the rope guide.

If engine does not start, it may be necessary to re-prime the engine.

### Stopping Engine

1. Release blade control to stop the engine and blade.



**WARNING:** Wait for the blade to stop completely before performing any work on the mower or to remove the mulching baffle (if equipped).

### Using Your Lawn Mower

Be sure lawn is clear of stones, sticks, wire, or other objects which could damage lawn mower or engine. Such objects could be accidentally thrown by the mower in any direction and cause serious personal injury to the operator and others.



**WARNING:** The operation of any lawn mower can result in foreign objects being thrown into the eyes, which can damage your eyes severely. Always wear safety glasses while operating the mower, or while performing any adjustments or repair on it.



**WARNING:** If you strike a foreign object, stop the engine. Remove wire from the spark plug, thoroughly inspect mower for any damage, and repair damage before restarting and operating. Extensive vibration of mower during operation is an indication of damage. The unit should be promptly inspected and repaired.

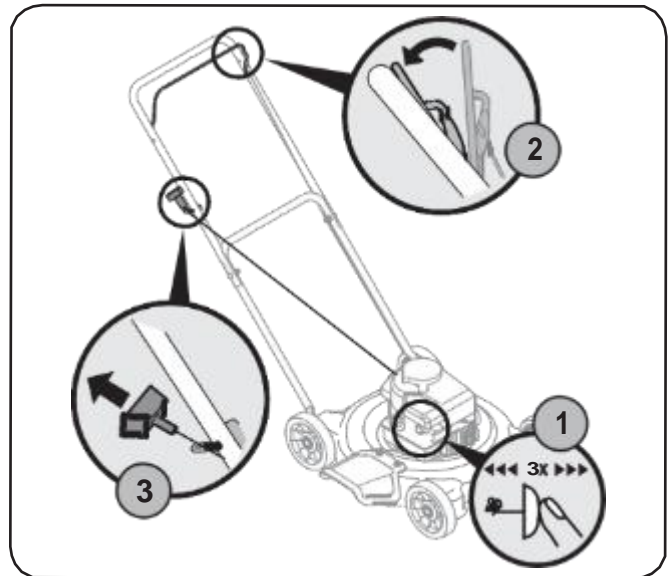


Figure 5-1

Our Machine Technical Data: See Figure 5-2

## TECHNICAL DATA

Model.,	GLM 51G
Engine type.,	GP140-B.,
Self-Propelled.,	No.,
Engine Displacement.,	139cc.,
Blade Width.,	460mm.,
Rated Speed .,.	3000rpm.,
Fuel Tank Capacity.,	1.3L.,
Guaranteed Sound .,	96dB.,
Power level L <sub>WA</sub> .,	

Figure 5-2



## Maintenance

### General Recommendations

- Always observe safety rules when performing any maintenance.
- The warranty on this lawn mower does not cover items that have been subjected to operator abuse or negligence. To receive full value from warranty, operator must maintain the lawn mower as instructed here.
- Changing of engine-governed speed will void engine warranty.
- All adjustments should be checked at least once each season.
- Periodically check all fasteners and make sure these are tight.



**WARNING:** Always stop engine, disconnect spark plug, and ground against engine before performing any type of maintenance on your machine.

### Lubrication

1. Lubricate pivot points on the blade control at least once a season with light oil. This control must operate freely in both directions. See Figure 6-1.

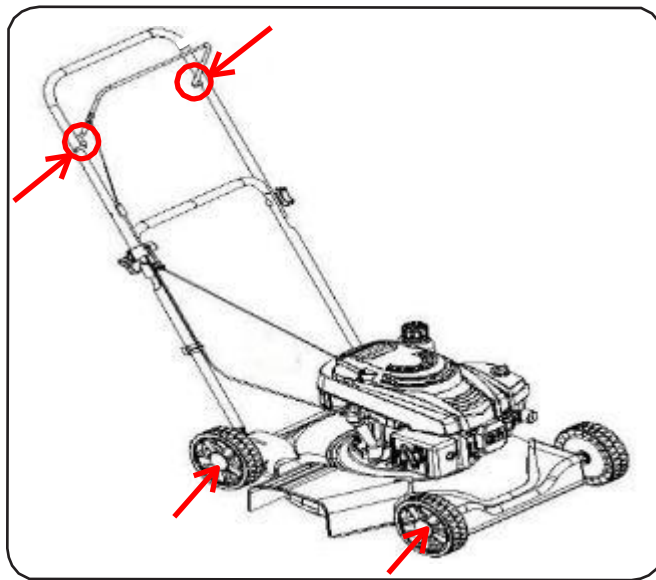


Figure 6-1

2. Lubricate the wheels at least once a season with light oil (or motor oil). If wheels are removed for any reason, lubricate surface of the axle bolt and inner surface of the wheel with light oil. See Figure 6-1.
3. Follow the accompanying engine manual for lubrication schedule and instruction for engine lubrication.

### Deck Care

Clean underside of the mower deck after each use to prevent build-up of grass clippings or other debris. Follow steps below for this job.

1. Disconnect spark plug wire. Drain gasoline from lawn mower or place a piece of plastic under the gas cap.
2. Tip mower so that it rests on the housing. Keep the side with the air cleaner facing up. Hold mower firmly.



**WARNING:** Never tip the mower more than 90° in any direction and do not leave the mower tipped for any length of time. Oil can drain into the upper part of the engine causing a starting problem.

3. Scrape and clean the underside of the deck with a suitable tool. Do not spray with water.

**IMPORTANT:** Do not use a pressure washer or garden hose to clean your unit. These may cause damage to the engine. The use of water will result in shortened life and reduce serviceability.

4. Put the mower back on its wheels on the ground. If you had put plastic under the gas cap earlier, make sure to remove it now.

### Engine Care

A list of key engine maintenance jobs required for good performance by the mower is given below. Follow the accompanying engine manual for a detailed list and instructions.

- Maintain oil level as instructed in engine manual.
- Service air cleaner every 25 hours under normal conditions. Clean every few hours under extremely dusty conditions. Poor engine performance and flooding usually indicates that the air cleaners should be serviced. To service the air cleaner, refer to the engine manual.
- Clean spark plug and reset the gap once a season. Spark plug replacement is recommended at the start of each mowing season. Check engine manual for correct plug type and gap specifications.
- Clean engine regularly with a cloth or brush. Keep the top of the engine clean to permit proper air circulation. Remove all grass, dirt, and combustible debris from muffler area.
- Engines stored between 30 and 90 days need to be treated with a gasoline stabilizer such as **STA-BIL** to prevent deterioration and gum from forming in fuel system or on essential carburetor parts.

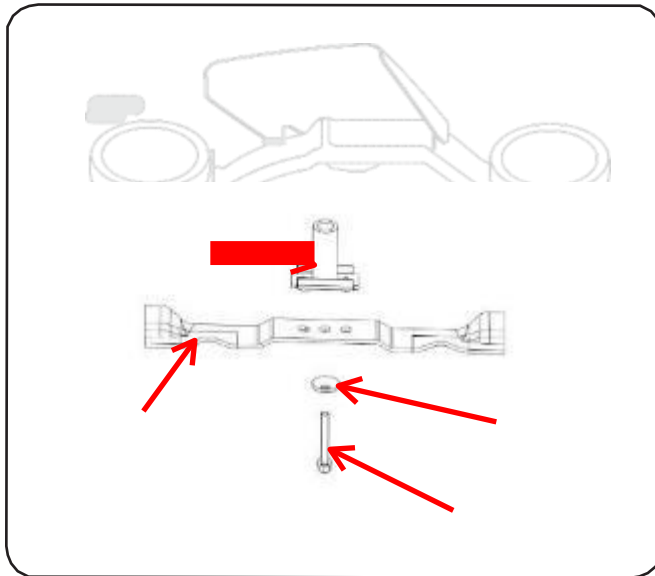
## BladeCare



**WARNING:** When removing the cutting blade for sharpening or replacement, protect your hands with a pair of heavy gloves or use a heavy rag to hold the blade.

Periodically inspect the blade adapter for cracks, especially if you strike a foreign object. Replace when necessary. Follow the steps below for blade service.

1. Disconnect spark plug boot from spark plug. Turn mower on its side making sure that the air filter and the carburetor are facing up.
2. Remove the bolt and the blade bell support which hold the blade and the blade adapter to the engine crankshaft. See Figure 7-1.



**Figure 7-1**

3. Remove blade and adapter from the crankshaft. See Figure 7-1.
4. Remove blade from the adapter for testing balance. Balance the blade on a round shaft screwdriver to check. Remove metal from the heavy side until it balances evenly. When sharpening the blade, follow the original angle of grind. Grind each cutting edge equally to keep the blade balanced.



**WARNING:** An unbalanced blade will cause excessive vibration when rotating at high speeds. It may cause damage to mower and could break causing personal injury.

5. Lubricate the engine crankshaft and the inner surface of the blade adapter with light oil. Slide the blade adapter onto the engine crankshaft. Place the blade on the adapter such that the side of the blade marked "Bottom" (or with part number) face the ground when the mower is in the operating position. Make sure that the blade is aligned and seated on the blade adapter flanges.
6. Place blade bell support on the blade. Align notches on the blade bell support with small holes in blade.
7. Replace hex bolt and tighten hex bolt to torque: 450 in. lbs. min., 600 in. lbs. max.

To ensure safe operation of your mower, periodically check the blade bolt for correct torque.


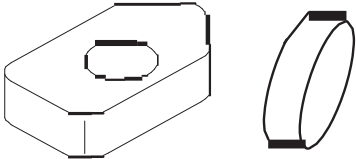






## Off-Season Storage

The following steps should be taken to prepare your lawn mower for storage.

- Clean and lubricate mower thoroughly as described in the lubrication instructions.
- Do not use a pressure washer or garden hose to clean your unit.
- Coat mower's cutting blade with chassis grease to prevent rusting.
- Refer to engine manual for correct engine storage instructions.
- Store mower in a dry, clean area. Do not store next to corrosive materials, such as fertilizer.

When storing any type of power equipment in a poorly ventilated or metal storage shed, care should be taken to rust-proof the equipment. Using a light oil or silicone, coat the equipment, especially cables and all moving parts of your lawn mower before storage.

Problem	Cause	Remedy
EngineFailstostart	<ol style="list-style-type: none"> <li>1.Bladecontroldisengaged.</li> <li>2. Spark plugbootdisconnected.</li> <li>3.Fueltankemptyorstalefuel.</li> <li>4. Enginenotprimed(ifequippedwithprimer).</li> <li>5.Faultysparkplug.</li> <li>6. Blockedfuelline.</li> <li>7. Engineflooded.</li> <li>8. Fuelvalve(ifequipped)closed.</li> <li>9. Enginenotchoked(ifequippedwithchoke).</li> </ol>	<ol style="list-style-type: none"> <li>1.Engagebladecontrol.</li> <li>2. Connectwiretosparkboot.</li> <li>3.Filltankwithclean,freshgasoline.</li> <li>4. PrimeengineasinstructedintheOperation section.</li> <li>5.Clean,adjustgap,orreplace.</li> <li>6. Cleanfuelline.</li> <li>7. Waitafewminutestorestart,butdonot prime.</li> <li>8. Openfuelvalve.Seeenginemanual.</li> <li>9. Chokeengine.Seeenginemanual.</li> </ol>
Enginerunserratic	<ol style="list-style-type: none"> <li>1.Sparkplugbootloose.</li> <li>2. Blockedfuellineorstalefuel.</li> <li>3.Ventingascapplugged.</li> <li>4. Waterordirtinfuelsystem.</li> <li>5.Dirtyaircleaner.</li> <li>6. UnitrunningwithCHOKE(ifequipped) applied.</li> </ol>	<ol style="list-style-type: none"> <li>1.Connectandtightensparkplugboot.</li> <li>2. Cleanfuelline;filltankwithclean,fresh gasoline.</li> <li>3.Clearvent.</li> <li>4. Drainfueltank.Refillwithfreshfuel.</li> <li>5.Refertoenginemanual.</li> <li>6. PushCHOKEknob in.</li> </ol>
Engineoverheats	<ol style="list-style-type: none"> <li>1.Engineoillevellow.</li> <li>2. Airflowrestricted.</li> </ol>	<ol style="list-style-type: none"> <li>1.Fillcrankcasewithproperoil.</li> <li>2. Cleanareaaroundandontopofengine.</li> </ol>
Occasionalskips (hesitates)at highspeed	<ol style="list-style-type: none"> <li>1.Sparkpluggaptooclose.</li> </ol>	<ol style="list-style-type: none"> <li>1.Adjustgapto.030".</li> </ol>
Idlespoorly	<ol style="list-style-type: none"> <li>1.Sparkplugfouled,faulty,orgaptoowide.</li> <li>2. Dirtyaircleaner.</li> </ol>	<ol style="list-style-type: none"> <li>1.Resetgapto.030"orreplacesparkplug.</li> <li>2. Refertoenginemanual.</li> </ol>
ExcessiveVibration	<ol style="list-style-type: none"> <li>1.Cuttingbladelooseorunbalanced.</li> <li>2. Bentcuttingblade.</li> </ol>	<ol style="list-style-type: none"> <li>1.Tightenbladeandadapter.Balanceblade.</li> <li>2. Seeanauthorizedservicedealer.</li> </ol>
Mowerwillnot mulchgrass	<ol style="list-style-type: none"> <li>1.Wetgrass.</li> <li>2. Excessivelyhighgrass.</li> <li>3.Dullblade.</li> </ol>	<ol style="list-style-type: none"> <li>1.Donotmowwhengrassiswet;waituntil latertocut.</li> <li>2. Mowonceatahighcuttingheight,then mowagainatdesiredheightormakea narrowercuttingpath.</li> <li>3.Sharpenorreplaceblade.</li> </ol>
Unevencut	<ol style="list-style-type: none"> <li>1.Wheelsnotpositionedcorrectly.</li> <li>2. Dullblade.</li> </ol>	<ol style="list-style-type: none"> <li>1.Placeallfourwheelsinsameheightposition (ifequippedwithindividualheightadjusters).</li> <li>2. Sharpenorreplaceblade.</li> </ol>

Component	PartNumberandDescription
	SparkPlug
	AirCleanerKit
	FuelCapAssembly
	FuelFilter
	Wheel
	DischargeChute
	MulchingBlade
	SparkPlugWrench— Duelendedwrenchtoservemultiple uses.Fits $\frac{3}{4}$ "or $\frac{13}{16}$ "hexplug.