Form No. 3443-828 Rev A

TORO®

Count on it.

Operator's Manual

Front Tine Tiller

Model No. 58602—Serial No. 321000001 and Up

Register at www.Toro.com.
Original Instructions (EN)

3443-828

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.

⚠ 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.

Use of this product may cause exposure to chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.

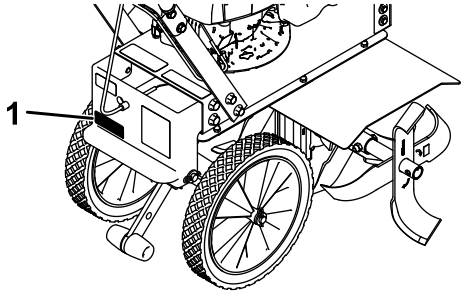
Introduction

This tiller is intended to be used by residential homeowners or professional, hired operators to break through hard soil conditions for planting and cultivating gardens. Using this product for purposes other than its intended use could prove dangerous to you and bystanders.

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.

Visit www.Toro.com for more information, including safety tips, training materials, 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.



g355851

Figure 1

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.



g000502

Figure 2
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.

© 2021—The Toro® Company
8111 Lyndale Avenue South
Bloomington, MN 55420

Contact us at www.Toro.com.
Printed in the USA
All Rights Reserved

Contents

Safety 3
General Safety 3
Safety and Instructional Decals 4
Setup 6
1 Assembling the Tiller 6
2 Adding Oil to the Engine 8
Product Overview 9
Controls 9
Specifications 9
Before Operation 10
Before Operation Safety 10
Performing Daily Maintenance 10
Changing the Tilling Width 10
During Operation 11
During Operation Safety 11
Starting the Engine 12
Shutting Off the Engine 12
Adjusting the Tail Mount Position 12
Adjusting the Drag Stake 13
Tilling Soil 13
After Operation 13
After Operation Safety 13
Maintenance 14
Maintenance Safety 14
Recommended Maintenance Schedule(s) 14
Pre-Maintenance Procedures 15
Preparing for Maintenance 15
Engine Maintenance 15
Servicing the Air Filter 15
Changing the Engine Oil 16
Servicing the Spark Plug 17
Belt Maintenance 18
Checking and Adjusting the Belt Tension 18
Replacing the Drive Belt 19
Cleaning 21
Cleaning the Tine Axle Shaft 21
Storage 21
Storage Safety 21
Cleaning and Storing the Machine 21
Troubleshooting 23

Safety

This machine has been designed in accordance with ANSI B71.8-2016.

⚠ DANGER

There may be buried utility lines in the work area. Digging into them may cause a shock or an explosion.

Have the property or work area marked for buried lines and do not dig in marked areas. Contact your local marking service or utility company to have the property marked (for example, in the US, call 811 for the nationwide marking service).

General Safety

This product is capable of amputating hands and feet and of throwing objects. Always follow all safety instructions to avoid serious personal injury or death.

- Read, understand, and follow the instructions and warnings in this *Operator's Manual* and on the machine and attachments before starting the engine.
- Be thoroughly familiar with the controls and the proper use of the equipment. Know how to stop the machine and disengage the controls quickly.
- Do not put your hands, feet, other body parts, or clothing near or under the rotating tines or other moving parts of the machine.
- Do not operate the machine without all proper shields, guards, and other safety protective devices in place and functioning properly on the machine.
- Keep bystanders, especially small children, and pets out of the operating area.
- Do not allow children to operate the machine. Allow only people who are responsible, trained, familiar with the instructions, and physically capable to operate the machine.
- Shut off the machine and wait for all moving parts to stop before you leave the operator's position. Disconnect the spark-plug wire, keep it away from the plug to prevent accidental starting, and allow the machine to cool before adjusting, fueling, unclogging, servicing, cleaning, or storing the machine.

Improperly using or maintaining this machine 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 these instructions may result in personal injury or death.

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.



decal133-8062

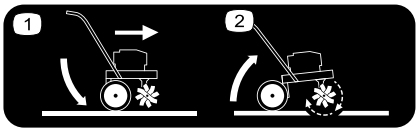
133-8062



decal144-4848

144-4848

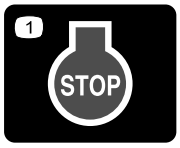
1. Squeeze the throttle to engage the tines.



decal144-4849

144-4849

1. Transport position
2. Operating position



decal144-4853

144-4853

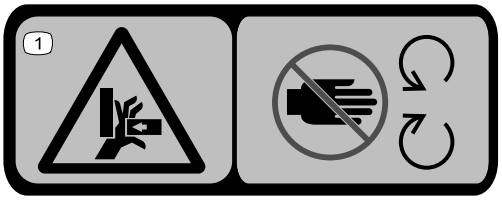
1. Engine—shut off



decal144-4854

144-4854

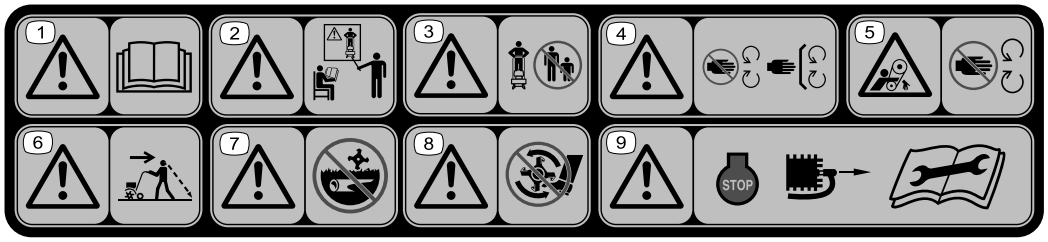
1. To start the machine, move the switch to the ON position, release the handle(s), place one hand on the machine and pull the recoil handle.



decal144-4855

144-4855

1. Crushing hazard of hands—stay away from moving parts.



decal148-4868

144-4856

1. Warning—read the *Operator's Manual*.
2. Warning—all operators should be trained before operating the machine.
3. Warning—keep bystanders away.
4. Warning—stay away from moving parts; keep all guards in place.
5. Entanglement hazard, belt—stay away from moving parts.
6. Warning—look behind you when operating the machine in reverse.
7. Warning—do not operate over buried lines.
8. Warning—keep feet away from moving parts.
9. Warning—shut off the engine and disconnect the spark plug and read the *Operator's Manual* before performing maintenance.

Setup

Loose Parts

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

Procedure	Description	Qty.	Use
1	Wheel	2	Assemble the tiller.
	Tine shield	1	
	Bolt (M8 x 20 mm)	4	
	Hairpin cotter	2	
	Lock pin	1	
	Washer (M8)	4	
	Bolt (M8 x 45 mm)	2	
	Locknut (M8)	6	
	Washer (12 mm)	2	
	Bolt (M6 x 16 mm)	4	
	Locknut (M6)	4	
	Drag stake handle assembly	1	
	Axle	1	
	Left outer tine	1	
	Right outer tine	1	
2	Engine oil	1	Add oil to the engine.

1

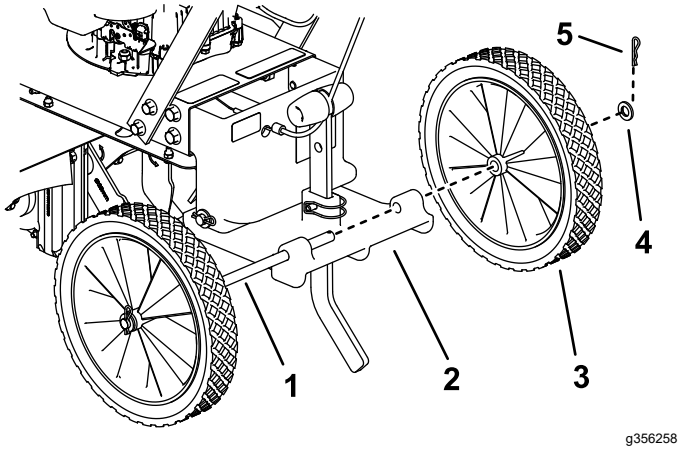
Assembling the Tiller

Parts needed for this procedure:

2	Wheel
1	Tine shield
4	Bolt (M8 x 20 mm)
2	Hairpin cotter
1	Lock pin
4	Washer (M8)
2	Bolt (M8 x 45 mm)
6	Locknut (M8)
2	Washer (12 mm)
4	Bolt (M6 x 16 mm)
4	Locknut (M6)
1	Drag stake handle assembly
1	Axle
1	Left outer tine
1	Right outer tine

Procedure

1. Install the axle and wheels to the lower tail mount.



g356258

Figure 3

1. Axle
2. Lower tail mount
3. Wheel (2)
4. Washer—12 mm (2)
5. Hairpin cotter (2)

2. Install the tine shield. Align the slots on both sides of the shield and insert the fasteners before tightening them.

   Important: **Ensure that the dirt shield is between the engine-mount deck and tine shield.**

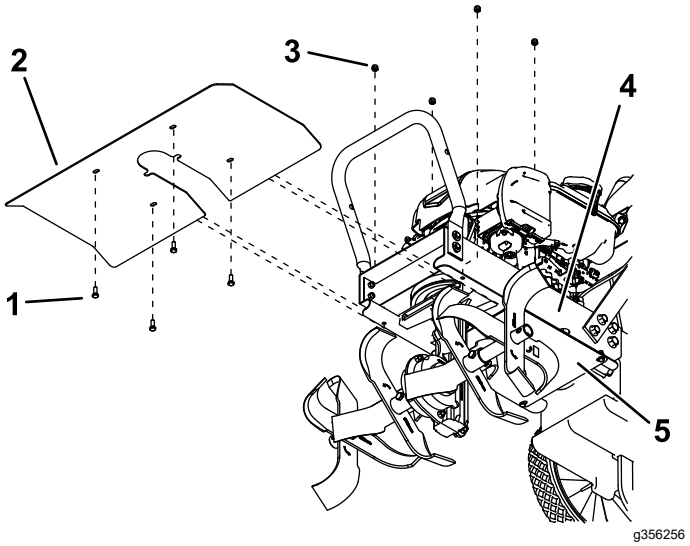


Figure 4

1. Bolt—M6 (4)
2. Tine shield
3. Locknut—M6 (4)
4. Engine mount deck
5. Dirt shield

3. Install the tines to the desired position; refer to Changing the Tilling Width (page 10).

4. Install the upper handle assembly onto the lower loop mount.

   Note: Install the bolts with the head facing outward.

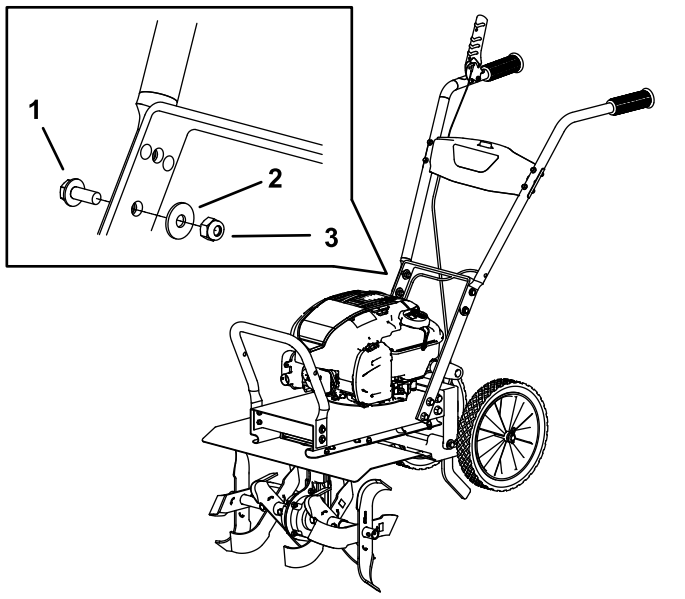


Figure 5

1. Bolt—M8 x 20 mm (2)
2. Washer—M8 (2)
3. Locknut—M8 (2)

5. Rotate the handle to the desired position and install the upper fasteners.

   Note: Use the front hole for the highest position; use the rear hole for the lowest position. Install the bolts with the head facing outward as shown in Figure 7.

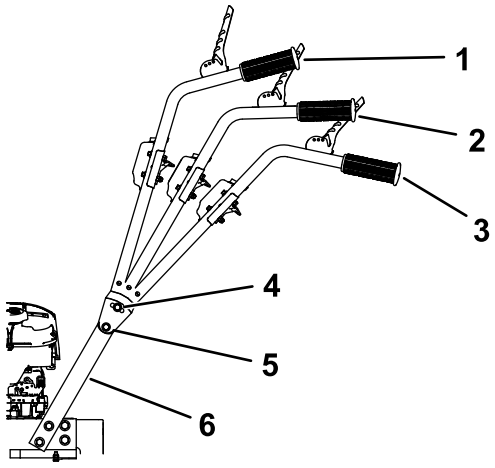
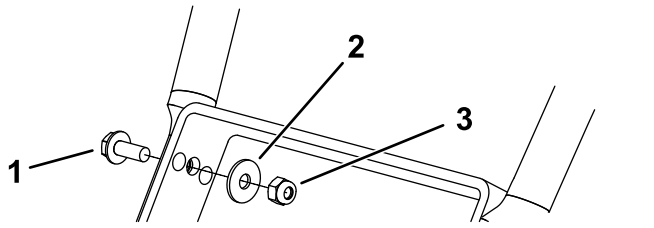


Figure 6

1. High position
2. Middle position
3. Low position
4. Upper bolt
5. Lower bolt
6. Lower loop mount

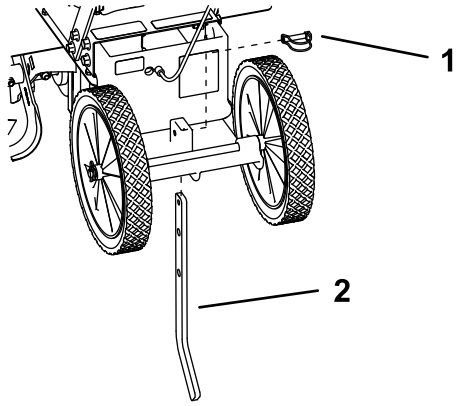


g356257

Figure 7

1. Bolt—M8 x 20 mm (2)
2. Washer—M8 (2)
3. Locknut—M8 (2)

6. Insert the drag stake through the bottom opening in the lower tail mount and secure it with the lock pin.

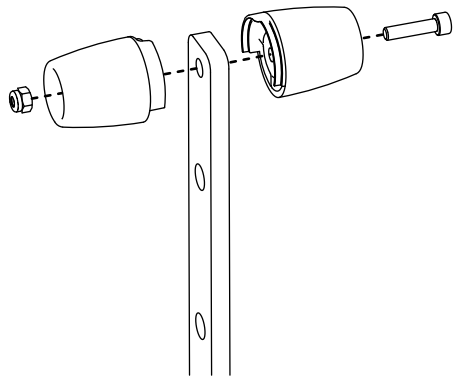


g356254

Figure 8

1. Lockpin
2. Drag stake

7. Install the drag stake handle assembly to the drag stake.



g356436

Figure 9

2

Adding Oil to the Engine

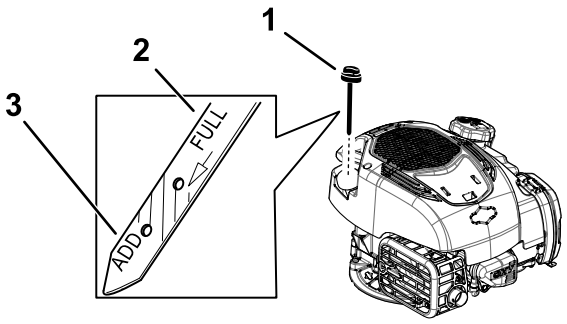
Parts needed for this procedure:

1	Engine oil

Procedure

Important: **If the oil level in the engine is too low or too high and you run the engine, you may damage the engine.**

1. Move the machine to a level surface.
2. Carefully pour about 3/4 of the engine capacity of oil into the oil-fill tube.
3. Wait 3 minutes for the oil to settle in the engine.
4. Wipe the dipstick clean with a clean cloth.



g334792

Figure 10

1. Dipstick
2. Full
3. Add

5. Insert the dipstick into the oil-fill tube, then remove the dipstick.
6. Read the oil level on the dipstick (Figure 10).
   - If the oil level on the dipstick is too low, carefully pour a small amount of oil into the oil-fill tube, wait 3 minutes, and repeat steps 4 through 6 until the oil level on the dipstick is correct.
   - If the oil level on the dipstick is too high, drain the excess oil until the oil level on the dipstick is correct.

   Important: **If the oil level in the engine is too low or too high and you run the engine, you may damage the engine.**
7. Install the dipstick into the oil-fill tube securely.
8. Recycle the used oil properly.

Product Overview

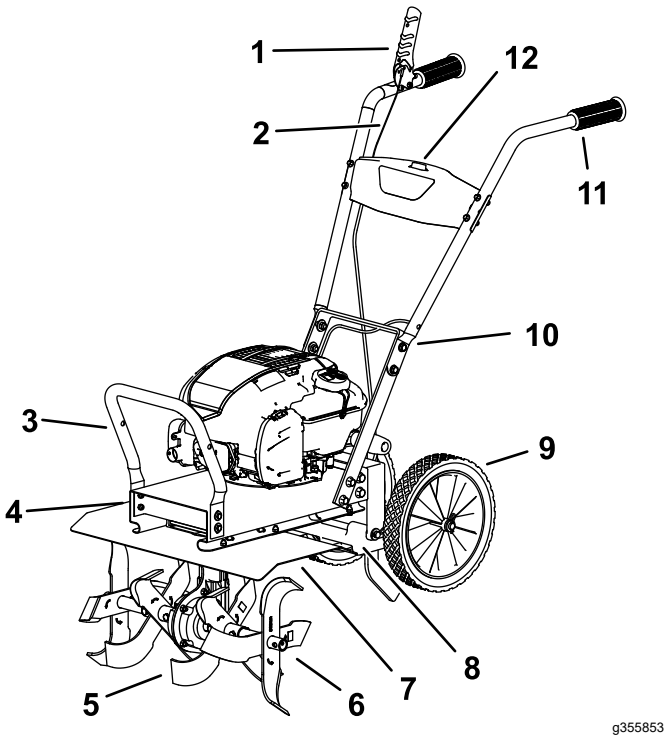


Figure 11

1. Drive-control lever
2. Adjustable cable
3. Bumper
4. Drive belt cover
5. Tines
6. Tine width adjustment
7. Tine shield
8. Hinged tail mount
9. Wheel
10. Handle bar height adjustment
11. Hand grip
12. Engine on/off switch

Controls

Drive-Control Lever

Squeeze the drive-control lever to the hand grip to engage the tines. Release it to disengage the tines.

Engine On/Off Switch

Use the engine On/Off switch to shut the engine off. Ensure that the switch is in the ON position before starting the engine.

Specifications

Specifications and design are subject to change without notice.

Height	117.9 cm (46.4 inches)
Length	122.2 cm (48.1 inches)
Width	55.9 cm (22.0 inches)
Weight	46.7 kg (103 lb)
Tilling width	28 to 53 cm (11 to 21 inches)
Tilling depth	Up to 28 cm (11 inches)

To ensure optimum performance and continued safety certification of the machine, use only genuine Toro replacement parts and accessories. Replacement parts and accessories made by other manufacturers could be dangerous, and such use could void the product warranty.

Operation

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

Before Operation

Before Operation Safety

General Safety

- Do not allow children or untrained adults to operate or service the machine. Local regulations may restrict the age of the operator.
- Using this machine is strenuous. You must be in good physical condition and mentally alert. If you have any condition that might be aggravated by strenuous work, check with your doctor before operating the machine.
- Shut off the machine and wait for all moving parts to stop before you leave the operator's position. Disconnect the spark-plug wire, keep it away from the plug to prevent accidental starting, and allow the machine to cool before adjusting, fueling, unclogging, servicing, cleaning, or storing the machine.
- Become familiar with the safe operation of the equipment, operator controls, and safety signs.
- Check that all guards and safety devices, such as deflectors, are in place and functioning properly. Do not operate the machine unless they are functioning properly.
- Know how to shut off the engine quickly.
- Keep bystanders, especially small children, and pets out of the operating area.
- Thoroughly inspect the area where you will use the machine and remove all objects that could interfere with the operation of the machine or that the machine could throw.

Fuel Safety

- Use extreme care in handling fuel. It is extremely flammable and its vapors are explosive.
- Extinguish all cigarettes, cigars, pipes, and other sources of ignition.
- Use only an approved fuel container.
- Do not remove the fuel cap or add fuel to the tank while the engine is running or hot.
- Allow the engine to cool before filling the fuel tank.
- Do not fill the fuel tank indoors.
- Do not overfill the fuel tank. Replace the fuel cap and tighten it securely after fueling. Clean up spilled fuel before starting the engine.
- Do not fill containers inside a vehicle or on a truck or trailer bed with a plastic liner. Always place containers on the ground, away from the vehicle before filling.
- Remove the machine from the truck or trailer before filling the fuel tank. If this is not possible, then add fuel from a portable container rather than from a fuel-dispenser nozzle.
- Keep the fuel-dispenser nozzle in contact with the rim of the fuel tank or container opening at all times until fueling is complete. Do not use a nozzle lock-open device.
- If you spill fuel on your clothing, change your clothing immediately.
- If you spill fuel, do not attempt to start the engine; move the machine away from the spill and avoid creating a source of ignition until the fuel vapors have dissipated.
- If you must drain the fuel tank, do it outdoors.
- Store fuel in a fuel container and keep it out of the reach of children.
- Do not store the machine with fuel in the fuel tank or fuel container where there is an open flame, spark, or pilot light, such as on a water heater or other appliance. Allow the engine to cool before storing the machine in any enclosure.
- Fuel is harmful or fatal if swallowed. Long-term exposure to vapors can cause serious injury and illness.
  - Avoid prolonged breathing of vapors.
  - Keep your hands and face away from the nozzle and the fuel-tank opening.
  - Keep fuel away from your eyes and skin.

Performing Daily Maintenance

Before starting the machine each day, perform the Each Use/Daily procedures listed in Maintenance (page 14).

Changing the Tilling Width

1. Move the machine to a level surface, shut off the engine, and wait for all moving parts to stop.
2. Remove the 2 bolts (M8 x 45 mm) and 2 locknuts (M8) securing the outer tines to the machine.
3. Install the outer tines to the desired position.

Note: The arrow on the tines must point in the point the direction of forward rotation (counterclockwise, when viewed from the left side).

- For a 40.6 cm (16 inch) tilling width, install the outer tines with the short end of the tine pipe facing toward the center of the machine.

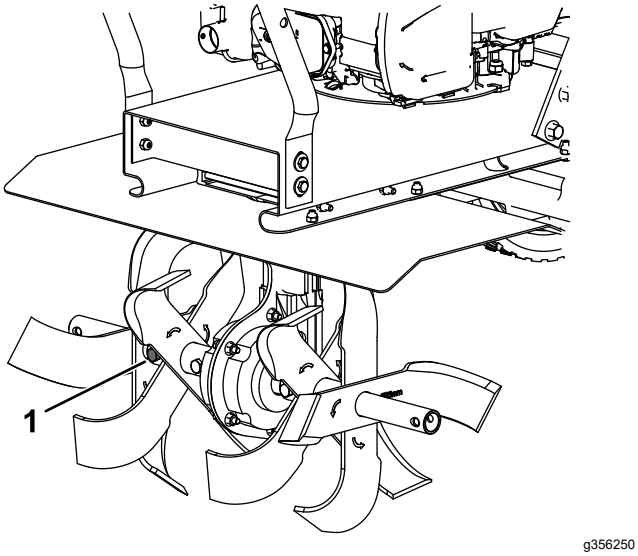


Figure 12

1. Bolt and locknut (2)

- For a 53.3 cm (21 inch) tilling width, install the outer tines with the short end of the tine pipe facing toward the outside of the machine.

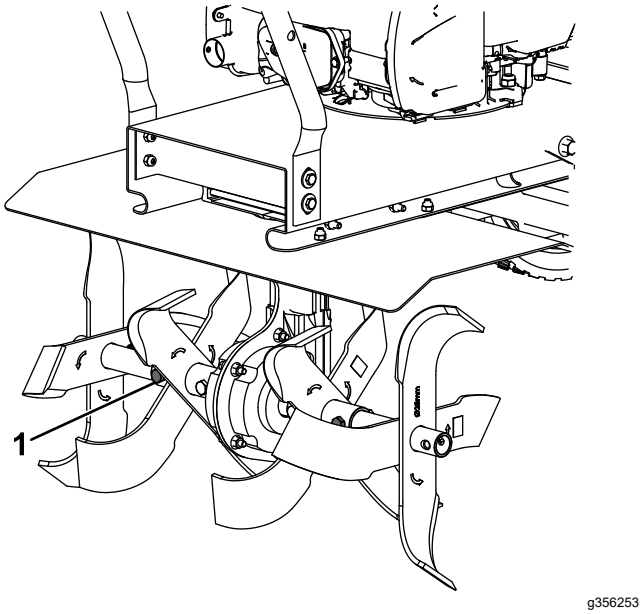


Figure 13

1. Bolt and locknut (2)

4. Secure the outer tines using the 2 bolts and 2 locknuts.

During Operation

During Operation Safety

General Safety

- Use your full attention while operating the machine. Do not engage in any activity that causes distractions; otherwise, injury or property damage may occur.
- Do not operate the machine while ill, tired, or under the influence of alcohol or drugs.
- Wear appropriate clothing, including eye protection; long pants; substantial, slip-resistant footwear; hearing protection; and gloves. Tie back long hair and do not wear loose clothing or loose jewelry.
- Keep your hands, feet, other body parts, and clothing away from rotating tines and moving parts of the machine. The tines begin rotating when you start the engine and may continue to rotate momentarily after you shut off the engine.
- Start the engine carefully according to instructions in this *Operator's Manual* and with your feet well away from the tines.
- Use extreme caution when reversing or pulling the machine toward you. To avoid getting pinned against a structure, allow enough distance to reverse direction near a wall or fence.
- Keep bystanders out of the operating area. Keep small children out of the operating area and under the watchful care of a responsible adult who is not operating the machine. Stop the machine if anyone enters the area.
- Before you start the engine, ensure that all drives are in neutral and you are in the operating position.
- Operate the machine only in good visibility and appropriate weather conditions. Do not operate the machine when there is the risk of lightning.
- Do not attempt to adjust the machine while the engine is running.
- If the machine strikes an object or starts to vibrate abnormally, immediately shut off the engine, wait for all moving parts to stop, and disconnect the wire from the spark plug before examining the machine for damage. Vibration is often a warning sign of trouble. Make all necessary repairs before resuming operation.
- Do not operate the machine at high transport speeds on hard or slippery surfaces.
- Look behind and down and use care when reversing.

- Do not overload the machine capacity by attempting to till or cultivate too deep and at too fast a rate.
- Do not pick up or carry a machine while the engine is running.
- Exercise caution and be sure of your footing, especially when backing up, to avoid slipping or falling.
- Be careful when operating the machine in hard ground. The tines can catch in the ground and propel the machine forward. If this occurs, let go of the machine; do not try to restrain it.
- Exercise extreme caution when crossing gravel surfaces. Stay alert for hidden hazards or traffic.
- Do not leave a running machine unattended.
- Shut off the machine and wait for all moving parts to stop before you leave the operator's position. Disconnect the spark-plug wire, keep it away from the plug to prevent accidental starting, and allow the machine to cool before adjusting, fueling, unclogging, servicing, cleaning, or storing the machine.
- Operate the engine only in well-ventilated areas. Exhaust gases contain carbon monoxide, which is an odorless, deadly poison.
- Use only accessories and attachments approved by The Toro® Company.
- Do not change the engine governor settings or overspeed the engine.
- Always be sure of your footing; keep a firm hold on the handle and walk, never run.
- Allow the muffler and engine area to cool before touching them.
- The tines should not rotate when the engine is idling; if they do rotate, contact your Authorized Service Dealer.
- If an object becomes lodged in the tines, shut off the engine, disconnect the wire from the spark plug, and allow the engine to cool before removing the object.
- Do not operate the machine on steep slopes. To prevent overturning, operate the machine up and down the slope.

Starting the Engine

1. Set the engine on/off switch to the ON position.
2. Pull the recoil-start handle.

   Note: When you pull the recoil-start handle, pull it lightly until you feel resistance, then pull it sharply. Allow the rope to return to the handle slowly.

   Note: If the machine does not start after several attempts, contact an Authorized Service Dealer.

Shutting Off the Engine

1. Release the drive-control lever.
2. Move the engine on/off switch to the OFF position.
3. Wait for all moving parts to stop before leaving the operating position.

Adjusting the Tail Mount Position

Use the handle on the drag stake to rotate the hinged tail mount to the Transport or Operating positions.

⚠ CAUTION

Rotating the hinged tail mount can create a pinching hazard between the upper and lower portions of the tail mount.

Keep away from the pivot points when adjusting the tail mount position.

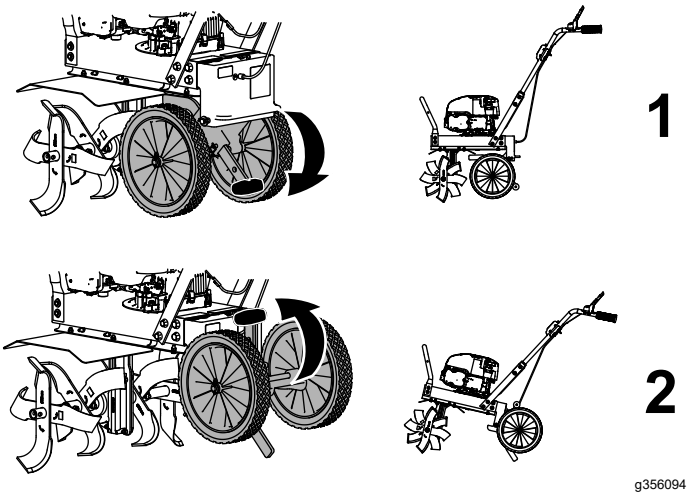


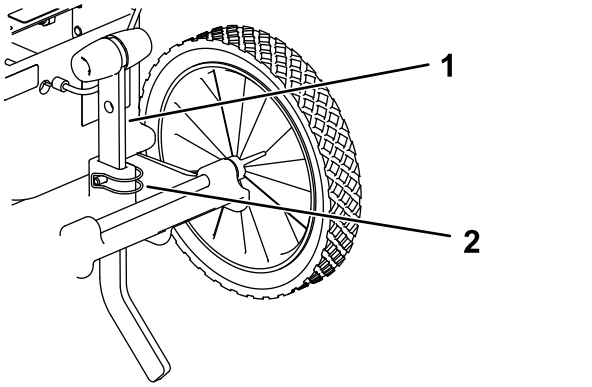
Figure 14

1. Transport position—rotate the hinged tail mount downward
2. Operating position—rotate the hinged tail mount upward

Adjusting the Drag Stake

The drag stake helps regulate tilling depth and prevents the tiller from jerking forward during operation. Set the drag stake in the lowest position to increase resistance to forward motion and to dig deeper; raise the drag stake for transport.

1. Move the machine to a level surface, shut off the engine, and wait for all moving parts to stop.
2. Remove the lock pin.



g356423

Figure 15

1. Drag stake
2. Lock pin

3. Position the drag stake to the desired depth.

   Note: Adjust the drag stake 1 hole at a time and test the tiller operation after each adjustment. Raising the drag stake too high can result in loss of control of the tiller.
4. Secure the drag stake with the lock pin.

Tilling Soil

1. Adjust the drag stake to the desired depth; refer to Adjusting the Drag Stake (page 13).
2. Squeeze the drive-control lever to engage the tines.
3. Till soil as required.
4. Release the drive-control lever to disengage the tines.

After Operation

After Operation Safety

General Safety

- Shut off the machine and wait for all moving parts to stop before you leave the operator's position. Disconnect the spark-plug wire, keep it away from the plug to prevent accidental starting, and allow the machine to cool before adjusting, fueling, unclogging, servicing, cleaning, or storing the machine.
- Clean debris from the machine to help prevent fires. Clean up oil or fuel spills.

Hauling Safety

- Disconnect the wire from the spark plug before loading the machine for hauling.
- Use care when loading or unloading the machine.

Maintenance

Maintenance Safety

- Inspect the machine frequently to ensure that it is in safe working condition and that shear bolts, engine-mounting bolts, and other fasteners are properly tightened.
- Shut off the machine and wait for all moving parts to stop before you leave the operator's position. Disconnect the spark-plug wire, keep it away from the plug to prevent accidental starting, and allow the machine to cool before adjusting, fueling, unclogging, servicing, cleaning, or storing the machine.
- Wear gloves and eye protection when servicing the machine.
- Never tamper with safety devices. Check their proper operation regularly.
- To ensure optimum performance of the machine, use only genuine Toro replacement parts and accessories. Replacement parts and accessories made by other manufacturers could be dangerous, and such use could void the product warranty.
- Replace tines that are bent, damaged, or loose; do not repair or alter them.
- Keep the machine, attachments, and accessories in safe working condition.
- Do not attempt to repair the machine unless you have the proper tools and instructions for disassembling, assembling, and repairing the machine.

Recommended Maintenance Schedule(s)

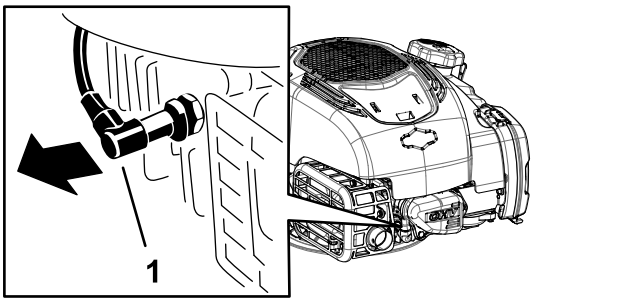
Maintenance Service Interval	Maintenance Procedure
Before each use or daily	• Check the engine-oil level and add oil as needed. • Check the belt tension. • Clean debris from cooling fins, air inlets and linkages.
Every 2 hours	• Check the belt tension.
Every 10 hours	• Clean the tine axle shaft.
Every 25 hours	• Service the air filter; service it more frequently in dusty operating conditions.
Every 50 hours	• Replace the drive belt. • Lubricate moving parts using 30-weight oil.
Every 100 hours or yearly, whichever comes first	• Check the spark plug.
Yearly	• Replace the air filter; replace it more frequently in dusty operating conditions.

Important: **Refer to your engine manual for additional maintenance procedures**

Pre-Maintenance Procedures

Preparing for Maintenance

1. Move the machine to a level surface, shut off the engine, and wait for all moving parts to stop.
2. Disconnect the spark-plug wire from the spark plug.



g339525

Figure 16

1. Spark-plug wire

3. After performing the maintenance procedure(s), connect the spark-plug wire to the spark plug.

   Important: **Before tipping the machine, allow the fuel tank to run dry through normal usage. If you must tip the machine prior to running out of fuel, use a hand fuel pump to remove the fuel.**

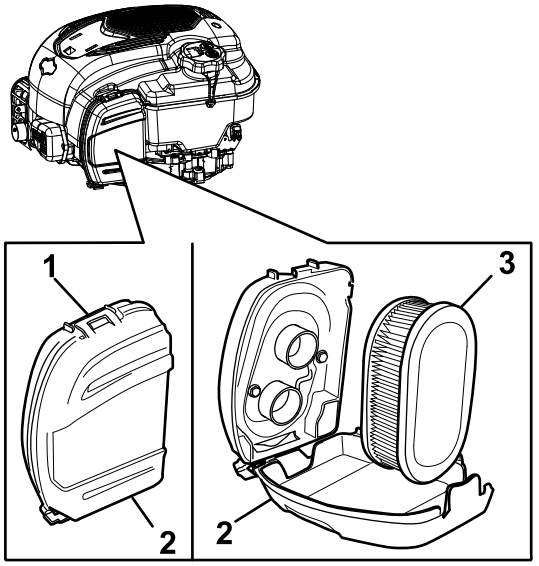
Engine Maintenance

Servicing the Air Filter

Service Interval: Every 25 hours

Yearly

1. Unclip the top of the air-filter cover.



g334791

Figure 17

1. Clip
2. Air-filter cover
3. Air filter

2. Remove the air filter.
3. Inspect the air filter.

   Note: If the air filter is excessively dirty, replace it with a new filter. Otherwise, gently tap the air filter on a hard surface to loosen debris.
4. Install the air filter.
5. Use the clip to install the air-filter cover.

Changing the Engine Oil

Changing the engine oil is not required, but if you want to change the oil, use the following procedure.

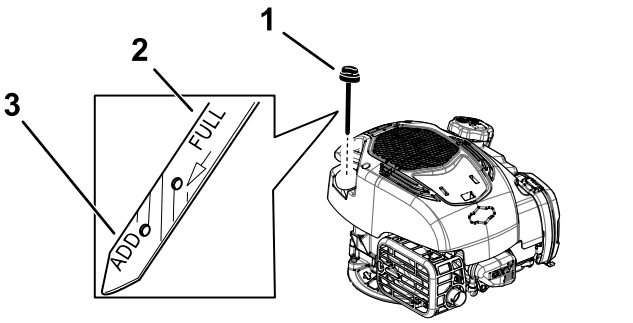
Note: Run the engine a few minutes before changing the oil to warm it. Warm oil flows better and carries more contaminants.

Engine Oil Specifications

Engine oil capacity	0.44 L (15 fl oz)*
Oil viscosity	SAE 30 or SAE 10W-30 detergent oil
API service classification	SJ or higher

*There is residual oil in the crankcase after you drain the oil. Do not pour the entire capacity of oil into the crankcase. Fill the crankcase with oil as directed in the following steps.

1. Move the machine to a level surface.
2. Refer to Preparing for Maintenance (page 15).
3. Remove the dipstick by rotating the cap counterclockwise and pulling it out.

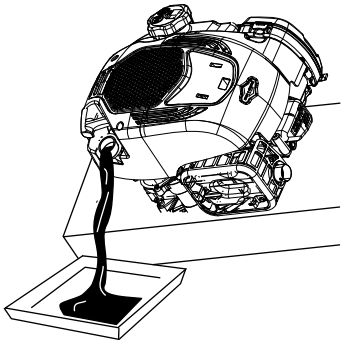


g334792

Figure 18

1. Dipstick
2. Full
3. Add

4. Tip the machine onto its side (so that the air filter is up) to drain the used oil from the oil-fill tube.



g356437

Figure 19

5. After draining the used oil, return the machine to the operating position.
6. Carefully pour about 3/4 of the engine capacity of oil into the oil-fill tube.
7. Wait 3 minutes for the oil to settle in the engine.
8. Wipe the dipstick clean with a clean cloth.
9. Insert the dipstick into the oil-fill tube, then remove the dipstick.
10. Read the oil level on the dipstick.
    - If the oil level on the dipstick is too low, carefully pour a small amount of oil into the oil-fill tube, wait 3 minutes, and repeat steps 8 through 10 until the oil level on the dipstick is correct.
    - If the oil level on the dipstick is too high, drain the excess oil until the oil level on the dipstick is correct.

    Important: **If the oil level in the engine is too low or too high and you run the engine, you may damage the engine.**
11. Install the dipstick into the oil-fill tube securely.
12. Recycle the used oil properly.

Servicing the Spark Plug

Service Interval: Every 100 hours or yearly, whichever comes first

Ensure that the air gap between the center and side electrodes is correct before installing the spark plug.

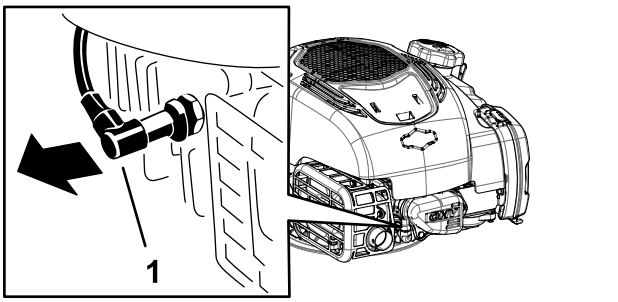
Use a spark plug wrench for removing and installing the spark plug(s) and a gapping tool/feeler gauge to check and adjust the air gap. Install a new spark plug(s) if necessary.

Type: Champion RN9YC or equivalent

Air gap: 0.75 mm (0.03 inch)

Removing the Spark Plug

1. Disconnect the spark-plug wire from the spark plug.



g339525

Figure 20

1. Spark-plug wire

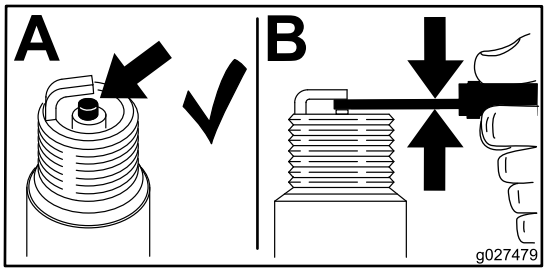
2. Clean around the spark plugs to prevent dirt from entering the engine and potentially causing damage.
3. Remove the spark plug.

Checking the Spark Plug

Important: **Do not clean the spark plug(s). Always replace the spark plug(s) when it has a black coating, worn electrodes, an oily film, or cracks.**

If you see light brown or gray on the insulator, the engine is operating properly. A black coating on the insulator usually means the air cleaner is dirty.

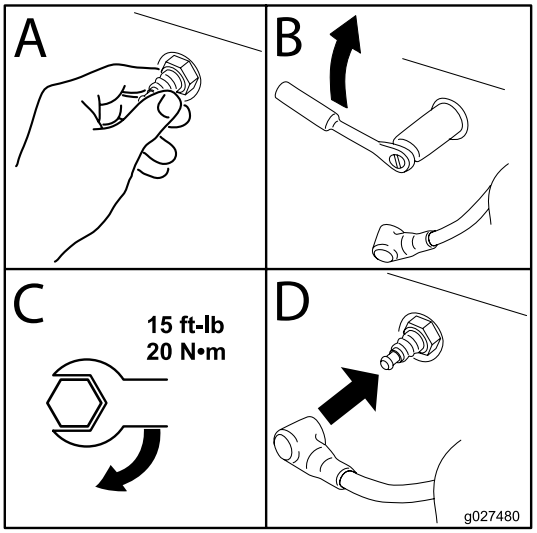
Set the gap to 0.75 mm (0.03 inch).



g027479

Figure 21

Installing the Spark Plug



g027480

Figure 22

Belt Maintenance

Checking and Adjusting the Belt Tension

Service Interval: Before each use or daily

Every 2 hours

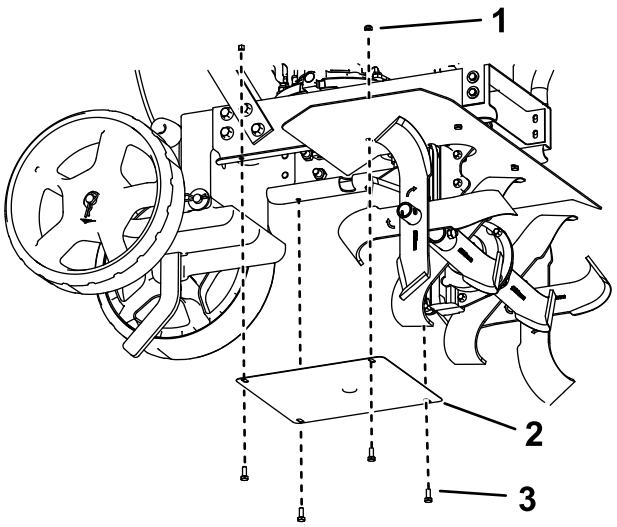
The belt tension may decrease over time. You may need to adjust the belt within the first half hour of operation.

Important: **Check the belt tension regularly. Improper belt tension may cause premature belt wear.**

The belt may need adjustment if there is a constant buzzing sound while the tines are engaged or if there is a squealing sound when the tines are engaged and under load.

Note: You may hear a short buzzing sound after releasing the drive-control lever while using the machine. This is normal and is caused by the teeth of the cogged belt contacting the wire belt guide to stop rotation. You do not need to adjust the belt tension for this.

1. Remove the dirt shield.

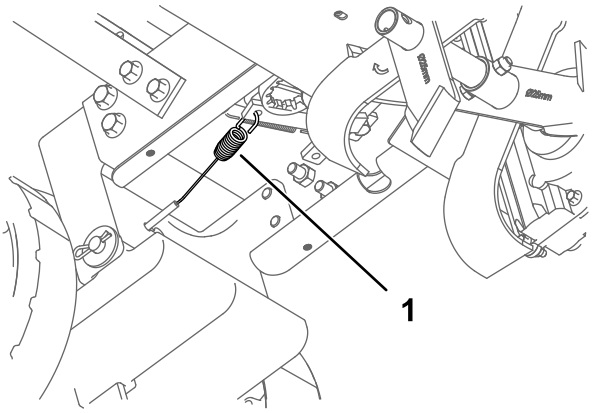


g356418

Figure 23

1. Nut (4)
2. Dirt shield
3. Bolt (4)

2. With the drive-control lever in the neutral position, measure the length of the relaxed cable spring.



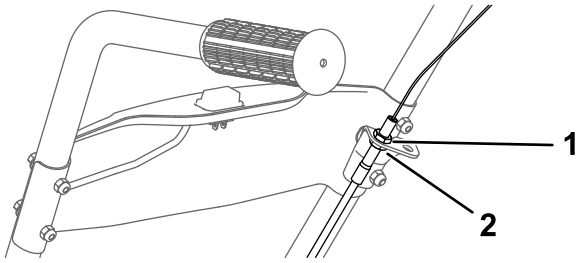
g356417

Figure 24

1. Cable spring

3. Pull down the drive-control lever and measure the length of the extended cable spring. The difference should be 0.6 cm (1/4 inch).
4. If the belt needs adjustment, hold the lower jam nut on the adjustable cable in place and adjust the upper jam nut in 0.32 cm (1/8 inch) increments. Check the tension again, and repeat as necessary.

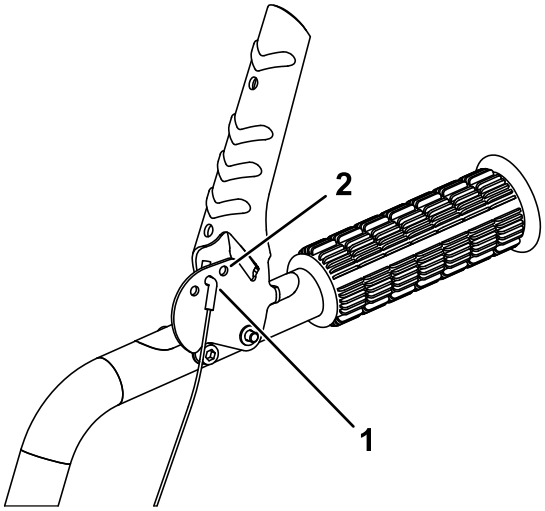
   Note: If the tension is incorrect and you cannot adjust the jam nuts further, move the Z-bend end of the cable to the next hole in the drive-control lever as shown in Figure 26. If the tension is still incorrect, replace the belt.



g356421

Figure 25

1. Upper jam nut
2. Lower jam nut

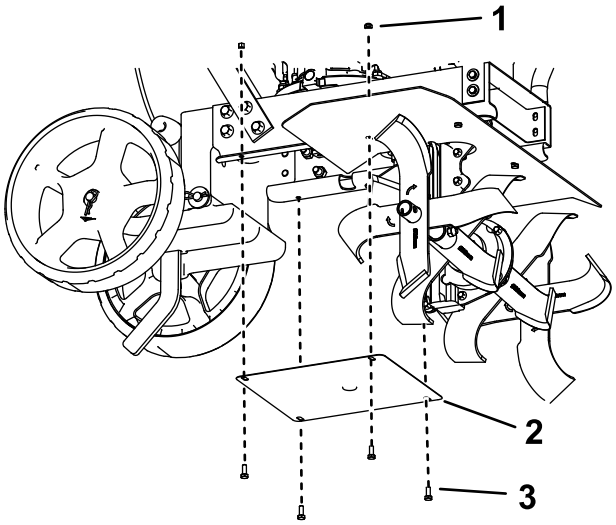


g361541

Figure 26

1. Z-bend end of cable
2. Move cable to this hole.

5. Install the dirt shield.



g356418

Figure 27

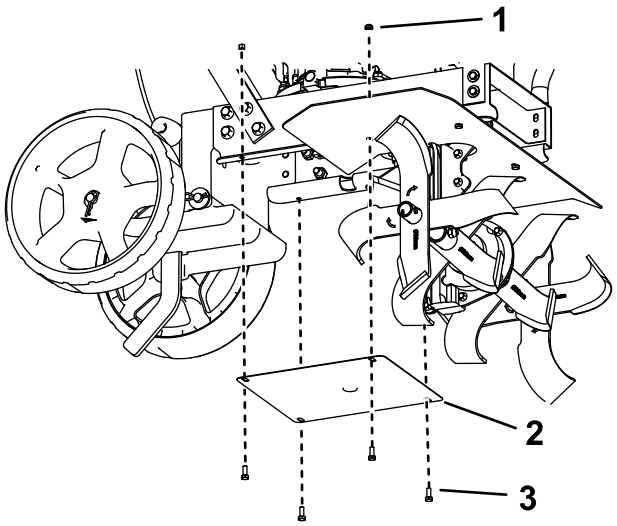
1. Nut (4)
2. Dirt shield
3. Bolt (4)

Replacing the Drive Belt

Service Interval: Every 50 hours/Yearly (whichever comes first)

Removing the Belt

1. Remove the dirt shield.

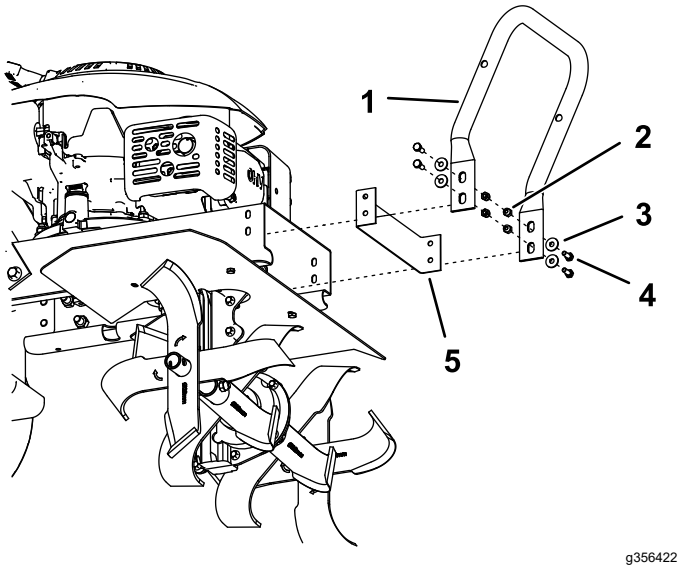


g356418

Figure 28

1. Nut (4)
2. Dirt shield
3. Bolt (4)

2. Remove the drive belt cover.



g356422

Figure 29

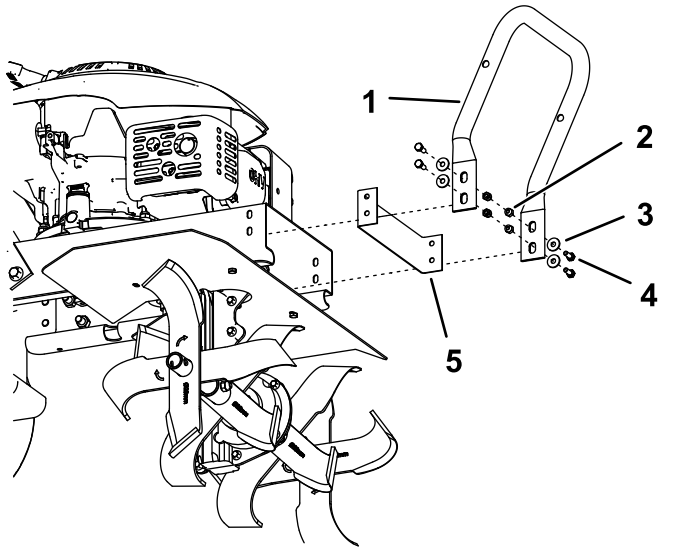
1. Bumper
2. Nut (4)
3. Washer (4)
4. Bolt (4)
5. Drive belt cover

3. Gently pull the engine recoil rope to rotate the pulley.

4. While the pulley turns, force the belt off the V-groove.
5. Slide the belt off the engine pulley.
6. Pull the belt down and out of the way.
7. Push the belt forward and out the front of the machine.

Installing the Belt

1. Place belt in the transmission pulley groove.
2. Gently pull the engine recoil rope to rotate the engine pulley while forcing the belt into the V-groove.
3. Install the drive belt cover.

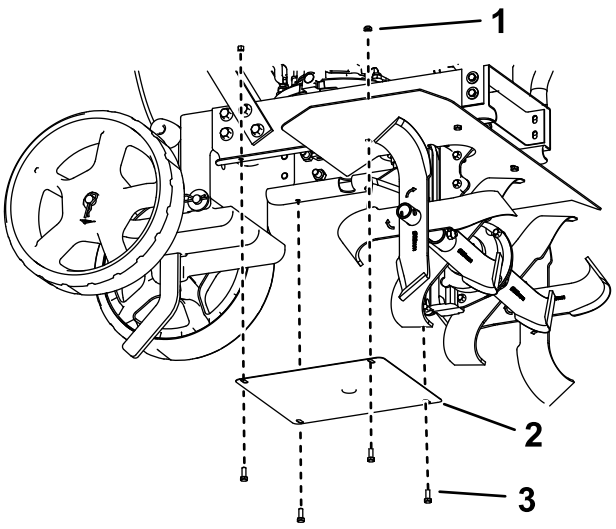


g356422

Figure 30

1. Bumper
2. Nut (4)
3. Washer (4)
4. Bolt (4)
5. Drive belt cover

4. Install the dirt shield plate.



g356418

Figure 31

1. Nut (4)
2. Dirt shield
3. Bolt (4)

5. Check the belt tension; adjust it as necessary.

Cleaning

Cleaning the Tine Axle Shaft

Service Interval: Every 10 hours

Remove all vegetation, string, wire, and other material that may have accumulated on the axle between the inner tines and the transmission housing.

Storage

Storage Safety

- Shut off the machine and wait for all moving parts to stop before you leave the operator's position. Disconnect the spark-plug wire, keep it away from the plug to prevent accidental starting, and allow the machine to cool before adjusting, fueling, unclogging, servicing, cleaning, or storing the machine.
- Run the engine dry or remove the fuel with a hand pump; never siphon the fuel. If you must drain the fuel tank, do it outdoors.
- Follow the instructions in this *Operator's Manual* to safely unload, transport, and store the machine.
- Do not store the machine with fuel in the fuel tank inside a building where ignition sources are present, such as hot water and space heaters and clothes dryers. Allow the engine to cool before storing the machine in an enclosure.
- Always refer to the *Operator's Manual* for important details if the machine is to be stored for an extended period.

Cleaning and Storing the Machine

1. Park the machine on a level surface, shut off the engine, and wait for all moving parts to stop before leaving the operating position.
2. Remove debris from the tines, axle, transmission housing, and engine.

   Important: **You can wash the machine with mild detergent and water. Do not pressure-wash the machine. Avoid excessive use of water, especially near the engine and transmission.**
3. Coat the axles lightly with axle grease.
4. Service the air filter; refer to Servicing the Air Filter (page 15).
5. Prepare the machine for storage for over 30 days as follows:
   A. Add fuel stabilizer/conditioner to fresh fuel in the tank. Follow mixing instructions from the fuel stabilizer manufacturer. Do not use an alcohol-based stabilizer (ethanol or methanol).
   B. Run the engine to distribute conditioned fuel through the fuel system for 5 minutes.
   C. Shut off the engine, allow it to cool, and drain the fuel tank.
   D. Start the engine and run it until it shuts off.

E. Dispose of fuel properly. Recycle the fuel according to local codes.

Important: **Do not store fuel containing stabilizer/conditioner longer than the duration recommended by the fuel-stabilizer manufacturer.**

6. Remove and check the condition of the spark plug; refer to Checking the Spark Plug (page 17). With the spark plug removed from the engine, pour 15 ml (1 tablespoon) of engine oil into the spark plug hole. Install the spark plug and pull the recoil rope 3 times to coat the cylinder with oil. Do not install the wire on the spark plug.
7. Check and tighten all fasteners. Repair or replace any part that is damaged.
8. Paint all scratched or bare metal surfaces. Paint is available from your Authorized Service Dealer.
9. Store the machine in an upright position in a clean, dry garage or storage area. Keep it out of reach of children or other unauthorized users. Cover the machine to protect it and keep it clean.

Troubleshooting

Problem	Possible Cause	Corrective Action
The engine does not start.	1. The fuel tank is empty. 2. The engine switch is in the OFF position. 3. The spark-plug wire is loose or disconnected.	1. Add fuel. 2. Move the switch to the ON position. 3. Install the wire on the spark plug.
The engine runs rough or floods during operation.	1. The air filter is dirty.	1. Clean or replace the air filter.
The engine is difficult to start.	1. Stale fuel is in the fuel system. 2. The spark-plug wire is loose or disconnected. 3. The drive-control lever is engaged.	1. Drain the fuel tank and add fresh fuel. 2. Install the wire on the spark plug. 3. Release the drive-control lever.
The engine misses or lacks power.	1. The tilling depth is too deep. 2. The air cleaner is dirty or damaged. 3. The carburetor is out of adjustment. 4. The spark plug is wet, pitted, fouled, or the gap is incorrect. 5. Stale fuel is in the fuel system.	1. Raise the tines by raising the drag stake. 2. Clean or replace the air-cleaner element. 3. Contact an Authorized Service Dealer 4. Install a new, correctly gapped spark plug. 5. Drain the fuel tank and add fresh fuel.
The tiller moves forward during starting.	1. The drive-control lever is compressed. 2. The belt tension is incorrect.	1. Release the drive-control lever. 2. Check the belt tension and adjust it as necessary.
The tiller is difficult to control when tilling; the machine jumps or lurches forward.	1. The drag stake is set too high.	1. Lower the drag stake for greater resistance and control of the machine.
Belts squeal during forward operation.	1. The belt tension is incorrect	1. Check the belt tension and adjust it as necessary.
There is a constant buzzing sound while the drive-control lever is compressed.	1. The drive-control lever is not fully compressed. 2. The wire belt guide is too close to the idler pulley. 3. The belt tension is incorrect 4. The belt is stretched.	1. Fully compress the drive-control lever. 2. Properly space the wire belt guide from the idler pulley to clear the belt. 3. Check the belt tension and adjust it as necessary. 4. Replace the belt.
Excessive heat builds up in the transmission/tine area during tilling.	1. Vegetation or debris is caught in the tines. 2. The transmission fluid is low.	1. Remove the vegetation or debris. 2. Check the transmission fluid and add fluid as necessary.

California Proposition 65 Warning Information

What is this warning?

You may see a product for sale that has a warning label like the following:



WARNING: Cancer and Reproductive Harm—www.p65Warnings.ca.gov.

What is Prop 65?

Prop 65 applies to any company operating in California, selling products in California, or manufacturing products that may be sold in or brought into California. It mandates that the Governor of California maintain and publish a list of chemicals known to cause cancer, birth defects, and/or other reproductive harm. The list, which is updated annually, includes hundreds of chemicals found in many everyday items. The purpose of Prop 65 is to inform the public about exposure to these chemicals.

Prop 65 does not ban the sale of products containing these chemicals but instead requires warnings on any product, product packaging, or literature with the product. Moreover, a Prop 65 warning does not mean that a product is in violation of any product safety standards or requirements. In fact, the California government has clarified that a Prop 65 warning "is not the same as a regulatory decision that a product is 'safe' or 'unsafe.'" Many of these chemicals have been used in everyday products for years without documented harm. For more information, go to https://oag.ca.gov/prop65/faqs-view-all.

A Prop 65 warning means that a company has either (1) evaluated the exposure and has concluded that it exceeds the "no significant risk level"; or (2) has chosen to provide a warning based on its understanding about the presence of a listed chemical without attempting to evaluate the exposure.

Does this law apply everywhere?

Prop 65 warnings are required under California law only. These warnings are seen throughout California in a wide range of settings, including but not limited to restaurants, grocery stores, hotels, schools, and hospitals, and on a wide variety of products. Additionally, some online and mail order retailers provide Prop 65 warnings on their websites or in catalogs.

How do the California warnings compare to federal limits?

Prop 65 standards are often more stringent than federal and international standards. There are various substances that require a Prop 65 warning at levels that are far lower than federal action limits. For example, the Prop 65 standard for warnings for lead is 0.5 µg/day, which is well below the federal and international standards.

Why don't all similar products carry the warning?

- Products sold in California require Prop 65 labelling while similar products sold elsewhere do not.
- A company involved in a Prop 65 lawsuit reaching a settlement may be required to use Prop 65 warnings for its products, but other companies making similar products may have no such requirement.
- The enforcement of Prop 65 is inconsistent.
- Companies may elect not to provide warnings because they conclude that they are not required to do so under Prop 65; a lack of warnings for a product does not mean that the product is free of listed chemicals at similar levels.

Why does Toro include this warning?

Toro has chosen to provide consumers with as much information as possible so that they can make informed decisions about the products they buy and use. Toro provides warnings in certain cases based on its knowledge of the presence of one or more listed chemicals without evaluating the level of exposure, as not all the listed chemicals provide exposure limit requirements. While the exposure from Toro products may be negligible or well within the "no significant risk" range, out of an abundance of caution, Toro has elected to provide the Prop 65 warnings. Moreover, if Toro does not provide these warnings, it could be sued by the State of California or by private parties seeking to enforce Prop 65 and subject to substantial penalties.