



Count on it.

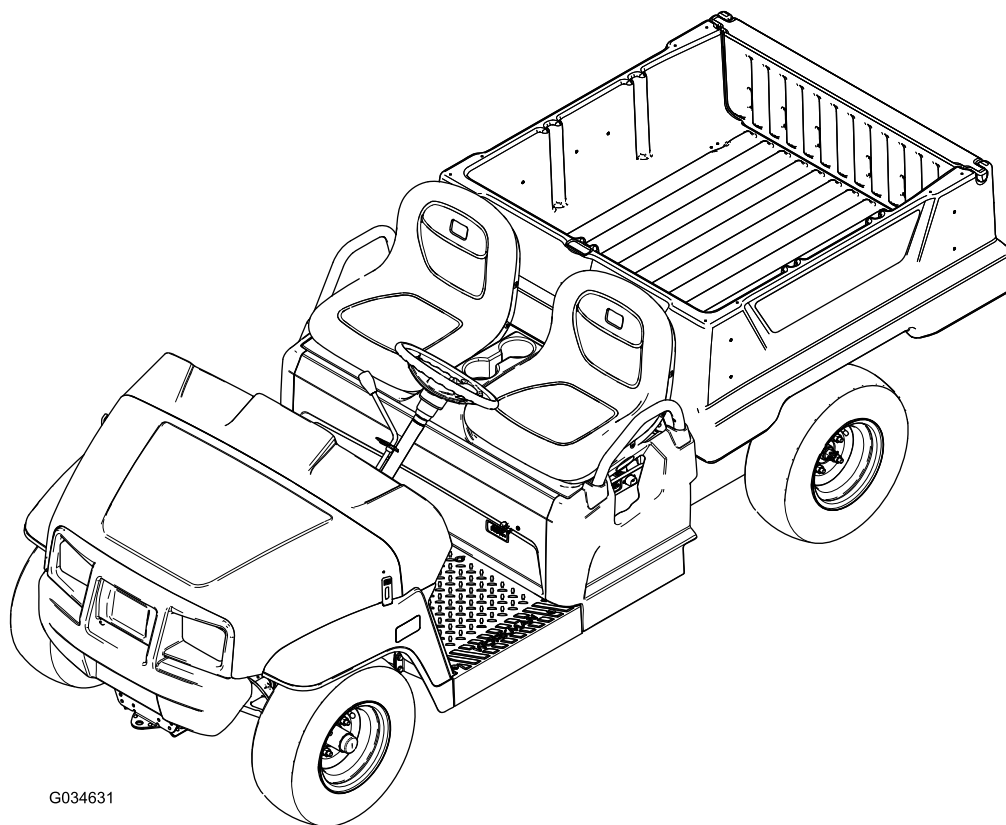
Form No. 3407-497 Rev D

Operator's Manual

Workman® GTX Utility Vehicle

Model No. 07130—Serial No. 316000001 and Up

Model No. 07130TC—Serial No. 316000001 and Up



G034631




This product complies with all relevant European directives; for details, please see the separate product specific Declaration of Conformity (DOC) sheet.

It is a violation of California Public Resource Code Section 4442 or 4443 to use or operate the engine on any forest-covered, brush-covered, or grass-covered land unless the engine is equipped with a spark arrester, as defined in Section 4442, maintained in effective working order or the engine is constructed, equipped, and maintained for the prevention of fire.

This spark ignition system complies with Canadian ICES-002

The enclosed *Engine Owner's Manual* is supplied for information regarding the US Environmental Protection Agency (EPA) and the California Emission Control Regulation of emission systems, maintenance, and warranty. Replacements may be ordered through the engine manufacturer.

 **WARNING**

**CALIFORNIA
Proposition 65 Warning**

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

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

Introduction

Read this information carefully to learn how to operate and maintain your product properly and to avoid injury and product damage. You are responsible for operating the product properly and safely.

You may contact Toro directly at www.Toro.com for product and accessory information, help finding a dealer, or to register your product.

Whenever you need service, genuine Toro parts, or additional information, contact an Authorized Service Dealer or Toro Customer Service and have the model and serial numbers of your product ready. [Figure 1](#) identifies the location of the model and serial numbers

on the product. Write the numbers in the space provided.

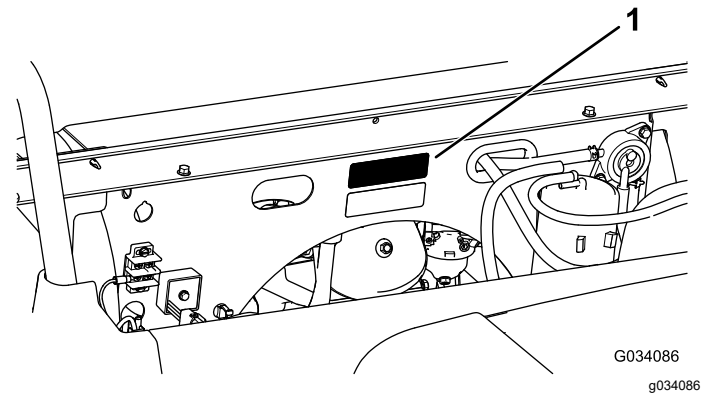


Figure 1
Bottom of Seat Assembly Shown

1. Model and serial-number location

Model No. _____

Serial No. _____

This manual identifies potential hazards and has safety messages identified by the safety-alert symbol ([Figure 2](#)), which signals a hazard that may cause serious injury or death if you do not follow the recommended precautions.



Figure 2

1. Safety-alert symbol

This manual uses 2 words to highlight information. **Important** calls attention to special mechanical information and **Note** emphasizes general information worthy of special attention.

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Safety

Improper use or maintenance by the operator or owner can result in injury. To reduce the potential for injury, comply with these safety instructions and always pay attention to the safety-alert symbol, which means **Caution**, **Warning**, or **Danger**—personal safety instruction. Failure to comply with the instruction may result in personal injury or death.

The machine meets the requirements of SAE J2258.

Important: For CE required regulatory data, refer to the Declaration of Conformity supplied with the machine.

Safe Operating Practices

Important: This machine is designed primarily as an off-road machine and is not intended for extensive use on public roads.

When using the machine on public roads, follow all traffic regulations and use any additional accessories that may be required by law, such as lights, turn signals, slow-moving vehicle (SMV) signs, and others as required.

This machine was designed and tested to offer safe service when operated and maintained properly. Although hazard control and accident prevention are dependent upon the design and configuration of the machine, these factors are also dependent upon the awareness, concern, and proper training of the operator, maintenance, and storage of the machine. Improper use or maintenance of the machine can result in injury or death.

This machine has a different feel than what drivers experience with passenger cars or trucks. So take time to become familiar with your machine.

Not all of the attachments that adapt to the machine are covered in this manual. See the specific *Operator's Manual* provided with each attachment for additional safety instructions.

To reduce the potential for injury or death, comply with the following safety instructions:

Supervisor's Responsibilities

Make sure that the operators are thoroughly trained and familiar with the *Operator's Manual* and all labels on the machine.

Before Operating

- Become familiar with the controls and know how to shut off the engine quickly.
- **Never** operate the machine when tired, ill, or under the influence of drugs or alcohol.
- Wear substantial, slip-resistant shoes. Do not wear loose-fitting clothing, tie back long hair, and do not wear jewelry.
- Wearing safety glasses, safety shoes, and long pants are required by some local regulations.
- **Never** allow children to operate the machine. **Never** allow adults to operate it without proper instructions. Only trained and authorized persons should operate this machine.
- Always be aware of where bystanders are.
- Keep all shields, safety devices and decals in place. If a shield, safety device or decal is malfunctioning, illegible, or damaged, repair or replace it before operating the machine.
- Avoid driving when it is dark, especially in unfamiliar areas. If you must drive when it is dark, use the headlights.
- Before operating the machine, always check all parts of the machine and any attachments. If something is wrong, **stop using the machine**. Make sure that the problem is corrected before the machine or attachment is operated again.
- Operate the machine only outdoors or in a well-ventilated area.

Safe Handling of Fuels

- To avoid personal injury or property damage, use extreme care in handling fuel. Fuel is extremely flammable and the vapors are explosive.
- Do not smoke near the machine.
- Use only an approved nonmetal, portable fuel container.
- Static electric discharge can ignite fuel vapors in a fuel container that is not grounded. Never fill containers inside a machine or on a truck or trailer bed with a plastic liner. Remove the fuel container from the bed of the machine and place it on the ground and away from the machine before filling.
- Keep the nozzle in contact with the container while filling the fuel container. Remove equipment from bed of the machine before fueling it. Do not use a nozzle-lock-open device.
- Never remove the fuel cap or add fuel with the engine running.
- Allow engine to cool before refueling.
- Never refuel the machine indoors.

- Never store the machine or fuel container where there is an open flame, spark, or pilot light, such as on a water heater or on other appliances.
- Remove equipment from the truck or trailer and refuel it on the ground. If this is not possible, then refuel such equipment with a portable container rather than from a fuel-dispenser nozzle.
- If fuel is spilled on clothing, change clothing immediately.
- Never overfill the fuel tank. Replace the fuel cap and tighten it securely.

Operation

- The operator and passenger should remain seated whenever the machine is in motion. The operator should keep both hands on the steering wheel, whenever possible, and the passenger should use the handholds provided. Keep arms and legs within the machine body at all times.
- Drive slower and turn less sharply when you are carrying a passenger. Remember your passenger may not be expecting you to brake or turn and may not be ready. Never carry passengers in the box or on attachments.
- Never overload the machine. The name plate (located under the seat assembly) shows the load limits for the machine. Never overfill attachments or exceed the machine maximum gross vehicle weight (GVW).
- Failure to operate machine safely may result in an accident, tip over of the machine, and serious injury or death. Drive carefully. To prevent tipping or loss of control, take the following precautions:
 - Use extreme caution, reduce speed, and maintain a safe distance around sand traps, ditches, creeks, ramps, any unfamiliar areas, or other hazards.
 - Watch for holes or other hidden hazards.
 - Do not operate the machine on a slope that exceeds 18° or 32.5% gradient. Use caution when operating the machine on a steep slope. Normally, travel straight up and down slopes. Reduce speed when making sharp turns or when turning on hillsides. Avoid turning on hillsides whenever possible.
 - Use extra caution when operating the machine on wet surfaces, at higher speeds, or with a full load. Stopping time increases with a full load.
 - Avoid sudden stops and starts. Do not go from reverse to forward or forward to reverse without first coming to a complete stop.
 - Do not attempt sharp turns or abrupt maneuvers or other unsafe driving actions that may cause a loss of control of the machine.
- When dumping, do not let anyone stand behind machine and do not dump the load on anyone's feet.
- Keep all bystanders away. Before backing up, look to the rear and ensure that no one is behind the machine. Back up slowly.
- Watch out for traffic when near or crossing roads. Always yield the right of way to pedestrians and other machines. Always signal your turns or stop early enough so other persons know what you plan to do. Obey all traffic rules and regulations.
- Never operate the machine in or near an area where there is dust or fumes in the air which are explosive. The electrical and exhaust systems of the machine can produce sparks capable of igniting explosive materials.
- Always watch out for and avoid low overhangs such as tree limbs, door jambs, over head walkways, etc. Make sure that there is enough room over head to easily clear the machine and your head.
- If you are ever unsure about the safe operation of the machine, **stop your work** and ask your supervisor.
- Before getting off the seat:
 - Stop the machine.
 - Lower the bed.
 - Shut the engine off and wait for all movement to stop.
 - Engage the parking brake.
 - Remove the key from the key switch.
- Do not touch the engine, transmission, muffler, or muffler manifold while engine is running or soon after it has stopped because these areas may be hot enough to cause burns.
- If the machine ever vibrates abnormally, stop the machine immediately, turn engine off, wait for all motion to stop and inspect for damage. Repair all damage before resuming operation.
- Lightning can cause severe injury or death. If lightning is seen or thunder is heard in the area, do not operate the machine; seek shelter.

Special Operation with the Multi-Passenger Kit Installed

- With the multi-passenger kit installed, you must account for the extra passengers contributing to the overall gross vehicle weight (GVW) of the machine.
- If you have a load in the cargo box, ensure that you do not exceed the capacity of the machine by having too many passengers.

- Passengers should sit in the designated seating positions only. Do not allow passengers to sit in the cargo box.
- The operator and passengers should remain seated whenever the machine is in motion.
- Additional machine length results in a larger turn radius, so allow more space to maneuver.

Braking

- Slow down the machine before you approach an obstacle. This gives you extra time to stop or turn away. Hitting an obstacle can injure you and your passenger. In addition, it can damage the machine and its contents.
- Gross vehicle weight (GVW) has a major impact on your ability to stop and/or turn. Heavy loads and attachments make the machine harder to stop or turn. The heavier the load, the longer it takes to stop.
- Decrease the speed of the machine if the cargo box has been removed and there is no attachment installed on the machine. The braking characteristics change and fast stops may cause the rear wheels to lock up, which affects the control of the machine.
- Turf and pavement are much more slippery when they are wet. It can take 2 to 4 times longer to stop the machine on wet surfaces as on dry surfaces. If you drive through deep-standing water and get the brakes wet, they will not work well until they are dry. After driving through water, you should test the brakes to make sure that they work properly. If they do not, drive slowly on a level ground while putting light pressure on the brake pedal. This dries out the brakes.

Operating on Hills

⚠ WARNING

Operating the machine on a hill may cause tipping or rolling of the machine, or the engine may stall and you could lose headway on the hill. This could result in personal injury.

- **Do not operate the machine on excessively steep slopes.**
- **Do not accelerate quickly or slam the brakes when backing down a hill, especially with a load.**
- **If the engine stalls or you lose headway on a hill, slowly back straight down the hill. Never attempt to turn the machine around.**
- **Operate the machine slowly on a hill and use caution.**
- **Avoid turning on a hill.**
- **Reduce your load and the speed of the machine.**
- **Avoid stopping on hills, especially with a load.**

Take these precautions when operating the machine on a hill:

- Slow the machine down before starting up or down a hill.
- If the engine stalls or you begin to lose momentum while climbing a hill, gradually apply the brakes and slowly back the machine straight down the hill.
- Turning while traveling up or down hills can be dangerous. If you have to turn while on a hill, do it slowly and cautiously. Never make sharp or fast turns.
- Heavy loads affect stability. Reduce the weight of the load and your ground speed when operating on hills or if the load has a high center of gravity. Secure the load to the cargo box of the machine to prevent the load from shifting. Take extra care when hauling loads that shift easily (liquid, rock, sand, etc.).
- Avoid stopping on hills, especially with a load. Stopping while going down a hill takes longer than stopping on level ground. If you must stop the machine, avoid sudden speed changes, which may initiate tipping or rolling of the machine. Do not slam on the brakes when rolling backward, as this may cause the machine to overturn.

Operating on Rough Terrain

Reduce the ground speed of the machine and load carried in the machine when operating on rough

terrain, uneven ground, and near curbs, holes, and other sudden changes in terrain. Loads may shift, causing the machine to become unstable.

⚠ WARNING

Sudden changes in terrain may cause abrupt steering wheel movement, possibly resulting in hand and arm injuries.

- **Reduce your speed when operating on rough terrain and near curbs.**
- **Grip the steering wheel loosely around the perimeter keeping thumbs up and out of the way of the steering wheel spokes.**

Loading and Dumping

- Do not exceed the rated weight capacity of the machine when operating it with a load in the cargo box, when towing a trailer, or both; refer to [Specifications \(page 18\)](#).
- Use caution when operating the machine on a hillside or on rough terrain, particularly with a load in the cargo box or when towing a trailer or both.
- Be aware that the stability and control of the machine are reduced when the load in the cargo box is poorly distributed.
- Carrying oversized loads in the cargo box changes the stability of the machine.
- The steering, braking, and stability of the machine are affected when carrying a load where the weight of the material cannot be bound to the machine, such as the liquid in a large tank.

⚠ WARNING

The weight of the box may be heavy. Hands or other body parts could be crushed.

- **Keep your hands and other body parts away when lowering the box.**
- **Do not dump materials on bystanders.**
- Never dump a loaded cargo box while the machine is sideways on a hill. The change in weight distribution may cause the machine to overturn.
- When operating with a heavy load in the cargo box, reduce your speed and allow for sufficient braking distance. Do not suddenly apply the brakes. Use extra caution on slopes.
- Be aware that heavy loads increase your stopping distance and reduce your ability to turn quickly without tipping over.
- The rear cargo space is intended for load carrying purposes only, not for passengers.

Maintenance

- Before servicing or making adjustments to the machine, shut off the engine, engage the parking brake, and remove the key from the key switch to prevent accidental starting of the engine.
- Never work under a raised bed without ensuring that the prop rod is fully seated in the detent slot.
- To make sure that the entire machine is in good condition, keep all nuts, bolts, and screws properly tightened.
- To reduce the potential fire hazard, keep the engine area free of excessive grease, grass, leaves, and accumulation of dirt.
- If the engine must be running to perform a maintenance adjustment, keep hands, feet, clothing, and any parts of the body away from the engine and any moving parts. Keep everyone away.
- Do not overspeed the engine by changing the governor settings. The maximum engine speed is 3,750 rpm. To ensure safety and accuracy, have an Authorized Toro Distributor check the maximum engine speed with a tachometer.
- If major repairs are ever needed or assistance is required, contact an Authorized Toro Distributor.
- To be sure of optimum performance and safety, always purchase genuine Toro replacement parts and accessories. Replacement parts and accessories made by other manufacturers could be dangerous. Altering this machine in any manner may affect the operation of the machine, performance, durability or its use may result in injury or death. Such use could void the product warranty of The Toro® Company.

Safety and Instructional Decals



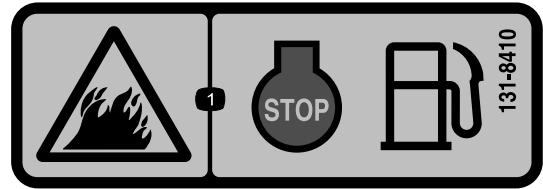
Safety decals and instructions are easily visible to the operator and are located near any area of potential danger. Replace any decal that is damaged or missing.



99-7345

decal99-7345

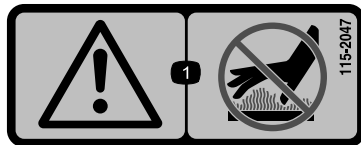
1. Warning—read the *Operator's Manual*.
2. Warning—do not touch the hot surface.
3. Entanglement hazard, belt—stay away from moving parts; keep all guards in place.
4. Crushing hazard, cargo box—use the prop rod to support the cargo bed.



131-8410

decal131-8410

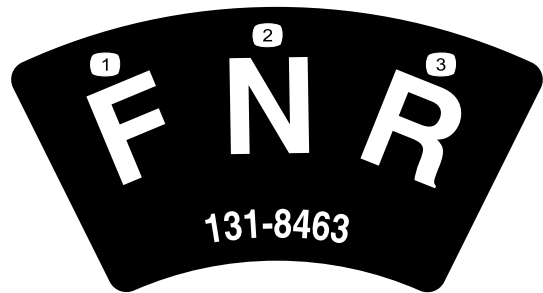
1. Fire hazard—shut off the engine before fueling.



115-2047

decal115-2047

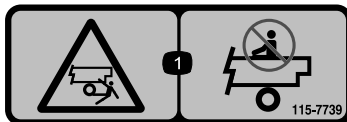
1. Warning—do not touch the hot surface.



131-8463

decal131-8463

1. Forward
2. Neutral
3. Reverse



115-7739

decal115-7739

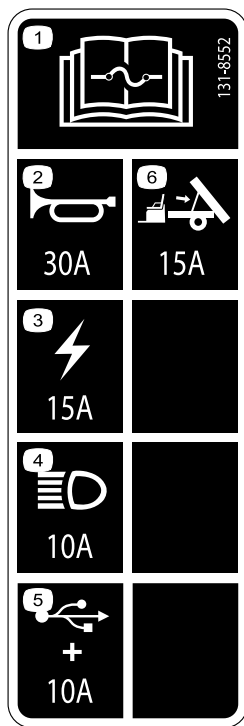
1. Falling, crushing hazard, bystanders—no riders on machine.



120-9570

decal120-9570

1. Warning—stay away from moving parts; keep all guards and shields in place.



131-8552

decal131-8552

1. Read the *Operator's Manual* for fuse information.
2. Horn; 30 A
3. Main power; 15 A
4. Headlights; 10 A
5. USB power point/options; 10 A
6. Optional lift kit; 15 A



131-8414

decal131-8414

1. Warning—read the *Operator's Manual*.
2. Warning—receive proper training before operating the machine.
3. Tipping hazard—drive slowly across or up slopes; take turns slowly; do not exceed speeds of 25 kph (16 mph); drive slowly when hauling cargo; drive slowly on uneven terrain.
4. Falling hazard; severing hazard of limbs—do not carry passengers in the bed; do not carry extra passengers in between the seats; do not put your arms or legs outside of the machine while operating.

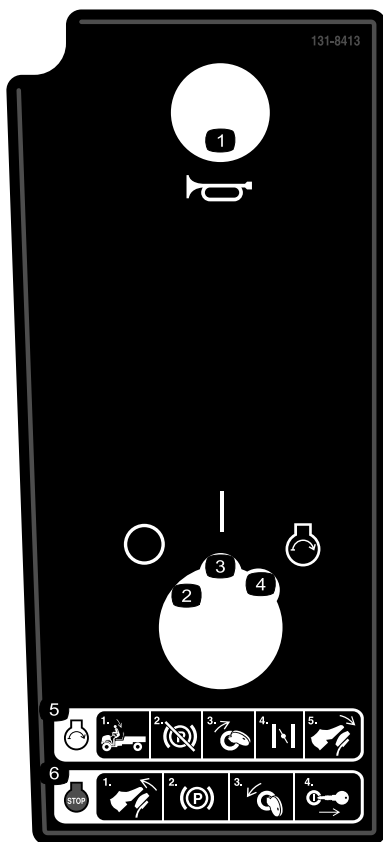
GTX QUICK REFERENCE AID ¹	
AIR FILTER	108-3811
FUEL FILTER	131-8588
SPARK PLUG	130-8380
SPARK PLUG GAP	0.030"
ENGINE OIL	1.1 qt 10W-30
TRANSAXLE OIL	1.6 qt 80W-90
BRAKE FLUID	DOT 3

133-7148

133-7148

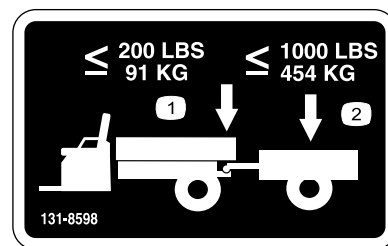
decal133-7148

1. Read the *Operator's Manual* for more information on servicing the machine.



131-8413

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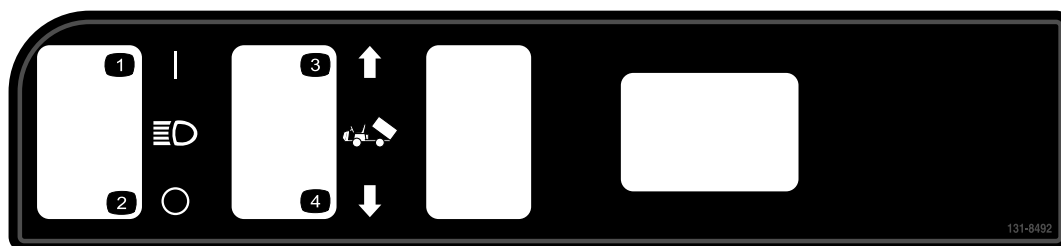


131-8598

decal131-8598

1. Maximum bed weight 91 kg (200 lb)
2. Maximum trailer weight 454 kg (1,000 lb)

1. Horn
2. Off
3. On
4. Engine—start
5. To start the engine: 1) Sit in the operator's position; 2) Disengage the parking brake; 3) Turn the key to the engine START position; 4) Engage the choke; 5) Press down on the pedal.
6. To shut off the engine: 1) Release the pedal; 2) Engage the parking brake; 3) Turn the key to the OFF position; 4) Remove the key from the key switch.



131-8492

decal131-8492

1. Headlight—on
2. Headlight—off
3. Raise the bed.
4. Lower the bed.

Setup

Loose Parts

Use the chart below to verify that all parts have been shipped.

Procedure	Description	Qty.	Use
1	Steering wheel	1	Install the steering wheel (TC Models only).
	Cover	1	
	Washer (1/2 inch)	1	
2	No parts required	—	Check the fluid levels and tire pressure.
3	Operator's Manual	1	Read the Operator's Manual and view the training material before operating the machine.
	Engine owner's manual	1	
	Parts Catalog	1	
	Safety training material	1	
	Registration Card	1	
	Predelivery Inspection Form	1	
	Certificate of Quality	1	
	Key	2	

Note: Determine the left and right sides of the machine from the normal operating position.

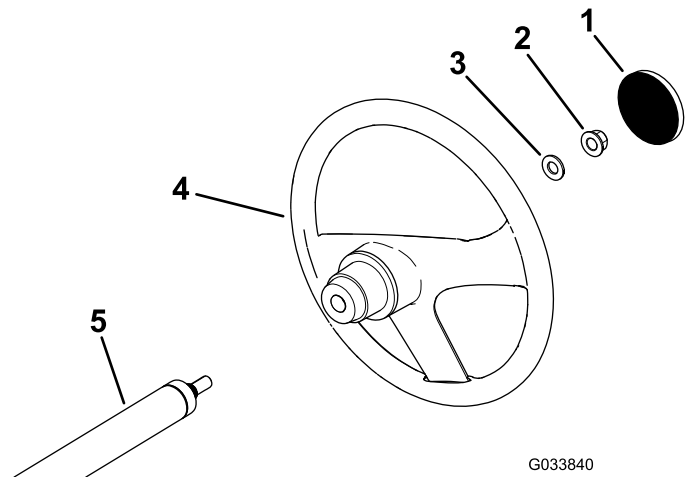
1

Installing the Steering Wheel

TC Models Only

Parts needed for this procedure:

1	Steering wheel
1	Cover
1	Washer (1/2 inch)



G033840

g033840

Figure 3

- | | |
|-----------------------|-------------------|
| 1. Cover | 4. Steering wheel |
| 2. Locknut (1/2 inch) | 5. Steering shaft |
| 3. Washer (1/2 inch) | |

Procedure

1. If the cover is installed, remove it from the hub of the steering wheel (Figure 3).
2. Remove the locknut (1/2 inch) from the steering shaft (Figure 3).
3. Slide the steering wheel and washer (1/2 inch) onto the steering shaft (Figure 3).
4. Secure the steering wheel to the shaft with the locknut (1/2 inch) and tighten it to 27 to 34 N·m (20 to 25 ft-lb).
5. Install the cover on the steering wheel (Figure 3).

2

Checking the Fluid Levels and Tire Pressure

No Parts Required

Procedure

1. Check the engine-oil level before and after the engine is first operated; refer to [Checking the Engine-Oil Level \(page 36\)](#).
2. Check the brake fluid level before the engine is first operated; refer to [Checking the Brake-Fluid Level \(page 50\)](#).
3. Check the transaxle-fluid level before the engine is first operated; refer to [Checking the Transaxle-Fluid Level \(page 47\)](#).
4. Check the air pressure in the tires; refer to [Checking the Tire Pressure \(page 22\)](#).

3

Reading the Manual and Viewing the Safety Training Material

Parts needed for this procedure:

1	<i>Operator's Manual</i>
1	Engine owner's manual
1	<i>Parts Catalog</i>
1	Safety training material
1	Registration Card
1	<i>Predelivery Inspection Form</i>
1	Certificate of Quality
2	Key

Procedure

- Read the *Operator's Manual* and engine owners's manual.
- View the safety training material.
- Fill out the registration card.

- Complete the *Predelivery Inspection Form*.
- Review the *Certificate of Quality*.

Product Overview

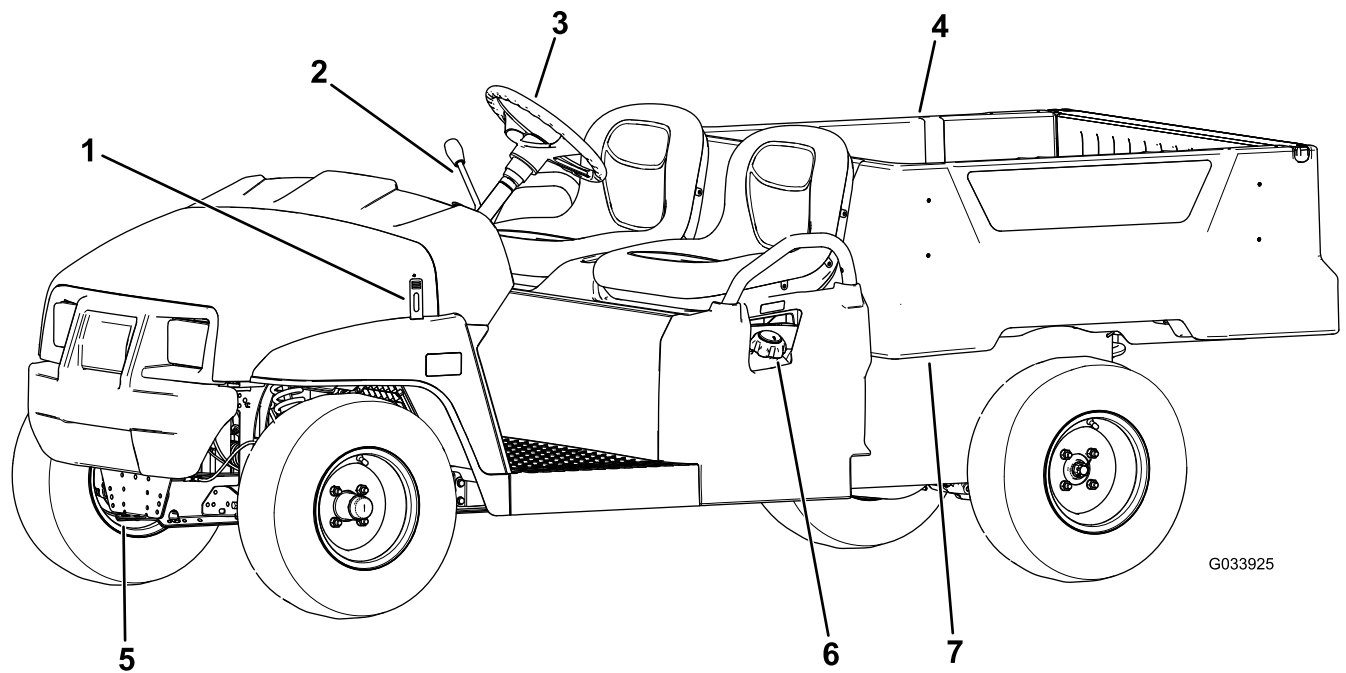


Figure 4

- | | | | |
|----------------|-------------------|------------------|--------------------|
| 1. Hood latch | 3. Steering wheel | 5. Towing tongue | 7. Cargo-box lever |
| 2. Shift lever | 4. Cargo box | 6. Fuel cap | |

g033925

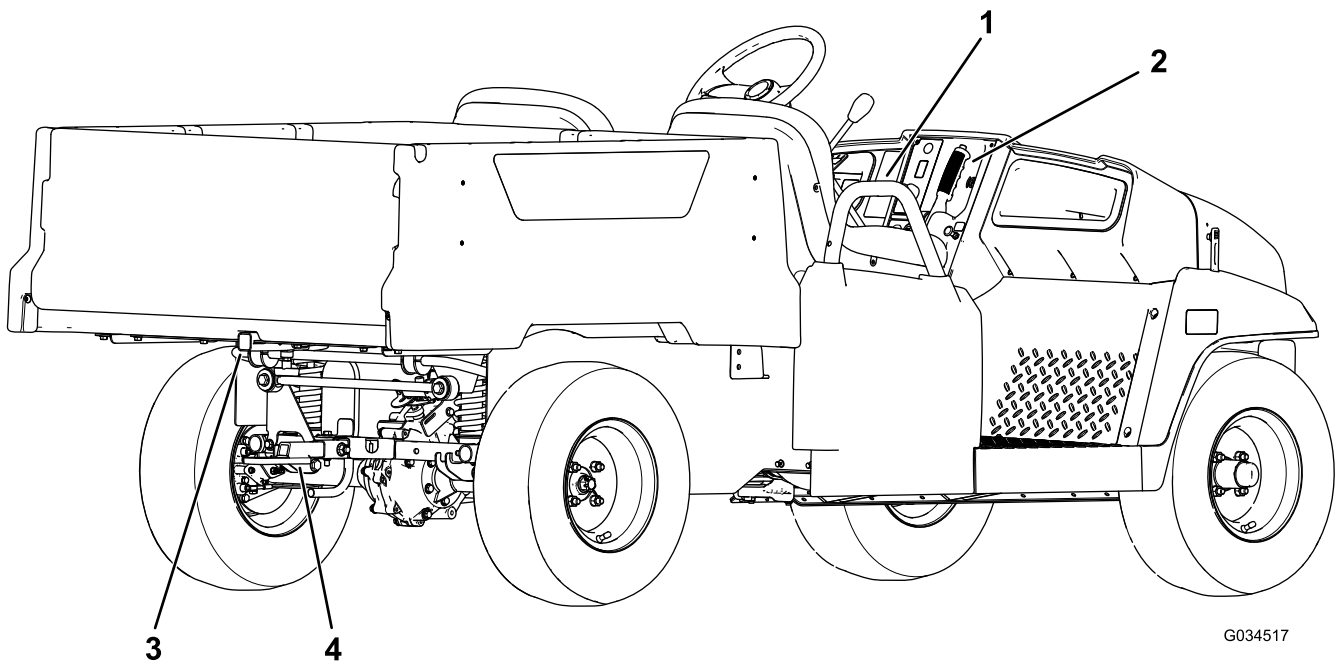


Figure 5

- | | |
|------------------------|-----------------------------------|
| 1. Passenger handhold | 3. Rear cargo-box-accessory mount |
| 2. Parking-brake lever | 4. Trailer hitch |

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Controls

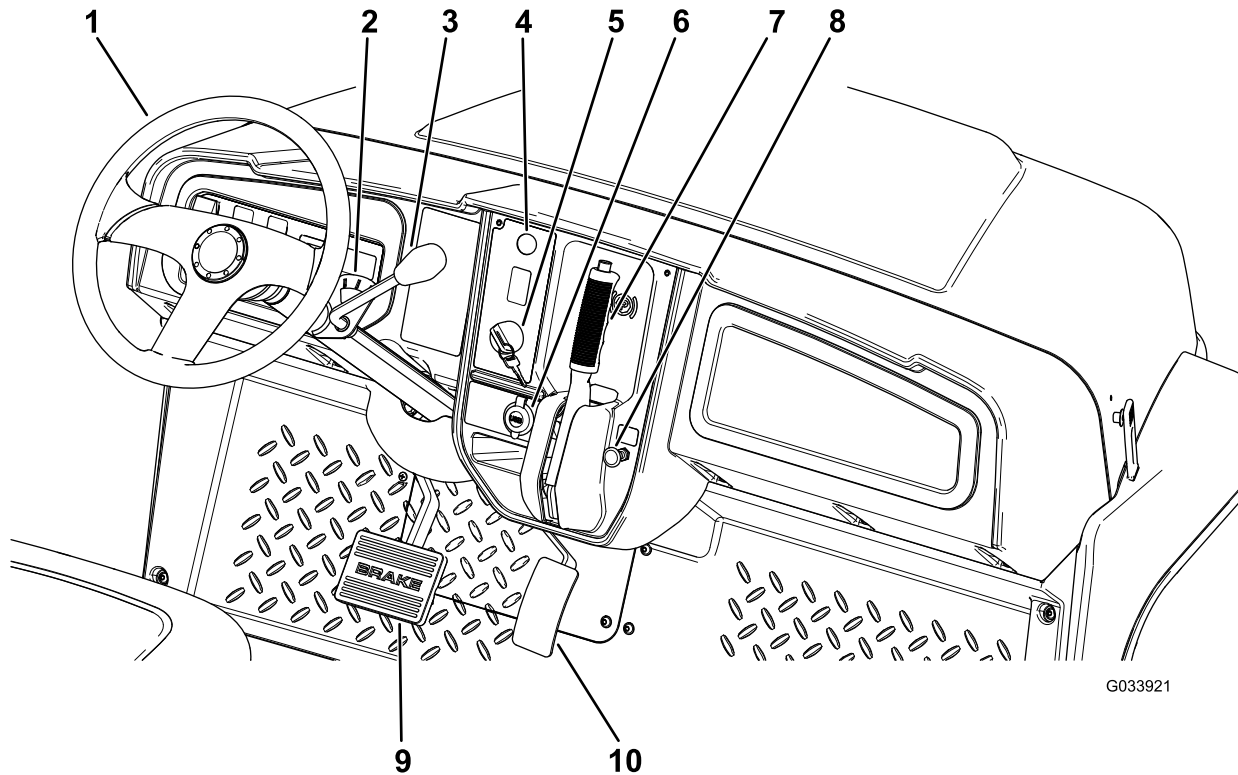


Figure 6

- | | |
|---------------------------------|------------------------|
| 1. Steering wheel | 6. USB power point |
| 2. Gear-shift indicator | 7. Parking-brake lever |
| 3. Gear-shift lever | 8. Choke control |
| 4. Horn button (TC models only) | 9. Brake pedal |
| 5. Key switch | 10. Accelerator pedal |

Accelerator Pedal

Use the accelerator pedal (Figure 6) to vary ground speed of the machine. Pressing down the accelerator pedal starts the engine. Pressing the pedal farther increases ground speed. Releasing the pedal slows the machine, and the engine shuts off.

Note: The maximum forward speed is 26 km/h (16 mph).

Brake Pedal

Use the brake pedal to stop or slow the machine (Figure 6).

⚠ CAUTION

Operating a machine with worn or incorrectly adjusted brakes can may result in personal injury.

If brake pedal travels to within 25 mm (1 inch) of the machine floorboard, adjust or repair the brakes.

Key Switch

The key switch is located to the left of the parking-brake lever on the control panel (Figure 6).

The key switch has 3 positions: OFF, ON, and START.

There are 2 modes of starting the machine:

- **Pedal Start**—turn the key switch to the ON position, press down the accelerator pedal, then release your foot from the accelerator pedal.
Note: When you remove your foot from the accelerator pedal, the engine shuts off.
- **Key Start**—turn the key switch to the START position and the engine remains on until the key is turned to the OFF position.

Note: While in the START position, you can engage the parking brake and work while the battery holds a charge.

Note: If you turn the key switch to the START position, the engine cranks until it starts. If the engine cranks for more than 10 seconds, return to the OFF position, and determine the issue (e.g., the choke controls needs to be engaged, check the air cleaner for restrictions, ensure that the fuel tank is full, the spark is bad, etc.) before starting the machine again.

Parking-Brake Lever

The parking-brake lever is located on the control panel (Figure 6).

Whenever the engine is shut off, engage the parking brake to prevent the machine from accidental moving. If the machine is parked on a steep grade, make sure that you engage the parking brake.

To engage the parking brake, pull the parking-brake lever toward you (Figure 7).

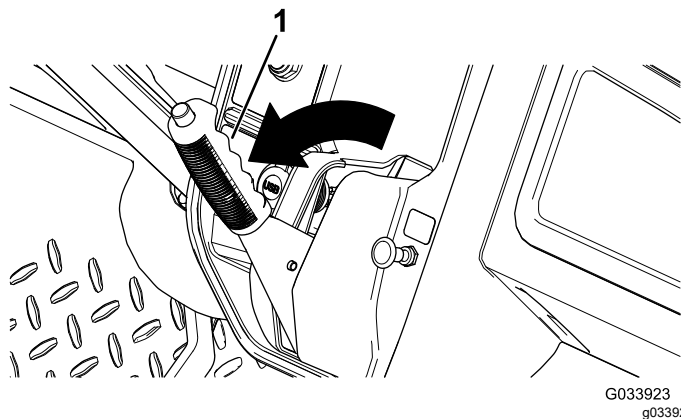


Figure 7

1. Parking-brake lever

parking-brake lever toward you to release pressure, and then push the parking-brake lever forward (Figure 8).

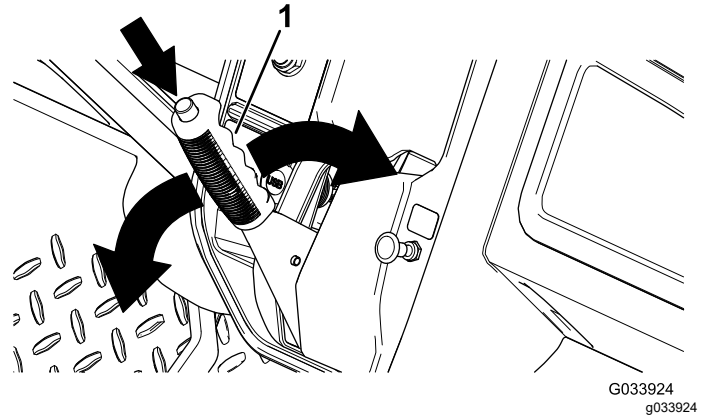


Figure 8

1. Parking-brake lever and button

To disengage the parking brake, push down the button on top of the parking-brake lever, pull the

Choke Control

The choke control is located on the control panel. Use the choke to help start a cold engine by pulling the choke control outward (Figure 6). After the engine starts, adjust the choke to keep the engine running smoothly. As the engine warms up, push in the choke control to the OFF position.

Gear-Shift Lever and Gear-Shift Indicator

The gear-shift lever can be set to 3 positions on the gear-shift indicator: FORWARD, REVERSE, and NEUTRAL (Figure 9).

Note: The engine starts and runs in any of the 3 positions.

From the NEUTRAL position, you can move the gear-shift lever left to the FORWARD position or right to the REVERSE position (Figure 9).

Important: Always stop the machine before changing gears.

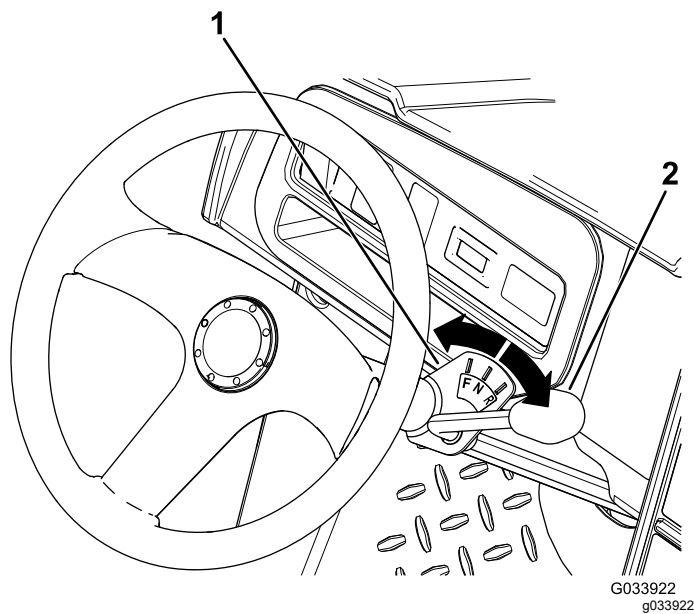


Figure 9

1. Gear-shift indicator
2. Gear-shift lever

Horn Button

TC Models Only

The horn button is located on the control panel (Figure 6). Press the horn button to sound the horn.

Light Switch

The light switch is located to the left of the steering column (Figure 10). Use the light switch to illuminate the headlights. Push the light switch upward to turn on the headlights or push downward to turn off the lights.

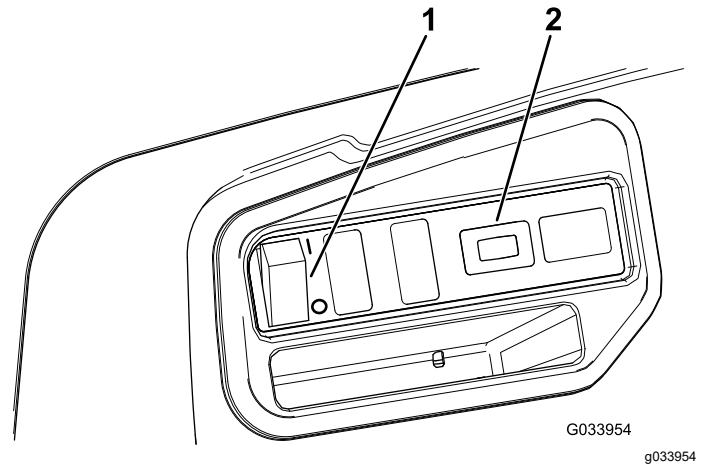


Figure 10

1. Light switch
2. Hour meter

Hour Meter

The hour meter is located to the right of the light switch (Figure 10). Use the hour meter to find out the total number of engine hours. The hour meter starts to function whenever you turn the key switch to the ON position, START position, or if the engine is running.

Note: When the machine is running, the hour meter blinks continuously, recording usage.

USB Power Point

The USB power point is located to the left of the parking-brake lever (Figure 6). Use the power point to power mobile devices.

Important: When not using the USB power point, insert the rubber plug to prevent damage to the power point.

Fuel Gauge

The fuel gauge (Figure 11) is located on the fuel tank next to the filler cap, at the left side of the machine. The gauge displays the amount of fuel in the tank.

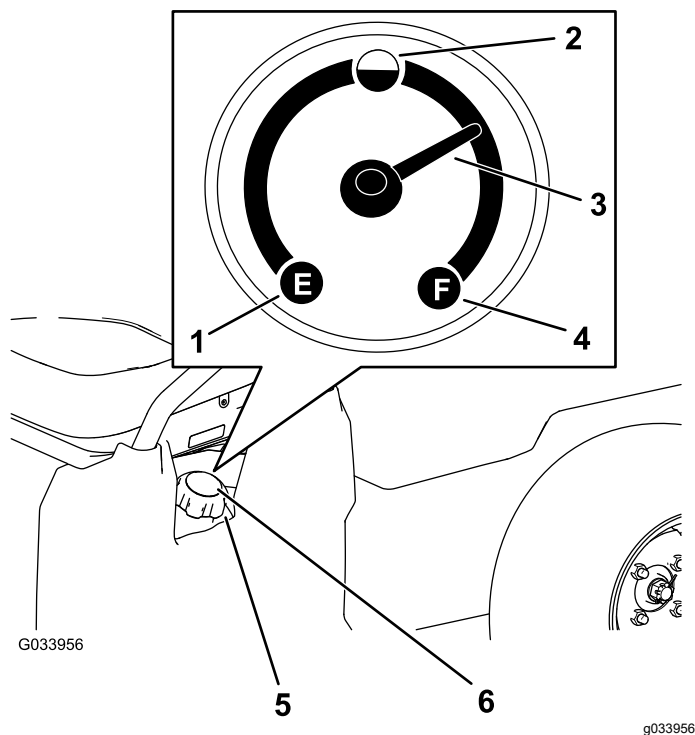


Figure 11

- | | |
|--------------|------------------|
| 1. Empty | 4. Full |
| 2. Half full | 5. Fuel-tank cap |
| 3. Needle | 6. Fuel gauge |

Passenger Handholds

The passenger handholds are located on the outside of each seat (Figure 12).

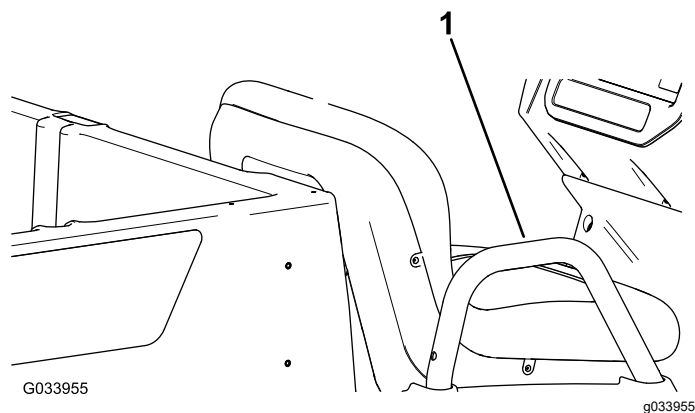


Figure 12

Passenger Side Shown

1. Passenger handhold

Specifications

Note: Specifications and design are subject to change without notice.

Base weight	397 kg (875 lb)
Rated capacity (on level ground)	544 kg (1,200 lb) total, including 90.7 kg (200 lb) operator and 91 kg (200 lb) passenger, load, accessories, and attachments
Maximum gross vehicle weight (GVW) (on level ground)	941 kg (2,075 lb) total, including all of the weights listed above
Maximum cargo capacity (on level ground)	363 kg (800 lb) total, including rear-mounted accessories
Maximum rear cargo-box-accessory mount capacity	45 kg (100 lb) total
Tow capacity	Tongue weight 91 kg (200 lb) Maximum trailer weight 454 kg (1,000 lb)
Overall width	119 cm (47 inches)
Overall length	302 cm (119 inches)
Overall height	127.5 cm (50.2 inches)
Ground clearance	21.6 cm (8.5 inches) at the front with no load or operator, 14 cm (5.5 inch) at the rear with no load or operator
Wheel base	220 cm (86.6 inches)
Wheel tread (center line to center line)	119 cm (47 inches) in the front, 119 cm (47 inches) in the rear
Cargo box length	102 cm (40 inches) inside, 114.3 cm (45 inches) outside
Cargo box width	98 cm (38.5 inches) inside, 107.3 cm (42.25 inches) at outside of the molded fenders
Cargo box height	28 cm (11 inches) inside
Engine rpm	Low idle: 1,250 to 1,350 rpm; High idle: 3,650 to 3,750 rpm

Attachments/Accessories

A selection of Toro approved attachments and accessories is available for use with the machine to enhance and expand its capabilities. Contact your Authorized Service Dealer or Distributor or go to www.Toro.com for a list of all approved attachments and accessories.

Operation

Note: Determine the left and right sides of the machine from the normal operating position.

Think Safety First

Carefully read all safety instructions and symbols in the safety section. Knowing this information could help you or bystanders avoid injury.

⚠ DANGER

Operating on wet grass or steep slopes can cause sliding and loss of control.

Wheels dropping over edges can cause rollovers, which may result in serious injury, death, or drowning.

To avoid loss of control and possibility of rollover:

- Do not operate near dropoffs or near water.
- Reduce speed and use extreme caution on slopes.
- Avoid sudden turns or rapid speed changes.

Operating the Cargo Box

Raising the Cargo Box to the Dump Position

⚠ WARNING

A raised box could fall and injure persons that are working beneath it.

- Always use the prop rod to hold the box up before working under the box.
- Remove any load material from the box before raising it.

⚠ WARNING

Driving the machine with the cargo box raised may cause the machine to tip or roll easier. The box structure may become damaged if you operate the machine with the box raised.

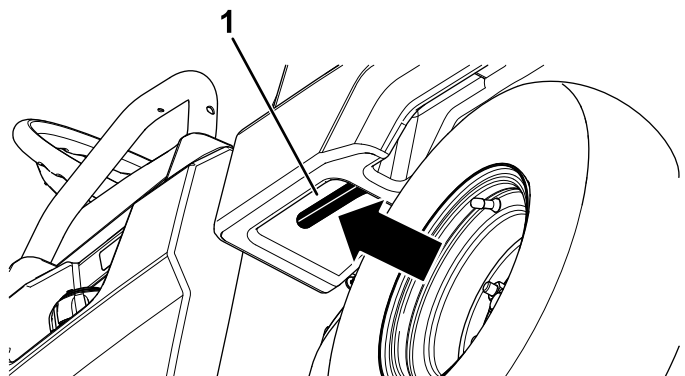
- Operate the machine only when the cargo box is down.
- After emptying the cargo box, lower it.

⚠ CAUTION

If a load is concentrated near the back of the cargo box when you release the latches, the box may unexpectedly tip open, injuring you or bystanders.

- Center loads in the cargo box, if possible.
- Hold the cargo box down and ensure that no one is leaning over the box or standing behind it when releasing the latches.
- Remove all cargo from the box before lifting the box up to service the machine.

1. Pull the lever on left, inside of the cargo box toward you and lift the cargo box up (Figure 13).

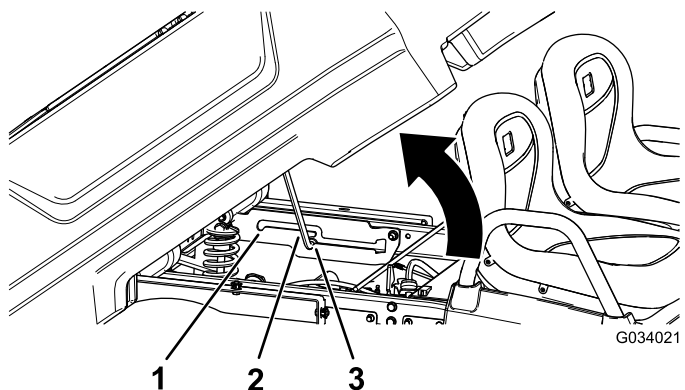


G034019
g034019

Figure 13

1. Cargo-box lever

2. Pull the prop rod into the dump position detent slot, securing the box for dumping (Figure 14).



G034021

g034021

Figure 14

1. Service position detent slot
2. Prop rod
3. Dump position detent slot

Raising the Cargo Box to the Service Position

1. Pull the lever on left, inside of the cargo box toward you and lift the cargo box up (Figure 13).
2. Pull prop rod into the service position detent slot, securing the box for maintenance (Figure 14).

Lowering the Cargo Box

⚠ WARNING

The weight of the box may be heavy. Hands or other body parts could be crushed.

Keep your hands and other body parts away when lowering the box.

1. Raise the cargo box slightly by lifting up on the latch lever (Figure 13).
2. Pull the prop rod out of the detent slot (Figure 14).
3. Lower the box until it latches securely.

Opening the Tailgate

1. Ensure that the cargo box is down and latched.
2. Using both hands, raise the tailgate using the ridge near the top of the tailgate (Figure 15).
3. Lower the tailgate until it is flush with the bottom of the cargo box (Figure 15).

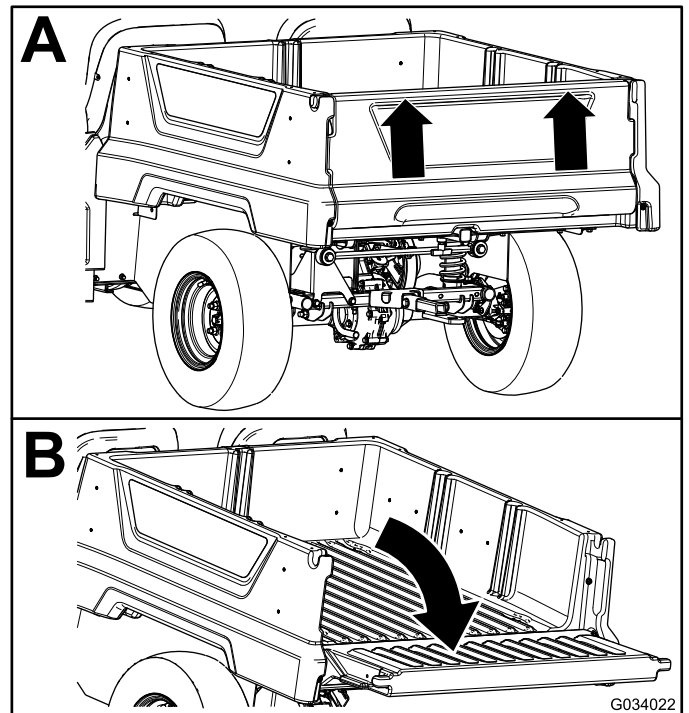


Figure 15

Closing the Tailgate

If you unloaded loose material such as sand, landscaping rock, or wood chips from the cargo box of the machine, some of the material that you unloaded may have lodged in the hinge area of the tailgate. Perform the following steps before closing the tailgate.

1. Use your hands to remove as much of the material from the hinge area as possible.
2. Rotate the tailgate to approximately the 45° position (Figure 16).

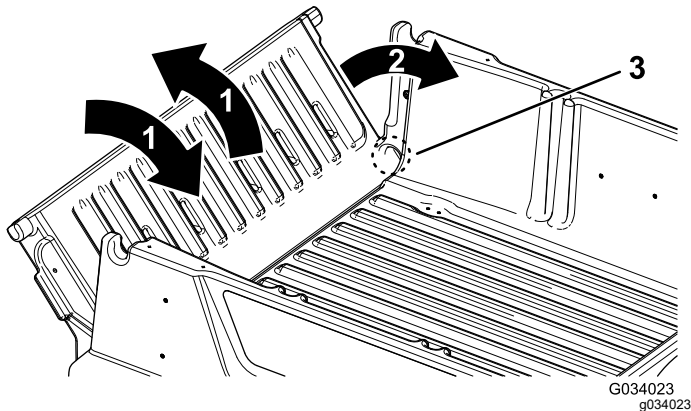


Figure 16

1. Rotate the tailgate back and forth several times.
 2. Rotate the tailgate to approximately the 45° position.
-
3. Use a short, shaking motion to rotate the tailgate back and forth several times (Figure 16).
- Note:** This action helps move material away from the hinge area.
4. Lower the tailgate and check for material remaining in the hinge area.
 5. Repeat steps 1 through 4 until the material is removed from the hinge area.
 6. Rotate the tailgate up and lift the tailgate into the notches in the cargo box.

Using the Rear Cargo-Box-Accessory Mount

Use the rear cargo-box-accessory mount to attach accessories to the rear of the machine.

Capacity: 45 kg (100 lb)

1. Loosen the T handle by rotating it clockwise (Figure 17).

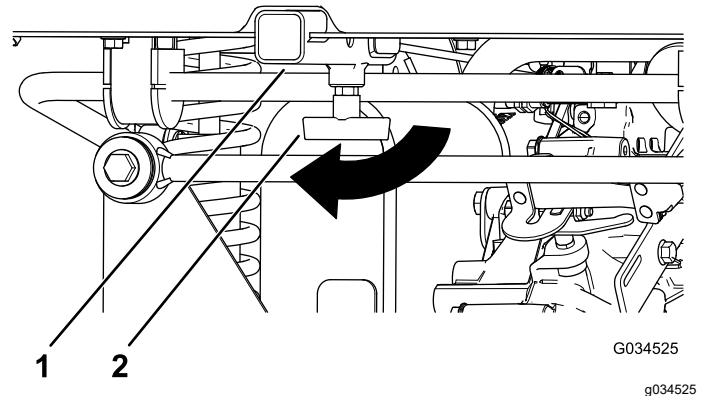


Figure 17

1. Receiver
2. T handle

-
2. Insert your accessory into the receiver until the accessory reaches the end of the receiver (Figure 17).
 3. Tighten the T handle by rotating it counterclockwise (Figure 18).

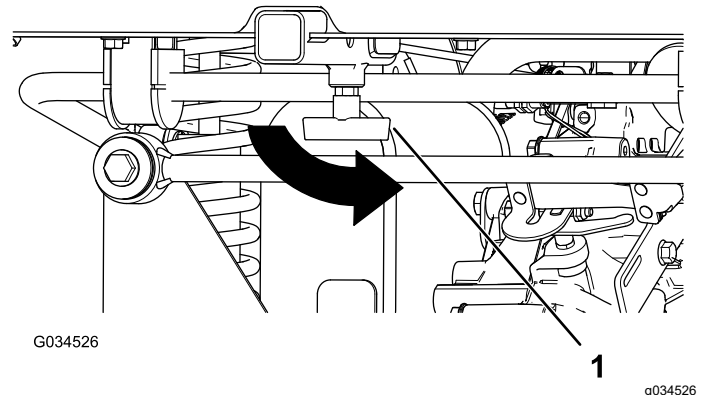


Figure 18

-
1. T handle

Performing Pre-Starting Checks

Service Interval: Before each use or daily Check the following items each time you begin using the machine for the day:

- Check brake fluid levels, and add the specified brake fluids as needed; refer to [Checking the Brake-Fluid Level \(page 50\)](#).
- Check engine oil, and add the specified oil as needed; refer to [Checking the Engine-Oil Level \(page 36\)](#).
- Check the air pressure in the tires; refer to [Checking the Tire Pressure \(page 22\)](#).
- Check the brake pedal operation.
- Check to see that the lights are working.
- Turn the steering wheel to the left and right to check steering response.
- Check for oil leaks, loose parts, and any other noticeable malfunctions.

Note: Shut off the engine and allow all moving parts to stop before checking for oil leaks, loose parts, and other wear and damage.

If any of the above items are not correct, notify your mechanic or check with your supervisor before taking the machine out for the day. Your supervisor may want you to check other items on a daily basis, so ask him or her about additional operator's responsibilities.

Checking the Tire Pressure

Service Interval: Before each use or daily

Tire Air Pressure Range: 165 to 207 kPa (24 to 30 psi)

Important: Do not exceed the maximum air pressure indicated on the sidewall of the tire.

Note: The air pressure needed in the tires is determined by the payload that you intend to carry.

1. Check the air pressure in the tires.

Note: The air pressure range in the front and rear tires is 165 to 207 kPa (24 to 30 psi).

- Use lower air pressure in the tires for lighter payloads, for less the soil compaction, for a smoother the ride, and to minimize tire marks in the ground.
 - Use higher air pressure in the tires for carrying heavier payloads at higher speeds.
2. If needed, adjust the air pressure in the tires by adding or removing air in the tires.

Adding Fuel

- For best results, use only clean, fresh (less than 30 days old), unleaded gasoline with an octane rating of 87 or higher ((R+M)/2 rating method).
- **Ethanol:** Gasoline with up to 10% ethanol (gasohol) or 15% MTBE (methyl tertiary butyl ether) by volume is acceptable. Ethanol and MTBE are not the same. Gasoline with 15% ethanol (E15) by volume is not approved for use. **Never use gasoline that contains more than 10% ethanol by volume**, such as E15 (contains 15% ethanol), E20 (contains 20% ethanol), or E85 (contains up to 85% ethanol). Using unapproved gasoline may cause performance problems and/or engine damage which may not be covered under warranty.
- **Do not** use gasoline containing methanol.
- **Do not** store fuel either in the fuel tank or fuel containers over the winter unless a fuel stabilizer is used.
- **Do not** add oil to gasoline.

⚠ DANGER

In certain conditions, fuel is extremely flammable and highly explosive. A fire or explosion from fuel can burn you and others and can damage property.

- Fill the fuel tank outdoors, in an open area, when the engine is cold. Wipe up any fuel that spills.
- Never fill the fuel tank inside an enclosed trailer.
- Do not fill the fuel tank completely full. Add fuel to the fuel tank until the level is 1 inch (25 mm) below the bottom of the filler neck. This empty space in the tank allows fuel to expand.
- Never smoke when handling fuel, and stay away from an open flame or where fuel fumes may be ignited by a spark.
- Store fuel in an approved container and keep it out of the reach of children. Never buy more than a 30-day supply of fuel.
- Do not operate without entire exhaust system in place and in proper working condition.

⚠ DANGER

In certain conditions during fueling, static electricity can be released causing a spark, which can ignite the fuel vapors. A fire or explosion from fuel can burn you and others and can damage property.

- Always place fuel containers on the ground away from your machine before filling.
- Do not fill fuel containers inside a machine or on a truck or trailer bed because interior carpets or plastic truck bed liners may insulate the container and slow the loss of any static charge.
- When practical, remove fuel-powered equipment from the truck or trailer and refuel the equipment with its wheels on the ground.
- If this is not possible, then refuel such equipment on a truck or trailer from a portable container rather than from a fuel-dispenser nozzle.
- If you must use a fuel-dispenser nozzle, keep the nozzle in contact with the rim of the fuel tank or container opening at all times until fueling is complete.

Filling the Fuel Tank

The fuel tank capacity is approximately 18.9 L (5 US gallons).

1. Shut off the engine and engage the parking brake.
2. Clean the area around the fuel-tank cap ([Figure 19](#)).

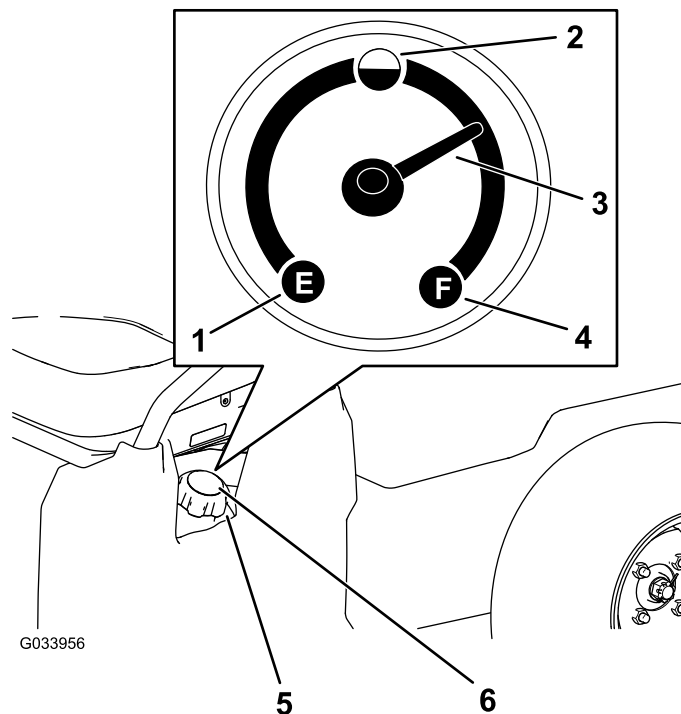


Figure 19

- | | |
|--------------|------------------|
| 1. Empty | 4. Full |
| 2. Half full | 5. Fuel-tank cap |
| 3. Needle | 6. Fuel gauge |

3. Remove the fuel-tank cap.
4. Fill the tank to about 25 mm (1 inch) below the top of tank (bottom of the filler neck).

Note: This space in the tank allows fuel to expand. **Do not overfill the fuel tank..**

5. Install the fuel-tank cap securely.
6. Wipe up any fuel that may have spilled.

Starting the Engine

1. Sit in the operator seat, insert the key into the key switch, and rotate the key clockwise to the ON or START position.

There are 2 modes of starting the machine:

- **Pedal Start**—turn the key switch to the ON position, press down the accelerator pedal, then release your foot from the accelerator pedal.

Note: When you remove your foot from the accelerator pedal, the engine shuts off.

- **Key Start**—turn the key switch to the START position and the engine remains on until the is turned to the OFF position.

Note: While in the START position, you can engage the parking brake and work while the battery holds a charge.

Note: If you turn the key to the START position, the engine cranks until it starts. If the engine cranks for more than 10 seconds, return to the OFF position, and determine the issue (e.g., the choke controls needs to be engaged, check the air cleaner for restrictions, ensure that the fuel tank is full, the spark is bad, etc.) before starting the machine again.

Note: When equipped with the optional backup alarm, if you move the gear-shift selector to the REVERSE position when the key switch is in the ON or START position, a buzzer sounds to warn the operator that the machine is in reverse gear.

2. Move the gear-shift selector to the desired direction of travel for the machine.
3. Disengage the parking brake.
4. Slowly step on the accelerator pedal.

Note: If the engine is cold, press and hold the accelerator pedal about half-way down, and pull the choke knob out to the ON position. Return the choke knob to the OFF position after the engine warms up.

Stopping the Machine

Important: When stopping the machine on an incline, use the service brakes to stop the machine and engage the parking brake to hold the machine in place. Using the accelerator to stall the machine on the hill can damage the machine.

1. Remove your foot from the accelerator pedal.
2. Slowly press the brake pedal to apply the service brakes until the machine comes to a complete stop.

Note: The stopping distance may vary depending on the machine load and speed.

Parking the Machine

1. Stop the machine using the service brakes by pressing and holding the brake pedal.
2. Engage the parking brake by pulling the parking-brake lever toward you.
3. Rotate the key switch counterclockwise to the OFF position.
4. Remove the key from the key switch.

Breaking in a New Machine

Service Interval: After the first 100 hours—Perform the breaking in a new machine guidelines.

Perform the breaking in a new machine guidelines to provide proper performance and long life for the machine.

- Check the fluid and engine-oil levels regularly. Remain alert for signs that the machine or its components are overheating.
- After starting a cold engine, let it warm up for about 15 seconds before using the machine.
- Avoid hard braking situations for the first several hours of new machine break-in operation. New brake linings may not be at optimum performance until several hours of use has caused the brakes to become burnished (broken-in).
- Vary the machine speed during operation. Avoid fast starts and quick stops.
- A break-in oil for engine is not required. Original engine oil is the same type specified for regular oil changes.
- Refer to the [Maintenance \(page 27\)](#) section for any special low hour checks.
- Check the front suspension positioning and adjust it if necessary; refer to [Adjusting the Front Wheel Toe-in \(page 46\)](#).

Loading the Cargo Box

Use the following guidelines when loading the cargo box and operating the machine:

- Observe the weight capacity of the machine and limit the weight of the load that you carry in the cargo box as described in [Specifications \(page 18\)](#) and on the gross vehicle weight (GVW) tag of the machine.
- **Note:** The load rating is specified for machine operation on a level surface only.
- Reduce the weight of the load that you carry in the cargo box when operating the machine on hills and rough terrain.
- Reduce the weight of the load that you carry when the materials are tall (and have a high center of gravity), such as a stack of bricks, landscaping timbers, or fertilizer bags. Distribute the load as low as possible, making sure that the load does not reduce your ability to see behind the machine when operating it.
- Keep loads centered by loading the cargo box as follows:

- Evenly position the weight in the cargo box from side to side.

Important: Tipping over is more likely to occur if the cargo box is loaded to 1 side.

- Evenly position the weight in the cargo box from front to back.

Important: Loss of steering control or the machine may tip over if you position the load behind the rear axle and the traction on the front tires is reduced.

- Use extra caution when transporting oversized loads in the cargo box, particularly when you cannot center the weight of the oversize load to the cargo box.
- Whenever possible, secure the load by binding it to the cargo box so it does not shift.
- When transporting liquid in a large tank (such as a sprayer tank), use caution when driving the machine up hill or down hill, when suddenly changing speed or stopping, or when driving over tough surfaces.

The capacity of the cargo box is 0.28 m³ (10 ft³). The amount (volume) of material that you can place in the box without exceeding the load ratings of the machine can vary greatly depending on the density of the material.

See the following table for load volume limits with various materials:

Material	Density	Maximum Cargo Box Capacity (on level ground)
Gravel, dry	1522 kg/m ³ (95 lb/ft ³)	Full
Gravel, wet	1922 kg/m ³ (120 lb/ft ³)	3/4 Full
Sand, dry	1442 kg/m ³ (90 lb/ft ³)	Full
Sand, wet	1922 kg/m ³ (120 lb/ft ³)	3/4 full
Wood	721 kg/m ³ (45 lb/ft ³)	Full
Bark	<721 kg/m ³ (<45 lb/ft ³)	Full
Earth, packed	1602 kg/m ³ (100 lb/ft ³)	3/4 Full (approx.)

Transporting the Machine

Use a trailer with full-width ramps to move the machine a long distance. Make sure that the machine is securely bound to the trailer. Refer to [Figure 20](#) and [Figure 21](#) for the location of the tie-down points on the machine.

⚠ CAUTION

Loose seats may fall off the machine and trailer when transporting the machine, and the seats may land on another machine or obstruct the roadway.

Remove the seats or make sure that the seats are securely fastened to the coupling in the seat shroud.

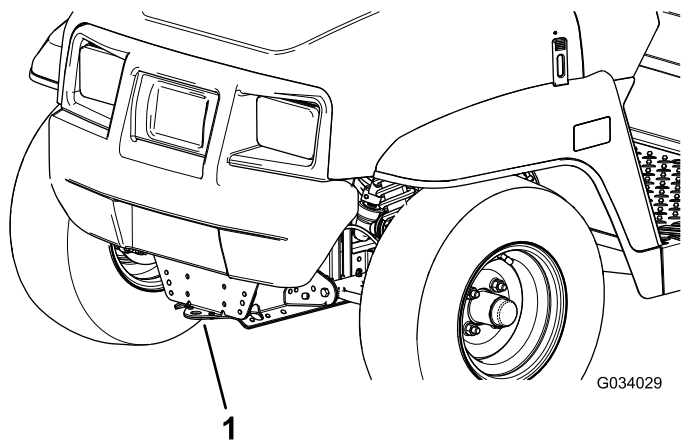


Figure 20

1. Towing tongue and tie-down point (front of the machine)

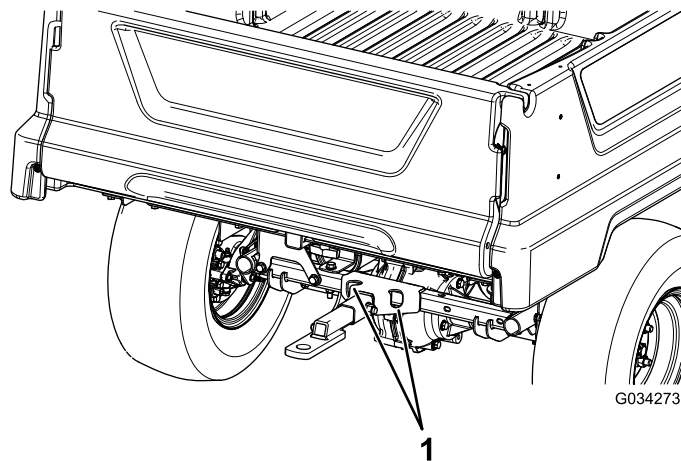


Figure 21

1. Rear tie-down points

Towing the Machine

In case of an emergency, the machine can be towed for a short distance. However, we do not recommend this as a standard operating procedure.

⚠ WARNING

Towing at excessive speeds could cause a loss of steering control, resulting in personal injury.

Never tow the machine faster than 8 km/h (5 mph).

Towing the machine is a 2-person job. If the machine must be moved a considerable distance, transport it on a truck or trailer; refer to [Transporting the Machine](#) (page 26).

1. Remove the drive belt from the machine; refer to [Servicing the Drive Belt](#) (page 51).
2. Affix a tow line to the tongue at the front of the machine's frame ([Figure 20](#)).
3. Put the transmission of the machine in NEUTRAL and disengage the parking brake.

Towing a Trailer

The machine is capable of pulling trailers.

When hauling cargo or towing a trailer, do not overload your machine or trailer. Overloading either the machine or the trailer can cause poor performance or damage to the brakes, axle, engine, transaxle, steering, suspension, body structure, or tires. Always load a trailer with 60% of the cargo weight in the front of the trailer. This places approximately 10% of the gross trailer weight (GTW) on the tow hitch of the machine.

The maximum cargo load shall not exceed 454 kg (1,000 lb), including the GTW. For example, if the GTW = 181.5 kg (400 lb) then the maximum cargo load = 544 kg (1,200 lb) including operator(s).

To provide adequate braking and traction, always load the cargo box when trailering. Do not exceed the GTW or GVW limits.

Avoid parking a machine with a trailer on a hill. If you must park on a hill, engage the parking brake and block the tires of the trailer.

Maintenance

Note: Download a copy of the electrical schematic by visiting www.Toro.com and searching for your machine from the Manuals link.

Note: Determine the left and right sides of the machine from the normal operating position.

Important: Refer to your engine owner's manual for additional maintenance procedures.

Recommended Maintenance Schedule(s)

Maintenance Service Interval	Maintenance Procedure
After the first 5 hours	<ul style="list-style-type: none">• Change the engine oil.
After the first 8 hours	<ul style="list-style-type: none">• Check the condition of the drive belt.• Check the tension of the starter-generator belt.
After the first 50 hours	<ul style="list-style-type: none">• Check the air filter for the carbon canister.
After the first 100 hours	<ul style="list-style-type: none">• Perform the breaking in a new machine guidelines.
Before each use or daily	<ul style="list-style-type: none">• Perform the pre-starting checks. Check the following items each time you begin using the machine for the day:• Check the tire pressure.• Check gear-shift operation.• Check the brake-fluid level.
Every 50 hours	<ul style="list-style-type: none">• Remove the air-cleaner cover and clean out the debris. Do not remove the filter.
Every 100 hours	<ul style="list-style-type: none">• Grease the bearings and bushings.• Replace the air filter. Replace the air-filter element sooner if dirty or damaged.• Service the air-cleaner filter More frequently in extreme dusty or dirty conditions.• Change the engine oil.• Check the spark plug.• Check the condition of the tires and rims.• Torque the wheel-lug nuts.• Inspect the steering and suspension for loose or damaged components.• Check the front wheel toe-in.• Check the transaxle-fluid level.• Check the operation of the Neutral gear-shift position.• Clean the engine-cooling areas.• Inspect the brakes.
Every 200 hours	<ul style="list-style-type: none">• Check the air filter for the carbon canister.• Check the condition and tension of the drive belt.• Check the tension of the starter-generator belt.
Every 300 hours	<ul style="list-style-type: none">• Grease the front wheel bearings.
Every 400 hours	<ul style="list-style-type: none">• Inspect the fuel lines and connections.• Replace the fuel filter.• Clean the primary-drive clutch.
Every 800 hours	<ul style="list-style-type: none">• Change the transaxle fluid.
Every 1,000 hours	<ul style="list-style-type: none">• Change the brake fluid.
Yearly	<ul style="list-style-type: none">• Complete all of the yearly maintenance procedures that are specified in the engine owner's manual.

Daily Maintenance Checklist

Duplicate this page for routine use.

Maintenance Check Item	For the week of:						
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Check brake and parking brake operation.							
Check gear shift/neutral operation.							
Check fuel level.							
Check engine-oil level.							
Check transaxle-fluid level.							
Inspect air filter.							
Inspect engine-cooling fins.							
Check unusual engine noises.							
Check unusual operating noises.							
Check tire pressure.							
Check fluid leaks.							
Check instrument operation.							
Check accelerator operation.							
Lubricate all grease fittings.							
Touch up damaged paint.							

⚠ WARNING

A raised cargo box can fall and injure persons that are underneath it.

You must raise the cargo box to perform some routine maintenance.

- **Always use the prop rod to hold the cargo box up before working under it.**
- **Remove any load material from the cargo box before working under it.**

⚠ CAUTION

If you leave the key in the key switch, someone could accidentally start the engine and seriously injure you or other bystanders.

Remove the key from the key switch and disconnect the wire from the spark plug before you do any maintenance. Set the wire aside so that it does not accidentally contact the spark plug.

Pre-Maintenance Procedures

Maintaining the Machine under Special Operating Conditions

If the machine is subjected to any of the conditions listed below, maintenance should be performed twice as frequently.

- Desert operation
- Cold climate operation—below 10°C (50°F)
- Trailer towing
- Driving time typically less than 5 minutes
- Frequent operation in dusty conditions
- Construction work
- After extended operation in mud, sand, water, or similar dirty conditions, have your brakes inspected and cleaned as soon as possible. This prevents any abrasive material from causing excessive wear.
- Under frequent heavy duty operating conditions, lubricate all grease fittings and inspect air cleaner daily to prevent excessive wear.

Preparing to Maintain the Machine

1. Park the machine on a level surface.
2. Engage the parking brake, shut off the engine, and remove the key.
3. Allow the engine and exhaust system to cool.

Lifting the Machine

⚠ DANGER

The machine may be unstable when using a jack. It could slip off the jack, injuring anyone beneath it.

- Do not start the engine while the machine is on a jack.
- Always remove the key from the key switch before getting off the machine.
- Block the tires when the machine is supported by lifting equipment.
- Use jack stands to support the machine once you have lifted the it.

Important: Whenever the engine is run for routine maintenance and/or engine diagnostics, the rear wheels of the machine should be 25 mm (1 inch) off the ground, with the rear axle supported on jack stands.

- The lifting point at the front of the machine is at the front of the frame behind the towing tongue (Figure 22).

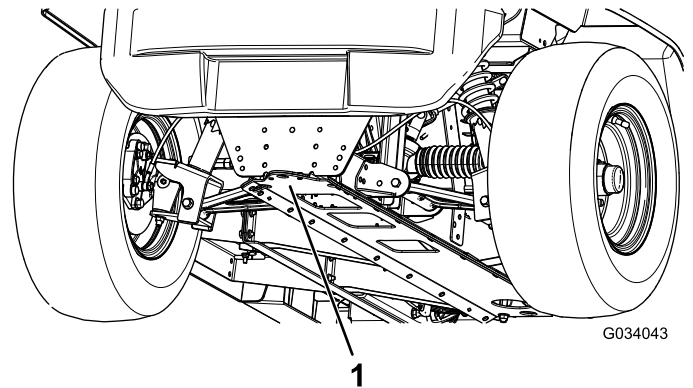


Figure 22

1. Front lifting point

- The lifting point at the rear of the machine is under the axle tubes (Figure 23).

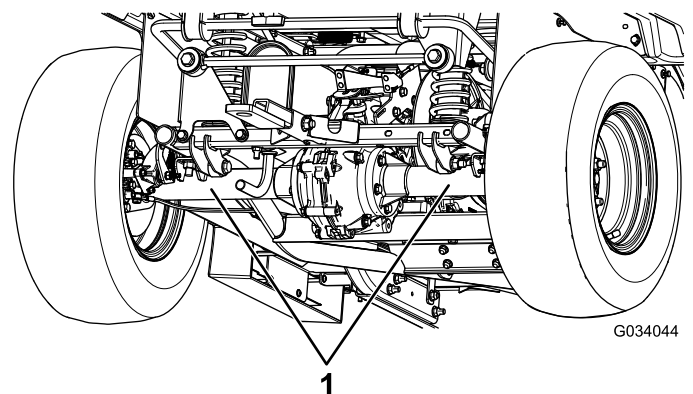


Figure 23

1. Rear lifting points

Accessing the Hood

Raising the hood

1. Lift up the handle of the rubber latches at each side of the hood (Figure 24).

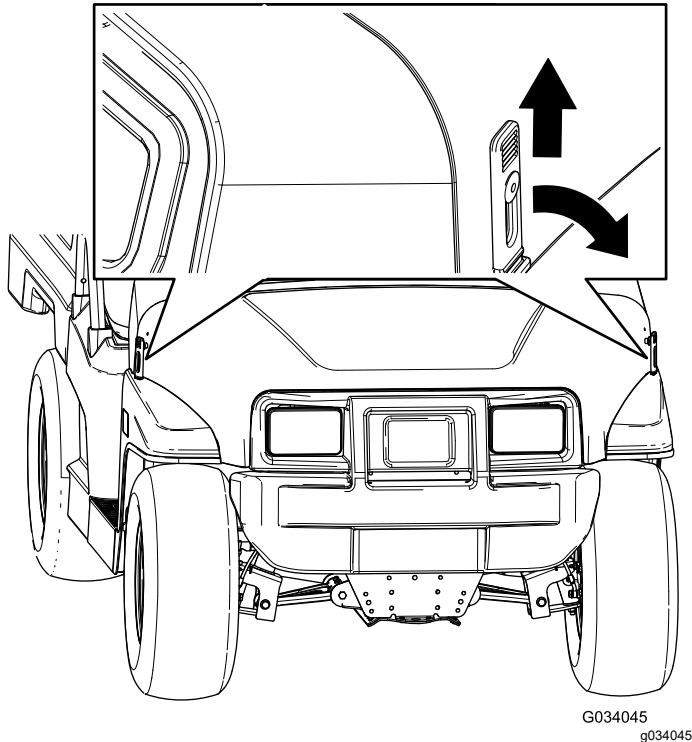


Figure 24

2. Raise the hood.

Closing the Hood

1. Gently lower the hood onto the chassis.
2. Secure the hood by aligning the rubber latches onto the latch anchors at each side of the hood (Figure 24).

Removing the Seat Assembly

Push the seat assembly forward and lift the assembly upward until the retainer brackets clear the seat-base panel (Figure 25).

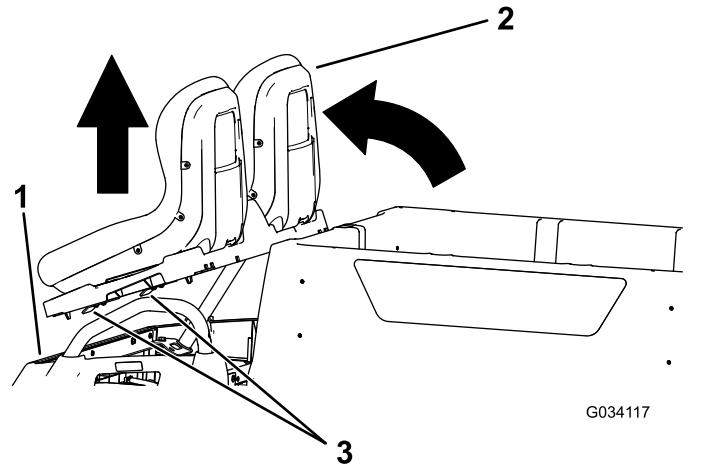


Figure 25

- | | |
|--------------------|----------------------|
| 1. Seat-base panel | 3. Retainer brackets |
| 2. Seat assembly | |

Installing the Seat Assembly

Lower the seat assembly and ensure that the retainer brackets latch into the seat-base panel (Figure 26).

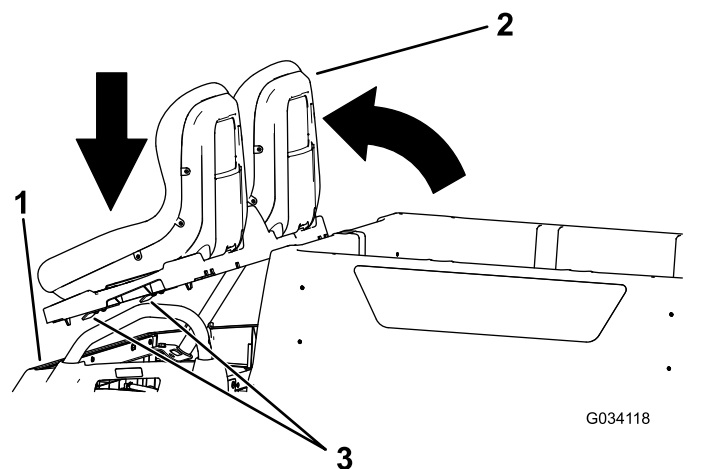


Figure 26

- | | |
|--------------------|----------------------|
| 1. Seat-base panel | 3. Retainer brackets |
| 2. Seat assembly | |

Lubrication

Greasing the Machine

Service Interval: Every 100 hours/Yearly (whichever comes first)—Grease the bearings and bushings. Grease the machine more frequently when using it for heavy-duty operations.

Grease Type: No. 2 lithium grease

1. Use a rag to wipe the grease fitting clean so that foreign matter cannot be forced into the bearing or bushing.
2. With a grease gun, apply 1 or 2 pumps of grease into the grease fittings on the machine.
3. Wipe the excess grease off the machine.

The grease fittings are located at the inner end of the control arms, the tie-rod ball joint, and the outer end of the control arms (Figure 27 and Figure 28).

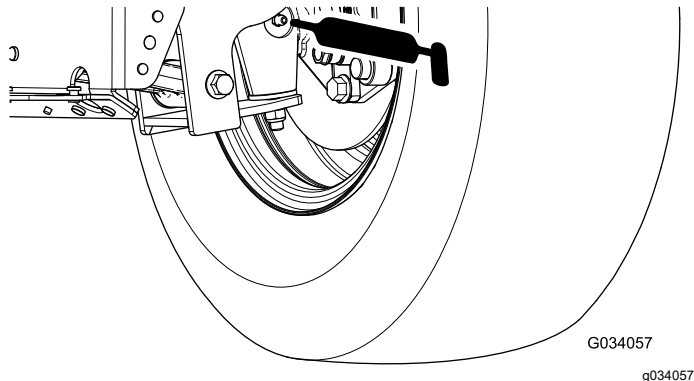


Figure 27

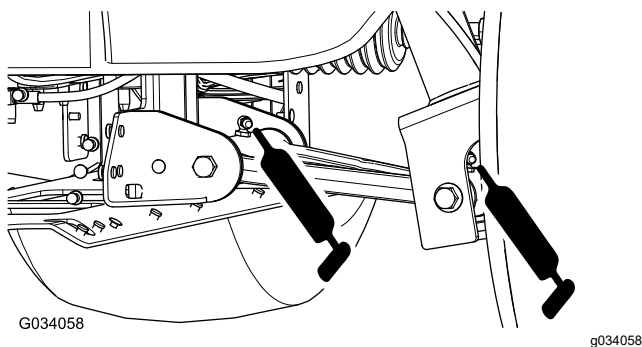


Figure 28

Greasing the Front Wheel Bearings

Service Interval: Every 300 hours

Grease specification: Mobilgrease XHP™-222

Removing the Hub and Rotor

1. Lift the front of the machine and support it with jack stands.
2. Remove the 4 lug nuts that secure the wheel to the hub (Figure 29).

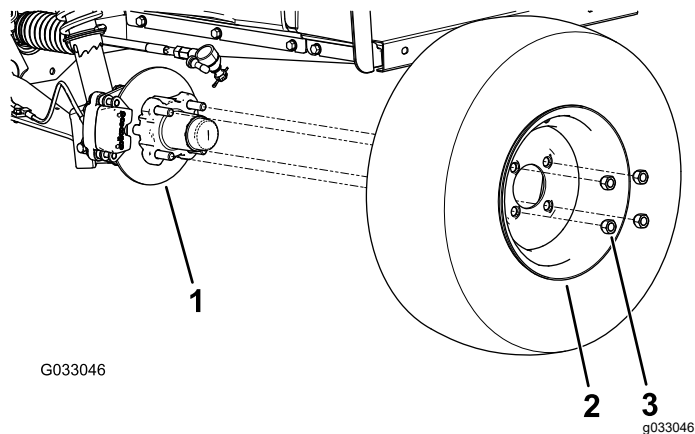
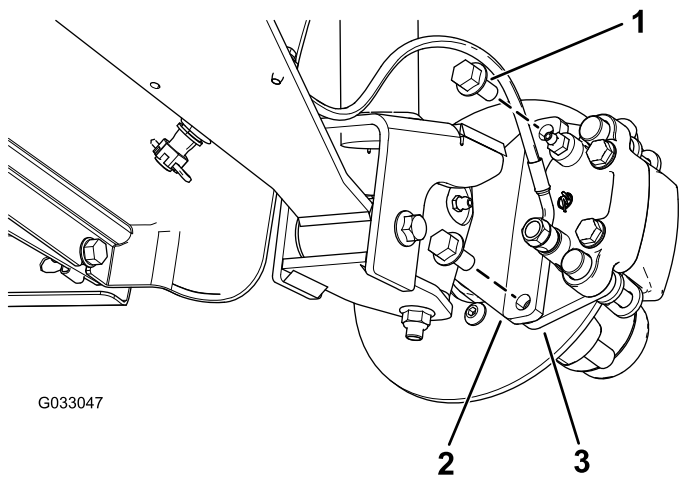


Figure 29

1. Hub
2. Wheel
3. Lug nut

3. Remove the flange-head bolts (3/8 x 3/4 inch) that secure the bracket for the brake assembly to the spindle and separate the brake from the spindle (Figure 30).

Note: Support the brake assembly before proceeding to the next step.



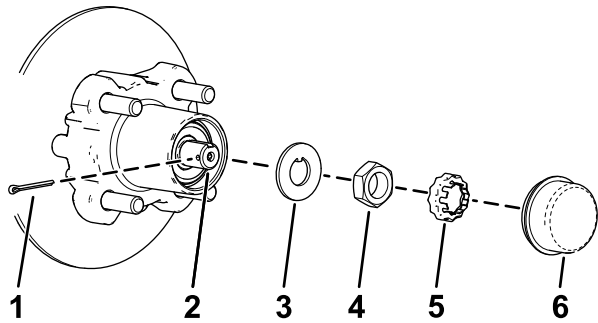
G033047

g033047

Figure 30

1. Flange-head bolts (3/8 x 3/4 inch)
2. Spindle
3. Caliper bracket (brake assembly)

4. Remove the dust cap from the hub (Figure 31).

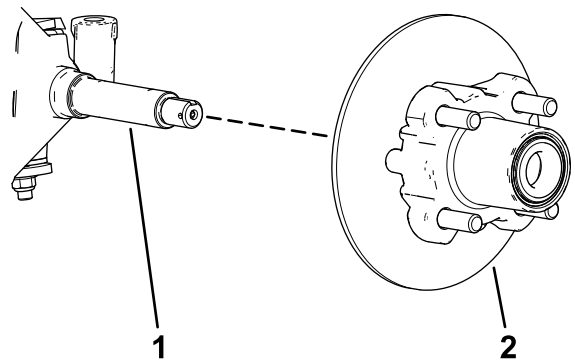


g192346

Figure 31

1. Cotter pin
2. Spindle
3. Tab washer
4. Spindle nut
5. Nut retainer
6. Dust cap

5. Remove the cotter pin and nut retainer from the spindle and spindle nut (Figure 31).
6. Remove the spindle nut from the spindle, and separate the hub and rotor assembly from the spindle (Figure 31 and Figure 32).



g192347

Figure 32

1. Spindle
2. Hub and rotor assembly

7. Wipe clean the spindle with a rag.
8. Repeat steps 1 through 7 to the hub and rotor at the other side of the machine.

Greasing the Wheel Bearings

1. Remove the outboard bearing and bearing race from the hub ([Figure 33](#)).

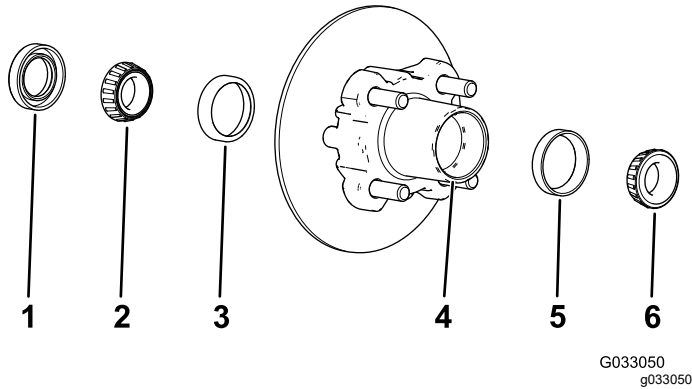


Figure 33

1. Seal
 2. Inboard bearing
 3. Inboard-bearing race
 4. Bearing cavity (hub)
 5. Outboard-bearing race
 6. Outboard bearing
-
2. Remove the seal, inboard bearing from the hub ([Figure 33](#)).
 3. Wipe clean the seal and check for wear and damage.
Note: Do not use cleaning solvent to clean the seal. Replace the seal if it is worn or damaged.
 4. Clean the bearings and races, and check these parts for wear and damage.
Note: Replace all worn or damaged parts. Ensure that the bearings and races are clean and dry.
 5. Clean the cavity of the hub of all grease, dirt, and debris ([Figure 33](#)).
 6. Pack the bearings with the specified grease.
 7. Fill the cavity of hub 50 to 80% full of the specified grease ([Figure 33](#)).
 8. Assemble the inboard bearing onto the race at the inboard side of the hub and install the seal ([Figure 33](#)).
 9. Repeat steps 1 through 8 to the bearings for the other hub.

Installing the Hub and Rotor

1. Apply a light coat of the specified grease to the spindle ([Figure 34](#)).

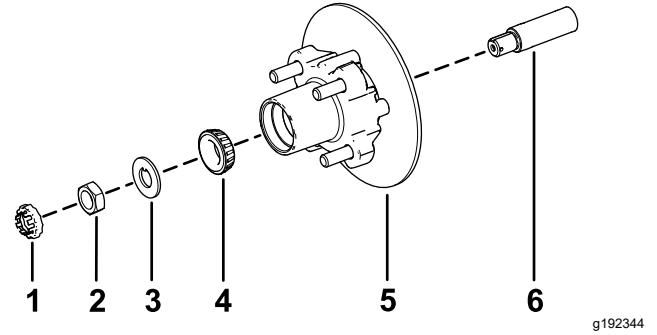
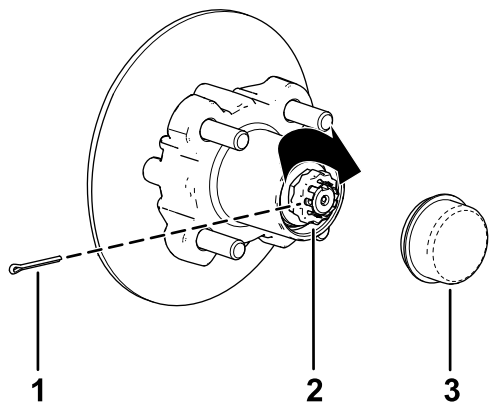


Figure 34

1. Nut retainer
 2. Spindle nut
 3. Tab washer
 4. Outer bearing
 5. Hub, rotor, inner bearing, race, and seal
 6. Spindle
-
2. Assemble the hub and rotor onto the spindle with the rotor inboard ([Figure 34](#)).
 3. Assemble the outboard bearing onto the spindle and seat the bearing to the outboard race ([Figure 34](#)).
 4. Assemble the tab washer onto the spindle ([Figure 34](#)).
 5. Thread the spindle nut onto the spindle and tighten the nut to 15 N·m (11 ft-lb), while rotating the hub to seat the bearing ([Figure 34](#)).
 6. Loosen the spindle nut until the hub rotates freely.
 7. Torque the spindle nut to 170 to 225 N·cm (15 to 20 in-lb).
 8. Install the retainer over the nut and check the alignment of the slot in the retainer and the hole in the spindle for the cotter pin ([Figure 35](#)).

Note: If the slot in the retainer and the hole in the spindle are not aligned, tighten the spindle nut to align the slot and hole to a maximum torque of 226 N·cm (20 in-lb) on the nut.



g192345

Figure 35

- | | |
|-----------------|-------------|
| 1. Cotter pin | 3. Dust cap |
| 2. Nut retainer | |

9. Install the cotter pin and bend each legs around the retainer (Figure 35).
10. Install the dust cap onto the hub (Figure 35).
11. Repeat steps 1 through 10 for the hub and rotor at the other side of the machine.

Installing the Brakes and Wheels

1. Clean the 2 flange-head bolts (3/8 x 3/4 inch) and apply a coat of medium-strength thread-locking compound to the threads of the bolts.
2. Align the brake pads to either side of the rotor (Figure 30) and the holes in the caliper bracket with the holes in the brake mount of the spindle frame (Figure 34).
3. Secure the caliper bracket to the spindle frame (Figure 30) using the 2 flange-head bolts (3/8 x 3/4 inch).

Torque the 2 flange-head bolts to 47 to 54 N·m (35 to 40 ft-lb).

4. Align the holes in the wheel to the studs of the hub and assemble the wheel to the hub with the valve stem outward (Figure 29).

Note: Ensure that the mounting surface of the wheel is flush with the hub.

5. Secure the wheel to the hub using the lug nuts (Figure 29).

Torque the lug nuts to 108 to 122 N·m (80 to 90 ft-lb).

6. Repeat steps 1 through 5 for the brake and wheel on the other side of the machine.

Engine Maintenance

Servicing the Air Cleaner

Service Interval: Every 100 hours Replace the air-filter element sooner if dirty or damaged.

Note: Service the air cleaner more frequently (every few hours) if operating conditions are extremely dusty or sandy.

Servicing the Air-Cleaner Cover

Service Interval: Every 50 hours—Remove the air-cleaner cover and clean out the debris. Do not remove the filter.

Check the air-cleaner body for damage which could cause an air leak. Replace a damaged air-cleaner body.

Clean the air-cleaner cover as shown in [Figure 36](#).

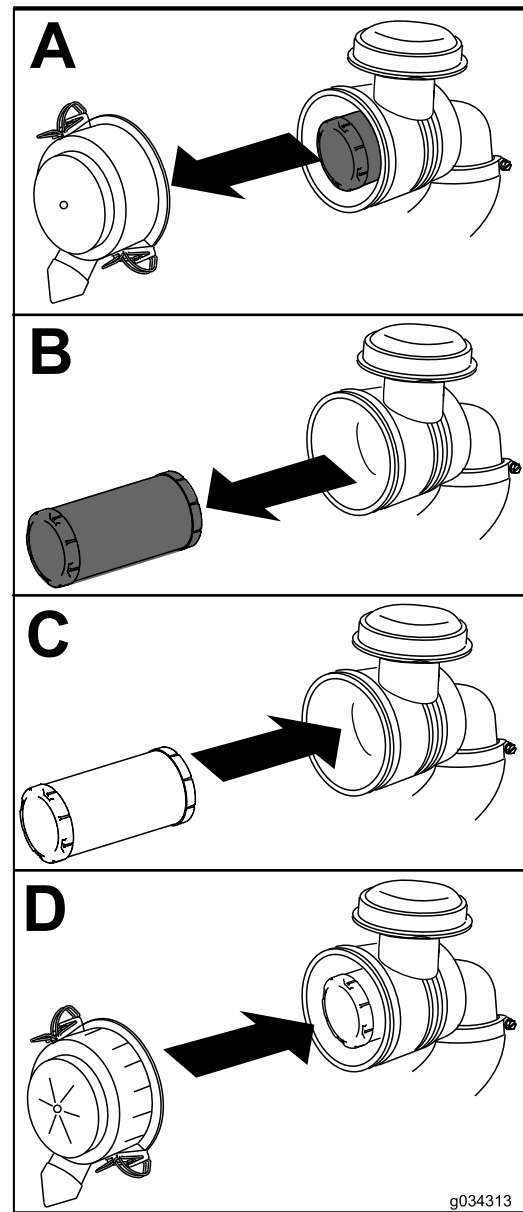


Figure 36

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Servicing the Air-Cleaner Filters

Service Interval: Every 100 hours More frequently in extreme dusty or dirty conditions.

1. Gently slide the primary filter out of the air-cleaner body (Figure 37).

Note: Avoid knocking the filter into the side of the body.

Important: Do not attempt to clean the primary filter.

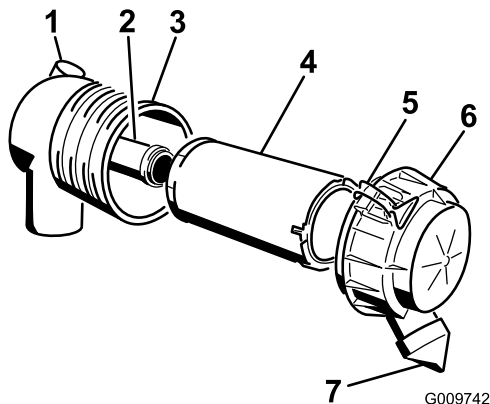


Figure 37

1. Air-filter-service indicator
2. Safety filter
3. Air-filter body
4. Primary filter
5. Latches
6. Air-cleaner cover
7. Dust cap

2. Remove the safety filter (if equipped).

Note: Only remove the safety filter if you intend to replace it.

Important: Never attempt to clean the safety filter. If the safety filter is dirty, then the primary filter is damaged, and you should replace both filters.

3. Inspect the new filter(s) for damage by looking into the filter while shining a bright light on the outside of the filter.

Note: Holes in the filter appear as bright spots. Inspect the element for tears, an oily film, or damage to the rubber seal. If the filter is damaged, do not use it.

4. If you are replacing the safety filter, carefully slide the new filter into the filter body (Figure 37).

Important: To prevent engine damage, always operate the engine with both air filters and cover installed.

5. Carefully slide the primary filter over the safety filter and ensure that it is fully seated by pushing on the outer rim of the filter while installing it.

Important: Do not press on the soft inside area of the filter.

6. Install the air-cleaner cover with the side indicated as "UP" facing upward and secure the latches (Figure 37).

Servicing the Engine Oil

Service Interval: After the first 5 hours

Every 100 hours (Change the oil twice as often during special operating conditions; refer to [Maintaining the Machine under Special Operating Conditions](#) (page 29).)

Note: Change the oil more frequently when operating conditions are extremely dusty or sandy.

Note: Dispose of the used engine oil at a certified recycling center.

Checking the Engine-Oil Level

Note: The machine is shipped with oil in the crankcase; however, check the oil before and after you start the engine.

Crankcase Capacity: 1.0 L (1.1 US qt)

Oil Type: API service class SJ or higher detergent oil

Viscosity: See the table below:

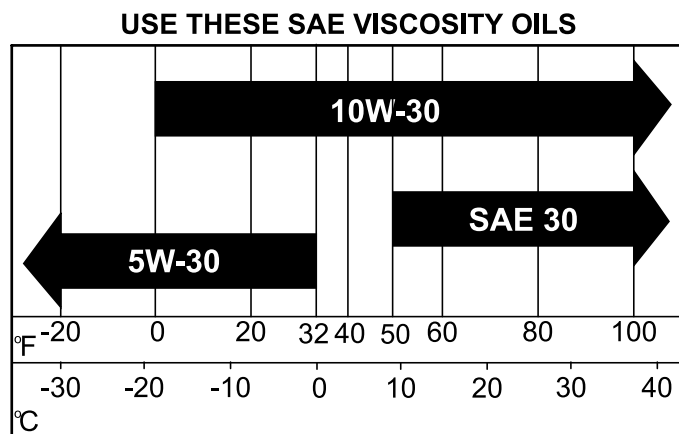


Figure 38

Note: The best time to check the engine oil is when the engine is cool before it has been started for the day. If you have already run the engine, allow the oil to drain back down to the sump for at least 10 minutes before checking. If the oil level is low, add oil to bring the oil level to the Full mark. Do not overfill.

Check the engine-oil level as shown in [Figure 39](#).

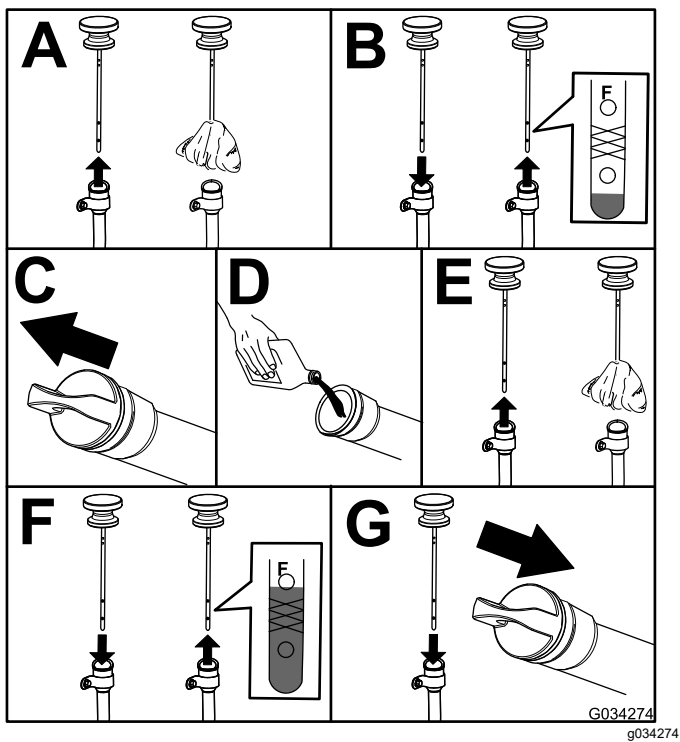


Figure 39

Changing the Engine Oil

1. Start the machine and let the engine run for a few minutes.
2. Park the machine on a level surface, engage the parking brake, rotate the key switch to the OFF position, and remove the key.
3. Raise the cargo box and secure it with the prop rod; refer to [Raising the Cargo Box to the Service Position](#) (page 20).
4. Change the engine oil as shown in [Figure 40](#).

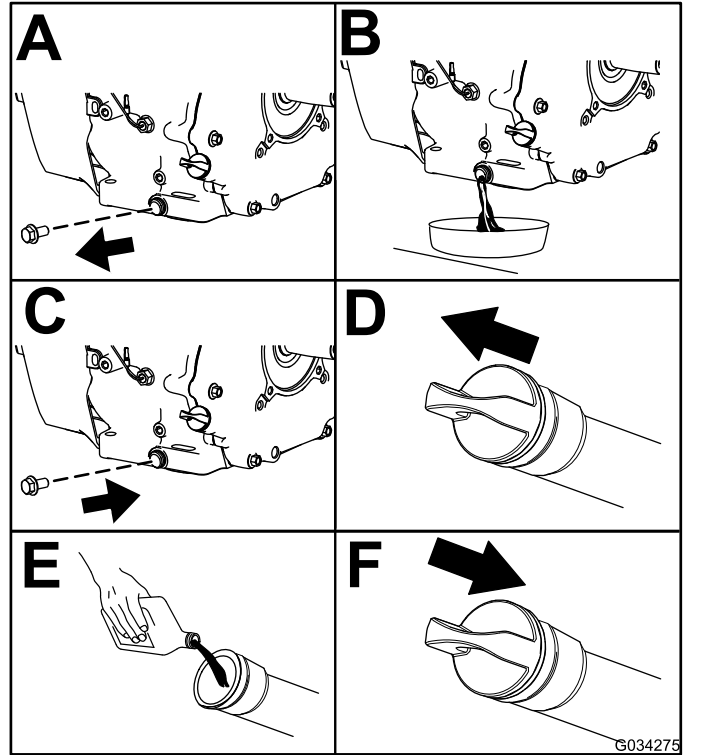


Figure 40

Servicing the Spark Plug

Checking and Replacing the Spark Plug

Service Interval: Every 100 hours/Yearly (whichever comes first) Replace the spark plug if necessary.

Type: Champion RC12LC4

Air Gap: 0.76 mm (0.03 inch)

Important: A cracked, fouled, dirty, or malfunctioning spark plug must be replaced. Do not sand-blast, scrape, or clean electrodes by using a wire brush because grit may eventually release from the plug and fall into the cylinder. The result is usually a damaged engine.

Note: The spark plug usually lasts a long time; however, the plug should be removed and checked whenever the engine malfunctions.

1. Clean the area around the spark plug so that foreign matter cannot fall into the cylinder when the spark plug is removed.
2. Pull the wire off the terminal of the spark plug.
3. Remove the plug from the cylinder head.
4. Check the condition of the side electrode, center electrode, and center electrode insulator to ensure that there is no damage (Figure 41).

Note: Do not use a damaged or worn spark plug. Replace it with a new spark plug of the specified type.

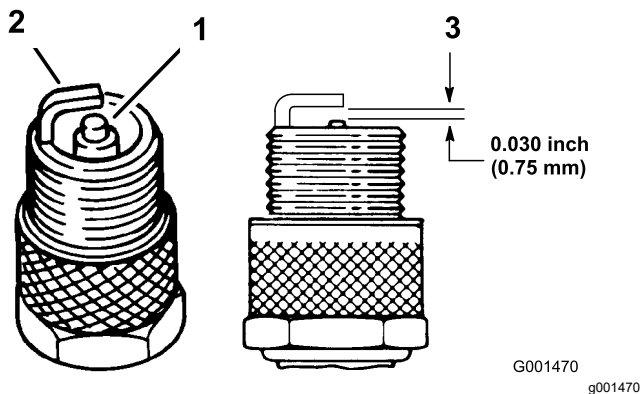


Figure 41

1. Center electrode insulator
2. Side electrode
3. Air gap (not to scale)

5. Set the air gap between the center and side of the electrodes at 0.76 mm (0.03 inch) (Figure 41).
6. Install the spark plug into the cylinder head, and torque the plug to 27 N·m (20 ft-lb).

7. Install the spark-plug wire.
8. Repeat steps 1 through 7 for the other spark plug.

Fuel System Maintenance

Inspecting Fuel Lines and Connections

Service Interval: Every 400 hours/Yearly (whichever comes first)

Inspect the fuel lines, fittings, and clamps for signs of leaking, deterioration, damage, or loose connections.

Note: Repair any damaged or leaking fuel system component before using the machine.

Replacing the Fuel Filter

Service Interval: Every 400 hours/Yearly (whichever comes first)

1. Shut the engine off and remove the key from the key switch.
2. Raise the box and support it with the prop rod; refer to [Raising the Cargo Box to the Service Position \(page 20\)](#).
3. Disconnect the battery; refer to [Disconnecting the Battery \(page 41\)](#).
4. Place a clean container under the fuel filter and replace the fuel filter as shown in [Figure 42](#).

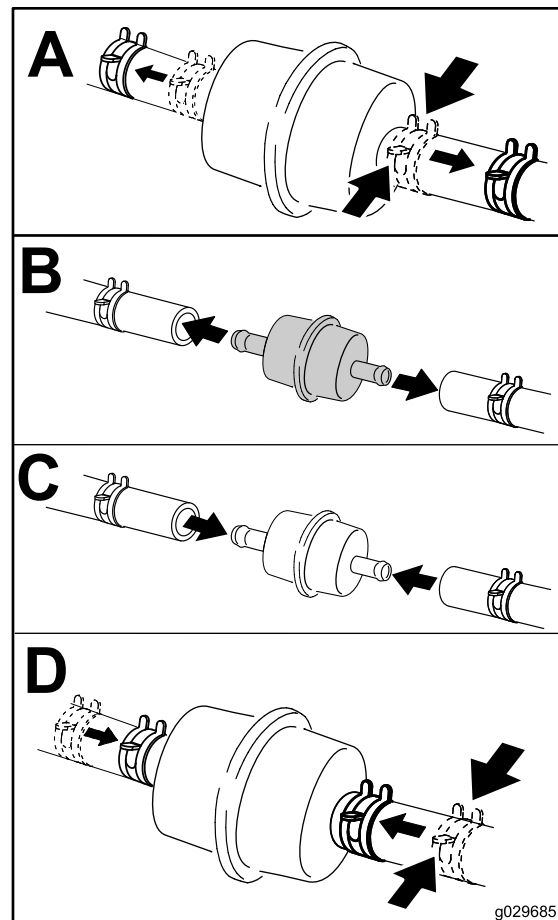


Figure 42

5. Connect the battery, and lower the cargo box; refer to [Connecting the Battery \(page 42\)](#) and [Lowering the Cargo Box \(page 20\)](#).

Servicing the Carbon Canister

Checking the Air Filter for the Carbon Canister

Service Interval: After the first 50 hours

Every 200 hours

Check the opening at the bottom of the air filter for the carbon canister to ensure that it is clean and free of debris and obstructions (Figure 43).

Clean the air filter for the carbon canister with clean, compressed air.

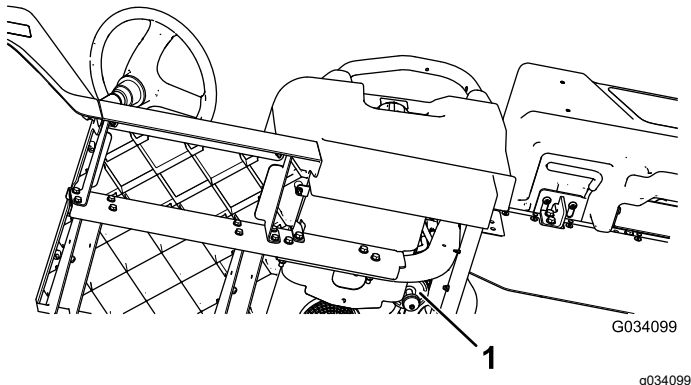


Figure 43

Located Beneath the Driver's Seat

1. Air-filter opening

Electrical System Maintenance

Servicing the Battery

Battery voltage: 12 V with 300 cold-cranking amps at -18°C (0°F).

WARNING

CALIFORNIA Proposition 65 Warning

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

⚠ DANGER

Battery electrolyte contains sulfuric acid which is a deadly poison and causes severe burns.

- Do not drink electrolyte or allow it to contact your skin, eyes or clothing. Wear safety glasses to shield your eyes and rubber gloves to protect your hands.
- Fill the battery where clean water is always available for flushing the skin.
- Always keep the battery clean and fully charged.
- Always keep the battery clean and fully charged.
- If the battery terminals are corroded, clean them with a solution of 4 parts water and 1 part baking soda.
- Apply a light coating of grease to the battery terminals to prevent corrosion.

Disconnecting the Battery

⚠ WARNING

Incorrect battery cable routing could damage the machine and cables, causing sparks. Sparks can cause the battery gasses to explode, resulting in personal injury.

- Always disconnect the negative (black) battery cable before disconnecting the positive (red) cable.
- Always reconnect the positive (red) battery cable before reconnecting the negative (black) cable.
- Always keep the battery strap in place to protect and secure the battery.

⚠ WARNING

Battery terminals or metal tools could short against metal machine components, causing sparks. Sparks can cause the battery gasses to explode, resulting in personal injury.

- When removing or installing the battery, do not allow the battery terminals to touch any metal parts of the machine.
- Do not allow metal tools to short between the battery terminals and metal parts of the machine.

Disconnect the battery as shown in [Figure 44](#).

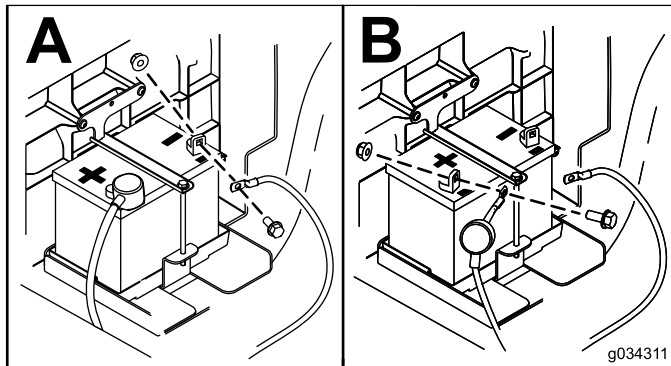


Figure 44

Removing the Battery

1. Disconnect the battery cables; refer to [Disconnecting the Battery \(page 41\)](#).
2. Remove the battery as shown in [Figure 45](#).

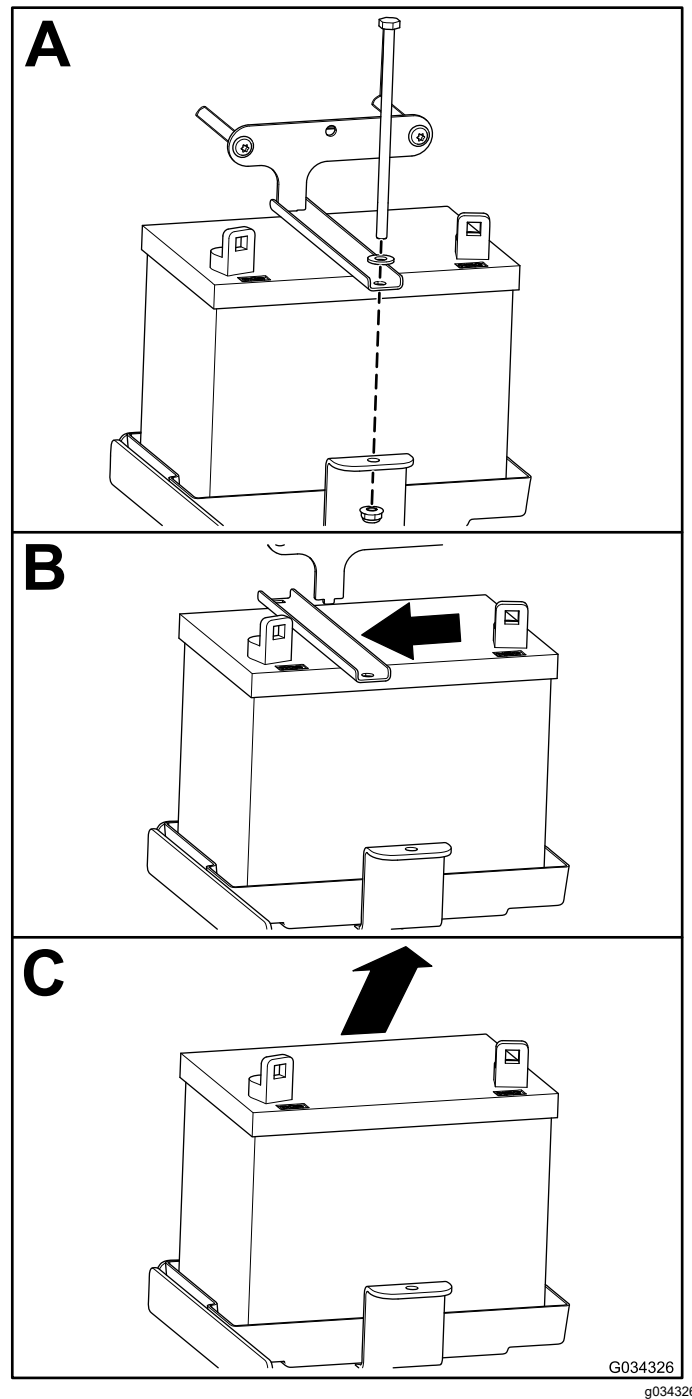


Figure 45

Installing the Battery

1. Install the battery as shown in [Figure 46](#).

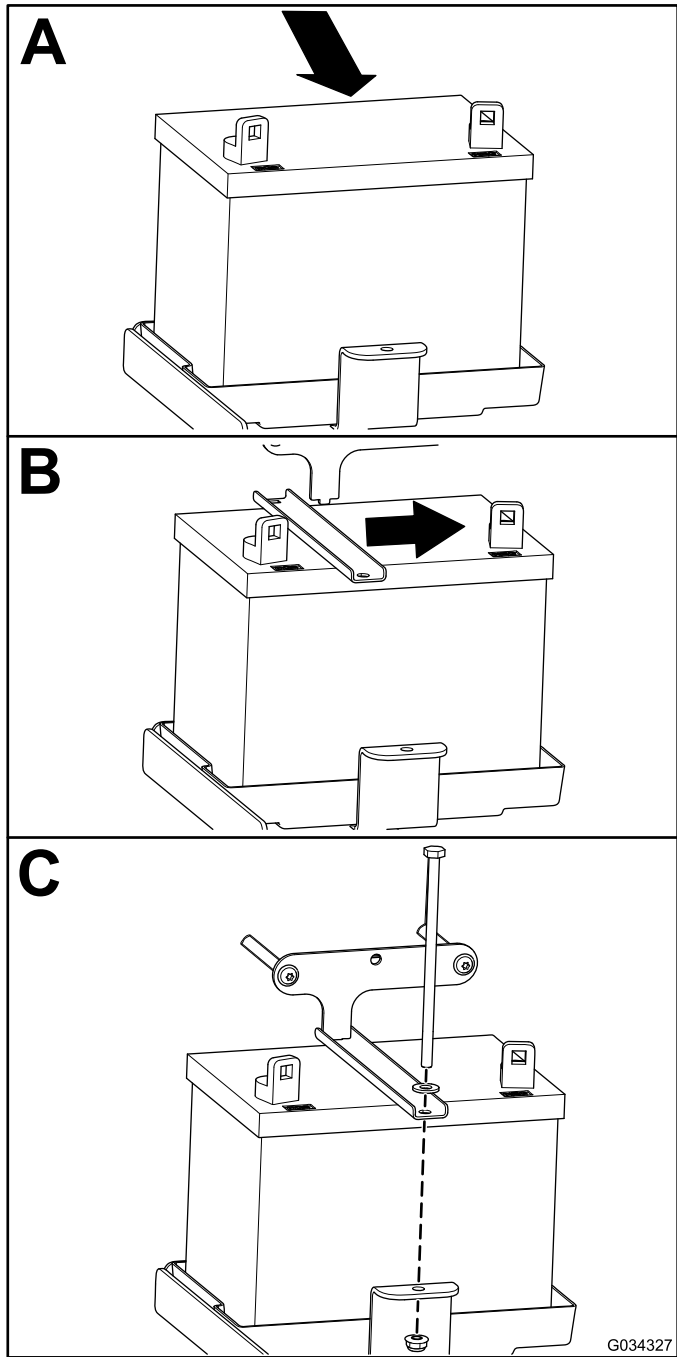


Figure 46

2. Connect the battery cables; refer to [Connecting the Battery](#) (page 42).

Connecting the Battery

Connect the battery as shown in [Figure 47](#).

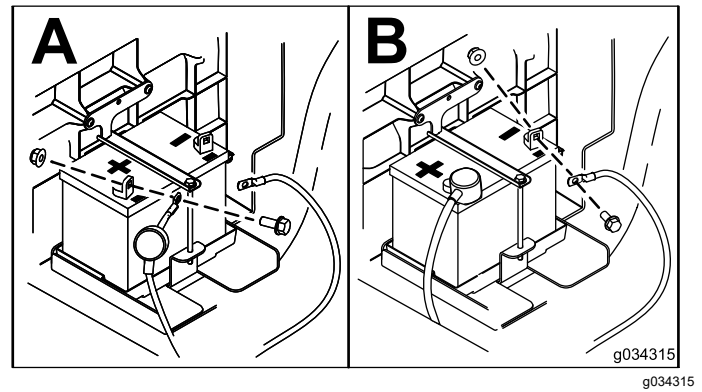


Figure 47

Charging the Battery

⚠ WARNING

Charging the battery produces gasses that can explode.

Never smoke near the battery and keep sparks and flames away from battery.

Important: Always keep the battery fully charged (1.260 specific gravity). This is especially important to prevent battery damage when the temperature is below 0°C (32°F).

1. Remove the battery from the machine; refer to [Removing the Battery](#) (page 41).
2. Connect a 3 to 4 A battery charger to the battery posts. Charge the battery at a rate of 3 to 4 A for 4 to 8 hours (12 V).

Note: Do not overcharge the battery.

3. Install the battery in the chassis; refer to [Installing the Battery](#) (page 42).

Storing the Battery

If you store the machine for more than 30 days, remove the battery and charge it fully. Either store it on the shelf or on the machine. Leave the cables disconnected if it is stored on the machine. Store the battery in a cool atmosphere to avoid quick deterioration of the charge in the battery. To prevent the battery from freezing, make sure it is fully charged.

Replacing the Fuses

There are 4 fuses in the electrical system. They are located beneath the seat assembly (Figure 48).

Note: If you install the optional lift kit, you will receive another fuse block to install next to the fuse block installed currently.

Horn	30 A
Main power	15 A
Headlights	10 A
USB power point/options	10 A
Optional lift kit (open—extra fuse block comes with kit)	15 A

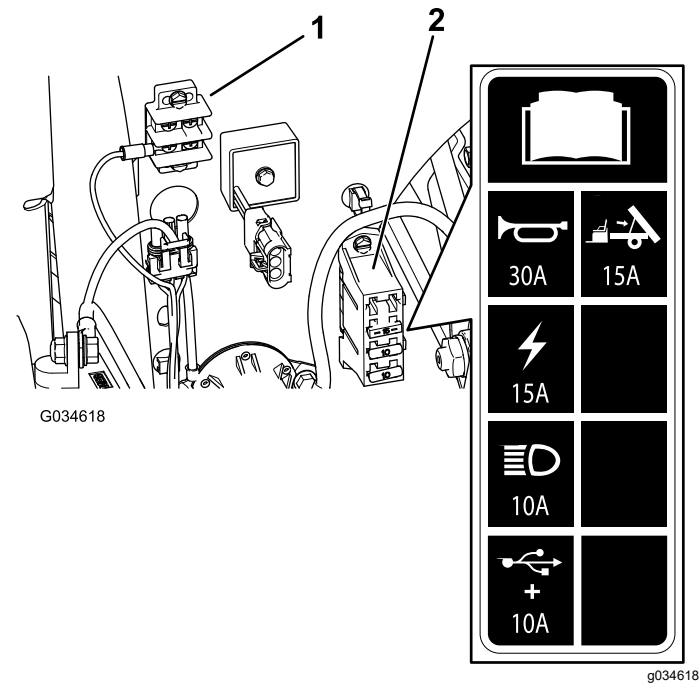


Figure 48

1. Ground block
2. Fuse block

Maintaining the Headlights

Replacing the Bulbs

⚠ CAUTION

If you install a higher wattage bulb than the system is designed for, you may damage the 12 V power supply, or at a minimum, blow the fuse.

Always use the specified Toro LED bulb to prevent this issue.

⚠ CAUTION

The bulbs become extremely hot when in operation. Handling a hot bulb can cause severe burns and personal injury.

Always all enough time to for the bulbs to cool before replacing them. Use care whenever handling the bulb.

Specification: See your *Parts Catalog*.

1. Disconnect the battery; refer to [Disconnecting the Battery](#) (page 41).
2. Open the hood; refer to [Accessing the Hood](#) (page 30).
3. Disconnect the electrical connector for the harness from the connector of the lamp assembly at the back of the headlight housing (Figure 49).

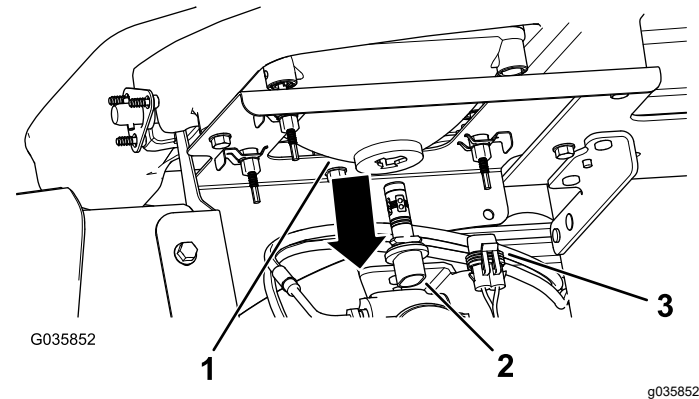


Figure 49

1. Headlight housing

3. Harness-electrical connector
2. Lamp assembly
4. Rotate the lamp assembly 1/4 turn counterclockwise and moving it rearward, out of the headlight housing (Figure 49).
5. Insert the new lamp assembly and headlight housing and align the tabs in the lamp assembly

with the slots in the headlight housing ([Figure 49](#)).

6. Secure lamp assembly by turning it 1/4 turn clockwise ([Figure 49](#)).
7. Connect the electrical connector for the harness to the connector of the new lamp assembly ([Figure 49](#)).
8. Connect the battery and close the hood; refer to [Connecting the Battery \(page 42\)](#).

Replacing the Headlight

1. Disconnect the battery; refer to [Disconnecting the Battery \(page 41\)](#).
2. Open the hood; refer to [Accessing the Hood \(page 30\)](#).
3. Disconnect the electrical connector for the harness from the connector of the lamp assembly ([Figure 50](#)).

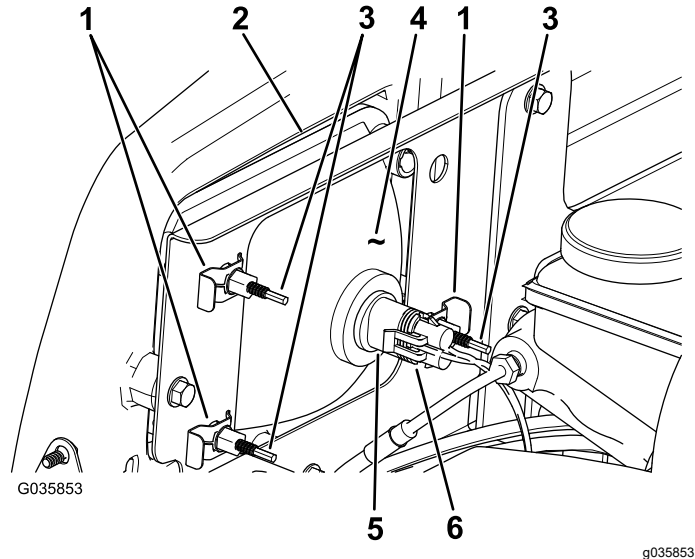


Figure 50

- | | |
|--------------------------|---------------------------------|
| 1. Speed clip | 4. Headlight |
| 2. Opening in the bumper | 5. Lamp assembly |
| 3. Adjustment screw | 6. Harness-electrical connector |

4. Remove the speed clips that secure the headlight to the headlight bracket ([Figure 50](#)).

Note: Retain all parts for installation of the new headlight.

5. Remove the headlight assembly by moving it forward through the opening in the front bumper ([Figure 50](#)).
6. Install the new headlight through the opening in the bumper ([Figure 50](#)).

Note: Ensure the adjustment posts are lined up with the holes in the mounting bracket behind the bumper.

7. Secure the headlight assembly with the speed clips that you removed in step 4.
8. Connect the electrical connector for the harness to the connector of the lamp assembly ([Figure 50](#)).
9. Adjust the headlights to direct the beams to the desired position, refer to [Adjusting the Headlights \(page 45\)](#).

Adjusting the Headlights

Use the following procedure to adjust the headlight beam position whenever a headlight assembly is replaced or removed.

1. Turn the key switch to the ON position, and turn on the headlights.
2. At the back of the headlight assembly, rotate adjustment screws ([Figure 50](#)) to pivot the headlight assembly and align the position of the cast beam.
3. Connect the battery and close the hood; refer to [Connecting the Battery \(page 42\)](#).

Drive System Maintenance

Maintaining the Tires

Service Interval: Every 100 hours—Check the condition of the tires and rims.

Every 100 hours—Torque the wheel-lug nuts.

1. Inspect the tires and rims for signs of wear and damage.

Note: Operating accidents, such as hitting curbs, can damage a tire or rim and also disrupt wheel alignment, so inspect tire condition after an accident.

2. Torque the wheel-lug nuts to 108 to 122 N·m (80 to 90 ft-lb).

Inspecting the Steering and Suspension Components

Service Interval: Every 100 hours—Inspect the steering and suspension for loose or damaged components.

With the steering wheel at the centered position (Figure 51), turn the steering wheel to the left or right. If you turn the steering wheel more than 13 mm (1/2 inch) to the left or right, and the tires do not turn, check the following steering and suspension components to ensure that they are not loose or damaged:

- Steering shaft to the steering-rack assembly joint
- Important:** Inspect the condition and security of the pinion-shaft seal (Figure 52).
- Steering-rack assembly tie rods

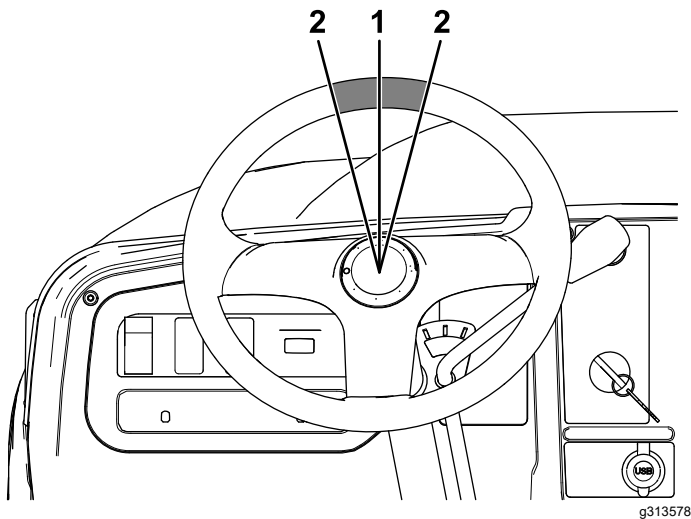


Figure 51

1. Steering wheel at the centered position
2. 13 mm (1/2 inch) from the center of the steering wheel

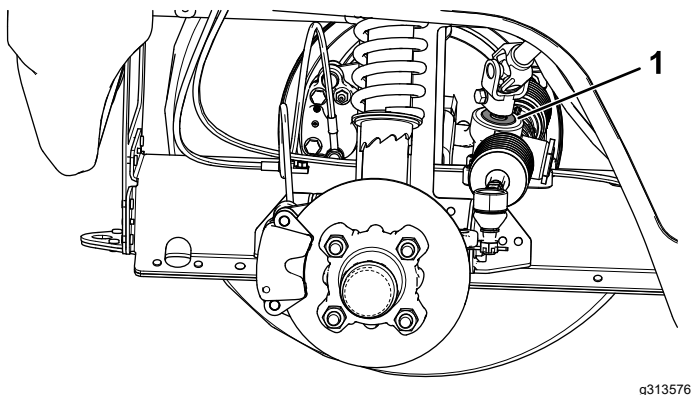


Figure 52

1. Pinion-shaft seal

Adjusting the Front Wheel Toe-in

Service Interval: Every 100 hours/Yearly (whichever comes first)—Check the front wheel toe-in.

Important: You need Toro Tool No. 6010 from your Toro Distributor to perform this procedure.

The toe-in should be 0 +/- 3 mm (0 +/- 1/8 inch).

- Check the tire pressure to ensure that the front tires are inflated to 165 to 207 kPa (24 to 30 psi).
- Either add weight to the driver's seat equal to the average operator who will run the machine, or have an operator sit on the seat. The weight or operator must remain on the seat for the duration of the procedure.
- On a level surface, roll the machine straight back 2 to 3 m (6 to 10 ft) and then straight forward to the original starting position. This allows the suspension to settle into the operating position.
- Measure the toe-in with the wheels facing straight ahead.

Adjust the riding height to the desired position by performing the following procedure:

- Using Toro Tool No. 6010, rotate the collar on the shock absorber to change the length of the spring (Figure 53).

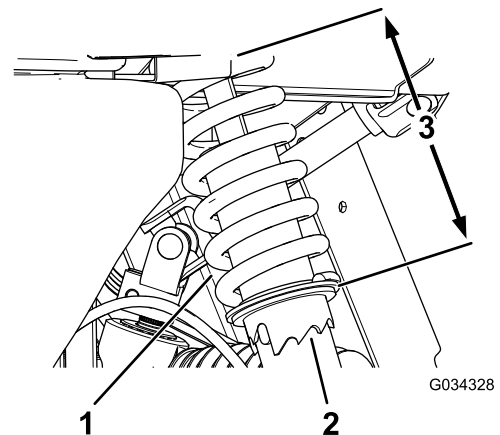


Figure 53

1. Shock-absorber spring
2. Collar
3. Spring length

- On a level surface, roll the machine straight back 2 to 3 m (6 to 10 ft) and then straight forward to the original starting position.
- Measure the distance between both of the front tires at the axle height at both the front and rear of the front tires (Figure 54).

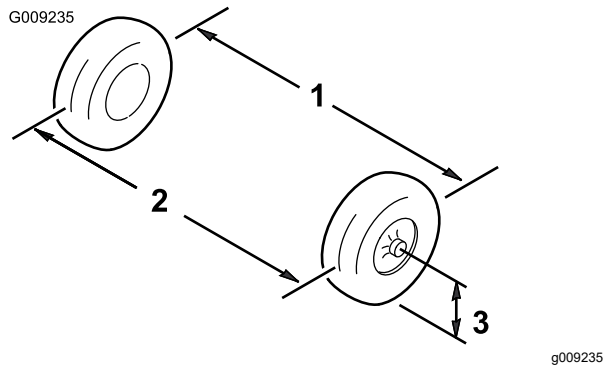


Figure 54

1. Tire center line—back
2. Tire center line—front
3. Axle center line

4. If the measurement does not fall within 0 +/- 3 mm (0 +/- 1/8 inch), loosen the jam nuts at the outer end of the tie rods ([Figure 55](#)).

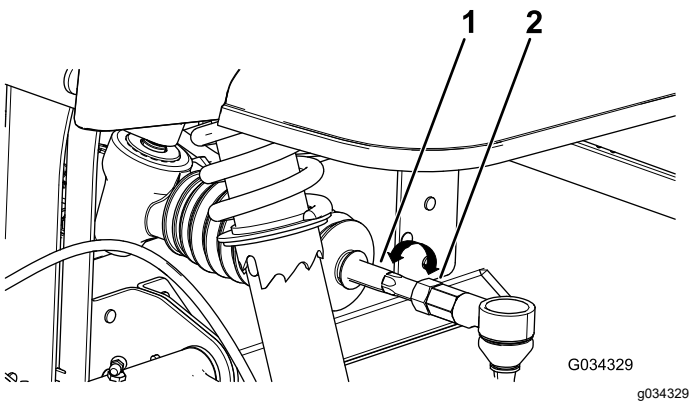


Figure 55

1. Tie rod
2. Jam nut

5. Rotate both tie rods to move the front of the tire inward or outward.
6. Tighten the tie rod jam nuts when the adjustment is correct.
7. Ensure that there is full travel of the steering wheel in both directions.

Checking the Transaxle-Fluid Level

Service Interval: Every 100 hours

Oil Type: SAE 80W-90 (API service SJ or higher)

1. Move the machine to a level surface, engage the parking brake, shut off the engine, and remove the key from the key switch.
2. Remove the fill plug on the transaxle ([Figure 56](#)).

Note: The fluid level should be even with the bottom of the fill plug.

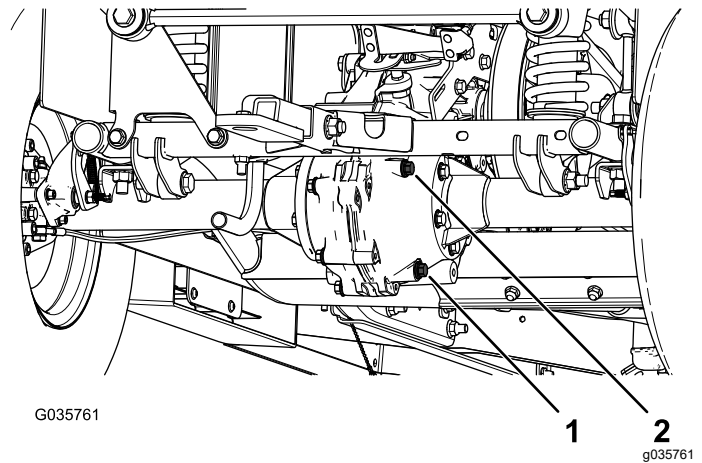


Figure 56

1. Fill plug
2. Drain plug

3. If the fluid level is low, remove the fill plug and add the specified fluid until it runs out of the hole ([Figure 56](#)).
4. Replace the fill plug and torque it to 20 to 27 N·m (15 to 20 ft-lb).

Changing the Transaxle Fluid

Service Interval: Every 800 hours/Yearly (whichever comes first)

Oil Type: SAE 80W-90 (API service SJ or higher)

Oil Capacity: 1.6 L (1.7 US qt)

1. Align a drain pan under the drain plug ([Figure 56](#)).
2. Remove the fill plug and the seal ([Figure 56](#)).
Note: Retain the fill plug and seal for installation in step 6.
3. Remove the drain plug and the seal, and allow the fluid to drain completely ([Figure 56](#)).
Note: Retain the drain plug and seal for installation in step 4.
4. Install the drain plug and seal, and torque it to 20 to 27 N·m (15 to 20 ft-lb).
5. Fill the transaxle with the specified fluid until it runs out of the fill hole.
6. Install the fill plug and seal, and torque it to 20 to 27 N·m (15 to 20 ft-lb).

Checking the Neutral Gear-Shift Position

Service Interval: Every 100 hours

When performing routine maintenance and/or engine diagnostics, the transaxle must be shifted into NEUTRAL. The machine has a NEUTRAL position on the gear-shift selector, which controls the neutral in the transaxle. The following steps should be taken to make sure that the neutral shift lever operates the transaxle neutral correctly:

1. Set the gear-shift selector to the NEUTRAL position.
2. Rotate the secondary clutch ([Figure 62](#)) to see if it spins freely in the NEUTRAL position.
3. Set the gear-shift selector to the FORWARD position.
4. Rotate the secondary clutch ([Figure 62](#)) to see if it spins freely in the FORWARD position.
5. Set the gear-shift selector to the REVERSE position.
6. Rotate the secondary clutch ([Figure 62](#)) to see if it spins freely in the REVERSE position.
7. If the secondary clutch does not spin freely, proceed to [Adjusting the Neutral Gear-Shift Position](#) (page 48).

Adjusting the Neutral Gear-Shift Position

1. Pull the gear-shift cable out of the slot in the spanner bar ([Figure 57](#)).

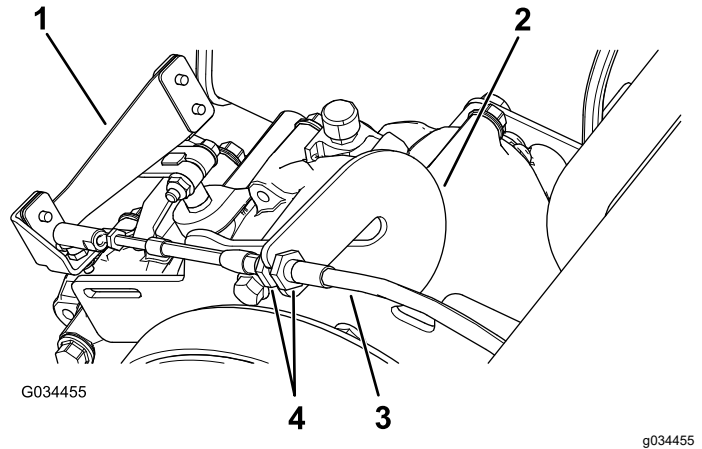


Figure 57

- | | |
|----------------|---------------------|
| 1. Shift lever | 3. Gear-shift cable |
| 2. Spanner bar | 4. Jam nuts |
-
2. Loosen the jam nuts on the gear-shift cable and adjust them as necessary ([Figure 57](#)).
 3. Test the gear-shift position by rotating the gear-shift selector to the 3 different positions and check to see if the shift lever ([Figure 57](#)) shifts properly when shifting the gears; refer to [Gear-Shift Lever and Gear-Shift Indicator](#) (page 16).
 4. When you have reached the desired adjustment, install the gear-shift cable into the slot in the spanner bar ([Figure 57](#)).
 5. Verify that all of the positions are working correctly by repeating the steps in [Checking the Neutral Gear-Shift Position](#) (page 48).

Maintaining the Primary-Drive Clutch

Service Interval: Every 400 hours/Yearly (whichever comes first)

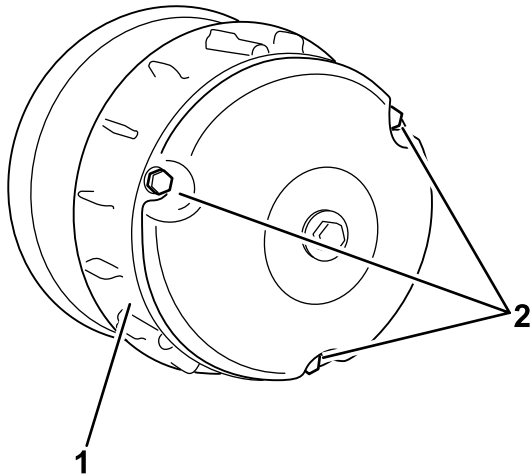
⚠ CAUTION

The dust in the clutch becomes airborne and could damage your eyes, or you could inhale it, causing breathing difficulties.

Wear eye and respiratory protection when performing this procedure.

1. Raise and latch the cargo box; refer to [Raising the Cargo Box to the Service Position](#) (page 20).
2. Remove the 3 bolts securing the cover to the clutch, and remove the cover ([Figure 58](#)).

Note: Retain the cover and bolts for installation.



g011947

Figure 58

- | | |
|----------|----------|
| 1. Cover | 2. Bolts |
|----------|----------|

-
3. Thoroughly clean the inside of the cover and the inner components of the clutch using compressed air.
 4. Install the clutch cover and secure it with the 3 bolts ([Figure 58](#)) that you removed in 2.
 5. Lower the cargo box.

Cooling System Maintenance

Cleaning the Engine-Cooling Areas

Service Interval: Every 100 hours Clean the cooling system twice as often during special operating conditions; refer to Maintaining the Machine under Special Operating Conditions.

Important: Operating the engine with a blocked rotating screen, dirty or plugged cooling fins, or cooling shrouds removed causes engine damage due to overheating.

Important: Never clean the engine with a pressure washer because water could contaminate the fuel system.

Clean the inlet, cooling fins, and external surfaces of the engine.

Note: Clean the engine cooling components more often under extremely dusty and dirty conditions.

Brake Maintenance

Checking the Parking Brake

1. Engage the parking brake by pulling the parking-brake lever toward you, until you feel tension.
2. If you do not feel tension when pulling the parking-brake toward you within 11.4 to 16.5 cm (4-1/2 to 6-1/2 inches) from the 'P' symbol on the dash, then you need to adjust the parking brake; refer to [Adjusting the Parking Brake \(page 50\)](#).

Adjusting the Parking Brake

1. Ensure that the parking brake is disengaged.
2. Using jack stands, lift the rear of the machine; refer to [Lifting the Machine \(page 29\)](#).
3. Using 2 wrenches, hold the adjusting post on the caliper in place with 1 wrench, and loosen the jam nut 1/4 turn with the other wrench ([Figure 59](#)).

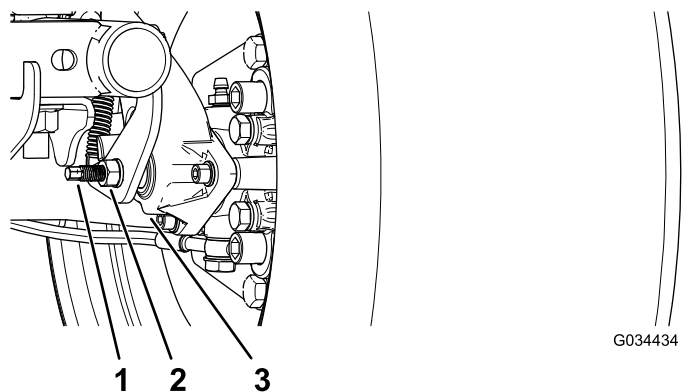


Figure 59

1. Adjusting post
2. Jam nut
3. Caliper

4. While holding the adjusting post and the jam nut in place, turn the adjusting post in to tighten ([Figure 59](#)).

Note: Perform this step until you feel drag on the wheel.

5. While holding the adjusting post and the jam nut in place, back off 1/4 turn ([Figure 59](#)).
6. While holding the adjusting post and the jam nut in place, tighten the jam nut ([Figure 59](#)).
7. Perform steps 1 through 6 to the other side.
8. Verify that the parking brake is adjusted to the proper tension; refer to [Checking the Parking Brake \(page 50\)](#).

Note: If you cannot adjust the parking brake to the required tension, the brake pads may be worn and need to be replaced. Contact your Authorized Toro Service Dealer for assistance.

Checking the Brake-Fluid Level

Service Interval: Before each use or daily Check the brake-fluid level before the motor is first used.

Brake Fluid Type: DOT 3

1. Park the machine on a level surface, engage the parking brake, and remove the key.
2. Raise the hood to gain access to the master-brake cylinder and reservoir ([Figure 60](#)).

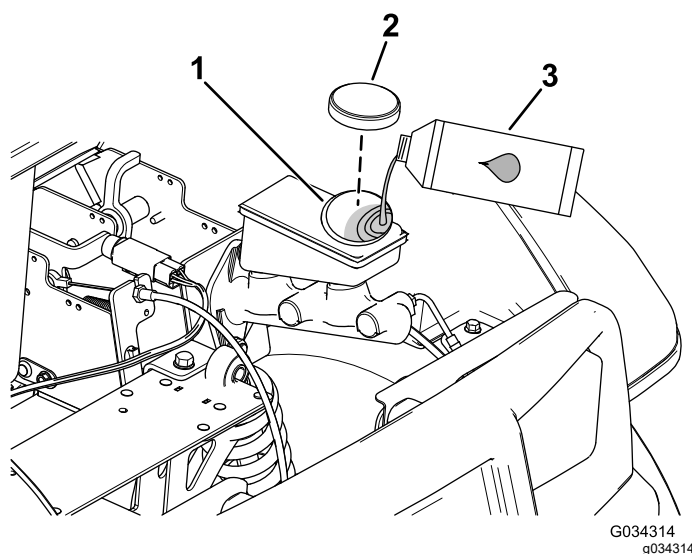


Figure 60

1. Filler neck (reservoir)
2. Reservoir cap
3. DOT 3 brake fluid

3. Look at the outline of the fluid level at the side of the reservoir ([Figure 61](#)).

Note: The level should be above the Minimum line.

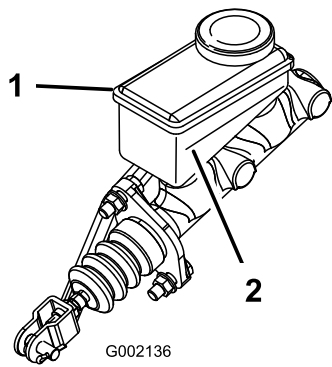


Figure 61

1. Brake-fluid reservoir 2. Minimum line

4. If the fluid level is low, perform the following:
 - A. Clean the area around the reservoir cap and remove the cap ([Figure 60](#)).
 - B. Add DOT 3 brake fluid to the reservoir until the fluid level is above the Minimum line ([Figure 61](#)).

Note: Do not overfill the reservoir with brake fluid.

 - C. Install the reservoir cap ([Figure 60](#)).
5. Close the hood of the machine.

Inspecting the Brakes

Service Interval: Every 100 hours

Brakes are a critical safety component of the machine. As with all safety components, they should be closely inspected at regular intervals to ensure optimum performance and safety.

- Inspect the brake shoes for wear or damage. If the lining (brake pad) thickness is less than 1.6 mm (1/16 inch), the brake shoes should be replaced.
- Inspect the backing plate and other components for signs of excessive wear or deformation. If any deformation is found, the appropriate components must be replaced.
- Check the brake-fluid level; refer to [Checking the Brake-Fluid Level](#) (page 50).

Changing the Brake Fluid

Service Interval: Every 1,000 hours

Refer to your authorized Authorized Service Dealer.

Belt Maintenance

Servicing the Drive Belt

Checking the Drive Belt

Service Interval: After the first 8 hours

Every 200 hours

1. Park the machine on a level surface, engage the parking brake, rotate the key switch to the OFF position, and remove the key.
2. Raise the cargo box and secure it with the prop rod; refer to [Raising the Cargo Box to the Service Position](#) (page 20).
3. Shift the transmission into NEUTRAL.
4. Rotate and inspect the belt ([Figure 62](#)) for signs of excessive wear or damage.

Note: Replace the belt if it is excessively worn or damaged; refer to [Replacing the Drive Belt](#) (page 52).

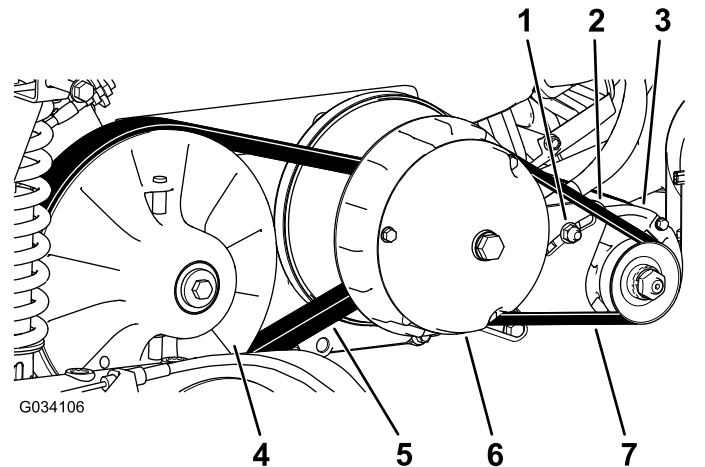


Figure 62

- | | |
|----------------------------|---------------------------|
| 1. Generator-pivot nut | 5. Drive belt |
| 2. Generator-pivot bracket | 6. Primary clutch |
| 3. Starter generator | 7. Starter-generator belt |
| 4. Secondary clutch | |
5. Lower the cargo box.

Replacing the Drive Belt

1. Raise the cargo box; refer to [Raising the Cargo Box to the Service Position](#) (page 20).
2. Shift the transmission into Neutral, engage the parking brake, rotate the key switch to the OFF position, and remove the key.
3. Rotate and route the belt over the secondary clutch ([Figure 62](#)).
4. Remove the belt from the primary clutch ([Figure 62](#)).

Note: Discard the old belt.

5. Align the new belt over the primary clutch ([Figure 62](#)).
6. Rotate and route the belt over the secondary clutch ([Figure 62](#)).
7. Lower the cargo box.

Adjusting the Starter-Generator Belt

Service Interval: After the first 8 hours

Every 200 hours

1. Raise the cargo box; refer to [Raising the Cargo Box to the Service Position](#) (page 20).
2. Loosen the pivot nut for the starter generator ([Figure 62](#)).
3. Align a pry bar between the engine mount and starter.
4. Apply downward pressure to the pry bar to rotate the starter down in the slot until the belt tension only allows 6 mm (1/4 inch) belt deflection with 44 N·m (10 ft-lb) of force ([Figure 62](#)).
5. Tighten the pivot nut hand tight, and remove the pry bar ([Figure 62](#)).
6. Torque the pivot nut to 88 to 115 N·m (65 to 85 ft-lb).
7. Lower the cargo box.

Chassis Maintenance

Adjusting the Cargo-Box Latches

If the cargo-box latch is out of adjustment, the cargo box vibrates up and down as you drive the machine. You can adjust the latch posts to make the latches hold the cargo box snugly to the chassis.

1. Verify that the cargo box is latching.

Note: If the cargo box does not latch, the box-latch striker is likely too low. If the cargo box latches, but vibrates up and down as you drive, the box-latch striker is likely too high.

2. Raise the cargo box; [Raising the Cargo Box to the Dump Position](#) (page 19).
3. Loosen the 2 bolts on the box-latch striker and move the striker up or down, depending on if the striker is too high or too low ([Figure 63](#)).

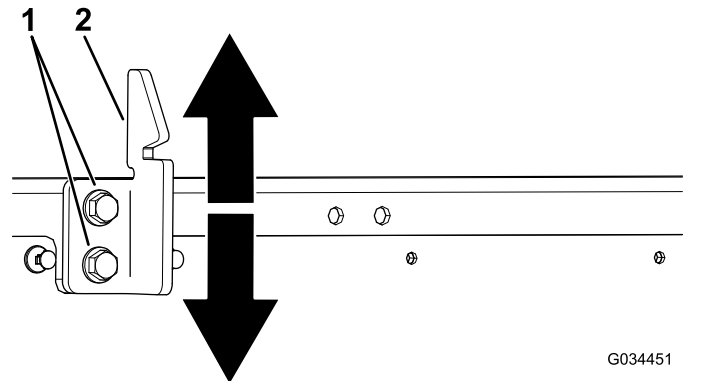


Figure 63

4. Tighten the 2 bolts on the box-latch striker ([Figure 63](#)).
5. Verify that the adjustment is correct by latching the cargo box several times.

Cleaning

Washing the Machine

Wash the machine as needed. Use water alone or with a mild detergent. You may use a rag when washing the machine; however, the hood loses some of its luster.

Important: Do not use power-washing equipment to wash the machine. Power-washing equipment may damage the electrical system, loosen important decals, or wash away necessary grease at friction points. Avoid excessive use of water near the control panel, engine, and battery.

Storage

1. Position the machine on a level surface, engage the parking brake, rotate the key switch to the OFF position, and remove the key.
2. Clean the dirt and grime from the entire machine, including the outside of the cylinder-head fins of the engine and blower housing.

Important: You can wash the machine with mild detergent and water. Do not use power-washing equipment to wash the machine. Pressure washing the machine may damage the electrical system or wash away necessary grease at friction points. Avoid excessive use of water near the control panel, lights, engine, and the battery.

3. Inspect the brakes; refer to [Inspecting the Brakes \(page 51\)](#).
4. Service the air cleaner; refer to [Servicing the Air Cleaner \(page 35\)](#).
5. Grease the machine; refer to [Greasing the Machine \(page 31\)](#).
6. Change the engine oil; refer to [Changing the Engine Oil \(page 37\)](#).
7. Check the tire pressure; refer to [Checking the Tire Pressure \(page 22\)](#).
8. For storage over 30 days, prepare the fuel system as follows:

- A. Add a petroleum based fuel stabilizer/conditioner to fuel in the tank.

Important: Do not store stabilizer/conditioned gasoline over 90 days

Follow mixing instructions from fuel stabilizer manufacturer—29.5 mL (1 oz per gallon).

Important: Do not use an alcohol-based fuel stabilizer (ethanol or methanol).

Note: The use of fuel stabilizer/conditioner is most effective when mixed with fresh gasoline and used at all times.

- B. Run the engine to distribute conditioned fuel through the fuel system (5 minutes).
- C. Shut off the engine, allow the engine to cool, and drain the fuel tank.

Note: Dispose of fuel properly. Recycle as according to local codes.

- D. Start the engine again and run it until it stops.

- E. Choke the engine.

- F. Start and run the engine until it does not start again.

9. Remove the spark plug and check their condition; refer to [Servicing the Spark Plug \(page 38\)](#).
10. With the spark plugs removed from the engine, pour 2 tablespoons of engine oil into the spark plug hole.
11. Use the electric starter to crank the engine and distribute the oil inside the cylinder.
12. Install the spark plug(s) and tighten it to recommended torque; refer to [Checking and Replacing the Spark Plug \(page 38\)](#).
- Note:** Do not install the wire on the spark plug(s).
13. Remove the battery from the chassis, and charge it fully; refer to [Removing the Battery \(page 41\)](#).

Note: Do not connect the battery cables to the battery posts during storage.

Important: The battery must be fully charged to prevent it from freezing and being damaged at temperatures below 0°C (32°F). A fully charged battery maintains its charge for about 50 days at temperatures lower than 4°C (40°F).

14. Check and tighten all bolts, nuts, and screws. Repair or replace any part that is damaged.
15. Paint all scratched or bare metal surfaces.
- Note:** Paint is available from your Authorized Service Dealer.
16. Store the machine in a clean, dry garage or storage area.
17. Remove the key from the key switch and put it in a safe place out of the reach of children.
18. Cover the machine to protect it and keep it clean.

European Privacy Notice

The Information Toro Collects

Toro Warranty Company (Toro) respects your privacy. In order to process your warranty claim and contact you in the event of a product recall, we ask you to share certain personal information with us, either directly or through your local Toro company or dealer.

The Toro warranty system is hosted on servers located within the United States where privacy law may not provide the same protection as applies in your country.

BY SHARING YOUR PERSONAL INFORMATION WITH US, YOU ARE CONSENTING TO THE PROCESSING OF YOUR PERSONAL INFORMATION AS DESCRIBED IN THIS PRIVACY NOTICE.

The Way Toro Uses Information

Toro may use your personal information to process warranty claims, to contact you in the event of a product recall and for any other purpose which we tell you about. Toro may share your information with Toro's affiliates, dealers or other business partners in connection with any of these activities. We will not sell your personal information to any other company. We reserve the right to disclose personal information in order to comply with applicable laws and with requests by the appropriate authorities, to operate our systems properly or for our own protection or that of other users.

Retention of your Personal Information

We will keep your personal information as long as we need it for the purposes for which it was originally collected or for other legitimate purposes (such as regulatory compliance), or as required by applicable law.

Toro's Commitment to Security of Your Personal Information

We take reasonable precautions in order to protect the security of your personal information. We also take steps to maintain the accuracy and current status of personal information.

Access and Correction of your Personal Information

If you would like to review or correct your personal information, please contact us by email at legal@toro.com.

Australian Consumer Law

Australian customers will find details relating to the Australian Consumer Law either inside the box or at your local Toro Dealer.



The Toro Warranty

A Two-Year Limited Warranty

Conditions and Products Covered

The Toro Company and its affiliate, Toro Warranty Company, pursuant to an agreement between them, jointly warrant your Toro Commercial product ("Product") to be free from defects in materials or workmanship for two years or 1500 operational hours*, whichever occurs first. This warranty is applicable to all products with the exception of Aerators (refer to separate warranty statements for these products). Where a warrantable condition exists, we will repair the Product at no cost to you including diagnostics, labor, parts, and transportation. This warranty begins on the date the Product is delivered to the original retail purchaser.

* Product equipped with an hour meter.

Instructions for Obtaining Warranty Service

You are responsible for notifying the Commercial Products Distributor or Authorized Commercial Products Dealer from whom you purchased the Product as soon as you believe a warrantable condition exists. If you need help locating a Commercial Products Distributor or Authorized Dealer, or if you have questions regarding your warranty rights or responsibilities, you may contact us at:

Toro Commercial Products Service Department
Toro Warranty Company
8111 Lyndale Avenue South
Bloomington, MN 55420-1196

952-888-8801 or 800-952-2740
E-mail: commercial.warranty@toro.com

Owner Responsibilities

As the Product owner, you are responsible for required maintenance and adjustments stated in your *Operator's Manual*. Failure to perform required maintenance and adjustments can be grounds for disallowing a warranty claim.

Items and Conditions Not Covered

Not all product failures or malfunctions that occur during the warranty period are defects in materials or workmanship. This warranty does not cover the following:

- Product failures which result from the use of non-Toro replacement parts, or from installation and use of add-on, or modified non-Toro branded accessories and products. A separate warranty may be provided by the manufacturer of these items.
- Product failures which result from failure to perform recommended maintenance and/or adjustments. Failure to properly maintain your Toro product per the Recommended Maintenance listed in the *Operator's Manual* can result in claims for warranty being denied.
- Product failures which result from operating the Product in an abusive, negligent, or reckless manner.
- Parts subject to consumption through use unless found to be defective. Examples of parts which are consumed, or used up, during normal Product operation include, but are not limited to, brake pads and linings, clutch linings, blades, reels, rollers and bearings (sealed or greasable), bed knives, spark plugs, castor wheels and bearings, tires, filters, belts, and certain sprayer components such as diaphragms, nozzles, and check valves, etc.
- Failures caused by outside influence. Conditions considered to be outside influence include, but are not limited to, weather, storage practices, contamination, use of unapproved fuels, coolants, lubricants, additives, fertilizers, water, or chemicals, etc.
- Failure or performance issues due to the use of fuels (e.g. gasoline, diesel, or biodiesel) that do not conform to their respective industry standards.

- Normal noise, vibration, wear and tear, and deterioration.
- Normal "wear and tear" includes, but is not limited to, damage to seats due to wear or abrasion, worn painted surfaces, scratched decals or windows, etc.

Parts

Parts scheduled for replacement as required maintenance are warranted for the period of time up to the scheduled replacement time for that part. Parts replaced under this warranty are covered for the duration of the original product warranty and become the property of Toro. Toro will make the final decision whether to repair any existing part or assembly or replace it. Toro may use remanufactured parts for warranty repairs.

Deep Cycle and Lithium-Ion Battery Warranty:

Deep cycle and Lithium-Ion batteries have a specified total number of kilowatt-hours they can deliver during their lifetime. Operating, recharging, and maintenance techniques can extend or reduce total battery life. As the batteries in this product are consumed, the amount of useful work between charging intervals will slowly decrease until the battery is completely worn out. Replacement of worn out batteries, due to normal consumption, is the responsibility of the product owner. Battery replacement may be required during the normal product warranty period at owner's expense. Note: (Lithium-Ion battery only): A Lithium-Ion battery has a part only prorated warranty beginning year 3 through year 5 based on the time in service and kilowatt hours used. Refer to the *Operator's Manual* for additional information.

Maintenance is at Owner's Expense

Engine tune-up, lubrication, cleaning and polishing, replacement of filters, coolant, and completing recommended maintenance are some of the normal services Toro products require that are at the owner's expense.

General Conditions

Repair by an Authorized Toro Distributor or Dealer is your sole remedy under this warranty.

Neither The Toro Company nor Toro Warranty Company is liable for indirect, incidental or consequential damages in connection with the use of the Toro Products covered by this warranty, including any cost or expense of providing substitute equipment or service during reasonable periods of malfunction or non-use pending completion of repairs under this warranty. Except for the Emissions warranty referenced below, if applicable, there is no other express warranty. All implied warranties of merchantability and fitness for use are limited to the duration of this express warranty.

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

Note regarding engine warranty:

The Emissions Control System on your Product may be covered by a separate warranty meeting requirements established by the U.S. Environmental Protection Agency (EPA) and/or the California Air Resources Board (CARB). The hour limitations set forth above do not apply to the Emissions Control System Warranty. Refer to the Engine Emission Control Warranty Statement supplied with your product or contained in the engine manufacturer's documentation for details.

Countries Other than the United States or Canada

Customers who have purchased Toro products exported from the United States or Canada should contact their Toro Distributor (Dealer) to obtain guarantee policies for your country, province, or state. If for any reason you are dissatisfied with your Distributor's service or have difficulty obtaining guarantee information, contact the Toro importer.