

Operator's Manual



Rear Engine Riding Mower

Model No.

7800918-00

7800920-00

7800921-00

7800932-00



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

This manual contains safety information to make you aware of the hazards and risks associated with the machine and how to avoid them. This machine is designed and intended only for finish cutting of established lawns and is not intended for any other purpose. It is important that you read and understand these instructions thoroughly before attempting to start or operate this equipment. **Save these original instructions for future reference.**

Complete the following information on your Snapper purchase.

Date of Purchase _____

Retailer _____

Retailer's Phone Number _____

Equipment

Model Number _____

Serial Number _____

Engine

Model _____ Type _____ Code _____

Not for
Reproduction

The Illustrated Parts List for this machine can be downloaded from www.snapper.com. Please provide model and serial number when ordering replacement parts.

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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.

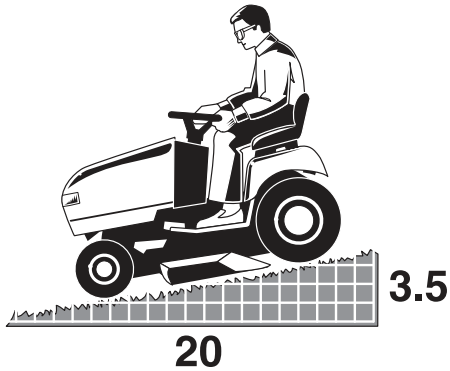
DO NOT GIVE CHILDREN RIDES ON THIS UNIT! This encourages them to come near the unit in the future while it is running, and they could be seriously hurt. They may then approach the unit for a ride when you are not expecting it, and you may run over them.

Reverse

Do not mow in reverse unless absolutely necessary. Always look down and behind before and while traveling in reverse even with the mower blades disengaged.



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 traction can cause you to lose control or roll over.

A good rule of thumb is to not operate on any slope you cannot back up (in 2-wheel drive mode). You should not operate on inclines with a slope greater than a 3.5 ft (1,5 m) rise over a 20.0 ft (6,0 m) length. Always drive up and down slopes: never cross the face.

Also note that the surface you are driving on can greatly impact stability and control. Wet grass or icy pavement can seriously affect your ability to control the unit.

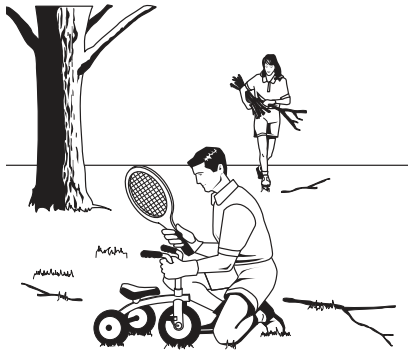
If you feel unsure about operating the unit on an incline, don't do it. It's not worth the risk.

Moving Parts

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

The mower deck has spinning mower blades 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 spinning mower blades. These blades 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.

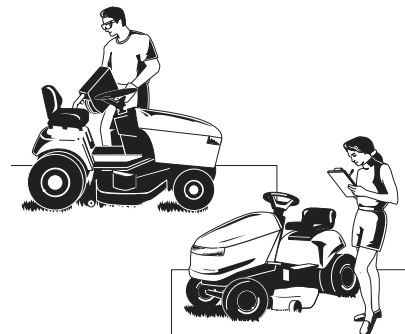
Do not operate this unit without the entire grass catcher or discharge guard (deflector) in place.

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

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.



Operator Safety



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. Children who have been given rides in the past may suddenly appear in the mowing area for another ride and be run over or backed over by the machine. 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 (even with the blade OFF).
3. DO NOT allow children or others to ride on machine, attachments or towed equipment (even with the blades OFF). They may fall and be seriously injured.
4. DO NOT allow pre-teenage children to operate machine.
5. ALLOW only responsible adults & teenagers with mature judgment under close adult supervision to operate machine.
6. DO NOT operate blades in reverse unless absolutely necessary. STOP BLADES. LOOK and SEE behind and down for children, pets and hazards before and while backing.
7. USE EXTRA CARE when approaching blind corners, shrubs, trees, or other objects that may obscure vision.

Protection Against Tip-Overs/Roll-Overs

Slopes are a major factor related to loss-of-control and tip-over/roll-over accidents, which can result in severe injury or death. All slopes require extra CAUTION. If you cannot back up the slope or if you feel uneasy on the slope, DO NOT mow it. Use extra care with grass catchers or other attachments; these affect the handling and the stability of the machine.

1. DO NOT operate machine on slopes exceeding 10 degrees (18% grade).
2. Turn blades OFF when traveling uphill. Use a slow speed and avoid sudden or sharp turns.
3. DO NOT operate machine back and forth across face of slopes. Operate up and down. Practice on slopes with blades off.
4. AVOID starting, stopping or turning on slopes. If machine stops going uphill or tires lose traction, turn blades OFF and back slowly straight down the slope.
5. STAY ALERT for holes and other hidden hazards. Tall grass can hide obstacles. Keep away from ditches, washouts, culverts, fences and protruding objects.
6. KEEP A SAFE DISTANCE (at least two mower widths) away from edge of ditches and other drop offs. The machine could turn over if an edge caves in.
7. Always begin forward motion slowly and with caution.
8. DO NOT begin forward motion while the machine is rolling backwards. A rearward tip-over may result.
9. Use weights or a weighted load carrier in accordance with instructions supplied with a grass catcher or other attachments. DO NOT operate machine on slopes exceeding 10 degrees (18% grade) when equipped with grass catcher or other attachments.
10. DO NOT put your foot on the ground to try to stabilize the machine.
11. DO NOT operate machine on wet grass. Reduced traction could cause sliding.
12. Choose a low enough speed setting so that you will not have to stop or shift on a slope. Tires may lose traction on slopes even though the brakes are functioning properly.
13. DO NOT operate machine under any condition where traction, steering or stability is doubtful.
14. Always keep the machine in gear when going down slopes. DO NOT shift to neutral (or actuate hydro roll release) and coast downhill.
15. Machine stability is tested in accordance with the applicable ANSI B71 standard using an operator weight of 200 lbs. To minimize the risk of a tip-over or roll-over, operators weighing more than 200 lbs. should further limit the ground speed and the degree of slope to be mowed.

Preparation

1. Read, understand, and follow instructions and warnings in this manual and on the machine, engine and attachments. Know the controls and the proper use of the machine 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 from machine. DO NOT smoke.
5. Practice operation of machine with BLADES OFF to learn controls and develop skills.
6. 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.
7. Keep people and pets out of mowing area. Immediately STOP blades, STOP engine, and STOP machine if anyone enters the area.
8. Check shields, deflectors, switches, blade controls and other safety devices frequently for proper operation and location.
9. Make sure all safety decals are clearly legible. Replace if damaged.
10. Protect yourself when mowing and wear safety glasses, a dust mask, hearing protection, long pants and substantial footwear.
11. Know how to STOP blades and engine quickly in preparation for emergencies.
12. Use extra care when loading or unloading the machine into a trailer or truck.
13. 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 worn 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. Never overfill a fuel tank. Replace fuel cap and tighten securely.

Operation

1. Mount and dismount machine from left side. Keep clear of discharge opening at all times.
2. Start engine from operator's seat, if possible. Make sure blades are OFF and parking brake is set.
3. DO NOT leave machine with engine running. STOP engine, STOP blades, SET brake, and remove key before leaving operators position of any reason.
4. DO NOT operate machine unless properly seated with feet on feet rests or pedal(s).
5. STOP BLADES and ENGINE and make sure blades have stopped before removing grass catcher or unclogging mower to prevent loss of fingers or hand.
6. Blades must be OFF except when cutting grass. Set blades in highest position when mowing over rough ground.
7. Keep hands and feet away from rotating blades underneath deck. DO NOT place foot on ground while BLADES are ON or machine is in motion.
8. DO NOT operate machine without entire grass catcher or guards in place and working. DO NOT point discharge at people, passing cars, windows or doors.
9. Slow down before turning.
10. Watch out for traffic when near or crossing roadways.
11. STOP engine immediately after striking an obstruction. Inspect machine and repair damage before resuming operation.
12. Operate machine only in daylight or with good artificial light.
13. Exercise CAUTION when pulling loads. Limit loads to those you can safely control and attach loads to hitch plate as specified with attachment instructions.
14. On slopes, the weight of the towed equipment may cause loss of traction and loss of control. When towing, travel slowly and allow extra distance to stop.
15. DO NOT operate engine in enclosed areas. Engine exhaust gases contain carbon monoxide, a deadly poison.
16. DO NOT discharge material against a wall or obstruction. Material may ricochet back towards the operator.
17. Only use accessories approved by the manufacturer. See manufacturer's instructions for proper operation and installation of accessories.

Operator Safety

Towing

1. Tow only with a machine that has a hitch designed for towing. DO NOT attach towed equipment except at the hitch point.
2. Refer to "Towing Implements" in the Operation section regarding weight limits for towed equipment and towing on slopes.
3. DO NOT allow children or others on towed equipment.
4. On slopes, the weight of the towed equipment may cause loss of traction and loss of control. Use caution while operating on slopes.
5. Travel slowly and allow extra distance to stop.

Maintenance

1. DO NOT store machine 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 the reach of children in a well ventilated, unoccupied building.
2. Keep engine and machine 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. Check brakes frequently; adjust, repair or replace as needed.
5. Keep all bolts, nuts and screws properly tight. Check that all cotter pins are in proper position.

6. Always provide adequate ventilation when running engine. Exhaust gases contain carbon monoxide, an odorless and deadly poison.
7. Disconnect negative (black) cable from battery before performing maintenance or service. Cranking engine could cause injury.
8. DO NOT work under machine without safety blocks.
9. DO NOT stand unit on end.
10. Service engine and make adjustments only when engine is stopped. Remove spark plug wire(s) from spark plug(s) and secure wire(s) away from spark plug(s).
11. DO NOT change engine governor speed settings or overspeed engine.
12. Lubricate machine at intervals specified in manual to prevent controls from binding.
13. Mower blades are sharp and can cut. Wrap the blades or wear heavy leather gloves and use CAUTION when handling them.
14. DO NOT test for spark by grounding spark plug next to spark plug hole; spark plug could ignite gas exiting engine.
15. Have machine serviced by an authorized dealer at least once a year and have the dealer install any new safety devices.
16. Maintain or replace safety and instruction labels as necessary.
17. Use only factory authorized replacement parts or equivalent when making repairs.



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.

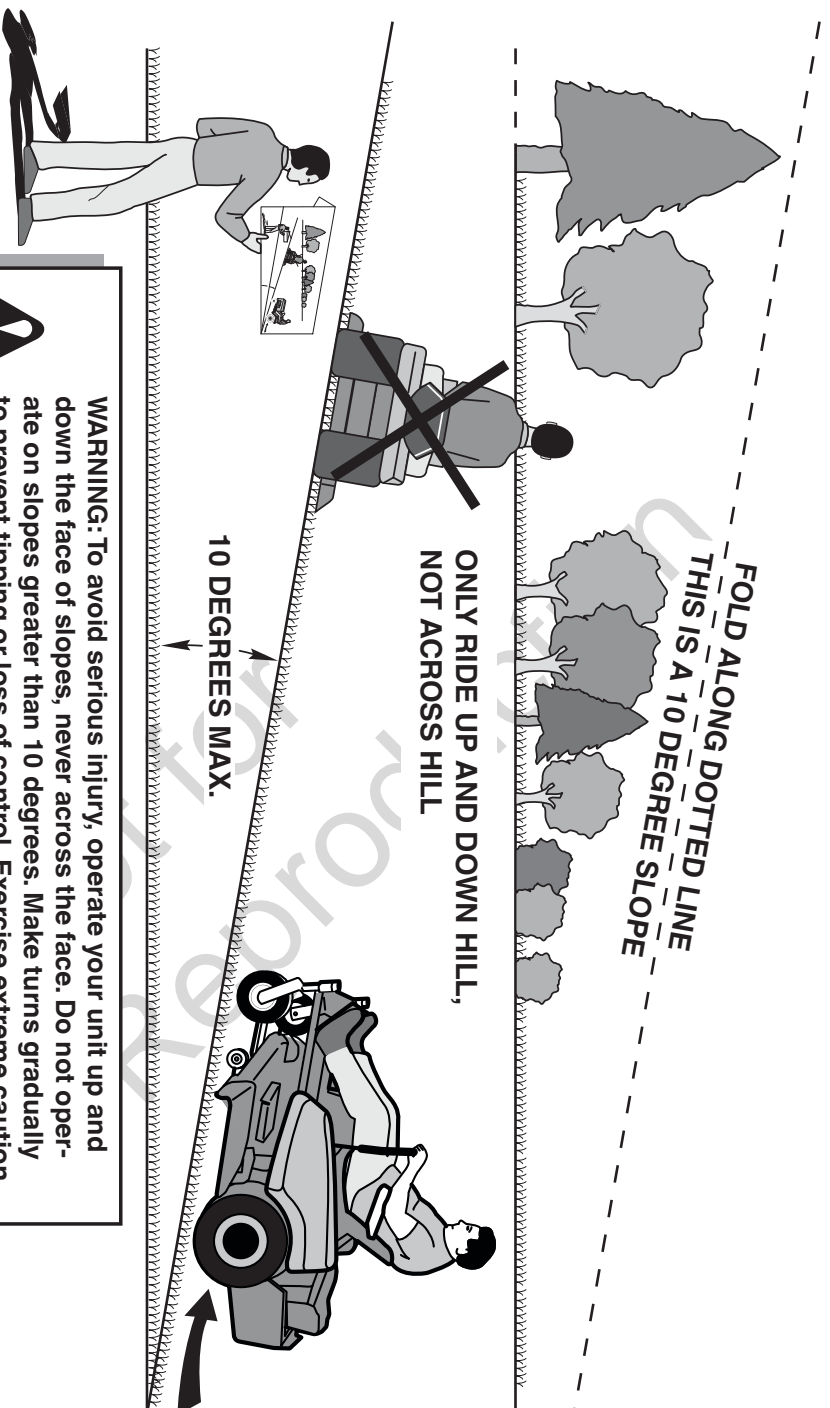


WARNING



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

SUGGESTED GUIDE FOR SIGHTING SLOPES FOR SAFE OPERATION



WARNING: To avoid serious injury, operate your unit up and down the face of slopes, never across the face. Do not operate on slopes greater than 10 degrees. Make turns gradually to prevent tipping or loss of control. Exercise extreme caution when changing direction on slopes. Braking may be affected by attachments. Reduce speed on slopes.



1. Fold this page along dotted line indicated above.
2. Hold page before you so that its left edge is vertically parallel to a tree trunk or other upright structure.
3. Sight across the fold in the direction of hill slope you want to measure.
4. Compare the angle of the fold with the slope of the hill.

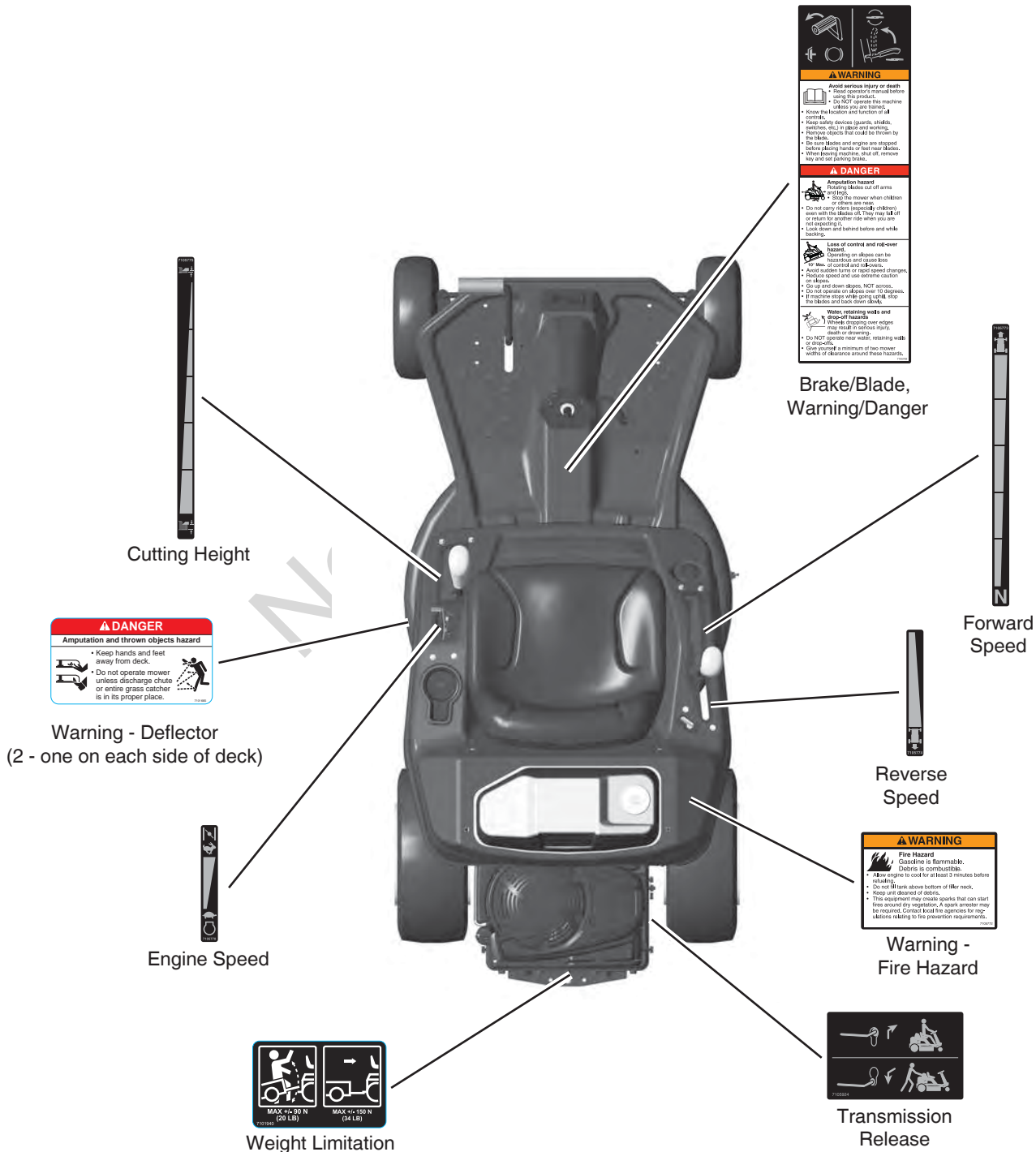
Operator Safety

Safety and Instructional Decals

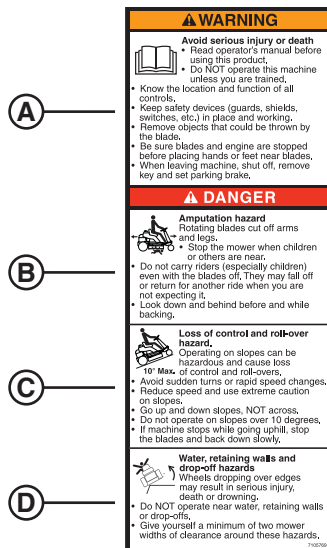
All DANGER, WARNING, CAUTION and instructional messages on your rider and mower should be carefully read and obeyed. Personal bodily injury can result when these instructions are not followed. The information is for your safety and it is important! The safety decals below are on your rider and mower.

If any of these decals are lost or damaged, replace them at once. See an authorized dealer for replacements.

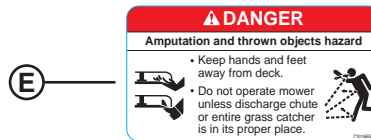
These labels are easily applied and will act as a constant visual reminder to you, and others who may use the equipment, to follow the safety instructions necessary for safe, effective operation.



Explanation of Safety Decals



- A. Read the operator's manual before using the product.
- B. Do not mow when others are in the area, especially children.
- C. Use extreme caution when operating on slopes.
- D. Do not operate near walls and other drop-offs.



E



F

- E. Keep hands and feet away / Do not operate without discharge chute or grass catcher in place.
- F. Use extreme caution when refueling.

Explanation of Instructional Decals



A

B

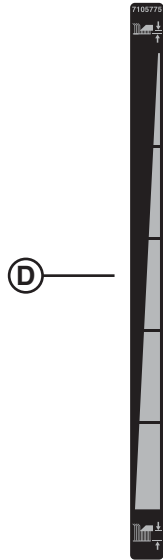


C

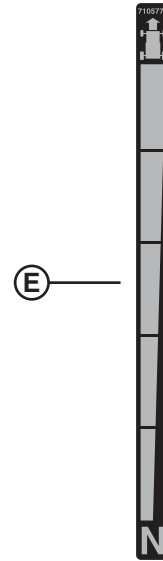
- A. Clutch/Brake. Shows operation of clutch (manual drive models) and brake. Refer to Operation section.
- B. Blade Engage. Shows operation of blade engage lever. Refer to Operation section.

- C. Engine Speed Control. Shows operation of engine speed control and choke control (on applicable models). Refer to Operation section.

Operator Safety



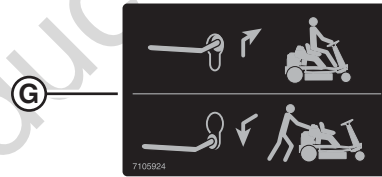
D. Cutting Height. Shows position of cutting height adjust lever. Refer to Operation section.



E. Forward Speed. Shows forward speed operation (manual drive models). Refer to Operation section.



F. Reverse Speed. Shows reverse speed operation (manual drive models). Refer to Operation section.



G. Transmission Release. Shows operation of transmission release lever (hydro drive models). Refer to Operation section.



WARNING

Do not mow in reverse unless absolutely necessary.

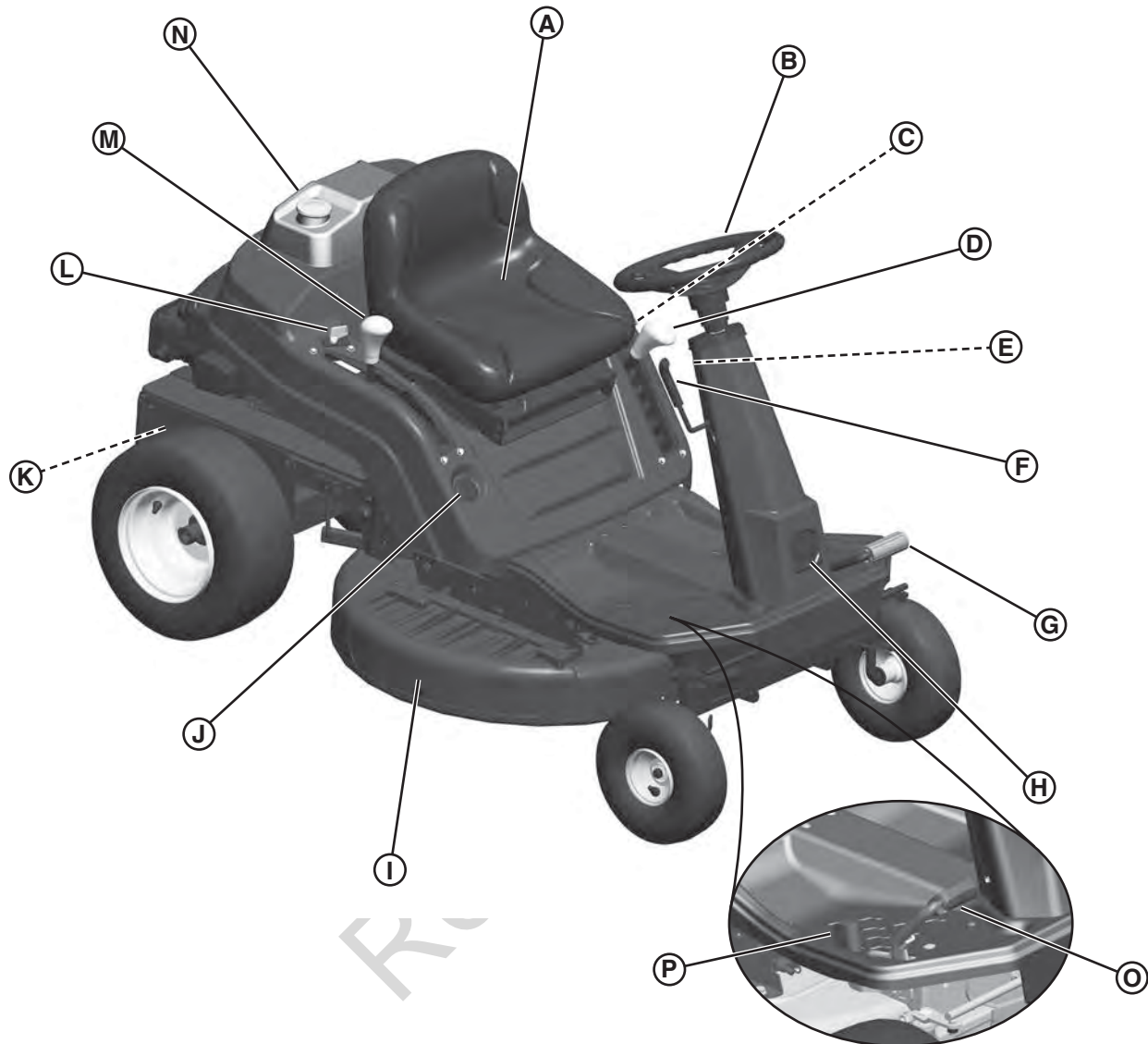




H. Weight Limitation. Notes limits of weight when towing implements. Refer to Operation section.

IMPORTANT

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.



Features and Controls

- A. Operator Seat
- B. Steering Wheel - controls direction of unit
- C. Engine Speed Control (hidden from view) - controls engine speed
- D. Cutting Height Adjust Lever - adjusts cutting height
- E. Parking Brake Latch (hidden from view) - locks brake
- F. Blade Control - engages mower blade
- G. Clutch/Brake Pedal - engages clutch (manual drive models) and brake
- H. Headlight (not shown; select models)
- I. Mulching Cover
- J. Ignition Switch - starts engine
- K. Transmission Release Lever (hidden from view; hydro drive models) - releases transmission so unit can roll freely
- L. Reverse Mowing Switch - temporarily allows mower blade to operate with transmission in reverse.
- M. Transmission Shift Lever (manual drive models) - selects transmission speed and direction
- N. Fuel Tank
- O. Forward Ground Speed Pedal (hydro drive models) - controls forward ground speed
- P. Reverse Ground Speed Pedal (hydro drive models) - controls reverse ground speed

Operation

Before Starting

Make the following checks and perform the service required before each start-up:

1. Check the tire pressure; add or release air as needed. Refer to "How To Check Tire Pressure" in the Maintenance section.
2. Check guards, deflectors and covers to make sure all are in place and securely tightened.
3. Check engine oil and add oil as needed. Refer to "How To Check/Add Oil".
4. Add fuel to the fuel tank as needed. Refer to "How to Add Fuel".
5. Adjust the operator seat as needed to the most comfortable position. Refer to "How To Adjust The Operator Seat".
6. Check all operator controls to ensure they operate freely without binding.
7. Perform the Safety Interlock System Checks. Refer to "Safety Interlock System Checks".

Safety Interlock System Checks



WARNING



DO NOT operate machine if any safety interlock or safety device is not in place and functioning properly. Contact your dealer immediately for assistance. DO NOT attempt to defeat, modify or remove any safety device.

Engine **must not** start if:

1. The Clutch/Brake Pedal is not fully depressed OR,
2. The Blade Control is in the ON (engaged) position.

Engine **should** start if:

1. The operator is seated in the operator seat AND,
2. The Blade Control is in the OFF (disengaged) position AND,
3. The Clutch/Brake Pedal is fully depressed.

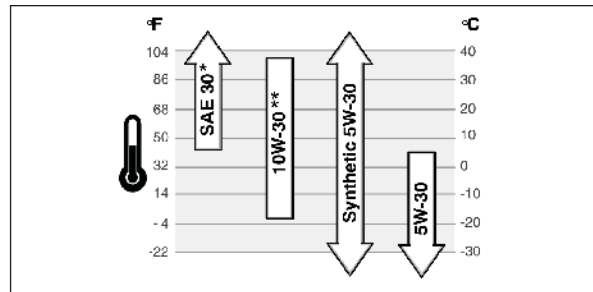
Engine and blade **must stop** if:

1. The operator rises off of the operator seat OR,
2. The operator attempts to drive the unit in reverse with the mower blade engaged and the reverse mowing option function (RMO) not activated.

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.



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

How To Check/Add Oil

Before adding or checking the oil

- Place engine level.
 - Clean the oil fill area of any debris.
1. Remove the dipstick (A, Figure 1) and wipe with a clean cloth.

NOTE: On some models, the dipstick is accessible through an opening behind the operator seat.

2. Insert and tighten the dipstick.
3. Remove the dipstick and check the oil level. It should be at the top of the full indicator (B) on the dipstick.
4. If low, add oil slowly into the engine oil fill (C). **Do not overfill.** After adding oil, wait one minute and then recheck the oil level.
5. Replace and tighten the dipstick.

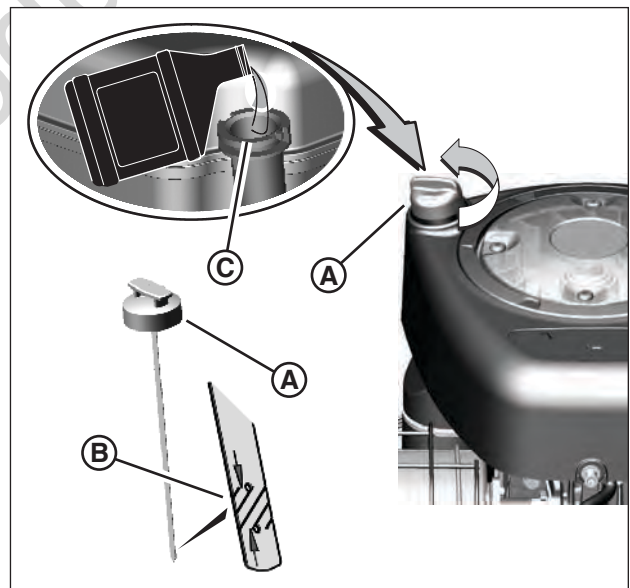


Figure 1: Engine oil

Fuel Recommendations

Fuel must meet these requirements:

- Clean, fresh, unleaded gasoline.
- A minimum of 87 octane/87 AKI (91 RON). 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. This will damage the engine components and **void the engine warranty**.

To protect the fuel system from gum formation, mix a fuel stabilizer into the fuel. Refer to “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. To remain emissions compliant, high altitude adjustment is required. Operation without this adjustment will cause decreased performance, increased fuel consumption, and increased emissions. See a Briggs & Stratton Authorized 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.

How To Add Fuel



WARNING



Fuel and its vapors are extremely flammable and explosive. Fire or explosion can cause severe burns or death.

When Adding Fuel

- Turn engine off and let engine cool at least 5 minutes before removing the fuel cap.
- Fill fuel tank outdoors or in well-ventilated area.
- Do not overfill fuel tank. To allow for expansion of the fuel, do not fill above the bottom of the fuel tank neck.
- Keep fuel away from sparks, open flames, pilot lights, heat, and other ignition sources.
- Check fuel lines, tank, cap, and fittings frequently for cracks or leaks. Replace if necessary
- If fuel spills, wait until it evaporates before starting engine.

1. Clean the fuel cap area of dirt and debris. Remove the fuel cap (A, Figure 2).
2. Fill the fuel tank with fuel. To allow for expansion of the fuel, do not fill above the bottom of the fuel tank neck (B).
3. Reinstall the fuel cap.

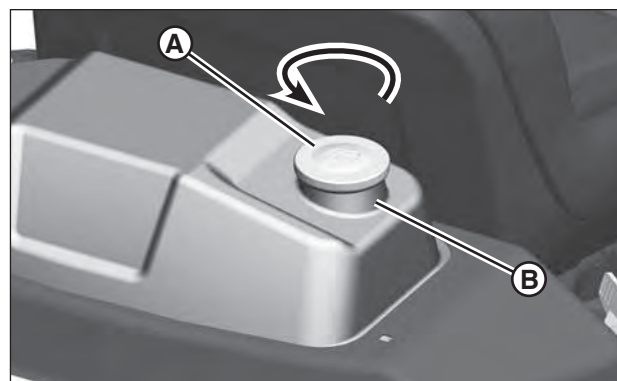


Figure 2: Fuel cap

How To Adjust The Operator Seat

With the engine stopped:

1. Raise the operator seat.
2. Loosen the two adjusting knobs (A, Figure 3) and move the seat to the desired position. After adjustment, tighten the knobs securely.
3. Lower the operator seat.

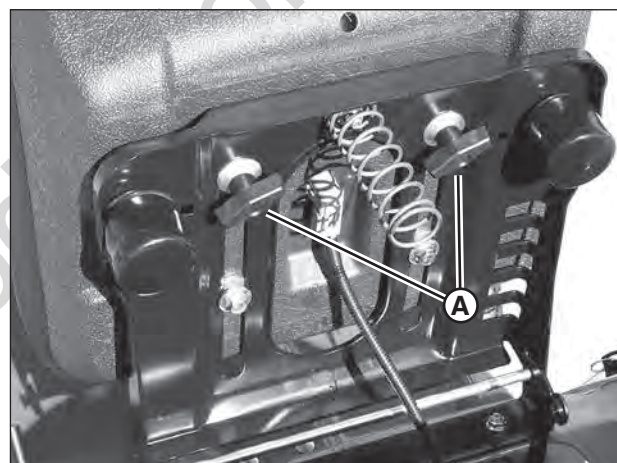


Figure 3: Operator seat adjustment

Operation

How To Start The Engine



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.

1. Sit squarely in the operator seat.
2. Manual Drive Models - Move the transmission shift lever to the Neutral ('N') position. Refer to "How To Engage The Transmission".



WARNING



DO NOT start the engine with the transmission shift lever in a drive position. Follow starting instructions carefully.

3. Make sure the Blade Control (A, Figure 4) is in the OFF position.

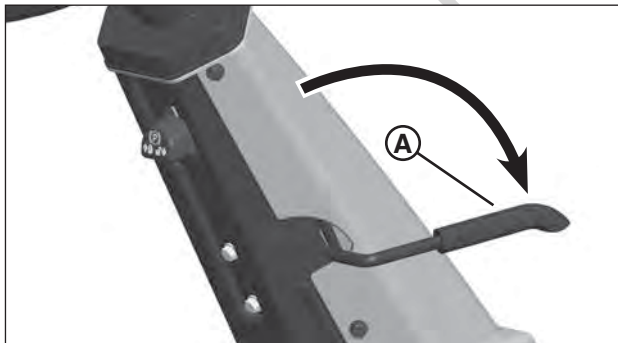


Figure 4: Blade control

4. Fully depress the Clutch/Brake Pedal (A, Figure 5).
5. Move the engine speed control (A, Figure 6) to the FAST position (or CHOKE position, if equipped).

NOTE: The CHOKE position is not required when starting a warm engine.

6. Insert the ignition key (A, Figure 7) into the ignition switch. Turn the key to the START position until the engine starts.

NOTE: When the ignition key is turned to START, the engine will turn over, but will not start unless the Clutch/Brake pedal is fully depressed and the Blade Control is in the OFF position.

NOTE: If after 5 seconds of cranking the engine does not start, release the key, make sure the Clutch/Brake Pedal is fully depressed, and attempt starting again after waiting for approximately 20 seconds.

7. After the engine starts, move the engine speed control to the FAST position (if equipped with choke) and allow a brief warm-up until engine runs smooth.

NOTE: Always operate with the engine speed control in the FAST position.

NOTE: The headlight (featured on select models) is operational any time the ignition switch is in the RUN or START position.

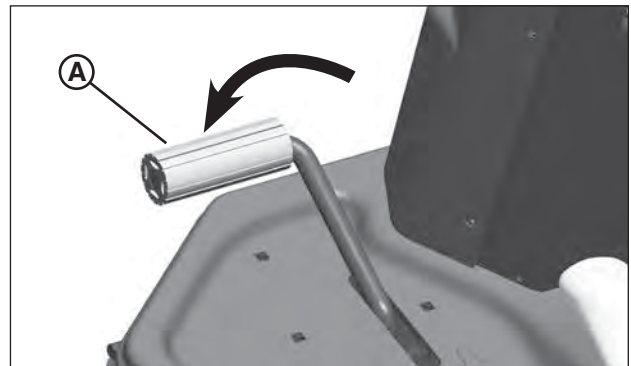


Figure 5: Clutch/brake pedal

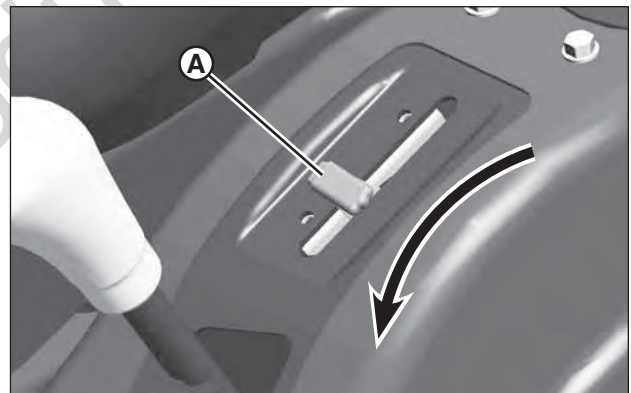


Figure 6: Engine speed control

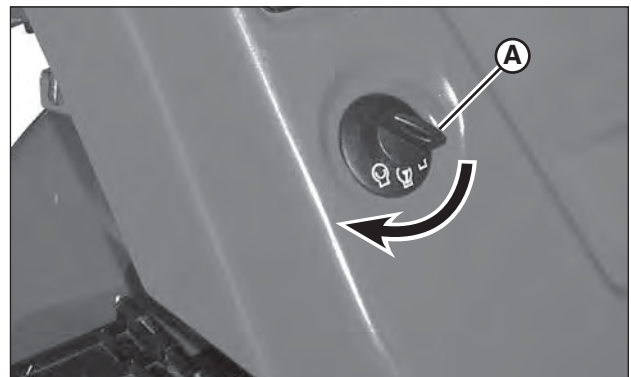


Figure 7: Ignition key

How To Engage The Mower Blade

1. Start the engine.
2. Move the blade control (A, Figure 8) to the ON position.

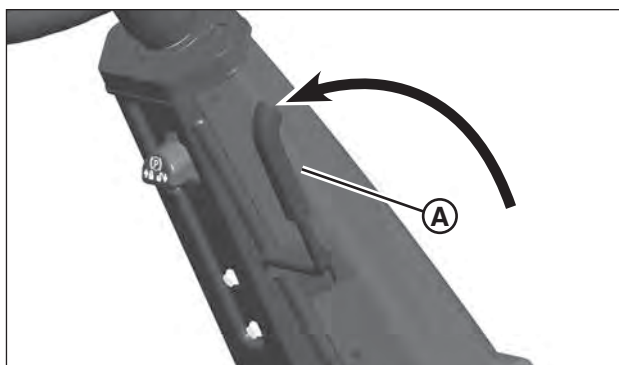


Figure 8: Engaging the blade control

NOTICE: If the transmission is moved into reverse while the mower blade is engaged, the engine will shut off. If mowing in reverse is necessary, refer to “Reverse Mowing Option (RMO)”.

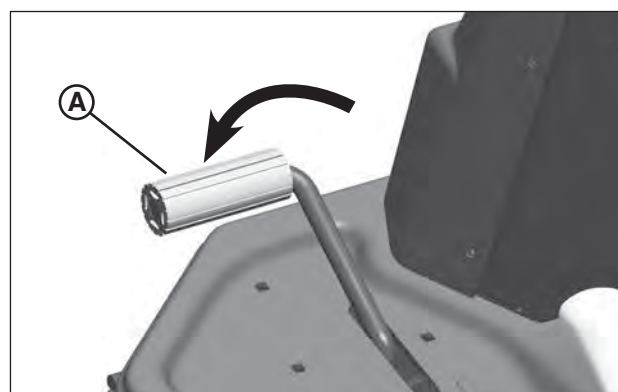


Figure 9: Clutch/brake pedal

How To Engage The Transmission

Manual Drive Models:

1. Start the engine.
2. To move forward:
 - Depress the clutch/brake pedal (A, Figure 9).
 - Move the transmission shift lever (A, Figure 10) from the Neutral ('N') position (B) into the first forward speed notch (C).
 - Release the clutch/brake pedal to begin forward motion.
 - During forward motion, the transmission shift lever may be placed in any desired forward speed (D) without depressing the clutch/brake pedal.
3. To move backward:
 - Depress the clutch/brake pedal (A, Figure 9).
 - Move the transmission shift lever (A, Figure 10) from the Neutral ('N') position (B) into the reverse speed slot (E).
 - During reverse motion, the transmission shift lever may be placed in any desired reverse speed without depressing the clutch/brake pedal.

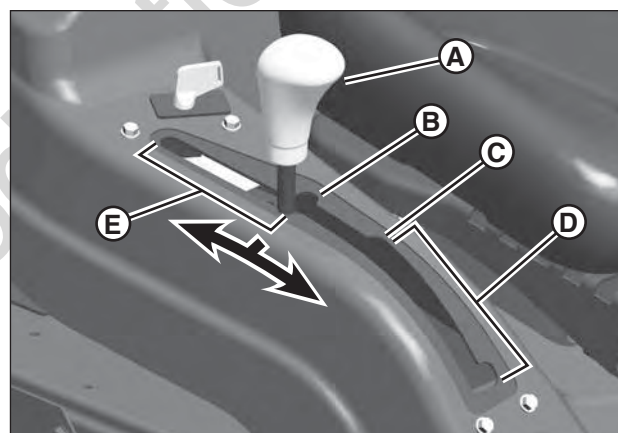


Figure 10: Transmission shift lever (manual drive models)

Hydro Drive Models:

1. Start the engine.
2. Make sure the parking brake is released. Refer to “How To Set The Parking Brake”.
3. To move forward:
 - Slowly depress the forward ground speed pedal (A, Figure 11) to begin forward motion. Increase ground speed by further depressing the pedal.
4. To move backward:
 - Slowly depress the reverse ground speed pedal (B, Figure 11) to begin reverse motion. Increase ground speed by further depressing the pedal.

NOTE: For best cutting results, choose a slow forward speed with the engine speed control in the FAST position. This combination will allow the mower blade to lift the grass while cutting smoothly and evenly.

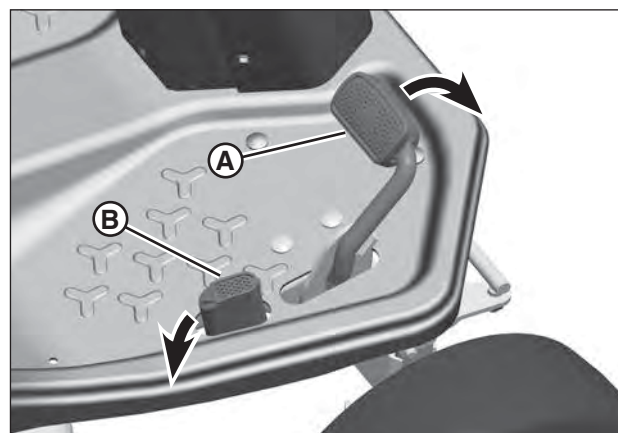


Figure 11: Ground speed pedals (hydro drive models)

Operation



WARNING



DO NOT leave the machine with the engine running. STOP Blade. STOP engine. Shift to neutral and engage parking brake. Remove key.

How To Stop The Engine, Transmission And Mower Blade

Engine

1. Stop the engine by turning the ignition key (A, Figure 12) to the OFF position.
2. Remove the key.

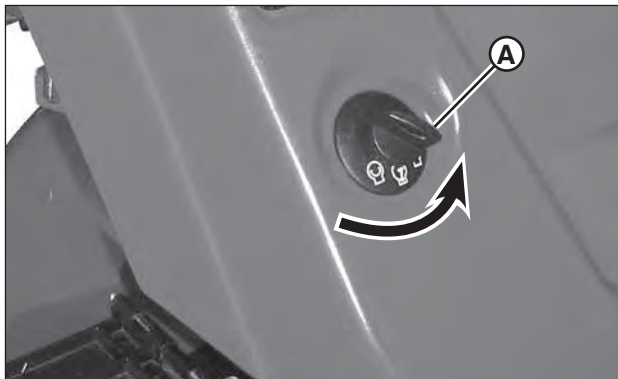


Figure 12: Turning ignition key to OFF

Transmission

Manual Drive Models:

1. Stop motion of the unit by fully depressing the clutch/brake pedal (A, Figure 13) to disengage the clutch and apply the brake.
2. Return the transmission shift lever to the Neutral ('N') position. Refer to "How To Engage The Transmission".

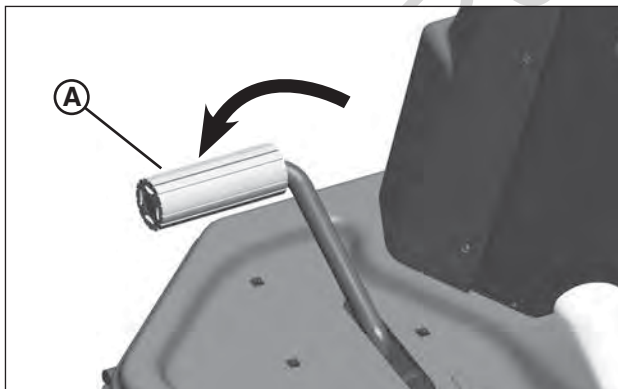


Figure 13: Clutch/brake pedal

Hydro Drive Models:

1. Stop motion of the unit by fully releasing the ground speed pedals (A, Figure 14). Additional braking can be achieved by depressing the brake pedal (A, Figure 13).

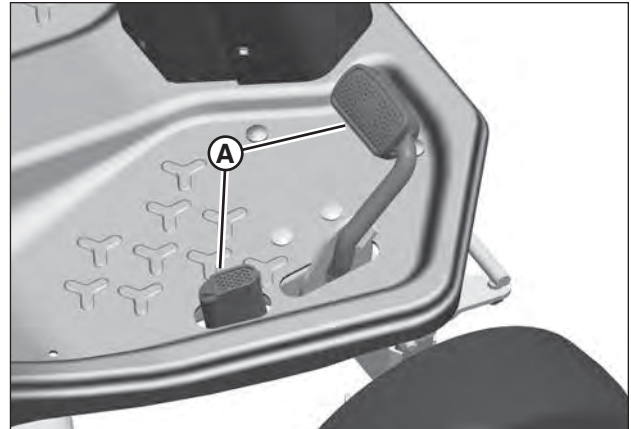


Figure 14: Ground speed pedals (hydro drive models)

Mower Blade

1. Stop the mower blade by moving the blade control (A, Figure 15) to the OFF position.

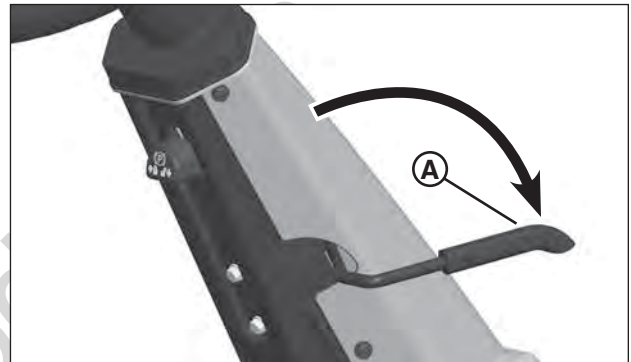


Figure 15: Blade control



WARNING



Once blade is disengaged, it should come to a complete stop in 5 seconds or less. If the blade continues to rotate after 5 seconds, the blade brake must be adjusted. Return machine to an authorized dealer for adjustment. DO NOT CONTINUE to operate machine until blade brake is adjusted and functioning properly.

How To Set The Parking Brake

1. Fully depress the clutch/brake pedal (A, Figure 16).
2. Slide the parking brake (B) up and hold while releasing the clutch/brake pedal. The parking brake is now set.
3. To release the parking brake, fully depress the clutch/brake pedal. The parking brake will release automatically.

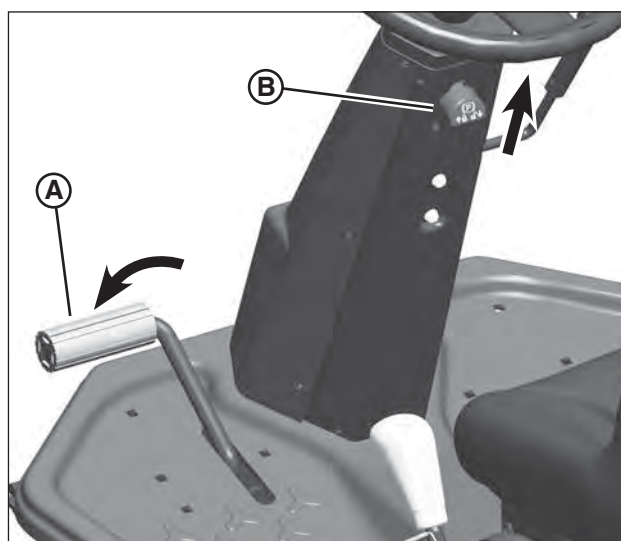


Figure 16: Setting the parking brake

How To Adjust The Cutting Height

1. Raise or lower the cutting height adjust lever (A, Figure 17) into the desired height of cut notch.

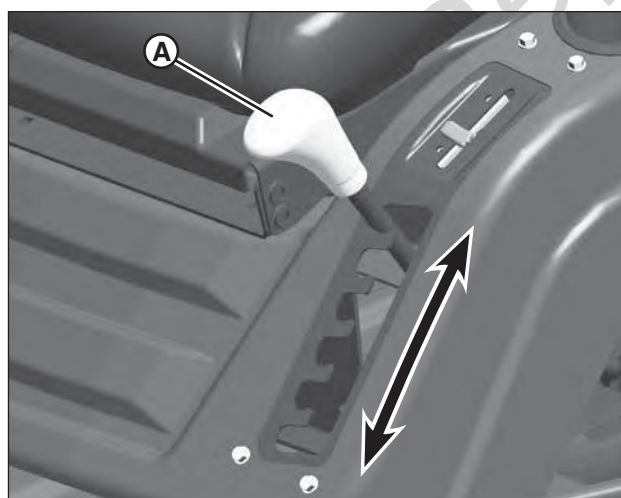
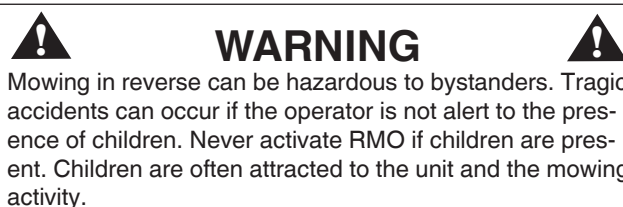


Figure 17: Cutting height adjustment

Reverse Mowing Option (RMO)



1. Engage the mower blade. Refer to “How To Engage The Mower Blade”.
2. Insert the supplied key (A, Figure 18) into the RMO switch (B), and turn the key to activate the RMO function. The LED light (C) indicates that the RMO function is now activated.
3. Engage the transmission in reverse. Refer to “How To Engage The Transmission”.
4. The RMO function is deactivated when the mower blade is disengaged.

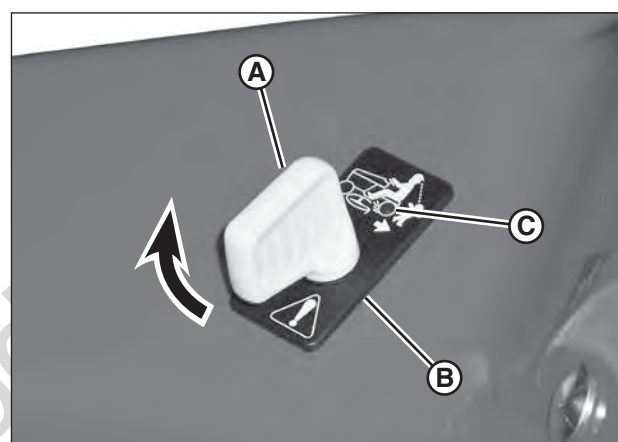
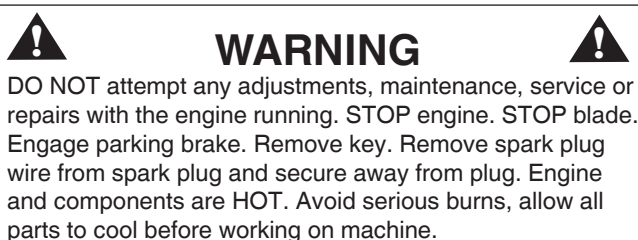


Figure 18: Reverse mowing switch

How To Install The Discharge Deflector



1. Remove the wing nut and washer (A, Figure 19) securing the bottom edge of the mulching cover (B) to the mower deck.

Operation



WARNING



The mulching cover must remain on the machine at all times. Do not remove.

2. Raise the mulching cover. Replace the washer and wing nut onto the retaining bolt in the deck, tightening securely.
3. Install the discharge deflector (A, Figure 20) to the mower deck, making sure that the slots (B) in the deflector fit over the locking tabs (C) on the mulching cover hinge bracket.
4. Lower the mulching cover.
5. To remove the discharge deflector:
 - Raise the mulching cover.
 - Lift and remove the discharge deflector from the mower deck.
 - Remove the wing nut and washer from the retaining bolt in the deck.
 - Lower the mulching cover, securing with the washer and wing nut. Tighten securely.

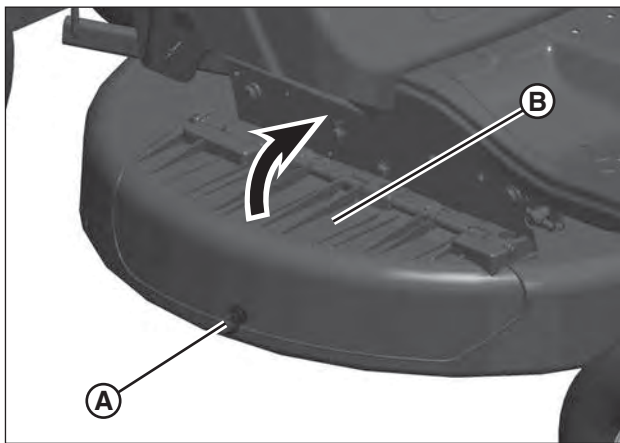


Figure 19: Raising the mulching cover

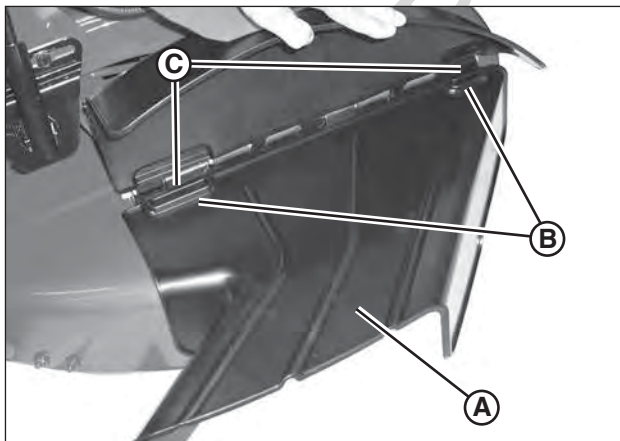


Figure 20: Installing the discharge deflector

How To Push The Unit By Hand

Manual Drive Models:

1. Make sure the unit is parked on a flat, even surface.
2. Make sure the transmission shift lever is in the Neutral (N) position. Refer to “How To Engage the Transmission”.
3. Release the parking brake, if set. Refer to “How To Set The Parking Brake”.
4. The unit can now be pushed by hand. Be sure to set the parking brake after the unit is moved to the desired location.

Hydro Drive Models:

1. Make sure the unit is parked on a flat, even surface.
2. Release the parking brake, if set. Refer to “How To Set The Parking Brake”.
3. Move the transmission release lever (located behind the right rear tire) out and down into the locking slot (A, Figure 21) to disengage the transmission.
4. The unit can now be pushed by hand.
5. After moving the unit to the desired location, move the transmission release lever up and in (B) to engage the transmission.

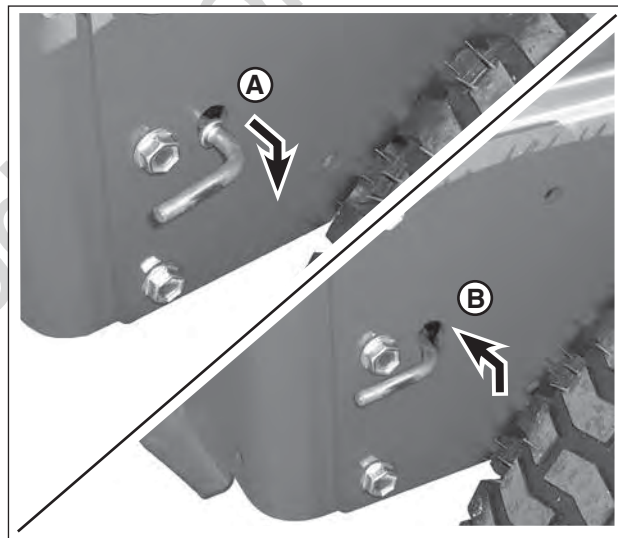


Figure 21: Transmission release lever

Towing Implements

The maximum horizontal drawbar force allowed is 34 lbs (150 N) *. The maximum vertical drawbar force is 20 lbs (90 N) *.

* Approximate



WARNING



DO NOT attempt any adjustments, maintenance, service or repairs with the engine running. STOP engine. STOP blade. Engage parking brake. Remove key. Remove spark plug wire from spark plug and secure away from plug. Engine and components are HOT. Avoid serious burns, allow all parts to cool before working on machine.

Emissions Control

Maintenance, replacement, or repair of the emissions control devices and systems may be performed by any non-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 Warranty.

Maintenance Chart

RIDER
Every 8 Hours or Daily
Check safety interlock system
Clean debris off rider
Clean debris from engine area
Every 25 Hours or Annually *
Check tire pressure
Check mower blade stopping time
Check rider for loose hardware
Every 50 Hours or Annually *
Clean battery and cables
Check brakes
See Dealer Annually to
Lubricate rider
Check mower drive belts
Check mower blades **

* Whichever comes first

** Check blades 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 **
Every 50 Hours or Annually *
Change engine oil
Replace oil filter
Annually
Replace air filter
Replace pre-cleaner
See Dealer Annually to
Inspect muffler and spark arrester
Replace spark plug
Replace fuel filter
Clean engine air cooling system

* Whichever comes first

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

Maintenance



WARNING



DO NOT attempt any adjustments, maintenance, service or repairs with the engine running. STOP engine. STOP blade. Engage parking brake. Remove key. Remove spark plug wire from spark plug and secure away from plug. Engine and components are HOT. Avoid serious burns, allow all parts to cool before working on machine.

Engine Maintenance

How To Change The Engine Oil

Used oil is a hazardous waste product and must be disposed of properly. Do not discard with household waste. Check with your local authorities, service center, or dealer for safe disposal/recycling facilities.

1. Place bricks or wooden blocks under the front wheels to lower the rear of the engine.
2. Loosen or remove the oil fill cap on the engine.
3. Place a 2 quart minimum capacity container under the end of the oil drain (Figure 22).
4. Remove or open the oil drain plug (A or B, Figure 22), depending upon the type of oil drain plug the engine is equipped with.

NOTE: Location of oil drain may vary according to model.

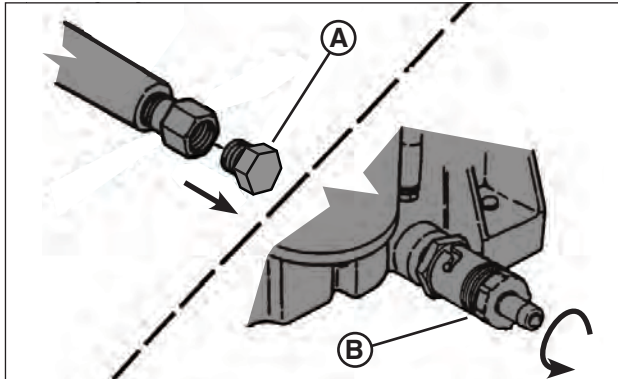


Figure 22: Oil drain plugs

5. After all the oil has drained, replace or close the drain plug, and wipe up any oil that may have spilled. Dispose of used oil properly.
6. Fill the engine with new oil. Refer to "How To Check/Add Oil" in the Operation Section.

How To Change The Oil Filter (if equipped)

Some models are equipped with oil filter. For replacement intervals, see the Maintenance chart.

1. Drain the oil from the engine. Refer to "How To Change The Engine Oil".
2. Remove the oil filter (A, Figure 23) and dispose of properly.

NOTE: Location of oil filter may vary according to model.

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. Refer to "How to Check/Add Oil" in the Operation section.
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.

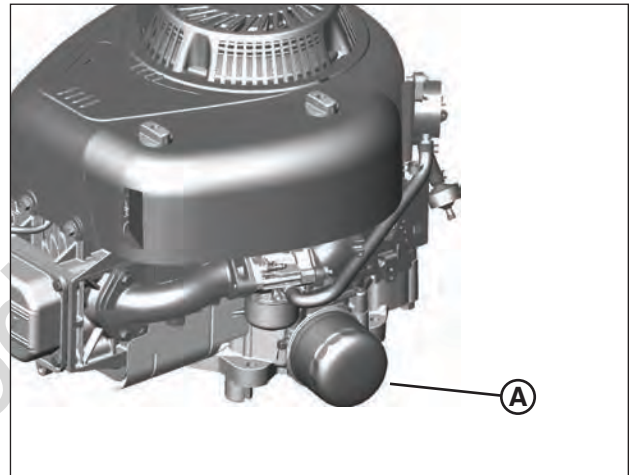


Figure 23: Oil filter



WARNING



DO NOT attempt any adjustments, maintenance, service or repairs with the engine running. STOP engine. STOP blade. Engage parking brake. Remove key. Remove spark plug wire from spark plug and secure away from plug. Engine and components are HOT. Avoid serious burns, allow all parts to cool before working on machine.

How To Service The Air Filter



WARNING



Fuel and its vapors are extremely flammable and explosive. Fire or explosion can cause severe burns or death.

- 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.

Oval Air Filter

1. Remove the fastener (A, Figure 24) and the air filter cover (B).
2. Remove the pre-cleaner (C), if equipped, 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.

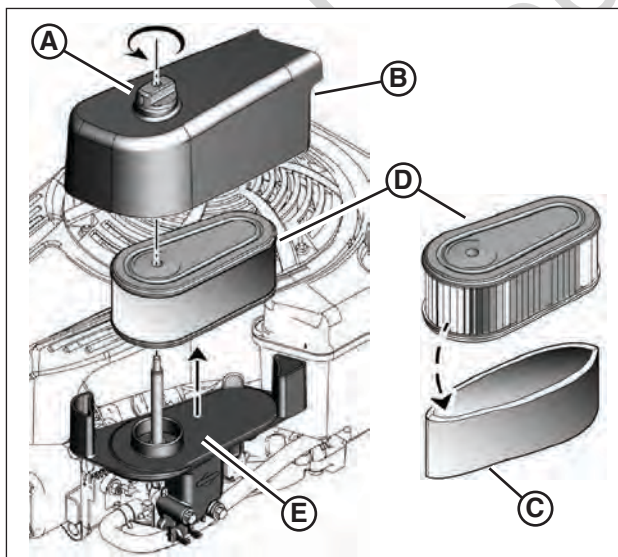


Figure 24: Air filter (oval)

Flat Air Filter

1. Pull up on the cover handle (A, Figure 25). Rotate the cover handle toward the engine and then remove the cover (B).
2. Remove the pre-cleaner (C), if equipped, 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 and the filter into the engine base (E).
6. Align the tabs (F) on the cover with the slots (G) in the blower housing. Rotate the cover handle back and push down to lock in place.

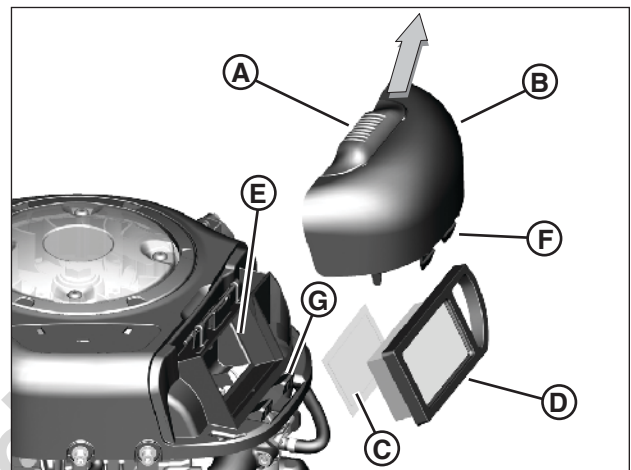


Figure 25: Air filter (flat)

Cylindrical Cartridge Air Filter

1. Remove the fasteners (A, Figure 26) and the air filter cover (B).
2. To remove the filter (C), lift the end of the filter and then pull the filter off the intake (D).
3. Remove the pre-cleaner (E), if equipped, from the filter.
4. To loosen debris, gently tap the filter on a hard surface. If the filter is excessively dirty, replace with a new filter.
5. Wash the pre-cleaner in liquid detergent and water. Then allow it to thoroughly air dry. Do not oil the pre-cleaner.
6. Assemble the dry pre-cleaner to the filter.
7. Install the filter on the intake. Push the end of the filter into the base as shown. Make sure filter fits securely in the base.
8. Install air filter cover and secure with fasteners.

Maintenance



WARNING



DO NOT attempt any adjustments, maintenance, service or repairs with the engine running. STOP engine. STOP blade. Engage parking brake. Remove key. Remove spark plug wire from spark plug and secure away from plug. Engine and components are HOT. Avoid serious burns, allow all parts to cool before working on machine.

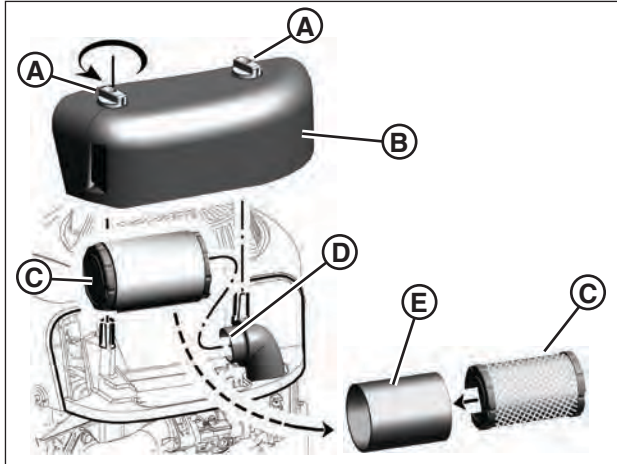


Figure 26: Air filter (cylindrical)

Rider Maintenance (Basic)

How To Check The Safety Interlock System

Refer to “Safety Interlock System Checks” in the Operation section.

How To Clean The Rider And Mower Deck



WARNING



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

1. Raise the mower deck to the highest cutting position. Refer to “How To Adjust The Cutting Height”.
2. Clean the underside of the mower deck, removing all accumulation of grass clippings and debris.
3. Clean the top of the deck, removing all grass clippings and debris.
4. Use a brush or compressed air to remove loose debris from the rider.

How To Clean The Engine

Use a brush or compressed air to remove loose debris on or around the engine.

How to Check Tire Pressure

Use a tire gauge to check the tire pressure; add or release air as needed. Refer to “Product Specifications” on the back page of the manual for correct pressure.

How To Check Mower Blade Stopping Time



WARNING



The following procedure requires the engine and blades to be operated. Exercise extreme caution. Clear area of loose parts & tools first. Only operate blades when seated in the operator’s seat.

1. Start the engine.
2. Engage the mower blade.
3. Disengage the mower blade. The blade should stop rotating in 5 seconds or less after moving the blade control to the OFF position.



WARNING



Blade must stop rotating in 5 seconds or less after the blade has been turned off. DO NOT operate machine until blade brake has been adjusted and functioning properly.

4. If the blade continues to rotate longer than 5 seconds, do not operate the machine. Refer to “How To Adjust Mower Blade Stopping Time”, or contact an authorized dealer for assistance.

NOTE: It is recommended that any adjustments and service regarding mower blade stopping time be performed by an authorized dealer.

How To Perform Battery Service

Refer to “Battery Service”.

How To Check The Brake / Parking Brake

1. Check the machine brake for proper function:
 - Engage the parking brake, and push the machine. The rear tires should skid.
 - Drive the machine forward and apply the brake. The machine should come to a complete stop in less than 5 ft.
2. If the brakes are not functioning properly, brake adjustment must be completed before operating the machine. Refer to “How To Adjust The Brake / Parking Brake”.



WARNING



DO NOT attempt any adjustments, maintenance, service or repairs with the engine running. STOP engine. STOP blade. Engage parking brake. Remove key. Remove spark plug wire from spark plug and secure away from plug. Engine and components are HOT. Avoid serious burns, allow all parts to cool before working on machine.

Rider Maintenance (Advanced)



WARNING



DO NOT stand the unit on end. Attempting to do so may cause an unstable condition, resulting in serious injury or equipment damage.

How To Check The Mower Blade



DANGER



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

1. Check the torque of the blade mounting bolts (A, Figure 27). As necessary, torque to 30 to 40 ft. lbs.
2. Check the blade for sharpness, wear and damage. Refer to "How To Inspect The Mower Blade".

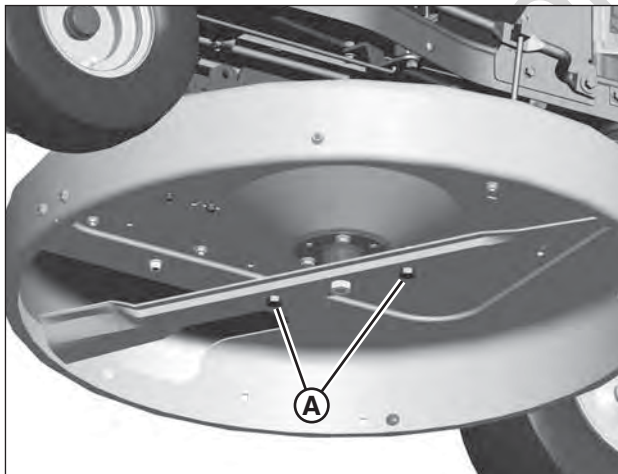


Figure 27: Checking blade bolt torque

3. Check the blade for straightness. Refer to "How To Adjust The Mower Blade".

How To Check The Mower Drive Belts

1. Visually check the mower drive belts for wear or damage.
2. Check mower blade belt tension. Refer to "How To Adjust Mower Blade Belt Tension".

NOTE: It is recommended that any adjustments and service regarding the mower drive belts be performed by an authorized dealer.

How To Service The Fuel Filter



WARNING



Allow the engine to fully cool down at least 5 minutes before attempting to service the fuel filter.

1. Drain the fuel tank.
2. Start the engine and allow to run until the engine runs out of fuel. Be sure to turn off the ignition switch and remove the key.
3. Using pliers, slide the hose clamps (B, Figure 28) approximately 1" away from the fuel filter (A).

NOTE: Location of fuel filter may vary according to model.

4. Remove the fuel lines from the filter. Discard the filter.
5. Install a new fuel filter. Be sure the fuel lines are fully installed onto the filter.
6. Slide the hose clamps back into place, approximately 1/8" from the ends of the fuel lines.
7. Add fuel to the fuel tank. Check the fuel system for leaks.

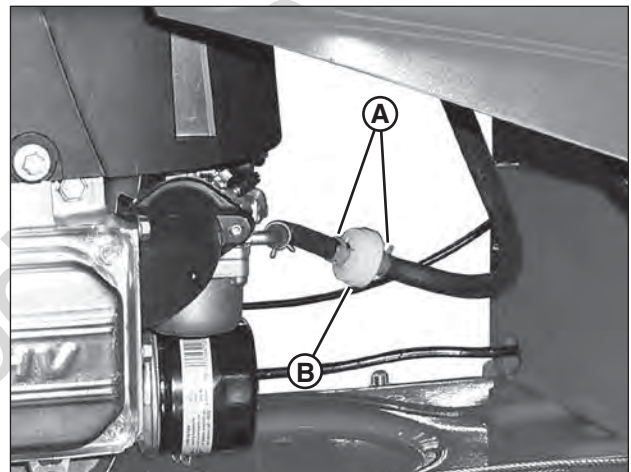


Figure 28: Replacing the fuel filter

Maintenance



WARNING



DO NOT attempt any adjustments, maintenance, service or repairs with the engine running. STOP engine. STOP blade. Engage parking brake. Remove key. Remove spark plug wire from spark plug and secure away from plug. Engine and components are HOT. Avoid serious burns, allow all parts to cool before working on machine.

How To Lubricate - Grease Fittings

The following components on the unit are equipped with grease fittings and require periodic lubrication. Apply General Purpose grease (NLGI No.2) with a grease gun.

Front Wheel Bearing

Lubricate the front wheel grease fittings (A, Figure 29) with five shots of general purpose grease, from a grease gun.

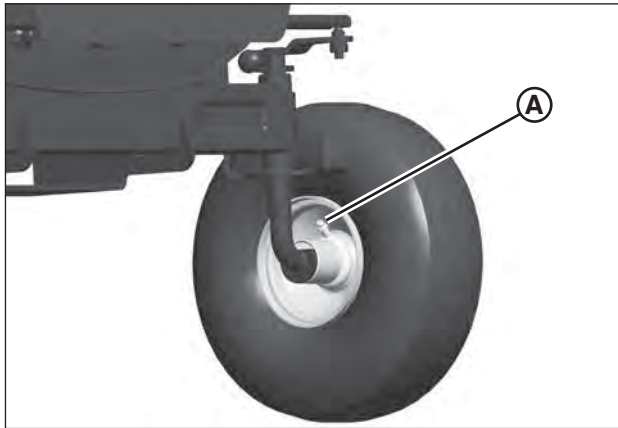


Figure 29: Front wheel grease fitting

Shift Lever (Manual Drive Models)

Lubricate the shift lever grease fitting (A, Figure 30) with two shots of general purpose grease from a grease gun.

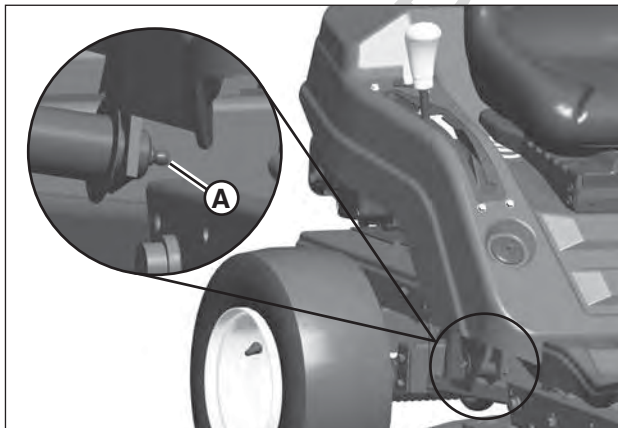


Figure 30: Shift lever grease fitting (components removed for clarity)

Rear Axle Bearing (Manual Drive Models)

1. The grease fitting (A, Figure 31) on the left rear axle bearing requires three shots of general purpose grease from grease gun.
2. The right rear axle bearing is lubricated by the differential lubricant and requires no grease.

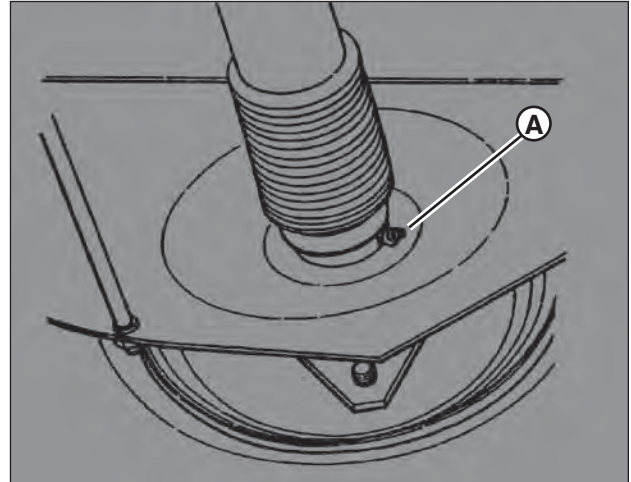


Figure 31: Rear axle grease fitting (view from under unit)

How To Lubricate - Differential / Chain Case (Manual Drive Models)

Lubrication of the differential and chain case should be performed by an authorized dealer.

How To Lubricate - Mower Blade Spindle

The mower blade spindles used on these units are equipped with sealed spindle bearings, which do not require lubrication.

How To Lubricate - Mower Deck Linkage

Lubricate all mower deck linkage pivot points with a light coat of motor oil.

Miscellaneous Items

In addition to regular maintenance, the following components should be carefully inspected regularly for wear or damage.

1. All bushings and pivot areas.
2. Check both front wheel king pins.
3. Transmission shift lever and detent. (Manual drive models)
4. Clutch disc. (Manual drive models)
5. Clutch yoke. (Manual drive models)
6. Mower deck linkage and pivot areas.

Replace worn or damaged parts. Use only factory authorized replacement parts or equivalent when making repairs.



WARNING



DO NOT attempt any adjustments, maintenance, service or repairs with the engine running. Stop engine. Stop blade. Engage parking brake. Remove key. Remove spark plug wire from spark plug and secure away from plug. Engine and components are HOT. Avoid serious burns, allow all parts to cool before working on machine. DO NOT attempt to service or charge the battery while it is installed on the machine.

Battery Service - Sealed Lead Acid Type

The battery provided with your unit is sealed and maintenance-free. It requires no special care other than keeping it properly charged.

How To Remove The Battery

1. Raise the operator seat to gain access to the battery compartment.
2. Disconnect the battery harness (A, Figure 32) from the main harness (B).

NOTE: Grasp the connectors; do not pull on the wires.

3. Unhook one end of the battery strap (C) from the wireform (D).
4. Carefully remove the battery (E).

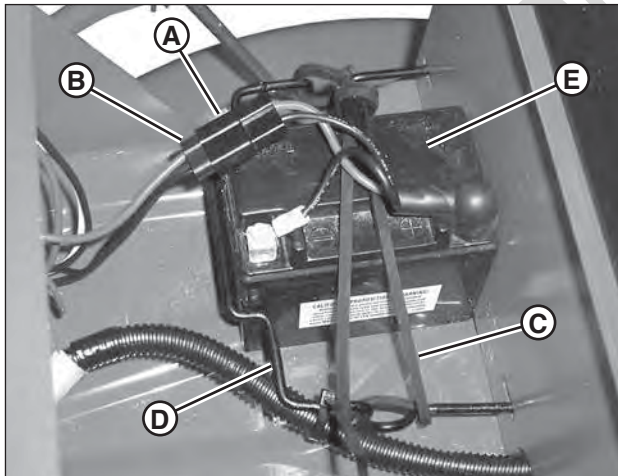


Figure 32: Battery (sealed lead acid type)

How To Charge The Battery

Charge the battery after each use, and if the battery has been stored for longer than 30 days.



WARNING



AVOID SERIOUS INJURY AND PROPERTY DAMAGE. DO NOT attempt to charge the battery while installed on the unit. DO NOT attempt to charge this battery with automotive or 'Boost' chargers. DO NOT attempt to jump start a unit that has a dead battery. Always use the charger supplied with the unit to charge this battery.

1. Remove the battery. Refer to "How To Remove The Battery".
2. Using a manufacturer-approved battery charger (not supplied), plug the connector on the battery charger (not shown) into the battery harness connector (A, Figure 32).

NOTICE: Use only a manufacturer-approved charger when charging the battery. Contact your authorized dealer.

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 battery harness connector.

How To Install The Battery

1. Raise the operator seat.
2. Install the battery (E, Figure 32) into the battery compartment, orientating it in the wireform (D) as shown.
3. Secure the battery with the battery strap (C), hooking the loose end onto the wireform. Be sure to pass the strap under the battery harness wires.
4. Connect the main harness (B) to the battery harness (A).

How To Store The Battery

If the unit is to be stored out of season, it is recommended the battery be removed, charged and stored.

1. Remove the battery. Refer to "How To Remove The Battery".
2. Charge the battery. Refer to "How To Charge The Battery".
3. Store the battery in an area away from the unit on a wood surface. DO NOT STORE THE BATTERY ON A CONCRETE SURFACE.

Maintenance



WARNING



DO NOT attempt any adjustments, maintenance, service or repairs with the engine running. Stop engine. Stop blade. Engage parking brake. Remove key. Remove spark plug wire from spark plug and secure away from plug. Engine and components are HOT. Avoid serious burns, allow all parts to cool before working on machine. DO NOT attempt to service or charge the battery while it is installed on the machine.

Battery Service - Valve Regulated Type

The battery provided with your unit is sealed and maintenance-free. It requires no special care other than keeping it properly charged.

How To Remove The Battery

1. Raise the operator seat to gain access to the battery compartment.
2. Disconnect the BLACK (Negative) cable (A, Figure 33) from the negative battery terminal. Retain the mounting hardware.



WARNING



Always disconnect the BLACK negative (-) cable first.

3. Disconnect the RED (Positive) cables (B) from the positive battery terminal. Retain the mounting hardware.
4. Unhook one end of the battery strap (C) from the wireform (D).
5. Carefully remove the battery (E).

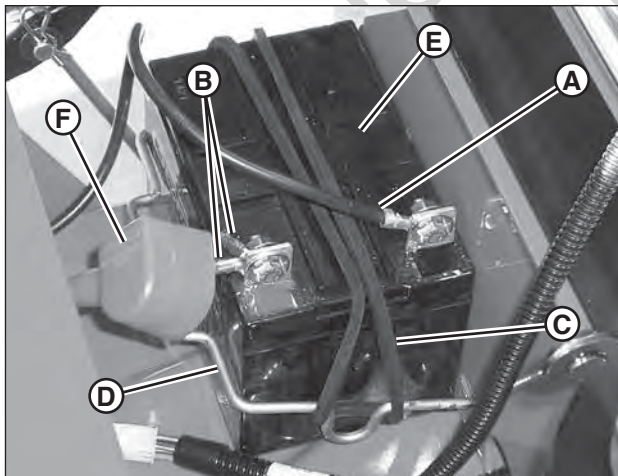


Figure 33: Battery (valve regulated type)

How To Charge The Battery

1. Remove the battery. Refer to "How To Remove The Battery".
2. Place the battery in a well-ventilated area.
3. Connect a 12-volt **constant-voltage** battery charger to the battery terminals; RED to positive (+) and BLACK to negative (-) terminal.
4. Charge the battery for 2 to 4 hours.



WARNING



The battery on this unit requires the use of a constant voltage (CV) battery charger designed for valve regulated (sealed) non-spillable batteries. Attempting to use a standard battery charger may result in damage to the battery. DO NOT use "BOOST" chargers on the battery. DO NOT attempt to charge the battery while installed on the unit.

How To Install The Battery

1. Raise the operator seat.
2. Install the battery (E, Figure 33) into the battery compartment, orientating it in the wireform (D) as shown.
3. Secure the battery with the battery strap (C), hooking the loose end onto the wireform.
4. Connect the RED positive (+) cables (B) to the positive terminal (+) on the battery with the removed hardware.
5. Connect the black negative (-) cable (A) to the negative terminal (-) on the battery with the removed hardware.



WARNING



Always connect the BLACK negative (-) cable last.

6. Apply a small amount of grease over the terminals to prevent corrosion.
7. Reinstall the positive terminal cover (F) over the positive terminal.



WARNING



Always shield the positive terminal with the positive terminal cover.

How To Store The Battery

If the unit is to be stored out of season, it is recommended the battery be removed, charged and stored.

1. Remove the battery. Refer to "How To Remove The Battery".
2. Charge the battery. Refer to "How To Charge The Battery".
3. Store the battery in an area away from the unit on a wood surface. DO NOT STORE THE BATTERY ON A CONCRETE SURFACE.



WARNING



DO NOT attempt any adjustments, maintenance, service or repairs with the engine running. STOP engine. STOP blade. Engage parking brake. Remove key. Remove spark plug wire from spark plug and secure away from plug. Engine and components are HOT. Avoid serious burns, allow all parts to cool before working on machine.

Storage

1. Thoroughly clean the unit by removing all grass clippings and debris.
2. Perform maintenance and lubrication as required.
3. Drain the fuel from the fuel tank (unless using a fuel stabilizer - Refer to "Fuel System").
4. Start the engine and allow it to run until the engine runs out of fuel. This allows the carburetor and fuel system to remain clean during storage.
5. Remove and store the battery. Refer to "How To Store The Battery".

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.

For engines equipped with a FRESH START® fuel cap, use **Briggs & Stratton FRESH START®** available in a drip concentrate cartridge.

There is no need to drain gasoline from the engine if a fuel stabilizer is added according to instructions. Run the engine for 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.

Maintenance



WARNING



DO NOT attempt any adjustments, maintenance, service or repairs with the engine running. STOP engine. STOP blade. Engage parking brake. Remove key. Remove spark plug wire from spark plug and secure away from plug. Engine and components are HOT. Avoid serious burns, allow all parts to cool before working on machine.

Engine Adjustments and Repairs

Engine adjustments and/or repairs should be performed by an authorized dealer.

Rider Adjustments And Repairs

The following adjustment and repair items can be made by the owner. However, it is recommended that they be made by an authorized dealer.

How To Inspect The Mower Blade

1. Inspect the blade frequently for signs of excessive wear or damage (Figure 34):
 - (A) New blade;
 - (B) Wear limit (notch starts);
 - (C) Dangerous condition - do not use on mower! Replace with new blade. Contact your authorized dealer.

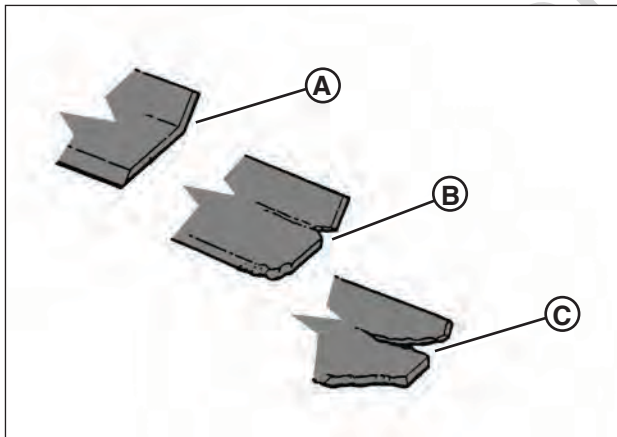


Figure 34: Mower blade wear limits



WARNING



Wear heavy leather gloves when handling or working around cutting blades. Blades are extremely sharp and can cause severe injury. DO NOT use a cutting blade that shows signs of excessive wear or damage.

How To Sharpen The Mower Blade

1. Raise the mower deck to the highest cutting position. Refer to "How To Adjust The Cutting Height".
2. Remove the bolts (B, Figure 35), washers (C) and nuts (D) securing the mower blade (A) to the spindle.
3. Inspect the condition of the blade (Figure 34).
4. If the blade is in good condition, sharpen at 22 to 28 degrees (B, Figure 36). DO NOT sharpen beyond existing cutting edge (A).
5. Check blade balance after sharpening. If necessary, correct blade balance by grinding the heavy end of the blade.
6. Reinstall the blade. Torque the blade mounting bolts to the recommended range of 30 to 40 ft. lbs.

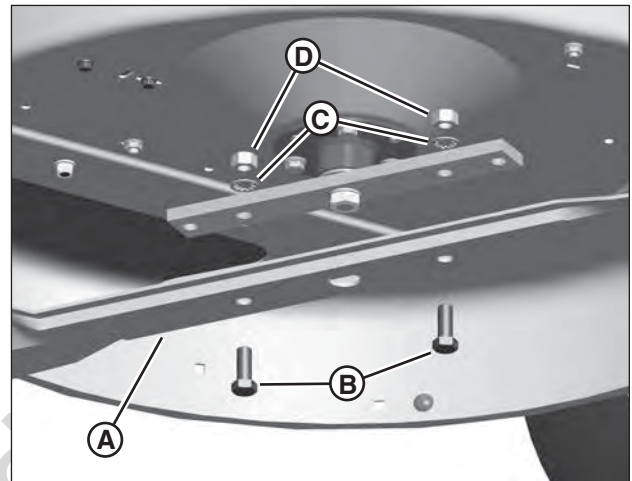


Figure 35: Removing the mower blade

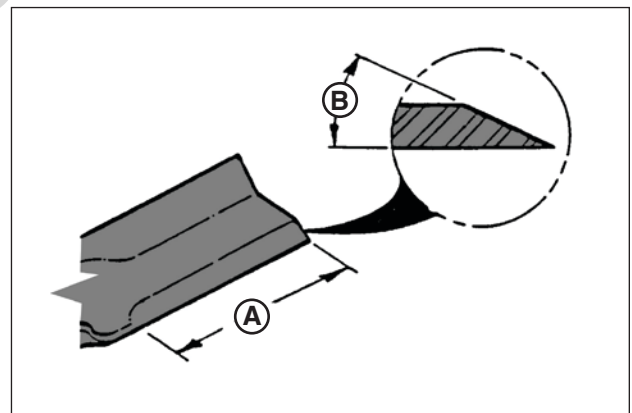


Figure 36: Sharpening the mower blade

How To Adjust The Mower Blade

Contact an authorized dealer for assistance.



WARNING



DO NOT attempt any adjustments, maintenance, service or repairs with the engine running. STOP engine. STOP blade. Engage parking brake. Remove key. Remove spark plug wire from spark plug and secure away from plug. Engine and components are HOT. Avoid serious burns, allow all parts to cool before working on machine.

How To Level The Mower Deck



WARNING



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

Side-To-Side Leveling

Before making deck leveling adjustments, check the tire pressure. Refer to "How To Check Tire Pressure". If tires are properly inflated and mowing is still uneven, adjust side-to-side deck leveling.

1. Place the unit on a smooth level surface.
2. Turn the engine off and remove the key. Remove the spark plug wire from the spark plug and secure the wire away from the plug.
3. Raise the mower deck to the highest cutting position.
4. Place a piece of angle iron, pipe, or similar object under the rear center of the deck.
5. Lower the mower deck until the rear of the deck is supported by the object placed under it in the previous step. (The rear hanger rods (A, Figure 38) should be loose.)
6. Wearing heavy leather gloves, rotate the blade until the blade tips are positioned at the right and left sides of the mower deck. Measure the distance from the blade tips to the floor. If the measurement is within 1/8" from side-to-side, the deck is considered level. If difference from side-to-side is greater than 1/8", continue with adjustment.
7. If adjustment is needed, slowly turn the eccentric (A, Figure 37) on the left front lift arm until the blade tips are within 1/8" of each other.
8. Raise the mower deck, and remove the angle iron, pipe, or similar object.
9. Proceed to check front to rear leveling.

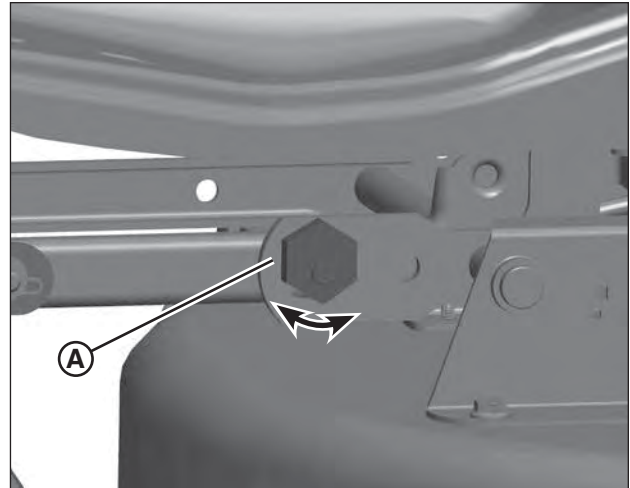


Figure 37: Mower deck leveling (side-to-side)

Front-to-Rear Leveling

NOTE: Perform side-to-side leveling first.

1. With the unit on a smooth, level surface, rotate the blade until the blade tips are at the front and rear of the deck.
2. Measure the distance from the blade tips to the floor (Figure 38). The distance should be the same, or the rear 1/8" to 1/4" lower than the front. If the rear blade tip is higher than the front, or is more than 1/4" lower than the front, proceed with adjustment.
3. If adjustment is needed, turn the lock nut (B, Figure 38) on both left and right hanger rods (A) the same number of rotations to raise or lower the rear of the deck.
4. Measure the blade tips again.
5. Repeat Steps 2 through 4 until proper leveling is obtained.

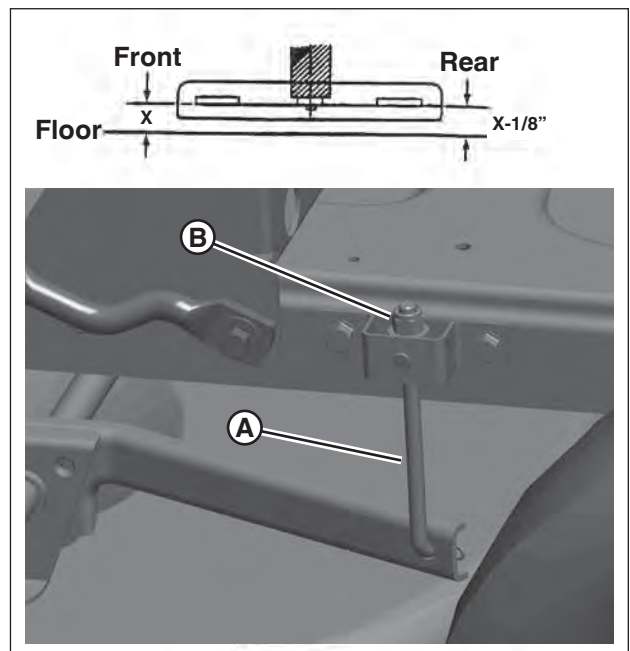


Figure 38: Mower deck leveling (front-to-rear)

Repair



WARNING



DO NOT attempt any adjustments, maintenance, service or repairs with the engine running. STOP engine. STOP blade. Engage parking brake. Remove key. Remove spark plug wire from spark plug and secure away from plug. Engine and components are HOT. Avoid serious burns, allow all parts to cool before working on machine.

How To Adjust The Brake / Parking Brake

Test the wheel brake on a dry concrete surface. When properly adjusted, the unit will stop within 5 feet from fastest speed. If stopping distance is more than 5 feet, adjustment is required.

Manual Drive Models:

1. Set the parking brake. Refer to "How To Set The Parking Brake".
2. Measure the distance (A, Figure 39) between the end of the clutch/brake cable (B) and the bottom of the housing (C). The measurement should be no less than 1/2" and no greater than 3/4".

NOTE: The cotter pin and brake spring (D and E, Figure 39) are noted for reference purposes only.

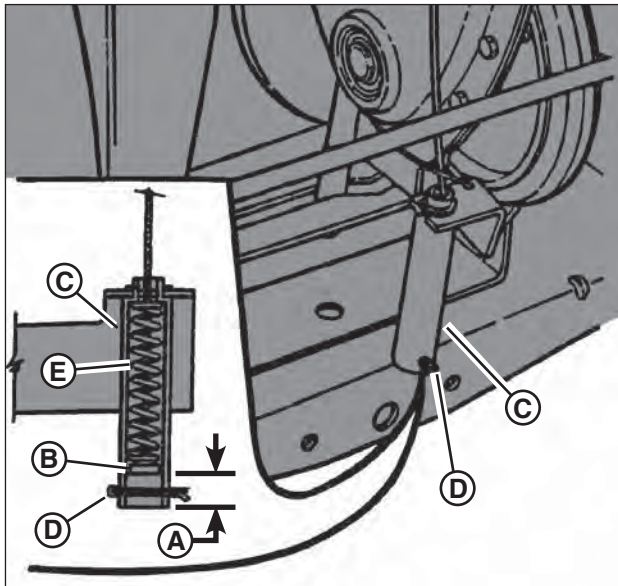


Figure 39: Adjusting the brake cable

3. If the measurement is less than 1/2" or greater than 3/4", loosen the two jam-nuts (A, Figure 40). Hold the clutch/brake cable (B) to the chain case bracket.
4. Adjust the cable up or down using the jam-nuts to obtain a distance of 1/2" to 3/4" between the end of the clutch/brake cable (adjustment shown in inset of Figure 39) and the bottom of the housing.
5. After adjustment is complete, securely tighten the cable jam-nuts.
6. Retest the wheel brake.

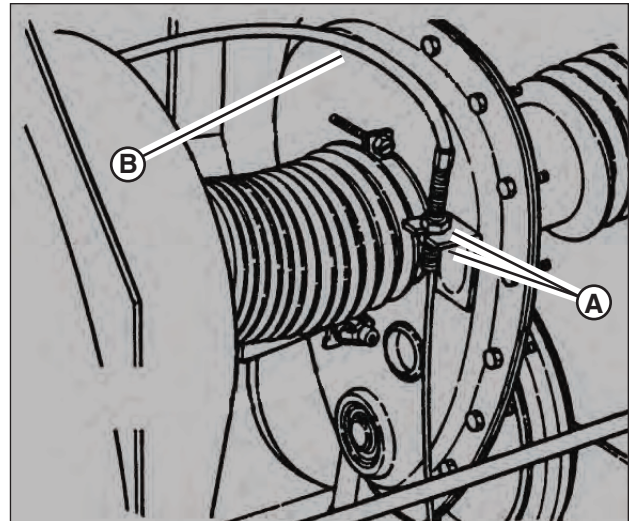


Figure 40: Brake cable adjusting nuts

Hydro Drive Models:

Contact an authorized dealer for assistance.

How To Adjust Mower Blade Belt Tension

1. Remove the mower deck cover. Refer to "How To Remove The Deck Cover".
2. With the unit off and the mower blade disengaged (refer to "How To Engage The Mower Blade"), measure the body of the blade engage spring (A, Figure 41).
3. Engage the mower blade, and measure the extended blade spring (B). It should measure 3/8" to 1/2" longer than the unextended spring measurement in Step 2.
4. If adjustment is needed, disengage the mower blade, loosen the rear jam nut (C) securing the PTO cable housing (D), and adjust the cable housing in or out using the front jam nut (E).
5. Repeat Steps 3 and 4 until the desired measurement is reached. Make sure to tighten the rear jam nut when adjustment is complete.

NOTE: Check to be sure there is slack in the PTO cable (F) when the mower blade is disengaged. This is essential for correct operation of the blade brake. If there is no slack, lessen the cable tension until slack is obtained.

6. Replace the deck cover.



WARNING



DO NOT attempt any adjustments, maintenance, service or repairs with the engine running. STOP engine. STOP blade. Engage parking brake. Remove key. Remove spark plug wire from spark plug and secure away from plug. Engine and components are HOT. Avoid serious burns, allow all parts to cool before working on machine.

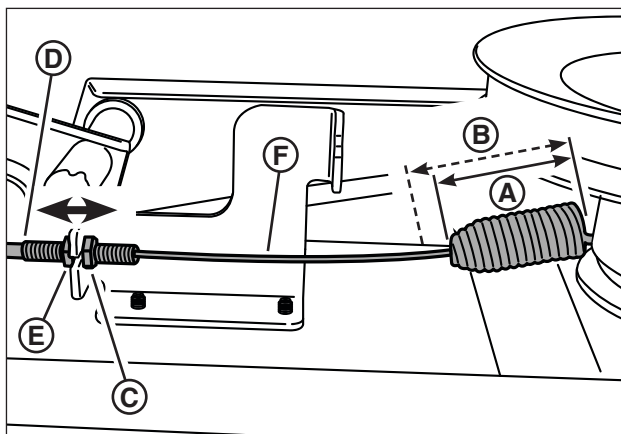


Figure 41: PTO (mower blade belt) cable adjustment (components removed for clarity)

6. Recheck the mower blade stopping time. If still over 5 seconds, complete or repeat Step 5 as needed.
7. Once blade stopping time has been correctly adjusted, replace the mower deck cover.



WARNING



Blade must stop rotating in 5 seconds or less after the blade has been turned off. DO NOT operate machine until blade brake has been adjusted and functioning properly.

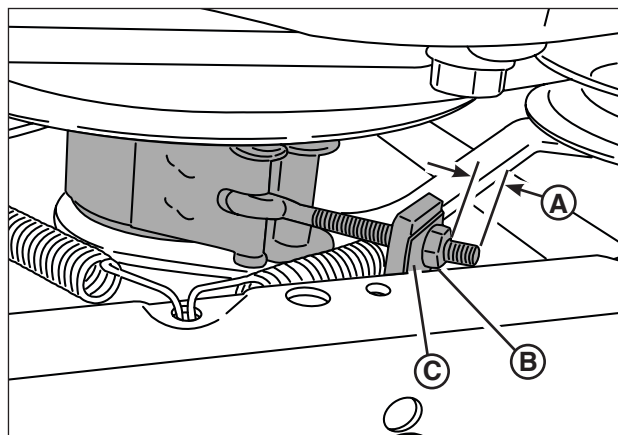


Figure 42: Blade brake adjustment

How To Adjust The Blade Brake

NOTE: The blade brake is set at the factory, and should never require adjustment. The adjustment procedure below is provided for reference only.

1. Check the mower blade stopping time. Refer to "How To Check Mower Blade Stopping Time".
 - If mower blade stopping time is 5 seconds or shorter, no adjustment is needed.
 - If mower blade stopping time is longer than 5 seconds, proceed to Step 2.
2. Before attempting to adjust the blade brake, check to be sure mower blade belt tension is correctly adjusted. Refer to "How To Adjust Mower Blade Belt Tension".
 - If belt tension adjustment is needed, perform belt tension adjustment, then repeat Step 1.
 - If belt tension is correct, proceed to Step 3.
3. With the unit off, remove the deck cover (refer to "How To Remove The Deck Cover"), and measure the exposed thread of the blade brake eyebolt (A, Figure 42) from the jam nut to the end of the bolt. It should measure 1/2".
4. If the eyebolt thread measures less than 1/2", loosen the jam nut (B), and tighten the T-bolt (C) one-half turn (clockwise). Retighten the jam nut, and remeasure the thread. Repeat until the correct thread measurement is achieved, then proceed directly to Step 6.
5. If the eyebolt thread measurement is correct, loosen the jam nut (B), and tighten the T-bolt (C) one-half turn (clockwise). Retighten the jam nut, then proceed to Step 6.

How To Remove The Deck Cover

1. With the unit off, lower the mower deck to the lowest cutting position. Refer to "How To Adjust The Cutting Height".
2. Remove the four fasteners (B, Figure 43) securing the deck cover (A) to the mower deck. Remove the cover.
3. When replacing the cover, be sure that the lift arms and control cables are routed through the relief slots (C) in the cover. Secure the cover with the four fasteners removed in Step 2, tightening securely.

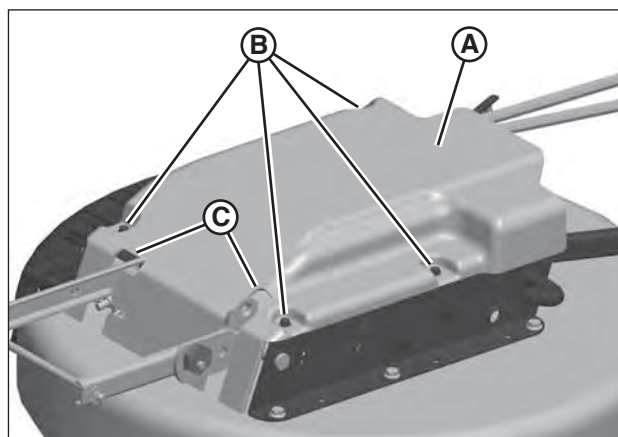


Figure 43: Removing the deck cover (deck removed from unit for clarity only)

Troubleshooting

PROBLEM	PROBABLE CAUSE	CORRECTIVE ACTION
Engine Will Not Start	1. Operator not in seat.	1. Sit in operator seat.
	2. Ignition is in the OFF position.	2. Turn ignition switch to the START position.
	3. Clutch/brake pedal not fully depressed.	3. Fully depress clutch/brake pedal.
	4. Mower blade engaged.	4. Disengage mower blade.
	5. Fuel tank empty.	5. Fill fuel tank with fresh fuel to proper level.
	6. Engine needs choking (if equipped).	6. Move engine speed control to CHOKE position (if equipped).
	7. Battery is weak or dead.	7. Charge or replace battery.
	8. Battery harness/cable(s) disconnected.	8. Connect battery harness/cable(s).
	9. Spark plug wire disconnected.	9. Place spark plug wire onto spark plug.
	10. Blown Fuse.	10. Replace with new 20 AMP fuse.
	11. Electrical problem.	11. Contact authorized dealer.
	12. Engine problem.	12. Contact authorized dealer.
Engine Stalls After Running	1. Operator not seated properly.	1. Sit properly in operator seat.
	2. Engine speed control in the "CHOKE" position (if equipped).	2. Move engine speed control to FAST position.
	3. Fuel tank empty.	3. Fill fuel tank with fresh fuel to proper level.
	4. Engine air pre-cleaner and or air cleaner dirty.	4. Clean free of all debris.
	5. Spark plug defective or gap set improperly.	5. Service spark plug.
	6. Fuel filter restricted.	6. Replace fuel filter.
	7. Water, debris or stale fuel in fuel system.	7. 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. Replace filter.
	4. Debris build up on engine cooling screen.	4. Clean all debris from engine cooling screen.
Excessive Vibration	1. Damaged, out of balance or bent mower blades.	1. Service mower blade(s).
	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. Contact authorized dealer.
	5. Bent Idler, stationary or spindle pulley.	5. Replace pulley. Contact authorized dealer.

Troubleshooting

PROBLEM	PROBABLE CAUSE	CORRECTIVE ACTION
Rider Will Not Move Or Loss of Traction (Manual Drive Models)	1. Drive disc worn or damaged.	1. Replace drive disc. Contact authorized dealer.
	2. Rubber drive disc is not tracking properly on drive disc.	2. Adjust rubber drive disc. Contact authorized dealer.
	3. Tapered axle bolt and nut missing.	3. Contact authorized dealer.
	4. Axle bearing seized.	4. Contact authorized dealer.
	5. Insufficient lubrication in chain case or transmission/differential.	5. Contact authorized dealer.
Rider Will Not Move Or Loss of Traction (Hydro Drive Models)	1. Drive belt slipping or broken.	1. Contact authorized dealer.
	2. Transmission problem.	2. Contact authorized dealer.
Blade(s) Not Cutting	1. Blade control in the OFF position.	1. Move blade control to the ON position.
	2. Mower belt slipping.	2. Adjust or replace mower belt. Contact authorized dealer.
	3. Cutting blade is dull, worn or damaged.	3. Sharpen or replace cutting blade.
Cutting Grass Improperly	1. Uneven tire pressure.	1. Check tire pressure and adjust as needed.
	2. Cutting height too low or high.	2. Adjust cutting height.
	3. Engine speed too slow.	3. Move engine speed control to FAST position.
	4. Forward ground speed too fast.	4. Adjust unit to a slower ground speed.
	5. Terraced cut, side to side.	5. Adjust side to side leveling.
	6. Excessive deck pitch, front to rear.	6. Adjust front to rear leveling.
	7. Cutting blade(s) dull or damaged.	7. Sharpen cutting edges or replace blade(s).
	8. Mower belt slipping.	8. Adjust tension or replace mower belt. Contact authorized dealer.
Poor Grass Discharge	1. Engine speed too slow.	1. Move engine speed control to FAST position.
	2. Forward ground speed too fast.	2. Adjust unit to a slower ground speed.
	3. Grass is wet.	3. Mow when grass is dry.
	4. Excessively dull, worn or damaged blade(s).	4. Service mower blade.
	5. Build up of grass clippings and debris under deck.	5. Clean the underside of deck.
	6. Improper blade installed on deck.	6. Install proper blades.
Oil Leaking	1. Leaking chain case or differential plugs.	1. Verify plugs are not cracked & are in good shape. Check gaskets.
	2. Leaking engine block.	2. Contact authorized dealer.

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 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 one year from purchase, or to the extent permitted by law. All other implied warranties are excluded. 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	3 years	90 days
Engine*	3 years	90 days
Battery (if equipped)	1 year	1 year

* 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 consumer or commercial end user, and continues for the period of time stated in the table above. "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.

No warranty registration is necessary to obtain warranty on Briggs & Stratton products. 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.

ABOUT YOUR WARRANTY

We welcome warranty repair and apologize to you for being inconvenienced. Warranty service is available only through Snapper Authorized Service Dealers. Most warranty repairs are handled routinely, but sometimes requests for warranty service may not be appropriate. This warranty only covers 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 void your warranty. Warranty is not allowed 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 - Like all 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 Fuel - In order to function correctly, this product requires fresh fuel that conforms to the criteria specified in the Operator's Manual. Damage caused by stale fuel (carburetor leaks, clogged fuel tubes, sticking valves, etc) 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 also excludes failures due to acts of God and other force majeure events beyond the manufacturer's control.

California, U.S. EPA, and Briggs & Stratton Corporation Emissions Control Warranty Statement September 2012 Your Warranty Rights And Obligations

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 2012-2013 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*. If any

emissions-related part on your B&S engine/equipment is defective, the part will be repaired or replaced by B&S.

* Two years or for the time period listed in the respective engine or product warranty statement, whichever is greater.

Owner's Warranty Responsibilities:

- As the engine/equipment owner, you are responsible for the performance of the required maintenance listed in your owner'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 (414) 259-5262.

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.

- Fuel Metering System
 - Cold start enrichment system (soft choke)
 - Carburetor and internal parts
 - Fuel pump
 - Fuel line, fuel line fittings, clamps
 - Fuel tank, cap and tether
 - Carbon canister
- Air Induction System
 - Air cleaner
 - Intake manifold
 - Purge and vent line
- Ignition System
 - Spark plug(s)
 - Magneto ignition system
- Catalyst System
 - Catalytic converter
 - Exhaust manifold
 - Air injection system or pulse valve
- Miscellaneous Items Used in Above Systems
 - Vacuum, temperature, position, time sensitive valves and switches
 - Connectors and assemblies

2. Length of Coverage

For a period of two years from date of original purchase*, 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.

* Two years or for the time period listed in the respective engine or product warranty statement, whichever is greater.

The warranty on emissions-related parts is as follows:

- Any warranted part that is not scheduled for replacement as required maintenance in the owner'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 owner'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 owner'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.
- Consequential Coverage
Coverage shall extend to the failure of any engine components caused by the failure of any warranted emissions parts.
 - 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 Operating & Maintenance Instructions. The following categories are used:

Moderate:

Engine is certified to be emissions compliant for 125 hours of actual engine running time.

Intermediate:

Engine is certified to be emissions compliant for 250 hours of actual engine running time.

Extended:

Engine is 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 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



Rear Engine Riding Mower

Product Specifications	7800918-00	7800920-00	7800932-00	7800921-00
Deck Size (in / cm)	28 / 71	28 / 71	33 / 84	33 / 84
Height of Cut (in / cm)	1.5 - 4.0 / 3,8 - 10,2	1.5 - 4.0 / 3,8 - 10,2	1.5 - 4.0 / 3,8 - 10,2	1.5 - 4.0 / 3,8 - 10,2
Transmission Type	5-speed disc drive	5-speed disc drive	5-speed disc drive	Hydro
Ground Speed - Forward (mph / kph)	1.0 - 4.5 / 1,6 - 7,2	1.0 - 4.5 / 1,6 - 7,2	1.0 - 4.5 / 1,6 - 7,2	0 - 5.0 / 0 - 8,0
Ground Speed - Reverse (mph / kph)	0 - 1.9 / 0 - 3,1	0 - 1.9 / 0 - 3,1	0 - 1.9 / 0 - 3,1	0 - 2.0 / 0 - 3,2
Gross Engine Power *	10	11.5	12.5	14.5
Engine Displacement (cc)	223	344	344	500
Spark Plug Gap (in / mm)	0.030 / 0,76	0.030 / 0,76	0.030 / 0,76	0.030 / 0,76
Spark Plug Torque (lb-in / Nm)	180 / 20	180 / 20	180 / 20	180 / 20
Oil Capacity (oz / l)	20 / 0,59	48 / 1,40	48 / 1,40	48 / 1,40
Fuel Tank Capacity (qt / l)	8 / 7,6	8 / 7,6	8 / 7,6	8 / 7,6
Tire Pressure - Front (psi / bar)	15 / 1,03	15 / 1,03	15 / 1,03	15 / 1,03
Tire Pressure - Rear (psi / bar)	12 / 0,83	12 / 0,83	12 / 0,83	12 / 0,83

*** Power Ratings:** The gross power rating for individual gas engine models is labeled in accordance with SAE (Society of Automotive Engineers) code J1940 (Small Engine Power & Torque Rating Procedure), and rating performance has been obtained and corrected in accordance with SAE J1995 (Revision 2002-05). Torque values are derived at 3060 RPM; 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 gas 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 Series engine.



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