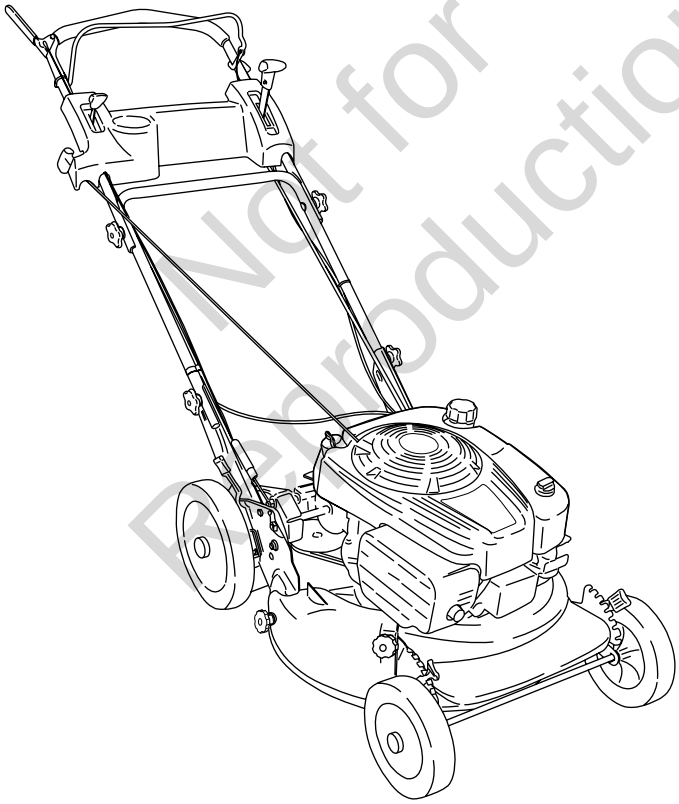
SNAPPER

en **Operator's Manual**

es **Manual del operador**

fr **Manuel d'utilisation**



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Revision: A

Manual Contents:

The images in this document are representative, and are meant to complement the instructional copy they accompany. Your unit may vary from the images displayed. *LEFT* and *RIGHT* are as seen from the operator's position.

Thank you for purchasing this quality-built Snapper Walkbehind Mower. We're pleased that you've placed your confidence in the Snapper brand. When operated and maintained according to the manuals, your Snapper product will provide many years of dependable service.

The manuals contain safety information to make you aware of the hazards and risks associated with the unit and how to avoid them. This Walkbehind Mower was designed to be used as described in operator's manual and is not intended for any other purpose. It is important that you read and understand the instructions thoroughly before attempting to start or operate this equipment. Save these original instructions for future reference.

This product requires final assembly before use. Refer to the setup guide for instructions on final assembly procedures. Follow the instructions completely.

Operator Safety

Safety Definitions

For your safety, the safety of others, and to protect the performance of equipment, follow the precautions listed throughout the manual before operation, during operation, and during maintenance procedures.

indicates a potential personal injury hazard.

DANGER

indicates a hazardous situation which, if not avoided, will result in death or serious injury.

WARNING

indicates a hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION

indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTICE

indicates a situation which can cause damage to the equipment, personal property and/or the environment, or cause the equipment to operate improperly.

Safety Symbol Definitions

The following safety symbols may be found on the unit.

	Read the operator's manual before attempting to operate the mower.
	Mow across slopes, not up or down.
	To avoid injury to others, do not mow when others, especially children, are around.
	To reduce the potential for fire, wait at least 2 minutes before refueling.
	To avoid serious injury or death, keep hands and feet away from the mower deck at all times during operation.
	To avoid injury from thrown objects, do not operate the mower unless all mulching, discharge, or bagging components are in their proper place.

California Spark Arrester Warning

WARNING

It is a violation of California Public Resource Code, Section 4442, to use or operate the engine on any forest-covered, brush-covered, or grass-covered land unless the exhaust system is equipped with a spark arrester, as defined in Section 4442, maintained in effective working order. Other states or federal jurisdictions may have similar laws. Contact the original equipment manufacturer, retailer, or dealer to obtain a spark arrester designed for the exhaust system installed on this engine.

WARNING

Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. Wash hands after handling.

California Proposition 65

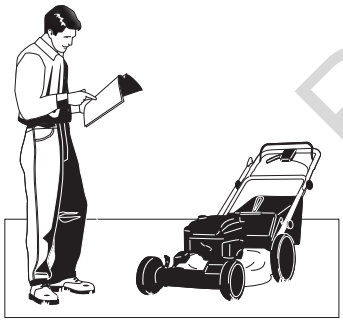
This product can expose you to chemicals including gasoline engine exhaust, which is known to the State of California to cause cancer, and carbon monoxide, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Operating Safety

Power equipment is only as safe as the operator. If it is misused, or not properly maintained, it can be dangerous! Remember, you are responsible for your safety and that of those around you.

Use common sense, and think through what you are doing. If you are not sure that the task you are about to perform can be safely done with the equipment you have chosen, ask a professional: contact your local authorized dealer.

Read the Manual

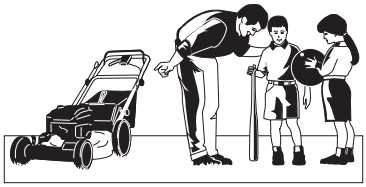


The operator's manual contains important safety information you need to be aware of BEFORE you operate your unit as well as DURING operation.

Safe operating techniques, an explanation of the product's features and controls, and maintenance information is included to help you get the most out of your equipment investment.

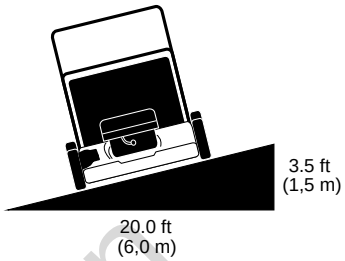
Be sure to completely read the Safety Rules and Information found on the following pages. Also completely read the Operation section.

Children



Tragic accidents can occur with children. Do not allow them anywhere near the area of operation. Children are often attracted to the unit and mowing activity. Never assume that children will remain where you last saw them. If there is a risk that children may enter the area where you are mowing, have another responsible adult watch them.

Slope Operation



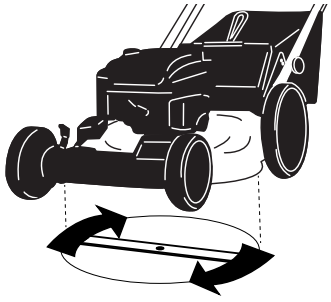
You could be seriously injured or even killed if you use this unit on too steep an incline. Using the unit on a slope that is too steep or where you don't have adequate footing or traction can cause you to lose control or slip and fall.

You should not operate on inclines with a slope greater than 10 degrees, which is a 3.5 ft (1,5 m) rise over 20.0 ft (6,0 m). Always mow across slopes, never up and down.

Also note that the surface you are mowing can greatly impact control. Wet grass or leaves can seriously affect your footing and traction on a slope.

If you feel about operating the unit on an incline, don't do it. It's not worth the risk.

Moving Parts

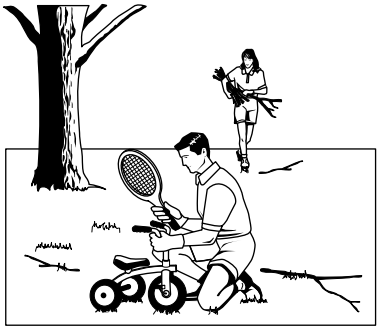


This equipment has moving parts that can injure you or someone else. However, if you stand behind the handle properly and follow all the rules in this book, the unit is safe to operate.

The mower has a spinning mower blade that can amputate hands and feet. Do not allow anyone near the equipment while it is running!

To help you, the operator, use this equipment safely, it is equipped with an operator present safety system. Do NOT attempt to alter or bypass the system. See your dealer immediately if the system does not pass all the safety interlock system tests found in this manual.

Thrown Objects



This unit has a spinning mower blade. This blade can pick up and throw debris that could seriously injure a bystander. Be sure to clean up the area to be mowed BEFORE you start mowing.

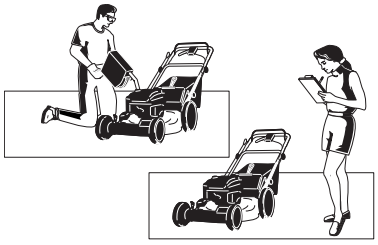
Do not operate this unit without the entire grass catcher or discharge guard (deflector) in place.

Also, do not allow anyone in the area while the unit is running! If someone does enter the area, turn the unit off immediately until they leave.

Debris Accumulation

Accumulation of grass and debris can result in a fire. Be sure to clean any accumulation of grass and debris with a brush or compressed air, before and after operation.

Fuel and Maintenance



Gasoline is extremely flammable. Its vapors are also extremely flammable and can travel to distant ignition sources. Gasoline must only be used as a fuel, not as a solvent or cleaner. It should never be stored any place where its vapors can build up or travel to an ignition source like a pilot light. Fuel belongs in an approved, plastic, sealed gas can, or in the tractor fuel tank with the cap securely closed. Spilled fuel needs to be cleaned up immediately.

Proper maintenance is critical to the safety and performance of your unit. Be sure to perform the maintenance procedures listed in this manual, especially periodically testing the safety system.

General Safety Messages

WARNING

This powerful cutting machine is capable of amputating hands and feet and can throw objects that can cause injury and damage! Failure to comply with the following SAFETY instructions could result in serious injury or death to the operator or other persons. The owner of the machine must understand these instructions and must allow only persons who understand these instructions to operate machine. Each person operating the machine must be of sound mind and body and must not be under the influence of any substance, which might impair vision, dexterity or judgment.

WARNING

Poisonous Gas Hazard

Engine exhaust contains carbon monoxide, a poisonous gas that could kill you in minutes. You CANNOT see it, smell it, or taste it. Even if you do not smell exhaust fumes, you could still be exposed to carbon monoxide gas. If you start to feel sick, dizzy, or weak while using this product, shut it off and get to fresh air RIGHT AWAY. See a doctor. You may have carbon monoxide poisoning.

- Operate this product ONLY outside far away from windows, doors and vents to reduce the risk of carbon monoxide gas from accumulating and potentially being drawn towards occupied spaces.
- Install battery-operated carbon monoxide alarms or plug-in carbon monoxide alarms with battery back-up according to the manufacturer's instructions. Smoke alarms cannot detect carbon monoxide gas.
- DO NOT run this product inside homes, garages, basements, crawlspaces, sheds, or other partially-enclosed spaces even if using fans or opening doors and windows for ventilation. Carbon monoxide can quickly build up in these spaces and can linger for hours, even after this product has shut off.
- ALWAYS place this product downwind and point the engine exhaust away from occupied spaces.

Protection For Children

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

1. KEEP children out of the mowing area and under the watchful care of a responsible adult other than the operator.
2. DO NOT allow children in yard when machine is operated and turn machine OFF if anyone enters the area.
3. DO NOT allow pre-teenage children to operate machine.

4. ALLOW only responsible adults & teenagers with mature judgment under close adult supervision to operate machine.
5. DO NOT pull mower backwards unless absolutely necessary. LOOK and SEE behind and down for children, pets and hazards before and while backing.
6. USE EXTRA CARE when approaching blind corners, shrubs, trees, or other objects that may obscure vision.

Slope Operation

1. Slopes are a major factor related to slip and fall accidents, which can result in severe injury. All slopes require extra caution. If you feel uneasy on a slope, DO NOT mow it.
2. Mow across slopes, never up-and-down. Exercise extreme CAUTION when changing directions on slopes. DO NOT mow steep slopes or other areas where stability or traction is in doubt. Refer to the Slope Guide at the back of this manual.
3. Use extra care with grass catchers or other attachments; these affect the handling and the stability of the machine.

Preparation

1. Read, understand, and follow instructions and warnings in this manual and on the mower, engine and attachments. Know the controls and the proper use of the mower before starting.
2. Only mature, responsible persons shall operate the machine and only after proper instruction.
3. Data indicates that operators age 60 and above, are involved in a large percentage of mower-related injuries. These operators should evaluate their ability to operate the mower safely enough to protect themselves and others from serious injury.
4. Handle fuel with extra care. Fuels are flammable and vapors are explosive. Use only an approved fuel container. DO NOT remove fuel cap or add fuel with engine running. Add fuel outdoors only with engine stopped and cool. Clean spilled fuel and oil from machine. DO NOT smoke.
5. Check the area to be mowed and remove all objects such as toys, wire, rocks, limbs and other objects that could cause injury if thrown by blade or interfere with mowing. Also note the location of holes, stumps, and other possible hazards.
6. Keep people and pets out of the mowing area. Immediately, STOP Blade, Stop engine and Stop mower if anyone enters the area.
7. Check shields, deflectors, switches, blade controls and other safety devices frequently for proper operation and location.
8. Make sure all safety decals are clearly legible. Replace if damaged.
9. Protect yourself when mowing and wear safety glasses, long pants and substantial footwear. DO NOT mow barefooted or with sandals.
10. Know how to STOP blade and engine quickly in preparation for emergencies.
11. Use extra care when loading or unloading the machine into a trailer or truck.
12. Check grass catcher components frequently for signs of wear or deterioration and replace as needed to prevent injury from thrown objects going through weak or torn spots.

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.

1. Extinguish all cigarettes, cigars, pipes and other sources of ignition.
2. Use only an approved fuel container.
3. DO NOT remove fuel cap or add fuel with the engine running. Allow the engine to cool before refueling.
4. DO NOT refuel the machine indoors.
5. DO NOT store the machine or fuel container inside where there is an open flame, spark or pilot light such as on a water heater or other appliances.
6. DO NOT fill fuel containers inside a vehicle or on a truck or trailer bed with a plastic liner. Always place the containers on the ground away from the vehicle before filling.
7. Remove gas-powered equipment from the vehicle or trailer and refuel it on the ground. If this is not possible, then refuel equipment using a portable container, rather than a gasoline dispenser nozzle.
8. DO NOT start gas powered equipment in enclosed vehicles or trailers.
9. 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.
10. If fuel is spilled on clothing, change clothing immediately.
11. DO NOT overfill a fuel tank. Replace fuel cap and tighten securely.

Operation

1. DO NOT put hands or feet near or under rotating parts. Keep clear of discharge area while engine is running.
2. STOP engine when crossing gravel drives, walks, or roads, and under any conditions where thrown objects might be a hazard.
3. Mow only in daylight or good artificial light.
4. DO NOT operate mower while under the influence of alcohol or drugs.
5. After striking a foreign object or if mower vibrates abnormally, STOP the engine, disconnect and secure spark plug wire. Inspect the mower for any damage and repair the damage before starting.
6. DO NOT mow near drop offs, ditches or embankments. Operator could lose footing or balance.
7. STAY ALERT for holes and other hidden hazards. Tall grass can hide obstacles. Keep away from ditches, washouts, culverts, fences and protruding objects.

8. DO NOT mow on wet grass. Always be sure of your footing. Keep a firm hold on the handle and walk, never run. Slipping could cause injury.
9. ALWAYS stay behind handle when engine (motor) is running.
10. DO NOT leave the machine with the engine running. STOP BLADE and STOP ENGINE before leaving the operators position for any reason.
11. Before cleaning, repairing or inspecting make certain engine, blade and all moving parts have STOPPED. Disconnect and secure spark plug wire away from plug to prevent accidental starting.
12. STOP engine and wait until the blade comes to complete STOP before removing grass bag and/or clearing grass.
13. DO NOT operate mower without the entire grass catcher, rear guard, or other safety devices in place and working. DO NOT point discharge at people, passing cars, windows or doors.
14. DO NOT discharge material against a wall or obstruction. Material may ricochet back towards the operator.
15. Slow down before turning.
16. Watch out for traffic when near or crossing roadways.
17. DO NOT operate engine in enclosed areas. Engine exhaust gases contain carbon monoxide, a deadly poison.
18. Only use accessories approved by the manufacturer. See manufacturer's instructions for proper operation and installation of accessories.

Maintenance And Storage

1. DO NOT store mower or fuel container inside where fumes may reach an open flame, spark or pilot light such as in a water heater, furnace, clothes dryer or other gas appliance. Allow engine to cool before storing machine in an enclosure. Store fuel container out of reach of children in a well ventilated, unoccupied building.
2. Keep mower and engine free of grass, leaves or excess grease to reduce fire hazard and engine overheating.
3. When draining fuel tank, drain fuel into an approved container outdoors and away from open flame.
4. Keep all bolts, especially blade bolts, nuts and screws properly tight. Check that all cotter pins are in proper position.
5. Always provide adequate ventilation when running engine. Engine exhaust gases contain carbon monoxide, a deadly poison.
6. Service engine and make adjustments only when engine is stopped. Removed spark plug wire from spark plug and secure wire away from spark plug to prevent accidental starting.
7. DO NOT change engine governor speed settings or overspeed engine.
8. Check grass bag assembly frequently for wear or deterioration to avoid thrown objects and exposure to moving parts. Replace with new bag if loose seams or tears are evident. Replace slider or bag adapter if broken or cracked.
9. Mower blades are sharp and can cut. Wrap the blades or wear heavy leather gloves and use CAUTION when handling them.
10. DO NOT test for spark by grounding spark plug next to spark plug hole; spark plug could ignite gas exiting engine.
11. Have machine serviced by an authorized dealer at least once a year and have the dealer install any new safety devices.
12. Use only factory authorized replacement parts or like parts when making repairs.

Safety and Operation Decals

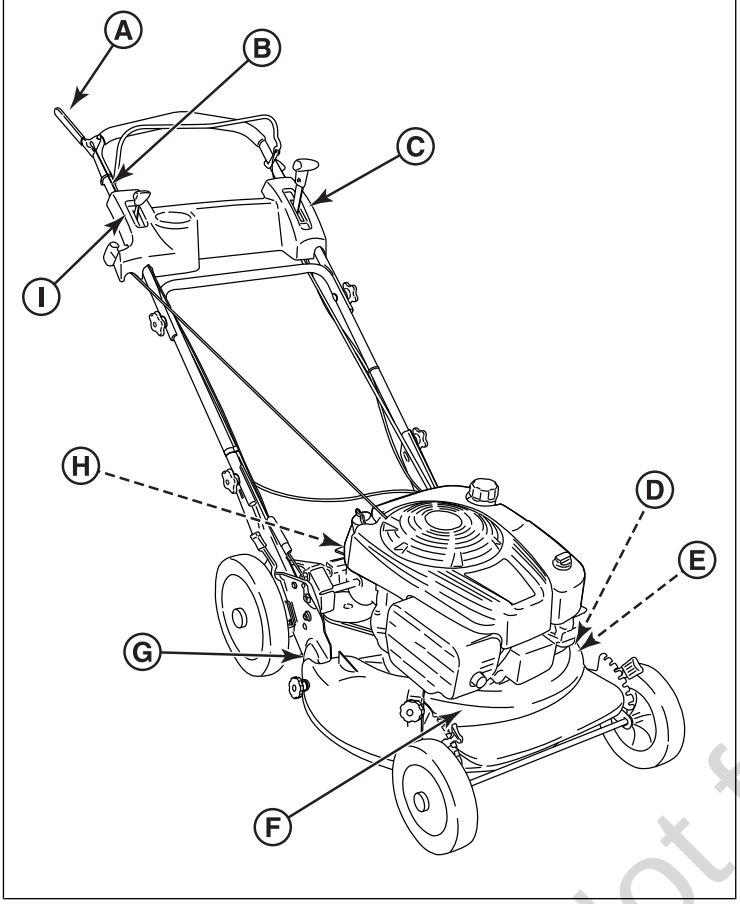
Reading this manual and the safety instructions it contains will provide the basic knowledge necessary to operate this mower safely and effectively. However, several safety and operation decals have also been placed on the mower as a reminder of this important information during operation.

The decals noted below are located on the mower. The safety warnings and operation instructions they contain should be carefully read, understood, and followed. Not following these important warnings and instructions can result in serious bodily injury or death.

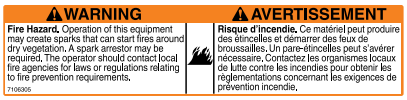
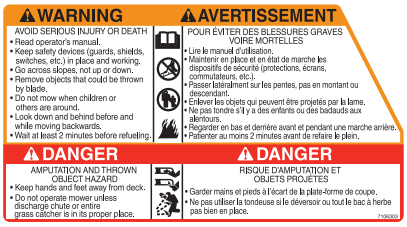
If any of these decals are lost or damaged, replace them immediately. Contact your dealer for replacement decals.

Compare Figure 1 with the table following.

1



A		Drive Control • Squeeze drive control against handle to engage wheel drive.
B		OPC (Blade Control) • Squeeze blade control to start and run engine and blade. • Release blade control to stop engine and blade.
C		Ground Speed Control • Move ground speed control toward Fast (Rabbit) to increase ground speed. • Move ground speed control toward Slow (Turtle) to decrease ground speed.

D		WARNING: Spark Arrestor may be required.
E		WARNING: Avoid Serious Injury or Death
F		DANGER: Keep Hands and Feet Away.
G		DANGER: Amputation and Thrown Object Hazard.
G		DANGER: Amputation and Thrown Object Hazard.
H		WARNING: Cancer and Reproductive Harm.

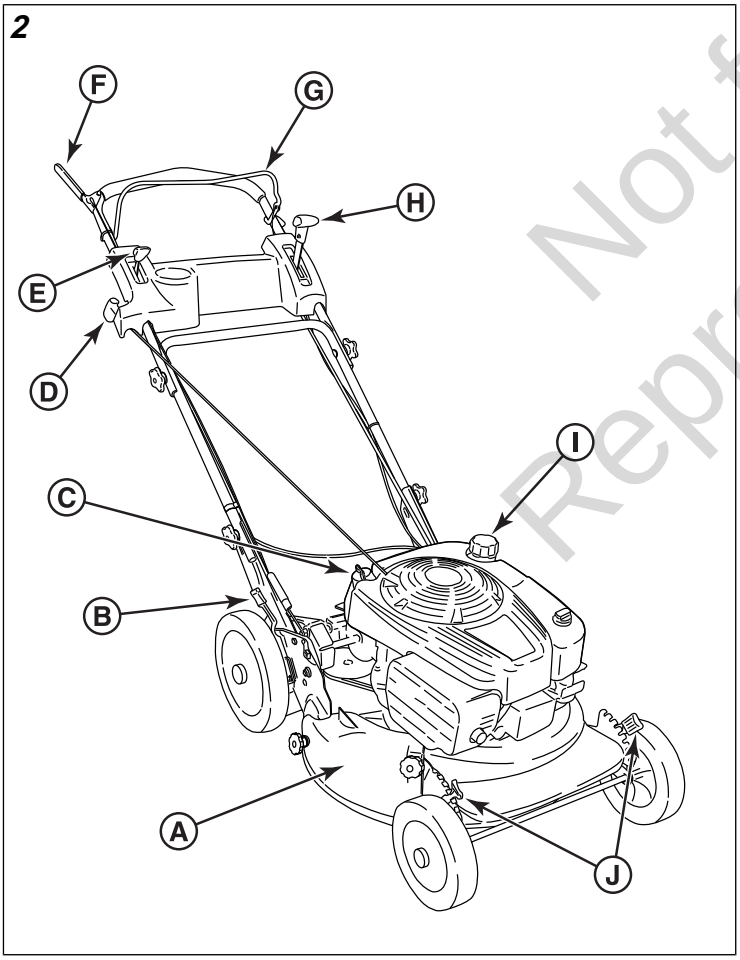
I		Engine Speed Control • Move engine speed control lever toward Slow (Turtle) to decrease engine speed. • Move engine speed control lever toward Fast (Rabbit) to increase engine speed. • Move engine speed control lever past Fast (Rabbit) to turn on choke.

Features and Controls

Note: The figures and illustrations in this manual are provided for reference only and may differ from your specific model. Contact your dealer if you have questions.

Compare Figure 2 with the table following.

2



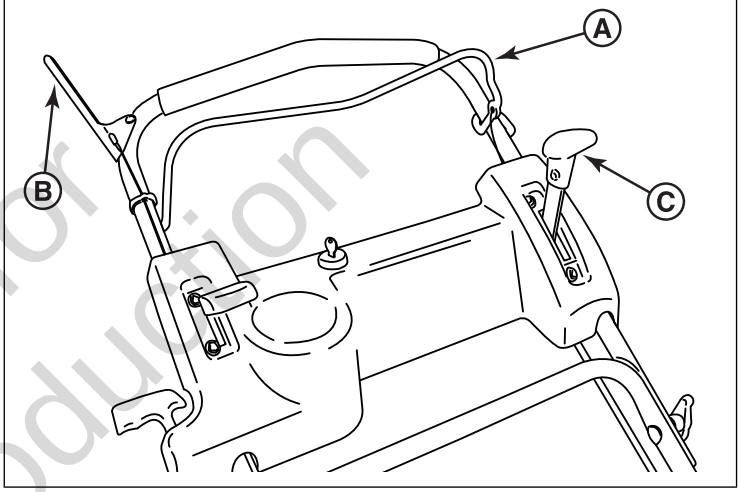
A	Mulching Cover
B	Rear Height Adjustment Latch (2)
C	Oil Fill Cap and Dipstick
D	Rope Start Handle
E	Engine Speed Control
F	Drive Control
G	Blade Control
H	Ground Speed Control
I	Fuel Filler Cap
J	Front Height Adjustment Latch (2)

Operation

Before Starting

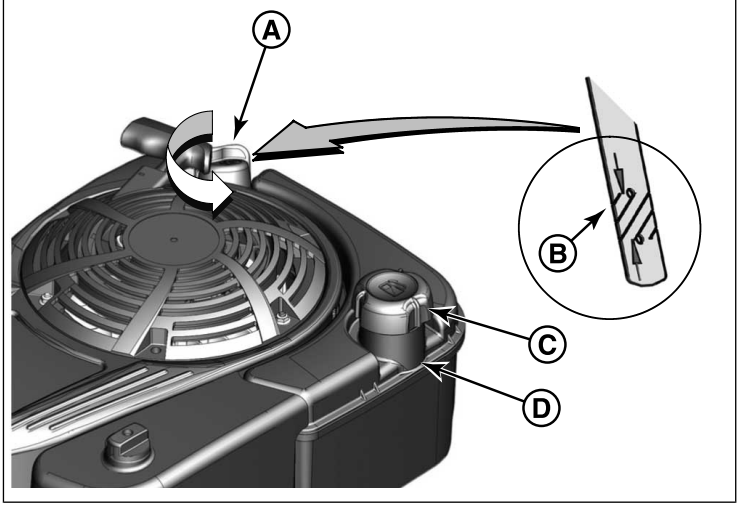
1. Check the guards, deflectors, grass bag, and covers to make sure all are in place and securely tightened.
2. Check the blade control (A, Figure 3), drive control (B), and ground speed control (C) to insure they work freely.

3



3. Check the cutting height. Adjust to the desired height. See ***Cutting Height Adjustment***.
4. Check the engine oil:
   - Make sure the mower is on a level surface.
   - Clean the oil fill area of any debris.
   - Remove the dipstick (A, Figure 4) and wipe with a clean cloth.
   - Insert and tighten the dipstick.
   - Remove the dipstick and check the oil level. It should be at the top of the full indicator (B) on the dipstick.
   - If low, add oil slowly into the engine oil fill. See ***Oil Recommendations***. Do not overfill. After adding oil, wait one minute and recheck the oil level.
   - Replace and tighten the dipstick.

4

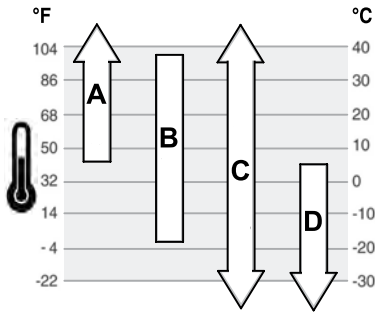


5. Add fuel to the tank:
   - Make sure the mower is outside, where fumes can safely dissipate.
   - Remove the fuel fill cap (C, Figure 4).
   - Fill the tank with fuel. See ***Fuel Recommendations***. To allow for expansion of the fuel, do not fill above the bottom of the filler neck (D).
   - Reinstall the fuel fill cap.
6. Clean the exterior surfaces of the cutting deck and engine of any accumulation of spilled fuel, dirt, grass, oil, etc. Keep the engine air intake screen and cooling fins clear at all times.
7. Charge the battery. See ***Charging the Battery***.

Oil Recommendations

We recommend the use of Briggs & Stratton Warranty Certified oils for best performance. Other high-quality detergent oils are acceptable if classified for service SF, SG, SH, SJ or higher. Do not use special additives.

Outdoor temperatures determine the proper oil viscosity for the engine. Use the chart to select the best viscosity for the outdoor temperature range expected.



A.	SAE 30 - Below 40°F (4°C) the use of SAE 30 will result in hard starting.
B.	10W-30 - Above 80°F (27°C) the use of 10W-30 may cause increased oil consumption. Check oil level more frequently.
C.	Synthetic 5W-30
D.	5W-30

Fuel Recommendations

Fuel must meet these requirements:

- Clean, fresh, unleaded gasoline.
- A minimum of 87 octane / 87 AKI (91 RON). For high altitude use, see below.
- Gasoline with up to 10% ethanol (gasohol) is acceptable.

NOTICE Do not use unapproved gasolines, such as E15 and E85. Do not mix oil in gasoline or modify the engine to run on alternate fuels. Use of unapproved fuels will cause damage to engine components, **which will not be covered under warranty**.

To protect the fuel system from gum formation, mix a fuel stabilizer into the fuel. See **Storage**. All fuel is not the same. If starting or performance problems occur, change fuel providers or change brands. This engine is certified to operate on gasoline. The emissions control system for this engine is EM (Engine Modifications).

High Altitude

At altitudes over 5,000 feet (1524 meters), a minimum 85 octane/85 AKI (89 RON) gasoline is acceptable.

For carbureted engines, high altitude adjustment is required to maintain performance. Operation without this adjustment will cause decreased performance, increased fuel consumption, and increased emissions. Contact a Briggs & Stratton Authorized Service Dealer for high altitude adjustment information. Operation of the engine at altitudes below 2,500 feet (762 meters) with the high altitude adjustment is not recommended.

For Electronic Fuel Injection (EFI) engines, no high altitude adjustment is necessary.

Starting the Mower

WARNING

Poisonous Gas Hazard

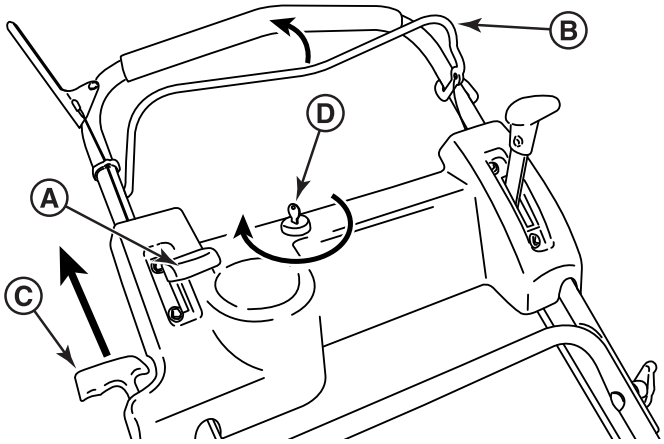
Engine exhaust contains carbon monoxide, a poisonous gas that could kill you in minutes. You CANNOT see it, smell it, or taste it. Even if you do not smell exhaust fumes, you could still be exposed to carbon monoxide gas. If you start to feel sick, dizzy, or weak while using this product, shut it off and get to fresh air RIGHT AWAY. See a doctor. You may have carbon monoxide poisoning.

- Operate this product ONLY outside far away from windows, doors and vents to reduce the risk of carbon monoxide gas from accumulating and potentially being drawn towards occupied spaces.
- Install battery-operated carbon monoxide alarms or plug-in carbon monoxide alarms with battery back-up according to the manufacturer's instructions. Smoke alarms cannot detect carbon monoxide gas.
- DO NOT run this product inside homes, garages, basements, crawlspaces, sheds, or other partially-enclosed spaces even if using fans or opening doors and windows for ventilation. Carbon monoxide can quickly build up in these spaces and can linger for hours, even after this product has shut off.
- ALWAYS place this product downwind and point the engine exhaust away from occupied spaces.

The engine on your mower is equipped with the Briggs & Stratton Ready Start™ System. This features a temperature-controlled automatic choke. No additional steps are required to start a cold engine.

1. Move the engine speed control (A, Figure 5, if equipped) to the fast ('Rabbit') position.
2. Squeeze the blade control (B) against the handle.
3. Start the mower:
   - Manual Start Models: Pull the rope start handle (C) to crank the engine.
   - Electric Start Models: Insert the key (D) into the electric start switch. Turn the key to crank the engine. Use short starting cycles, five seconds maximum, and wait 1 minute between starting cycles.
4. To stop the engine (and blade), release the blade control.
5. After the engine starts, allow a brief warm-up until the engine runs smooth before beginning mower operation.

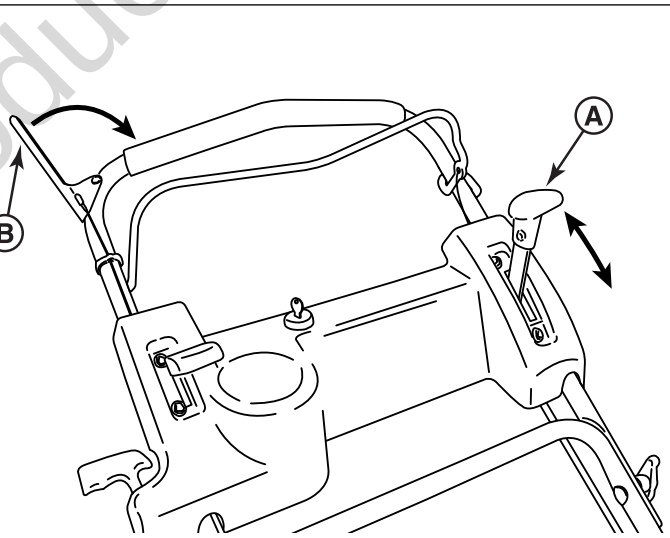
5



Propelling the Mower

1. Start the mower.
2. Move the ground speed control (A, Figure 6) to the desired speed position.
3. Squeeze the wheel drive control (B) against the handle to engage the wheel drive and propel the mower forward. Forward speed can be adjusted while the mower is moving by changing the position of the ground speed control.

6



Stopping the Mower

1. Stop forward motion of the mower by releasing the wheel drive control.
2. Stop the engine and blade by releasing the blade control.
3. Electric Start Models: Remove the key from the electric start switch.

Handle Height Adjustment

WARNING

Amputation Hazard

- DO NOT attempt any maintenance, adjustments or service with engine and blade running.
- STOP engine and blade.
- Disconnect spark plug wire and secure away from spark plug.

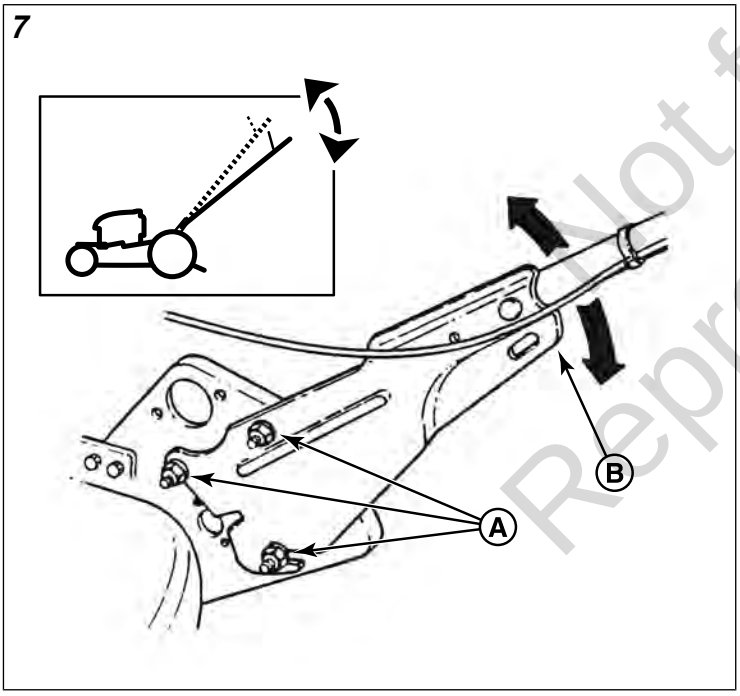
Burn Hazard

- Engine and components are HOT.
- Avoid serious burns, allow sufficient time for all components to cool.

The height of the mower handle can be adjusted as follows:

1. Loosen the lower nuts (A, Figure 7) on each lower handle.
2. Move the handle assembly (B) up or down until the desired position is achieved.
3. Tighten the lower nuts on each lower handle to maintain the desired position.

7



Cutting Height Adjustment

WARNING

Amputation Hazard

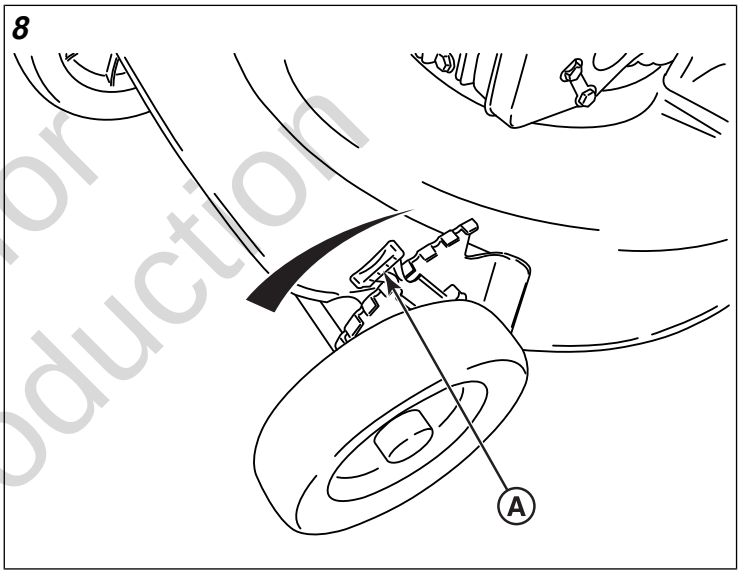
- DO NOT attempt any maintenance, adjustments or service with engine and blade running.
- STOP engine and blade.
- Disconnect spark plug wire and secure away from spark plug.

Burn Hazard

- Engine and components are HOT.
- Avoid serious burns, allow sufficient time for all components to cool.

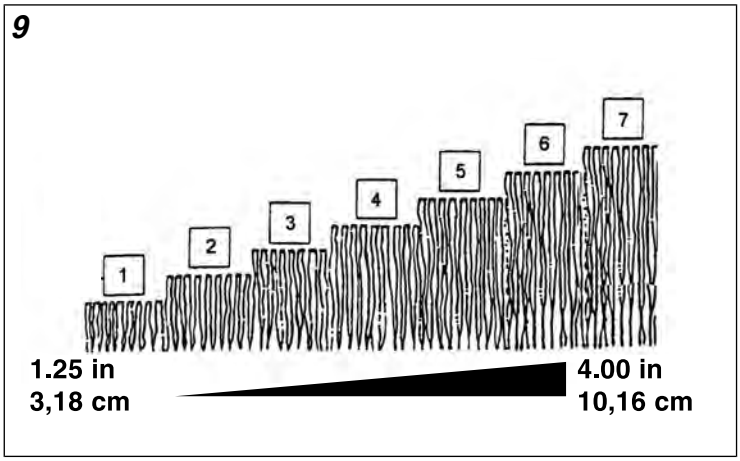
1. Pull the height adjusting latch (A, Figure 8) outward and move to the desired cutting height.

8



2. Set all wheels at the same cutting height. The highest cutting position is Notch 7 (Figure 9). The lowest cutting position is Notch 1.

9



Mulching Operation

For best mulching results, cut up to a maximum of 1/3 of grass blade length and recycle ONLY when grass is dry.

1. Set all wheels in the highest cutting position (Notch 7). See ***Cutting Height Adjustment***.
2. Move the engine speed control to the fast (Rabbit) position.
3. Move the ground speed control to the slowest speed setting.
4. Proceed mowing slowly. If the grass is very dense, lower each rear wheel latch one notch lower than the front wheel latches to improve mulching performance.

Note: The mulching cover should remain on the machine at all times, unless alternate discharge operations are desired, such as side discharging or bagging.

Removing the Mulching Cover

(Optional Accessory on Some Models)

WARNING

Amputation Hazard

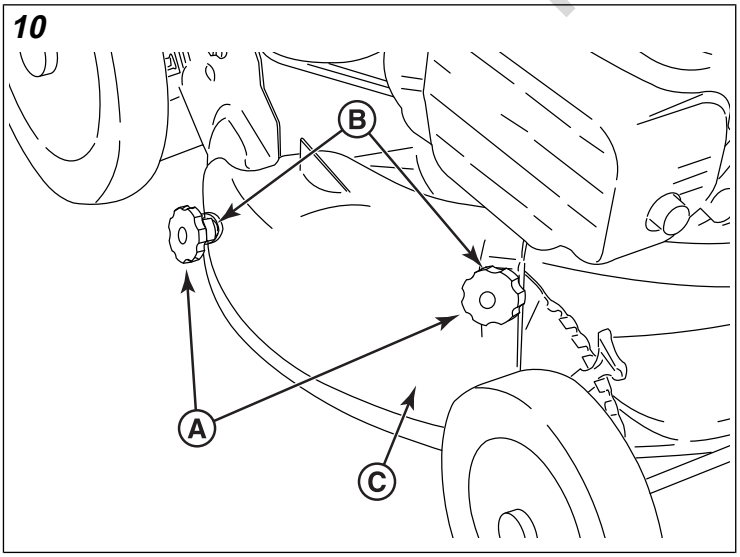
- DO NOT attempt any maintenance, adjustments or service with engine and blade running.
- STOP engine and blade.
- Disconnect spark plug wire and secure away from spark plug.

Burn Hazard

- Engine and components are HOT.
- Avoid serious burns, allow sufficient time for all components to cool.

1. Remove the knob nuts (A, Figure 10) and internal/ external tooth lock washers (B) securing the mulching cover (C) to the mower deck.
2. Remove the cover.

10



Installing the Discharge Deflector

WARNING

Amputation Hazard

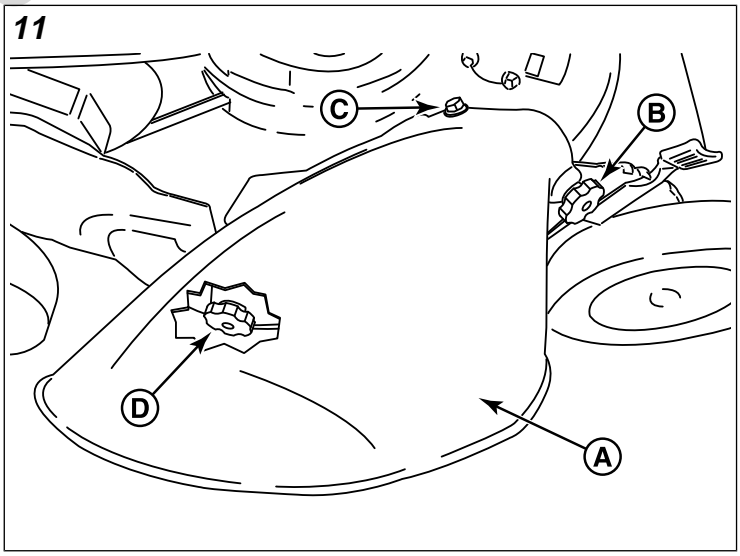
- DO NOT attempt any maintenance, adjustments or service with engine and blade running.
- STOP engine and blade.
- Disconnect spark plug wire and secure away from spark plug.

Burn Hazard

- Engine and components are HOT.
- Avoid serious burns, allow sufficient time for all components to cool.

1. Remove the mulching cover. See ***Mulching Operation***.
2. Install the deflector (A, Figure 11) to the deck in place of the mulching cover, making sure that:
   - The front hole (B) on the outside front of the deflector fits over the stud where the front of the mulching cover was originally secured;
   - The slot (C) on top of the deflector slips under the restraining nut on top of the deck (under the right front corner of the engine);
   - The slot (D) on the inside rear of the deflector slips onto the stud behind the rear of the discharge opening, where the rear of the mulching cover was originally secured.
3. Install the internal/external tooth lock washers and knob nuts onto the studs and tighten securely.

11



WARNING

Thrown Objects Hazard

DO NOT operate without entire Grass Catcher or guard in place. Grass Catcher components are subject to deterioration during normal use. Inspect frequently and replace worn or damaged components immediately.

Installing the Grass Bag Adapter

(Optional Accessory on Some Models)

WARNING

Amputation Hazard

- DO NOT attempt any maintenance, adjustments or service with engine and blade running.
- STOP engine and blade.
- Disconnect spark plug wire and secure away from spark plug.

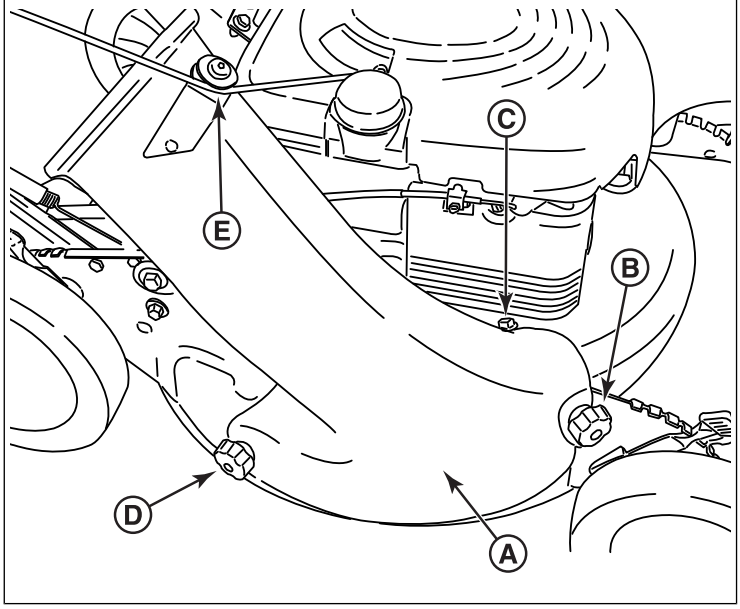
Burn Hazard

- Engine and components are HOT.
- Avoid serious burns, allow sufficient time for all components to cool.

1. Remove the mulching cover. See ***Removing the Mulching Cover***.
2. Install the adapter (A, Figure 12) to the deck in place of the mulching cover, making sure that:
   - The front hole (B) on the outside front of the adapter fits over the stud where the front of the mulching cover was originally secured;
   - The slot (C) on top of the adapter slips under the restraining nut on top of the deck (under the right front corner of the engine);
   - The slot (D) on the rear of the adapter slips onto the stud behind the rear of the discharge opening, where the rear of the mulching cover was originally secured.
3. Install the internal/external tooth lock washers and knob nuts onto the studs and tighten securely.
4. Route the recoil rope around the outside of the rope guide pulley (E).

Note: The recoil rope may need to be slackened. See ***Starting the Mower***.

12



Installing the Mulching Plug

(Optional Accessory on Some Models)

WARNING

Amputation Hazard

- DO NOT attempt any maintenance, adjustments or service with engine and blade running.
- STOP engine and blade.
- Disconnect spark plug wire and secure away from spark plug.

Burn Hazard

- Engine and components are HOT.
- Avoid serious burns, allow sufficient time for all components to cool.

1. Install the mulching plug (A, Figure 13) if mulching is desired after the bag adapter is installed. Install the mulching plug completely and securely into the bag adapter (B).
2. Install the grass bag as a safeguard and to further secure the mulching plug.

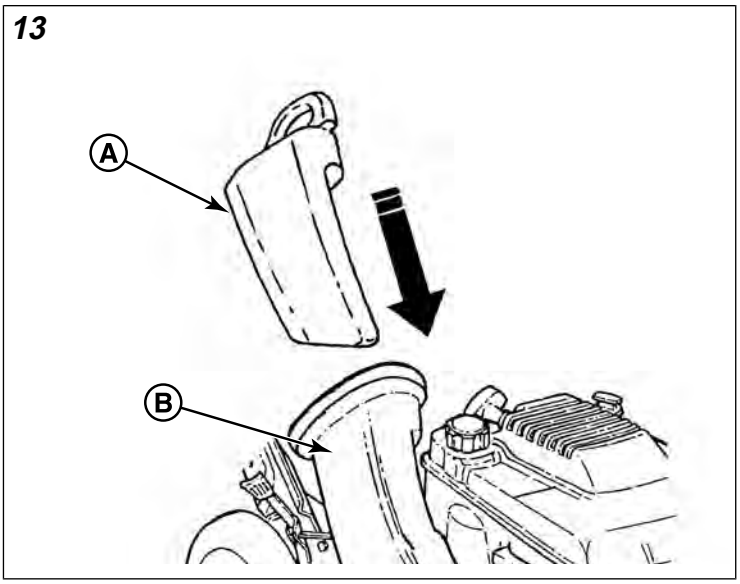
WARNING

Thrown Objects Hazard

Install the grass bag when using the mulching plug. Failure to do so may result in personal injury or death.

3. See ***Mulching Operation***.

13



Installing the Grass Bag

(Optional Accessory on Some Models)

WARNING

Amputation Hazard

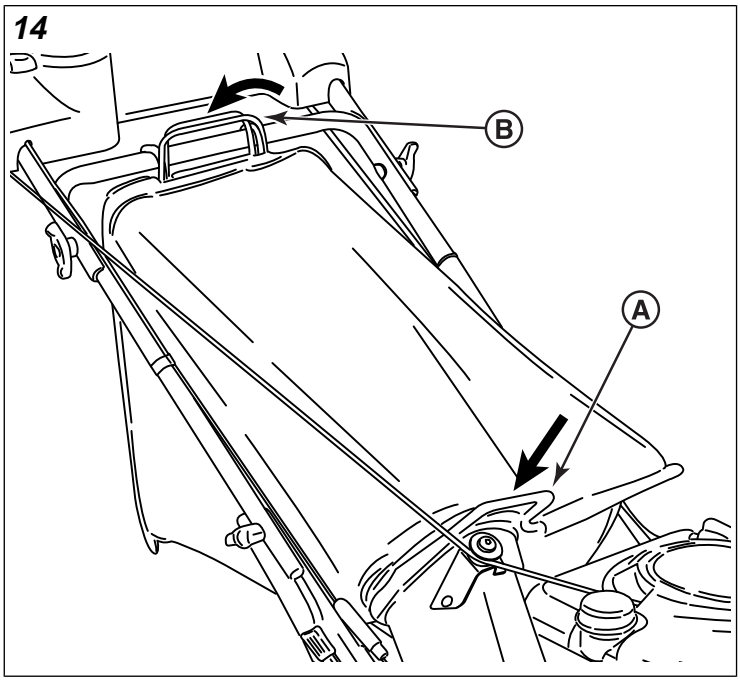
- DO NOT attempt any maintenance, adjustments or service with engine and blade running.
- STOP engine and blade.
- Disconnect spark plug wire and secure away from spark plug.

Burn Hazard

- Engine and components are HOT.
- Avoid serious burns, allow sufficient time for all components to cool.

1. Install the grass bag adapter. See ***Installing the Grass Bag Adapter***.
2. Install the grass bag by sliding the connector (A, Figure 14) over the adapter flange.
3. Attach the grass bag hooks (B) over the middle handle cross bar.

14



WARNING

Unsafe Operation Hazard

Grass Catcher bags are made of woven fabric, and are subject to deterioration and wear during normal usage. Check condition of bag before each use. Immediately replace worn or damaged catcher bags with only genuine replacement bags. The grass catcher is optional equipment on some models.

Charging the Battery

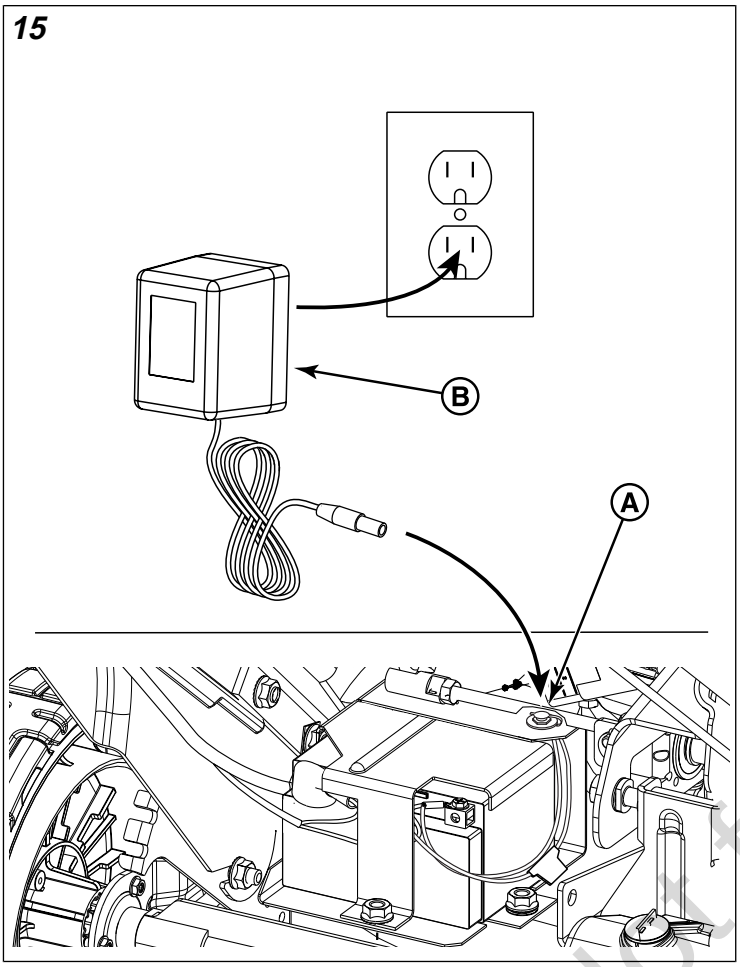
(Optional Accessory on Some Models)

The battery provided with your mower is sealed and maintenance-free. It requires no special care other than keeping it properly charged. Use only the charger provided with your mower when charging the battery.

Charge the battery after each use, and if the battery has been stored for longer than 30 days. The time required to charge the battery varies, but typically 16 to 24 hours will be sufficient to bring the battery to a fully charged condition.

1. Remove the dust cap from the charger jack (A, Figure 15).
2. Plug the battery charger (B) into the charger jack.
3. Plug the charger into a 120-volt wall outlet.
4. Charge the battery for a period of 16 to 24 hours. (Longer periods will not damage the battery.)
5. Unplug the charger from the wall outlet.
6. Unplug the charger from the charger jack.
7. Replace the dust cap onto the charger jack.

15



WARNING

Explosion Hazard

Avoid Serious Injury and Property Damage.

- DO NOT attempt to charge this battery with automotive or 'Boost' chargers.
- DO NOT attempt to jump start a mower that has a dead battery.
- Always use the charger supplied with this mower to charge this battery.

Maintenance

Emissions Control Service

Maintenance, replacement, or repair of the emissions control devices and systems may be performed by any off-road engine repair establishment or individual. However, to obtain "no charge" emissions control service, the work must be performed by a factory authorized dealer. See the Emissions Control Statements.

Maintenance Chart

WARNING

Amputation Hazard

- DO NOT attempt any maintenance, adjustments or service with engine and blade running.
- STOP engine and blade.
- Disconnect spark plug wire and secure away from spark plug.

Burn Hazard

- Engine and components are HOT.
- Avoid serious burns, allow sufficient time for all components to cool.

Laceration Hazard

- Wear heavy leather gloves when handling or working around cutting blades.
- Blades are extremely sharp and can cause severe injury.

MOWER
Every 8 Hours or Daily
Check safety interlock system
Clean debris off mower
Every 25 Hours or Annually *
Check mower for loose hardware
See Dealer Annually to
Lubricate mower
Check mower blade **
Check mower blade stopping time
Check drive belt
Clean battery and cables

* Whichever comes first

** Check blade more often in regions with sandy soils or high dust conditions

ENGINE
First 5 Hours
Change engine oil
Every 8 Hours or Daily
Check engine oil level
Every 25 Hours or Annually *
Clean engine air filter and pre-cleaner (if equipped) **
Every 50 Hours or Annually *
Change engine oil
Replace oil filter (if equipped)
Annually
Replace air filter
Replace pre-cleaner (if equipped)
See Dealer Annually to
Inspect muffler and spark arrester (if equipped)

ENGINE
Replace spark plug
Replace fuel filter (if equipped)
Clean engine air cooling system

* Whichever comes first

** Clean more often in dusty conditions or when airborne debris is present

Change Engine Oil

WARNING

Amputation Hazard

- DO NOT attempt any maintenance, adjustments or service with engine and blade running.
- STOP engine and blade.
- Disconnect spark plug wire and secure away from spark plug.

Burn Hazard

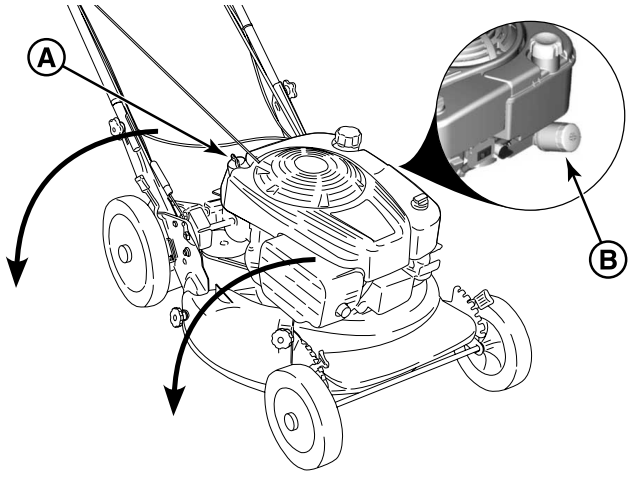
- Engine and components are HOT.
- Avoid serious burns, allow sufficient time for all components to cool.

Laceration Hazard

- Wear heavy leather gloves when handling or working around cutting blades.
- Blades are extremely sharp and can cause severe injury.

1. Drain the fuel tank completely.
2. Remove the dipstick (A, Figure 16), then turn the mower on its side. Allow the oil to drain from the oil fill tube into an appropriate container. Dispose of used oil properly.
3. Place the mower upright, then fill the engine with engine oil to the ‘full’ mark on the dipstick. Refer to the section entitled ‘Oil Recommendations’. Do not overfill.

16



NOTICE

Drain the fuel tank before tipping the machine. DO NOT tip the machine with the carburetor or spark plug down. Oil from the crankcase will saturate the air filter and cause the engine to be hard to start or not start at all. If contamination does occur, the air filter will have to be replaced.

Change Oil Filter

(If Equipped)

1. Drain the oil from the engine. See ***Change Engine Oil***.
2. Remove the oil filter (B, Figure 16) and dispose of properly.
3. Before you install the new oil filter, lightly lubricate the oil filter gasket with fresh, clean oil.
4. Install the oil filter by hand until the gasket contacts the oil filter adapter, then tighten the oil filter 1/2 to 3/4 turns.
5. Add oil. See ***Change Engine Oil***.
6. Start and run the engine. As the engine warms up, check for oil leaks.
7. Stop the engine and check the oil level. It should be at the top of the full indicator on the dipstick.

Service Air Filter

WARNING

Fire Hazard

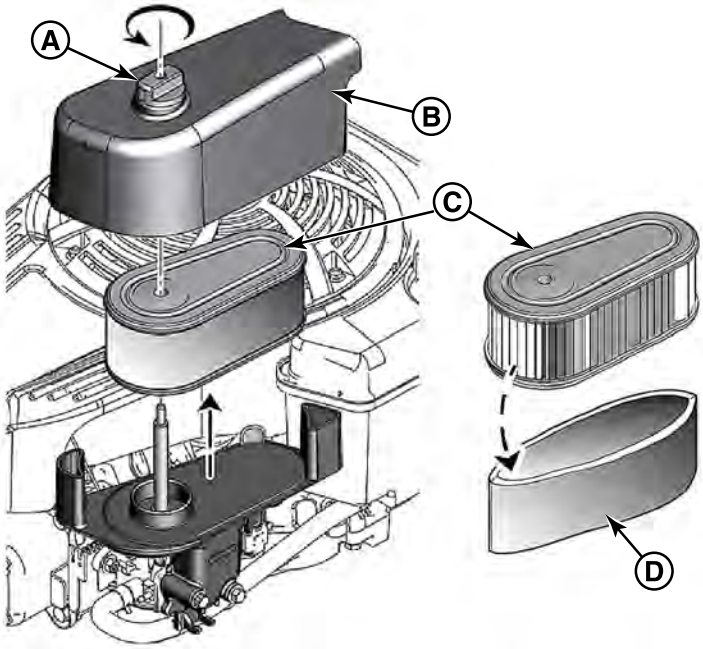
Never start or run the engine with the air cleaner assembly (if equipped) or the air filter (if equipped) removed.

NOTICE

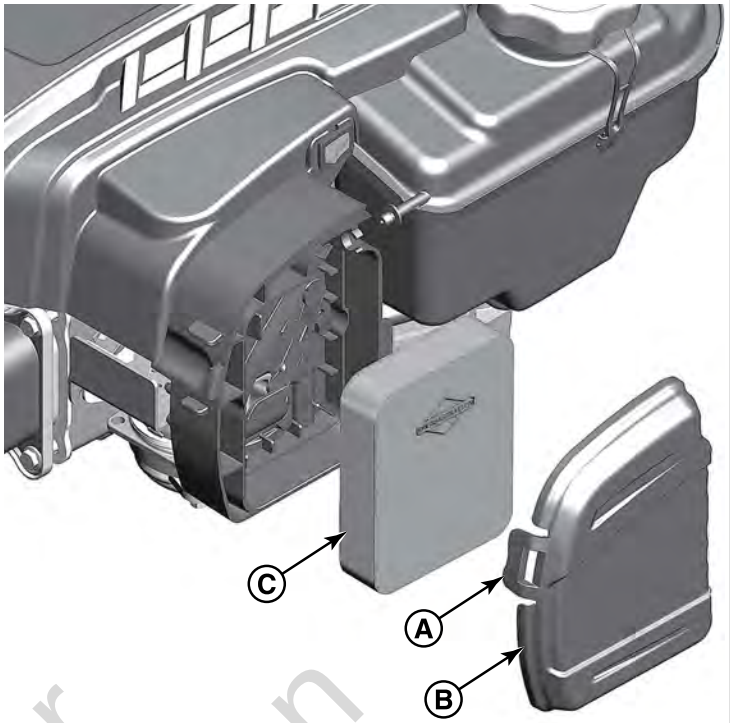
Do not use pressurized air or solvents to clean the filter. Pressurized air can damage the filter and solvents will dissolve the filter.

1. Remove the fastener (A, Figure 17) and the air filter cover (B).
2. Remove the pre-cleaner (C) and the filter (D).
3. To loosen debris, gently tap the filter on a hard surface. If the filter is excessively dirty, replace with a new filter.
4. Wash the pre-cleaner in liquid detergent and water. Then allow it to thoroughly air dry. Do not oil the pre-cleaner.
5. Assemble the dry pre-cleaner to the filter.
6. Install the filter and pre-cleaner into the base (E). Make sure filter fits securely in the base.
7. Install air filter cover and secure with fastener. Make sure the fastener is tight.

17



18



Service Air Filter

See Figure: 18, 19

WARNING

Fuel and its vapors are extremely flammable and explosive.

Fire or explosion can cause severe burns or death.

- Never start and run the engine with the air cleaner assembly (if equipped) or the air filter (if equipped) removed.

NOTICE Do not use pressurized air or solvents to clean the filter. Pressurized air can damage the filter and solvents will dissolve the filter.

See the ***Maintenance Schedule*** for service requirements.

Various models use either a foam or a paper filter. Some models may also have an optional pre-cleaner that can be washed and reused. Compare the illustrations in this manual with the type installed on your engine and service as follows.

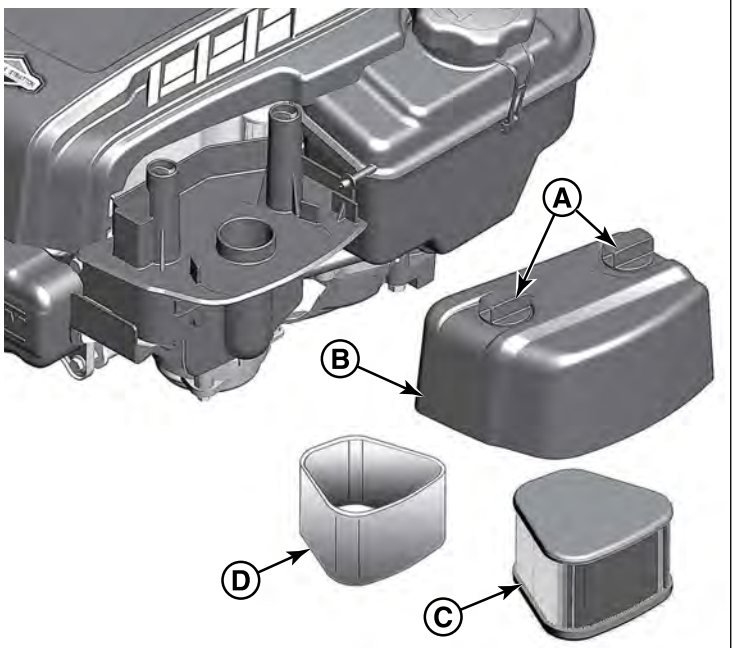
Foam Air Filter

1. Open the fastener(s) (A, Figure 18).
2. Remove the cover (B, Figure 18).
3. To prevent debris from falling into the carburetor, carefully remove the foam element (C, Figure 18) from the air filter base.
4. Wash the foam element (C, Figure 18) in liquid detergent and water. Squeeze dry the foam element in a clean cloth.
5. Saturate the foam element (C, Figure 18) with clean engine oil. To remove the excess engine oil, squeeze the foam element in a clean cloth.
6. Install the foam element (C, Figure 18) onto the air filter base.
7. Install the cover (B, Figure 18) and secure with fastener(s) (A).

Paper Air Filter

1. Loosen the fastener(s) (A, Figure 19).

19



2. Remove the cover (B, Figure 19).
3. To prevent debris from falling into the carburetor, carefully remove the pre-cleaner (D, Figure 19) and the filter (C) from the air filter base.
4. Remove the pre-cleaner (D, Figure 19), if equipped, from the filter (C).
5. To loosen debris, gently tap the filter (C, Figure 19) on a hard surface. If the filter is excessively dirty, replace with a new filter.
6. Wash the pre-cleaner (D, Figure 19), if equipped, in liquid detergent and water. Allow the pre-cleaner to throughly air dry. **Do not** oil the pre-cleaner.
7. Assemble the dry pre-cleaner (D, Figure 19), if equipped, to the filter (C).
8. Install the filter (C, Figure 19) and the pre-cleaner (D), if equipped, onto the air filter base. Make sure the filter fits securely on the air filter base.
9. Install the cover (B, Figure 19) and secure with the fastener(s) (A). Make sure the fastener(s) is tight.

Check Safety Interlock System

1. Start the mower.
2. Release the blade control. The engine must stop within 3 seconds.

WARNING

Unsafe Operation Hazard

If the engine does not stop within 3 seconds, do not use the mower. Bring the mower to an authorized dealer for service.

Clean Debris Off Mower

WARNING

Amputation Hazard

- DO NOT attempt any maintenance, adjustments or service with engine and blade running.
- STOP engine and blade.
- Disconnect spark plug wire and secure away from spark plug.

Burn Hazard

- Engine and components are HOT.
- Avoid serious burns, allow sufficient time for all components to cool.

Laceration Hazard

- Wear heavy leather gloves when handling or working around cutting blades.
- Blades are extremely sharp and can cause severe injury.

1. Clean dirt and debris from the top of the mower deck.
2. Clean any debris buildup on or around the engine, etc.

While cleaning, check components for wear or damage. Replace worn or damaged components immediately.

Storage Procedure

WARNING

Amputation Hazard

- DO NOT attempt any maintenance, adjustments or service with engine and blade running.
- STOP engine and blade.
- Disconnect spark plug wire and secure away from spark plug.

Burn Hazard

- Engine and components are HOT.
- Avoid serious burns, allow sufficient time for all components to cool.

Laceration Hazard

- Wear heavy leather gloves when handling or working around cutting blades.
- Blades are extremely sharp and can cause severe injury.

Prepare the mower for end-of-season storage as follows:

1. Disconnect the spark plug wire and secure away from the spark plug.
2. Drain the fuel tank and let the engine run until all fuel is out of the carburetor.

Note: If using a fuel stabilizer, there is no need to drain the fuel tank. See ***Fuel System***.

3. Use a brush or compressed air to remove loose debris, then use a damp cloth to wipe down the unit.
4. Tilt the mower up on its rear wheels and inspect the underside of the deck. (Do not tilt the mower with the spark plug or carburetor down.) Scrape away stubborn accumulation of grass with a putty knife and/or wire brush.
5. Lubricate all exposed metal with a light coating of oil to prevent corrosion.
6. Carefully fold the handles, flexing the control cables to prevent cable damage.
7. Store the mower in a shed or other dry area, protected from weather.

Fuel System

Fuel can become stale when stored over 30 days. Stale fuel causes acid and gum deposits to form in the fuel system or on essential carburetor parts. To keep fuel fresh, use **Briggs & Stratton Advanced Formula Fuel Treatment & Stabilizer**, available wherever Briggs & Stratton genuine service parts are sold.

There is no need to drain gasoline from the engine if a fuel stabilizer is added according to instructions. Run the engine for two (2) minutes to circulate the stabilizer throughout the fuel system before storage.

If gasoline in the engine has not been treated with a fuel stabilizer, it must be drained into an approved container. Run the engine until it stops from lack of fuel. The use of a fuel stabilizer in the storage container is recommended to maintain freshness.

Service

WARNING

Amputation Hazard

- DO NOT attempt any maintenance, adjustments or service with engine and blade running.
- STOP engine and blade.
- Disconnect spark plug wire and secure away from spark plug.

Burn Hazard

- Engine and components are HOT.
- Avoid serious burns, allow sufficient time for all components to cool.

Laceration Hazard

- Wear heavy leather gloves when handling or working around cutting blades.
- Blades are extremely sharp and can cause severe injury.

Check Grease Level in Transmission

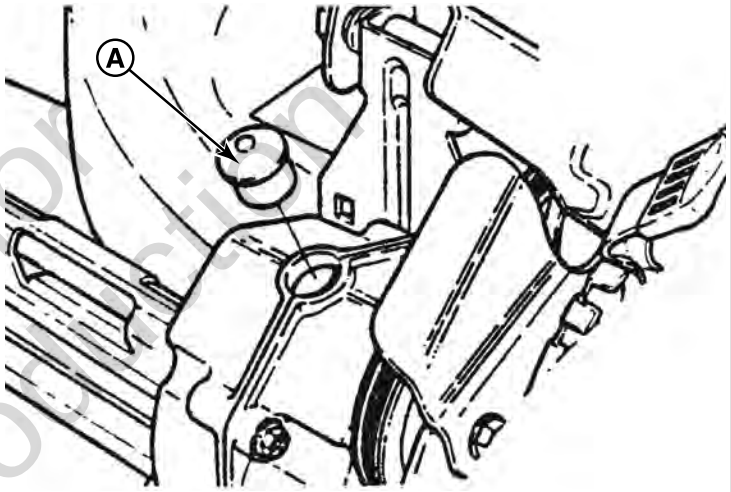
1. Remove the transmission fill plug (A, Figure 20). Roll the machine forward or backward while looking down into the plug hole.
2. If liquid grease is not visible on the input gear (the small gear below the plug hole), add an amount, to cover the gear, of Snapper “00” grease.

Note: Snapper “00” grease (Part No. 7029443) is available at your dealer.

Note: Do not spill grease or oil onto the surface of the drive disc (A, Figure 21).

3. Reinstall the transmission plug.
4. Check the grease level after each 25 hours of operation.

20



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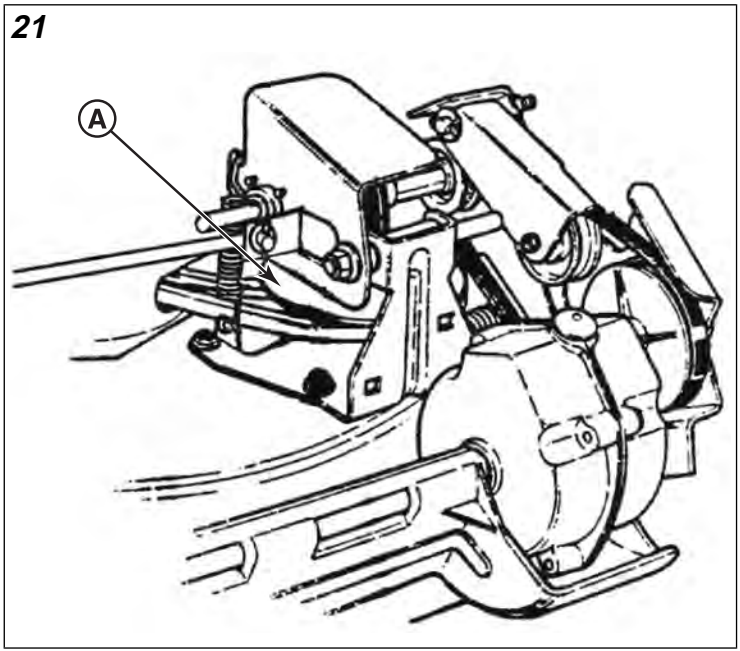


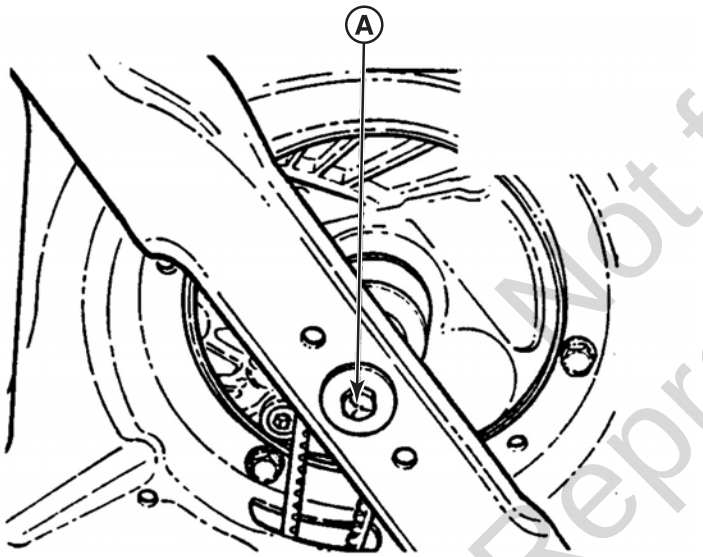
Check Mower Blade

1. Disconnect the spark plug wire and secure the end away from the plug.
2. Tilt the mower up on its rear wheels for access to the blade cap screw (A, Figure 22). Do not tilt the mower with the spark plug or carburetor down.

NOTICE
Drain the fuel tank before tipping the mower. DO NOT tip the machine with the carburetor or spark plug down. Oil from the crankcase will saturate the air filter and cause the engine to be hard to start or not start at all. If contamination does occur, the air filter will have to be replaced.

3. Check the torque of the blade cap screw. Recommended torque: 40 lb-ft (54 Nm).
4. Check the blade for sharpness, wear and damage. See ***Blade Wear Limits***.

22



Check Engine Drive Belt

- Visually check the engine drive belt for cracking, fraying, severed or exposed belt strands. If worn or damaged, replace the belt before operating the mower.

Check Transmission Drive Belt

- Visually check the poly-v belt for cracking, fraying, severed or exposed belt strands. If worn or damaged, replace the belt before operating the mower.

Mower Blade Replacement

WARNING

Amputation Hazard

- DO NOT attempt any maintenance, adjustments or service with engine and blade running.
- STOP engine and blade.
- Disconnect spark plug wire and secure away from spark plug.

Burn Hazard

- Engine and components are HOT.
- Avoid serious burns, allow sufficient time for all components to cool.

Laceration Hazard

- Wear heavy leather gloves when handling or working around cutting blades.
- Blades are extremely sharp and can cause severe injury.

WARNING

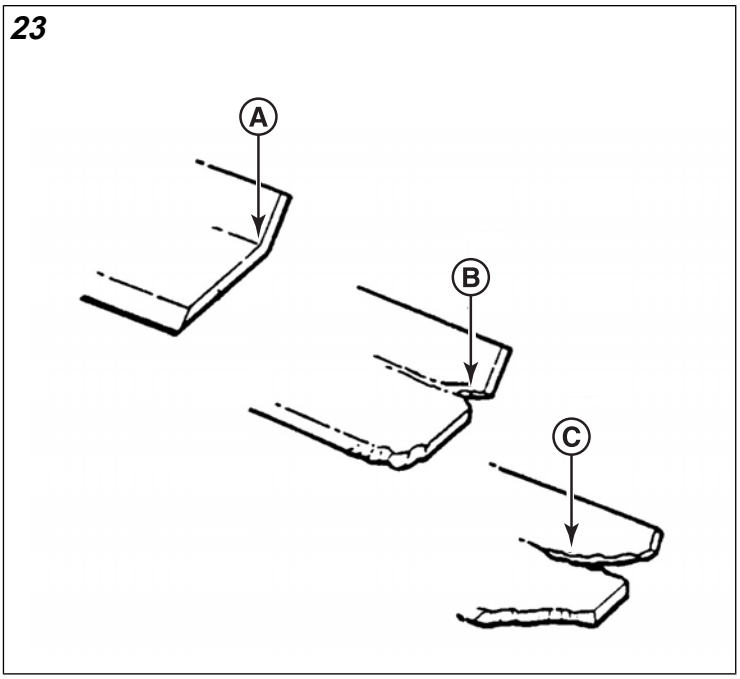
Unsafe Operation Hazard

DO NOT use a cutting blade that shows signs of excessive wear or damage.

Standard Blade Wear Limit

1. Inspect the blade (Figure 23) frequently for signs of excessive wear or damage:
   - (A) New blade
   - (B) Wear limit (notch starts)
   - (C) Dangerous condition! Do not use on the mower! Replace with a new blade.

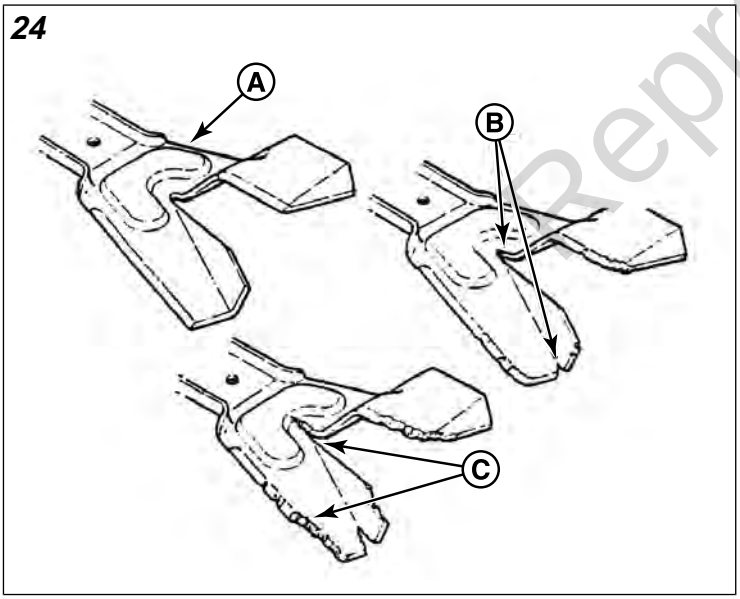
23



Ninja Blade Wear Limit

1. Inspect the blade (Figure 24) frequently for signs of excessive wear or damage:
   - (A) New blade
   - (B) Wear limit (cracks or notches begin to appear on tip)
   - (C) Dangerous condition! Do not use on the mower! Replace with a new blade.

24



Blade Sharpening

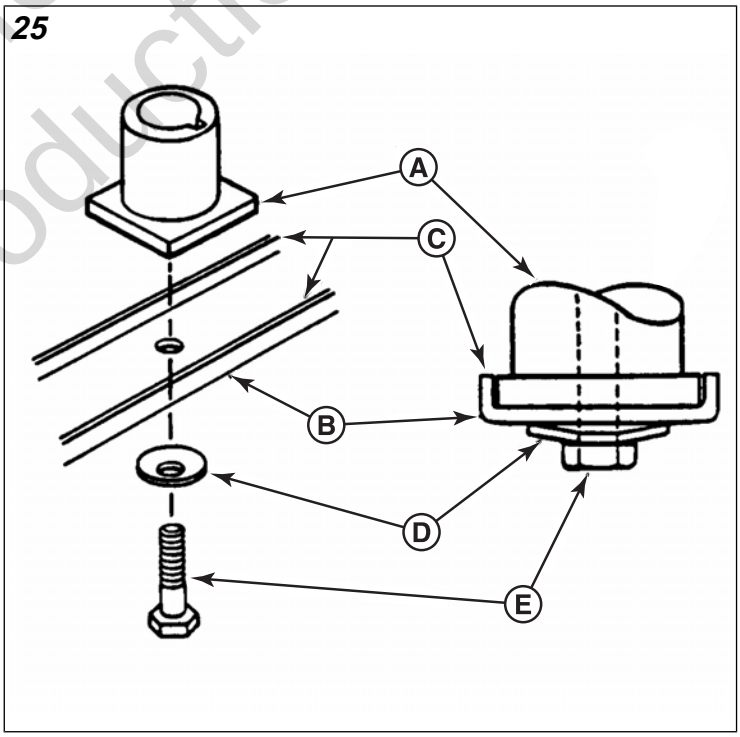
1. Disconnect the spark plug wire and secure the end away from the plug.
2. Tilt the mower up on its rear wheels. Do not tilt the mower with the spark plug or carburetor down.

NOTICE

Drain the fuel tank before tipping the mower. DO NOT tip the machine with the carburetor or spark plug down. Oil from the crankcase will saturate the air filter and cause the engine to be hard to start or not start at all. If contamination does occur, the air filter will have to be replaced.

3. Remove the blade (B, Figure 25).
4. Sharpen the blade on a grinding wheel at an angle of 22 to 28 degrees (B, Figure 26). DO NOT sharpen the blade beyond the original cutting edge (A).
5. Check blade for balance. If necessary, correct balance by grinding heavy end of blade.
6. Reinstall blade (B, Figure 25). Note the correct assembly order:
   - (A) Blade hub
   - (B) Blade
   - (C) Blade flange (facing up)
   - (D) Cone washer (concave side up)
   - (E) Capscrew
7. Check torque of blade retaining cap screw. Recommended torque: 40 lb-ft (54 Nm).

25



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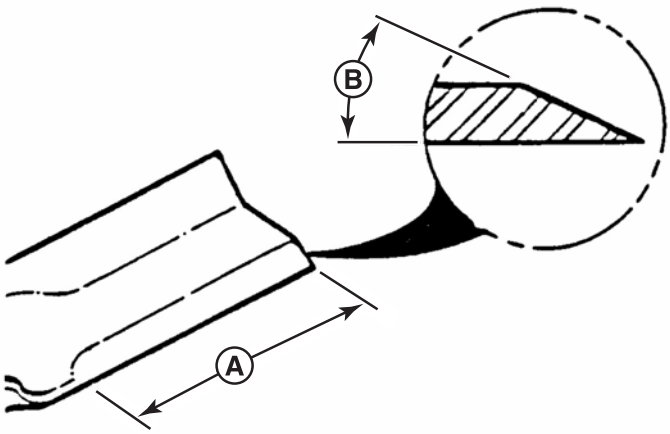


Wheel Drive Control Adjustment

WARNING

Amputation Hazard

- DO NOT attempt any maintenance, adjustments or service with engine and blade running.
- STOP engine and blade.
- Disconnect spark plug wire and secure away from spark plug.

Burn Hazard

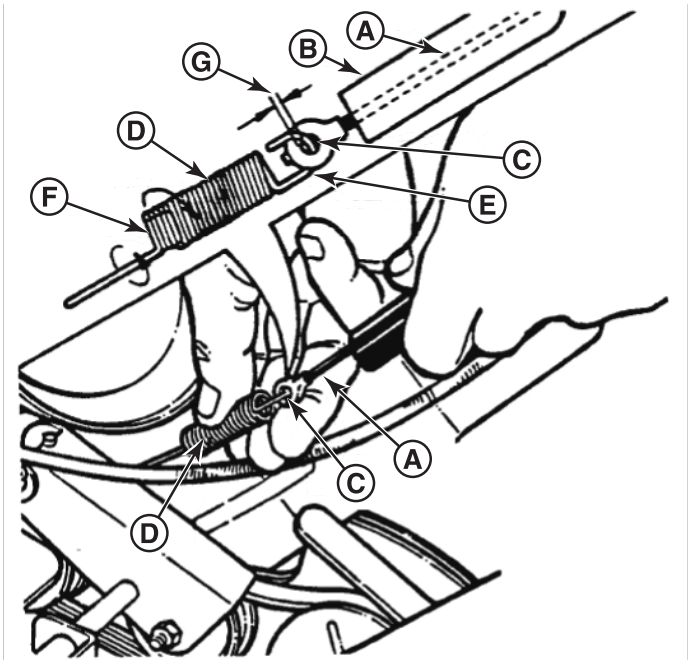
- Engine and components are HOT.
- Avoid serious burns, allow sufficient time for all components to cool.

1. The wheel drive control is properly adjusted when there is 1/16” to 1/8” (1.6 - 3.2 mm) clearance (G, Figure 27) between the inside of the spring hook (E) and the inside of the clutch cable eye (C) with the wheel drive control released.
2. To adjust, unhook the upper spring (D) from the cable eye and rotate the spring in the direction required to extend or shorten the spring length.
3. Rehook the upper spring to the cable eye and check clearance. Repeat the procedure if required.

Note: The vinyl spring cover (B) should be kept over the spring at all times except for adjustments.

4. If the wheel drive control fails to return quickly to the OFF position when released, check for binding at the cable holdings located on the side of the right handle. The upper clip should be located 2” (5 cm) below the upper knob; the lower clip should be 4” (10 cm) above the lower knob. The cable should slide freely with the clips installed at these locations.

27



Driven and Drive Disc Service

WARNING

Amputation Hazard

- DO NOT attempt any maintenance, adjustments or service with engine and blade running.
- STOP engine and blade.
- Disconnect spark plug wire and secure away from spark plug.

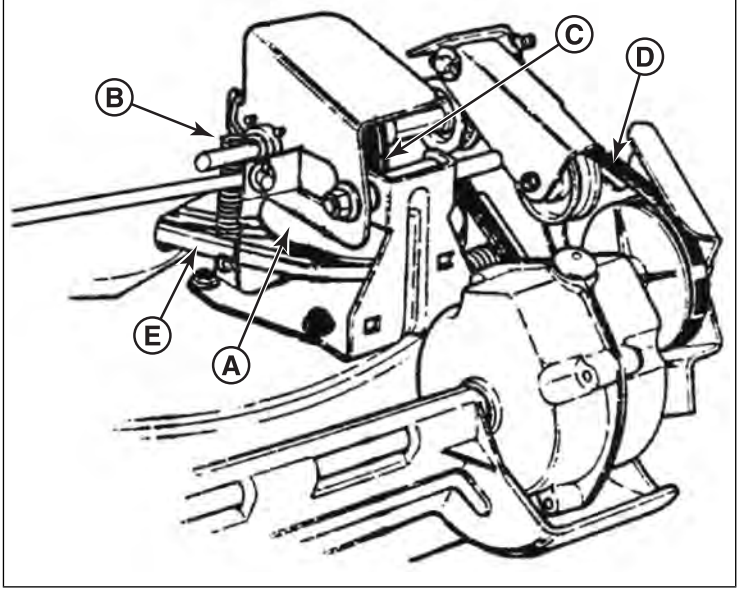
Burn Hazard

- Engine and components are HOT.
- Avoid serious burns, allow sufficient time for all components to cool.

If the mower does not propel itself properly, check for the following problems:

1. Grease on the drive disc (A, Figure 28) causing slippage.
2. Broken or disconnected drive spring (B).
3. Driven disc (C) is out of adjustment.
4. Driven disc rubber is worn - does not contact drive disc properly.
5. Worn Poly-V belt (D) or engine drive belt (E).

28



If any of the above (1 thru 5) are causing problems, service as follows:

Cleaning Drive Disc and Driven Disc

If oil or grease on the drive disc or driven disc is causing slippage, clean the discs as follows:

1. Wipe away any oil or grease with a clean cloth.
2. Use either an approved grease solvent or hot, soapy water to clean drive disc or driven disc.
3. Rinse components with clean water.
4. Dry components with a clean cloth.

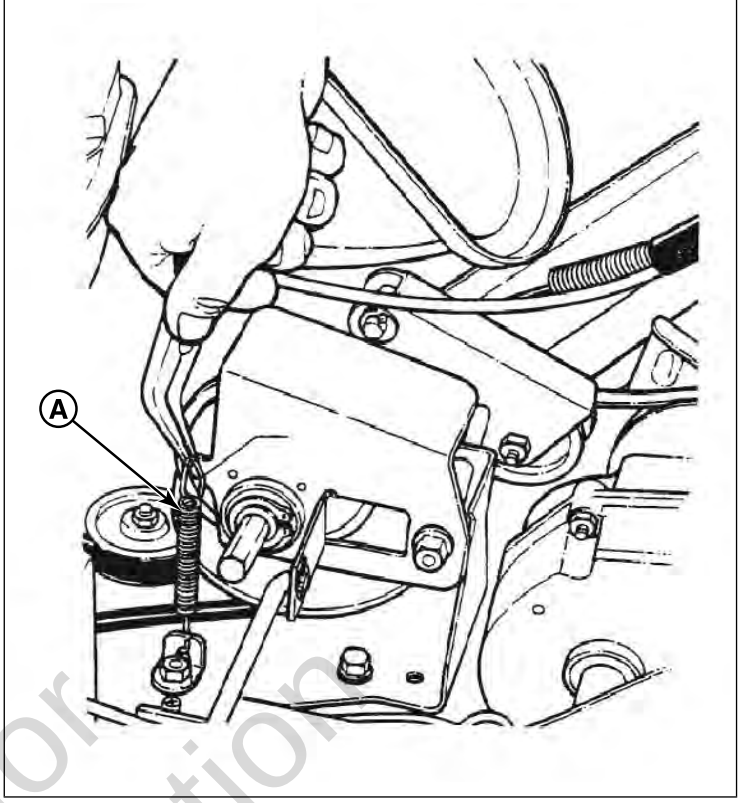
Drive Spring Repair / Replacement

If the drive spring (A, Figure 29) is loose, reconnect. If the spring is broken, replace with a new spring.

Note: Use a pair of needle nose pliers to install the drive spring.

If the drive system continues slipping, see ***Troubleshooting***.

29



Driven Disc Adjustment

If the drive disc and driven disc are clean and the mower drive is still slipping, adjust the driven disc as follows:

1. Move the ground speed control (A, Figure 30) into the FAST position.

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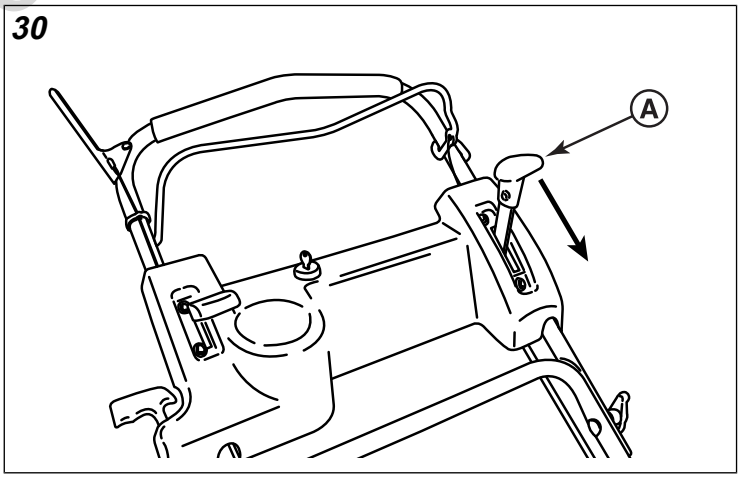
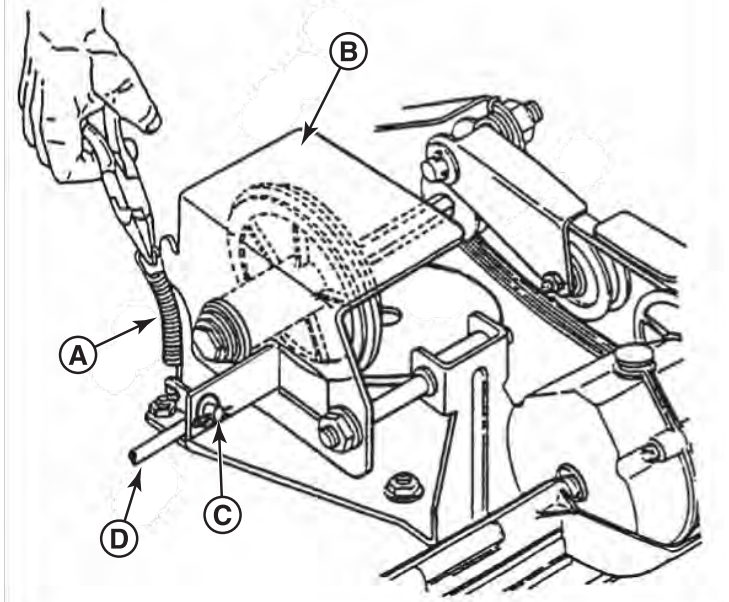


2. Remove the driven disc spring (A, Figure 31) from the driven disc assembly (B). Also remove the pin and washer (C) from the transfer rod (D), and remove the end of the transfer rod from the hole in the driven disc assembly.

31



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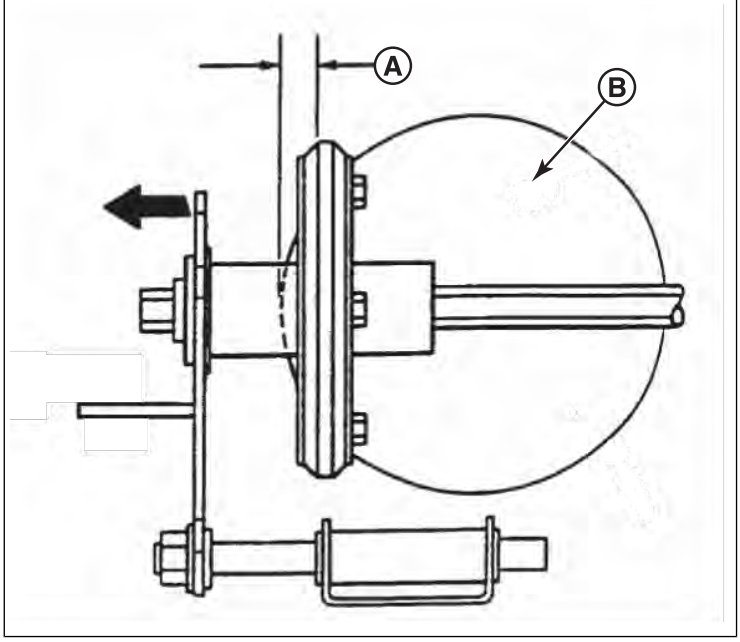
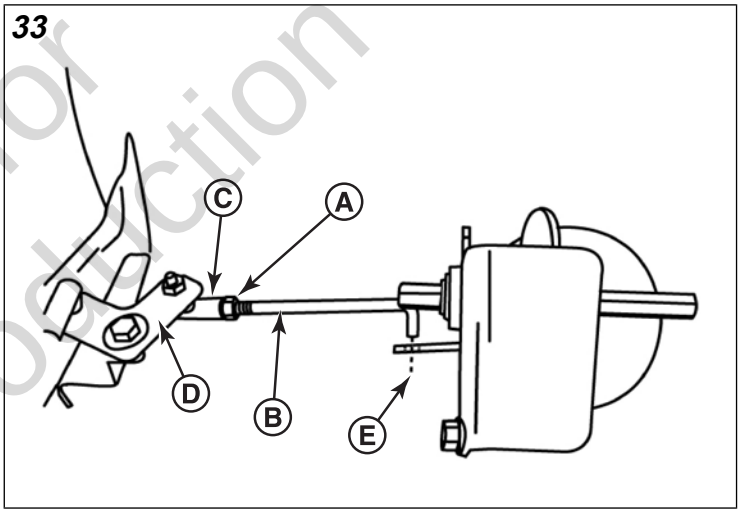


3. Slide the driven disc assembly over to 1/8” (3.2 mm) (A, Figure 32) from the outside edge of the drive disc (B).
4. Loosen the jam nut (A, Figure 33) securing the transfer rod (B) to the ball joint (C) on the pivot bracket (D).
5. Turn the rod in or out of the ball joint until the end of the rod aligns with the hole (E) in the driven disc assembly from which the rod was removed.

Note: Do not move the pivot bracket.

6. Reinstall the rod as removed in Step 2. Move the ground speed control to the SLOW position, then back to the FAST position. Recheck the 1/8” (3.2 mm) measurement described previously. Readjust as needed. Tighten the nut when finished.
7. Reinstall the driven disc spring to the driven disc assembly.

33



Driven Disc Replacement

WARNING

Amputation Hazard

- DO NOT attempt any maintenance, adjustments or service with engine and blade running.
- STOP engine and blade.
- Disconnect spark plug wire and secure away from spark plug.

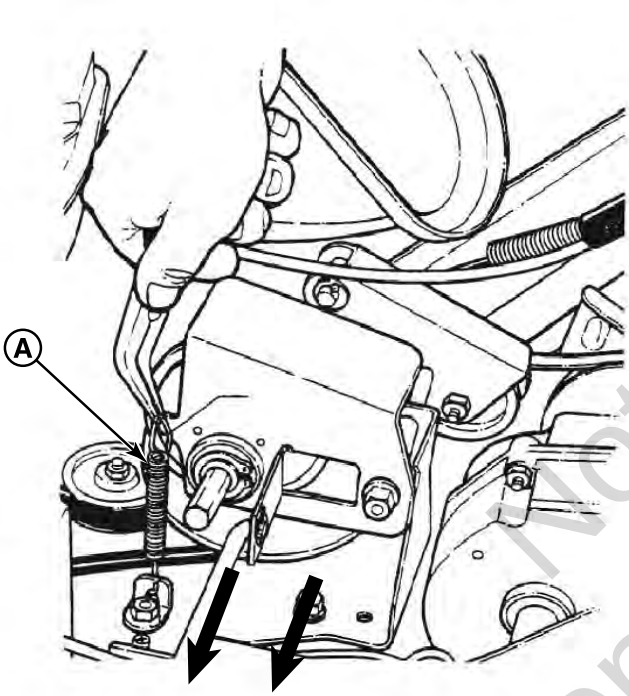
Burn Hazard

- Engine and components are HOT.
- Avoid serious burns, allow sufficient time for all components to cool.

If the rubber on the driven disc is badly chunked or worn, it must be replaced. Install a new driven disc as follows:

1. Remove the pin and washer (C, Figure 31) from the transfer rod (D), and remove the end of the transfer rod from the hole in the driven disc assembly.
2. Using needle nose pliers, unhook the drive spring (A, Figure 34) and slide the driven disc assembly off the hex shaft.
3. Remove the two snap rings (A, Figure 35) which secure the rubber driven disc (B) to the driven disc assembly.
4. Install a new rubber driven disc onto the driven disc assembly, and secure with the retaining rings.
5. Reverse the above procedures for reassembly and installation of the driven disc assembly.

34



Driven Disc Bearing Replacement

WARNING

Amputation Hazard

- DO NOT attempt any maintenance, adjustments or service with engine and blade running.
- STOP engine and blade.
- Disconnect spark plug wire and secure away from spark plug.

Burn Hazard

- Engine and components are HOT.
- Avoid serious burns, allow sufficient time for all components to cool.

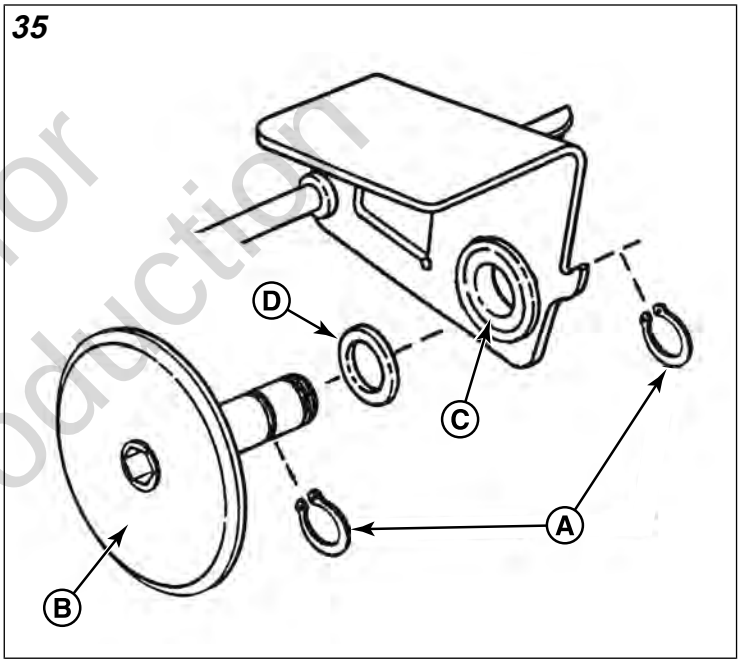
The bearing on these machines is staked into the thrust plate. The bearing will have to be driven out with a mallet and a large punch. A new bearing with four retaining screws will have to be purchased to replace existing bearing.

If the driven disc bearing requires replacement, replace the bearing as follows:

1. Remove the driven disc assembly. See ***Driven Disc Replacement***.
2. Remove both snap rings (A, Figure 35) that secure the rubber driven disc (B) to the thrust plate.
3. Slide the rubber driven disc hub out of the bearing.
4. Drive out the existing bearing (C).
5. Install a new bearing and secure to the thrust plate with four retaining screws. Tighten the screws securely.
6. Reassemble the components in reverse order.

Note: Be sure to replace the shim washer (D) when reassembling the driven disc assembly.

35



Replacing the Bearing on the Pulley End of the Hex Shaft

WARNING

Amputation Hazard

- DO NOT attempt any maintenance, adjustments or service with engine and blade running.
- STOP engine and blade.
- Disconnect spark plug wire and secure away from spark plug.

Burn Hazard

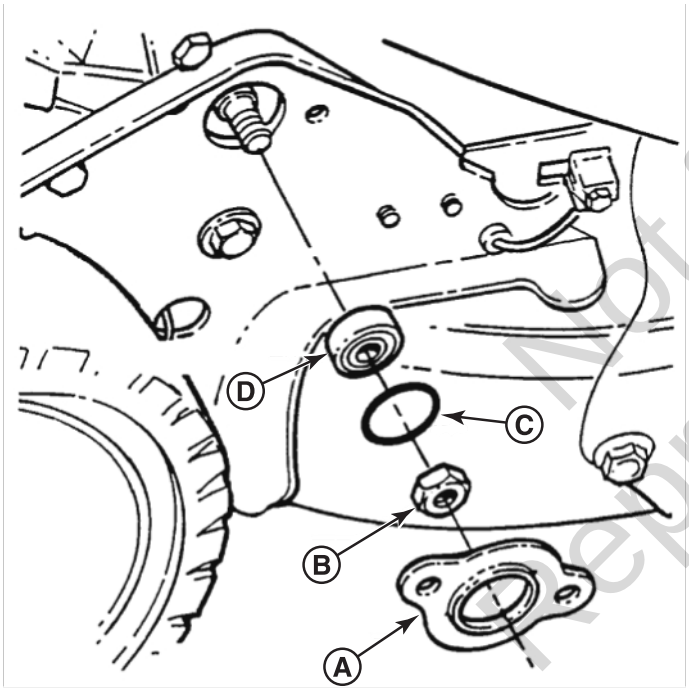
- Engine and components are HOT.
- Avoid serious burns, allow sufficient time for all components to cool.

The bearing on these machines is staked into the thrust plate. The bearing will have to be driven out with a mallet and a large punch. A new bearing with four retaining screws will have to be purchased to replace existing bearing.

To replace the bearing on the pulley end of the hex shaft:

1. Hold the hex shaft with an adjustable wrench held next to the pulley.
2. Remove the 3/8” hex lock nut (B, Figure 36), located on the outside of the right wheel bracket.
3. Remove the holder (A), O-ring (C) and bearing (D).
4. Install the new bearing.
5. Carefully install the new O-ring over the outside of the new bearing.
6. Install the bearing holder, and secure with screws.
7. Install the 3/8” hex lock nut.

36



Belt Service

WARNING

Amputation Hazard

- DO NOT attempt any maintenance, adjustments or service with engine and blade running.
- STOP engine and blade.
- Disconnect spark plug wire and secure away from spark plug.

Burn Hazard

- Engine and components are HOT.
- Avoid serious burns, allow sufficient time for all components to cool.

On self-propelled mowers, the engine belt (A, Figure 37) transmits power from the engine pulley (B) to the drive disc (C). The drive disc powers the poly-v belt, which engages the transmission that powers the rear wheels. Should these belts become worn, they could cause slippage, which would impair mower performance. The condition of the engine belt and poly-v belt should be checked after every 25 hours of mower operation.

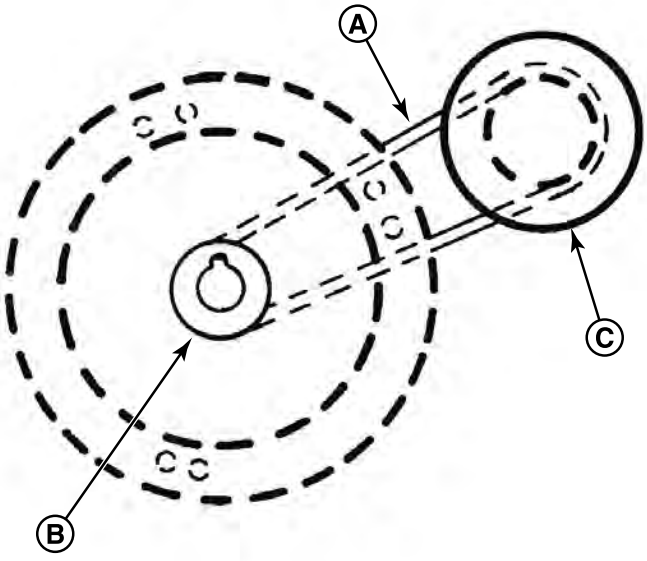
Engine Drive Belt Replacement (Stretch Type Belts)

1. Empty the fuel tank.
2. Note the belt routing (Figure 37). There is no idler pulley on these models to disconnect.

NOTICE

Drain the fuel tank before tipping the mower. DO NOT tip the machine with the carburetor or spark plug down. Oil from the crankcase will saturate the air filter and cause the engine to be hard to start or not start at all. If contamination does occur, the air filter will have to be replaced.

37



3. Remove the driven disc. See ***Driven Disc Replacement*** for driven disc removal procedure.
4. Drain the fuel tank before tipping the mower. Do not tilt the mower with the spark plug or carburetor down. Tilt the mower up on its rear wheels and remove the blade and blade hub. Assistance from another person may be necessary to hold the mower in the tilted position.
5. Hold the slotted end of the drive disc bolt (B, Figure 38) with a screwdriver and remove the nut (F) and internal tooth lock washer (E).
6. Remove the belt cover, located under the deck.
7. Lift the drive disc (A) up and remove the worn belt.
8. Loop one end of the new belt over the engine pulley and insert the other end through the slot in the deck.
9. Loop the belt around the pulley on the bottom of the drive disc.
10. Reinstall the drive disc and retaining hardware.

Note: 1) The square shoulder of the drive disc bolt must fit into the square hole of the bushing (C). 2) The square end of the bushing must fit into the bracket slot (D).

11. Reinstall the belt cover and tighten the bolts securely.
12. Reinstall the blade hub and cutter blade. Recommended torque for the blade cap screw is 40 lb-ft (54 Nm).

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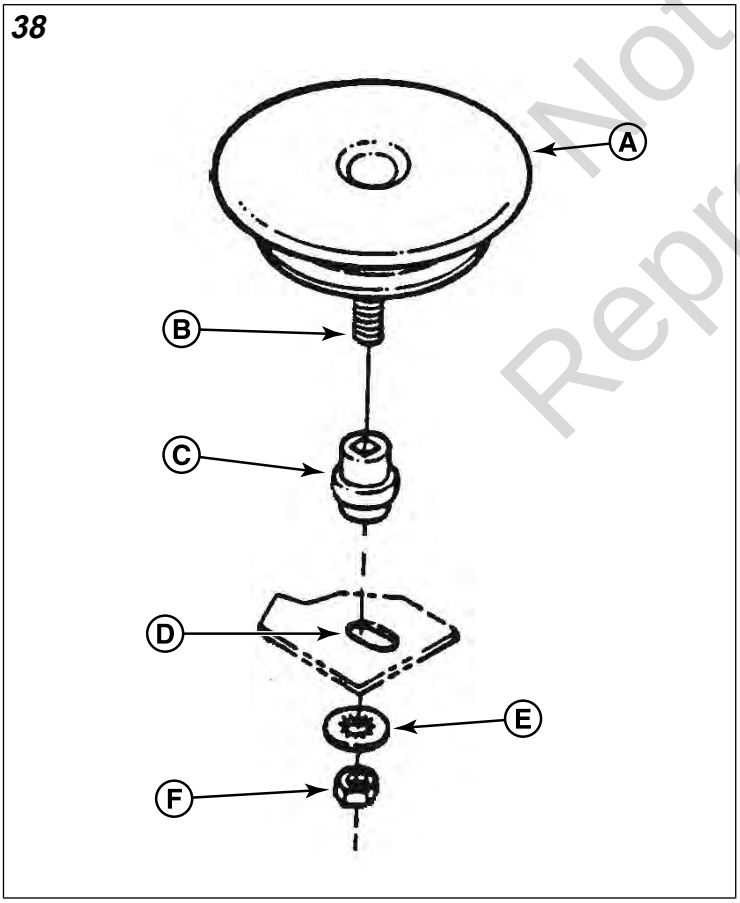

Transmission Poly-V Belt Replacement

1. Remove the driven disc. See ***Driven Disc Replacement***.
2. Note the routing of the old belt around the three pulleys before removing it.
3. Place the new Poly-V Belt (A, Figure 39) over the end of the hex shaft (B) and onto the drive pulley (C).
4. Work the belt onto the top of the idler pulley (D).
5. Twist the belt sideways and pull it upward between the differential bracket (E) and driven pulley (F) and then down into the pulley groove. Make sure the Poly-V Belt is above the belt guide (G).

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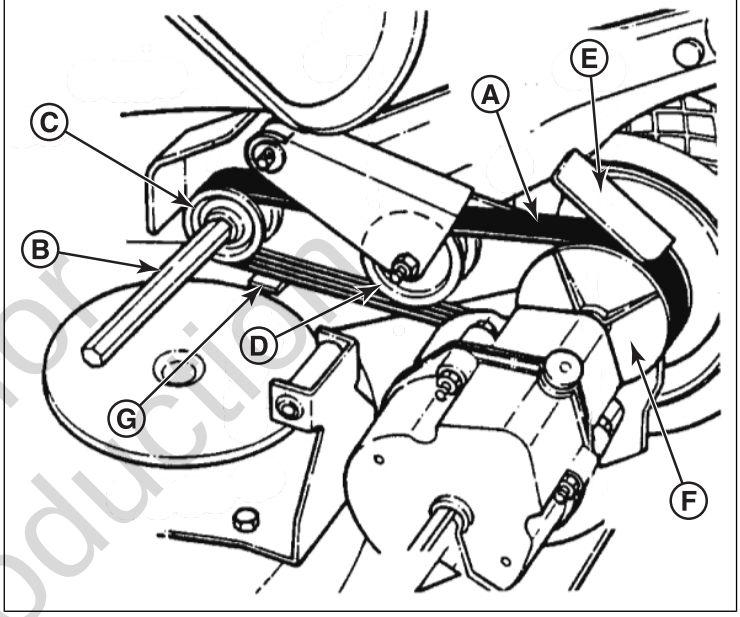

Troubleshooting

Problem	Probable Cause	Corrective Action
Engine Will Not Start Using Recoil Starter	1. Fuel tank empty.	1. Fill fuel tank with fresh fuel.
	2. Spark plug wire disconnected.	2. Place spark plug wire onto spark plug.
Engine Will Not Start (Electric Start Models)	1. Fuel tank empty.	1. Fill fuel tank with fresh fuel.
	2. Spark plug wire disconnected.	2. Place spark plug wire onto spark plug.
	3. Wiring harness disconnected.	3. Connect wiring harness.
	4. Battery dead.	4. Charge or replace battery.
Engine Stalls or Stops After Running	1. Blade control is released or is not being held securely against handle.	1. Blade control should be held securely against handle at all times during operation of mower.
	2. Fuel tank empty.	2. Fill with fuel to proper level.
	3. Engine air pre-cleaner and or air cleaner dirty.	3. Clean free of all debris.
	4. Spark plug defective or gap set improperly.	4. Service spark plug.
	5. Water, debris or stale fuel in fuel system.	5. Drain and clean fuel system.
Engine Loses Power	1. Engine air pre-cleaner or air cleaner dirty.	1. Clean or replace filters.
	2. Spark plug faulty.	2. Service spark plug.
	3. Water, debris or stale fuel in fuel system.	3. Drain and clean fuel system.
Excessive Vibration	1. Damaged, out of balance or bent mower blade.	1. Service mower blade.
	2. Loose blade components.	2. Service and tighten loose parts.
	3. Loose or missing air lift (if equipped).	3. Replace air lifts. Tighten to proper torque.
	4. Lumpy or frayed belt.	4. Replace belt.
Mower Will Not Move Loss Of Traction	1. Build-up of debris on or around wheel drive components.	1. Clean debris.
	2. Driven disc slipping.	2. Clean or replace driven disc.
	3. Drive belt requires replacement.	3. Replace drive belt.
	4. Damaged transmission.	4. Contact authorized dealer.
Cutting Grass Improperly	1. Cutting height too low or high.	1. Adjust cutting height.
	2. Engine speed too slow.	2. Move engine speed control to ‘Fast’ position.
	3. Forward ground speed too fast.	3. Move ground speed control to a slower speed.
	4. Terraced cut, side to side.	4. Adjust height of cut with height adjust levers.
	5. Excessive deck pitch, front to rear.	5. Adjust height of cut with height adjust levers.
	6. Cutting blade dull or damaged.	6. Sharpen cutting edges or replace blade.
Poor Grass Discharge	1. Engine speed too fast.	1. Move engine speed control to ‘Fast’ position.
	2. Forward speed too fast.	2. Move ground speed control to a slower speed.
	3. Grass is wet.	3. Mow when grass is dry.
	4. Excessively worn or damaged blade.	4. Service mower blade.
	5. Build up of grass clippings and debris under deck.	5. Clean deck.
	6. Improper blade installed on deck.	6. Install proper blade.
	7. Blade installed improperly on deck.	7. Install blade properly.
Oil Leaking	1. Leaking engine case.	1. Contact authorized dealer.
	2. Loose drain plug.	2. Check and tighten drain plug.
	3. Dip stick or oil filler cap loose.	3. Make sure dip stick or oil filler cap is securely in place.

Warranties

Warranty Statement

BRIGGS & STRATTON WARRANTY POLICY (January 2014)

LIMITED WARRANTY

Briggs & Stratton warrants that, during the warranty period specified below, it will repair or replace, free of charge, any part that is defective in material or workmanship or both. Transportation charges on product submitted for repair or replacement under this warranty must be borne by purchaser. This warranty is effective for and is subject to the time periods and conditions stated below. For warranty service, find the nearest Authorized Service Dealer in our dealer locator map at *www.snapper.com*. The purchaser must contact the Authorized Service Dealer, and then make the product available to the Authorized Service Dealer for inspection and testing.

There is no other express warranty. Implied warranties, including those of merchantability and fitness for a particular purpose, are limited to the warranty period listed below, or to the extent permitted by law. Liability for incidental or consequential damages are excluded to the extent exclusion is permitted by law. Some states or countries do not allow limitations on how long an implied warranty lasts, and some states or countries do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation and exclusion may not apply to you. This warranty gives you specific legal rights and you may also have other rights which vary from state to state or country to country.**

WARRANTY PERIOD		
Item	**Consumer Use**	**Commercial Use**
Equipment	36 months	3 months
Engine*	36 months	3 months
Battery (if equipped)	12 months	12 months

* Applies to Briggs & Stratton engines only. Warranty coverage of non-Briggs & Stratton engines is provided by that engine manufacturer. Emissions-related components are covered by the Emissions Warranty Statement.

** In Australia - Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure. For warranty service, find the nearest Authorized Service Dealer in our dealer locator map at BRIGGSandSTRATTON.COM, or by calling 1300 274 447, or by emailing or writing to salesenquires@briggsandstratton.com.au, Briggs & Stratton Australia Pty Ltd, 1 Moorebank Avenue, NSW, Australia, 2170.

The warranty period begins on the date of purchase by the first retail or commercial consumer. “Consumer use” means personal residential household use by a retail consumer. “Commercial use” means all other uses, including use for commercial, income producing or rental purposes. Once a product has experienced commercial use, it shall thereafter be considered as a commercial use product for purposes of this warranty.

To ensure prompt and complete warranty coverage, register your product at the website shown above or at www.onlineproductregistration.com, or mail the completed registration card (if provided), or call 1-800-743-4115 (in USA).

Save your proof of purchase receipt. If you do not provide proof of the initial purchase date at the time warranty service is requested, the manufacturing date of the product will be used to determine the warranty period. Product registration is not required to obtain warranty service on Briggs & Stratton products.

ABOUT YOUR WARRANTY

Warranty service is available only through *Snapper* Authorized Service Dealers. This warranty covers only defects in materials or workmanship. It does not cover damage caused by improper use or abuse, improper maintenance or repair, normal wear and tear, or stale or unapproved fuel.

Improper Use and Abuse - The proper, intended use of this product is described in the Operator’s Manual. Using the product in a way not described in the Operator’s Manual or using the product after it has been damaged will not be covered under this warranty. Warranty coverage will also not be provided if the serial number on the product has been removed or the product has been altered or modified in any way, or if the product has evidence of abuse such as impact damage or water/chemical corrosion damage.

Improper Maintenance or Repair - This product must be maintained according to the procedures and schedules provided in the Operator’s Manual, and serviced or repaired using genuine Briggs & Stratton parts or equivalent. Damage caused by lack of maintenance or use of non-original parts is not covered by warranty.

Normal Wear and Tear - Like most mechanical devices, your unit is subject to wear even when properly maintained. This warranty does not cover repairs when normal use has exhausted the life of a part or the equipment. Maintenance and wear items such as filters, belts, cutting blades, and brake pads (except engine brake pads) are not covered by warranty due to wear characteristics alone, unless the cause is due to defects in material or workmanship.

Stale or Unapproved Fuel - In order to function correctly, this product requires fresh fuel that conforms to the criteria specified in the Operator’s Manual. Engine or equipment damage caused by stale fuel or the use of unapproved fuels (such as E15 or E85 ethanol blends) is not covered by warranty.

Other Exclusions - This warranty excludes damage due to accident, abuse, modifications, alterations, improper servicing, freezing or chemical deterioration. Attachments or accessories that were not originally packaged with the product are also excluded. There is no warranty coverage on equipment used for primary power in place of utility power or on equipment used in life support applications. This warranty does not include used, reconditioned, second-hand, or demonstration equipment or engines. This warranty also excludes failures due to acts of God

and other force majeure events beyond the manufacturer's control.

Briggs & Stratton Emissions Warranty

California, U.S. EPA, and Briggs & Stratton Corporation Emissions Control Warranty Statement - Your Warranty Rights and Obligations

For Briggs & Stratton Engine Models with "F" Trim Designation (Model-Type-Trim Representation xxxxxx xxxx Fx)

The California Air Resources Board, U.S. EPA, and Briggs & Stratton (B&S) are pleased to explain the emissions control system warranty on your Model Year 2017-2019 engine/equipment. In California, new small off-road engines and large spark ignited engines less than or equal to 1.0 liter must be designed, built, and equipped to meet the State's stringent anti-smog standards. B&S must warrant the emissions control system on your engine/equipment for the periods of time listed below provided there has been no abuse, neglect, or improper maintenance of your engine/equipment.

Your exhaust emissions control system may include parts such as the carburetor or fuel injection system, ignition system, and catalytic converter. Also included may be hoses, belts, connectors, sensors, and other emissions-related assemblies. Your evaporative emission control system may include parts such as: carburetors, fuel tanks, fuel lines, fuel caps, valves, canisters, filters, vapor hoses, clamps, connectors, and other associated components.

Where a warrantable condition exists, B&S will repair your engine/equipment at no cost to you including diagnosis, parts, and labor.

Manufacturer's Warranty Coverage:

Small off-road engines and large spark ignited engines less than or equal to 1.0 liter, and any related emissions components of the equipment, are warranted for two years, or for the time period listed in the respective engine or product warranty statement, whichever is greater. If any emissions-related part on your B&S engine/equipment is defective, the part will be repaired or replaced by B&S.

Owner's Warranty Responsibilities:

- As the engine/equipment owner, you are responsible for the performance of the required maintenance listed in your Operator's Manual. B&S recommends that you retain all receipts covering maintenance on your engine/equipment, but B&S cannot deny warranty solely for the lack of receipts or your failure to ensure the performance of all scheduled maintenance.
- As the engine/equipment owner, you should however be aware that B&S may deny you warranty coverage if your engine/equipment or a part has failed due to abuse, neglect, improper maintenance, or unapproved modifications.
- You are responsible for presenting your engine/equipment to a B&S distribution center, servicing dealer, or other equivalent entity, as applicable, as soon as a problem exists. The 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 B&S at 1-800-444-7774 (in USA) or BRIGGSandSTRATTON.COM.

Briggs & Stratton Emissions Control Warranty Provisions

The following are specific provisions relative to your Emissions Control Warranty Coverage. It is in addition to the B&S engine warranty for non-regulated engines found in the Operator's Manual.

1. Warranted Emissions Parts
   Coverage under this warranty extends only to the parts listed below (the emissions control systems parts) to the extent these parts were present on the B&S engine and/or B&S supplied fuel system.
   a. Fuel Metering System
      - Cold start enrichment system (soft choke)
      - Carburetor or fuel injection system
      - Oxygen sensor
      - Electronic control unit
      - Fuel pump module
      - Fuel line, fuel line fittings, clamps
      - Fuel tank, cap and tether
      - Carbon canister

   b. Air Induction System
      - Air cleaner
      - Intake manifold
      - Purge and vent line

   c. Ignition System
      - Spark plug(s)
      - Magneto ignition system

   d. Catalyst System
      - Catalytic converter
      - Exhaust manifold
      - Air injection system or pulse value

   e. Miscellaneous Items Used in Above Systems
      - Vacuum, temperature, position, time sensitive valves and switches
      - Connectors and assemblies

2. Length of Coverage
   Coverage is for a period of two years from date of original purchase, or for the time period listed in the respective engine or product warranty statement, whichever is greater. B&S warrants to the original purchaser and each subsequent purchaser that the engine is designed, built,

and equipped so as to conform with all applicable regulations adopted by the Air Resources Board; that it is free from defects in material and workmanship that could cause the failure of a warranted part; and that it is identical in all material respects to the engine described in the manufacturer's application for certification. The warranty period begins on the date the engine is originally purchased.

The warranty on emissions-related parts is as follows:

- Any warranted part that is not scheduled for replacement as required maintenance in the Operator's Manual supplied, is warranted for the warranty period stated above. If any such part fails during the period of warranty coverage, the part will be repaired or replaced by B&S at no charge to the owner. Any such part repaired or replaced under the warranty will be warranted for the remaining warranty period.
- Any warranted part that is scheduled only for regular inspection in the Operator's Manual supplied, is warranted for the warranty period stated above. Any such part repaired or replaced under warranty will be warranted for the remaining warranty period.
- Any warranted part that is scheduled for replacement as required maintenance in the Operator's Manual supplied, is warranted for the period of time prior to the first scheduled replacement point for that part. If the part fails prior to the first scheduled replacement, the part will be repaired or replaced by B&S at no charge to the owner. Any such part repaired or replaced under warranty will be warranted for the remainder of the period prior to the first scheduled replacement point for the part.
- Add-on or modified parts that are not exempted by the Air Resources Board may not be used. The use of any non-exempted add-on or modified parts by the owner will be grounds for disallowing a warranty claim. The manufacturer will not be liable to warrant failures of warranted parts caused by the use of a non-exempted add-on or modified part.

3. Consequential Coverage
   Coverage shall extend to the failure of any engine components caused by the failure of any warranted emissions parts.
4. Claims and Coverage Exclusions
   Warranty claims shall be filed according to the provisions of the B&S engine warranty policy. Warranty coverage does not apply to failures of emissions parts that are not original equipment B&S parts or to parts that fail due to abuse, neglect, or improper maintenance as set forth in the B&S engine warranty policy. B&S is not liable for warranty coverage of failures of emissions parts caused by the use of add-on or modified parts.

Look For Relevant Emissions Durability Period and Air Index Information On Your Small Off-Road Engine Emissions Label

Engines that are certified to meet the California Air Resources Board (CARB) small off-road Emissions Standard must display information regarding the Emissions Durability Period and the Air Index. Briggs & Stratton makes this information available to the consumer on our emissions labels. The engine emissions label will indicate certification information.

The **Emissions Durability Period** describes the number of hours of actual running time for which the engine is certified to be emissions compliant, assuming proper maintenance in accordance with the Operator's Manual. The following categories are used:

Moderate:

Engines at or less than 80 cc displacement are certified to be emissions compliant for 50 hours of actual engine running time. Engines greater than 80 cc displacement are certified to be emissions compliant for 125 hours of actual engine running time.

Intermediate:

Engines at or less than 80 cc displacement are certified to be emissions compliant for 125 hours of actual engine running time. Engines greater than 80 cc displacement are certified to be emissions compliant for 250 hours of actual engine running time.

Extended:

Engines at or less than 80 cc displacement are certified to be emissions compliant for 300 hours of actual engine running time. Engines greater than 80 cc displacement are certified to be emissions compliant for 500 hours of actual engine running time.

For example, a typical walk-behind lawn mower is used 20 to 25 hours per year. Therefore, the **Emissions Durability Period** of an engine with an **intermediate** rating would equate to 10 to 12 years.

Briggs & Stratton engines are certified to meet the United States Environmental Protection Agency (USEPA) Phase 2 or Phase 3 emissions standards. The Emissions Compliance Period referred to on the Emissions Compliance label indicates the number of operating hours for which the engine has been shown to meet Federal emissions requirements.

For engines at or less than 80 cc displacement:

Category C = 50 hours, Category B = 125 hours, Category A = 300 hours

For engines greater than 80 cc displacement and less than 225 cc displacement:

Category C = 125 hours, Category B = 250 hours, Category A = 500 hours

For engines of 225 cc or more displacement:

Category C = 250 hours, Category B = 500 hours, Category A = 1000 hours

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California, U.S. EPA, and Briggs & Stratton Corporation Emissions Control Warranty Statement - Your Warranty Rights and Obligations

For Briggs & Stratton Engine Models with "B" or "G" Trim Designation (Model-Type-Trim Representation xxxxxx xxxx Bx or xxxxxx xxxx Gx)

The California Air Resources Board, U.S. EPA, and Briggs & Stratton (B&S) are pleased to explain the emissions control system warranty on your Model Year 2017-2019 engine. In California, new small off-road engines and large spark ignited engines less than or equal to 1.0 liter must be designed, built, and equipped to meet the State's stringent anti-smog standards. B&S must warrant the emissions control system on your engine for the periods of time listed below provided there has been no abuse, neglect, or improper maintenance of your engine.

Your exhaust emissions control system may include parts such as the carburetor or fuel injection system, ignition system, and catalytic converter. Also included may be hoses, belts, connectors, sensors, and other emissions-related assemblies.

Where a warrantable condition exists, B&S will repair your engine at no cost to you including diagnosis, parts, and labor.

Manufacturer’s Warranty Coverage:

Small off-road engines and large spark ignited engines less than or equal to 1.0 liter, and any related emissions components of the equipment, are warranted for two years, or for the time period listed in the respective engine or product warranty statement, whichever is greater. If any emissions-related part on your B&S engine is defective, the part will be repaired or replaced by B&S.

Owner’s Warranty Responsibilities:

- As the engine owner, you are responsible for the performance of the required maintenance listed in your Operator's Manual. B&S recommends that you retain all receipts covering maintenance on your engine, but B&S cannot deny warranty solely for the lack of receipts or your failure to ensure the performance of all scheduled maintenance.
- As the engine owner, you should however be aware that B&S may deny you warranty coverage if your engine or a part has failed due to abuse, neglect, improper maintenance, or unapproved modifications.
- You are responsible for presenting your engine to a B&S distribution center, servicing dealer, or other equivalent entity, as applicable, as soon as a problem exists. The 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 B&S at 1-800-444-7774 (in USA) or BRIGGSandSTRATTON.COM.

Briggs & Stratton Emissions Control Warranty Provisions

The following are specific provisions relative to your Emissions Control Warranty Coverage. It is in addition to the B&S engine warranty for non-regulated engines found in the Operator's Manual.

1. Warranted Emissions Parts
   Coverage under this warranty extends only to the parts listed below (the emissions control systems parts) to the extent these parts were present on the B&S engine.

   a. Fuel Metering System
      - Cold start enrichment system (soft choke)
      - Carburetor or fuel injection system
      - Oxygen sensor
      - Electronic control unit
      - Fuel pump module

   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 value

   e. Miscellaneous Items Used in Above Systems
      - Vacuum, temperature, position, time sensitive valves and switches
      - Connectors and assemblies

2. Length of Coverage
   Coverage is for a period of two years from date of original purchase, or for the time period listed in the respective engine or product warranty statement, whichever is greater. B&S warrants to the original purchaser and each subsequent purchaser that the engine is designed, built, and equipped so as to conform with all applicable regulations adopted by the Air Resources Board; that it is free from defects in material and workmanship that could cause the failure of a warranted part; and that it is identical in all material respects to the engine described in the manufacturer's application for certification. The warranty period begins on the date the engine is originally purchased.

   The warranty on emissions-related parts is as follows:

   - Any warranted part that is not scheduled for replacement as required maintenance in the Operator's Manual supplied, is warranted for the warranty period

stated above. If any such part fails during the period of warranty coverage, the part will be repaired or replaced by B&S at no charge to the owner. Any such part repaired or replaced under the warranty will be warranted for the remaining warranty period.

- Any warranted part that is scheduled only for regular inspection in the Operator's Manual supplied, is warranted for the warranty period stated above. Any such part repaired or replaced under warranty will be warranted for the remaining warranty period.
- Any warranted part that is scheduled for replacement as required maintenance in the Operator's Manual supplied, is warranted for the period of time prior to the first scheduled replacement point for that part. If the part fails prior to the first scheduled replacement, the part will be repaired or replaced by B&S at no charge to the owner. Any such part repaired or replaced under warranty will be warranted for the remainder of the period prior to the first scheduled replacement point for the part.
- Add-on or modified parts that are not exempted by the Air Resources Board may not be used. The use of any non-exempted add-on or modified parts by the owner will be grounds for disallowing a warranty claim. The manufacturer will not be liable to warrant failures of warranted parts caused by the use of a non-exempted add-on or modified part.

3. Consequential Coverage
   Coverage shall extend to the failure of any engine components caused by the failure of any warranted emissions parts.
4. Claims and Coverage Exclusions
   Warranty claims shall be filed according to the provisions of the B&S engine warranty policy. Warranty coverage does not apply to failures of emissions parts that are not original equipment B&S parts or to parts that fail due to abuse, neglect, or improper maintenance as set forth in the B&S engine warranty policy. B&S is not liable for warranty coverage of failures of emissions parts caused by the use of add-on or modified parts.

Look For Relevant Emissions Durability Period and Air Index Information On Your Small Off-Road Engine Emissions Label

Engines that are certified to meet the California Air Resources Board (CARB) small off-road Emissions Standard must display information regarding the Emissions Durability Period and the Air Index. Briggs & Stratton makes this information available to the consumer on our emissions labels. The engine emissions label will indicate certification information.

The **Emissions Durability Period** describes the number of hours of actual running time for which the engine is certified to be emissions compliant, assuming proper maintenance in accordance with the Operator's Manual. The following categories are used:

Moderate:

Engines at or less than 80 cc displacement are certified to be emissions compliant for 50 hours of actual engine running time. Engines greater than 80 cc displacement are certified to be emissions compliant for 125 hours of actual engine running time.

Intermediate:

Engines at or less than 80 cc displacement are certified to be emissions compliant for 125 hours of actual engine running time. Engines greater than 80 cc displacement are certified to be emissions compliant for 250 hours of actual engine running time.

Extended:

Engines at or less than 80 cc displacement are certified to be emissions compliant for 300 hours of actual engine running time. Engines greater than 80 cc displacement are certified to be emissions compliant for 500 hours of actual engine running time.

For example, a typical walk-behind lawn mower is used 20 to 25 hours per year. Therefore, the **Emissions Durability Period** of an engine with an **intermediate** rating would equate to 10 to 12 years.

Briggs & Stratton engines are certified to meet the United States Environmental Protection Agency (USEPA) Phase 2 or Phase 3 emissions standards. The Emissions Compliance Period referred to on the Emissions Compliance label indicates the number of operating hours for which the engine has been shown to meet Federal emissions requirements.

For engines at or less than 80 cc displacement:

Category C = 50 hours, Category B = 125 hours, Category A = 300 hours

For engines greater than 80 cc displacement and less than 225 cc displacement:

Category C = 125 hours, Category B = 250 hours, Category A = 500 hours

For engines of 225 cc or more displacement:

Category C = 250 hours, Category B = 500 hours, Category A = 1000 hours

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Slope Guide

WARNING

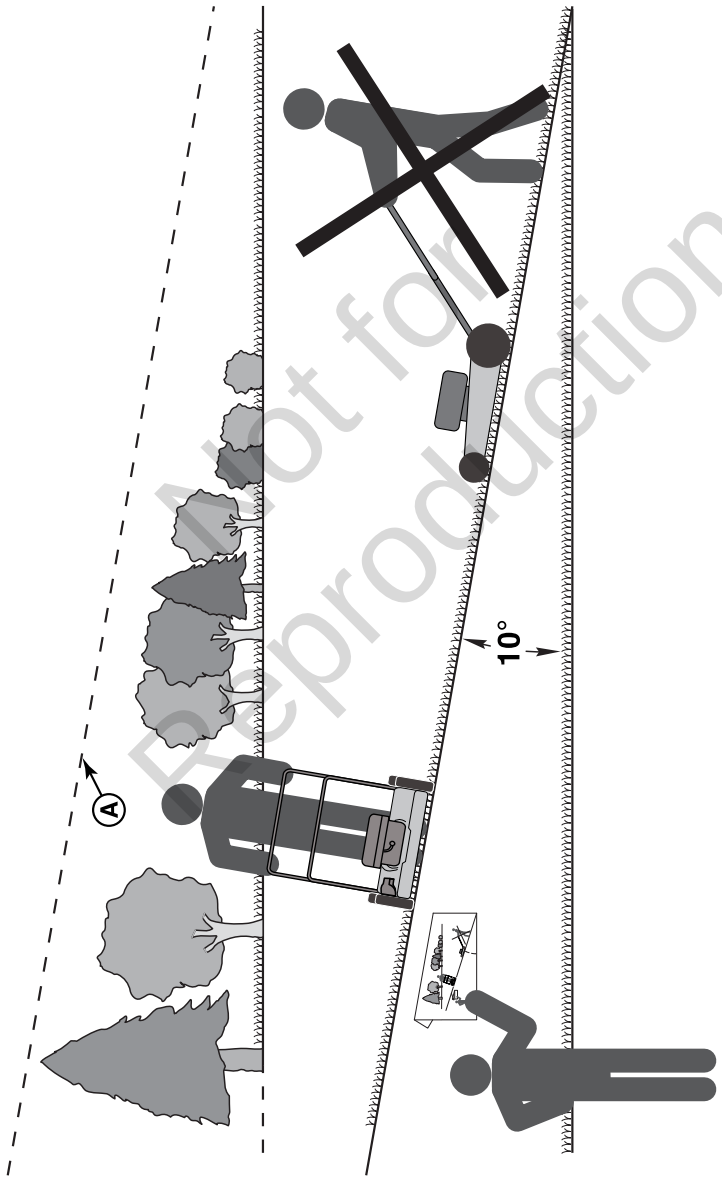
Amputation Hazard and Rollover Hazard

To prevent death or serious injury:

- Mow across slopes, not up and down slopes.
- Do not mow slopes that are more than 10 degrees.
- Be careful when you turn on slopes. Turn the unit gradually to maintain control.

1. Fold this page along the dotted line (A). The angle of the fold shows a slope of 10 degrees.
2. Hold the page in front of you so that its left edge is parallel to a tree trunk or other vertical structure.
3. Compare the slope you want to mow with the angle of the fold. If the slope is more than the angle of the fold, do not mow.

Slope Guide



Specifications

Specifications	7800979-00 7800979A-00	7800980-00 7800980A-00 7800981-00 7800981A-00 7800982-00 7800982A-00
Mower		
Deck Size (in / cm)	21 / 53	21 / 53
Height of Cut (in / cm)	1.25 - 4 / 3,18 - 10,16	1.25 - 4 / 3,18 - 10,16
Transmission Type	---	Gear
Ground Speed (mph / kph)	---	1.2 - 4 / 1,9 - 6,4
Blade Torque (lb-ft / Nm)	40 / 54	40 / 54
Engine		
Gross Engine Power *	8.5	8.5
Engine Displacement (cc)	190	190
Fuel Tank Capacity (qt / l)	1.2 / 1,1	1.2 / 1,1
Oil Capacity (oz / l)	18 - 20 / 0,54 - 0,59	18 - 20 / 0,54 - 0,59
Spark Plug Gap (in / mm)	0.020 / 0,51	0.020 / 0,51
Spark Plug Torque (lb-in / Nm)	180 / 20	180 / 20

* See ***Power Ratings***.

Power Ratings: The gross power rating for individual gasoline engine models is labeled in accordance with SAE (Society of Automotive Engineers) code J1940 Small Engine Power & Torque Rating Procedure, and is rated in accordance with SAE J1995. Torque values are derived at 2600 RPM for those engines with “rpm” called out on the label and 3060 RPM for all others; horsepower values are derived at 3600 RPM. The gross power curves can be viewed at www.BRIGGSandSTRATTON.COM. Net power values are taken with exhaust and air cleaner installed whereas gross power values are collected without these attachments. Actual gross engine power will be higher than net engine power and is affected by, among other things, ambient operating conditions and engine-to-engine variability. Given the wide array of products on which engines are placed, the gasoline engine may not develop the rated gross power when used in a given piece of power equipment. This difference is due to a variety of factors including, but not limited to, the variety of engine components (air cleaner, exhaust, charging, cooling, carburetor, fuel pump, etc.), application limitations, ambient operating conditions (temperature, humidity, altitude), and engine-to-engine variability. Due to manufacturing and capacity limitations, Briggs & Stratton may substitute an engine of higher rated power for this engine.