SNAPPER

Operator's Manual

(en) *Operator's Manual*
(da) *Brugsanvisning*
(de) *Bedienungsanleitung*
(fr) *Manuel d'utilisation*
(it) *Manuale per l'operatore*
(nl) *Gebruikershandleiding*
(no) *Bruksanvisning*

GT600 Series (CE/Export)

Hydro Tractor & Mower Deck

Mfg. No.	Description
2690634	ESGT27540D, Tractor, 4WD, 3P (CE)
2690667	ESGT27540D, Tractor, 4WD, 3P & 54" Mower (CE)

Mower Deck

Mfg. No.	Description
1695204	54" Mower Deck

1734110
Revision D

CONTENTS

General Information

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

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

Product Reference Data

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

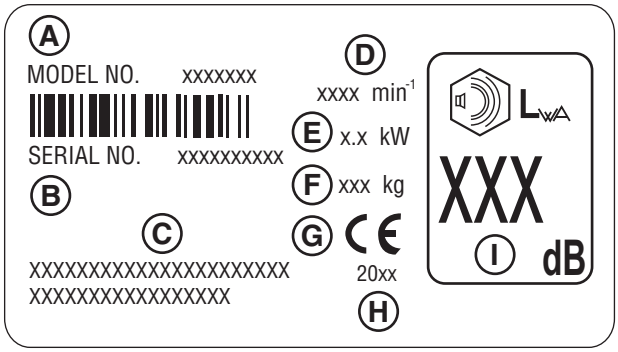
When contacting your authorized dealer for replacement parts, service, or information you MUST have these numbers.

PRODUCT REFERENCE DATA	
Model Description Name/Number	
Unit MFG Number	Unit SERIAL Number
Mower Deck MFG Number	Mower Deck SERIAL Number
Dealer Name	Date Purchased
ENGINE REFERENCE DATA	
Engine Make	Engine Model
Engine Type/Spec	Engine Code/Serial Number

For an Illustrated Parts List, Setup Instructions, or other publications for this model, please visit www.snapper.com.

CE Identification Tag

A. Manufacturer's Identification Number
B. Manufacturer's Serial Number
C. Manufacturer's Name and Address
D. Maximum Engine Speed in Rotations per Minute
E. Power Rating in Kilowatts
F. Mass of Unit in Kilograms
G. CE Compliance Logo
H. Year of Manufacture
I. Guaranteed Sound Power in Decibels



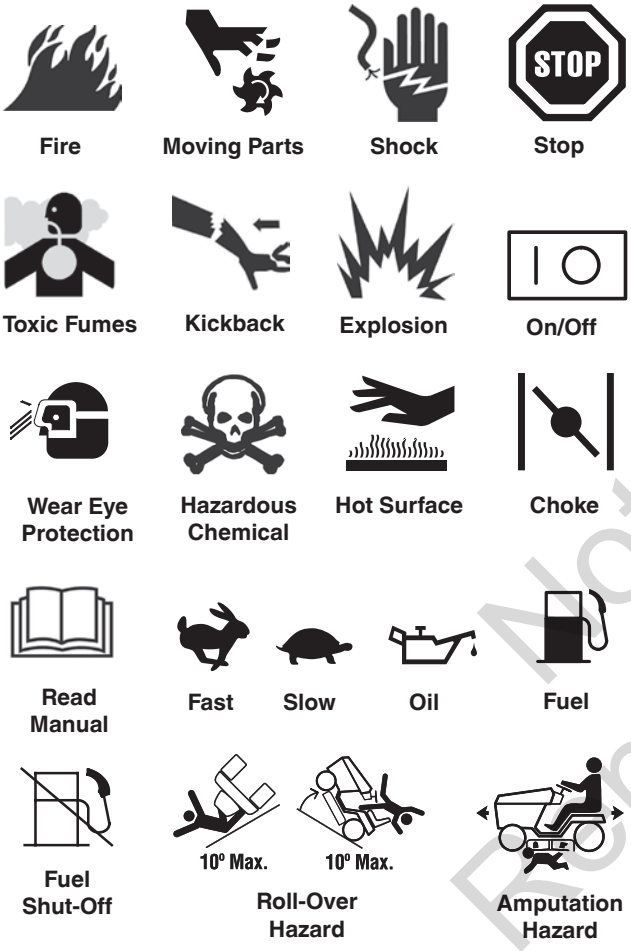
"**Vibration measurement uncertainty** – machine vibration was recorded using methods and procedures outlined in the appropriate International Standards in effect at the time of manufacture. The uncertainties due to the measurement may result in a variance of up to 5% from the published value shown in the Declaration of Conformity."

Operator Safety

Important Safety Instructions

SAVE THESE INSTRUCTIONS - This manual contains important instructions that should be followed during the initial set-up, the operation, and the maintenance of the equipment. **Save these original instructions for future reference.**

Safety Symbols and Meanings



⚠ The safety 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 injury. In addition, a hazard symbol may be used to represent the type of hazard.

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

⚠ **WARNING** indicates a hazard which, if not avoided, could result in death or serious injury.

⚠ **CAUTION** indicates a hazard which, if not avoided, could result in minor or moderate injury.

NOTICE indicates a situation that **could result in damage to the product.**

⚠ **WARNING**
The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.

⚠ **WARNING**
Certain components in this product and its related accessories contain chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm. Wash hands after handling.

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

⚠ **WARNING**
Running engine gives off carbon monoxide, an odorless, colorless, poison gas.
Breathing carbon monoxide can cause headache, fatigue, dizziness, vomiting, confusion, seizures, nausea, fainting or death.
- Operate equipment ONLY outdoors.
- Keep exhaust gas from entering a confined area through windows, doors, ventilation intakes, or other openings.

⚠ **WARNING**
Running engines produce heat. Engine parts, especially muffler, become extremely hot.
Severe thermal burns can occur on contact.
Combustible debris, such as leaves, grass, brush, etc. can catch fire.
- Allow muffler, engine cylinder and fins to cool before touching.
- Remove accumulated debris from muffler area and cylinder area.
- It is a violation of California Public Resource Code, Section 4442, to use or operate the engine on any forest-covered, brush-covered, or grass-covered land unless the exhaust system is equipped with a spark arrester, as defined in Section 4442, maintained in effective working order. Other states or federal jurisdictions may have similar laws. Contact the original equipment manufacturer, retailer, or dealer to obtain a spark arrester designed for the exhaust system installed on this engine.

Operating Safety

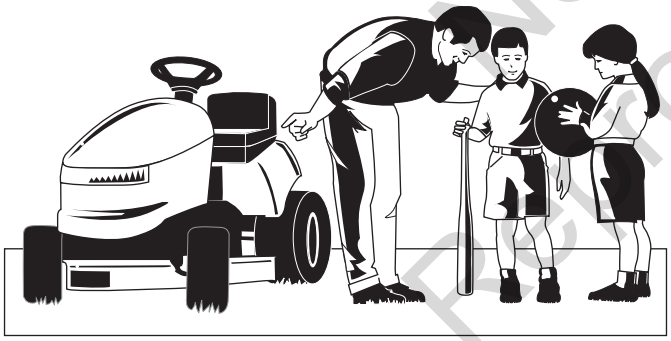
Power equipment is only as safe as the operator. If it is misused, or not properly maintained, it can be dangerous! Remember, you are responsible for your safety and that of those around you. Use common sense, and think through what you are doing. If you are not sure that the task you are about to perform can be safely done with the equipment you have chosen, ask a professional: contact your local authorized dealer.

Read the Manual

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

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

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



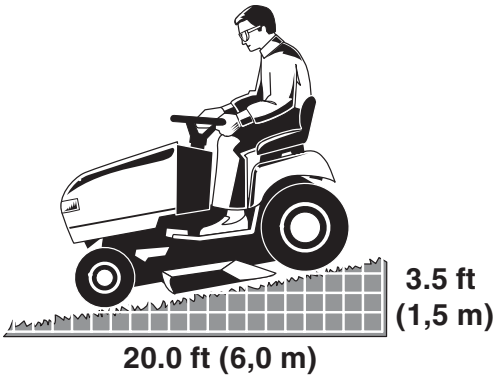
Children

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

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

Reverse

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



Slope Operation

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

A good rule of thumb is to not operate on any slope you cannot back up (in 2-wheel drive mode). You should not operate on inclines with a slope greater than a 3.5 foot rise over a 20 foot length. Always drive up and down slopes: never cross the face.

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

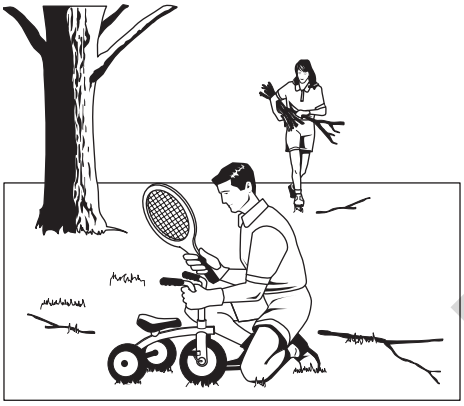
If you feel unsure about operating the unit on an incline, don't do it. It's not worth the risk.

Moving Parts

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

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

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



Thrown Objects

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

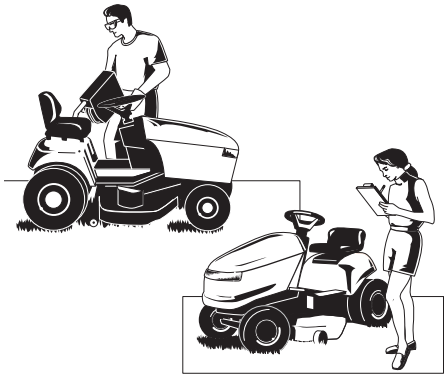
Do not operate this unit without the entire grass catcher or discharge guard (deflector) in place.

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

Fuel and Maintenance

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

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



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.
10. Slow down before turning.
11. Never leave a running unit unattended. Always disengage the 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 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.

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.

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 up and down slopes, not across.
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 loose traction.
5. Always keep unit in gear especially when traveling down slopes. Do not shift to neutral and coast downhill.
6. Avoid starting, stopping, or turning on a slope. If tires lose traction, disengage the blade(s) and proceed slowly straight down the slope.
7. Keep all movement on slopes slow and gradual. Do not make sudden changes in speed or direction, which could cause the machine to rollover.
8. 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.
9. Do not try to stabilize the machine by putting your foot on the ground (ride-on units).
10. 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.
11. Do not use grass catchers on steep slopes.
12. Do not mow slopes you cannot back up them.
13. See your authorized dealer/retailer for recommendations of wheel weights or counterweights to improve stability.
14. Remove obstacles such as rocks, tree limbs, etc.
15. Use slow speed. Tires may lose traction on slopes even through the brakes are functioning properly.
16. Do not turn on slopes unless necessary, and then, turn slowly and gradually downhill, if possible.

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.
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.

⚠ WARNING

Never operate on slopes greater than 17.6 percent (10°) which is a rise of 3-1/2 feet (106 cm) vertically in 20 feet (607 cm) horizontally.

When operating on slopes use additional wheel weights or counterweights. See your dealer/retailer to determine which weights are available and appropriate for your unit.

Select slow ground speed before driving onto slope. In addition to front weights, use extra caution when operating on slopes with rear-mounted grass catchers.

Mow UP and DOWN the slope, never across the face, use caution when changing directions and DO NOT START OR STOP ON SLOPE.

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.

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. Use only factory authorized replacement parts when making repairs.
16. Always comply with factory specifications on all settings and adjustments.
17. Only authorized service locations should be utilized for major service and repair requirements.
18. 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.
19. On multiple blade mowers, take care as rotating one blade can cause other blades to rotate.
20. Do not change engine governor settings or over-speed the engine. Operating the engine at excessive speed can increase the hazard of personal injury.
21. 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.
22. 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).
23. 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.
24. WARNING: Stored energy device. Improper release of springs can result in serious personal injury. Springs should be removed by an authorized technician.
25. 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.

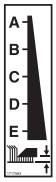
Safety Decals

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

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

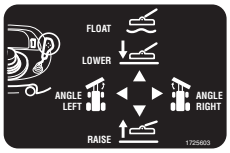
These labels are easily applied and will act as a constant visual reminder to you, and others who may use the equipment, to follow the safety instructions necessary for safe, effective operation.

Decal - Transmission Release
Part No. 1725776



Decal - Cutting Height
Part No. 1717583

Decal - Ignition Switch Positions
Part No. 1722806



Decal - Attachment Lift Control
Part No. 1725603

Decal - Cutting Height
Part No. 1721197

Decal - Throttle Positions
Part No. 1725571

Decal - PTO Selector Positions
Part No. 1725574

Decal - Operating Instructions, CE Models, Part No. 1723175

Decal - Danger, Rotating Blades
Part No. 1720389

Decal - Danger, Rotating Parts, 540 PTO Models
Part No. 1725618

Decal - Danger, Rotating Fan, CE, Diesel Models
Part No. 1726086

Safety Icons

Warning: Read Operator's Manual.

Read and understand the Operator's Manual before using this machine.

Danger: Machine Rollover.

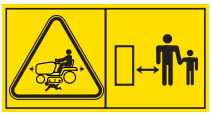
Do not use this machine on slopes greater than 10°.

Danger: Thrown Objects.

This machine is capable of throwing objects and debris. Keep bystanders away.

Danger: Dismemberment.

This machine can amputate limbs. Keep bystanders and children away when engine is running.



Warning: Remove Key Before Servicing.

Remove the key and consult technical literature before performing repairs or maintenance.

Danger: Dismemberment.

This mower deck can amputate limbs. Keep hands and feet away from blades.

Warning: Rotating Shaft Can Cause Injury or Death.

Keep hands and feet clear.

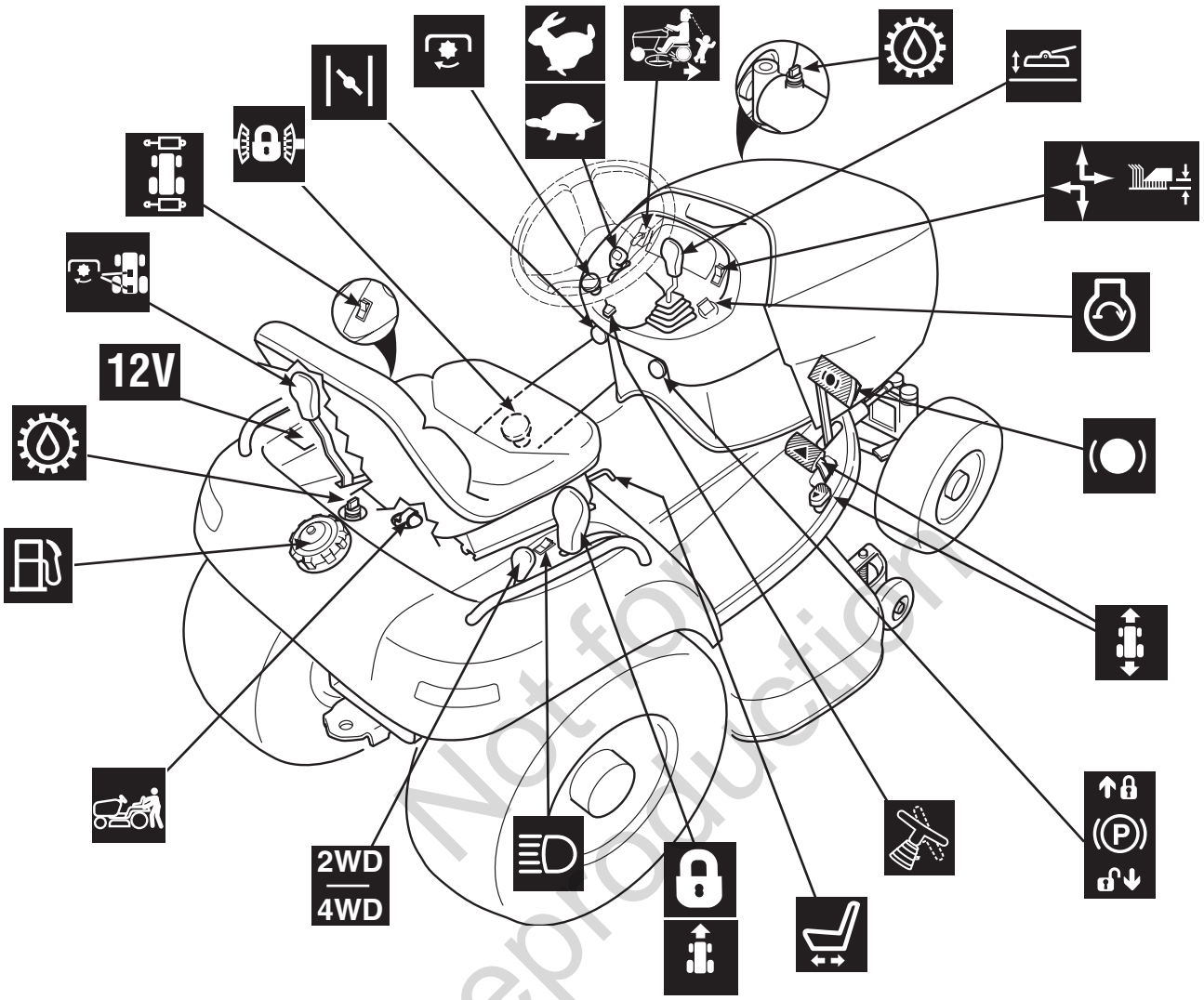


Figure 1. Controls

Choke (Select Models)

Close the choke for cold starting. Open the choke once the engine starts. A warm engine may not require choking. Pull the choke control out to close the choke.

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.

Headlights

The light switch turns the tractor headlights on and off.

Front Axle Oil Level Plug (4WD Models Only)

The front axle oil check plug/dipstick is used to check the front axle oil level and to add oil to the axle. See FRONT AXLE MAINTENANCE for oil level check and fill procedures.

Transmission Oil Level Check Plug

Transmission oil check plug/dipstick is used to check transmission oil level and to add oil to the transmission. See TRANSMISSION MAINTENANCE for oil level check and fill procedures.

Attachment Lift Control Lever

When using the mower deck, lift the deck off the ground while transporting to and from the job site. **DO NOT** cut with the mower in the raised, transport position.

The attachment lift control lever raises and lowers attachments that utilize the tractor's hydraulic lift cylinder. This lever also controls attachments that use the tractor's auxiliary hydraulics via the quick couplers on the front left and right sides of the frame.

When using a mower deck (Front / Rear Hydraulic selector switch must be in REAR position), pulling the lever back raises the attachment lift. Pushing the lever forward to the first detent lowers the attachment lift. Pushing the lever forward to the second detent locks the control in "float" position, allowing the lift mechanism to float up and down. Float is the recommended position when mowing.

For a complete explanation on this control, see HYDRAULIC SYSTEM FUNCTIONS.

Cutting Height Adjustment

The cutting height adjustment switch controls the mower cutting height. This same switch also controls the spout rotator motor when a snowthrower is installed. The arrows on the switch correspond to the direction of adjustment (UP arrow raises cutting height, RIGHT arrow rotates the spout right, etc). The mower cutting height is infinitely adjustable between 1" to 4-13/32" (2,5 cm-11,2 cm). When the adjustment indicator has reached the end of its travel, release the switch; holding the switch down will damage the motor.

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. Activates the glow plugs on diesel models
START	Cranks the engine for starting.

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

Brake Pedal

Depressing the brake pedal applies the tractor brake. Depressing the brake pedal will also return the cruise control lever to neutral.

Ground Speed Pedals

The tractor's forward ground speed is controlled by the forward ground speed control pedal. The tractor's reverse ground speed is controlled by the reverse ground speed control pedal. Note that the further down the pedal is depressed, the faster the tractor will travel.

Parking Brake

This locks the parking brake when the tractor is stopped. See ***Parking Brake*** section.

Steering Tilt Adjust (Select Models)

Use the tilt knob located on the bellows to release the pivot mechanism and pivot the wheel to the desired position. Release the tilt knob to lock in position.

Seat Adjustment Lever

The seat can be adjusted forward and back. Move the lever, position the seat as desired, and release the lever to lock the seat into position.

Cruise Control

The cruise control is used to lock the ground speed control in forward. Move the lever forward until the desired ground speed is reached. To disengage the cruise control move the lever back. In the event you need to stop quickly, depressing the brake pedal will also return the cruise control to neutral.

2-Wheel / 4-Wheel Drive Selector (Select Models)

The 2-wheel / 4-wheel drive selector disengages the front wheels in the 2-wheel drive position and drives all four wheels in 4-wheel drive position. Engage / disengage the 4-wheel drive control only when stopped or at slow speeds.

Transmission Release Valve Lever

The transmission release valve lever deactivates the transmission so that the tractor can be pushed by hand. See PUSHING THE TRACTOR BY HAND for operational information.

Fuel Tank

To remove the cap, turn counterclockwise.

Transmission Oil Level Check Plug

Transmission oil check plug/dipstick is used to check transmission oil level and to add oil to the transmission. See TRANSMISSION MAINTENANCE for oil level check and fill procedures.

Mid / Rear PTO Selector

The mid / rear PTO selector lever selects which PTO or combination of PTOs is activated by the PTO switch. The selector has three positions (from front to back:) mid PTO active only, mid and rear PTO active, rear PTO active only. Disengage the PTO switch before altering this control's setting.

Front / Rear Hydraulics Selector

The front / rear hydraulics selector switches which hydraulic circuit is controlled by the forward and backward movement of the attachment lift lever.

When the switch is in the forward position, the attachment lift control lever affects attachments connected to the two front left quick couplers. When the switch is in the rear position the attachment lift control affects the tractor's hydraulic cylinder.

12V Power Outlet

The power outlet is 12V-DC. Accessory must be rated at 14 amps or less.

Differential Lock Pedal

Depressing this pedal locks the transmission differential, locking both rear wheels into "drive".

Use this feature if the tractor is stuck because one wheel is slipping. **Engage the differential lock at slow ground speeds only.**

PTO Switch

The PTO (Power Take-Off) switch, in conjunction with the mid / rear PTO selector, engages and disengages attachments connected to the tractor's mid or rear PTO shafts. To engage the PTO, pull UP on the switch. Push DOWN to disengage. Be sure to check the position of the mid / rear PTO selector lever before engaging the PTO. DO NOT engage a PTO that is not connected to an attachment as the rotating shaft is a safety hazard. *Note that the operator must be seated firmly in the tractor seat for the PTO to function.*

Reverse Mowing Option (RMO)

The Reverse Mowing Option allows for mowing (or use of other PTO driven attachments) while traveling in reverse. If you choose to mow or operate another attachment in reverse, turn the RMO key after the PTO is engaged. The L.E.D. light will illuminate, and the operator can then mow in reverse. Each time the PTO is disengaged the RMO needs to be reactivated if desired.

Parking Brake Function

Applying the Parking Brake - See Figure 2. To lock the parking brake, release the ground speed pedals (A), fully depress the brake pedal (B), pull the parking brake knob (C) out, and then release brake pedal.

Releasing the Parking Brake - See Figure 2. To release the parking brake, fully depress the brake pedal (B) and push in the parking brake knob (C).

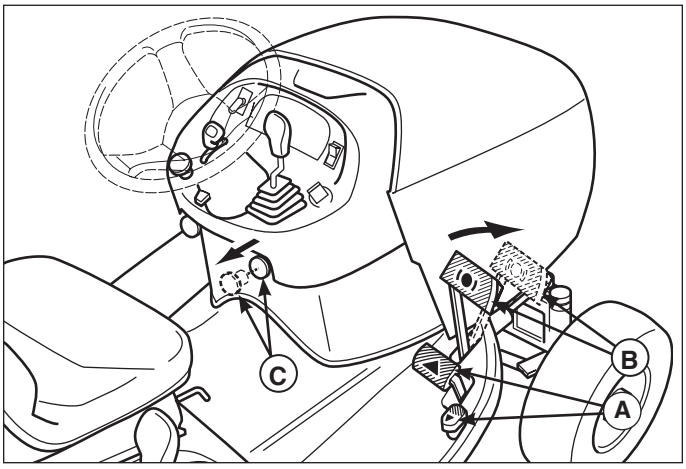


Figure 2. Engaging the Parking Brake

Automatic Controlled Traction

What is Automatic Controlled Traction?

Automatic Controlled Traction (ACT) is an exclusive feature of our transmissions that provides improved traction. ACT applies a preset amount of torque to both rear wheels even if one starts slipping (a transmission without ACT will lose traction completely if one rear wheel starts slipping). This preset torque is just enough to provide additional traction, and still allow the wheels to turn at different speeds in a tight turn without damaging the lawn.

What to Expect from Your ACT Tractor

For the most part, while using your tractor you will not notice ACT working, and you will simply become accustomed to increased traction an ACT transmission provides.

Under certain circumstances the ACT system limit can be exceeded, and one of the rear wheels may slip (for instance if trying to turn up a hill while accelerating). This is normal. If you start to lose traction, do not speed up. Instead, slow to a stop, straighten the steering wheel, and slowly accelerate. Stopping the tractor allows the transmission to regain more traction.

Dashboard Display Functions

The dashboard display (Figure 3) shows a variety of engine operation and control status information, as explained in the descriptions below.

A. Irregular Voltage

Indicates that the voltage being produced by the charging system and battery is higher or lower than normal levels.

B. Rear PTO Light

Indicates that the optional rear PTO is engaged.

C. Mid (Front) PTO Light

Indicates that the mid PTO is engaged.

D. Hour Meter/Clock

Displays number of hours the unit has been operated.

E. Cruise Control Light

Indicates that the cruise control is engaged.

F. Low Oil Pressure Light

Indicates that the engine oil pressure is low. If this indicator lights, shut the engine off immediately and contact your dealer.

G. 4 Wheel Drive Light (4WD Models Only)

Indicates that 4 wheel drive is engaged.

H. Fuel Separator Full Light

Indicates that the fuel separator is full and must be emptied.

I. Fuel Gauge

The fuel gauge shows the level of fuel in the fuel tank.

J. Tachometer

Displays the engine RPM. Normal operating speed is 3400 RPM. Do not operate at less than 3000 RPM during normal use.

K. Coolant Temperature

Shows the engine coolant temperature.

L. Glow Plug Light

Indicates that the glow plugs are heating. Leave the key in the run position until the light goes out, then turn the key to start.

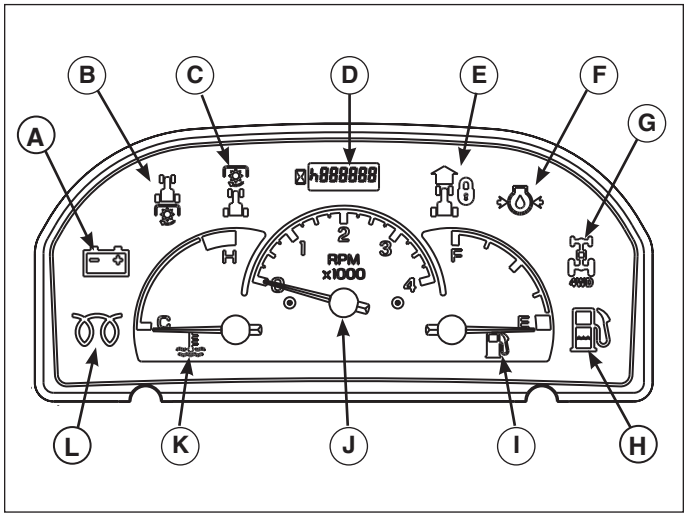


Figure 3. Dashboard Display

Safety Interlock System Tests

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

> **WARNING**
> If the unit does not pass a safety test, do not operate it. See an authorized dealer.

Test 1 — Engine should NOT crank if:

- PTO is engaged, OR
- Brake pedal is NOT fully depressed (parking brake OFF), OR

Test 2 — Engine SHOULD crank and start if:

- Operator is sitting in seat, AND
- PTO is disengaged, AND
- Brake pedal is fully depressed (parking brake ON), AND

Test 3 — Engine should SHUT OFF if:

- Operator rises off seat.

Test 4 — Check Mower Blade Stopping Time

Mower blades and mower drive belt should come to a complete stop within five seconds after PTO is disengaged. If mower drive belt does not stop within five seconds, see an authorized dealer.

Test 5 — Check Reverse Mow Option (RMO)

- Engine should shut off if reverse travel is attempted if the PTO is engaged and RMO has not been activated.
- RMO light should illuminate when RMO has been activated.

> **WARNING**
> Mowing in reverse can be hazardous to bystanders. Tragic accidents can occur if the operator is not alert to the presence of children. Never activate the RMO if children are present. Children are often attracted to the unit and the mowing activity.

Adding Fuel

To add fuel:

1. Remove the fuel cap (A, Figure 4).
2. Fill the tank. Do not overfill. Leave room in the tank for fuel expansion. Refer to your engine manual for specific fuel recommendations.
3. Install and hand tighten the fuel cap.

Starting the Engine

1. While sitting in the operator's seat, fully depress the brake pedal or set the parking brake.
2. Set the cruise control lever in neutral and make sure that your feet are not depressing the ground speed control pedals.
3. Disengage the PTO.
4. Set the throttle to middle position (set throttle to FULL when starting in cold weather).
5. Turn the key to the RUN position to activate the glow plugs; the glow plug light in the dashboard display will light.
6. Wait for the glow plug light to turn off, then turn the key to START. If the engine does not start immediately, move the throttle to FULL.
7. After the engine starts, move the engine throttle control to SLOW. Warm up the engine by running it for at least a minute.
8. Move the throttle to FULL before engaging the PTO switch or driving the tractor.

NOTE: 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 i STOPPING THE TRACTOR.

Stopping the Tractor & Engine

1. Return the ground speed control(s) to neutral and engage the parking brake.
2. Disengage the PTO and wait for all moving parts to stop.
3. Place the throttle control in the position specified in the engine owner's manual provided in the operator's packet shipped with your tractor. Follow any recommended stopping procedures.
4. Turn the ignition switch to OFF. Remove the key.

Driving the Tractor

1. Sit in the seat and adjust the seat so that you can comfortably reach all the controls and see the dashboard display.
2. Engage the parking brake.
3. Make sure the PTO switch is disengaged.
4. Start the engine (see STARTING THE ENGINE).
5. Disengage the parking brake and release the brake pedal.
6. Depress the forward ground speed control pedal to travel forward. Release the pedal to stop. Note that the further down the pedal is depressed the faster the tractor will travel.
7. Stop the tractor by releasing the ground speed control pedals, setting the parking brake, and stopping the engine (see STOPPING THE TRACTOR AND ENGINE).

Mowing

1. Engage the parking brake. Make sure the PTO switch is disengaged.
2. Start the engine (see STARTING THE ENGINE).
3. Set the hydraulic selector switch to REAR. Fully lower the mower using the attachment lift lever.
4. Set the mower cutting height to the desired level.
5. Set the throttle to FULL.
6. Set the PTO selector to MID PTO ONLY. Engage the PTO switch.
7. Begin mowing.
8. When finished, shut off the PTO and raise the mower using the attachment lift control lever.
9. Stop the engine (see STOPPING THE TRACTOR AND ENGINE).

Mowing in Reverse

⚠ WARNING

The engine will shut off if the reverse ground speed pedal is depressed while the PTO is on and the RMO has not been activated. The operator should always turn the PTO off prior to driving across on roads, paths or any area that maybe used by other vehicles. Sudden loss of drive could create a hazard.

⚠ WARNING

Mowing in reverse can be hazardous to bystanders. Tragic accidents can occur if the operator is not alert to the presence of children. Never activate RMO if children are present. Children are often attracted to the unit and the mowing activity.

If an operator chooses to mow in reverse, the RMO system can be used. To use the Reverse Mowing Option (RMO) turn the RMO key after the PTO is engaged. The L.E.D. light will illuminate, and the operator can then mow in reverse. Each time the PTO is disengaged the RMO needs to be reactivated if desired. The key should be removed to restrict access to the RMO feature.

Attachment Operation in Reverse

If an operator chooses to operate a PTO driven attachment in reverse, the RMO system can be used. To use the Reverse Mowing Option (RMO) turn the RMO key after the PTO is engaged. The L.E.D. light will illuminate, and the operator can then operate the attachment in reverse. Each time the PTO is disengaged the RMO needs to be reactivated if desired. The key should be removed to restrict access to the RMO feature.

4-Wheel Drive Operation

When operating in 4WD without a mower deck installed on the tractor, it is recommended you install rear wheel weights to increase stability.

⚠ WARNING

If you cannot back up a hill in 2WD, Do not operate on it. Use extra caution on slopes. To increase traction and provide four-wheel braking, engage mechanical front wheel drive (4WD) when driving on slopes. Be aware that 4WD can improve access to dangerously sloped terrain, thereby increasing the possibility of tipover.

Pushing the Tractor By Hand

DO NOT TOW TRACTOR
Towing the unit will cause transmission damage. Do not use another vehicle to push or pull this unit. Do not actuate the transmission release valve lever while the engine is running.

1. Disengage the PTO and turn the engine off.
2. Push the transmission release (B, Figure 4) forward and down to lock into the released position. The tractor can now be pushed by hand.
3. Move the lever rearward and up to engage the transmission.

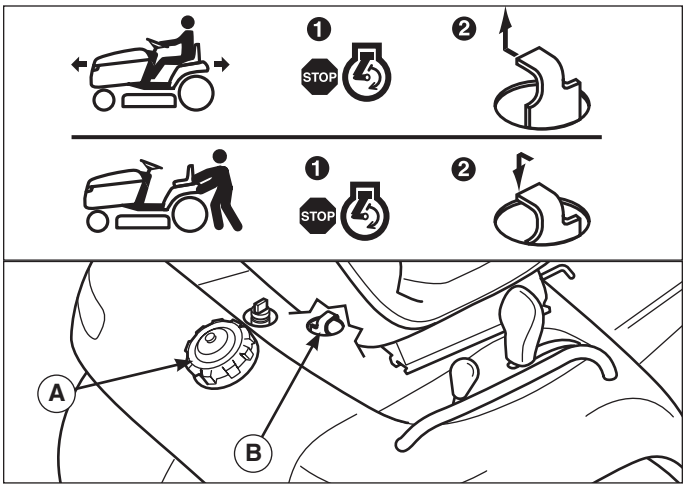


Figure 4. Transmission Release Lever & Fuel Tank

Hydraulic System Functions

General

All of the inboard and auxiliary hydraulics are controlled by the attachment lift control lever. The attachment lift control lever raises and lowers attachments that utilize the tractor's hydraulic lift cylinder. This lever also controls attachments that use the tractor's auxiliary hydraulics via the quick couplers on the front left and right sides of the frame.

The rate of hydraulic fluid flow and pressure that are available when using the auxiliary hydraulic quick couplers is listed in the chart in Figure 5.

The lever has five positions: left, right, back, forward (first detent) and float (pushed forward to second detent).

Using Inboard Hydraulics

The inboard hydraulics control the tractor's belly attachment lift (mower deck) and three point hitch lift (if equipped). The front / rear hydraulic selector switch must be in the REAR position.

Pulling the lever back raises the attachment lift (A, Figure 6). Pushing the lever forward to the first detent lowers the attachment lift (B, Figure 6). Pushing the lever forward to the second detent locks the control in "float" position, allowing the lift mechanism to float up and down.

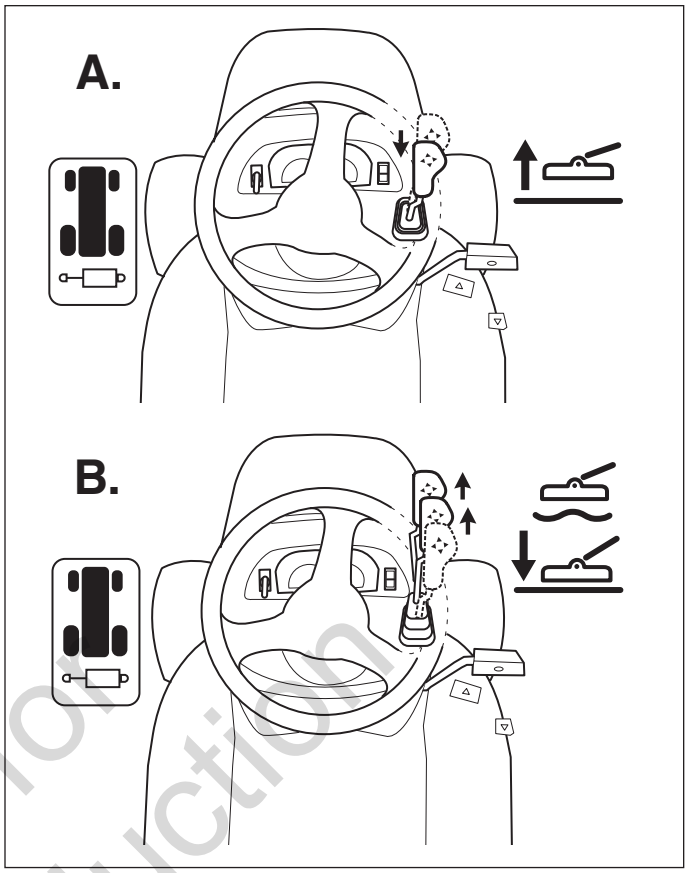


Figure 6. Inboard Hydraulics

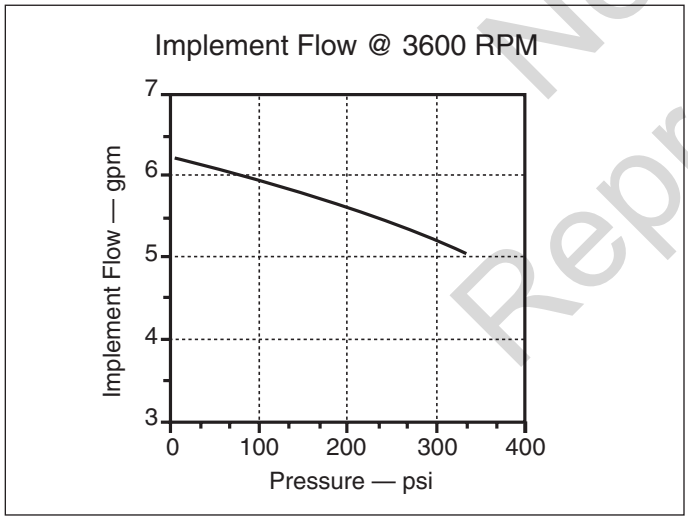


Figure 5. Hydraulic System Pressure / Flow

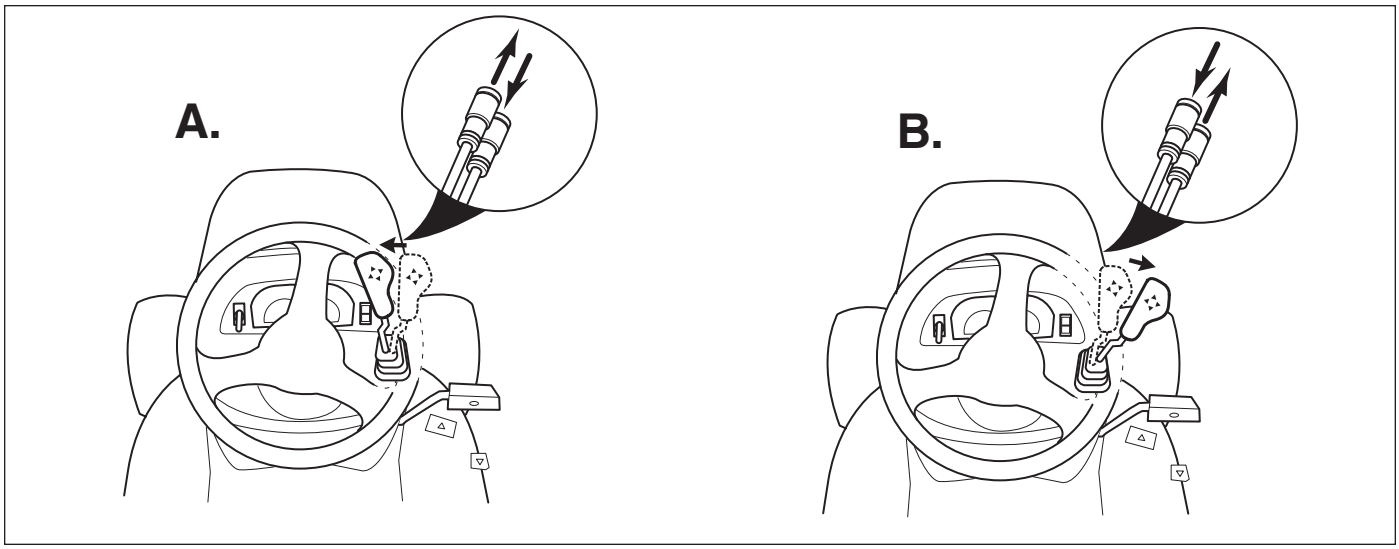


Figure 7. Auxiliary Hydraulics

Using Auxiliary Hydraulics

The attachment lift control is also used to control attachments that use the tractor's auxiliary hydraulic couplers located on the right and left front frame rails. The left set of quick couplers is activated when the front / rear hydraulic switch is turned to the FRONT position (this disables the inboard hydraulic cylinder).

Moving the control lever to the left (A, Figure 7) angles the attachment left. Moving the lever right (B) angles the attachment right.

Pulling the lever back raises the attachment lift (A, Figure 8). Pushing the lever forward to the first detent lowers the attachment lift (B, Figure 8). Pushing the lever forward to the second detent locks the control in "float" position, allowing the lift mechanism to float up and down.

Many approved attachments have color coded quick couplers to aid in installation. Match the tractor quick coupler with the like colored attachment quick coupler.

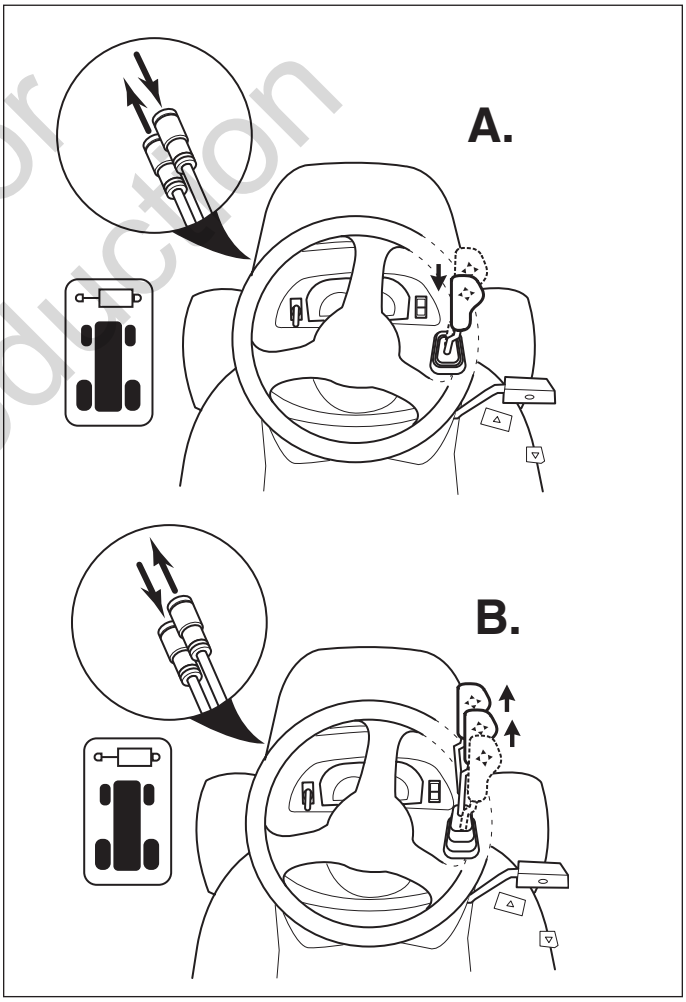


Figure 8. Auxiliary Hydraulics

Optional 3-Point Hitch Operation (Select Models)

Attachment Weight Limit

The maximum allowable attachment weight is determined by the gross weight of the attachment verses the distance from the end of the tractor hitch arm to the attachment's center of gravity (Figure 10). The further an attachment's center of gravity is from the tractor, the more leverage is required to raise it.

Measure the distance from the end of the hitch arms to the attachment's center of gravity (Figure 10) and use the graph in Figure 9 to determine if an attachment is too heavy to be used with your tractor.

Always use a front weight carrier and 50 lbs. suitcase weights when using a rear-mounted attachment. Remove the front weights when the rear attachment is removed.

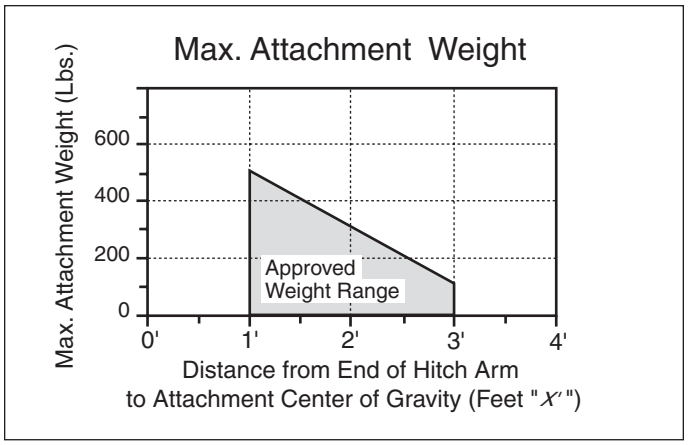


Figure 9. Attachment Weight Limit

⚠ CAUTION

Avoid injury! A machine with a 3-point hitch attachment installed may become unstable when the attachment is raised. Always drive slower over uneven ground and when turning with the attachment raised.

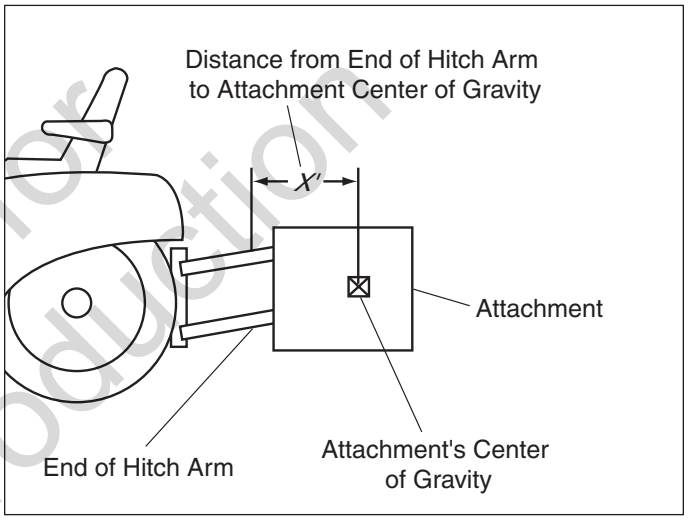


Figure 10. Attachment Weight Limit

Locking the Hitch

The 3-point hitch can be locked in the raised position. When a rear attachment is locked in the raised position, the tractor's on-board hydraulic cylinder can be used to lift mid mounted attachments without having to remove the rear attachment. For example, if a tractor equipped with a tiller is to be used for mowing, the tiller can be locked in the raised position allowing the mower to be installed and used.

To lock the 3-point hitch in the raised position:

1. Raise the attachment lift.
2. Remove the locking rod from its storage position (A, Figure 11) and insert it below the hitch arms in the locking position (B).
3. Secure with a hair pin clip.

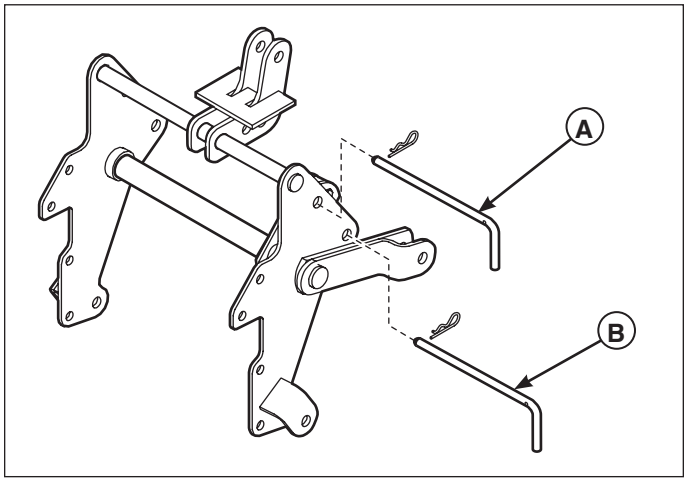


Figure 11. Hitch Rod Positions

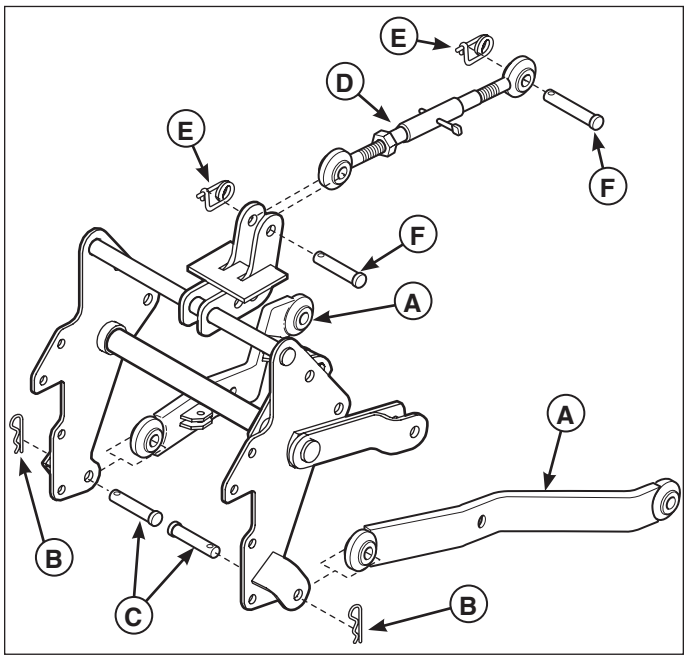


Figure 12. Install Sway Arms

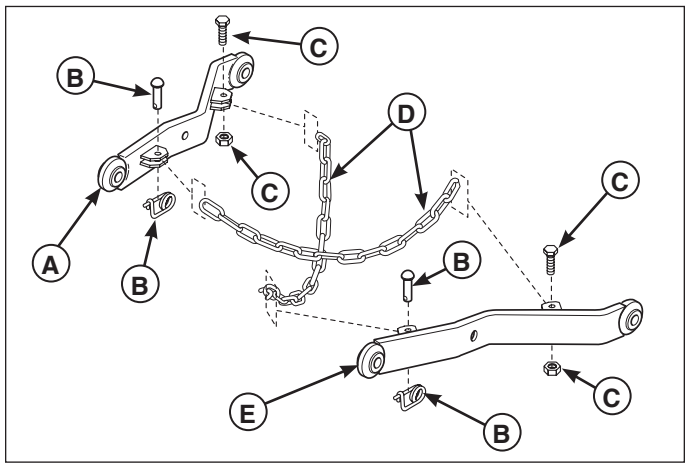


Figure 13. Install Chains

Hitch Arms Installation

1. Attach the upper lift link (D, Figure 12) to the hitch using a clevis pin (F) and safety clip (E).
2. Attach the sway arms (A, Figure 12) to the hitch assembly using clevis pins (C) and hair pin clips (B). The arms should angle out, away from center.
3. Attach the sway chains (D, Figure 13) to the back of the sway arms (A, E) using 3/8 x 1-1/2 capscrews (C) and 3/8 locknuts. Cross the chains and secure to front of the sway arms with clevis pins and hair pin clips (B).
4. Attach the adjustable link (E, Figure 14) and lift link assembly (C) using clevis pins (B) and hair pin clips.

NOTE: The adjustable lower lift link (E, Figure 14) goes on the right side.

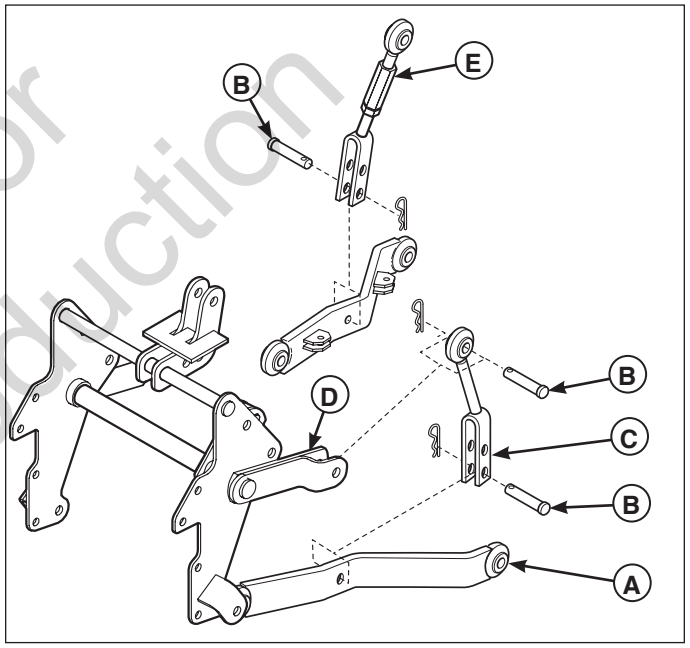


Figure 14. Install Lift Links

540 Rear PTO Operation (Select Models)

Checks Before Starting

Refer to the Maintenance & Adjustments sections of this manual and perform any needed service.

Connecting a Drive Shaft

1. Disengage the PTO, set the parking brake, stop the engine, and wait for all moving parts to stop.
2. Pull back on the locking collar (A, Figure 15) and slide the connector on the PTO shaft as far as it will go.
3. Pull back on the drive shaft until the locking collar snaps into place. Check that the connection is secure.

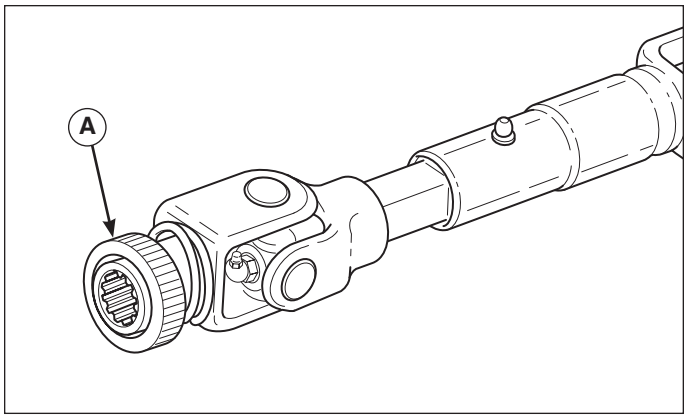


Figure 15. Typical Drive Shaft

Starting & Stopping the PTO

1. Stop the engine and remove the key. Set the parking brake.
2. See Attachment Operator's Manual or Installation Instructions to properly install/connect the attachment to be used. If connecting to a stationary attachment, set the parking brake during attachment operation.
3. Start the tractor engine. Allow the engine to warm-up for several minutes before engaging the PTO.
4. Set engine throttle to FULL
5. Place the PTO selector lever in the rear position (A, Figure 16) if only a rear attachment is being used. If a mid and rear attachment are being used simultaneously, place the lever in the mid position (B). If only a mid or front attachment is being used, place the control in position (C).
6. Pull UP on the PTO switch to engage the PTO.
7. When finished, move the throttle control to IDLE and push the PTO switch DOWN to disengage. Wait for all moving parts to stop.
8. When disconnecting the attachment, stop the engine, remove the key, and set the parking brake. Wait for all moving parts to stop.

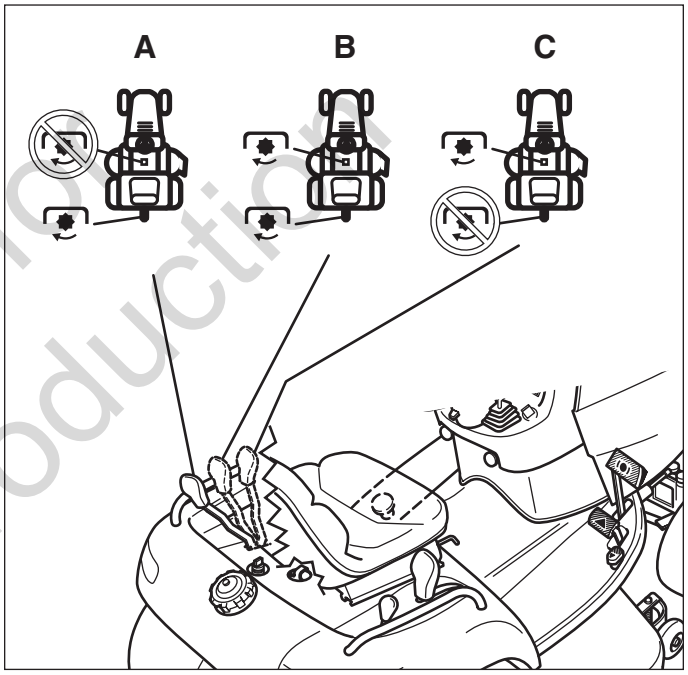


Figure 16. PTO Selector Lever

Engine Speed Selection

When engaging the rear PTO, set the throttle to FULL.

When disengaging the rear PTO, set the throttle to IDLE and allow the attachment to slow down.

While using an attachment, always set the throttle to FULL.

540 Attachment Recommendations

GENERAL

This rear PTO was designed and tested with the 540 RPM rear tiller sold by Simplicity Manufacturing. There are a wide variety of other 540 attachments available from numerous manufacturers. It is impossible for us to test every one of them. There are a few basic, common-sense criteria that can be used to determine whether these attachments are suitable for use with your tractor.

In general, any attachment that:

- stalls the engine,
- requires the clutch to be toggled on and off while starting, or
- takes longer than 3 seconds to reach operating speed is too large.

PTO BOX OUTPUT SPEED & HORSEPOWER OUTPUT

This rear PTO box is designed to output a maximum of 18 horsepower at 540 RPM. Therefore it should only be used to run 540 RPM attachments that require 18 HP or less.

Using this PTO box to run attachments that require more than 18 HP or an input shaft speed other than 540 could result in poor performance, shortened equipment life, or equipment damage, and will void the tractor warranty. Improper use can also create an unsafe condition resulting in injury.

START-UP AND STOPPING LOADS

This PTO can be used with direct drive attachments that have small start-up and stopping loads like tillers or mower decks.

DO NOT use this PTO box with attachments that require a large amount of torque to start: for example, attachments such as direct drive chipper/shredders and large silo blowers cannot be used because their starting and stopping loads may damage the PTO clutch.

Large attachments that have their own clutching mechanism to lessen the load on the PTO box during starting and stopping may be used provided they do not exceed the 18 horsepower limit.

OVERLOAD PROTECTION

Any attachment used with this PTO box MUST have shear pin(s), shear bolt(s), a slip clutch, or some other device to prevent PTO box damage if the attachment should jam.

Attaching a Trailer

The maximum weight of a towed trailer should be less than 800 lbs (363 kg). Secure the trailer with an appropriately sized clevis pin (A, Figure 17) 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 tractor 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.

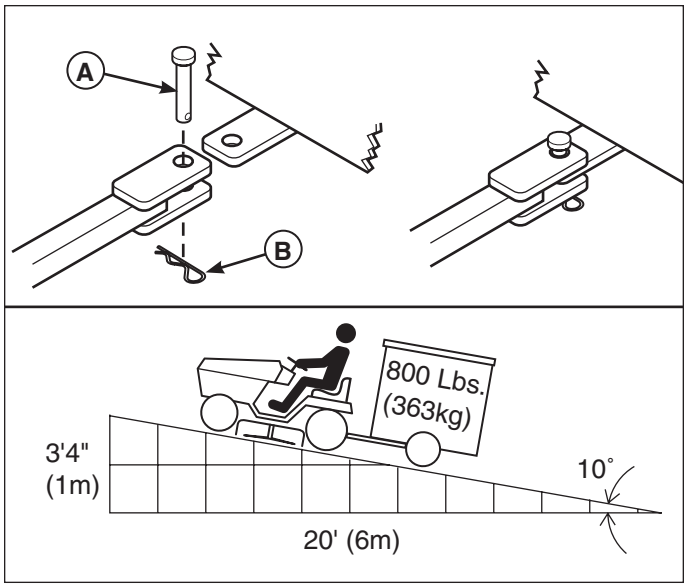


Figure 17. Trailer Weight Recommendations

Storage

⚠ 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.

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, and 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.

12 Volt Power Outlet

The 12-volt accessory outlet is located in the left side pod. It can be used to power small electronic devices. The accessory must be rated at 14 amps or less.

NOTE: Operating a 12-volt accessory, especially with the engine at idle, may cause battery discharge. When not using the accessory outlet *it must be covered with the rubber plug to prevent moisture from causing a short circuit. Entrance of water into* outlet *can cause a short circuit.*

Maintenance Chart

TRACTOR AND MOWER
Every 8 Hours or Daily
Check safety interlock system
Clean debris off tractor and mower deck
Clean debris from engine compartment
Every 25 Hours or Annually *
Check tire pressure
Check mower blade stopping time
Check tractor and mower for loose hardware
Every 50 Hours or Annually *
Clean battery and cables
Check tractor brakes
See Dealer Annually to
Lubricate tractor and mower
Check mower blades **

* Whichever comes first
** Check blades more often in regions with sandy soils or high dust conditions.

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

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

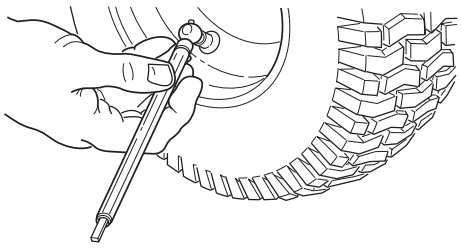
Engine Maintenance

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

Check the Tire Pressure

Tires should be checked periodically to provide the optimum traction and to guarantee the best cut (see Figure 18).

NOTE: These pressures may differ slightly from the "Maximum Inflation" stamped on the side walls of the tires.



Size	Tread	PSI	bar
26 x 12-12	Turf	12-15	0,83-1,03
18 x 8.5-8	Turf	20-22	1,38-1,52
26 x 12-12	Field	10-12	0,69-0,83
18 x 8.5-10	Field	20-22	1,38-1,52

Figure 18. Tire Pressure

Check Transmission Oil Level

Do not allow dirt, water, or other debris to enter the expansion chamber or transmission. Even a small amount of dirt can damage the transmission

Service Interval: Every 25 Hours

Oil Type: Type F Automatic Transmission Fluid

1. Clean the area around the transmission dip stick (A, Figure 19).
2. Remove the dip stick (A) from the transmission and wipe it clean.
3. Insert the dip stick into the transmission without threading it in. Remove the dip stick and read the oil level. The oil level should be even with the top of the hash mark area when the transmission is cold.

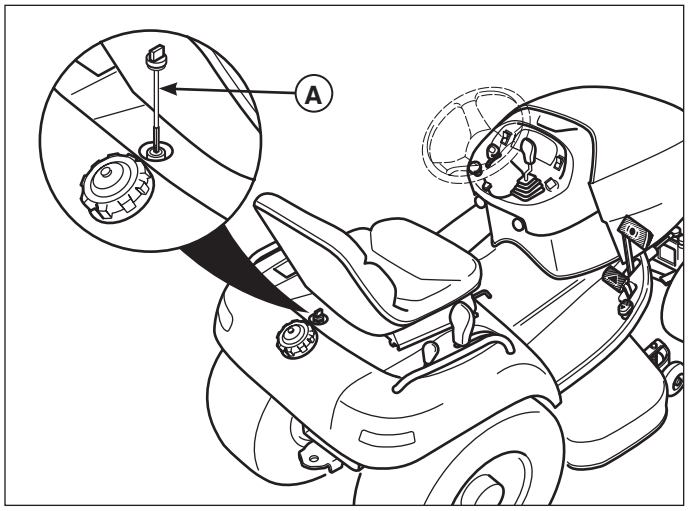


Figure 19. Transmission Fluid Check

Cleaning the Battery and Cables

⚠ WARNING

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.

1. Disconnect the cables from the battery, negative cable first (C, Figure 20).
2. Remove the battery clamp (B) and battery. On diesel models the battery clamp is secured with bolts to both frame rails (D).
3. Clean the battery compartment with a solution of baking soda and water.
4. Clean the battery terminals and cable ends with a wire brush and battery terminal cleaner until shiny.
5. Reinstall the battery in the battery compartment, and secure with the battery clamp (B).
6. Reattach the battery cables, positive cable first (A).
7. Coat the cable ends and battery terminals with petroleum jelly or non-conducting grease.

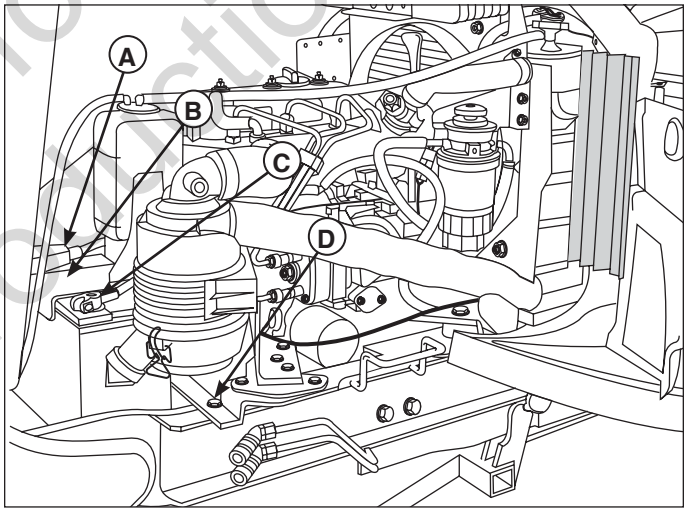


Figure 20. Battery - Diesel Models

Battery Charging

⚠ WARNING

Keep open flames and sparks away from the battery; the gasses coming from it are highly explosive. Ventilate the battery well during 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, see the ***Clean the Battery and Cables*** section.

To charge the battery, follow the instructions provided by the battery charger manufacturer as well as all warnings included in the ***Operator Safety*** section of this manual. Charge the battery until fully charged. Do not charge at a rate higher than 10 amps.

Check Mower Blade Stopping Time

The mower should come to a complete stop within five seconds after PTO switch is turned off.

1. With tractor in neutral, PTO disengaged and operator in seat, start the engine. Make sure the area is clear of bystanders.
2. Engage the PTO and wait several seconds. Disengage the PTO and check the amount of time it takes for the mower to stop.
3. If the mower does not stop within five seconds, see your dealer.

Seat Adjustment

The seat can be adjusted forward and back. Move the lever (A, Figure 21), position the seat as desired, and release the lever to lock the seat into position.

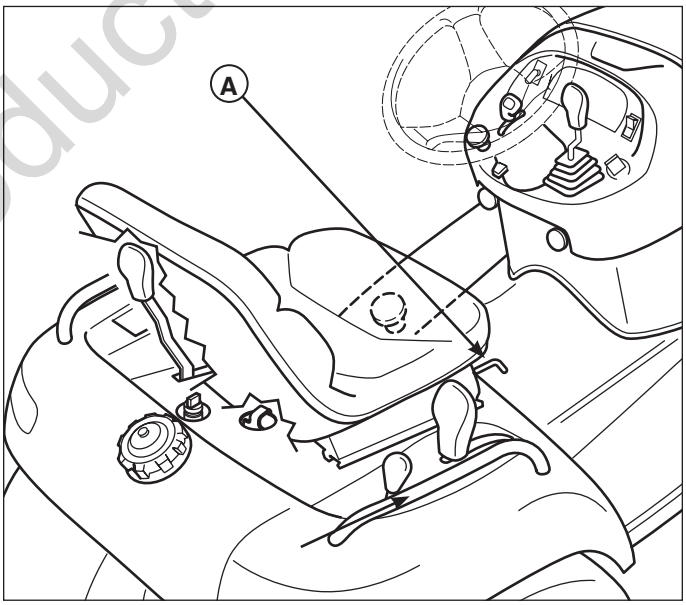


Figure 21. Seat Adjustment

Headlight Replacement

1. Open the hood (Figure 22).
2. Remove the forward heat shield.
3. Remove the light bulb socket from the bezel by twisting it counterclockwise and pulling it out.
4. Use a rag or gloves to remove and replace the light bulb with an identical halogen bulb. **DO NOT TOUCH THE BULB WITH YOUR BARE HANDS.**
5. Reinstall the socket into the bezel.

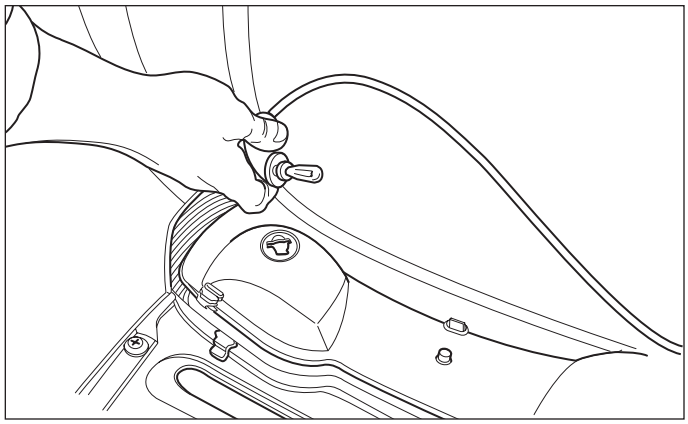


Figure 22. Headlight Replacement

Taillight & Dash Light Replacement

1. Twist the socket counterclockwise and pull out to remove it from the taillight or dashboard display (Figure 23).
2. Remove and replace the old bulb with a new identical bulb.
3. Reinstall the socket into the taillight bezel or dashboard display.

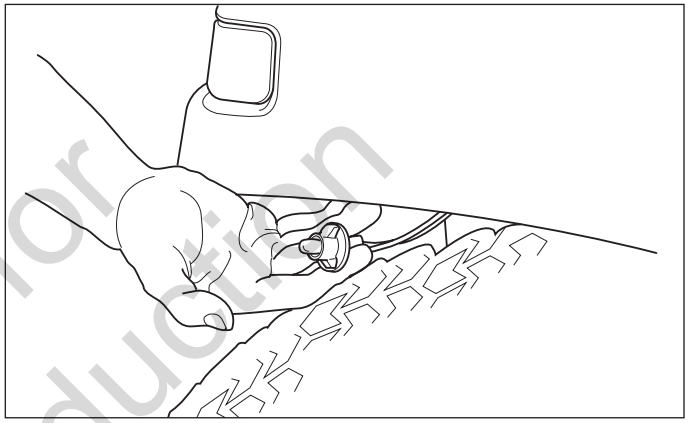


Figure 23. Taillight Replacement

Gauge Wheel Adjustment

The mower gauge wheels can be placed in two positions depending on the height of cut. When using higher cutting heights, set the wheels in the lower position. When using lower cutting heights, set the wheels in the upper position. To adjust:

1. Remove the hair pin clip (A, B, Figure 24).
2. For upper position, install the pin (A) through the spindle above the bracket (C). For the lower position, push down on the top of the spindle, and install the hair pin clip (B) below the top of the bracket (C).

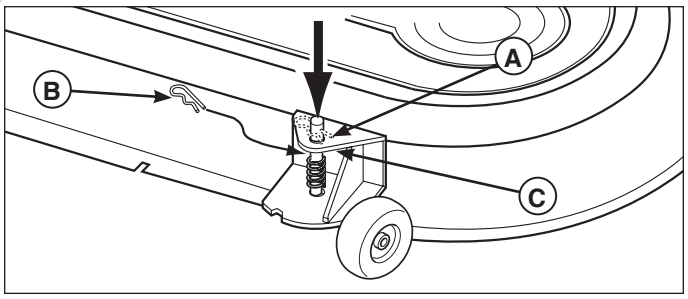


Figure 24. Gauge Wheel Adjustment

Troubleshooting the Tractor

PROBLEM	LOOK FOR	REMEDY
Engine will not turnover or start.	Brake pedal is not depressed.	Fully depress the brake pedal.
	PTO is engaged.	Disengage the PTO.
	Out of fuel.	If engine is hot, allow it to cool, then refill the fuel tank.
	Engine flooded.	Disengage the choke.
	Fuse is blown.	See authorized dealer.
	Battery terminals require cleaning.	See ***Clean the Battery and Cables*** section.
	Battery discharged or dead.	Recharge or replace battery.
	Wiring loose or broken.	Visually check wiring. If wires are frayed or broken, see authorized dealer.
	Solenoid or starter motor faulty.	See authorized dealer.
	Safety interlock switch faulty.	See authorized dealer.
	Water in fuel.	See authorized dealer.
	Gas is old or stale.	See authorized dealer.
Engine starts hard or runs poorly.	Fuel mixture too rich.	Clean air filter.
	Engine has other problem.	See authorized dealer.
Engine knocks.	Low oil level.	Check or add oil as required.
	Using wrong grade oil.	See engine manual.
Excessive oil consumption.	Engine running too hot.	See authorized dealer.
	Using wrong grade oil.	See engine manual.
	Too much oil in crankcase.	Drain excess oil.
Engine exhaust is black.	Dirty air filter.	See engine manual.
	Choke closed.	Open choke.
Engine runs, but tractor will not drive.	Ground speed control pedals not depressed.	Depress pedals.
	Transmission release lever in PUSH position.	Move transmission release lever to DRIVE position.
	Parking brake is engaged.	Disengage the parking brake.
	Traction drive belt is broken or slipping.	See authorized dealer.

Troubleshooting the Tractor (Continued)

PROBLEM	LOOK FOR	REMEDY
Brake will not hold.	Internal brake worn.	See authorized dealer.
Tractor steers hard or handles poorly.	Steering linkage is loose.	See authorized dealer.
	Improper tire inflation.	See ***Check the Tire Pressure*** section.
	Front wheel spindle bearings dry.	See authorized dealer.

Troubleshooting the Mower

PROBLEM	LOOK FOR	REMEDY
Mower will not raise.	Lift linkage not properly attached or damaged.	See authorized dealer.
Mower cut is uneven.	Mower not leveled properly.	See authorized dealer.
	Blades are damaged.	See authorized dealer.
	Tractor tires not properly inflated.	See ***Check the Tire Pressure*** section.
Mower cut is rough looking.	Engine speed too slow.	Set to full throttle.
	Ground speed too fast.	Slow down.
	Blades need sharpening.	See authorized dealer.
	Mower has other problem.	See authorized dealer.
Engine stalls easily with mower engaged.	Engine speed too slow.	Set to full throttle.
	Ground speed to fast.	Slow down.
	Dirty or clogged air filter.	See engine manual.
	Cutting height set too low.	Cut tall grass at maximum cutting height during first pass.
	Engine not up to operating temperature.	Run engine for several minutes to warm-up.
	Starting mower in tall grass.	Start the mower in a cleared area.
	Catcher assembly not closing properly.	Close catcher until latches are engaged. If still not closing properly, see authorized dealer.
Excessive mower vibration.	Mower has other problem.	See authorized dealer.
Engine runs and tractor drives, but mower will not drive.	PTO not engaged.	Engage the PTO.
	Mower has other problem.	See authorized dealer.
Catcher full alarm does not sound when catcher is full.	Grass buildup around lever.	Clean area around lever.
	Alarm has other problem.	See authorized dealer.

ENGINE:

Briggs & Stratton

Make	Briggs & Stratton
Model	DM 950 D - Model 582447
Displacement	58.1 cu in (952 cc)
Electrical System	Alternator: 40 amp Battery: 12 Volt, 500 CCA
Oil Capacity	3.2 qt (3,0 L)

CHASSIS:

Fuel Tank Cap.	5.5 gal (20,8 L)
Rear Wheels:	
Turf Tires	Tire Size: 26x12-12 Inflation Pressure: 12-15 psi (0,83-1,03 bar)
HD Field Tires	Tire Size: 26x12-12 Inflation Pressure: 10-12 psi (0,69-0,83 bar)
Front Wheels:	
Turf Tires	Tire Size: 18x8.5-8 Inflation Pressure.: 20-22 psi (1,38-1,52 bar)
HD Field Tires	Tire Size: 18x8.5-10 Inflation Pressure.: 20-22 psi (1,38-1,52 bar)

TRANSAXLE:

Make	Tuff Torq
Type	K92 Integrated Hydrostatic Pump & Transaxle
Hydraulic Fluid	Type F Automatic Transmission Fluid
Capacity	4WD-540: 9.5 qt /9,0 L
Speeds	Forward: 0-9.0 mph (0-14,5 kph)
@ 3400 rpm	Reverse: 0-5.5 mph (0-8,8 kph)
Continuous Torque	1200 ft-lbs (166 kg-m)
Output	

FRONT AXLE (4WD):

Make	Shibaura
Lubrication	80W-90 Gear Lube
Capacity	1.6 qt (1,5 L)

DIMENSIONS:

Overall Length	81” (206 cm)
Overall Width	44.9” (114 cm) (4WD)
Height	51,2” (130 cm)
Weight (approx.)	
4WD Tractor, B&S Diesel	1131 lbs (513 kg)
54” Mower Deck	230 lbs (104 kg)

Power rating

The gross power rating for individual gas engine models is labeled in accordance with SAE (Society of Automotive Engineers) code J1940 (Small Engine Power & Torque Rating Procedure), and rating performance has been obtained and corrected in accordance with SAE J1995 (Revision 2002-05). Torque values are derived at 3060 RPM; horsepower values are derived at 3600 RPM. The gross power curves can be viewed at www.BRIGGSandSTRATTON.COM. Net power values are taken with exhaust and air cleaner installed whereas gross power values are collected without these attachments. Actual gross engine power will be higher than net engine power and is affected by, among other things, ambient operating conditions and engine-to-engine variability. Given the wide array of products on which engines are placed, the gas engine may not develop the rated gross power when used in a given piece of power equipment. This difference is due to a variety of factors including, but not limited to, the variety of engine components (air cleaner, exhaust, charging, cooling, carburetor, fuel pump, etc.), application limitations, ambient operating conditions (temperature, humidity, altitude), and engine-to-engine variability. Due to manufacturing and capacity limitations, Briggs & Stratton may substitute an engine of higher rated power for this Series engine.

Parts and accessories

Contact an authorized dealer for details.

BRIGGS & STRATTON POWER PRODUCTS GROUP, L.L.C. OWNER WARRANTY POLICY

LIMITED WARRANTY

Briggs & Stratton Power Products Group, LLC will repair and/or replace, free of charge, any part(s) of the equipment that is defective in material or workmanship or both. Briggs & Stratton Corporation will repair and/or replace, free of charge, any part(s) of the Briggs & Stratton engine* (if equipped) that is defective in material or workmanship or both. Transportation charges on product submitted for repair or replacement under this warranty must be borne by purchaser. This warranty is effective for the time periods and subject to the conditions stated below. For warranty service, find the nearest Authorized Service Dealer using our dealer locator at www.BriggsandStratton.com or www.Snapper.com.

There is no other express warranty. Implied warranties, including those of merchantability and fitness for a particular purpose, are limited to one year from purchase or to the extent permitted by law. Liability for incidental or consequential damages are excluded to the extent exclusion is permitted by law.

Some states or countries do not allow limitations on how long an implied warranty lasts, and some states or countries do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation and exclusion may not apply to you. This warranty gives you specific legal rights and you may also have other rights which vary from state to state or country to country.

WARRANTY PERIOD

Item	Consumer Use	Commercial Use
Equipment	2 Years	2 Years
Engine*	2 Years	1 Year
Battery	1 Year	1 Year

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

No warranty registration is necessary to obtain warranty on Briggs & Stratton products. Save your proof of purchase receipt. If you do not provide proof of the initial purchase date at the time warranty service is requested, the manufacturing date of the product will be used to determine warranty eligibility.

ABOUT YOUR WARRANTY

We welcome warranty repair and apologize to you for being inconvenienced. Warranty service is available only through servicing dealers authorized by Briggs & Stratton or BSPPG, LLC.

Most warranty repairs are handled routinely, but sometimes requests for warranty service may not be appropriate. This warranty only covers defects in materials or workmanship. It does not cover damage caused by improper use or abuse, improper maintenance or repair, normal wear and tear, or stale or unapproved fuel.

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

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

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

Stale Fuel - In order to function correctly, this product requires fresh fuel that conforms to the criteria specified in the Operator’s Manual. Damage caused by stale fuel (carburetor leaks, clogged fuel tubes, sticking valves, etc) is not covered by warranty.

* Applies to Briggs & Stratton engines only. Warranty coverage of non-Briggs & Stratton engines is provided by the engine manufacturer.