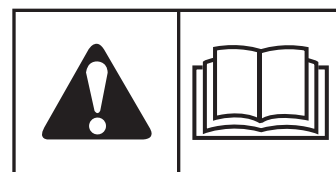


ZERO-TURN MOWERS



355Z

5900748 355ZB2654, 26HP

5900755 355ZB2654FC, 26HP

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

This manual contains safety information to make you aware of the hazards and risks associated with mowers and how to avoid them. Because Snapper does not necessarily know all the applications this mower could be used for, it is important that you read and understand these instructions. Keep this manual near the mower for convenient reference.

This mower requires final assembly before use. Refer to the *Assembly* section of this manual for instructions on final assembly procedures. Follow the instructions completely.

Where to Find Us

Contact Snapper Customer Service at 1-800-317-7833, or on the Internet at www.snapper.com.

Mower

Model Number _____

Serial Number _____

Engine

Model _____

Type _____

Code _____

Date Purchased

| | | | | | |
|--|--|--|--|--|--|
| | | | | | |
|--|--|--|--|--|--|

It is very important that you register your purchase with Snapper to ensure warranty coverage. Please mail your product registration card to:

Snapper at P.O. Box 1379, McDonough, Georgia 30253.

Or you may register online at www.snapper.com.

BRIGGS&STRATTON

YARD POWER PRODUCTS GROUP
MILWAUKEE, WI 53201 USA
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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.

Important Operator Safety Instructions



Safety



Operating Safety

Congratulations on purchasing a superior-quality piece of lawn and garden equipment. Our products are designed and manufactured to meet or exceed all industry standards for safety.

Do not operate this machine unless you have been trained. Reading and understanding this operator's manual is a way to train yourself.

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.

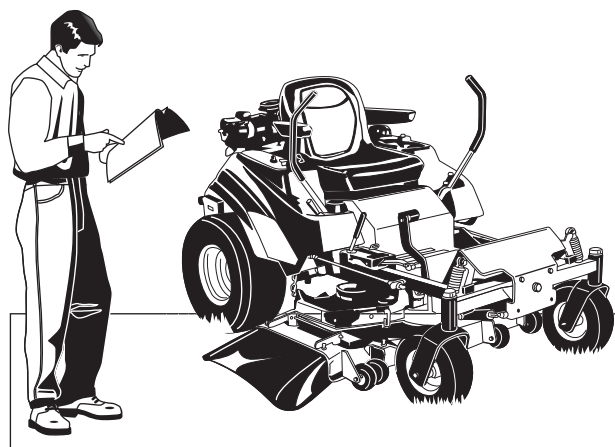
Use common sense, and think through what you are doing. If you are not sure that the task you are about to perform can be safely done with the equipment you have chosen, ask a professional: contact your local authorized dealer.

Read the Manual

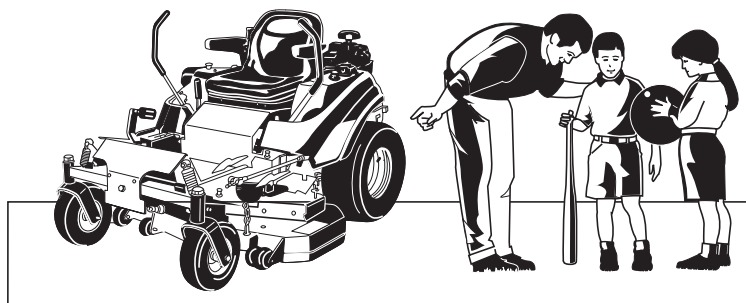
The operator's manual contains important safety information you need to be aware of **BEFORE** you operate your unit as well as **DURING** operation.

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.



Important Operator Safety Instructions (Continued)



Slope Operation



Operation on slopes can be dangerous. Using the unit on a slope that is too steep where you do not have adequate wheel traction (and control) can cause sliding, loss of steering, control, and possible rollover. You should not operate on a slope greater than a 5.4 foot rise over a 20 foot length (15 degrees).

Always mow across slopes, not up and down (to maintain traction on the wheels) and avoid sudden turns or rapid speed changes. Reduce speed and use extreme caution on ALL slopes.

Also, note that the surface condition you are on can greatly impact your ability to safely operate this machine. Operating on wet or slippery slopes can cause sliding and loss of steering and control. Do not operate on slopes that are slippery, wet, or have soft soil conditions.

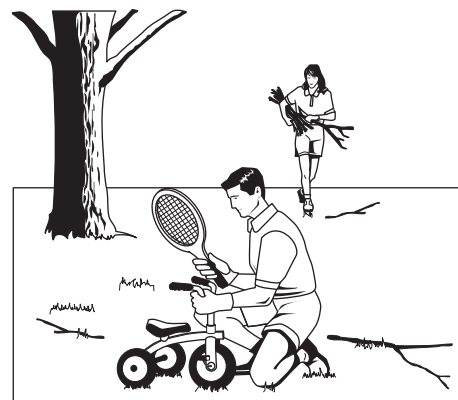
If you feel unsure about operating the unit on a slope, don't do it. It's not worth the risk.

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 and remove objects that could be thrown by the blade **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.

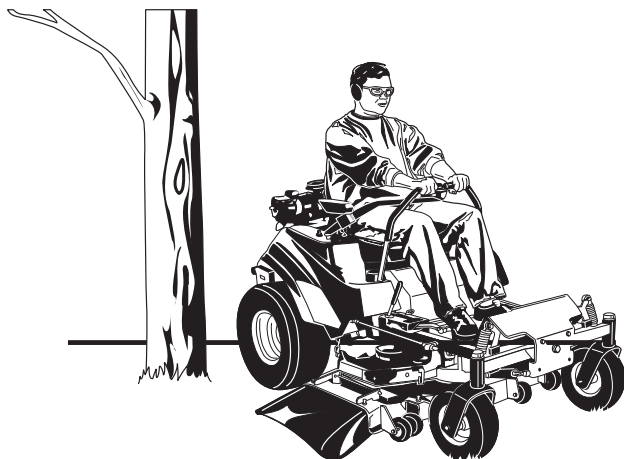


Moving Parts

This equipment has many moving parts that can injure you or someone else. However, if you stay in the operator zone (stay seated in the seat), and follow the safety rules in this operator's manual, 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 unit while it is running! Keep safety devices (guards, shields, and switches) in place and working.

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.



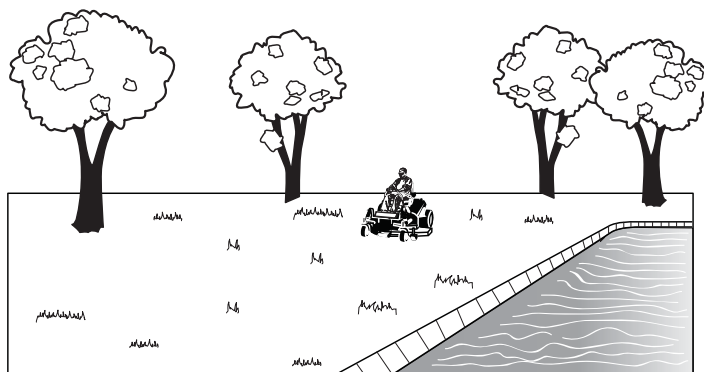
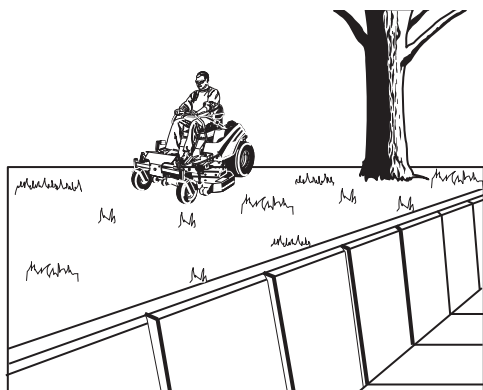


Important Operator Safety Instructions (Continued)



Retaining Walls, Drop-offs, and Water

Retaining walls and drop-offs around steps and water are a common hazard. Give yourself a minimum of two mower widths of clearance around these hazards and hand-trim with a walk behind mower or string trimmer. Wheels dropping over retaining walls, edges, ditches, embankments, or into water can cause rollovers, which may result in serious injury, death, or drowning.



Fuel and Maintenance

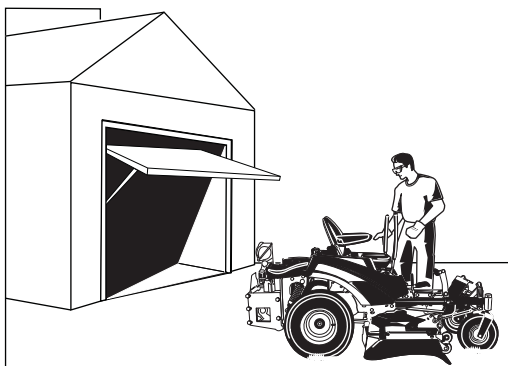
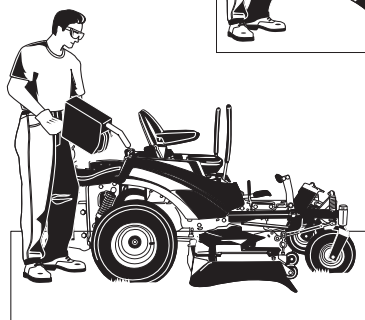
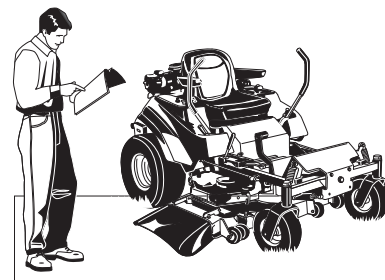
Always disengage all drives, shutoff the engine, and remove the key before doing any cleaning, refueling, or servicing.

Gasoline and its vapors are extremely flammable. Do not smoke while operating or refueling. Do not add fuel while engine is hot or running. Allow engine to cool for at least 3 minutes prior to adding fuel.

Do not add fuel indoors, in an enclosed trailer, garage, or any other enclosed area that is not well ventilated. Gasoline spills should be cleaned up promptly and before operation begins.

Gasoline should be stored only in sealed containers approved for fuel.

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



Enclosed Areas


Only operate this unit outdoors and away from unventilated areas such as inside garages or enclosed trailers. The engine emits poisonous carbon monoxide gas and prolonged exposure in an enclosed area can result in serious injury or death.



Important Operator Safety Instructions (Continued)



Read these safety rules and follow them closely. Failure to obey these rules could result in loss of control of unit, severe personal injury or death to you, or bystanders, or damage to property or equipment.

This mowing deck is capable of amputating hands and feet and throwing objects. The triangle  in text signifies important cautions or warnings which must be followed.

GENERAL OPERATION

1. Read, understand, and follow all instructions in the manual and on the unit before starting.
2. Do not put hands or feet near rotating parts or under the machine. Keep clear of the discharge opening at all times.
3. Only allow responsible adults, who are familiar with the instructions, to operate the unit (local regulations can restrict operator age).
4. Clear the area of objects such as rocks, toys, wire, etc., which could be picked up and thrown by the blade(s).
5. Be sure the area is clear of other people before mowing. Stop the unit if anyone enters the area.
6. Never carry passengers.
7. Do not mow in reverse unless absolutely necessary. Always look down and behind before and while travelling in reverse.
8. Never direct discharge material toward anyone. Avoid discharging material against a wall or obstruction. Material may ricochet back toward the operator. Stop the blade(s) when crossing gravel surfaces.
9. Do not operate the machine without the entire grass catcher, discharge guard (deflector), or other safety devices in place and operational.
10. Slow down before turning.
11. Never leave a running unit unattended. Always disengage the blades (PTO), set parking brake, stop engine, and remove keys before dismounting.
12. Disengage blades (PTO) when not mowing. Shut off engine and wait for all parts to come to a complete stop before cleaning the machine, removing the grass catcher, or unclogging the discharge guard.
13. Operate the machine only in daylight or good artificial light.
14. Do not operate the unit while under the influence of alcohol or drugs.
15. Watch for traffic when operating near or crossing roadways.
16. Use extra care when loading or unloading the unit into a trailer or truck.
17. Always wear eye protection when operating this unit.
18. Data indicates that operators, age 60 years and above, are involved in a large percentage of power equipment-related injuries. These operators should evaluate their ability to operate the equipment safely enough to protect themselves and others from injury.
19. Follow the manufacturer's recommendations for wheel weights or counterweights.

20. Keep in mind the operator is responsible for accidents occurring to other people or property.
21. All drivers should seek and obtain professional and practical instruction.
22. Always wear substantial footwear and trousers. Never operate when barefoot or wearing sandals.
23. Before using, always visually check that the blades and blade hardware are present, intact, and secure. Replace worn or damaged parts.
24. Disengage attachments before: refueling, removing an attachment, making adjustments (unless the adjustment can be made from the operator's position).
25. When the machine is parked, stored, or left unattended, lower the cutting means unless a positive mechanical lock is used.
26. Before leaving the operator's position for any reason, engage the parking brake (if equipped), disengage the blades (PTO), stop the engine, and remove the key.
27. To reduce fire hazard, keep the unit free of grass, leaves, & excess oil. Do not stop or park over dry leaves, grass, or combustible materials.
28. It is a violation of California Public Resource Code Section 4442 to use or operate the engine on or near any forest-covered, brush-covered, or grass-covered land unless the exhaust system is equipped with a spark arrester meeting any applicable local or state laws. Other states or federal areas may have similar laws.
29. OSHA regulations may require the use of hearing protection when exposed to sound levels greater than 85 dBA for an 8 hour time period.



CAUTION



This machine produces sound levels in excess of 85 dBA at the operator's ear and can cause hearing loss through extended periods of exposure.

Wear hearing protection when operating this machine.

TRANSPORTING AND STORAGE

1. When transporting the unit on an open trailer, make sure it is facing forward, in the direction of travel. If the unit is facing backwards, wind lift could damage the unit.
2. Always observe safe refueling and fuel handling practices when refueling the unit after transportation or storage.
3. Never store the unit (with fuel) in an enclosed poorly ventilated structure. Fuel vapors can travel to an ignition source (such as a furnace, water heater, etc.) and cause an explosion. Fuel vapor is also toxic to humans and animals.
4. Always follow the engine manual instructions for storage preparations before storing the unit for both short and long term periods.
5. Always follow the engine manual instructions for proper start-up procedures when returning the unit to service.
6. Never store the unit or fuel container inside where there is an open flame or pilot light, such as in a water heater. Allow unit to cool before storing.



Important Operator Safety Instructions (Continued)



SLOPE OPERATION

Slopes are a major factor related to loss-of-control and tip-over accidents, which can result in severe injury or death. Operation on all slopes requires extra caution. If you cannot back up the slope or if you feel uneasy on it, do not operate on it.

Control of a walk-behind or ride-on machine sliding on a slope will not be regained by the application of the brake. The main reasons for loss of control are: insufficient tire grip on the ground, speed too fast, inadequate braking, the type of machine is unsuitable for its task, lack of awareness of the ground conditions, incorrect hitching and load distribution.

1. Mow across slopes, not up and down.
2. Watch for holes, ruts, or bumps. Uneven terrain could overturn the unit. Tall grass can hide obstacles.
3. Choose a slow speed so that you will not have to stop or change speeds while on the slope.
4. Do not mow on wet grass. Tires may lose traction.
5. Avoid starting, stopping, or turning on a slope. If tires lose traction (i.e. machine stops forward motion on a slope), disengage the blade(s) (PTO) and drive slow off the slope.
6. Keep all movement on slopes slow and gradual. Do not make sudden changes in speed or direction, which could cause the machine to rollover.
7. Use extra care while operating machines with grass catchers or other attachments; they can affect the stability of the unit. Do not use on steep slopes.
8. Do not try to stabilize the machine by putting your foot on the ground (ride-on units).
9. Do not mow near drop-offs, ditches, or embankments. The mower could suddenly turn over if a wheel is over the edge of a cliff or ditch, or if an edge caves in.
10. Do not use grass catchers on steep slopes.
11. Do not mow slopes if you cannot back up them.
12. See your authorized dealer/retailer for recommendations of wheel weights or counterweights to improve stability.
13. Remove obstacles such as rocks, tree limbs, etc.
14. Use slow speed. Tires may lose traction on slopes even though the brakes are functioning properly.
15. Do not turn on slopes unless necessary, and then, turn slowly and gradually uphill, if possible. Never mow down slopes.

TOWED EQUIPMENT (RIDE-ON UNITS)

1. Tow only with a machine that has a hitch designed for towing. Do not attach towed equipment except at the hitch point.
2. Follow the manufacturer's recommendations for weight limit for towed equipment and towing on slopes. See attaching a trailer under OPERATION.

WARNING

Never operate on slopes greater than 15° which is a rise of 5.4 feet (1,6 m) vertically in 20 feet (6 m) horizontally.

Select slow ground speed before driving onto slope. Use extra caution when operating on slopes with rear-mounted grass catchers.

Mow across the face of slopes, not up and down, use caution when changing directions and DO NOT START OR STOP ON SLOPE.

3. Never allow children or others in or on towed equipment.
4. On slopes, the weight of the towed equipment may cause loss of traction and loss of control.
5. Travel slowly and allow extra distance to stop.
6. Do not shift to neutral and coast down hill.

CHILDREN

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

1. Keep children out of the mowing area and under the watchful care of another responsible adult.
2. Be alert and turn unit off if children enter the area.
3. Before and during reverse operation, look behind and down for small children.
4. Never carry children, even with the blade(s) off. They may fall off and be seriously injured or interfere with safe unit operation. 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.
5. Never allow children to operate the unit.
6. Use extra care when approaching blind corners, shrubs, trees, or other objects that may obscure vision.

EMISSIONS

1. Engine exhaust from this product contains chemicals known, in certain quantities, to cause cancer, birth defects, or other reproductive harm.
2. Look for the relevant Emissions Durability Period and Air Index information on the engine emissions label.

IGNITION SYSTEM

1. This spark ignition system complies with Canadian ICES-002.



Important Operator Safety Instructions (Continued)



SERVICE AND MAINTENANCE

Safe Handling of Gasoline

1. Extinguish all cigarettes, cigars, pipes, and other sources of ignition.
2. Use only approved gasoline containers.
3. Never remove the gas cap or add fuel with the engine running. Allow the engine to cool before refueling.
4. Never fuel the machine indoors.
5. Never store the machine or fuel container where there is an open flame, spark, or pilot light such as near a water heater or other appliance.
6. Never fill containers inside a vehicle or on a truck bed with a plastic bed liner. Always place containers on the ground away from your vehicle before filling.
7. Remove gas-powered equipment from the truck or trailer and refuel it on the ground. If this is not possible, then refuel such equipment on a trailer with a portable container, rather than from a gasoline dispenser nozzle.
8. Keep 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.
9. If fuel is spilled on clothing, change clothing immediately.
10. Never over-fill the fuel tank. Replace gas cap and tighten securely.
11. Use extra care in handling gasoline and other fuels. They are flammable and vapors are explosive.
12. If fuel is spilled, do not attempt to start the engine but move the machine away from the area of spillage and avoid creating any source of ignition until fuel vapors have dissipated.
13. Replace all fuel tank caps and fuel container caps securely.

Service & Maintenance

1. Never run the unit in an enclosed area where carbon monoxide fumes may collect.
2. Keep nuts and bolts, especially blade attachment bolts, tight and keep equipment in good condition.
3. Never tamper with safety devices. Check their proper operation regularly and make necessary repairs if they are not functioning properly.
4. Keep unit free of grass, leaves, or other debris build-up. Clean up oil or fuel spillage. and remove any fuel-soaked debris. Allow machine to cool before storage.
5. If you strike an object, stop and inspect the machine. Repair, if necessary, before restarting.
6. Never make adjustments or repairs with the engine running.
7. Check grass catcher components and the discharge guard frequently and replace with manufacturer's recommended parts, when necessary.
8. Mower blades are sharp. Wrap the blade or wear gloves, and use extra caution when servicing them.
9. Check brake operation frequently. Adjust and service as required.
10. Maintain or replace safety and instructions labels, as necessary.
11. Do not remove the fuel filter when the engine is hot as spilled gasoline may ignite. Do not spread fuel line clamps further than necessary. Ensure clamps grip hoses firmly over the filter after installation.
12. Do not use gasoline containing METHANOL, gasohol containing more than 10% ETHANOL, gasoline additives, or white gas because engine/fuel system damage could result.
13. If the fuel tank must be drained, it should be drained

outdoors.

14. Replace faulty silencers/mufflers.
15. Maintain or replace safety and instruction labels as necessary.
16. Use only factory authorized replacement parts when making repairs.
17. Always comply with factory specifications on all settings and adjustments.
18. Only authorized service locations should be utilized for major service and repair requirements.
19. Never attempt to make major repairs on this unit unless you have been properly trained. Improper service procedures can result in hazardous operation, equipment damage and voiding of manufacturer's warranty.
20. On multiple blade mowers, take care as rotating one blade can cause other blades to rotate.
21. Do not change engine governor settings or over-speed the engine. Operating the engine at excessive speed can increase the hazard of personal injury.
22. Disengage drive attachments, stop the engine, remove the key, and disconnect the spark plug wire(s) before: clearing attachment blockages and chutes, performing service work, striking an object, or if the unit vibrates abnormally. After striking an object, inspect the machine for damage and make repairs before restarting and operating the equipment.
23. Never place hands near the moving parts, such as a hydro pump cooling fan, when the tractor is running. (Hydro pump cooling fans are typically located on top of the transaxle).
24. Units with hydraulic pumps, hoses, or motors: **WARNING:** Hydraulic fluid escaping under pressure may have sufficient force to penetrate skin and cause serious injury. If foreign fluid is injected into the skin it must be surgically removed within a few hours by a doctor familiar with this form of injury or gangrene may result. Keep body and hands away from pin holes or nozzles that eject hydraulic fluid under high pressure. Use paper or cardboard, and not hands, to search for leaks. Make sure all hydraulic fluid connections are tight and all hydraulic hoses and lines are in good condition before applying pressure to the system. If leaks occur, have the unit serviced immediately by your authorized dealer.
25. **WARNING:** Stored energy device. Improper release of springs can result in serious personal injury. Springs should be removed by an authorized technician.
26. Models equipped with an engine radiator: **WARNING:** Stored energy device. To prevent serious bodily injury from hot coolant or steam blow-out, never attempt to remove the radiator cap while the engine is running. Stop the engine and wait until it is cool. Even then, use extreme care when removing the cap.

Safety Decals

This unit has been designed and manufactured to provide you with the safety and reliability you would expect from an industry leader in outdoor power equipment manufacturing.

Although reading this manual and the safety instructions it contains will provide you with the necessary basic knowledge to operate this equipment safely and effectively, we have placed several safety labels on the unit to remind you of this important information while you are operating your unit.

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 your local dealer for replacements.

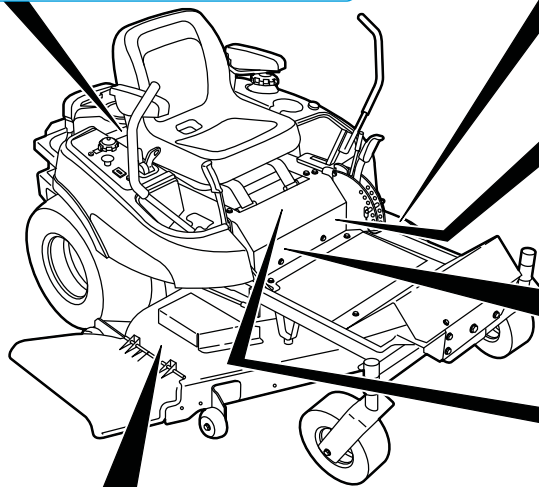
These labels are easily applied and will act as a constant visual reminder to you, and others who may use the equipment, to follow the safety instructions necessary for safe, effective operation.

| ⚠ WARNING ⚠ ADVERTENCIA | |
|--|--|
| AMPUTATION AND PINCH POINT HAZARD To avoid injury from rotating parts, stay clear of parts and keep all shields and guards in place. | |
| PELIGRO DE AMPUTACIÓN Y PARTES PUNTIAGUDAS Para evitar alguna lesión de las partes giratorias, alejese de las partes y mantenga todas las pantallas y guardas en su lugar. | |

P/N: 5100093
“Decal, Warning, Hand in Pulley”

| ⚠ DANGER ⚠ PELIGRO | |
|--|--|
| AMPUTATION HAZARD To avoid injury from rotating blades, stay clear of deck edge. | |
| PELIGRO DE AMPUTACIÓN Para evitar lesiones causadas por las cuchillas, mantenerse alejado del borde de la plataforma de corte. | |

P/N: 5100088
“Decal, Danger, Mower”



| ⚠ PELIGRO | |
|---|--|
| Peligros de incendio • Mantenga la unidad libre de pasto, hojas y aceite excesivo. • NO cargue combustible mientras el motor esté caliente o encendido. • PARE el motor y permita para fresco por por lo menos 3 minutos antes de cargar combustible. • NO cargue combustible en espacios cerrados como remolques, cocheras u otras áreas cerradas. • Limpie el combustible que se derrame. • NO fume mientras opere esta máquina. | |
| Peligro del monóxido de carbono El motor emite venenoso monóxido de carbono gas. • Evite de inhalar humos del extractor. • Único operar al aire libre. | |

P/N: 5100709 “Decal, Danger, Fire (SP)”

| ⚠ DANGER | |
|--|--|
| Fire hazard • Keep unit free of grass, leaves and excess oil. • Do NOT add fuel while engine is hot or running. • STOP engine and allow to cool for at least 3 minutes prior to adding fuel. • Do NOT add fuel indoors, in an enclosed trailer, garage or other enclosed areas. • Clean up spilled fuel. • Do NOT smoke while operating this machine. | |
| Carbon monoxide hazard The engine emits poisonous carbon monoxide gas. • Avoid inhaling exhaust fumes. • Only operate outdoors. | |

P/N: 5100708 “Decal, Danger, Fire”

| ⚠ DANGER | | ⚠ PELIGRO | |
|---|--|-----------|--|
| AMPUTATION AND THROWN OBJECTS HAZARD To avoid injury from rotating blades, stay clear of deck edge and keep others away. Do not mow without discharge chute or entire grass catcher in place. | | | PELIGRO DE AMPUTACIÓN Y OBJETOS ARROJADOS Para evitar sufrir lesiones causadas por las cuchillas giratorias y objetos lanzados, mantenerse alejado del borde de la plataforma de corte y mantener a las demás personas alejadas de la máquina. No usar la máquina sin el tubo de descarga o sin el recogedor de pasto en su lugar. |

P/N: 5101292 “Decal, Danger, Mower Discharge”

| ⚠ WARNING | | ⚠ ADVERTENCIA | |
|--|---|---|---|
| • Read operator's manual(s). • Know location and function of all controls. • Keep safety devices (guards, shields & switches) in place and working. • Remove objects that can be thrown by the blade. • Do NOT mow when children or others are around. • NEVER carry children, even with blades off. • Look down and behind - before and while backing. • Avoid sudden turns. | • Go across slopes, NOT up and down. • If machine stops forward motion on a slope, stop the blades and drive slowly off the slope. • Be sure blades and engine are stopped before placing hands or feet near blades. • When leaving machine, shut off engine, remove key, and set parking brake. • Do NOT operate this machine unless you are trained. • Operating on slopes can be hazardous. | • Lea el o los manuales del operador. • Conozca la ubicación y la función de cada uno de los controles. • Mantenga los dispositivos de seguridad (guardas, pantallas e interruptores) en su lugar y funcionando. • Retire objetos que puedan ser arrojados por la cuchilla. • NO pade el oído si hay niños u otras personas alrededor. • NUNCA lleve niños, ni siquiera con las cuchillas apagadas. • Mire hacia abajo y hacia atrás, antes de echarse en reversa y al hacerlo. • Evite dar vueltas bruscas. | • Vaya de un lado a otro por la cuesta, NO de arriba hacia abajo y viceversa. • Si la máquina detiene el avance en una cuesta, detenga las cuchillas y conduzca lentamente hasta salir de ella. • Asegúrese de detener las cuchillas y el motor antes de acercar las manos o los pies a las cuchillas. • Cuando deje la máquina, apague el motor, quite la llave y ponga el freno de mano. • NO opere esta máquina a menos que esté capacitado para ello. • Operar la podadora en cuestas puede ser peligroso. |
| ⚠ DANGER | | ⚠ PELIGRO | |
| Operating on steep slopes can cause sliding and loss of steering, control and rollover. • See operator's manual. • Reduce speed and use extreme caution on slopes. • Avoid sudden turns or rapid speed changes. • Do NOT operate on slopes over 15°. | | Operar la podadora en cuestas pronunciadas puede hacer que se deslice, pierda el control de conducción y se vuelque. • Si no puede echarse en reversa en una colina, NO opere en ella. • Vea el manual del operador. • Baje la velocidad y extreme precauciones en las cuestas. • Evite dar vueltas bruscas y los cambios rápidos de velocidad. • NO opere en cuestas con un ángulo mayor a 15°. | |
| ⚠ DANGER | | ⚠ PELIGRO | |
| Amputation hazard To avoid injury to children, stop mower when children are near. Do not mow in reverse. Look behind when backing. Never carry riders, especially children. | | Wheels dropping over edges, ditches or embankments can cause rollovers, which may result in serious injury, death or drowning. Do NOT operate near drop-offs or near water. | |
| Operating on wet or slippery slopes can cause sliding and loss of steering and control. Do NOT operate on any slopes when wet or slippery. | | | |
| Las ruedas pueden caer por los bordes, zanjas o diques haciendo que se vuelque y resultando en lesiones graves, la muerte o ahogamiento. NO opere la podadora cerca de barrancos ni cerca del agua. | | | |
| Operar la podadora en cuestas mojadas o resbalosas puede hacer que se deslice pierda el control de conducción. NO opere la podadora en una cuesta que esté mojada o resbalosa. | | | |

P/N: 5101314 “Decal, Main Safety”

Identification Tags

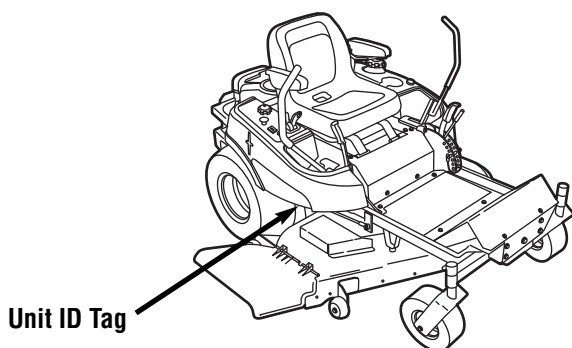


North American Models

When contacting your authorized dealer for replacement parts, service, or information you MUST have these numbers.

Record your model name/number, manufacturer's identification numbers, and engine serial numbers in the space provided on the inside front cover for easy access. These numbers can be found in the locations shown.

NOTE: For location of engine identification numbers, refer to the engine owner's manual.



SAFETY INTERLOCK SYSTEM

This unit is equipped with safety interlock switches. These safety systems are present for your safety, do not attempt to bypass safety switches, and never tamper with safety devices. Check their operation regularly.

Operational SAFETY Checks

Test 1 — Engine should NOT crank if:

- PTO switch is engaged, OR
- Parking brake is not engaged, OR
- Ground Speed / Steering Control Levers are not in the NEUTRAL position.

Test 2 — Engine SHOULD crank and start if:

- PTO switch is NOT engaged, AND
- Parking brake is engaged, AND
- Ground Speed / Steering Control Levers are locked in the NEUTRAL position.

Test 3 — Engine should SHUT OFF if:

- Operator rises off seat with PTO engaged, OR
- Operator rises off seat with parking brake disengaged.
- Operator moves ground speed / steering control levers out of their neutral positions before disengaging parking brake.

Test 4 — Blade Brake Check


Mower blades and mower drive belt should come to a complete stop within five (5) seconds after electric PTO switch is turned off (or operator rises off seat). If mower drive belt does not stop within five (5) seconds, see your dealer.

NOTE: Once the engine has stopped, PTO switch must be turned off, parking brake must be engaged, and the ground speed / steering control levers must be locked in the NEUTRAL position after the operator returns to the seat in order to start the engine.

WARNING

If the unit does not pass a safety test, do not operate it. See your authorized dealer. Under no circumstance should you attempt to defeat the purpose of the safety interlock system.

Safety Icons

The alert symbol  is used to identify safety information about hazards that can result in personal injury. A signal word (DANGER, WARNING, or CAUTION) is used with the alert symbol to indicate the likelihood and the potential severity of the injury. In addition, a hazard icon may be used to represent the type of hazard. An explanation of hazard levels and icons are as follows:

DANGER

This indicates a hazard which, if not avoided, **will result in serious injury or death.**

WARNING

This indicates a hazard which, if not avoided, **could result in serial injury or death.**

CAUTION

This indicates a hazard which, if not avoided, **might result in minor or moderate injury.**

CAUTION or NOTICE

These messages presented without the alert symbol indicate a situation where the unit or property could be damaged.

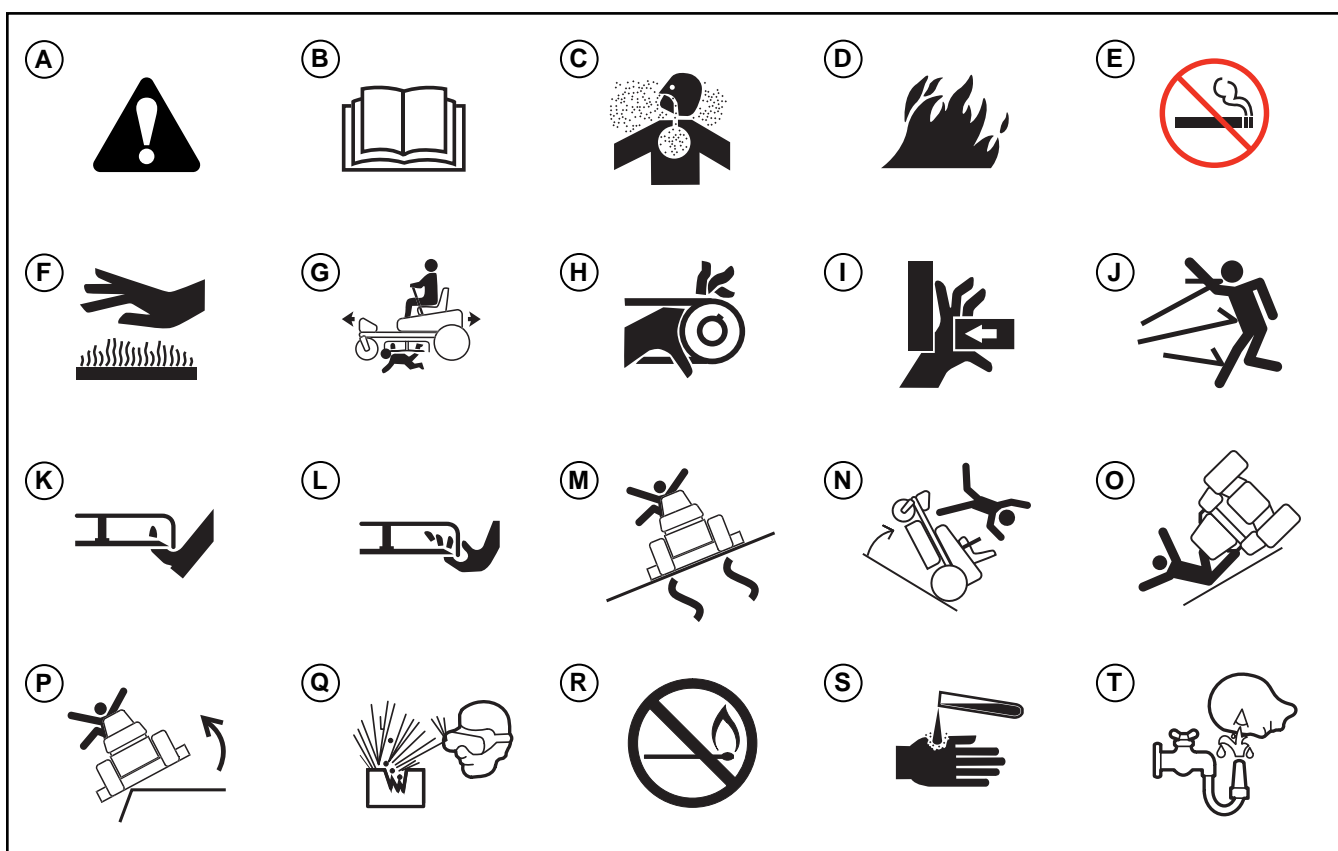


Figure 1. Safety Icons

A. Alert

B. Read the Manual

C. Toxic Fumes

D. Fire Hazard

E. No Smoking

F. Hot Surface

G. Keep Children Away

H. Amputation - Rotating Parts

I. Pinch Point

J. Thrown Objects

K. Amputation - Foot in Blade

L. Amputation - Hand in Blade

M. Slippery Slopes

N. Machine Tip Over

O. Rollover Hazard

P. Drop Off Hazard

Q. Shield Eyes. Explosive Gases can cause blindness or injury

R. No Sparks, Flames or Smoking

S. Corrosive Substance

T. Flush Eyes Immediately with water. Get Medical help fast.

Assembly



Read and follow the assembly and adjustment instructions for your mower.

All fasteners are in the parts bag. Do not discard any parts or material until the unit is assembled.

NOTE: In this instruction book, left and right describe the location of a part with the operator on the seat.

Parts Bag - Contents

The fasteners and other loose parts are shown below. The quantity is shown in brackets ().

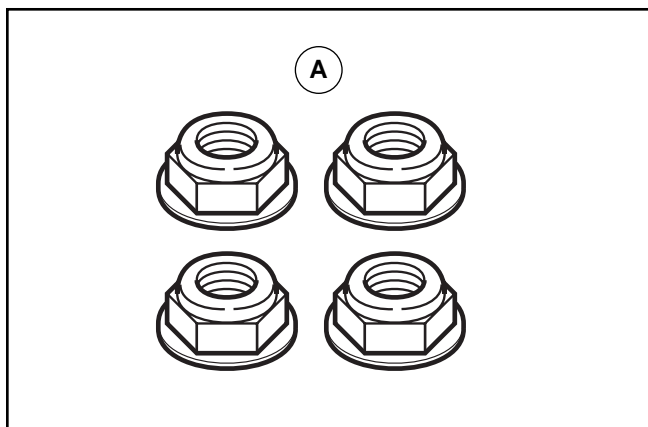


Figure 2. Parts Bag Components
A. 5/16 Nylock Flange Nut (Qty: 4)

WARNING

Before doing any assembly or maintenance to the mower, remove the wires from the spark plugs.

Install the Ground Speed / Steering Control Levers

Positioning the Ground Speed / Steering Control Levers:

The ground speed / steering control levers (A, Figure 3) must be moved to the upright position before attempting to operate the machine.

1. Remove the bottom mounting hardware (B). Discard the manilla tag (C).
2. Loosen the upper mounting hardware (D).
3. Position the ground speed / steering control levers in the upright position. See Figure 3.
4. Loosely install the 5/16-18 X 1" bolt (E), 5/16" lock washer (F), and 5/16" flat washer (G) through the ground speed / steering control lever into the control lever base (H) as shown in Figure 3.
5. Repeat process for other side of unit.

Lever Alignment Adjustment:

1. From the neutral position, pivot the ground speed / steering control levers in towards the center of the machine. If one of the levers is tilted further forward (B, Figure 4) or back (A) then the other lever, pivot the levers forward or backwards to align with each other (C). Tighten the mounting bolts.

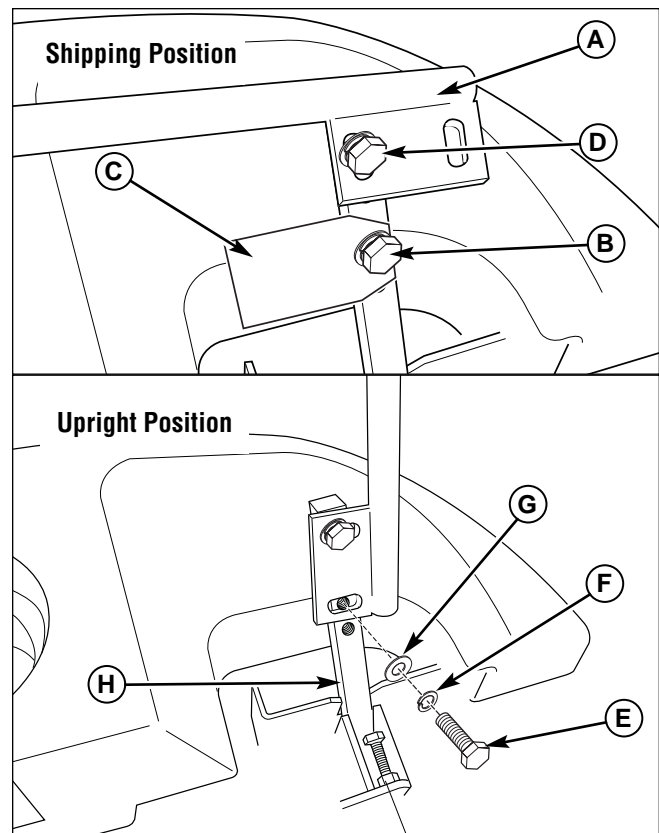


Figure 3. Install Control Levers (Left Side Shown)

- A. Control Lever
- B. Bottom Mounting Hardware
- C. Manilla Tag
- D. Upper Mounting Hardware
- E. 5/16-18 x 1" Bolts
- F. 5/16 Lock washers
- G. 5/16 Washers
- H. Control Lever Base

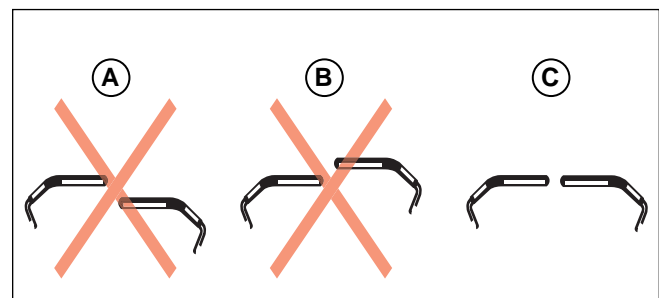


Figure 4. Lever Alignment & Placement Adjustment

- A. Levers Misaligned (One Lever Tilted Behind the Other)
- B. Levers Aligned Incorrectly (One Lever Tilted In Front of the Other)
- C. Levers Aligned Correctly

Seat & Safety Switch Assembly

1. Pivot the ground speed / steering control levers out to the NEUTRAL position and pivot the seat plate (B, Figure 5) forward.
2. Mount the seat (A) to the seat plate (B) using four 5/16-18 nylock flange nuts (C) and tighten securely.
3. Press the seat switch wire harness end (D) onto the seat switch until the latch of the seat switch wire harness end snaps down over the lock on the seat switch.

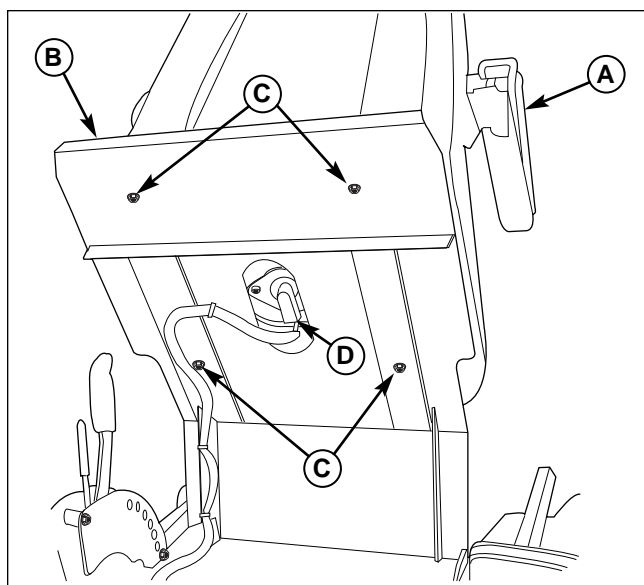


Figure 5. Seat Installation

- A. Seat
- B. Seat Plate
- C. 5/16-18 Nylock Flange Nut (4)
- D. Seat Switch Wire Harness

Seat Adjustment

The seat and ground speed control levers should be adjusted so that operator's elbows are supported by the arm rests when his/her hands are on the controls, and the ground speed control levers can be moved through their full range of motion without contacting the operator's legs.

Seat Position Adjustment

The seat can be adjusted forward and back. Move the adjustment lever (A, Figure 6) towards the left hand side of the machine, slide the seat to the desired position, and release the lever.

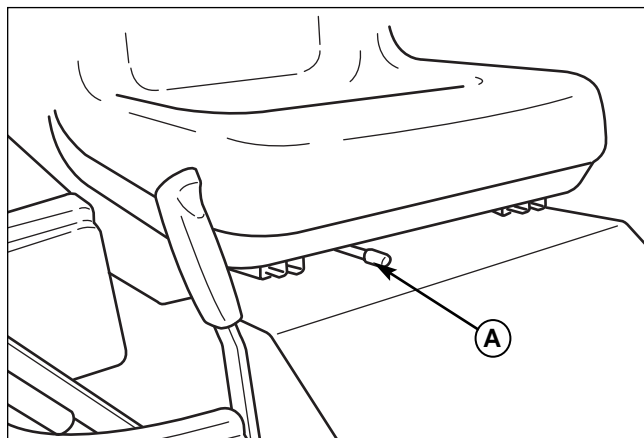


Figure 6. Seat Adjustment

- A. Adjustment Lever

Charge The Battery

! WARNING

BATTERY SAFETY RULES

- Battery acid causes severe burns. Avoid contact with skin.
- Wear eye protection while handling the battery.
- To avoid an explosion, keep flames and sparks away from battery, especially while charging.
- When installing battery cables, **CONNECT THE POSITIVE (+) CABLE FIRST** and negative (-) cable last. If not done in this order, the positive terminal can be shorted to the frame by a tool.

IMPORTANT: Before attempting to operate the machine for the first time, check the battery date. The battery date will tell you if the battery needs to be charged.

1. Tip the seat forward to access the battery.
2. Check the top of the battery for the battery date.
3. If the battery is put into service before the battery date, then the battery does not have to be charged.
4. If the battery is put into service after the battery date, then the battery must be charged. See Step 5.
5. To charge the battery, follow the instructions provided by the battery charger manufacturer as well as all warnings included in the safety rules section of this document. Charge the battery until fully charged (until the specific gravity of the electrolyte is 1.250 or higher and the electrolyte temperature is at least 60° F). Do not charge at a rate higher than 10 amps.

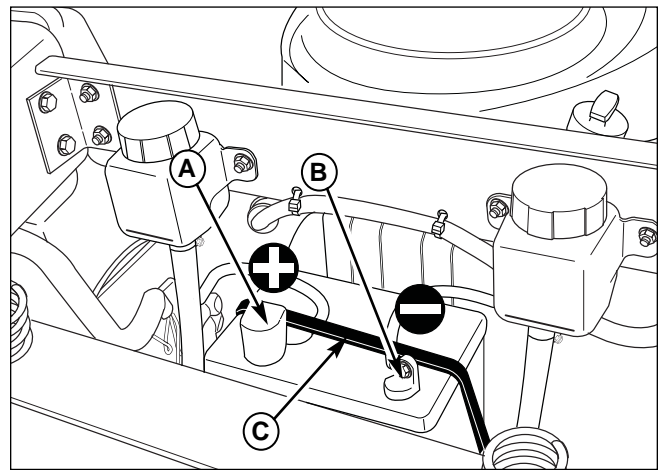


Figure 7. Battery

A. Positive Cable & Cover

B. Negative Cable

C. Rubber Hold-Down Strap

How to Prepare the Engine

NOTE: The engine was shipped from the factory filled with oil. Check the level of the oil. Add oil as needed.

NOTE: The operation of a new engine will sometimes result in a slight amount of smoke. This smoke is caused by paint or oil on or around the muffler. This is normal and only expected during initial operation.

A separate engine manual is also included with the unit. See this engine manual for the manufacturer's instructions for the type of oil and gasoline to use. Before you use the unit, read the information on safety, operation, maintenance and storage.

WARNING

Follow the engine manufacturer's instructions for the type of gasoline and oil to use. Always use a safety gasoline container. Do not smoke when adding gasoline to the engine. When inside and enclosure, do not fill with gasoline. Before you add gasoline, stop the engine. Let the engine cool for several minutes.

IMPORTANT: This unit is equipped with an internal combustion engine and must not be used on or near any unimproved forest-covered, brush-covered or grass-covered land unless the engine's exhaust system is equipped with a spark arrestor meeting applicable local or state laws (if any). If a spark arrestor is used, it must be maintained in effective working order by the operator.

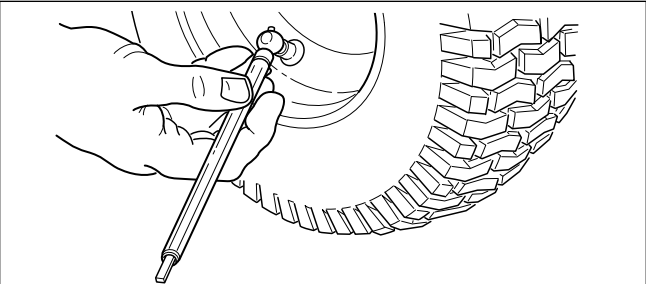
In the state of California the above is required by law (Section 4442 of the California Public Resources Code). Other states may have similar laws. Federal laws apply federal lands.

In some areas, local laws requires the use of a resistor spark plug to control the ignition signals. See an Authorized Service Center for a resistor spark plug for the engine.

NOTE: Actual sustained horsepower will likely be lower due to operating limitations and environmental factors.

Check Tire Pressures

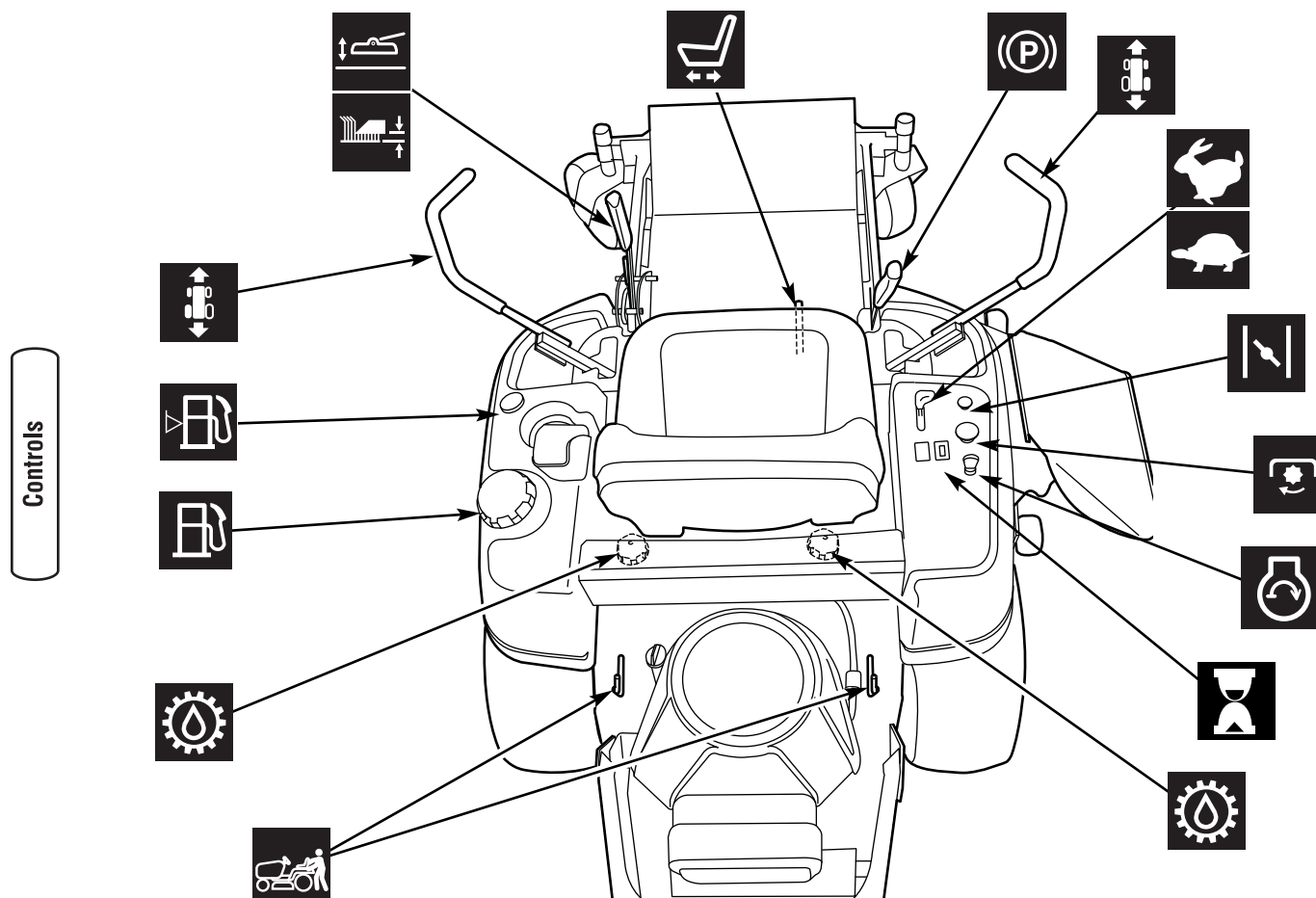
Tire pressure should be checked periodically, and maintained at the levels shown in the chart. Note that these pressures may differ slightly from the "Max Inflation" stamped on the side-wall of the tires. The pressures shown provide proper traction, improve cut quality, and extend tire life.



| Tire | Pressure |
|-------|-------------------|
| Front | 25 psi (1,72 bar) |
| Rear | 15 psi (1,03 bar) |

Figure 8. Checking Tire Pressure

Features and Controls



CONTROL FUNCTIONS

The information below briefly describes the function of individual controls. Starting, stopping, driving, and mowing require the combined use of several controls applied in specific sequences. To learn what combination and sequence of controls to use for various tasks see the OPERATION section.



Ground Speed / Steering Control Levers

These levers control the ground speed and steering control of the rider. The left lever controls the left rear drive wheel and the right controls the right rear drive wheel.

Moving a lever forward increases the FORWARD speed of the associated wheel, and pulling back on a lever increases the REVERSE speed.

The further a lever is moved away from the neutral position the faster the drive wheel will turn.

See the OPERATION section for steering instructions.



Throttle Control

The throttle controls engine speed. Move the throttle forward to increase engine speed and back to decrease engine speed. Always operate at FULL throttle.



Choke

Close the choke for cold starting. Open the choke once the engine starts. A warm engine may not require choking. Pull the knob up to close the choke. Push the knob down to open the choke.



Ignition Switch

The ignition switch starts and stops the engine; it has three positions:



OFF

Stops the engine and shuts off the electrical system.



RUN

Allows the engine to run and powers the electrical system.



START

Cranks the engine for starting.

NOTE: Never leave the ignition switch in the RUN position with the engine stopped—this drains the battery.



Hour Meter

The hour meter measures the number of hours the key has been in the RUN position.

Note: The hour meter will register the passage of time when the key is in the RUN position, even if the engine is not running. The hour meter has a self contained power source so the total hours are always visible.



PTO Switch

The PTO (Blade Engage) switch engages (turns the blades on) and disengages (turns the blades off) the mower deck. To engage the PTO, pull UP on the switch. Push DOWN to disengage. Note that the operator must be seated firmly in the rider seat for the PTO to function.



Transmission Oil Fill

Transmission oil is added through the transmission oil reservoirs. It also serves as extra holding capacity for oil as the transmissions heat up and the oil expands. See CHECK TRANSMISSION OIL LEVEL for oil level check and fill procedures.



Transmission Release Levers

The transmission release levers deactivate the transmissions so that the unit can be pushed by hand. See PUSHING THE UNIT BY HAND for operational information.



Seat Adjustment Lever

The seat can be adjusted forward and backward. Move the adjustment lever towards the left, slide the seat to the desired position, and release the lever.



Fuel Tank



Fuel Level Gauge

To remove the cap, turn counterclockwise. The fuel gauge is mounted in the fuel tank and indicates the amount of fuel in the tank.



Mower Height of Cut Adjustment

To adjust cutting height, pull the large lever back fully to lock the control in the attachment raised transport position. Position the cutting height selector pin on the appropriate hole to achieve the desired cutting height. Pull back on the small lift latch lever and large lever simultaneously, and lower the mower into cutting position.

For attachment transport lift, pull the large lift lever back fully to lock the control in the attachment raised transport position.



Parking Brake



Disengage

Releases the parking brake.



Engage

Locks the parking brake.

Pull the parking brake lever back to engage the parking brake. Move the lever fully forward to disengage the parking brake. *NOTE: To start the unit the parking brake must be engaged.*

Operation

General Operating Safety

Before first time operation:

- Be sure to read all information in the Safety and Operation sections before attempting to operate this tractor and mower.
- Become familiar with all of the controls and how to stop the unit.
- Drive in an open area without mowing to become accustomed to the unit brake lever or set the parking brake.

WARNING

Never operate on slopes greater than (15°) which is a rise of 5.4 feet (1,6 m) vertically in 20 feet (6 m) horizontally.

Select slow ground speed before driving onto a slope. Use extra caution when operating on slopes with a rear-mounted grass catcher.

Mow across the face of slopes, not up and down, use caution when changing directions and **DO NOT START OR STOP ON SLOPE.**

WARNING

Never allow passengers to ride on the unit.

Before leaving the operator's position for any reason, engage the parking brake, disengage the PTO, stop the engine and remove the key.

To reduce fire hazard, keep the engine, tractor and mower free of grass, leaves and excess grease. Do not stop or park tractor over dry leaves, grass or combustible materials.

Gasoline is highly flammable and must be handled with care. Never fill the tank when the engine is still hot from recent operation. Do not allow open flame, smoking or matches in the area. Avoid over-filling and wipe up any spills.

Checks Before Starting

- Check that crankcase is filled to full mark on dipstick. See the engine Operator's Manual for instructions and oil recommendations.
- Make sure all nuts, bolts, screws and pins are in place and tight.
- Adjust the seat position, and make certain you can reach all controls from operator's position.
- Fill the fuel tank with fresh fuel. Refer to engine manual for fuel recommendations.

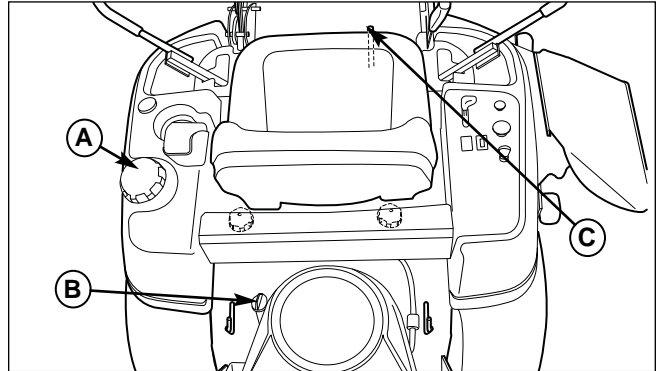
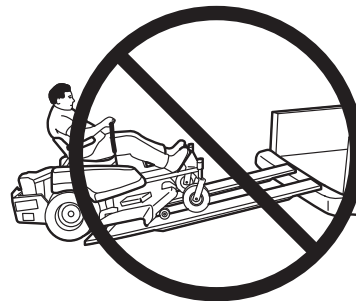


Figure 9. Pre-Start Checks

- A. Fuel Tank Cap
- B. Crankcase Oil Fill
- C. Seat Adjustment Lever

WARNING

Do not load this zero-turn rider on a trailer or truck using two separate ramps. Only use a single ramp that is at least one foot wider than the width of the rear wheels of this rider. This rider has a zero turning radius and the rear wheels could fall off the ramps, or the rider could tip over injuring the operator or bystanders.



WARNING

If you do not understand how a specific control functions, or have not yet thoroughly read the **FEATURES & CONTROLS** section, do so now. Do NOT attempt to operate the tractor without first becoming familiar with the location and function of ALL controls.

Starting the Engine

1. While sitting in the operator's seat, engage the parking brake and make sure the PTO switch is disengaged and the ground speed / steering control levers are locked in the NEUTRAL position.
2. **NOTE: A warm engine may not require choking.**
Set the engine throttle control to FAST throttle position. Then fully close the choke by pulling the knob OUT fully.
3. Insert the key into the ignition switch and turn it to START.
4. After the engine starts, gradually open the choke (push knob down fully). Reduce to half throttle speed and allow the engine to warm up.

Warm up the engine by running it for at least a minute before engaging the PTO switch or driving the rider.

5. **After warming the engine, ALWAYS operate the unit at FULL THROTTLE when mowing.**

In the event of an emergency the engine can be stopped by simply turning the ignition switch to STOP. Use this method only in emergency situations. For normal engine shut down follow the procedure given in **STOPPING THE RIDER.**

Stopping the Rider and Engine

1. Returning the ground speed / steering control levers to the middle position will stop tractor movement. Pivot the levers outward and lock them in NEUTRAL.
2. Disengage the PTO by pushing down on the PTO switch.
3. Engage the parking brake by pulling the handle up until it locks into position.
4. Move the throttle control to mid-throttle position and turn the ignition key to OFF. Remove the key.



DO NOT TOW RIDER

Towing the unit will cause transmission damage. Do not use another vehicle to push or pull this unit.

Pushing the Rider by Hand

1. Disengage the PTO, engage the parking brake, turn the ignition OFF, and remove the key.
2. Locate the transmission release levers (A, Figure 10) by the rear wheels of the unit.
3. Pull both levers back and out so that they lock in the disengaged (free-wheel) position (C).
4. Disengage the parking brake.
The tractor can now be pushed by hand.
5. After moving the tractor, re-engage the transmissions by pulling the transmission release levers rearward and inward to release them from the disengaged position and then allow them to move to the engaged (drive) position (B).

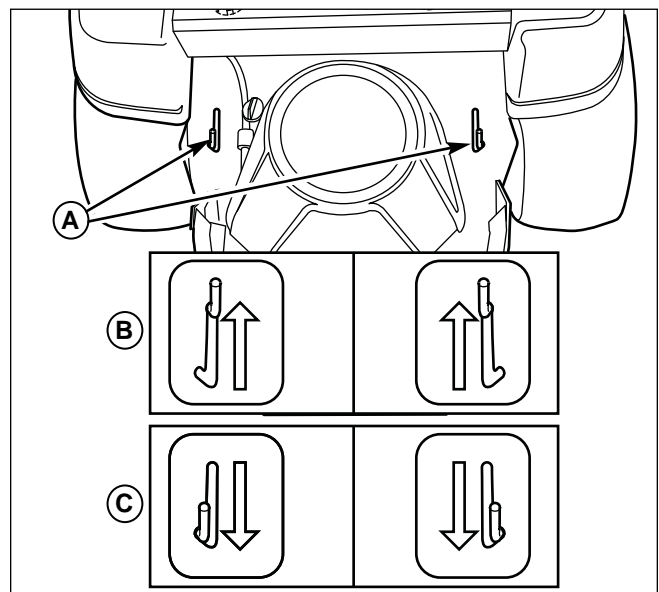


Figure 10. Transmission Release Levers

- A. Transmission Release Levers
- B. Engaged Position (Drive Position)
- C. Disengaged Position (Free-wheel Position)

Zero-Turn Driving Practice

The lever controls of the Zero Turn rider are responsive, and learning to gain a smooth and efficient control of the rider's forward, reverse, and turning movements will take some practice.

Spending some time going through the maneuvers shown and becoming familiar with how the unit accelerates, travels, and steers — before you begin mowing — is absolutely essential to getting the most out of the Zero Turn rider.

Locate a smooth, flat area of your lawn — one with plenty of room to maneuver. (Clear the area of objects, people and animals before you begin.) Operate the unit at mid-throttle during this practice session (ALWAYS operate at full throttle when mowing), and turn slowly to prevent tire slippage and damage to your lawn.

We suggest you begin with the Smooth Travel procedure to the right, and then advance through the forward, reverse, and turning maneuvers.

You must release the parking brake prior to moving the control levers inward.

Smooth Travel

The lever controls of the Zero Turn rider are responsive .

The BEST method of handling the ground speed control levers is in three steps — as shown in Figure 11.

FIRST place your hands onto the levers as shown.

SECOND, to go forward gradually push the levers forward with your palms.

THIRD, to speed up move the levers farther forward. To slow down smoothly, slowly move the levers toward neutral.

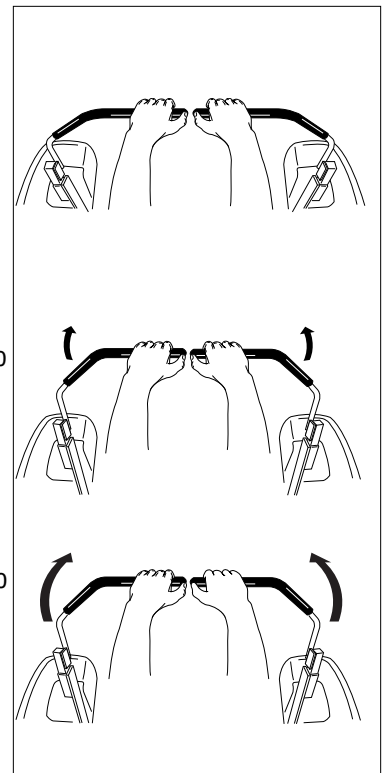


Figure 11. Move Control Levers Gradually

Basic Driving

Forward Travel Practice

Gradually move both ground speed control levers — evenly FORWARD from neutral. Slow down and repeat.

NOTE: Straight forward travel takes practice. If necessary, top speed can be balance-adjusted — see the Speed Balancing Adjustment in the Adjustments section near the back of this manual.

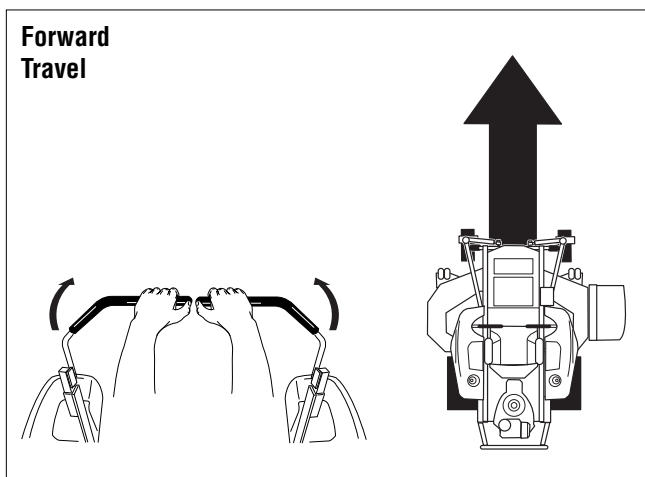


Figure 12. Forward Travel

Reverse Travel Practice

LOOK DOWN AND BEHIND, then gradually move both ground speed control levers evenly BACK from neutral. Slow down and repeat.

NOTE: Practice backing up for several minutes before attempting to do so near objects. The rider turns sharply in reverse as well as forward, and backing up straight takes practice.

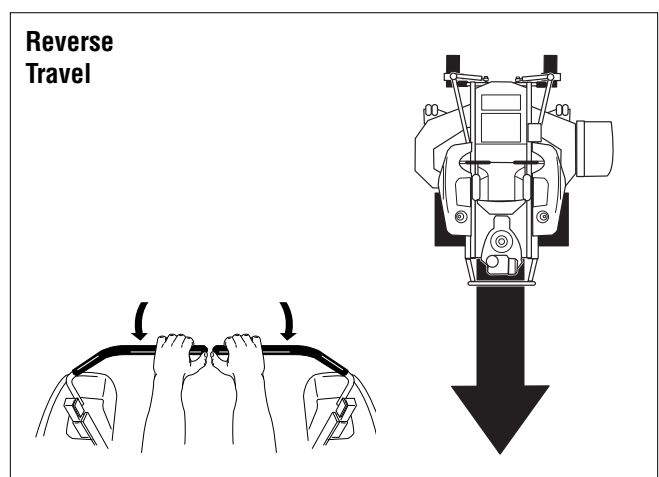


Figure 13. Reverse Travel

Practice Turning Around a Corner

While traveling forward bring one handle gradually back toward neutral. Repeat several times.

NOTE: To prevent pivoting directly on the tire tread, it is best to keep both wheels going at least slightly forward.

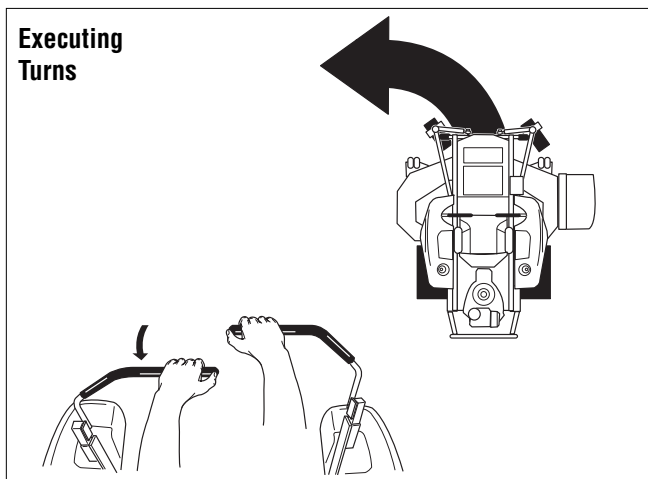


Figure 14. Turning Around a Corner

Practice Turning In Place

To turn in place, “Zero Turn,” gradually move one ground speed control lever forward from neutral and one lever back from neutral simultaneously. Repeat several times.

NOTE: Changing the amount each lever is pulled—forward or back, changes the “pivot point” you turn on.

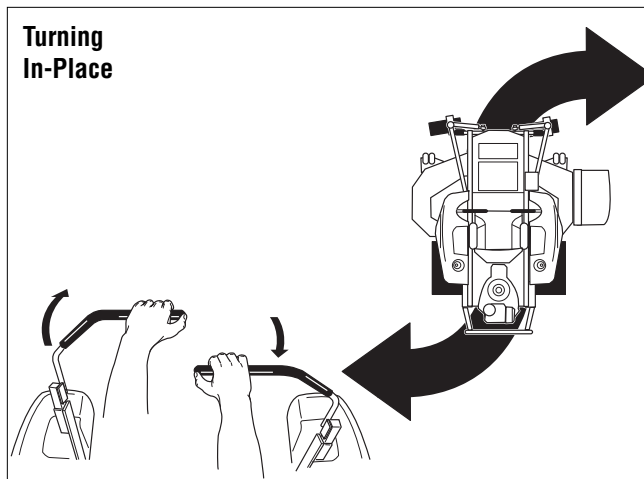


Figure 15. Turning in Place

Advanced Driving

Executing an End-Of-Row Zero Turn

Your Zero Turn Rider’s unique ability to turn in place allows you to turn around at the end of a cutting row rather than having to stop and Y-turn before starting a new row.

For example, to execute a left end-of row zero turn:

1. Slow down at the end of the row.
2. Move the RIGHT ground speed control lever forward slightly while moving the LEFT ground speed control lever back to center and then slightly back from center.
3. Begin mowing forward again.

This technique turns the rider LEFT and slightly overlaps the row just cut —eliminating the need to back up and re-cut missed grass.

As you become more familiar and experienced with operating the Zero Turn rider, you will learn more maneuvers that will make your mowing time easier and more enjoyable.

Remember, the more you practice, the better your control of the Zero Turn will be!

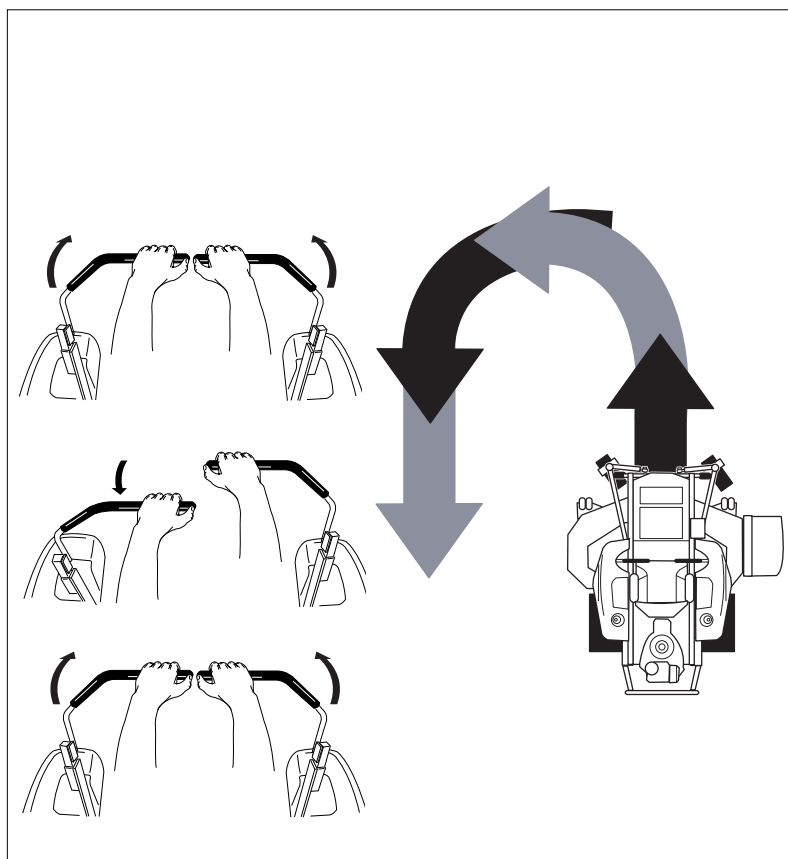


Figure 16. Executing an End-Of-Row Turn

Mower Removal and Installation

NOTE: Perform mower deck installation and removal on a hard flat surface such as a concrete floor.

Removal

1. Disengage the PTO, engage the parking brake, turn off the ignition, remove the key, and wait for all moving parts to stop.
2. Remove the cutting height pin and lower the attachment lift to its lowest position.
3. Remove the mower deck guards.

WARNING

Use extreme caution when rotating the idler arm with the breaker bar, due to increased tension in the spring as the idler arm is being rotated. Injury may result if the breaker bar is prematurely released while the spring is under tension.

4. Using a 1/2" breaker bar, place the square end in the square hole located in the idler arm (A, Figure 18). Carefully rotate the breaker bar COUNTER-CLOCKWISE, which will relieve the tension on the belt exerted from the idler arm. Slide the belt off of the stationary idler pulley (B).
5. Carefully release the tension on the breaker bar.
6. Remove the belt from the PTO pulley (C, Figure 17)
7. Pull the hair pins (C & D, Figure 19) and disconnect the deck leveling links (I & J). Pull the hair pin and disconnect the roller bar connecting rod (M). Pull and turn the rod locks (A, B, E & F) to release the rod ends.
8. Lift the front of the deck using a 2 x 4 as a lever, pull the handle (G) forward to release the front hangers rod ends (H), then push rearward to release the rear rod ends.
9. Pivot the front wheels out of the way and slide the mower deck out from under right side of the unit.

Installation

1. Disengage the PTO, engage the parking brake, turn off the ignition, remove the key, and wait for all moving parts to stop.
2. Remove the cutting height pin and lower the attachment lift to its lowest position.
3. Pivot the front wheels out of the way and slide the mower deck under the unit.
4. Install the leveling links and hair pins (I, J, C & D).
5. Lift the rear of the mower deck and install the rear lift rods (K & L) and secure with the rear rod locks (E & F).
6. Install the roller bar connecting rod (M) and the hair pin.
7. Lift the front of the deck using a 2 x 4 as a lever, pull the handle (G) to align the front hanger rod ends (H) with the slots and secure with the front rod locks (A & B).
8. Install the belt as shown in Figure 17. Make sure that the V-side of the belt runs in the pulley grooves of the spindle pulleys.
9. Install the belt on the PTO pulley, the spindle pulleys and all the idler pulleys except the stationary idler pulley (B, Figure 18). Carefully rotate the breaker bar COUNTER-CLOCKWISE and install the belt on the stationary idler pulley. Carefully release the tension on the breaker bar.
10. Reinstall the mower deck guards.

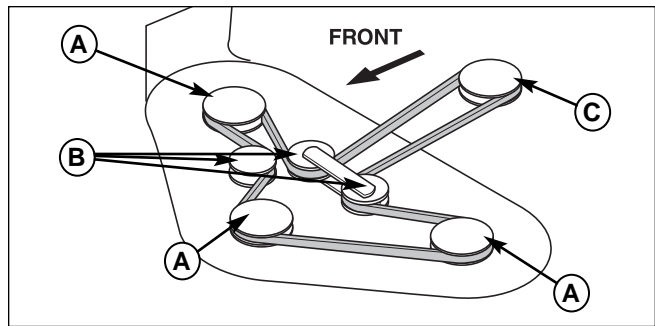


Figure 17. Mower Belt Routing

- A. Arbor Pulleys
- B. Back-Side Idlers
- C. PTO Pulley

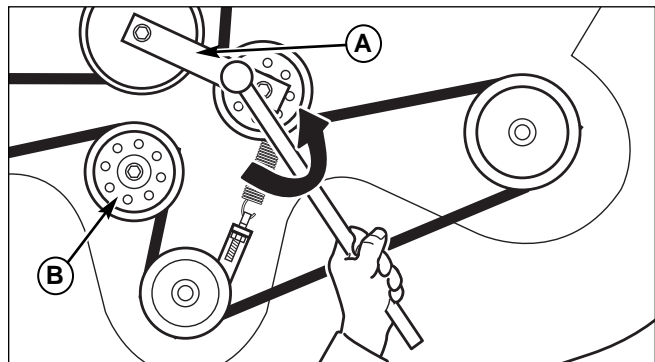


Figure 18. Release Belt Tension

- A. Idler Arm
- B. Stationary Idler Pulley

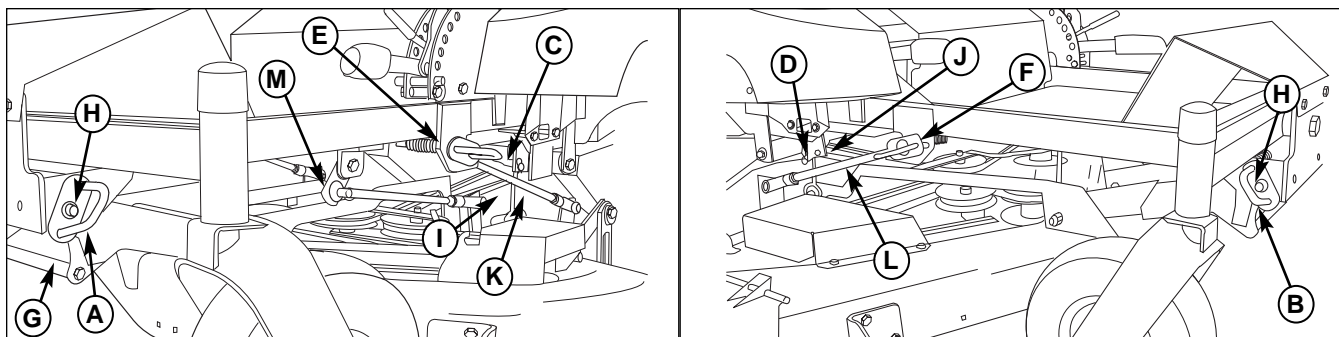


Figure 19. Mower Installation & Removal

- A. Left Front Rod Lock
- B. Right Front Rod Lock
- C. Left Leveling Link Hair Pin
- D. Right Leveling Link Hair Pin

- E. Left Rear Rod Lock
- F. Right Rear Rod Lock
- G. Handle
- H. Front Hanger Rod Ends
- I. Left Leveling Link
- J. Right Leveling Link

- K. Left Rear Lift Rod
- L. Right Rear Lift Rod
- M. Roller Bar Connecting Rod (select models)

Mowing

Before mowing, set the cutting height as described in *Cutting Height Adjustment*.

- Engage the parking brake. Make sure the PTO switch is disengaged and the ground speed / steering control levers are in the NEUTRAL position.
- Start the engine (see STARTING THE ENGINE).
- Set the throttle to FULL.
- Engage the PTO by pulling up on the PTO switch.
- Begin mowing. See *Mowing Recommendations* section for tips on mowing patterns and lawn care. See *Trouble Shooting* section for information on trouble shooting common cutting problems.
- When finished, shut off the PTO.
- Stop the engine (see STOPPING THE TRACTOR AND ENGINE).

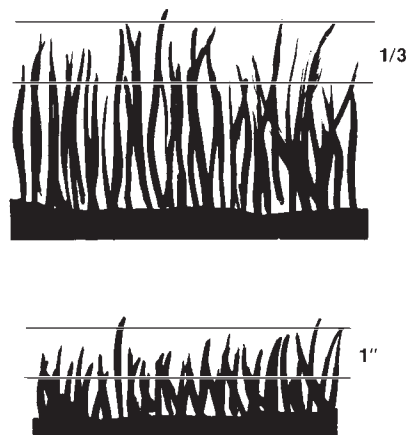


Figure 20. Proper Cutting Height

Mowing Recommendations

Several factors can affect how well your machine cuts grass. Following proper mowing recommendations can improve the performance and life of your machine.

Height of Grass

Often cutting height is a matter of personal preference. Typically, you should mow the grass when it is between three and five inches high. The proper cutting height range for a specific lawn will depend upon several factors, including the type of grass, the amount of rainfall, the prevailing temperature, and the lawn's overall condition.

Cutting the grass too short causes weak, thin grass plants, which are easily damaged by dry periods and pests. Cutting too short is often more damaging than allowing the grass to be slightly higher.

Letting grass grow a bit longer—especially when it is hot and dry—reduces heat build-up, preserves needed moisture and protects the grass from heat damage and other problems. However, allowing grass to grow too high can cause thin turf and additional problems.

Cutting off too much at one time shocks the plant's growth system and weakens the grass plants. **A good rule of thumb is the 1/3 rule: to cut no more than one third of the grass height, and never more than 1 inch at a time.**

The amount of grass you are able to cut in one pass is also effected by the type of mowing system you are using (for example, broadcasting with side discharge decks can process a much larger volume of grass than mulching does).

Tall Grass Requires Incremental Cutting

For extremely tall grass, set the cutting height at maximum for the first pass, and then reset it to the desired height and mow a second or third time.

Don't cover the grass surface with a heavy layer of clippings. Consider using a grass collection system and starting a compost pile.

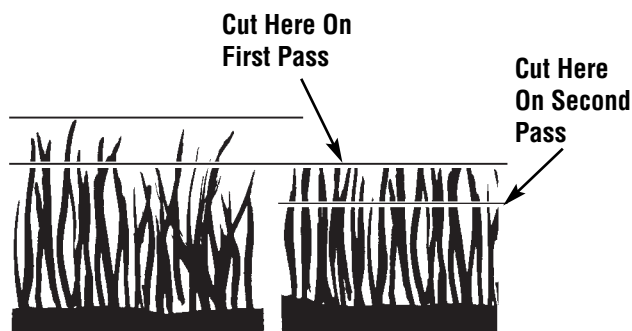


Figure 21. Incremental Cutting

When and How Often to Mow

The time of day and condition of the grass greatly affect the results you'll get when mowing. For the best results, follow these guidelines:

1. Mow when the grass is between three and five inches high.
2. Mow with sharp blades. Short clippings of grass one inch or shorter decompose more quickly than longer blades. Sharp mower blades cut grass cleanly and efficiently, preventing frayed edges which harm the grass.
3. Mow at time of day when the grass is cool and dry. Late afternoon or early evening often provide these ideal mowing conditions.
4. Avoid mowing after rain or even heavy dew, and never mulch when the grass is wet (moist grass does not mulch well, and clumps beneath the mower deck).

Mowing Patterns

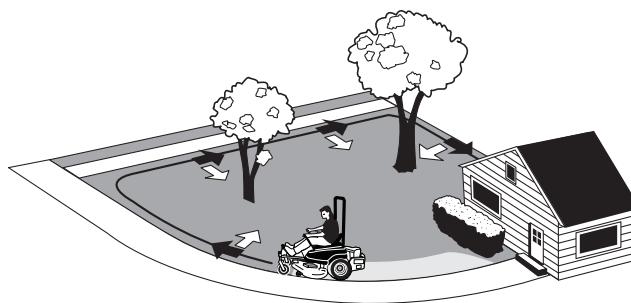
Always start mowing on a smooth, level area.

The size and type of area to be mowed will determine the best mowing pattern to use. Obstructions such as trees, fences and buildings, and conditions such as slopes and grades must also be considered.

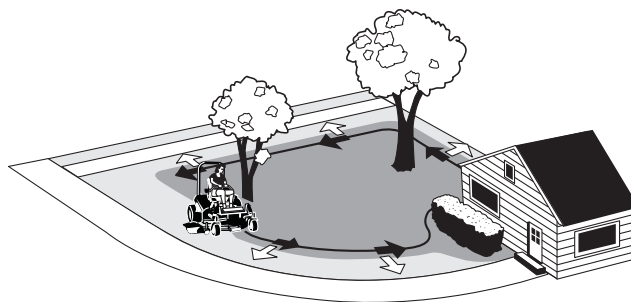
1. Cut long straight strips overlapping slightly.
2. Where possible, change patterns occasionally to eliminate matting, graining or a corrugated appearance.
3. For a truly professional cut, mow across the lawn in one direction, then recut the lawn by mowing perpendicular to the previous cut.

Note: Always operate the engine at full throttle when mowing.

If you hear the engine slowing down, you are mowing too fast—using a slower ground speed will improve the cutting efficiency of the blades and prevents many common cutting problems. Use an appropriate ground speed for the thickness and height of the grass you are cutting (3rd gear or slower for manual gear models). If you hear the engine slowing down you are mowing too fast, use a slower ground speed.



Where possible, make one or two passes around the outside of the area discharging the grass INTO the lawn to keep the cut grass off fences and walks.



The remainder of the mowing should be done in the opposite direction so that the clippings are dispersed OUT onto the area of lawn previously cut.

Mowing Methods

Proper Broadcast Mowing

Broadcasting, or side-discharging, disperses fine clippings evenly over the entire lawn. Many golf courses use this method. Your mower has a deep dish deck to allow freer circulation of clippings so they are broadcast evenly over the lawn.

ENGINE SPEED & GROUND SPEED FOR BROADCASTING

Always operate the engine at full throttle when mowing. If you hear the engine slowing down, you are mowing too fast—using a slower ground speed will improve the cutting efficiency of the blades and prevents many common cutting problems.

ALWAYS use an appropriate ground speed for the thickness and height of the grass you are cutting (3rd gear or slower for manual gear models). If you hear the engine slowing down you are mowing too fast, use a slower ground speed.

HOW MUCH GRASS TO CUT OFF WHEN BROADCASTING

Mow when the grass is 3-5 inches long. Do not cut the grass shorter than 2 to 2-1/2 inches. Do not cut off more than 1 inch of grass in a single pass.

Proper Mulching

Mulching consists of a mower deck which cuts and recuts clippings into tiny particles and which then blows them down INTO the lawn. These tiny particles decompose rapidly into by-products your lawn can use. UNDER PROPER CONDITIONS, your mulching mower will virtually eliminate noticeable clippings on the lawn surface.

NOTE: When mulching under heavy cutting conditions, a rumbling sound may be present and is normal.

MULCHING REQUIRES EXCELLENT MOWING CONDITIONS

Mulching mowers cannot function properly if the grass is wet, or if the grass is simply too high to cut. Even more than normal mowing, mulching requires that the grass be dry and the appropriate amount is cut.

Do not use the mower as a mulching mower during the first two or three mowings in the spring. The long grass blades, quick growth, and often wetter conditions are more suitable for broadcasting (side-discharging) or grass bagging operation.

ENGINE SPEED & GROUND SPEED FOR BROADCASTING

Use full engine throttle matched with a slow ground speed so that clippings will be finely cut. Ground speed while mulching should be HALF of the speed that would be used when broadcasting (side discharging) under similar conditions. Since mulching requires more horsepower than broadcasting, using a slower ground speed is vitally important for proper mulching operation.

HOW MUCH GRASS TO MULCH

The best mulching action typically results from cutting only the top 1/2 inch to 3/4 inch of grass blade. This provides short clippings which decompose properly (much more quickly than longer clippings). The ideal cutting height will vary with climate, time of year, and quality of your lawn. We recommend that you experiment with both the cutting height and ground speed until you achieve the best cut. Start with a high cutting height and using progressively lower settings until you find a cutting height that is matched to your mowing conditions and preferences.

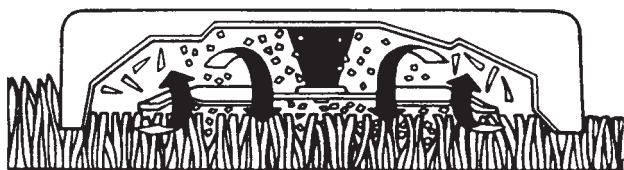


Figure 22. Mulching Action

Attaching a Trailer

The maximum weight of a towed trailer should be less than 200 lbs (91kg). Secure the trailer with an appropriately sized clevis pin (A, Figure 23) and clip (B).

Excessive towed loads can cause loss of traction and loss of control on slopes. Reduce towed weight when operating on slopes. The surface being driven on greatly impacts traction and stability. Wet or slippery surfaces can greatly reduce traction and the ability to stop or turn. Carefully evaluate the surface conditions before operating the unit and trailer, and never operate on slopes greater than 10°. See SLOPE OPERATION and TOWED EQUIPMENT in the safety section of this manual for additional safety information.

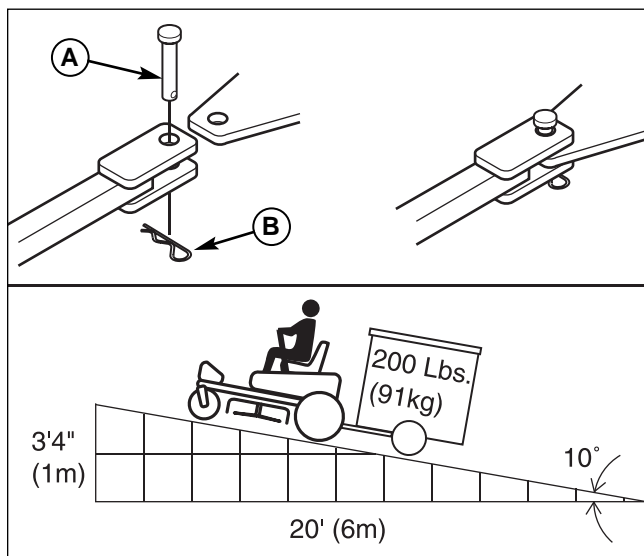


Figure 23. Trailer Weight Recommendations

- A. Clevis Pin
- B. Clip

Maintenance

Maintenance Schedule & Procedures

The following schedule should be followed for normal care of your rider and mower. You will need to keep a record of your operating time. Determining operating time is easily accomplished by observing the elapsed time recorded by the hour meter.

| SAFETY ITEMS | Before Each Use | Every 5 Hours | Every 25 Hours | Every 100 Hours | Every 200 Hours | Spring & Fall |
|---|------------------------|----------------------|-----------------------|------------------------|------------------------|--------------------------|
| Check Safety Interlock System | • | | | | | • |
| Check Mower Blade Stopping Time | | | | • | | • |
| RIDER MAINTENANCE ITEMS | Before Each Use | Every 5 Hours | Every 25 Hours | Every 100 Hours | Every 200 Hours | Spring & Fall |
| Check Rider / Mower for loose hardware | • | | | | | |
| Check / Clean Engine Cooling Fins | | | • | | | |
| Check / Adjust PTO Clutch | | | | • | | |
| Lubricate Rider & Mower ** | | | • | | | |
| Clean Battery & Cables | | | | • | | |
| Check Tire Pressure | | | • | | | |
| Clean Deck & Check/Replace Mower Blades** | | | • | | | |
| Check Transmission Oil | • | | | | | |
| Change Transmission Oil Filter ** | | | | | • | |
| ENGINE MAINTENANCE ITEMS | Before Each Use | Every 5 Hours | Every 25 Hours | Every 100 Hours | Every 200 Hours | Spring & Fall |
| Check Engine Oil Level | • | | | | | |
| Check / Change Engine Air Filter * | | | | | | |
| Change Engine Oil & Filter * | | | | | | |
| Inspect Spark Plug(s) * | | | | | | |
| Check / Replace Fuel Filter * | | | | | | |

* Refer to engine owner's manual. Change original engine oil after initial break-in period.

** More often in hot (over 85° F: 30° C) weather or dusty operating conditions.

Lubrication

Lubricate the unit at the following lubrication points shown in Figure 24.

Grease:



- front caster wheel axles
- front caster yokes
- roller straps (deck lift pivots)
- mower deck idler arm pivot
- mower deck arbors

Use grease fittings when present. Disassemble parts to apply grease to moving parts when grease fittings are not installed.

Not all greases are compatible. Use automotive-type lithium grease.

Oil:



- control handle pivots
- discharge chute hinge

Generally, all moving metal parts should be oiled where contact is made with other parts. Keep oil and grease off belts and pulleys. Remember to wipe fittings and surfaces clean both before and after lubrication.

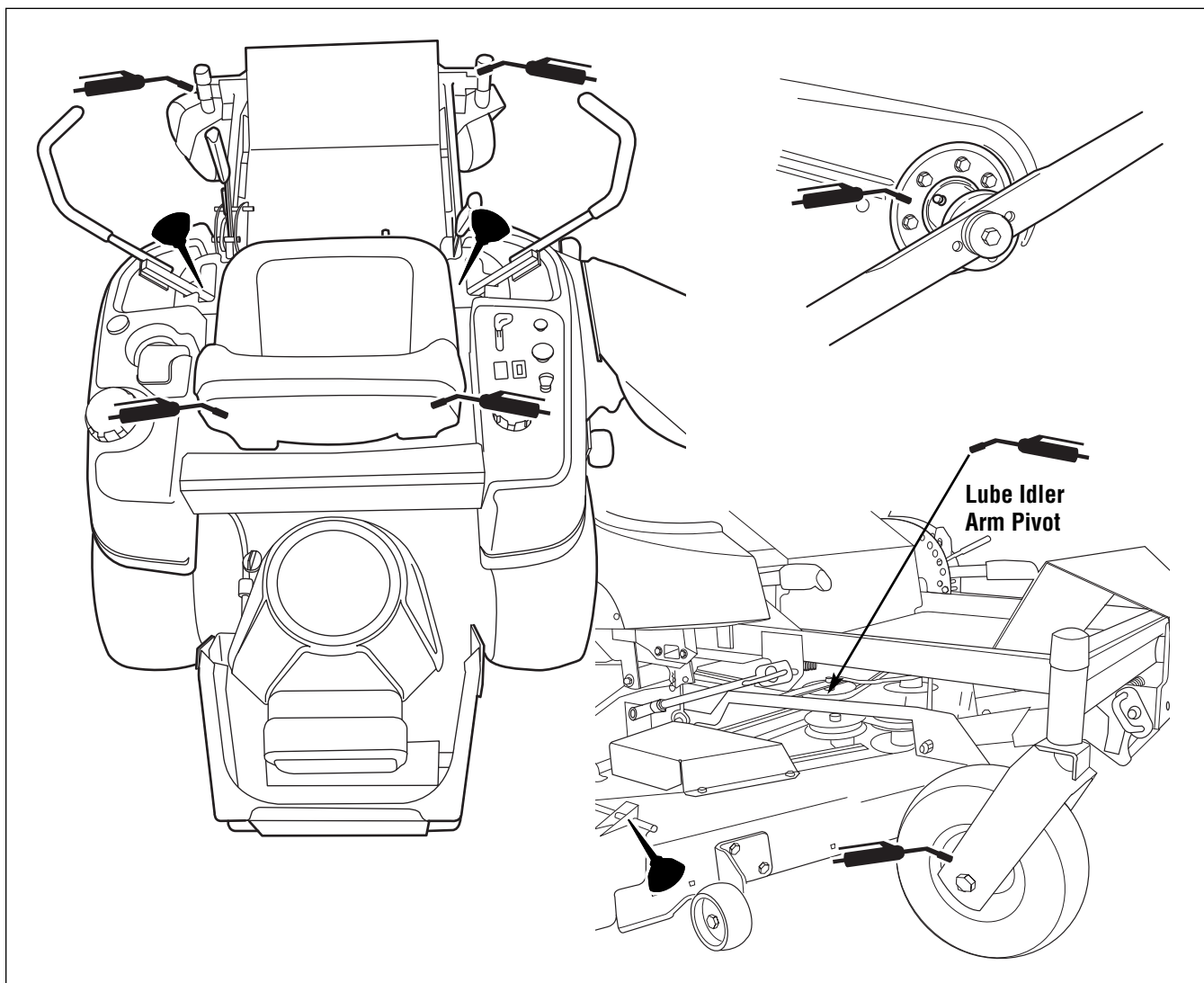


Figure 24. Lubrication

Servicing The Mower Blades

Removing the Mower Blade

⚠ CAUTION

Avoid injury! Mower blades are sharp.

- Always wear gloves when handling mower blades or working near blades.

1. See Figure 25. To remove the mower blade, wedge a wooden block between the mower blade and the mower deck housing to keep the mower blade from turning, then remove the mower blade and the mower blade retaining hardware.

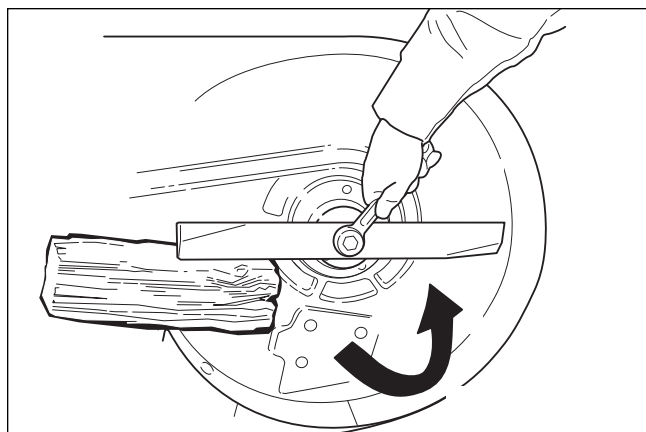


Figure 25. Loosening the Mower Blade for Removal

Inspecting the Mower Blades

⚠ DANGER

Avoid injury! A worn or damaged blade can break, and a piece of the mower blade could be thrown into the operator's or bystander's area, resulting in serious personal injury or death.

- Inspect the mower blade every 25 hours or at least once a year.
- If the mower blade hits a solid object, stop the engine immediately and inspect the mower blade.
- Never weld or straighten bent mower blades.

1. Remove the mower blade from the unit. *See Removing the Blade.*
2. Inspect the mower blade (Figures 26 & 27). **Discard the mower blade if it has any of the below conditions.**
 - A.) Has more than .5" (12,7 mm) of the mower blade metal removed from previous sharpening or wear (D, Figure 26).
 - B.) The air lifts are excessively eroded (B & C, Figure 27) and the notch (C) is .25" (6,35 mm) deep or greater.
 - C.) Mower blade is bent or broken.
3. If the cutting edges are not sharp or have nicks, sharpen the blades. *See Sharpening the Mower Blades.*

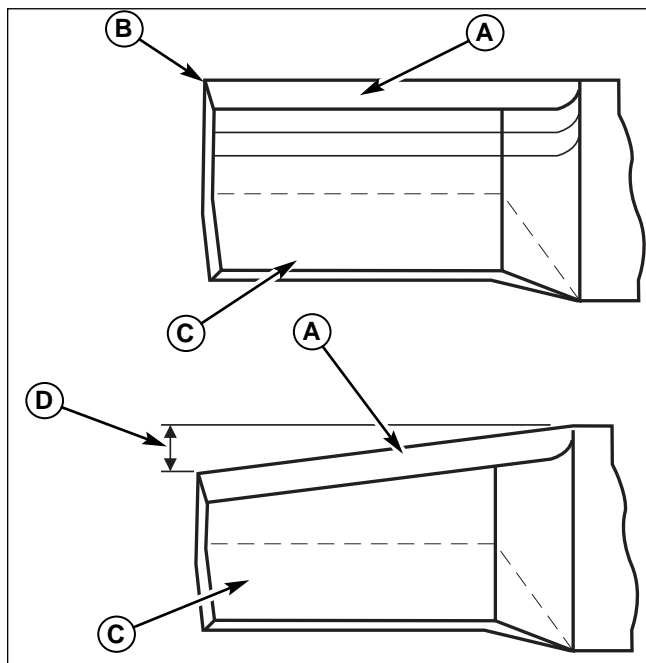


Figure 26. inspecting the Mower Blade Tips

- A. Mower Blade Cutting Edge
- B. Square Corner
- C. Air Lift
- D. Wear Measurement - **DISCARD** Mower Blade If greater than .5" (12,7 mm)

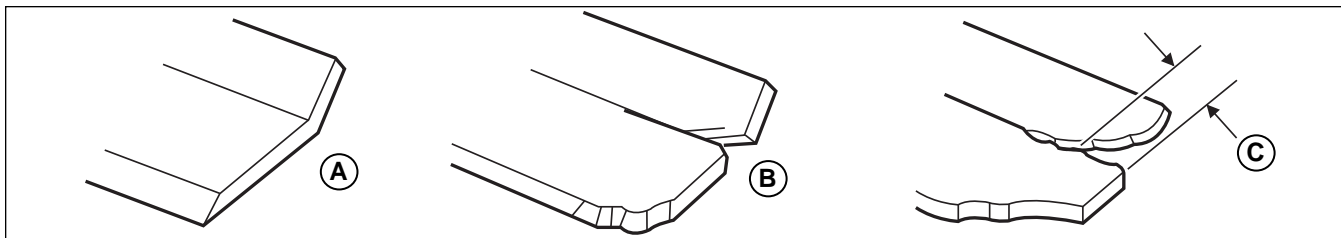


Figure 27. Inspecting the Mower Blade Air Lifts

- A. New Mower Blade
- B. Mower Blade at Wear Limit (A notch begins to form)
- C. Mower Blade in Dangerous Condition (Notch measures .25" (6,35 mm) or greater **DO NOT** USE. Replace with new mower blade.)

Sharpening the Mower Blade

CAUTION

Avoid injury! Mower blades are sharp.

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

1. Sharpen the mower blades with grinder, hand file, or electric blade sharpener.
2. Sharpen the mower blade by removing an equal amount of material from each end of the mower blade.
3. Keep the original bevel (A, Figure 28) when grinding. DO NOT change the mower blade bevel.
4. The mower blade should have a maximum 1/64" (0,40 mm) cutting edge (B) or less.
5. Balance the mower blades before installing.

Balancing the Mower Blades

CAUTION

Avoid injury! Keep mower blades balanced.

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

1. Clean the mower blade to remove any dried grass or other debris.
2. See Figure 29. Put the mower blade on a nail in a vise and turn the mower blade to the horizontal position.
3. Check the balance of the mower blade. If either end of the mower blade moves downward, sharpen the heavy end until the mower blade is balanced. *See Sharpening the Mower Blades* for proper sharpening instructions.
4. Repeat the process until the mower blade remains in the horizontal position.

Reinstalling the Mower Blades

WARNING

For your personal safety, each mower blade mounting bolt must be installed with a hex/spline washer and spring washer, then securely tightened. Torque mower blade mounting bolt to 45-55 ft. lbs. (61-75 Nm).

1. Reinstall each mower blade with the air lifts pointing up towards the mower deck as shown in Figure 30. Wedge a wooden block between the mower blade and the mower deck housing, and secure the mower blade with the mower blade mounting bolt, spring washer and spline washer (A, B & E, Figure 30) and torque to 45-55 ft. lbs. (61-75 Nm).

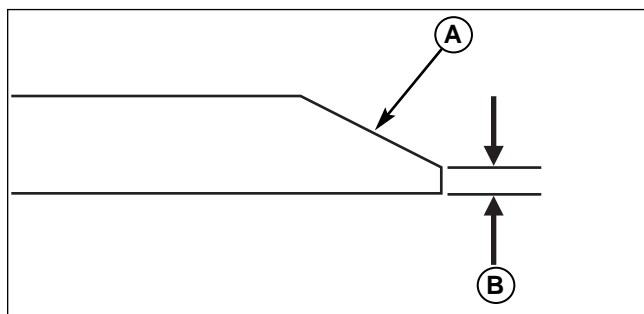


Figure 28. Sharpening the Mower Blade

A. Mower Blade Bevel

B. Mower Blade Cutting Edge

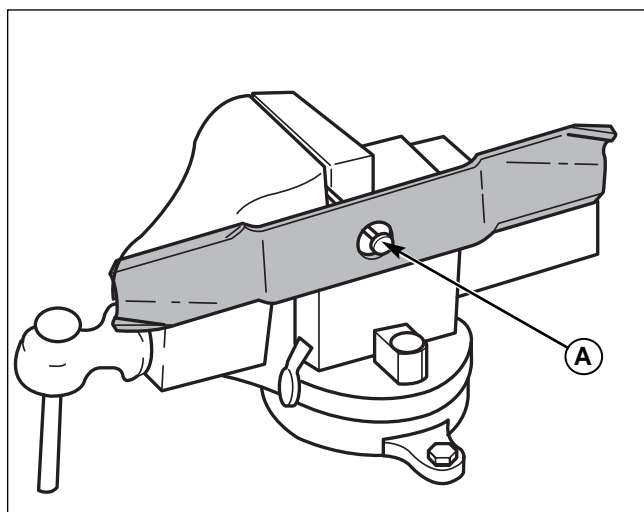


Figure 29. Balancing the Mower Blade

A. Nail

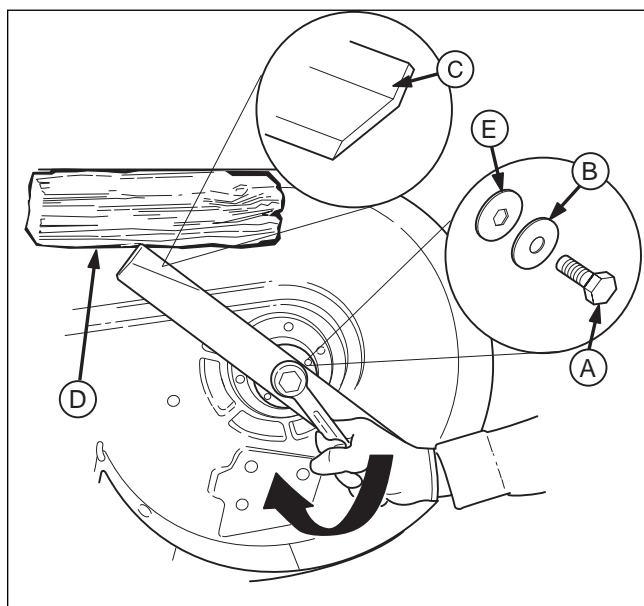


Figure 30. Tightening the Mower Blade for Installation

A. Mower Blade Mounting Bolt

B. Spring Washer

C. Mower Blade Air Lift (Install With Points Up)

D. 4 X 4 Wooden Block

E. Spline Washer

Engine Maintenance

Refer to engine owner's manual for all engine maintenance procedures and recommendations.

Adding Fuel

To add fuel:

1. Stop the engine and allow to cool for at least 3 minutes.
2. Remove the fuel cap (see A, Figure 31).
3. Fill the tank to the bottom of the filler neck. This will allow for fuel expansion.

NOTE: Do not overfill. Refer to your engine manual for specific fuel recommendations.

4. Install and hand tighten the fuel cap.

Fuel Filter

The fuel filter is located in the fuel line between the fuel tank and fuel pump. If the filter is dirty or clogged, replace as follows:

1. Disconnect the negative battery cable.
2. Place a container below the filter to catch spilled fuel.
3. Using pliers, open and slide the hose clamps from the fuel filter (C, Figure 31).
4. Remove the hoses from the filter.
5. Install the new filter in the proper flow direction in the fuel line.
6. Secure with the hose clamps.
7. Reconnect the negative battery cable when finished.

WARNING

Gasoline is highly flammable and must be handled with care. Never fill the tank when the engine is still hot from recent operation. Do not allow open flame, smoking or matches in the area. Avoid over-filling and wipe up any spills.

Do not remove fuel filter when engine is hot, as spilled gasoline may ignite. DO NOT spread hose clamps further than necessary. Ensure clamps grip hoses firmly over filter after installation.



Do not use gasoline containing METHANOL, gasohol containing more than 10% ethanol, gasoline additives, premium gasoline, or white gas because engine/fuel system damage could result.

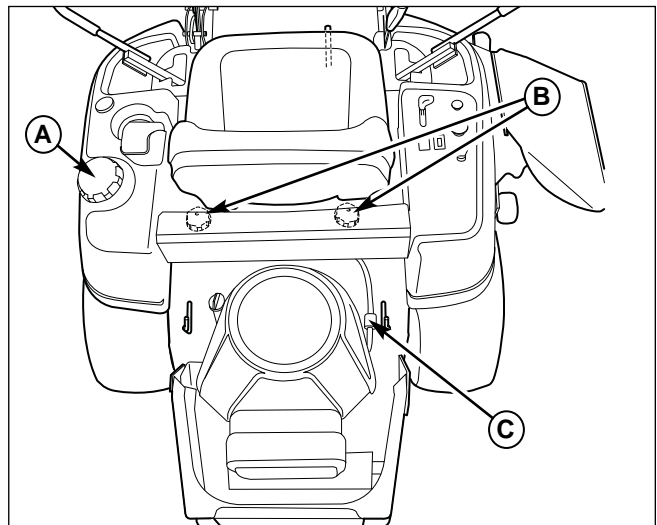


Figure 31. Maintenance

- A. Fuel Tank Cap
B. Transmission Oil Caps
C. Fuel Filter

Change Engine Oil & Filter

1. Warm the engine by running for a few minutes. (Refer to the engine operator's manual for oil & filter replacement instructions)
2. The oil drain hose (A, Figure 32) is located on the left side of the engine. Remove the oil drain hose from its storage position and re-position the oil drain hose over the side of the engine deck and place a small pan beneath it to catch the old engine oil.
3. Using the appropriate tools, remove the cap (C) from the oil drain tube.
4. After draining, replace the cap and wipe up any spilled oil. Reinstall the oil drain hose into the storage position (route around to the front of the engine) to retain the hose during normal operation.
5. Place an absorbent shop cloth under the engine oil filter (B). Remove the oil filter and discard.
6. Using a drop of oil (see the engine operator's manual for oil recommendations) on your finger tip, wet the rubber gasket on the bottom of the new filter.
7. Turn the filter clockwise until the rubber gasket meets the filter base. Then turn 1/2" to 3/4" of a turn more.
8. Add engine oil (Refer to the engine operator's manual for oil filling instructions.)
9. Remove the shop cloth and wipe up any spilled oil.

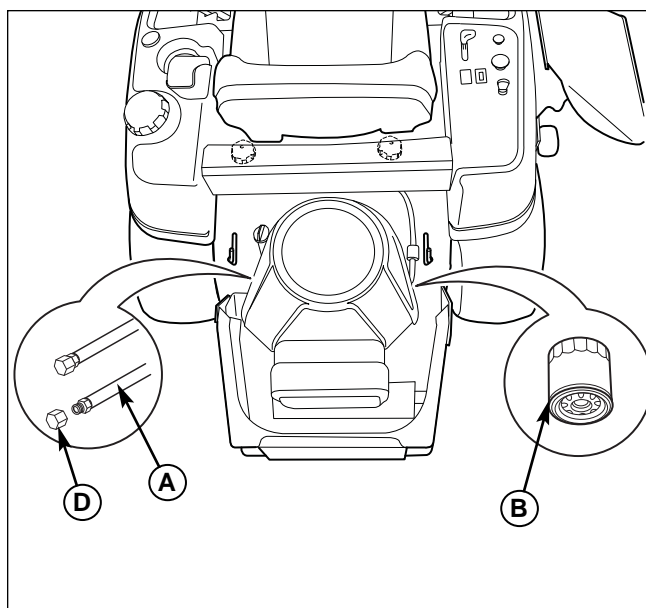


Figure 32. Change Engine Oil & Filter

A. Oil Drain Tube

B. Oil Filter

C. Cap

Check / Fill Transmission Oil

Oil Type: 20W-50 conventional detergent motor oil.

1. Check the oil level when the unit is cold. Raise the seat plate to gain access to the transmission oil reservoirs (A, Figure 33). The oil should be up to the “FULL COLD” mark (B). If the oil is below this level, proceed to step 2.
2. Before removing the reservoir cap, make sure the area around the reservoir cap and fill neck of the reservoir is free of dust, dirt, or other debris. Remove the reservoir cap.
3. Add oil up to the “FULL COLD” mark (B, Figure 33).
4. Reinstall the reservoir cap.

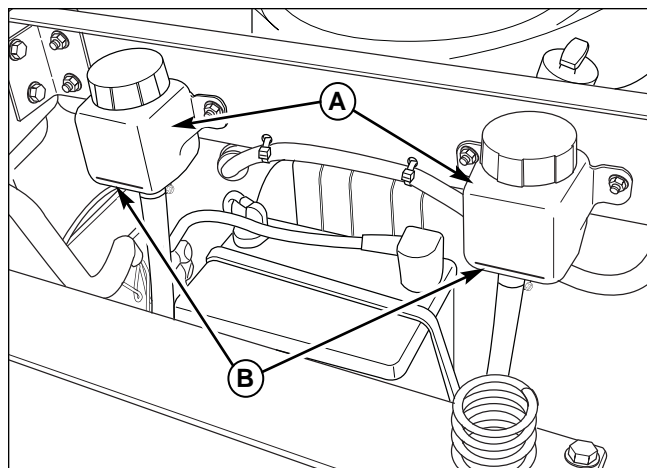


Figure 33. Transmission Oil Reservoirs

- A. Transmission Oil Reservoirs
B. “FULL COLD” Mark

Transmission Oil Filter Change

Change Interval: Every 200 Hours

1. Locate the transmission oil filters (A, Figure 34) underneath the rear of the machine on the transmissions.
2. Remove the three 1/4” filter guard screws (C) and the filter guard (B).
3. Clean the area around the filter base and remove the filter.
4. Apply a film of new oil to the gasket of the new replacement filter. After the oil has drained, thread the new filter onto the filter base until the gasket makes contact, then tighten 3/4 of a turn more.
5. Reinstall the filter guard with the three 1/4” filter guard screws
6. Using a hex bit swivel socket or a modified allen wrench remove the top port plug from the transmissions.
7. Remove the transmission reservoir cap and fill with oil until oil appears at the bottom of the transmission’s top port (approximately 2 qts (1,89L).
8. Reinstall the top port plug and tighten to 15 ft lbs (20,38 Nm).
9. Continue to add oil to the transmission oil reservoirs until the oil level reaches the “FULL COLD” mark. Reinstall the oil reservoir cap.
10. Repeat this process for the other side of the machine.
11. Run the unit for several minutes and check the transmission oil level.

IMPORTANT NOTE: Use caution after changing the filter; air in the hydraulic system may affect the responsiveness of the ground speed control levers. Repeat step 11 until the air is out of the system.

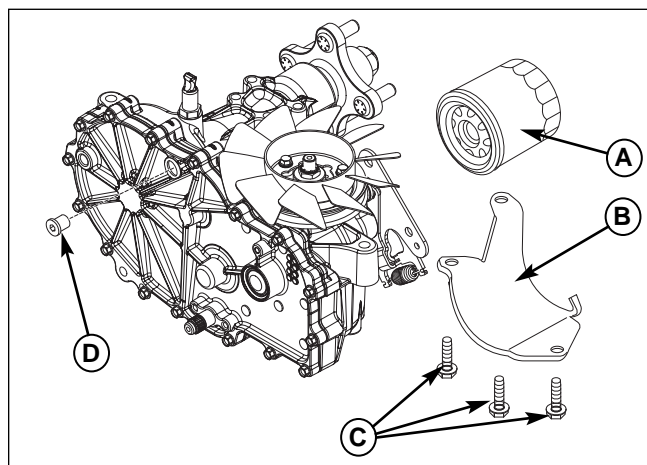


Figure 34. Transmission (Left Side Shown.)

- A. Transmission Oil Filter
B. Filter Guard
C. 1/4” Filter Guard Screws
D. Top Port Plug

Battery Maintenance

Cleaning the Battery and Cables

1. Disconnect the cables from the battery, negative cable first (B, Figure 34).
2. Clean the battery terminals and cable ends with a wire brush until shiny.
3. Reinstall the battery and reattach the battery cables, positive cable first (see A, Figure 34)
4. Coat the cable ends and battery terminals with petroleum jelly or non-conducting grease.

WARNING

Be careful when handling the battery. Avoid spilling electrolyte. Keep flames and sparks away from the battery.

When removing or installing battery cables, disconnect the negative cable FIRST and reconnect it LAST. If not done in this order, the positive terminal can be shorted to the frame by a tool.

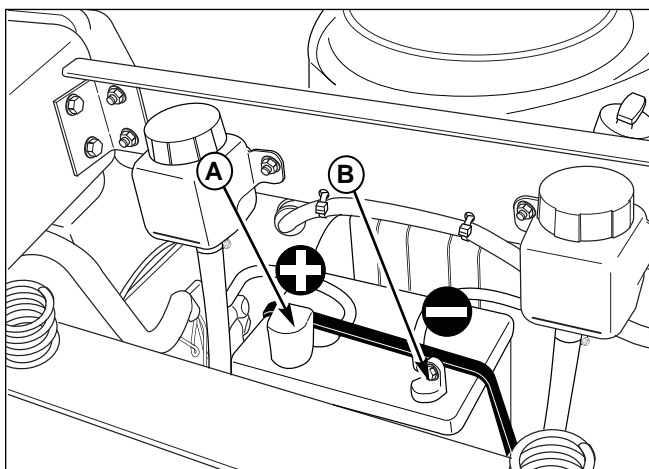


Figure 34. Battery Maintenance

A. Positive Cable

B. Negative Cable

Battery Charging

A dead battery or one too weak to start the engine may be the result of a defect in the charging system or other electrical component. If there is any doubt about the cause of the problem, see your dealer. If you need to replace the battery, follow the steps under Cleaning the Battery & Cables in the Regular Maintenance Section.

To charge the battery, follow the instructions provided by the battery charger manufacturer as well as all warnings included in the safety rules sections of this book. Charge the battery until fully charged. Do not charge at a rate higher than 10 amps.

Storage

Before you store your unit for the off-season, read the Maintenance and Storage instructions in the Safety Rules section, then perform the following steps:

- Disengage the PTO, set the parking brake, & remove the key.
- Perform engine maintenance and storage measures listed in the engine owner's manual. This includes draining the fuel system, or adding stabilizer to the fuel (do not store a fueled unit in an enclosed structure - see warning).
- Battery life will be increased if it is removed, put in a cool, dry place and fully charged about once a month. If the battery is left in the unit, disconnect the negative cable.

Before starting the unit after it has been stored:

- Check all fluid levels. Check all maintenance items.
- Perform all recommended checks and procedures found in the engine owner's manual.
- Allow the engine to warm up for several minutes before use.

WARNING

Never store the unit (with fuel) in an enclosed, poorly ventilated structure. Fuel vapors can travel to an ignition source (such as a furnace, water heater, etc.) and cause an explosion. Fuel vapor is also toxic to humans and animals.

WARNING

Keep open flames and sparks away from the battery; the gasses coming from it are highly explosive. Ventilate the battery well during charging.

Speed Balancing Adjustment

WARNING

DO NOT adjust the rider for a faster overall speed forward or reverse than it was designed for.

If the rider veers to the right or left when the ground speed / steering control levers are in the maximum forward or reverse position, the top speed of each of these levers can be balanced by turning the adjustment bolt(s) (A & C Figure 35). Only reduce the speed of the wheel that is traveling faster.

TO REDUCE THE SPEED OF THE FASTER WHEEL

1. Loosen the jam nut securing the top speed adjustment bolt (A, C).
2. Turn the top speed adjustment bolt COUNTER-CLOCKWISE to reduce the speed.
3. Retighten the securing nut when adjustment is complete.

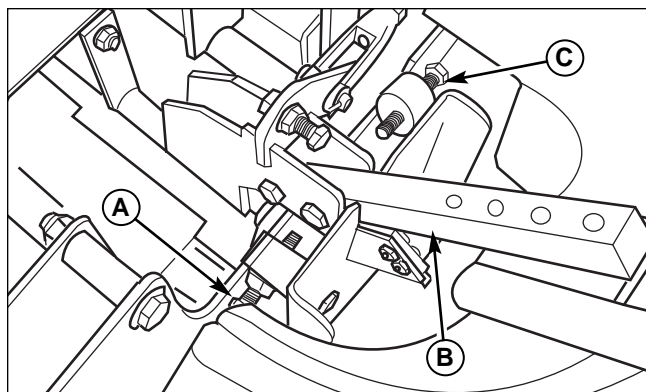


Figure 35. Top Speed Adjustment

- A. Forward Top Speed Adjustment Bolt
B. Control Lever Base
C. Reverse Top Speed Adjustment Bolt

Cutting Height Adjustment

The cutting height adjustment pin (A, Figure 36) controls the mower cutting height. The cutting height is adjustable between 1-1/2" (3,8 cm) and 4-1/2" (11,4cm). Pulling the lever back fully locks the control in transport position.

To adjust cutting height:

1. Pull the adjustment lever (B) back fully until it locks in transport position.
2. Remove the cutting height adjustment pin (A) and insert it into the desired hole.
3. Pull back on the adjustment lever (B), squeeze the smaller transport release lever (C), and allow the lever to move forward until it is supported by the cutting height adjustment pin (A).

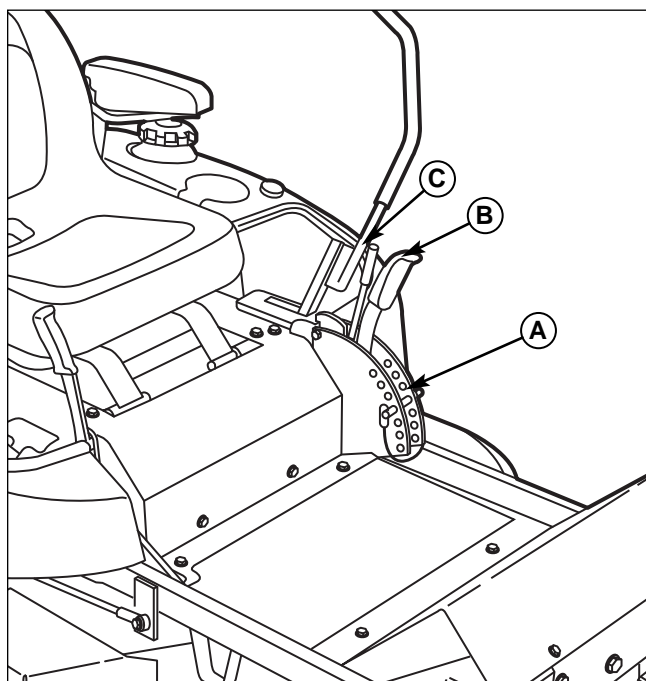


Figure 36. Cutting Height Adjustment

- A. Cutting Height Adjustment Pin
B. Deck Lift / Cutting Height Lever
C. Transport Release Lever

Neutral Adjustment

If the unit creeps forward or backward with the control levers in their neutral positions, contact Snapper at 1-800-317-7833.

Parking Brake Adjustment

If the unit creeps with the engine shut off and the parking brake engaged, the parking brake will need to be adjusted.

1. Disengage the PTO, stop the engine, engage the parking brake, and remove the key from the ignition.
2. Raise the seat plate to gain access to the parking brake components.
3. Measure the distance from the top of the brake spring rod (C, Figure 37) to the top of the lock nut (D) on both sides of the unit. The measurement should be $\frac{1}{2}$ " (1,27 cm). If not, adjust the locknut to achieve the measurement of $\frac{1}{2}$ " (1,27 cm).
4. Measure the distance between the bottom of the brake shaft weldment (G) and the top of the set collar (F). The measurement should be $\frac{3}{8}$ " (0,95 cm). If not, position the set collar until the measurement equals $\frac{3}{8}$ " (0,95 cm).

NOTE: If this procedure does not correct the problem see your dealer.

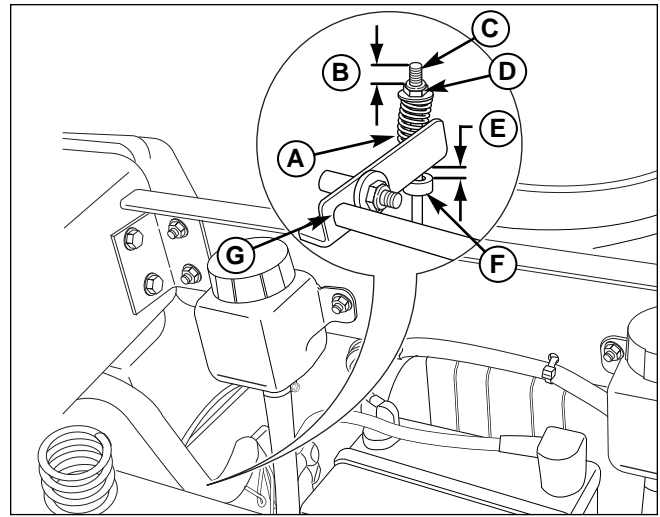


Figure 37. Parking Brake Adjustment

- A. Brake Spring
- B. First Measurement - $\frac{1}{2}$ " (1,27 cm)
- C. Brake Spring Rod
- D. Lock Nut
- E. Second Measurement - $\frac{3}{8}$ " (0,95 cm)
- F. Set Collar
- G. Brake Shaft Weldment

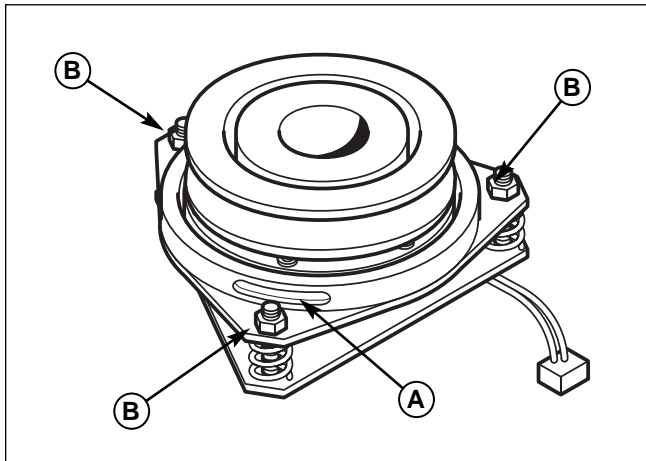


Figure 38. PTO Clutch Adjustment

- A. Adjustment Window (Qty. 3, one shown)
B. Adjustment Nut

PTO Clutch Adjustment

Check the PTO clutch adjustment after every 100 hours of operation. Also perform the following procedure if the clutch is slipping or will not engage, or if a new clutch has been installed.

1. Remove key from ignition switch and disconnect spark plug wires to prevent the possibility of accidental starting while the PTO is being adjusted.
2. See Figure 38. Note the position of the 3 adjustment windows (A) in the side of the brake plate and the nylock adjustment nuts (B).
3. Insert a .016"-.018" (0,40-0,45mm) feeler gauge (C) through each window, positioning the gauge between the rotor face and the armature face as shown in Figure 39.
4. Alternately tighten the adjustment nuts (B, Figure 38) until the rotor face and armature face just contacts the gauge.
5. Check the windows for an equal amount of tension when the gauge is inserted and removed, and make any necessary adjustments by tightening or loosening the adjustment nuts.

NOTE: The actual air gap between the rotor and armature may vary even after performing the adjustment procedure. This is due to dimensional variations on component parts, and is an acceptable condition.

6. Check the mower blade stopping time. The mower blades and mower drive belt should come to a complete stop within five (5) seconds after the electric PTO switch is turned off.

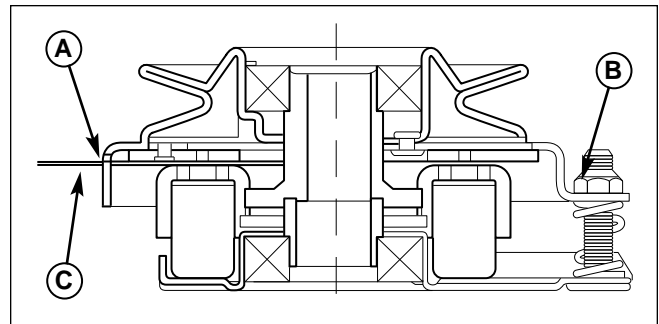


Figure 39. Adjust PTO Clutch

- A. Window
B. Adjustment Nut
C. .016"-.018" (0,40-0,45mm) Feeler Gauge

⚠ WARNING

To avoid serious injury, perform adjustments only with engine stopped, key removed and rider on level ground.

Blade Brake Check

Mower blades and mower drive belt should come to a complete stop within five (5) seconds after electric PTO switch is turned off.

1. With parking brake engaged, PTO disengaged and an operator in the seat, start the engine.
2. Have an assistant observe the mower drive belt through the opening between the frame and top of mower deck. Engage the PTO and wait several seconds. Disengage the PTO and check the amount of time it takes for the mower drive belt to stop.
3. If the mower drive belt does not stop within five (5) seconds, perform the PTO Clutch Adjustment. If the belt still does not stop within five (5) seconds, see your dealer.

Mower Deck Leveling

Perform these adjustments on a flat level surface.

SIDE-TO-SIDE LEVELING

1. With the mower installed, place the rider on a smooth, level surface such as a concrete floor. Turn the front wheels so they are straight.
2. Check for bent blades and replace if necessary.
3. Place the mower cutting height pin in the 4th hole from the bottom (see insert, Figure 42). Arrange the outside mower blades so that they are pointing from side-to-side (Figure 40).
4. Measure the distance between the outside tips of each blade and the ground (Figures 40 & 41). If there is more than 1/8" (3mm) difference between the measurements on each side, proceed to step 5. If the difference is 1/8" (3mm) or less, proceed to step 6.
5. Use the rear leveling links (B, Figure 42) to adjust the side-to-side leveling of the deck. Repeat step 4 if necessary.

FRONT-TO-BACK LEVELING

6. Arrange the blades so they face front-to-back (Figure 43).
7. Measure the distance from the ground to the front tip of the center blade, and from the ground to rear tips of left-hand and right-hand blades (Figures 41 & 43). The front tip of the center blade should be 1/4" (6mm) higher than rear tips of left-hand and right-hand blades. If not, proceed with steps 8 - 11.
8. Check the length of the hanging rods. The rear (D, Figure 42) should be 15" (38,1cm) and is not adjusted. To adjust the pitch of the mower deck, adjust the front leveling nuts only.
9. Loosen the front lock nuts (E, Figure 42).
10. Turn the leveling nuts (A, Figure 42) counter-clockwise to lower the front of mower deck. Turn the nuts clockwise to raise the front of the mower. Make adjustments in small increments, trying to keep tension on both leveling nuts.
11. Tighten the front lock nuts (E).
12. Re-check the blade measurement then repeat steps 7-11 as necessary.

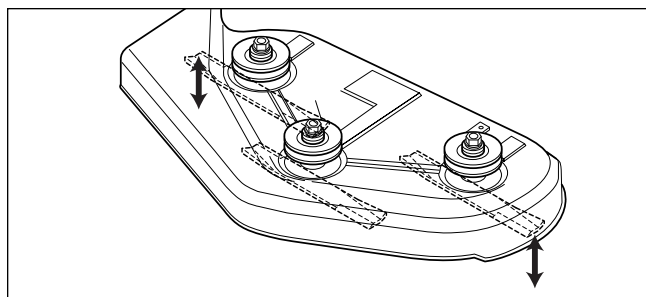


Figure 40. Orient Blades Side-to-Side

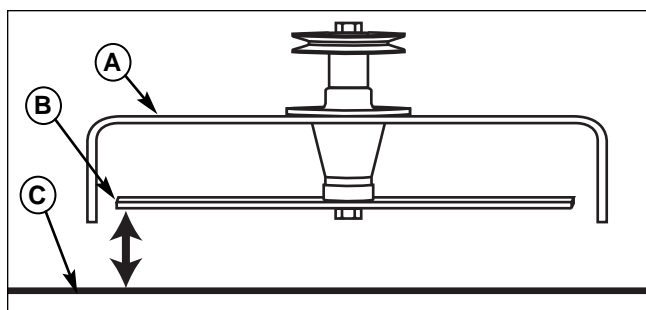


Figure 41. Measure Blade Tips to Ground

- A. Mower Deck
- B. Blade Tip
- C. Level Ground

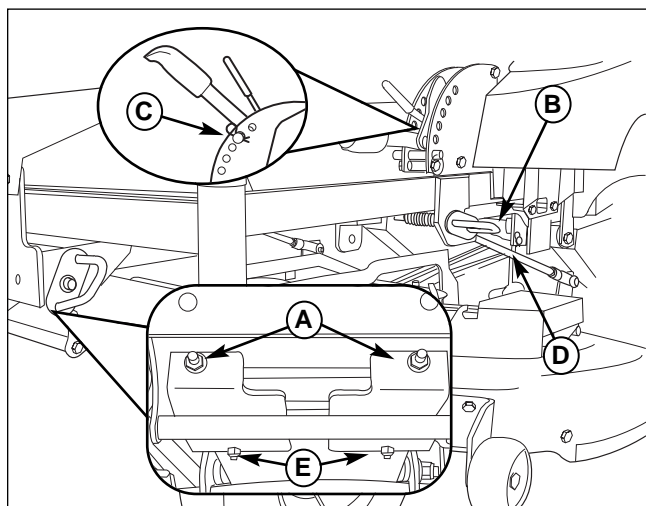


Figure 42. Mower Leveling

- A. Front Leveling Nuts
- B. Rear Leveling Rods
- C. 4th Cutting Height Hole
- D. Rear Hanger Rods
- E. Front Lock Nuts

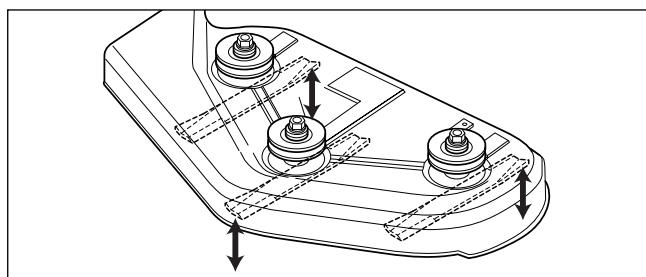


Figure 43. Orient Blades Front-to-Back

Mower Belt Replacement



To avoid damaging belts, DO NOT PRY BELTS OVER PULLEYS.

1. Park the rider on a smooth, level surface such as a concrete floor. Disengage the PTO, engage the parking brake, turn off the engine, remove the ignition key and wait for all moving parts to stop.
2. Remove the mower deck guards.
3. Raise the mower deck to transport position.

! WARNING

Use extreme caution when rotating the idler arm with the breaker bar, due to increased tension in the spring as the idler arm is being rotated. Injury may result if the breaker bar is prematurely released while the spring is under tension.

4. Using a 1/2" breaker bar, place the square end in the square hole located in the idler arm (A, Figure 44). Carefully rotate the breaker bar COUNTER-CLOCKWISE, which will relieve the tension on the belt exerted from the idler arm. Slide the belt off the stationary idler pulley (B).
5. Carefully release the tension on the breaker bar.
6. Remove the old drive belt and install the new one as shown in Figure 45. Make sure that the V-side of the belt runs in the pulley grooves of the spindle pulleys, and that the back of the drive belt must ride against the back-side idler pulleys (B).
7. Install the belt on the PTO pulley, the spindle pulleys and all the idler pulleys except the stationary idler pulley (B, Figure 44). Carefully rotate the breaker bar COUNTER-CLOCKWISE and install the belt on the stationary idler pulley. Carefully release the tension on the breaker bar.
8. Reinstall the mower deck guards.

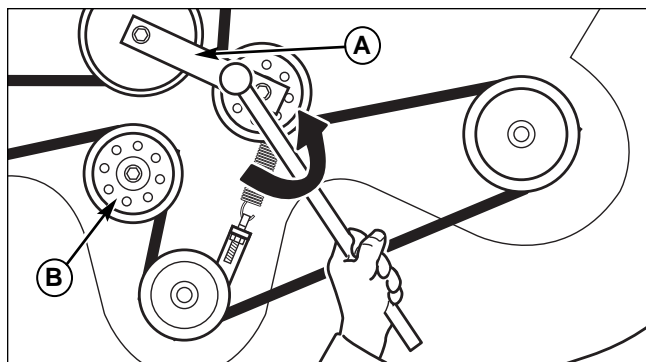


Figure 44. Release Belt Tension

A. Idler Arm
B. Stationary Idler Pulley

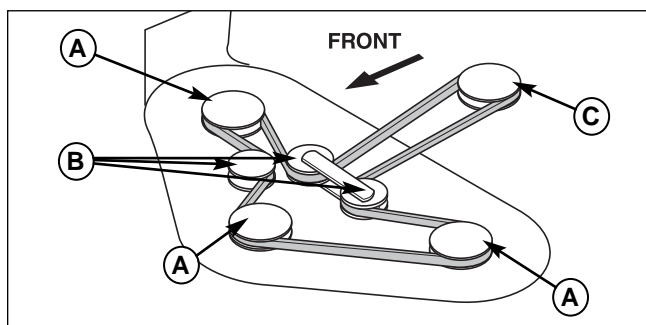


Figure 45. Mower Belt Routing

A. Arbor Pulleys
B. Back-Side Idler Pulleys
C. PTO Pulley

Hydraulic Pump Drive Belt Replacement

1. Park the rider on a smooth, level surface such as a concrete floor. Disengage the PTO, engage the parking brake, turn off the engine, and remove the ignition key.
2. Remove the PTO drive belt (see MOWER BELT REPLACEMENT for removal instructions).
3. Break the jam nut, that is located towards the rear of the machine on the spring anchor hook, loose. Loosen the nut towards the front of the machine on the spring anchor hook (H, Figure 46) to release the majority of the belt tension. Use caution and remove the nut to completely release the tension.
4. Remove the old belt and replace it with the new one. Make sure the V-side of the belt runs in the grooves of the crankshaft pulley and transmission pulleys (B & C).
5. Reinstall the anchor hook (H) into the anchor tab and loosely fasten the nut. Adjust the spring until a measurement of 9" (22,86cm) is achieved from the outside of the spring hooks. Tighten the jam nut.
6. Reinstall the PTO drive belt.

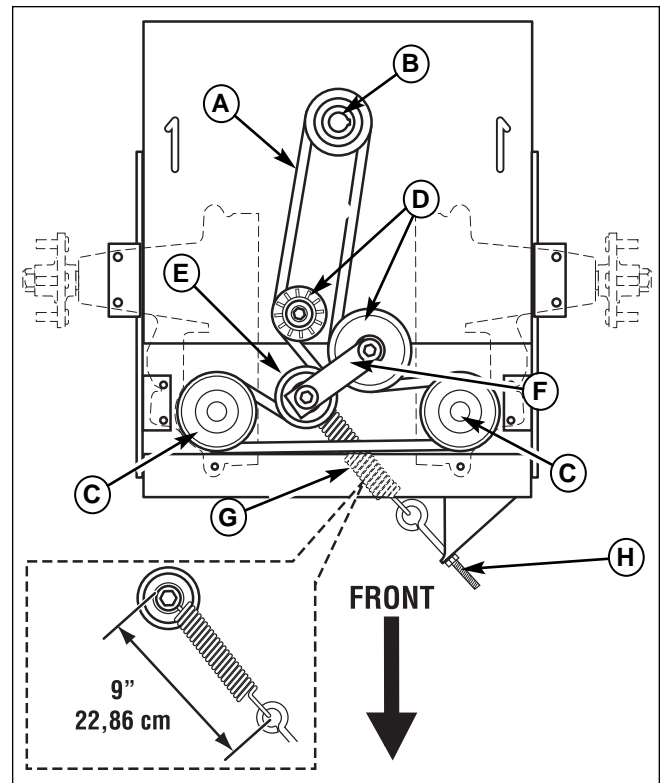


Figure 46. Hydraulic Pump Drive Belt Replacement
(Shown from Below)

- A. Pump Drive Belt
- B. Crankshaft Pulley
- C. Transmission Pulley
- D. Idler Pulleys (stationary)
- E. Idler Pulley
- F. Idler Arm
- G. Spring
- H. Spring Anchor Hook

Troubleshooting

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

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

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

WARNING

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

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

TROUBLESHOOTING THE RIDER

| PROBLEM | CAUSE | REMEDY |
|---|--|---|
| Engine will not turnover or start. | 1. Parking brake not engaged. | 1. Engage parking brake. |
| | 2. PTO (electric clutch) switch in ON position. | 2. Place in OFF position. |
| | 3. Ground Speed / Steering Control Levers not in the NEUTRAL position. | 3. Move Ground Speed / Steering Control Levers to the NEUTRAL position. |
| | 4. Out of fuel. | 4. If engine is hot, allow it to cool, then refill the fuel tank. |
| | 5. Engine flooded. | 5. Move choke control to closed position. |
| | 6. Fuse blown. | 6. Replace fuse. |
| | 7. Battery terminals require cleaning. | 7. Clean the battery terminals |
| | 8. Battery discharged or dead. | 8. Recharge or replace. |
| | 9. Wiring loose or broken. | 9. Visually check wiring & replace broken or frayed wires. Tighten loose connections. |
| | 10. Solenoid or starter motor faulty. | 10. Repair or replace. See authorized dealer |
| | 11. Safety interlock switch faulty. | 11. Replace as needed. See authorized service dealer. |
| | 12. Spark plug(s) faulty, fouled or incorrectly gapped. | 12. Clean and gap or replace. See engine manual. |
| | 13. Water in fuel. | 13. Drain fuel & replace with fresh fuel. |
| | 14. Gas is old or stale. | 14. Drain fuel & replace with fresh fuel. |
| Engine starts hard or runs poorly. | 1. Fuel mixture too rich. | 1. Clean air filter. Check choke adjustment. |
| | 2. Spark plug faulty, fouled, or incorrectly gapped. | 2. Clean and gap or replace. (See engine manual.) |
| Engine knocks. | 1. Low oil level. | 1. Check/add oil as required. |
| | 2. Using wrong grade oil. | 2. See engine manual. |
| Excessive oil consumption. | 1. Engine running too hot. | 1. Clean engine fins, blower screen and air cleaner. |
| | 2. Using wrong weight oil. | 2. See engine manual. |
| | 3. Too much oil in crankcase. | 3. Drain excess oil. |
| Engine exhaust is black. | 1. Dirty air filter. | 1. Replace air filter. See engine manual. |
| | 2. Engine choke control is in closed position. | 2. Open choke control. |

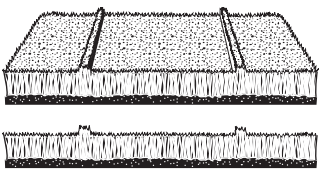
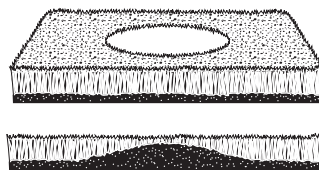
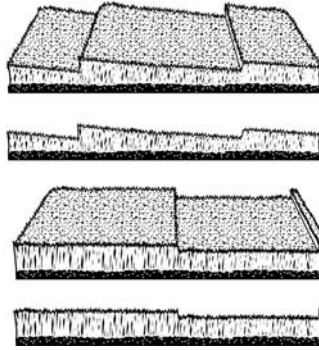
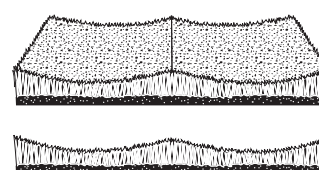
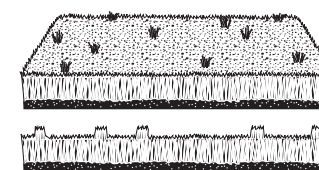
Rider Troubleshooting Continued.

| PROBLEM | CAUSE | REMEDY |
|--|--|---|
| Engine runs, but rider will not drive. | <ol style="list-style-type: none"> 1. Hydraulic release lever(s) in "free-wheel" position. 2. Belt is broken. 3. Drive belt slips. 4. Brake is not fully released. | <ol style="list-style-type: none"> 1. Move lever(s) forward to "drive" position. See Pushing The Rider By Hand. 2. See Drive Belt Replacement. 3. See problem and cause below. 4. See authorized service dealer |
| Rider drive belt slips. | <ol style="list-style-type: none"> 1. Pulleys or belt greasy or oily. 2. Tension too loose. 3. Belt stretched or worn. | <ol style="list-style-type: none"> 1. Clean as required. 2. Adjust spring tension. See Drive Belt Replacement 3. Replace belt. |
| Brake will not hold. | <ol style="list-style-type: none"> 1. Brake is incorrectly adjusted. 2. Brake pads worn. | <ol style="list-style-type: none"> 1. See Brake Adjustment. 2. Replace with new brake pads. |
| Rider steers or handles poorly. | <ol style="list-style-type: none"> 1. Steering linkage is loose. 2. Improper tire inflation. | <ol style="list-style-type: none"> 1. Check and tighten any loose connections. 2. See Regular Maintenance Section. |

TROUBLESHOOTING THE MOWER

| PROBLEM | CAUSE | REMEDY |
|---|--|---|
| Mower will not raise. | <ol style="list-style-type: none"> 1. Lift linkage not properly attached or damaged. | <ol style="list-style-type: none"> 1. See authorized service dealer for repair. |
| Engine stalls easily with mower engaged. | <ol style="list-style-type: none"> 1. Engine speed too slow. 2. Ground speed too fast. 3. Cutting height set too low. 4. Discharge chute jamming with cut grass. | <ol style="list-style-type: none"> 1. Set to full throttle. 2. Decrease Ground Speed. 3. Cut tall grass at maximum cutting height during first pass. 4. Cut grass with discharge pointing toward previously cut area. |
| Excessive mower vibration. | <ol style="list-style-type: none"> 1. Blade mounting bolts are loose. 2. Mower blades, arbors, or pulleys are bent. 3. Mower blades are out of balance. 4. Belt installed incorrectly. | <ol style="list-style-type: none"> 1. Tighten to 70 ft.lbs. (94 Nm). 2. Check and replace as necessary. 3. Remove, sharpen, and balance blades. See Maintenance Section. 4. Reinstall Correctly. |
| Excessive belt wear or breakage. | <ol style="list-style-type: none"> 1. Bent or rough pulleys. 2. Using incorrect belt. | <ol style="list-style-type: none"> 1. Repair or replace. 2. Replace with correct belt. |
| Mower drive belt slips or fails to drive. | <ol style="list-style-type: none"> 1. Idler pulley spring broken or not properly attached. 2. Mower drive belt broken. | <ol style="list-style-type: none"> 1. Repair or replace as needed. 2. Replace drive belt. |
| Mower does not engage. | <ol style="list-style-type: none"> 1. Electrical wiring damage. 2. Battery voltage too low. | <ol style="list-style-type: none"> 1. Locate & repair damaged wire. 2. Recharge battery and check alternator. See Battery Maintenance section. |

TROUBLESHOOTING COMMON CUTTING PROBLEMS

| PROBLEM | CAUSE | REMEDY |
|---|--|---|
| Streaking.  | <ol style="list-style-type: none"> 1. Blades are not sharp. 2. Blades are worn down to far. 3. Engine speed is too slow. 4. Ground speed is too fast. 5. Deck is plugged with grass 6. Not overlapping cutting rows enough. 7. Not overlapping enough when turning. | <ol style="list-style-type: none"> 1. Sharpen your blades. 2. Replace your blades. 3. Always mow at full throttle. 4. Slow down. 5. Clean out the mower. 6. Overlap your cutting rows. 7. When turning your effective cutting width decreases—overlap more when turning. |
| Scalping.  | <ol style="list-style-type: none"> 1. Lawn is uneven or bumpy. 2. Mower deck cutting height is set too low. 3. Ground speed is too fast. 4. Deck is not leveled correctly. 5. Tire pressure is low or uneven | <ol style="list-style-type: none"> 1. Roll or level the lawn. 2. Raise the cutting height. 3. Slow down. 4. Correctly level the deck. 5. Check and inflate the tires. |
| Stepped Cutting.  | <ol style="list-style-type: none"> 1. Deck is not leveled correctly. 2. Tires are not properly inflated. 3. Blades are damaged. 4. Deck shell is damaged. 5. Mower spindle is bent or loose. 6. Blades are installed incorrectly. | <ol style="list-style-type: none"> 1. Level the deck correctly. 2. Check and inflate the tires. 3. Replace the blades. 4. Repair or replace the deck. 5. Repair or replace the spindle. 6. Reinstall the blades correctly. |
| Uneven Cutting.  | <ol style="list-style-type: none"> 1. Deck is not leveled correctly. 2. Blades are dull or worn. 3. Blades are damaged. 4. Deck is clogged with grass clippings. 5. Deck shell is damaged. 6. Mower spindle is bent or loose. 7. Blades are installed incorrectly. 8. Tires are not properly inflated. | <ol style="list-style-type: none"> 1. Level the deck correctly. 2. Sharpen or replace the blades. 3. Replace the blades. 4. Clean out the deck. 5. Repair or replace the deck. 6. Repair or replace the spindle. 7. Reinstall the blades correctly. 8. Check and inflate the tires. |
| Stingers.  | <ol style="list-style-type: none"> 1. Blades are not sharp or nicked. 2. Blades are worn down too far. 3. Engine speed is too slow. 4. Ground speed is too fast. 5. Deck is plugged with grass. | <ol style="list-style-type: none"> 1. Sharpen your blades. 2. Replace your blades. 3. Always mow at full throttle. 4. Slow down. 5. Clean out the mower. |

Specifications

Product Specifications

355ZB2654

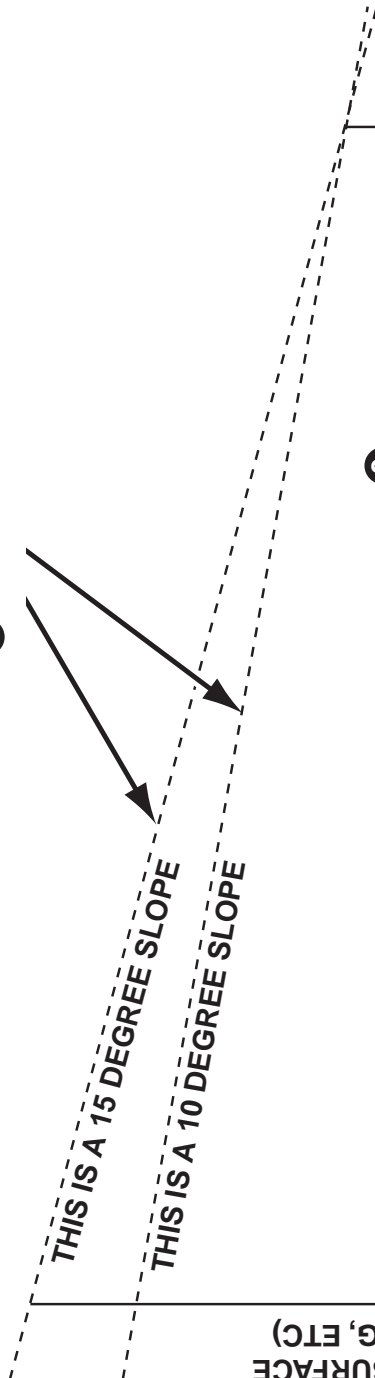
| | |
|------------------------------|------------------|
| Deck Size (inches) | 54" |
| Height of Cut (inches) | 1.5" - 4.5" |
| Transaxle Type | HydroGear ZT2800 |
| Ground Speed - Fwd/Rev (mph) | 0 - 7 / 0 - 5 |
| Engine Power (hp) | 26.0* |
| Engine Displacement (cc) | 570 |
| Fuel Tank Capacity (gal) | 6.5 |

*Engine Power Rating Information

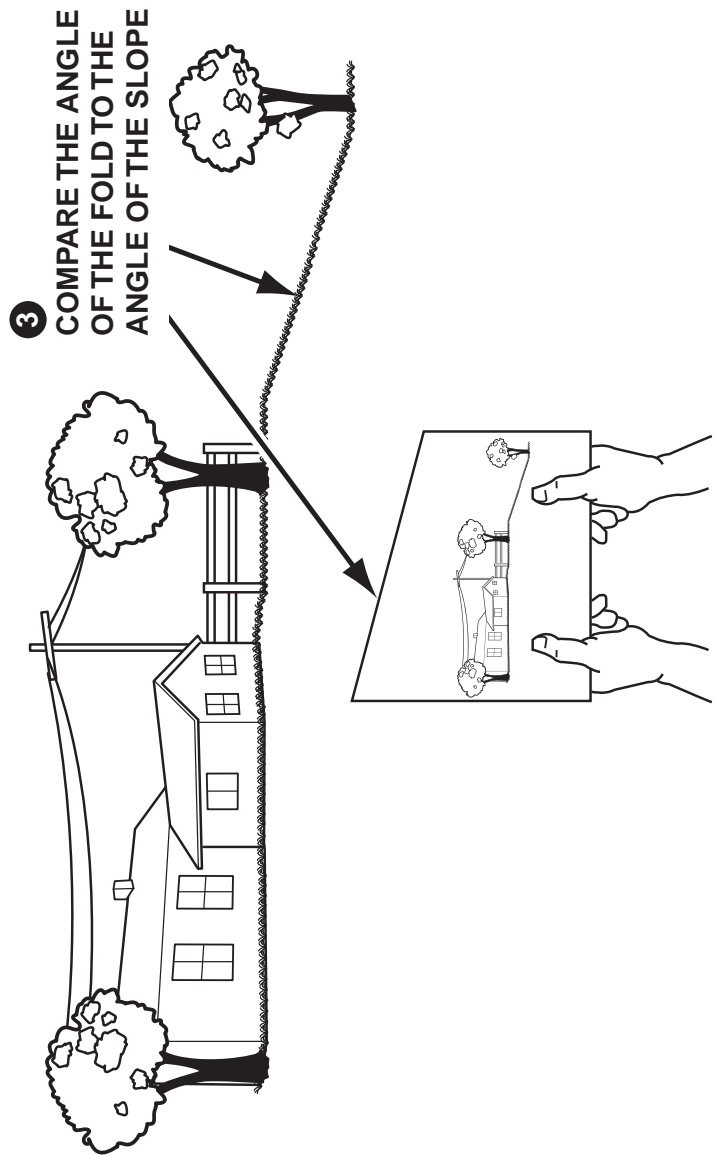
The gross power rating for individual gas engine models is labeled in accordance with SAE (Society of Automotive Engineers) code J1940 (Small Engine Power & Torque Rating Procedure), and rating performance has been obtained and corrected in accordance with SAE J1995 (Revision 2002-05). Torque values are derived at 3060 RPM; horsepower values are derived at 3600 RPM. Actual gross engine power will be lower and is affected by, among other things, ambient operating conditions and engine-to-engine variability. Given both the wide array of products on which engines are placed and the variety of environmental issues applicable to operating the equipment, the gas engine will not develop the rated gross power when used in a given piece of power equipment (actual "on-site" or net power). This difference is due to a variety of factors including, but not limited to, accessories (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.

SLOPE IDENTIFICATION GUIDE

1 FOLD ALONG APPROPRIATE DOTTED LINE

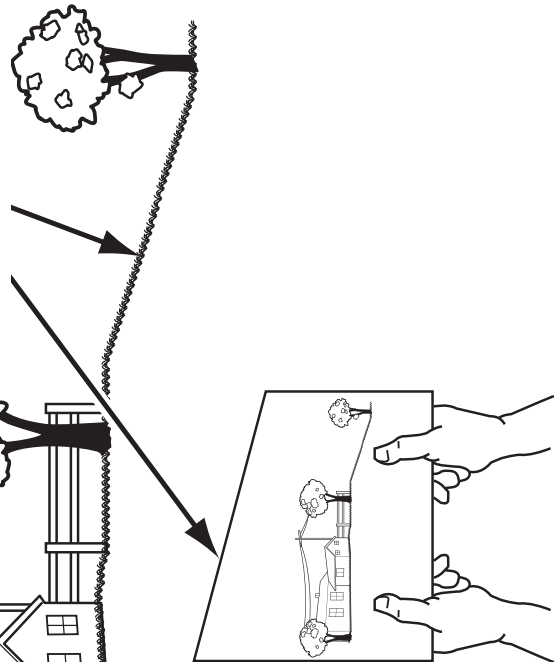


2 ALIGN THIS EDGE WITH A VERTICAL SURFACE (TREE, POLE, FENCE POST, BUILDING, ETC)



3

COMPARE THE ANGLE OF THE FOLD TO THE ANGLE OF THE SLOPE



INSTRUCTIONS

1. Fold this page along the dotted line indicated above.
2. Align the left edge of this guide with a vertical tree, a power line pole, a fence post, or any vertical structure.
3. Compare the angle of the fold with the angle of the hill.

SNAPPER®

2 YEAR LIMITED WARRANTY

For two (2) years from purchase date for the original purchaser's residential, non-commercial use, SNAPPER, through any authorized SNAPPER dealer will replace, free of charge (except for taxes where applicable), any part or parts found upon examination by the factory at McDonough, Georgia, to be defective in material or workmanship or both.

For ninety (90) days from purchase date for the original purchaser's commercial, rental, or other non-residential use, SNAPPER, through any authorized SNAPPER dealer will replace, free of charge, any part or parts found upon examination by the factory at McDonough, Georgia, to be defective in material or workmanship or both.

All transportation costs incurred by the purchaser in submitting material to an authorized SNAPPER dealer for replacement under this warranty must be paid by the purchaser.

This warranty does not apply to certain transmissions, to engines and their components, and batteries, as these items are warranted separately. This warranty does not apply to parts that have been damaged by accident, alteration, abuse, improper lubrication, normal wear, or other cause beyond the control of SNAPPER. This warranty does not cover any machine or component part that has been altered or modified changing safety, performance, or durability.

Batteries have a one (1) year warranty period with free replacement if required for one (1) year from the original purchase date. SNAPPER will not be responsible for any installation cost incurred. The battery warranty only covers original equipment batteries and does not cover damage to the battery or machine caused by neglect or abuse, destruction by fire, explosion, freezing, overcharging, improper maintenance, or use of improper electrolyte.

There is no other express warranty.

DISCLAIMER OF WARRANTY

Implied warranties, including those of merchantability and fitness for a particular purpose, are limited to two (2) years from purchase date for the original purchaser's residential or other non-commercial use, and ninety (90) days from purchase for the original purchaser's commercial, rental or other non-residential use, and to the extent permitted by law, any and all implied warranties are excluded. This is the exclusive remedy. Liabilities for consequential damages, under any and all warranties are excluded.

Some states do not allow limitations on how long an implied warranty lasts, or do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or 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.

WARNING: THE USE OF REPLACEMENT PARTS OTHER THAN GENUINE SNAPPER PARTS MAY IMPAIR THE SAFETY OF SNAPPER PRODUCTS AND WILL VOID ANY LIABILITY AND WARRANTY BY SNAPPER ASSOCIATED WITH THE USE OF SUCH PARTS.

IMPORTANT: Please fill out the attached SNAPPER Product Registration Card immediately and mail to:
Snapper's Product Registration Center, P.O. Box 1379, McDonough, Georgia 30253

Engine Power Rating Information: 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. Actual gross engine power will be lower and is affected by, among other things, ambient operating conditions and engine-to-engine variability. Given both the wide array of products on which engines are placed and the variety of environmental issues applicable to operating the equipment, the gas engine will not develop the rated gross power when used in a given piece of power equipment (actual "on-site" or net power). This difference is due to a variety of factors including, but not limited to, accessories (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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Models and specifications are subject to change without notice.

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