

Operator's Manual

CRAFTSMAN®

PRO SERIES

21" LAWN MOWER

Model Nos. 247.39767*

*-- Last digit of model number varies

CRAFTSMAN®

21" LAWN MOWER

Model Nos. 247.37787*

247.37705*

247.37747*

247.37441*

247.37744*

*-- Last digit of model number varies

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⚠ CAUTION

Before using this equipment, read the manual and follow all safety rules and operating instructions.

To order parts or schedule service for this product, call:

1-888-331-4569

Customer Care Hot Line

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SAFETY INSTRUCTIONS

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 ITS WARNING!

WARNING

CALIFORNIA PROPOSITION 65

Engine Exhaust, some of its constituents, and certain vehicle components contain or emit chemicals known to State of California to cause cancer and birth defects or other reproductive harm.

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 debris. Failure to observe the following safety instructions could result in serious injury or death.

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!

GENERAL OPERATION

- 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 manuals before operation. Keep this manual in a safe place for future and regular reference and for ordering replacement parts
- Be completely familiar with the controls and the proper use of this machine before operating it.
- 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.
- 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.
- Only responsible individuals who are familiar with these rules of safe operation should be allowed to use this machine.
- 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.
- 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.
- 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.
- 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.
- 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 light-weight (e.g. canvas) shoes.
- Do not put hands or feet near rotating parts or under the cutting deck. Contact with blade can amputate fingers, hands, toes and feet.
- A missing or damaged discharge cover can cause blade contact or thrown object injuries.
- 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 on to the mower if you are falling: release the handle immediately.
- 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 forward.
 - b. Be sure you are well balanced with sure footing.
 - c. Pull the mower back slowly, no more than half way toward you.
 - d. Repeat these steps as needed.
- Do not operate the mower while under the influence of alcohol or drugs.
- Do not engage the self-propelled mechanism on machines so equipped while starting engine.
- The blade control handle 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 handle must operate easily in both directions and automatically return to the disengaged position when released.
- 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.
- Mow only in daylight or good artificial light. Walk, never run.
- Stop the blade when crossing gravel drives, walks or roads.

SAFETY INSTRUCTIONS

- If the equipment should start to vibrate abnormally, stop the engine and check immediately for the cause. Vibration is generally a warning of trouble.
- Shut the engine off and wait until the blade comes to a complete stop before removing the grass Bagger 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.
- Never operate mower without proper trail shield, discharge cover, grass Bagger, blade control handle 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.
- Muffler and engine become hot and can cause a burn. Do not touch.
- Never attempt to make a wheel or cutting height adjustment while the engine is running.
- Only use parts and accessories made for this machine by the manufacturer as listed in the Parts pages of this Operator's Manual. Failure to do so can result in personal injury.
- 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.
- If situations occur which are not covered in this manual, use care and good judgement.

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. The machine is heavy and can speed up when going downhill. Be prepared to maintain control of the machine. 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 sloped or hilly area. If the slope is greater than 15 degrees, do not mow it.

Do:

- Mow across the face of slopes; never up and down to avoid loss of control.
- Exercise extreme caution when changing direction on slopes; turn uphill not down.
- Watch for holes, ruts, rocks, hidden objects, or bumps which can cause you to slip or trip. Tall grass can hide obstacles.
- 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:

- Do not mow near drop-offs, ditches or embankments, because you could lose your footing or balance.
- Do not mow slopes greater than 15 degrees as shown on the slope guide.
- 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.

- Keep children out of the mowing area and under watchful care of a responsible adult other than the operator.
- Be alert and turn mower off if a child enters the area.
- Before and while moving backwards, look behind and down for small children.
- 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.
- Keep children away from hot or running engines. They can suffer burns from a hot muffler.
- 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:

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.

- Use only an approved gasoline container.
- 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.
- 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.
- 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.
- Extinguish all cigarettes, cigars, pipes and other sources of ignition.
- Never fuel machine indoors because flammable vapors will accumulate in the area.
- Never remove gas cap or add fuel while engine is hot or running. Allow engine to cool at least two minutes before refueling.
- Never over-fill fuel tank. To allow for expansion of the fuel, do not fill above the bottom of the fuel tank neck.
- Replace gasoline cap and tighten securely.
- If gasoline is spilled, wipe it off the engine and equipment. Move machine to another area. Wait 5 minutes before starting engine.

SAFETY INSTRUCTIONS

- 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.
- 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.
- Allow machine to cool at least 5 minutes before storing.

General Service:

- Never run an engine indoors or in a poorly ventilated area. Engine exhaust contains carbon monoxide, an odorless and deadly gas.
- 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.
- 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 the Parts pages of this manual. Use of parts which do not meet the original equipment specifications may lead to improper performance and compromise safety!
- Mower blades are sharp and can cut. Wrap the blade or wear gloves, and use extra caution when servicing them.
- Keep all nuts, bolts, and screws tight to be sure the equipment is in safe working condition.
- Never tamper with safety devices. Check their proper operation regularly.
- 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.
- Never attempt to make a wheel or cutting height adjustment while the engine is running.
- Grass Bagger 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 the Parts pages of this manual. Use of parts which do not meet the original equipment specifications may lead to improper performance and compromise safety!
- Do not change the engine's governor setting or over-speed the engine. The governor controls the maximum safe operating speed of the engine.
- Check fuel line, tank, cap, and fittings frequently for cracks or leaks. Replace if necessary.
- Do not crank engine with spark plug removed.
- Maintain or replace safety and instruction labels, as necessary.
- Observe proper disposal laws and regulations. Improper disposal of fluids and materials can harm the environment.

- According to the Consumer Products Safety Commission (CPSC) and the U.S. Environmental Protection Agency (EPA), this product has an Average Useful Life of seven (7) years, or 140 hours of operation. At the end of the Average Useful Life have the machine inspected annually by a Sears or other qualified service dealer to ensure that all mechanical and safety systems are working properly and not worn excessively. Failure to do so can result in accidents, injuries or death.

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.

NOTICE REGARDING EMISSIONS

Engines which are certified to comply with California and federal EPA emission regulations for SORE (Small Off Road Equipment) are certified to operate on regular unleaded gasoline, and may include the following emission control systems: Engine Modification (EM), Oxidizing Catalyst (OC), Secondary Air Injection (SAI) and Three Way Catalyst (TWC) if so equipped.

SPARK ARRESTOR

WARNING

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

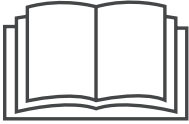
If a spark arrestor is used, it should be maintained in effective working order by the operator. In the State of California the above is required by law (Section 4442 of the California Public Resources Code). Other states may have similar laws. Federal laws apply on federal lands.

A spark arrestor for the muffler is available through your nearest Sears Parts and Repair Service Center. For location and purchase information call 1-888-331-4569.

SAFETY INSTRUCTIONS

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
	READ THE OPERATOR'S MANUAL(S) Read, understand, and follow all instructions in the manual(s) before attempting to assemble and operate.
	DANGER — ROTATING BLADES To reduce the risk of injury, keep hands and feet away. Do not operate unless discharge cover or grass bagger is in its proper place. If damaged, replace immediately.
	DANGER — BYSTANDERS Do not mow when children or others are around.
	DANGER — HAND/ FOOT CUT Keep hands and feet away from rotating parts.
	DANGER — THROWN DEBRIS Remove objects that can be thrown by the blade in any direction. Wear safety glasses.
	DANGER — SLOPES Use extra caution on slopes. The machine is heavy and can speed up when going downhill. Be prepared to maintain control of the machine. To avoid loss of control, operate across slopes, not up and down. When turning, turn uphill, not down. Do not operate on slopes greater than 15°.
	WARNING—GASOLINE IS FLAMMABLE Allow the engine to cool at least two minutes before refueling.
	WARNING— CARBON MONOXIDE Never run an engine indoors or in a poorly ventilated area. Engine exhaust contains carbon monoxide, an odorless and deadly gas.
	WARNING— HOT SURFACE 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!

SLOPE GAUGE

Slope Gauge

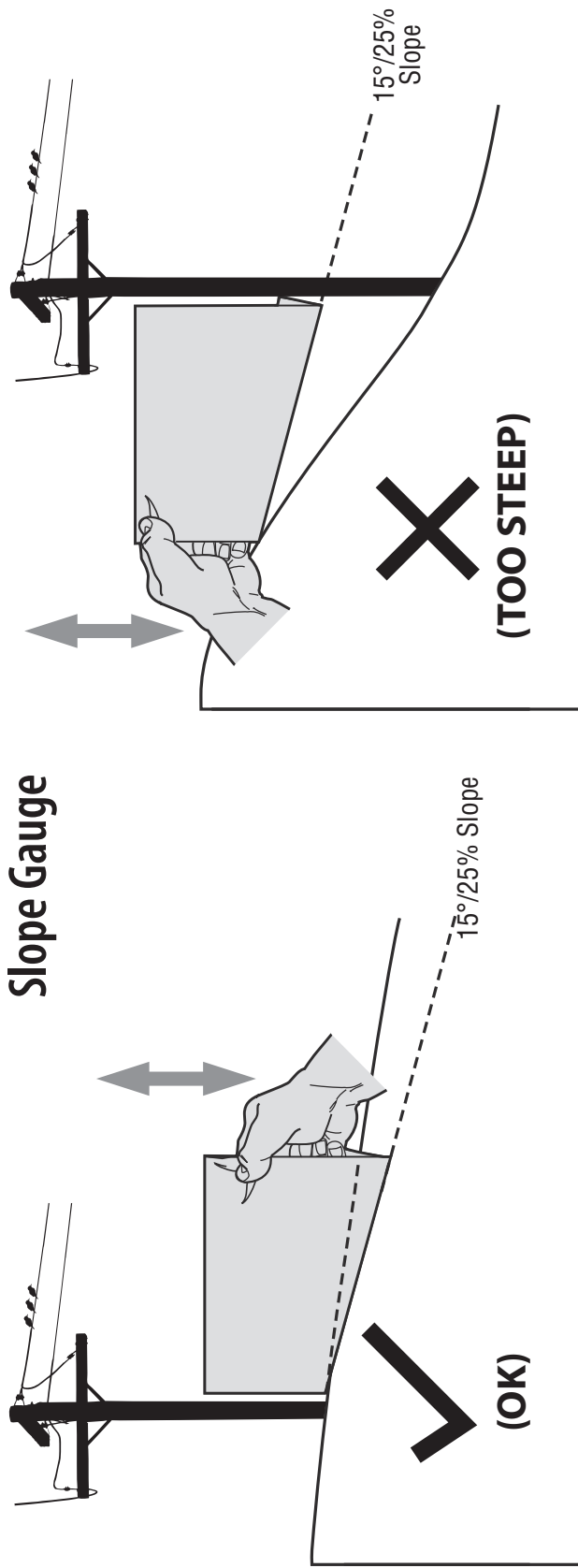


Figure 1

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 either 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 slip and fall accidents which can result in severe injury or death. The machine is heavy and can speed up when going downhill. Be prepared to maintain control of the machine. To avoid loss of control, operate across slopes, not up and down. When turning, turn uphill, not down. Do not operate machine on slopes in excess of 15 degrees.

ASSEMBLY

IMPORTANT: This unit is shipped without gasoline or oil in the engine. Be certain to service engine with gasoline and oil as instructed in the Operation section of the Engine Manual before starting or running your machine.

NOTE: Reference to right and left hand side of the Lawn Mower is observed from the operating position.

Unpacking

Opening Carton

1. Cut each corner of the carton vertically from top to bottom.
2. Remove all loose parts.
3. Remove loose packing material.

Removing Unit From Carton

1. Lift unit from the rear to detach it from underlying carton material and roll unit out of carton.
2. Check carton thoroughly for any other loose parts.

Loose Parts In Carton

- Grass Catcher
- Side Discharge Cover
- Engine Oil

Assembly

Attaching The Handle

1. Remove any packing material which may be between upper and lower handles.
 - a. Remove wing nuts and carriage bolts handle as shown in Figure 1. Do not loosen or remove adjacent hex head screws.

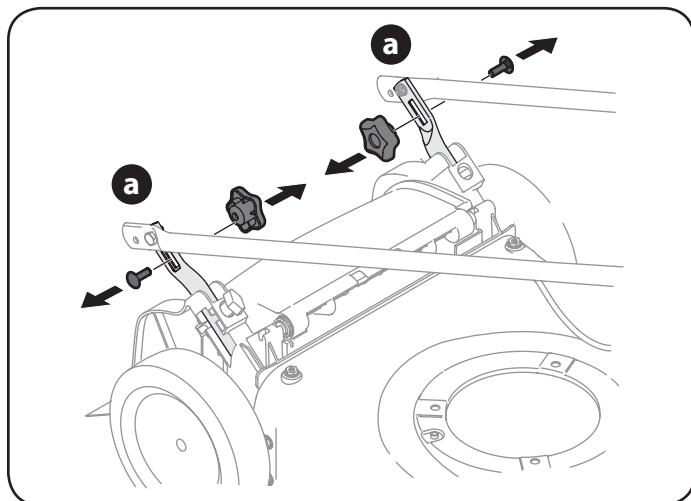


Figure 1

- b. While stabilizing mower so it doesn't move, pivot upper handle up as shown in Figure 2. Do not crimp cable while lifting the handle up.

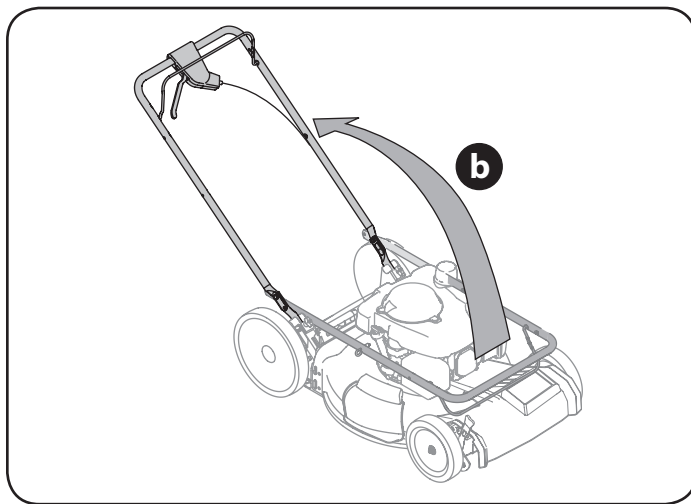


Figure 2

2. Remove T-bolts from the handle brackets as shown in Figure 3.

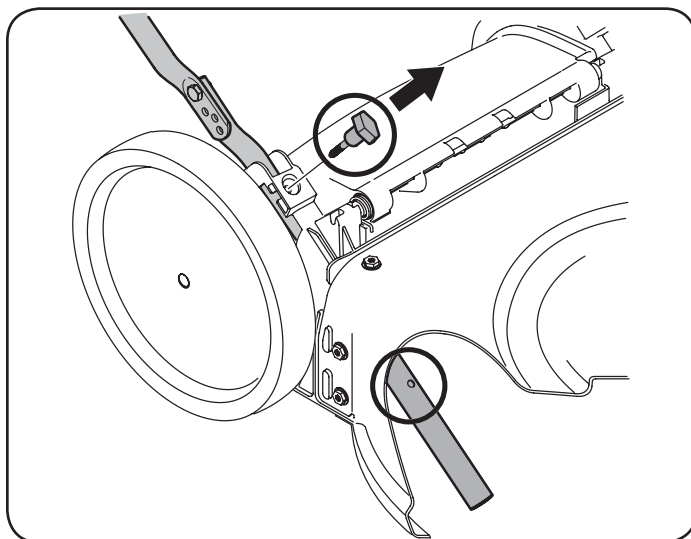


Figure 3

ASSEMBLY

3. Follow the steps below to complete handle assembly:

- a. Pull upward on the handle until holes in lower handle (shown in Figure 3 deck cutaway) line up with holes in handle bracket. See Figure 4.

NOTE: When pulling upward on handle, make sure to not pull handle all the way out.

- b. Insert the T-bolts removed in Step 2 through the handle brackets and lower handle and tighten securely to secure the handle in place. See Figure 4.

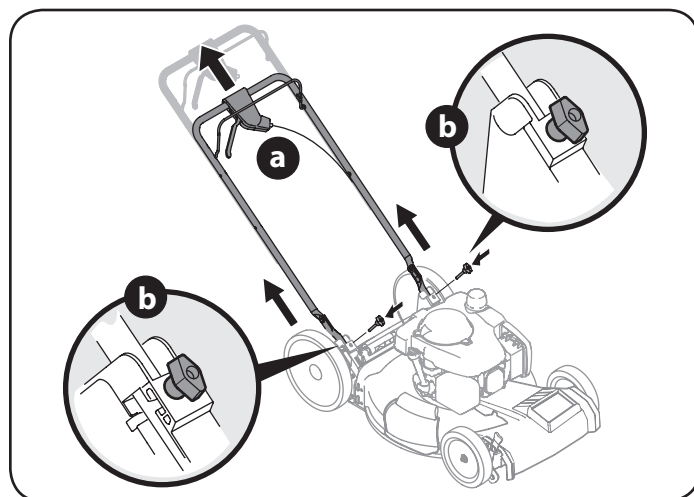


Figure 4

- c. Reattach wing nuts and carriage bolts removed in Step 1 into lower holes of handle as shown in Figure 5.

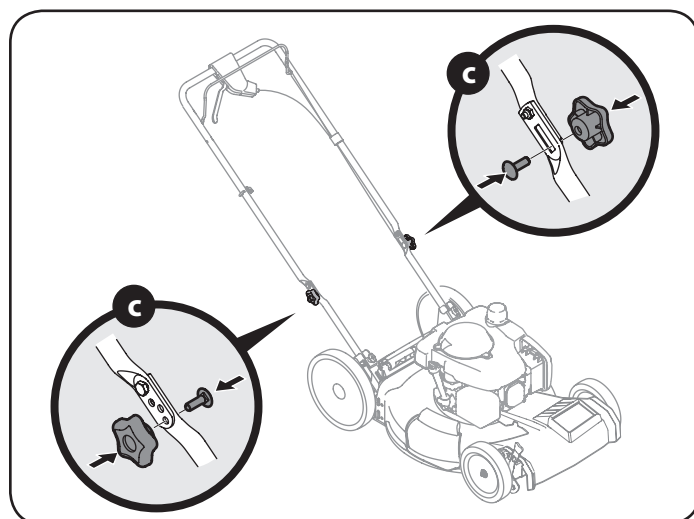


Figure 5

4. The rope guide is attached to the right side of the upper handle. Loosen the wing knob which secures the rope guide. Refer to Figure 6.

- a. Hold blade control against upper handle.
- b. Slowly pull starter rope handle from engine and slip starter rope into the rope guide. See Figure 6.
- c. Tighten rope guide wing knob.
- d. Use cable ties provided to secure blade control and drive cables to lower handle as shown in Figure 6.

IMPORTANT: To reduce wear and allow for proper operation, make sure to leave some slack in the upper portion of the cable(s).

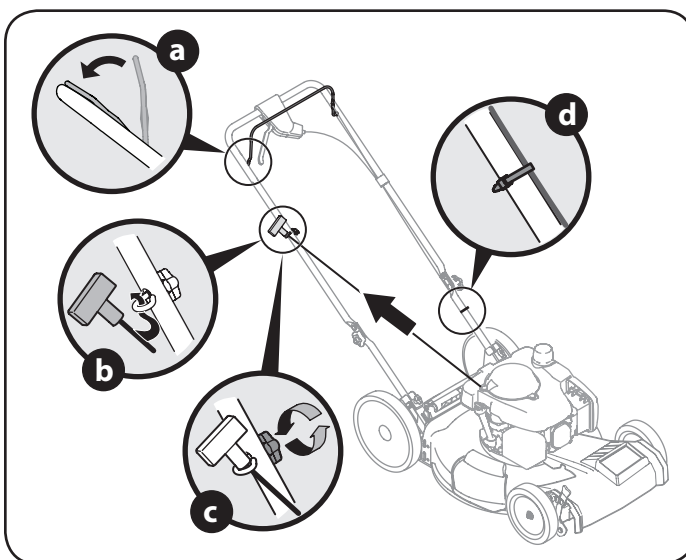


Figure 6

ASSEMBLY

Attaching the Grass Catcher

1. Follow steps below to assemble the grass catcher. Make certain bag is turned right side out before assembling (warning label will be on the outside).
 - a. Place bag over frame so that its black plastic side is at the bottom.
 - b. Slip plastic channel of grass bag over hooks on the frame. See Figure 7.

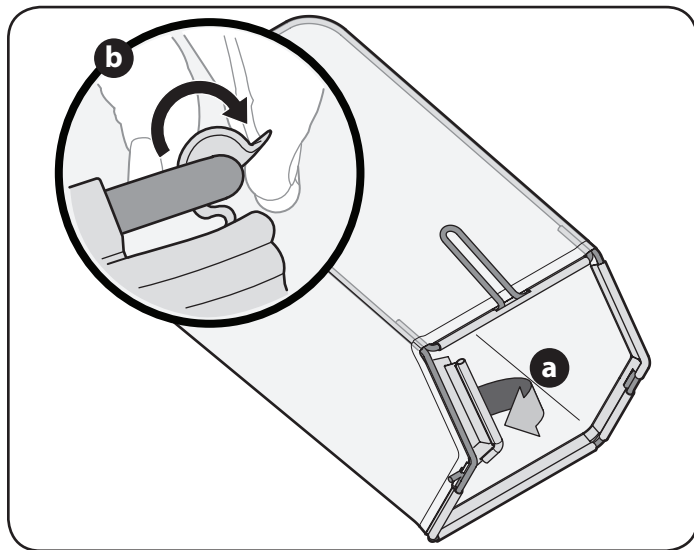


Figure 7

2. Follow steps below to attach grass catcher:
 - a. Lift rear discharge door.
 - b. Place grass catcher into the slots in the handle brackets as shown in Figure 8. Let go of discharge door so that it rests on the grass catcher.

To remove grass catcher, lift rear discharge door on the mower. Lift grass catcher up and off the slots in the handle brackets. Release rear discharge door to allow it to close rear opening of mower.

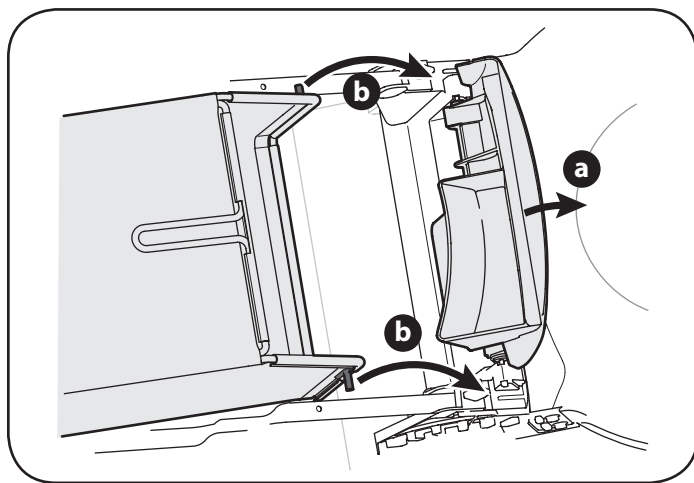


Figure 8

Attaching Side Discharge Cover

Your mower is shipped as a mulcher. To convert to side discharge, make sure grass catcher is off of the unit and rear discharge door is closed.

1. On the side of the mower, lift the mulch cover. See Figure 9.
2. Slide two hooks of side discharge cover under hinge pin on mulching cover assembly. Lower mulching cover. Do not remove side mulching cover at any time, even when you are not mulching.

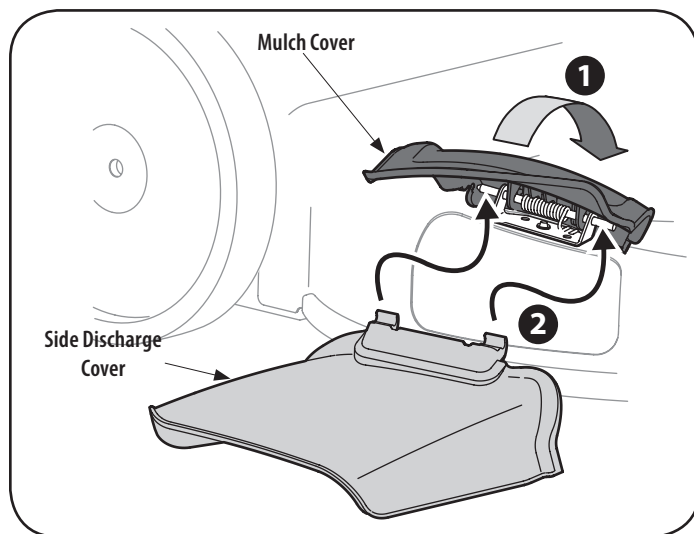


Figure 9

ADJUSTMENTS

Adjustments

Cutting Height

There is a cutting height adjustment lever located above the front and rear right wheel.

1. Pull the height adjustment lever outward towards wheel (unit will tend to fall when lever is moved outward). See Figure 10.
2. Move lever to desired position for a change in cutting height. See Figure 10.
3. Release lever towards deck.

IMPORTANT: All wheels must be placed in the same position. For rough or uneven lawns, move each height adjustment lever to a higher position. This will prevent you from cutting the grass too close to the ground.

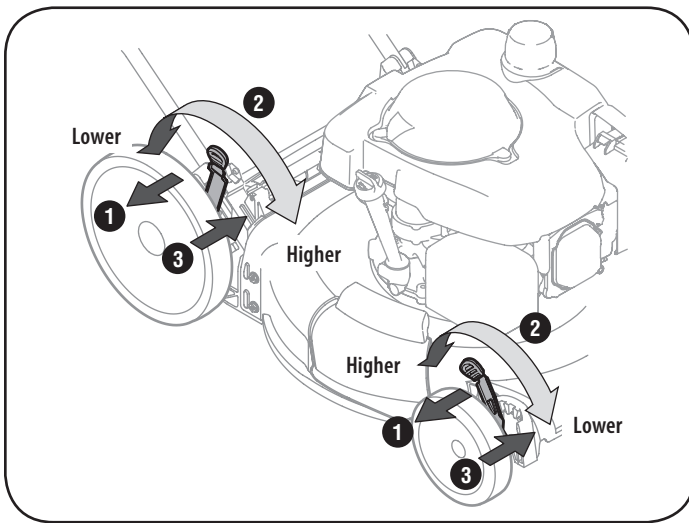


Figure 10

Handle Pitch (If Equipped)

For convenience of operation, you may adjust the pitch of the handle as follows:

1. Remove wing nuts and carriage bolts from handle. See Figure 11.
2. Position the handle in one of the three positions that is most comfortable. See Figure 11 inset.
3. Secure into position with wing nuts and carriage bolts removed in Step 1.

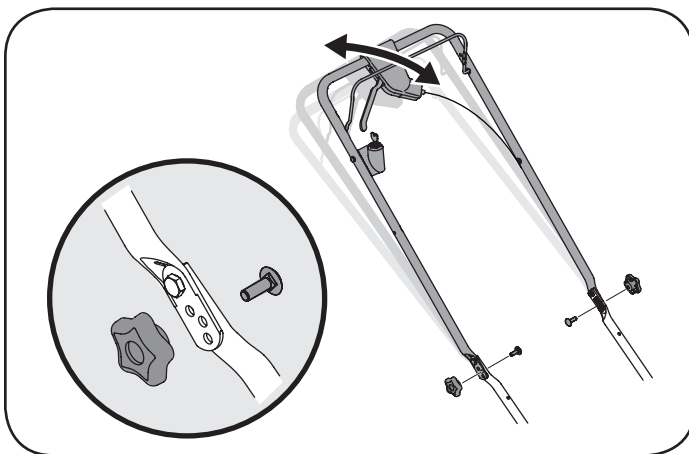


Figure 11

Drive Control (If Equipped)

The adjustment wheel is located in the drive control handle housing and is used to tighten or loosen the drive belt. You will need to adjust the drive control if the mower does not propel itself with the drive control engaged or if the mower's wheels hesitate with the drive control engaged. If either of these conditions occur, rotate adjustment wheel clockwise to tighten cable or counterclockwise to loosen the cable. See Figure 12 or Figure 13.

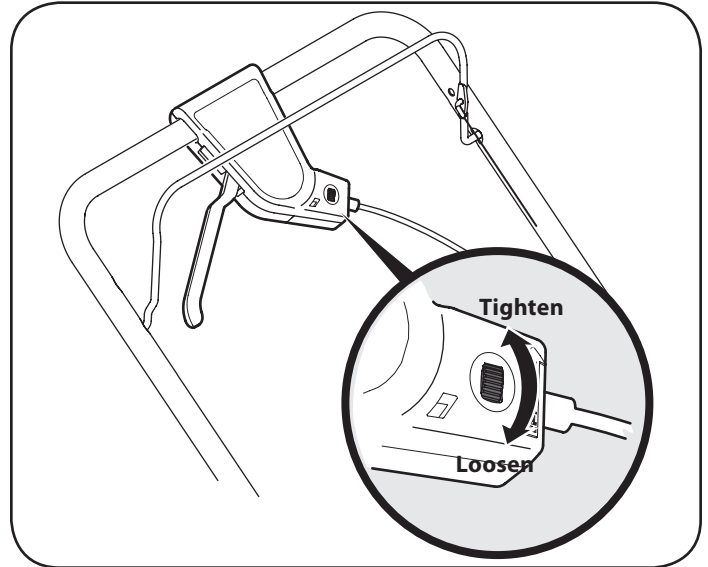


Figure 12

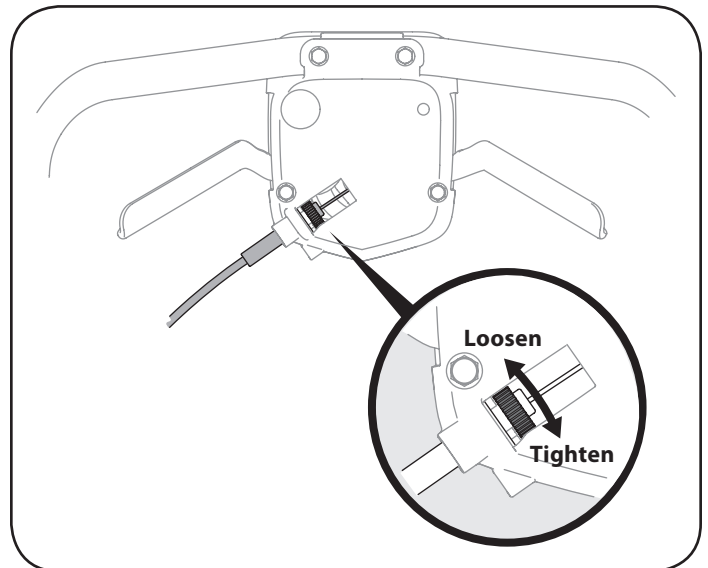


Figure 13

OPERATION

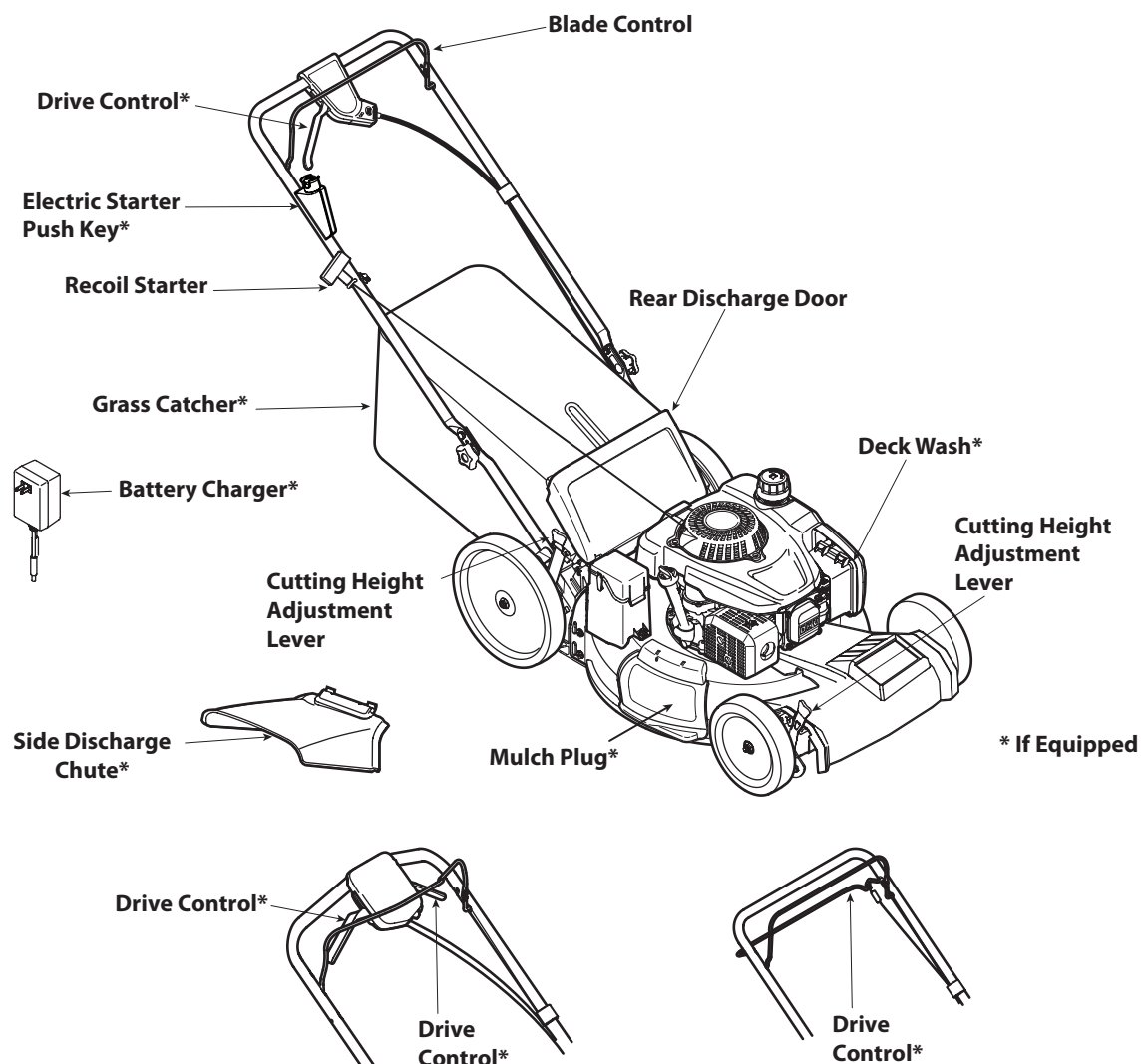


Figure 14

OPERATION

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 engine and blade.

WARNING

This blade control is a safety device. Never attempt to bypass its operation.

Drive Control - Bail or Single Lever (If Equipped)

The drive control is located on top of the upper handle and is used to engage the drive. Squeeze it against the upper handle to engage the drive; release it to slow down or stop mower from propelling.

Drive Control - Dual Lever (If Equipped)

The drive controls are located on top of the upper handle and are used to engage the drive. Squeeze the right, left, or both right and left controls against the upper handle to engage the drive; release it/them to slow down or stop mower from propelling.

Cutting Height Adjustment Lever

One adjustment lever is located on the right rear wheel and one is located on the right front wheel. Both levers have to be at the same position to ensure a uniform cut. To adjust the cutting height, refer to the Assembly Section.

Side Discharge Cover (If Equipped)

Your mower is shipped as a mulcher. To discharge the grass clippings to the side instead, follow the instructions in the Assembly section to attach the side discharge cover.

Grass Catcher (If Equipped)

The grass catcher, located at the rear of the mower, is used to bag the grass clippings for disposal at another site. Once the bag is full, remove it up through the handles and empty it before any further mowing.

Mulch Cover (If Equipped)

The mulch cover is used for mulching purposes. Instead of collecting the grass clippings in a grass catcher or using the side discharge chute, some mower models have the option of recirculating the clippings back to the lawn. This is called mulching.

Trail Shield (If Equipped)

The trail shield is attached to the rear of the mower and is there to protect the operator from flying debris. Do not use the mower unless the shield is fully functional and in place.

Deck Wash (If Equipped)

Your mower's deck is equipped with a water port on its surface as part of its deck wash system. Use the deck wash to rinse grass clippings from the deck's underside.

WARNING

Keep hands and feet away from the chute area on cutting deck. Refer to warning label on the unit.

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.

Oil Fill Cap/Dipstick

Refer to the Engine Operator's Manual packed with your mower for detailed oil filling, checking and changing instructions.

Electric Starter Push Key (If Equipped)

The electric starter push key is located on the right side of the upper handle. It is both a removable key and push button and is only provided on electric start models.

Meets ANSI Safety Standards

Craftsman Lawn Mowers conform to the safety standard of the American National Standards Institute (ANSI).

OPERATION

GAS AND OIL FILL-UP

IMPORTANT: Refer to the separate Engine Operator's Manual for additional engine information.

This unit is shipped without gasoline or oil in the engine. Be certain to service engine with gasoline and oil as instructed in this section before starting or running your machine.

1. Add provided oil before starting mower for the first time.
2. Service the engine with gasoline as instructed in the separate Engine Operator'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 other sources of ignition.

To Start 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 parts on engine and lawn mower.

Refer to the Engine Operator's Manual for instructions on starting and stopping the engine.

WARNING

Keep a firm grip on the starter cord handle to prevent rapid retraction of starter cord (kickback). Rapid retraction can pull hand and arm toward engine faster than you can let go, and result in broken bones, fractures, bruises or sprains.

To Stop 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 grass catcher.

Using as Mulcher

For mulching grass, remove the grass catcher or side discharge chute from the mower. When you remove the grass catcher from the mower, the rear discharge door will close. When you remove the side discharge chute, the mulching cover will close. For effective mulching, do not cut wet grass. If the grass has been allowed to grow in excess of four inches, mulching is not recommended. Use the grass catcher to bag clippings instead.

Using Grass Catcher (If Equipped)

You can use the grass catcher to collect clippings while you are operating the mower.

1. Attach grass catcher following instructions on page 9 in the Assembly section. Grass clippings will automatically collect in bag as you run mower. Operate mower until grass bag is full.
2. Stop engine completely by releasing the blade control. Make sure that the unit has come to a complete stop.
3. Lift discharge door and pull grass bag up and away from the mower to remove the bag. Dispose of the grass clippings and reinstall the bag when complete.

WARNING

If you strike a foreign object, stop the engine. Disconnect the spark plug wire, 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.

SERVICE AND MAINTENANCE

MAINTENANCE SCHEDULE



WARNING

Before performing any type of maintenance/service, disengage all controls and stop the engine. Wait until all moving parts have come to a complete stop. Disconnect spark plug wire and ground it against the engine to prevent unintended starting.

Follow the maintenance schedule given below. This chart describes service guidelines only. Use the Service Log column to keep track of completed maintenance tasks. To locate the nearest Sears Service Center or to schedule service, call the following toll free number: 1-888-331-4569.

See the Engine Operator's manual packed with the mower for detailed instructions on how to perform many of the following maintenance items.

Interval	Item	Service	Service Log
Each Use	1. Engine oil level 2. Loose or missing hardware 3. Air cleaner 4. Unit and engine	1. Check 2. Tighten or replace 3. Check 4. Clean	
1st Month or 5 hours	1. Engine oil	1. Change	
Annually or 25 hours	1. Air cleaner * 2. Control linkages/pivots and wheels 3. Underside of mower deck	1. Clean 2. Lube with light oil 3. Clean	
Annually or 50 hours	1. Engine oil	1. Change	
Annually	1. Spark plug 2. Air Cleaner	1. Replace 2. Replace	
Before Storage	1. Fuel system	1. Run engine until it stops from lack of fuel, or add stabilizer to a full tank of fresh fuel prior to storage.	

* Clean more often under dusty conditions or when airborne debris is present. Replace air cleaner if very dirty.



WARNING

Always stop engine, allow engine to cool, disconnect spark plug wire, and ground against engine before performing any type of maintenance on your machine.

Lubrication

Blade Control

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 15.

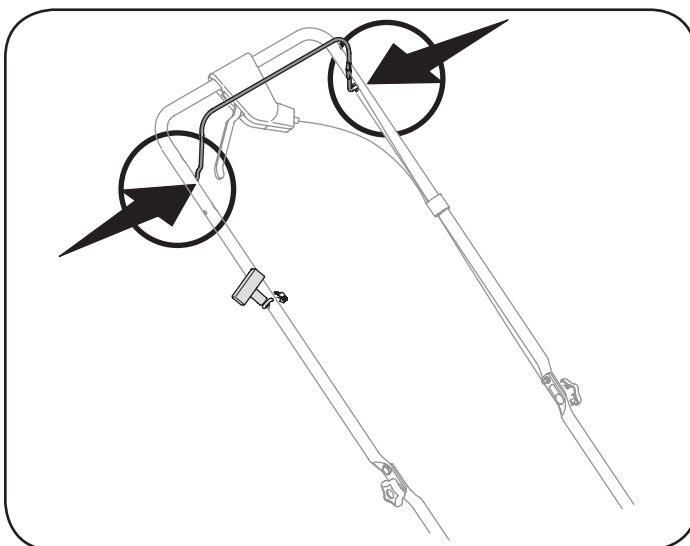


Figure 15

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 equipment 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.

SERVICE AND MAINTENANCE

Engine Maintenance

Refer to the Engine Operator's Manual packed with your mower for a detailed description of all engine-related service specifications.

Clean Engine

- Daily or before every use, clean grass, chaff or accumulated debris from engine. Keep linkage, spring, and controls clean. Keep area around and behind muffler free of any combustible debris.
- Keeping engine clean allows air movement around engine.
- Engine parts should be kept clean to reduce the risk of overheating and ignition of accumulated debris.

CAUTION

Do not use water to clean engine parts. Water could contaminate fuel system. Use a brush or dry cloth.

Mower Maintenance

Cleaning Deck

Clean underside of the mower deck once a season to prevent build-up of grass clippings or other debris. Follow steps below for this job.

1. Allow the engine to run until it is out of fuel. Do not attempt to pour fuel from the engine. Disconnect spark plug wire. Refer to Engine Operator's Manual.
2. Tip mower so that it rests on the housing, keeping the muffler side down. 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 bearings, or 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.

Deck Wash (If Equipped)

Your mower's deck is equipped with a water port on its surface as part of its deck wash system.

Use the deck wash to rinse grass clippings from the deck's underside and prevent the buildup of corrosive chemicals. Complete the following steps **AFTER EACH MOWING**:

1. Push the mower to a level, clear location on your lawn, near enough for your garden hose to reach. Remove the grass bag if attached.

CAUTION

Make certain the mower's discharge chute is directed **AWAY** from your house, garage, parked cars, etc.

2. Remove the fast attach deck wash nozzle from the mower deck and thread it onto the end of your garden hose.
3. Attach garden hose with the deck wash nozzle to the water port on your deck's surface. See Figure 16.
4. Turn the water ON.
5. Start the engine as described in the Operation section.
6. Run the engine for a minimum of two minutes, allowing the underside of the cutting deck to thoroughly rinse.
7. Release blade control to stop the engine and blade.
8. Turn the water OFF and detach the deck wash nozzle from the water port on your deck's surface.

After cleaning your deck, restart the mower. Keep the engine and blade running for a minimum of two minutes, allowing the underside of the cutting deck to thoroughly dry

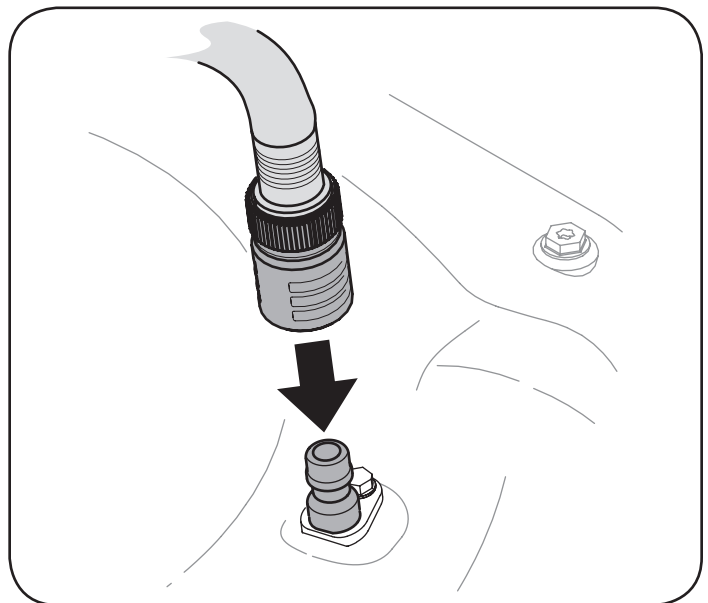


Figure 16

SERVICE AND MAINTENANCE

Blade Care

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. Allow the engine to run until it is out of fuel. Do not attempt to pour fuel from the engine. Disconnect spark plug wire. Refer to Engine Operator's Manual.
2. Turn mower on its side making sure that the air filter and the carburetor are facing up.
3. Remove the bolt and the blade bell support which hold the blade and the blade adapter to the engine crankshaft. See Figure 17.
4. Remove blade and adapter from the crankshaft.
5. 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.

6. 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 "Grass Side" (or with part number) faces the ground when the mower is in the operating position. Make sure that the blade is aligned and seated on the blade adapter flanges. See Figure 17 inset.

Place blade on support on the underside of the blade bell support with small holes in blade.

8. Replace hex bolt and tighten hex bolt to torque: 450 in-lb (min.), 600 in-lb (max.).

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

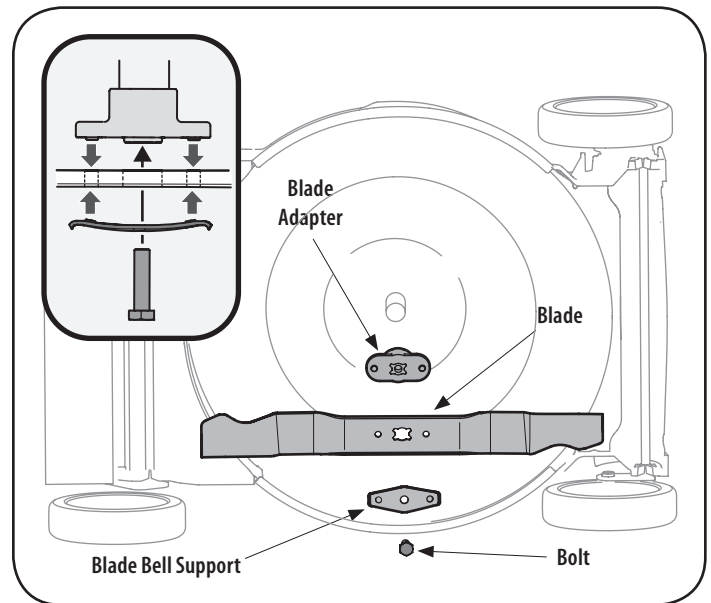


Figure 17

Belt Care

NOTE: Several components must be removed in order to change the mower's self-propulsion drive belt. See an authorized Sears Service Center to have your belt replaced.

SERVICE AND MAINTENANCE

Charging Electric Starter Battery (If Equipped)

⚠ WARNING

The battery contains corrosive fluid and toxic material; handle with care and keep away from children. Do not puncture, disassemble, mutilate or incinerate the battery. Explosive gases could be vented during charging or discharging. Use in a well ventilated area, away from sources of ignition.

NOTE: The special designed plug on the charger will only fit into the plug on the battery box.

1. Unhinge the cover seal and plug the battery charger into the port on the side of the battery housing. See Figure 18.
2. Insert the battery charger plug into a standard 120 volt household outlet. Charge battery for 8 to 10 hours before initial use. Do not charge longer than 12 hours. The battery should only need to be charged upon initial setup, at the end of the season, after any other extended periods of non-use, and as needed.

NOTE: If you frequently stop and restart the mower during each cut throughout the season (for instance when bagging), more frequent charging may be necessary.

3. After charging, disconnect charger plug from outlet first, then disconnect charger lead from battery and reattach cover seal.

IMPORTANT: Do not remove the battery pack from the electric starter housing for any reason other than replacement.

IMPORTANT: Always plug charger lead into battery pack lead first, and then insert battery charger plug into 120 volt standard household outlet. Follow this order of action every time you charge the battery.

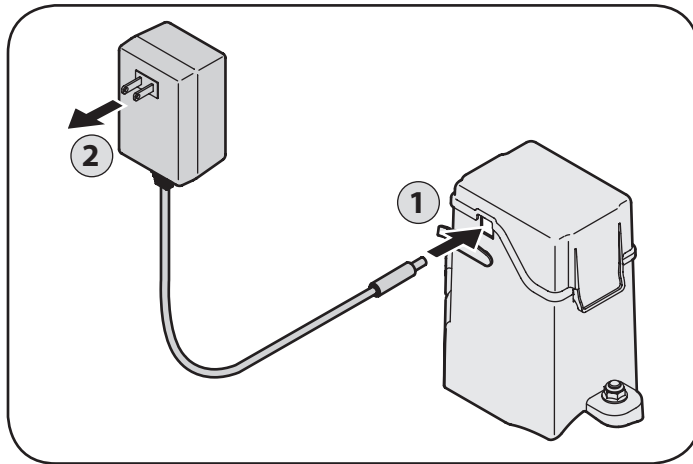


Figure 18

Replacing Electric Starter Battery (If Equipped)

⚠ WARNING

Batteries contain sulfuric acid which may cause burns. Do not short circuit or mutilate batteries in any way. Do not put batteries in fire as these may burst or release toxic materials.

1. Unhinge cover seal and lift off battery cover.
2. Remove positive and negative leads from battery, and pull up on battery to remove. See Figure 19.

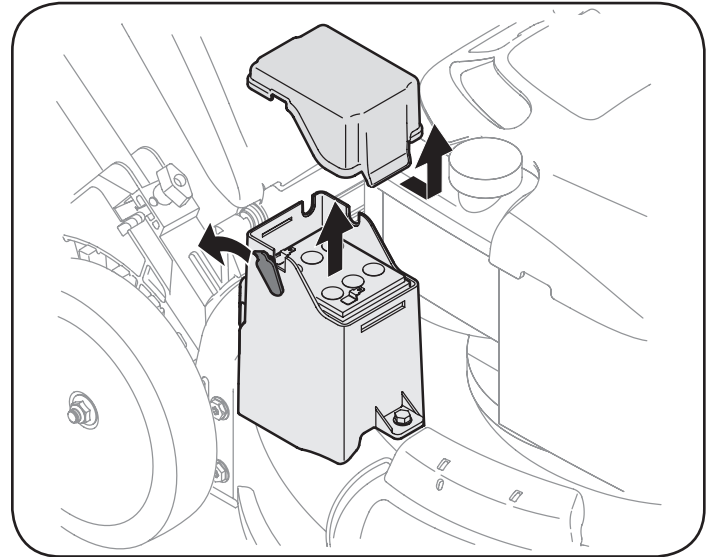


Figure 19

3. Replace with new battery. Connect the positive lead (red) to the positive side of the battery pack, then connect the negative lead (black) to the negative side. See Figure 20.
4. Reattach battery cover and cover seal.

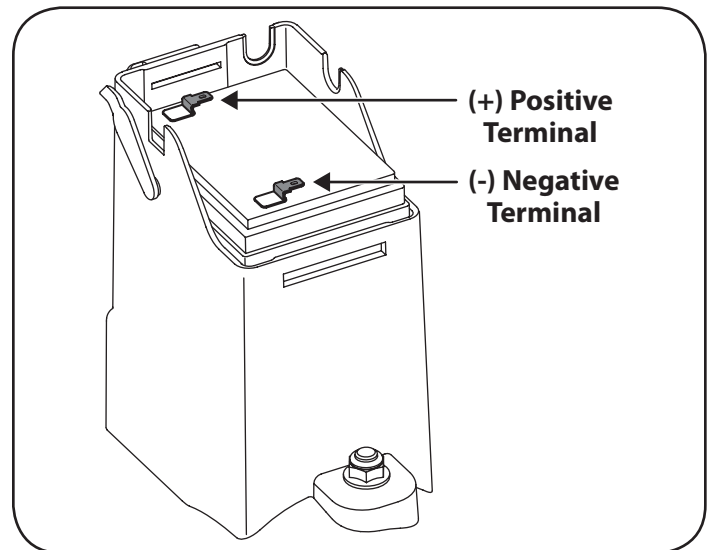


Figure 20

OFF-SEASON STORAGE

WARNING

Never store lawn mower with fuel in tank indoors or in poorly ventilated areas where fuel fumes may reach an open flame, spark, or pilot light as on a furnace, water heater, clothes dryer, or gas appliance.

Preparing The Engine

For engines stored over 30 days:

- To prevent gum from forming in fuel system or on carburetor parts, run engine until it stops from lack of fuel or add a gasoline additive to the gas in the tank. If you use a gas additive, run the engine for several minutes to circulate the additive through the carburetor.
- An oil change is not required but if you desire to change the oil then change while the engine is warm.
- Clean engine of surface debris.

Preparing The Lawn Mower

- 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.

WARNING

When handling the cutting blade, protect your hands with a pair of heavy gloves or use a heavy rag to hold the blade.

- Refer to Preparing the Engine 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.

Battery

- The battery must be stored with a full charge. Extended storage of a discharged battery will reduce life and capacity of the battery. For optimal battery life, charge the battery once per month while in storage.
- Remove electric start push key and keep in a safe place out of the reach of children.

TROUBLESHOOTING

WARNING

Disconnect the spark plug wire and ground it against the engine to prevent unintended starting. Before performing any type of maintenance/service, disengage all controls and stop the engine. Wait until all moving parts have come to a complete stop. Always wear safety glasses during operation or while performing any adjustments or repairs.

This section addresses minor service issues. To locate the nearest Sears Service Center or to schedule service, call the following toll free number: 1-888-331-4569.

Problem	Cause	Remedy
Engine fails to start	1. Blade control disengaged. 2. Spark plug boot disconnected. 3. Fuel tank empty or stale fuel. 4. Engine not primed (If equipped with primer). 5. Faulty spark plug. 6. Engine flooded. 7. Blocked fuel line.	1. Engage blade control. 2. Connect wire to spark boot. 3. Fill tank with clean, fresh gasoline. 4. Prime engine as instructed in the Operation section. 5. Clean, adjust gap, or replace. 6. Wait a few minutes to restart. 7. Contact your Sears Parts & Repair Center to have fuel line cleaned.
Engine fails to start with electric starter (Electric Start Units Only)	1. Electric Starter Push Key not fully inserted. 2. Battery not charged. 3. Circuit breaker tripped.	1. Insert key into starter housing until it snaps into place. 2. Charge battery. 3. Debris may be blocking blade operation. Stop engine, remove Electric Starter Push Key, and disconnect spark plug boot. Verify grass or other debris is not obstructing the blade. Carefully clean out debris if necessary. Reattach spark plug boot and reinsert Electric Starter Push Key. Wait one minute after tripping for circuit breaker to automatically self-reset then reattempt start.
Engine runs erratic	1. Spark plug boot loose. 2. Stale fuel. 3. Vent in gas cap plugged. 4. Water or dirt in fuel system. 5. Dirty air cleaner. 6. Blocked fuel line.	1. Connect and tighten spark plug boot. 2. Fill tank with clean, fresh gasoline. 3. Clear vent. 4. Run engine until it stops from lack of fuel. Refill with fresh fuel. 5. Refer to Air Cleaner Maintenance in the Engine Manual. 6. Contact your Sears Parts & Repair Center to have fuel line cleaned.
Engine overheats	1. Engine oil level low. 2. Air flow restricted.	1. Fill crankcase with proper oil. 2. Clean area around and on top of engine.
Occasional skips (hesitates)	1. Spark plug gap too close.	1. Adjust gap. Refer to Spark Plug Maintenance in Engine Manual.

TROUBLESHOOTING

Problem	Cause	Remedy
Idles poorly	1. Spark plug fouled, faulty, or gap too wide. 2. Dirty air cleaner.	1. Reset gap or replace spark plug. 2. Refer to Air Cleaner Maintenance in the Engine Manual.
Excessive vibration	1. Cutting blade loose or unbalanced. 2. Bent cutting blade.	1. Tighten blade and adapter. Balance blade. 2. Replace blade.
Mower will not mulch grass	1. Wet grass. 2. Excessively high grass. 3. Dull blade.	1. Do not mow when grass is wet; wait until later to cut. 2. Mow once at a high cutting height, then mow again at desired height or make a narrower cutting path. 3. Sharpen or replace blade.
Uneven cut	1. Wheels not positioned correctly. 2. Dull blade.	1. Adjust cutting height lever on right front and right rear wheel to same position. 2. Sharpen or replace blade.
Mower will not self propel	1. Belt not installed properly. 2. Debris clogging drive operation. 3. Damaged or worn belt. 4. Drive control out of adjustment.	1. Check belt for proper pulley installation and movement. 2. Stop engine, disconnect spark plug boot, and clean out debris. 3. Inspect and, if necessary, see your Sears Parts & Repair Center to have belt replaced. 4. Adjust drive control. Refer to page 11 in the Assembly & Set-up section.

**Sears Brands Management Corporation (Sears), the California Air Resources Board (CARB)
and the United States Environmental Protection Agency (U.S. EPA)
Emission Control System Warranty Statement (Owner's Defect Warranty Rights and Obligations)**

EMISSION CONTROL WARRANTY COVERAGE IS APPLICABLE TO CERTIFIED ENGINES PURCHASED IN CALIFORNIA IN 1995 AND THEREAFTER, WHICH ARE USED IN CALIFORNIA,

AND TO CERTIFIED MODEL YEAR 1997 AND LATER ENGINES WHICH ARE PURCHASED AND USED ELSEWHERE IN THE UNITED STATES (AND AFTER JANUARY 1, 2001 IN CANADA).

California and United States Emission Control Defects Warranty Statement

The California Air Resources Board (CARB), U.S. EPA and Sears are pleased to explain the Emission Control System Warranty on your model year 2000 and later small off-road engine (SORE). In California, new small off-road engines must be designed, built and equipped to meet the State's stringent anti-smog standards. Elsewhere in the United States, new non-road, spark-ignition engines certified for model year 1997 and later must meet similar standards set forth by the U.S. EPA. Sears must warrant the emission

control system on your engine for the periods of time listed below, provided there has been no abuse, neglect or improper maintenance of your small off-road engine. Your emission control system includes parts such as the carburetor, air cleaner, ignition system, muffler and catalytic converter. Also included may be connectors and other emission related assemblies. Where a warrantable condition exists, Sears will repair your small off-road engine at no cost to you including diagnosis, parts and labor.

Sears Emission Control Defects Warranty Coverage

Small off-road engines are warranted relative to emission control parts defects for a period of one year, subject to provisions set forth below. If any covered part on your

engine is defective, the part will be repaired or replaced by Sears.

Owner's Warranty Responsibilities

As the small off-road engine owner, you are responsible for the performance of the required maintenance listed in your Operating and Maintenance Instructions. Sears recommends that you retain all your receipts covering maintenance on your small off-road engine, but Sears cannot deny warranty solely for the lack of receipts or for your failure to ensure the performance of all scheduled maintenance. As the small off-road engine owner, you should however be aware that Sears may deny you warranty coverage if your small off-road engine or a part has failed due to abuse, neglect,

improper maintenance or unapproved modifications. You are responsible for presenting your small off-road engine to an Authorized Sears Service Dealer as soon as a problem exists. The undisputed warranty repairs should be completed in a reasonable amount of time, not to exceed 30 days. If you have any questions regarding your warranty rights and responsibilities, you should contact a Sears Service Representative at 1-800-469-4663. The emission warranty is a defects warranty. Defects are judged on normal engine performance. The warranty is not related to an in-use emission test.

Sears Emission Control Defects Warranty Provisions

The following are specific provisions relative to your Emission Control Defects Warranty Coverage. It is in addition to the Sears engine warranty for non-regulated engines found in the Operating and Maintenance Instructions.

1. Warranted Parts

Coverage under this warranty extends only to the parts listed below (the emission control systems parts) to the extent these parts were present on the engine purchased.

- a. Fuel Metering System
 - Cold start enrichment system
 - Carburetor and internal parts
 - Fuel Pump
- b. Air Induction System
 - Air cleaner
 - Intake manifold
- c. Ignition System
 - Spark plug(s)
 - Magneto ignition system
- d. Catalyst System
 - Catalytic converter
 - Exhaust manifold
 - Air injection system or pulse valve
- e. Miscellaneous Items Used in Above Systems
 - Vacuum, temperature, position, time sensitive valves and switches
 - Connectors and assemblies

2. Length of Coverage

Sears warrants to the initial owner and each subsequent purchaser that the Warranted Parts shall be free from defects in materials and workmanship which caused the failure of the Warranted Parts for a period of one year from the date the engine is delivered to a retail purchaser.

3. No Charge

Repair or replacement of any Warranted Part will be performed at no charge to the owner, including diagnostic labor which leads to the determination that a Warranted Part is defective, if the diagnostic work is performed at an Authorized Sears Service Dealer. For emissions warranty service contact your nearest Authorized Sears Service Dealer as listed in the "Yellow Pages" under "Engines, Gasoline," "Gasoline Engines," "Lawn Mowers," or similar category.

4. Claims and Coverage Exclusions

Warranty claims shall be filed in accordance with the provisions of the Sears Engine Warranty Policy. Warranty coverage shall be excluded for failures of Warranted Parts which are not original Sears parts or because of abuse, neglect or improper maintenance as set forth in the Sears Engine Warranty Policy. Sears is not liable to cover failures of Warranted Parts caused by the use of add-on, non-original, or modified parts.

5. Maintenance

Any Warranted Part which is not scheduled for replacement as required maintenance or which is scheduled only for regular inspection to the effect of "repair or replace as necessary" shall be warranted as to defects for the warranty period. Any Warranted Part which is scheduled for replacement as required maintenance shall be warranted as to defects only for the period of time up to the first scheduled replacement for that part. Any replacement part that is equivalent in performance and durability may be used in the performance of any maintenance or repairs. The owner is responsible for the performance of all required maintenance, as defined in the Sears Operating and Maintenance Instructions.

6. Consequential Coverage

Coverage hereunder shall extend to the failure of any engine components caused by the failure of any Warranted Part still under warranty.