Form No. 3358-140 Rev A

TORO®

Count on it.

Operator's Manual

Line Painter 1200

Model No. 42053—Serial No. 310000001 and Up

CE

To register your product or download an *Operator's Manual* or *Parts Catalog* at no charge, go to www.Toro.com.

Original Instructions (EN)

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

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.

Important: This engine is not equipped with a spark arrester muffler. It is a violation of California Public Resource Code Section 4442 to use or operate the engine on any forest-covered, brush-covered, or grass-covered land. Other states or federal areas may have similar laws.

This spark ignition system complies with Canadian ICES-002.

Introduction

This machine is a walk behind line painter intended to be used by professional, hired operators in commercial applications. It is primarily designed to line parks, golf courses, sports fields, and commercial grounds.

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 right front frame member of the product. Write the numbers in the space provided.

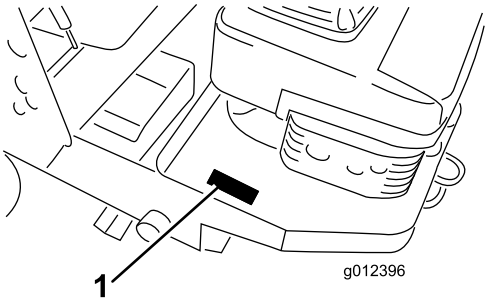


Figure 1

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.

Figure 2

1. Safety alert symbol.

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

8111 Lyndale Avenue South
Bloomington, MN 55420

Contact us at www.Toro.com.
Printed in the USA.

Contents

Safety

Toro designed and tested this machine to offer reasonably safe service; however, failure to comply with the following instructions may result in personal injury.

⚠ WARNING

Engine exhaust contains carbon monoxide, an odorless, deadly poison that can kill you.

Do not run the engine indoors or in an enclosed area.

To ensure maximum safety, best performance, and to gain knowledge of the product, it is essential that you and any other operator of the machine read and understand the contents of this manual before the engine is ever started.

Improperly using or maintaining this machine can result in injury. To reduce the potential for injury, comply with these safety instructions.

General Safety

Failure to observe the following safety instructions could result in serious injury.

Training

- Read this operator's manual carefully. Be thoroughly familiar with the controls and the proper use of the machine before starting it.
- Never allow children or people unfamiliar with these instructions to use or service the machine. Local regulations may restrict the age of the operator.
- Never allow adults unfamiliar with these instructions to operate the machine.
- Never operate the machine while people (especially children) or pets are nearby. Stop the machine if anyone enters the area.
- Keep children out of the painting area and under the watchful care of a responsible adult.
- Be alert and turn the machine off if children enter the area.
- Keep in mind that the operator or user is responsible for accidents or hazards occurring to other people or their property.
- See the manufacturer's instructions for proper operation and installation of accessories. Use only the accessories that are approved by the manufacturer.

Preparation

- Thoroughly inspect the area where you will use the machine and remove all foreign objects.
- Do not operate the machine when barefoot or wearing open sandals.
- Always wear safety goggles or safety glasses with side shields when operating the machine.
- Warning: Gasoline is highly flammable. Take the following precautions:
  - Store fuel in containers specifically designed for this purpose.
  - Refuel outdoors only and do not smoke while refuelling.
  - Add fuel before starting the engine. Never remove the cap of the fuel tank or add gasoline while the engine is running or when the engine is hot
  - If gasoline is spilled, do not attempt to start the engine. Move the machine away from the area of spillage to avoid creating any source of ignition until the gasoline vapors have dissipated.
  - Replace all fuel tank and container caps securely
  - If you must drain the fuel from the fuel tank, do it outdoors.
- Replace faulty mufflers.
- **Warning:** Some types of paint fumes can explode or ignite causing property damage or severe injury. Also, paint fumes may be harmful if inhaled. Take the following precautions:
  - Comply with all appropriate local, state and national codes governing ventilation, fire prevention and operation.
  - Use the line painter only in a well ventilated area.
  - Use a respirator or mask if there is a chance fumes may be inhaled. Read the instructions provided with the mask to insure proper protection is provided.
  - Do not use oil based paints. Use only latex based paint products.
  - Do not use lacquers, lacquer thinners, acetones or any other solvents.
  - Clean the machine with soap and water only.

Operation

- Do not operate the machine in a confined space where dangerous carbon monoxide fumes can collect.
- Paint only in daylight or in good artificial light.

- Always be sure of your footing on slopes.
- Walk; never run.
- Keep a firm hold on the handles.
- Exercise extreme caution when changing the direction on slopes.
- Do not paint on excessively steep slopes.
- Use caution when reversing or pulling the machine toward you.
- Never operate the machine with damaged or missing guards or shields, or without safety devices in place.
- Do not change the speed settings on the engine.
- Start the engine according to the instructions.
- Never pick up or carry a machine while the engine is running.
- Stop the engine and disconnect the spark-plug wire:
  - before clearing blockages;
  - before checking, cleaning, or working on the machine;
  - after striking a foreign object. Inspect the machine for damage and make repairs before starting and operating the machine; and
  - if the machine starts to vibrate abnormally (check it immediately).
- Stop the engine:
  - whenever you leave the machine; and
  - before refuelling.
- Do not operate the machine while under the influence of alcohol or drugs.
- 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.
- If the machine should start to vibrate abnormally, stop the engine and check immediately for the cause. Vibration is generally a warning of trouble.

Slopes are a major factor related to slip and fall accidents which can result in a severe injury. If you feel uneasy on a slope, do not paint it.

- Watch for holes, ruts, or bumps. Tall grass can hide obstacles.
- Do not paint near drop-offs, ditches, or embankments. You could lose your footing or balance.
- Do not use on wet surfaces. Reduced footing could cause slipping.

Maintenance and Storage

- Keep all nuts, bolts, and screws tight to ensure that the machine is in safe working condition.
- Never store the machine with gasoline in the tank inside a building where fumes may reach an open flame or spark.
- Allow the engine to cool before storing the machine in any enclosure.
- To reduce the fire hazard, keep the engine, muffler and gasoline storage area free of grass, leaves, or excessive grease.
- Replace worn or damaged parts.
- Use extra care when handling gasoline; gasoline vapors are explosive.
- Never tamper with safety devices. Check their proper operation regularly.
- Keep the machine free of grass, leaves, or other debris buildup. Clean up any oil or fuel that spills.
- Stop and inspect the machine if you strike an object. Repair the machine, if necessary, before starting the engine.
- Do not change the speed settings on the engine.
- If you must drain the fuel from the fuel tank, do it outdoors.
- To ensure the best performance and safety, purchase only genuine Toro replacement parts and accessories.
- Maintain or replace safety and instruction decals when necessary.

Sound Power Level

This unit has a guaranteed sound power level of 94 dBA, which includes an Uncertainty Value (K) of 1 dBA.

Sound power level was determined according to the procedures outlined in EN 11094.

Sound Pressure Level

Sound Pressure Level This unit has a sound pressure level at the operator's ear of 77 dBA, which includes an Uncertainty Value (K) of 1 dBA.

Sound pressure level was determined according to the procedures outlined in EN 11094.

Vibration Level

Hand-Arm

Measured vibration level for right hand = 3.24 m/s^2

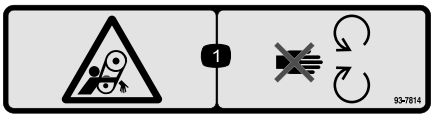
Measured vibration level for left hand = 2.31 m/s^2

Uncertainty Value (K) = 0.5 m/s²

Measured values were determined according to the procedures outlined in EN 836.

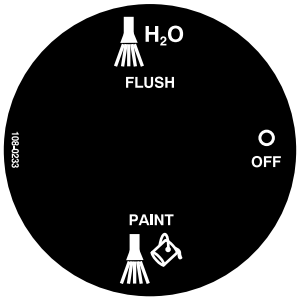
Safety and Instructional Decals

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 lost.

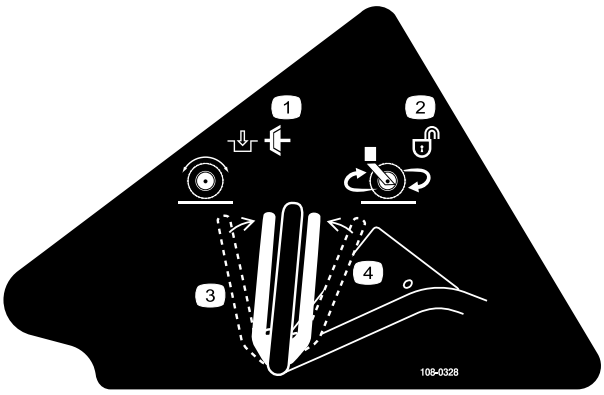


93-7814

1. Entanglement hazard, belt—stay away from moving parts.

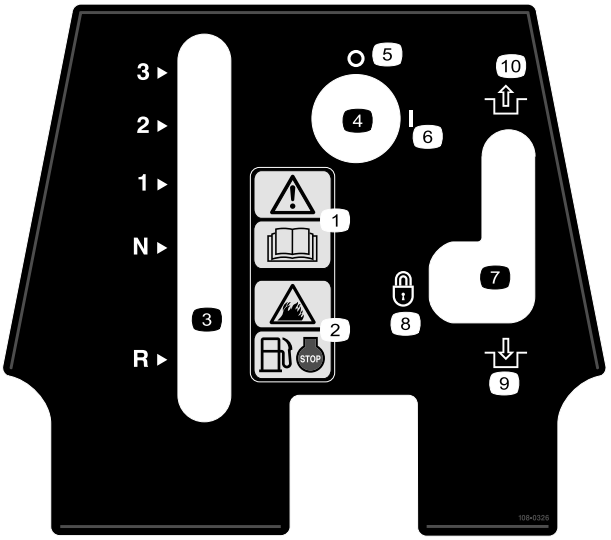


108-0233



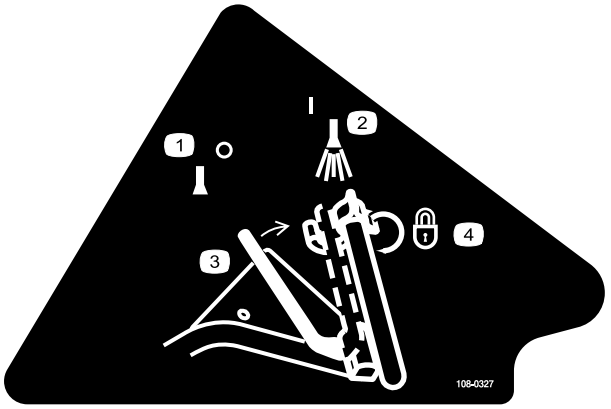
108-0328

1. Traction drive—Engaged
2. Front castor wheel—Unlock
3. Move the rear lever forward to engage the traction drive.
4. Move the forward lever rearward to Unlock the front castor wheel.



108-0326

1. Warning—read the *Operator's Manual*.
2. Fire hazard—stop the engine before fueling.
3. Gear selector
4. On/Off switch
5. Off
6. On
7. Service/Parking brake
8. Locked
9. Engaged
10. Disengaged



108-0327

1. Spray nozzle—Off
2. Spray nozzle—On
3. Move the lever rearward to engage spray nozzle.
4. Turn the lock lever to lock spray nozzle in the On position.

Setup

Loose Parts

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

Procedure	Description	Qty.	Use
1	Bolt Nut Washer Hairpin cotter	4 2 2 1	Install the handle and shift rod
2	Spray boom w/ mounting pin	1	Install the spray boom
3	Line Guide	1	Install the line guide

Media and Additional Parts

Description	Qty.	Use
Filter wrench	1	Shipped in tool box
Nozzle	1	Shipped in tool box
Operator's Manual	1	View before operating the machine
Engine Operator's Manual	1	Engine information
Parts Catalog	1	Use to reference part numbers
Operator Training Material	1	View before operating the machine
Certificate of Compliance	1	CE Certification

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

1

Install the Handle and Shift Rod

Parts needed for this procedure:

4	Bolt
2	Nut
2	Washer
1	Hairpin cotter

Procedure

1. Remove the hairpin cotter, washer and cable tie securing the shift rod for shipping (Figure 3). Retain hairpin cotter and washer for installation of the shift rod.
2. Remove the (2) bolts, spacers and nuts securing the handle to the tank support (Figure 3). Discard the bolts, spacers and nuts.

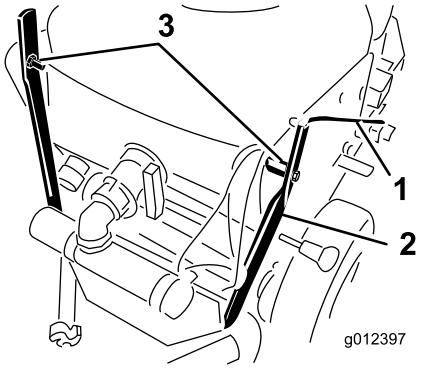


Figure 3

1. Shift rod
2. Handle
3. Bolt, spacer & nut (2)

3. Using the lower set of holes, loosely mount the handle to the tank support with (2) bolts (Figure 4).

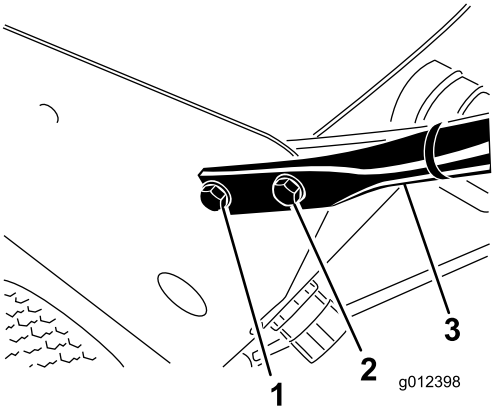


Figure 4

1. Lower mounting hole
2. Upper mounting hole
3. Handle

4. Select one of the upper mounting holes, position the handle at the desired operating position and secure the handle to the tank support with (2) bolts and nuts (Figure 4).
5. Insert the upper end of the shift rod into the hole in the shift linkage (Figure 5). Secure the rod end to the linkage with the washer and hairpin cotter previously removed.

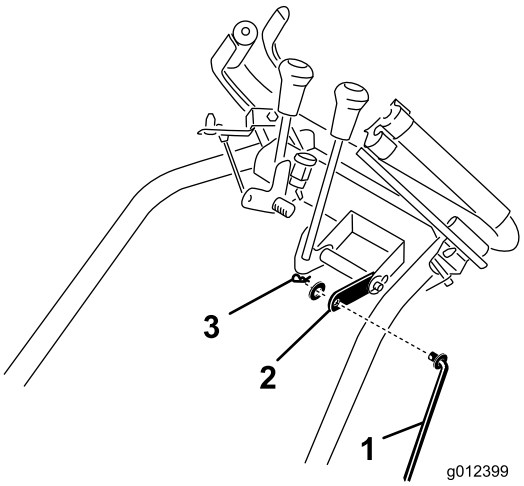


Figure 5

1. Shift rod
2. Shift linkage
3. Washer & hairpin cotter

6. Insert the rod fitting onto the shifter bell crank shaft and secure with a washer and a hairpin cotter (Figure 6).

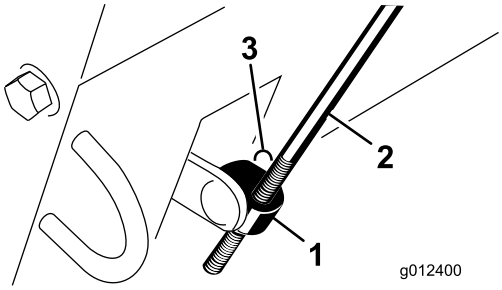


Figure 6

1. Rod fitting
2. Shift rod
3. Washer & hairpin cotter

7. Tighten the bolts and nuts.
8. The rod should be adjusted so the machine shifts smoothly into all gears. Adjust the rod fitting, up or down, as required.
9. Tighten the handle cable ties and cut off excess.

2

Installing the Spray Boom

Parts needed for this procedure:

1	Spray boom w/ mounting pin

Procedure

Slide the spray boom onto the mounting tube and secure with the mounting pin (Figure 7 & Figure 8). The spray boom may be installed on either side of the machine and pivoted to the front or rear.

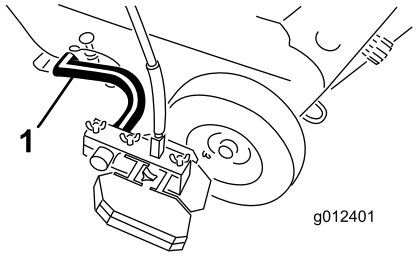


Figure 7

1. Spray boom

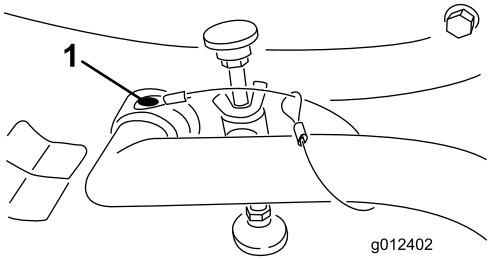


Figure 8

1. Mounting pin

3

Installing the Line Guide

Parts needed for this procedure:

1	Line Guide

Procedure

Insert the line guide (Figure 9) into the tube and tighten the adjusting knobs.

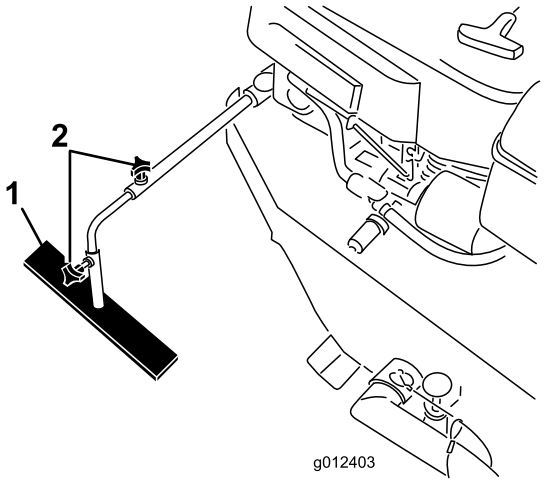


Figure 9

1. Line guide
2. Adjusting knobs

Product Overview

Controls

Ground Speed Control

The ground speed control has three speeds forward and one reverse speed. To select speeds, move the control lever to the desired position. (Figure 10).

Note: Before shifting gears into or out of reverse, the traction control lever must be released. On-the-go shifting may be accomplished between any of the FORWARD speeds without releasing the traction control lever.

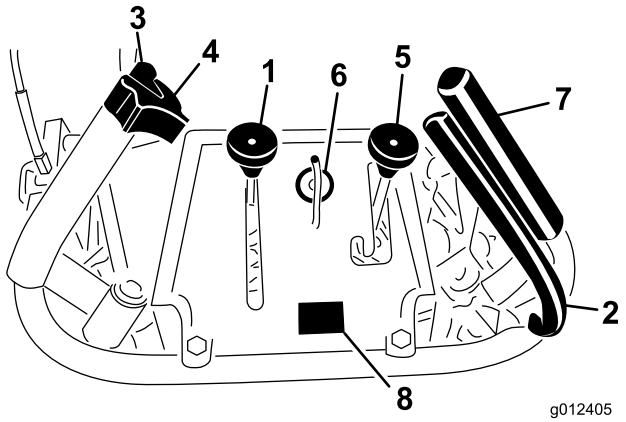


Figure 10

1. Ground speed control
2. Traction lever
3. Paint control lever
4. Paint control lever latch
5. Parking brake
6. Ignition switch
7. Castor release lever (In front of right hand grip)
8. Hour meter

Traction Lever

To engage the traction drive, the lever must be pushed forward against the right hand grip (Figure 10). To stop traction, release the lever.

Slowly squeeze the lever for gradual acceleration.

Paint Control Lever

Squeeze the lever against the left hand grip to start the paint operation (Figure 10). To stop the paint operation, release the lever.

Rotate the latch over the paint control lever to lock the lever in place (Figure 10). Use lever latch when painting long lines or when cleaning the system.

Castor Release Lever

To release the castor, squeeze the right lever against the hand grip. Once the castor wheel has rotated, the lever can be released (Figure 10). The castor will automatically lock when the wheel returns to the straight position.

Parking/Service Brake

To engage the brake, move the lever rearward. To engage the parking brake move the lever into the detent. To disengage the parking brake, move the lever out of the detent and forward (Figure 10).

Always set the parking brake when you stop the machine or leave it unattended.

Ignition Switch

Rotate the key to the ON position before starting the engine with the recoil starter (Figure 10). To stop the engine, rotate the key to the OFF position

Pressure Regulator Knob

Regulates the paint pressure at the nozzle (Figure 11) Loosen the jam nut locking the knob. Adjust the knob in or out until the desired paint pattern is attained. Rotating the knob clockwise will increase the paint pressure, counter-clockwise will decrease the paint pressure. Tighten the jam nut to lock adjustment. Refer to the Pressure Adjustment Section of this manual for correct pressure settings.

Note: Excessive paint pressure will reduce the quality of the line, create excessive over spray and reduce agitation.

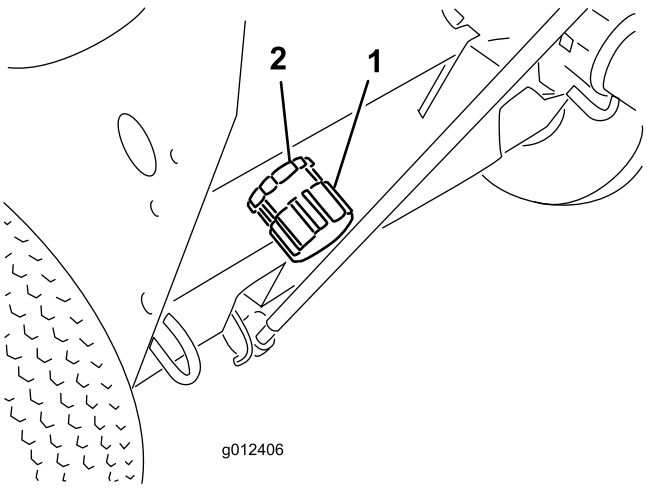


Figure 11

1. Pressure regulator knob
2. Jam nut

Primer

Press in the primer three times before starting a cold engine (Figure 12).

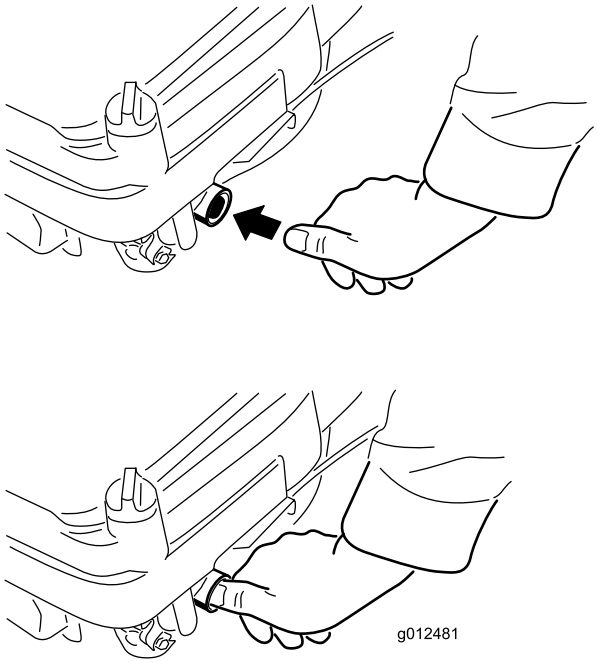


Figure 12

Recoil Starter

The recoil starter (Figure 13) is on the top of the engine. Pull the recoil starter to start the engine.

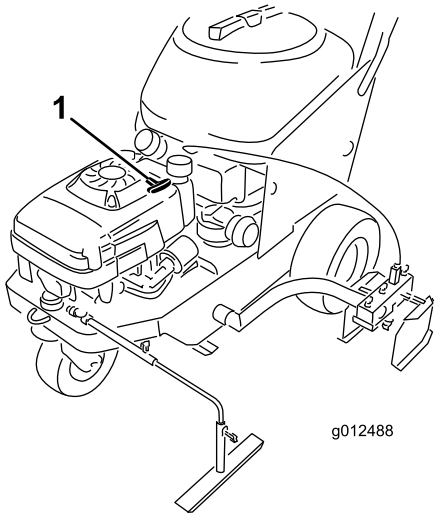


Figure 13

1. Recoil starter

Flush/Paint Lever

Rotate the flush/paint lever up to flush the system. Rotate the lever down to paint. Center position is Off (Figure 14). The Off position closes all flow to the pump. Use the Off position when paint is in the tank and the paint filter has to be serviced. Do not operate the engine when the flush/paint lever is in the Off position

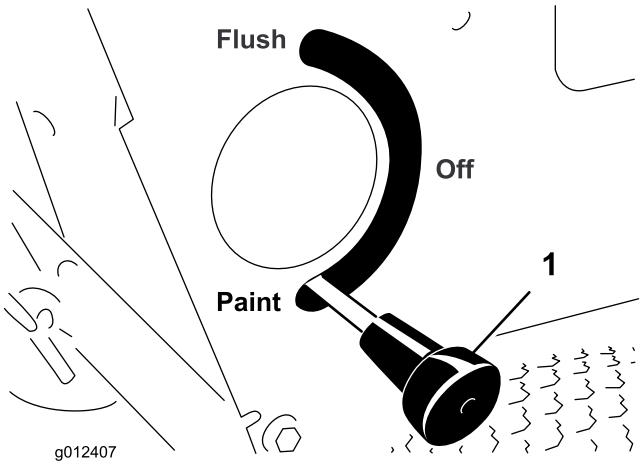


Figure 14

1. Flush/Paint Knob

Specifications

Length (including handles)	64 inches (162.6 cm)
Width (outside wheels)	29 inches (73.7 cm)
Width (including spray head)	36 inches (91.4 cm)
Height	46 inches (116.8 cm)
Wheelbase	22 inches (55.9 cm)
Net weight	240 inches (108.9 kg)

Attachments/Accessories

A selection of Toro approved attachments and accessories are 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

Please carefully read all of the safety instructions and decals in the safety section. Knowing this information could help you or bystanders avoid injury.

Checking the Engine Oil Level

Service Interval: Before each use or daily

The crankcase is filled with 22 ounces (0.65 liters) of high-quality SAE 30 or SAE 10W30 weight detergent oil that has the American Petroleum Institute (API) service classification SF, SG, SH, or SJ.

Before each use, ensure that the oil level is between the Add and Full marks on the dipstick (Figure 15).

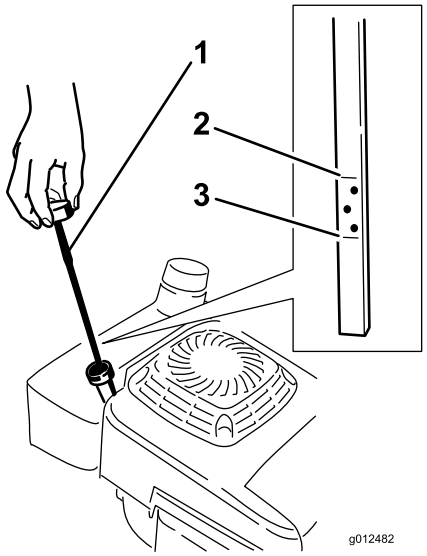


Figure 15

1. Dipstick
2. Full
3. Add

Note: When the crankcase is empty, pour about 3/4 of the crankcase capacity of oil in the crankcase, then follow the procedure in this section.

1. Move the line painter to a level surface.
2. Clean around the dipstick (Figure 15).
3. Remove the dipstick by rotating the cap counterclockwise and pulling it out.
4. Wipe the dipstick clean with a clean cloth.
5. Insert the dipstick into the filler neck, **but do not screw it in**.
6. Remove the dipstick and read the oil level on the dipstick (Figure 15).
7. If the oil level reading is below the Add mark on the dipstick, slowly pour only enough oil into the filler hole to raise the oil level to the Full mark on the dipstick.

   Important: Do not overfill the crankcase with oil and run the engine; engine damage will result. Drain the excess oil until the oil level on the dipstick reads Full.
8. Insert the dipstick into the filler neck and rotate the cap clockwise until it is tight.

Checking the Tire Pressure

Check the pressure of the tires because they are over-inflated at the factory for shipping. Maintain the air pressure in the tires as specified. Check the pressure at the valve stem after every 50 operating hours or monthly, whichever occurs first (Figure 16). Check the tires when they are cold to get the most accurate pressure reading.

Pressure: 12-15 psi rear tires and 18-20 psi in front castor wheel.

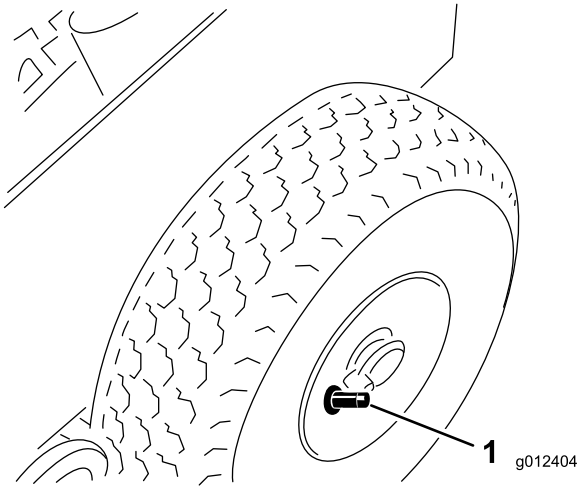


Figure 16

1. Valve stem

Filling the Fuel Tank with Gasoline

For best results, use clean, fresh, lead-free gasoline with an octane rating of 87 or higher. To ensure freshness, purchase only the quantity of gasoline that you expect to use in 30 days. Using unleaded gasoline results in fewer combustion deposits and longer engine life. You may use leaded gasoline if unleaded gasoline is not available.

Important: **Do not add oil to the gasoline.**

Important: **Do not use methanol, gasoline containing methanol, gasohol containing more than 10% ethanol, premium gasoline, or white gas. Using these fuels can damage the engine's fuel system.**

Important: **Do not use gasoline that has been stored since the last mowing season or longer.**

⚠ DANGER

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

- **Fill the fuel tank outdoors, in an open area, and when the engine is cold. Wipe up any gasoline that spills.**
- **Do not fill the fuel tank completely full. Add gasoline to the fuel tank until the level is 1/4 to 1/2 in. (6 to 13 mm) below the bottom of the filler neck. This empty space in the tank allows the gasoline to expand.**
- **Never smoke when handling gasoline, and stay away from an open flame or where a spark may ignite the gasoline fumes.**
- **Store gasoline in an approved fuel container and keep it out of the reach of children.**
- **Never buy more than a 30-day supply of gasoline.**

⚠ DANGER

When fueling, under certain circumstances, a static charge can develop, igniting the gasoline. A fire or explosion from gasoline can burn you and others and damage property.

- **Always place gasoline containers on the ground and away from your vehicle before filling.**
- **Do not fill gasoline containers inside a vehicle 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 gasoline-powered equipment from the truck or trailer and refuel the equipment with its wheels on the round.**
- **If this is not possible, then refuel such equipment on a truck or trailer from a portable container, not from a gasoline dispenser nozzle.**
- **If you must use a gasoline dispenser nozzle, keep the nozzle in contact with the rim of the fuel tank or container opening at all times until fueling is complete.**

Use a fuel stabilizer/conditioner regularly during operation and storage. A stabilizer/conditioner cleans the engine during operation and prevents gum-like varnish deposits from forming in the engine during periods of storage.

Important: **Do not use fuel additives other than a fuel stabilizer/conditioner. Do not use fuel stabilizers with an alcohol base such as ethanol, methanol, or isopropanol.**

Fuel tank capacity is 2 quarts (1.89 l)

1. Clean around the fuel tank cap (Figure 17).

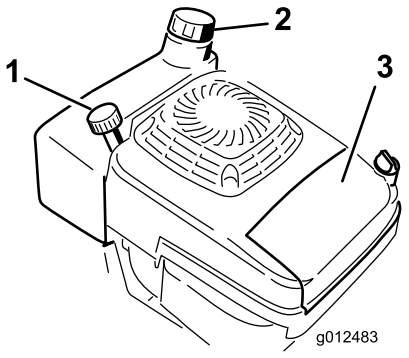


Figure 17

1. Oil fill/dipstick
2. Fuel tank cap
3. Air cleaner

2. Remove the cap from the tank.

3. Fill the fuel tank with unleaded gasoline to within 1/4 to 1/2 inch (6 to 13 mm) from the top of the tank. **Do not fill into the filler neck.**

   Important: Do not fill the tank more than 1/4 inch (6 mm) from the top of the tank because the gasoline must have room to expand.

4. Install the fuel tank cap and wipe up any spilled gasoline.

Starting the Engine

1. Connect the wire to the spark plug (Figure 18).

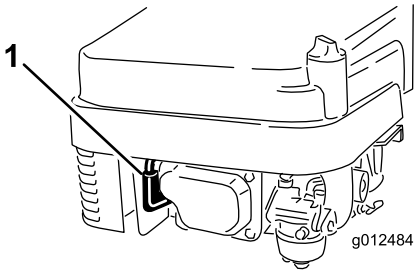


Figure 18

1. Spark-plug wire

2. Engage the parking brake (Figure 10).
3. Ensure that the speed selector lever is in Neutral and the paint and traction control levers are in the disengaged (released) position (Figure 10).
4. Press the primer three times (Figure 19).

   Note: Do not use the primer when the engine is warm.

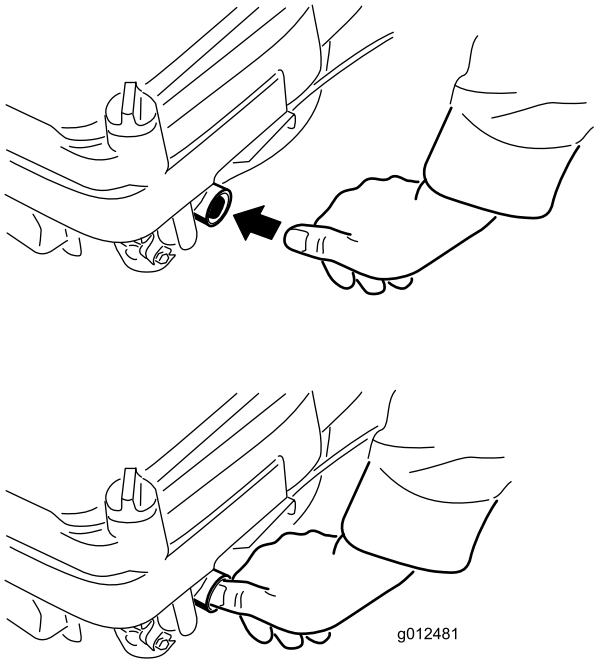


Figure 19

5. Rotate the ignition key to the Start position (Figure 10).
6. Pull the starter handle (Figure 13) lightly until you feel resistance, then pull it sharply. Allow the rope to return to the engine slowly.

Stopping the Engine

1. Release the traction control lever.
2. Move the speed selector lever to Neutral.
3. Rotate the ignition key to Stop.

Using the Ground Speed Control

The line painter has 3 forward speeds. **1** is slow, **2** is medium (paint), and **3** is fast (transport) and **R** is reverse (Figure 10 & Figure 20).

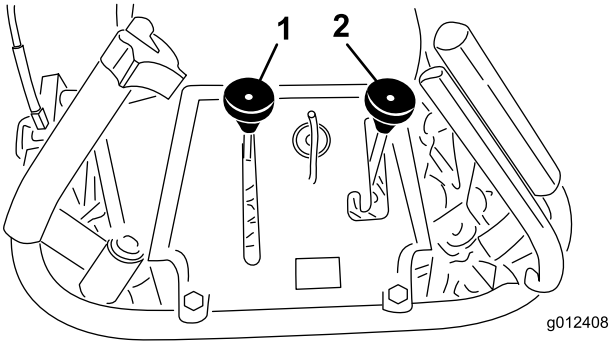


Figure 20

1. Ground speed control 2. Parking brake

1. Move the ground speed control to the Neutral position and engage the parking brake (Figure 10).
2. Start the engine.
3. Move the ground speed control to the desired speed (Figure 10).
4. Disengage the parking brake.

   Note: You can vary the ground speed by increasing or decreasing the distance between the traction lever and the handle.

Mixing the Paint

- The line painter is designed to operate only with latex based water soluble paint.
- The recommended water to paint ratio is 1:1 to 10:1 depending on the quality of the paint and the desired result.
- **Do not use oil based paint.**

- For best results, pre-mix the paint and water before pouring it into the paint tank.
- The paint tank capacity is 12 gallons.

Filling the Paint Tank

1. Move the machine to a level surface.
2. Stop the engine, move the speed selector lever to Neutral, engage the parking brake and wait for all moving parts to stop before leaving the operating position.

   Note: If desired, the engine can be running when filling to keep the paint circulating in the tank. The paint will only circulate when the paint/flush lever is in the paint position.
3. Make sure the paint control lever is in the released position and the tank drain valve (Figure 21) is closed.

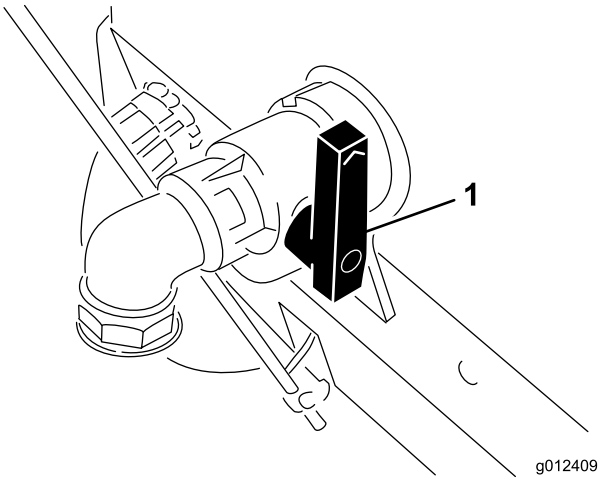


Figure 21

1. Tank drain valve

4. Remove the tank cover (Figure 22).

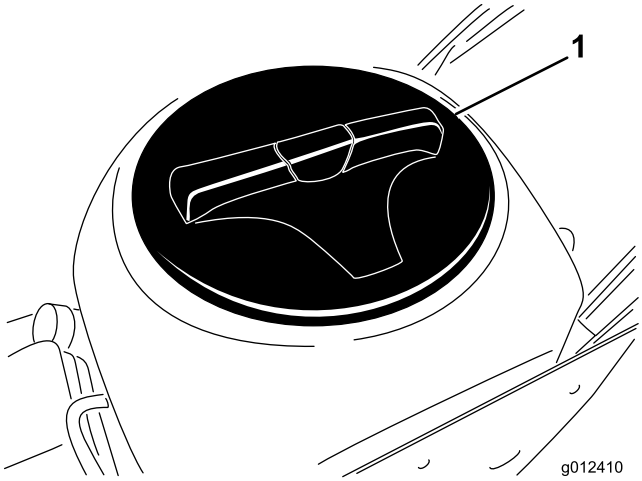


Figure 22

1. Tank cover

5. Pour the desired amount of mixed paint, through the strainer and into the tank. Do not remove the paint strainer.
6. Install the tank cover.

Mixing Paint in the Tank

Certain brands of latex based paint can be mixed in the paint tank.

1. Start the engine.
2. Move the Flush/Paint lever to the paint position.
3. Pour the desired amount of water into the tank. Use the marks on the side of the tank to measure the amount.
4. Pour the desired amount of paint, through the strainer, and into the tank.
5. Allow the machine to mix the paint for 1 minute before painting.

Adjusting the Paint Width

1. Loosen the wing nuts securing the spray shields to the boom arm (Figure 23).

   Note: Use the slotted end of the filter wrench to assist in loosening or tightening the wing nuts.

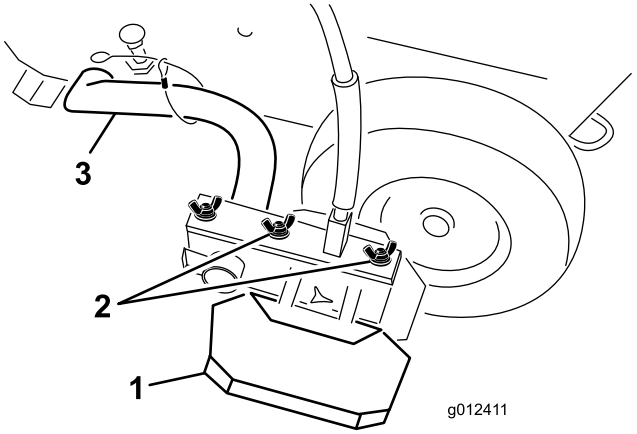


Figure 23

1. Spray shield
2. Spray shield wing nuts
3. Boom arm stop

2. Move the shields (Figure 23) in or out until the desired line width is attained. Make sure each shield is equal distance from the spray nozzle.
3. Tighten the wing nuts.
4. Loosen the screw securing the paint nozzle tube to the boom arm (Figure 24).

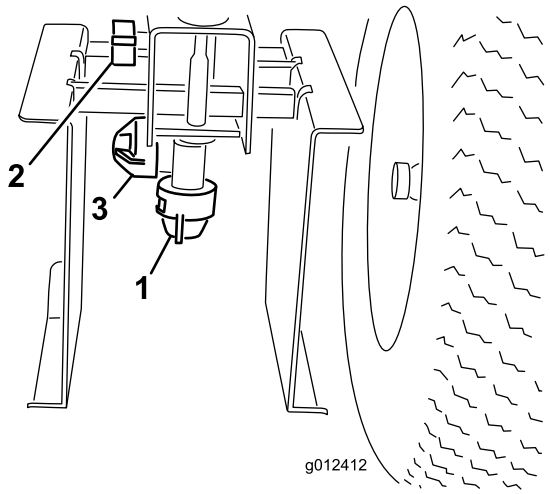


Figure 24

1. Spray nozzle
2. Nozzle tube screw
3. Check valve

5. Raise or lower the nozzle tube until the paint sprays slightly below the shields (Figure 25).

   Note: Spray contact will cause paint buildup on the shield that may drip or leave streaks when the paint is shut off.

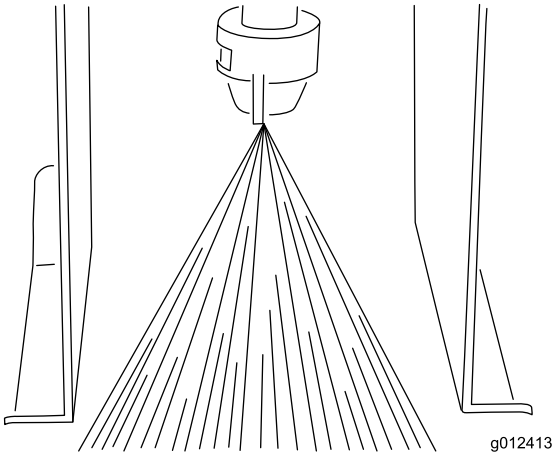


Figure 25

6. Tighten the screw when the desired spray width is attained.

Nozzle Description

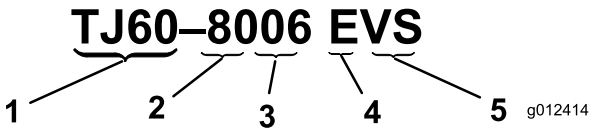


Figure 26

1. Nozzle series
2. Spray angle
3. Flow rate
4. Pattern
5. Color code option

Spray Angle

2 in. - 4 in. line width	65 degree nozzle
4 in. plus line width	80 degree nozzle

Flow Rate

The Flow Rate number represents the GPM of water at 40 psi. The higher the number the higher the flow rate.

Adjusting the Paint Boom Height

Thread the boom arm stop up or down to adjust the shield height (Figure 27).

- Adjust the height so the bottom of the shields are at the top of the surface/grass to be painted.
- If the shields are positioned too low, they can leave streaks.

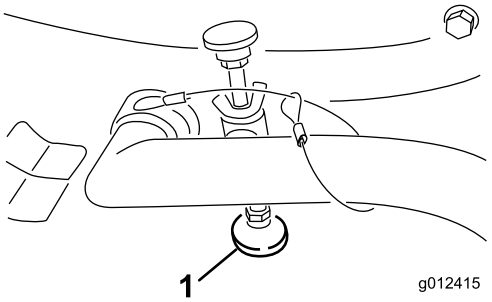


Figure 27

1. Boom arm stop

Adjusting the Spray Pressure

The spray pressure may need to be adjusted when changing nozzles, the mix ratio, paint brands or if the temperature changes significantly. Increasing the spray pressure will increase the volume and the velocity of the paint exiting the nozzle.

1. While engaging the spray nozzle, rotate the pressure regulator knob counterclockwise until a reduction in the spray width and uniformity is observed.
2. Rotate the pressure regulator knob clockwise until an acceptable spray width and pattern is achieved.

   Note: Optimum line quality is normally attained at the lower end of the pressure range.

   Note: Excessive paint pressure will reduce the quality of the line, create excessive over spray and reduce agitation.

Adjusting the Guide

The guide (Figure 28) allows the operator to stay aligned with a string line or the existing painted line.

Note: Spray contact will cause paint buildup on the shield that may drip or leave streaks when the paint is shut off.

1. Loosen the screw securing the line marker (Figure 28) to the mounting tube.
2. Adjust the guide to the desired position.
3. Tighten the screw.

   Note: When the paint arm is in the forward position, the guide is not used and can be folded out of the way.

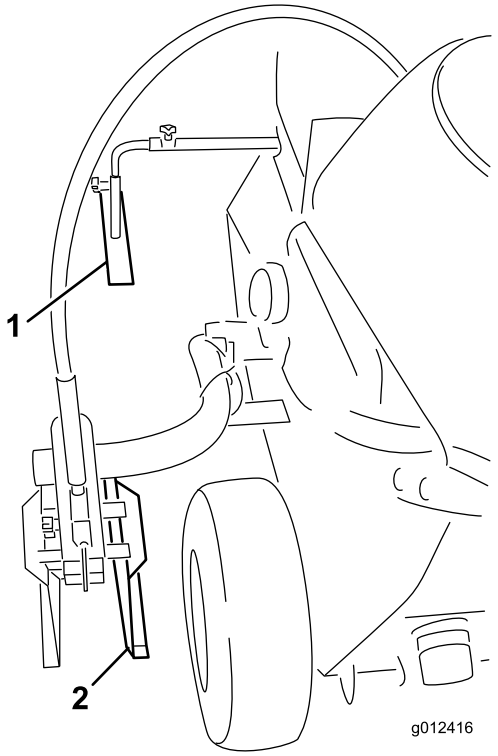


Figure 28

1. Line marker
2. Inner spray shield

Fill the Fresh Water Tank

The fresh water tank (Figure 29) is used to flush the system. The capacity of the tank is 2 gallons.

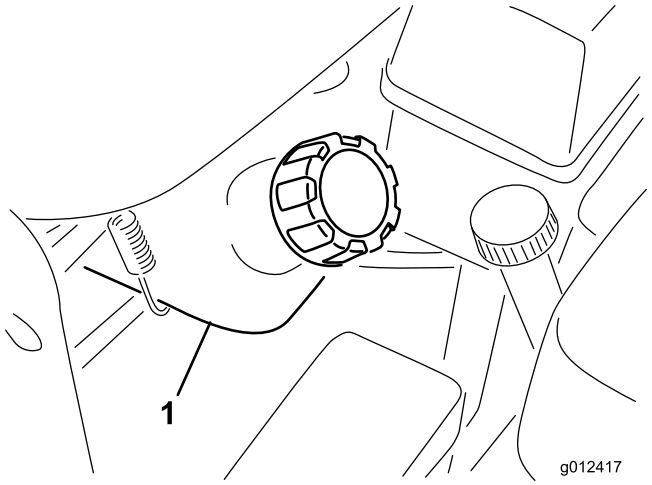


Figure 29

1. Fresh water tank

Using the Flush System

Using the flush system allows the line painter components to be cleaned without emptying the paint tank. The flush system introduces clean water from

the water tank. The paint is not being agitated in the tank when in the flush mode. Flushing the spray system is recommended whenever the line painter will not be operated for an extended period of time, such as transporting to a different work site. Toro does not recommend leaving paint in the tank overnight. The paint may thicken and clog the lines.

1. Make sure the speed selector lever is in Neutral and the parking brake is engaged.
2. Rotate the flush/paint lever to the Flush position.
3. Start the engine, if not already running.
4. Engage the paint control and hold it for 15 to 30 seconds. Initially, paint will flow from the nozzle, however the output will become more diluted over time.

   Note: To minimize paint mess while flushing the system, the nozzle boom can be removed and directed back into the paint tank.

Cleaning the Paint System

To clean the line painter:

1. Make sure the ground speed selector is in Neutral and the parking brake is engaged.
2. Remove the paint tank strainer (Figure 30) and clean with water.

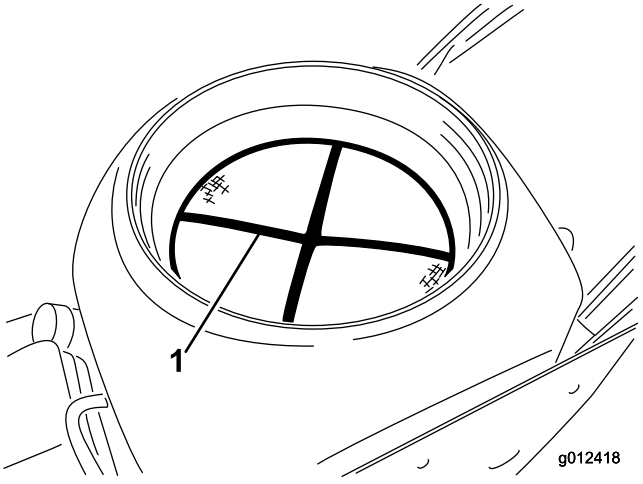


Figure 30

1. Tank strainer

3. Open the paint tank drain valve (Figure 31). The farther the drain valve is opened the more paint is allowed to drain.

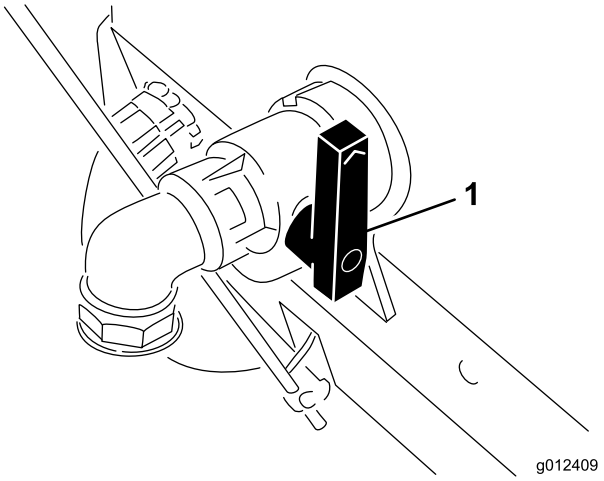


Figure 31

1. Paint tank drain valve

4. Inside the paint tank, insert the agitation line into the drain valve, as shown in Figure 32.

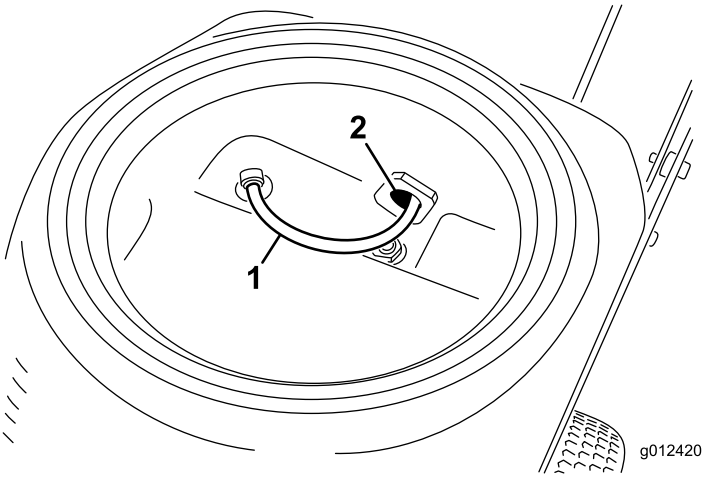


Figure 32

1. Agitation line
2. Tank drain valve

5. Start the engine which allows the pump to circulate.
6. Make sure the Flush/Paint lever (Figure 33) is in the PAINT position.
7. Allow the engine to operate for 5 to 10 seconds to pump the remaining paint out of the system.

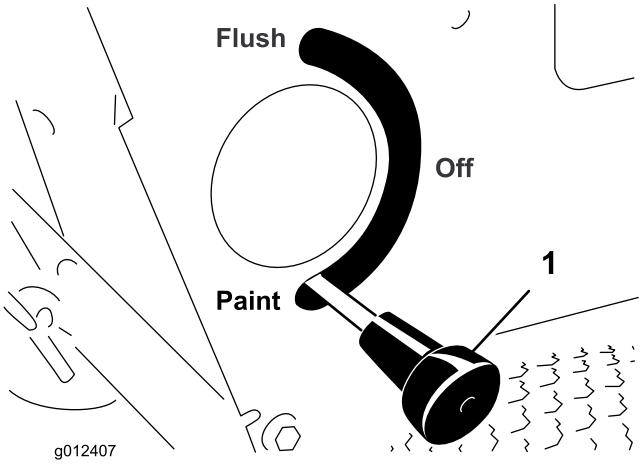


Figure 33

1. Flush/Paint Knob

8. Actuate the paint control lever and lock it open with the locking latch. This will allow the nozzle to flush continuously.
9. Rinse paint tank with clean water. A small amount of detergent may be added to the water to speed the cleanup. Continue to fill tank with water until the nozzle sprays clean water.

   Note: If the flush system has been used, move the flush/paint lever to the flush position for 15 seconds or until the nozzle sprays clean water.
10. Remove and clean the pump filter. Refer to Cleaning the Pump Filter.

Cleaning the Pump Filter

Remove and clean the paint filter (Figure 34).

1. Turn the engine off.
2. Using the filter wrench provided, remove the pump filter cap.
3. Remove the pump filter and clean with water.
4. Install pump filter and cap.

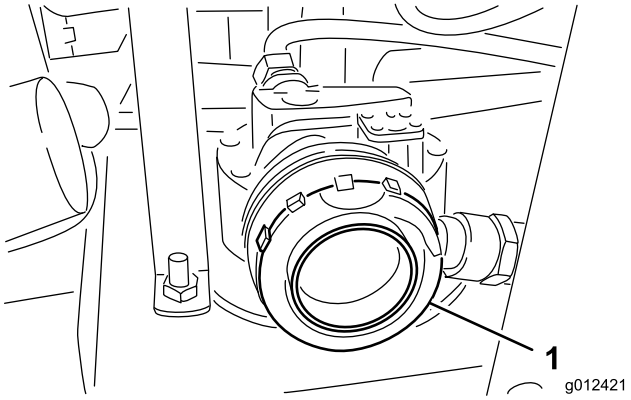


Figure 34

1. Pump filter cap

Transporting the Line Painter

To transport the line painter:

- Set the parking brake and block the wheels.
- Fasten the line painter tie downs (Figure 35 & Figure 36) to the trailer or truck with straps, chains, cable, or ropes.

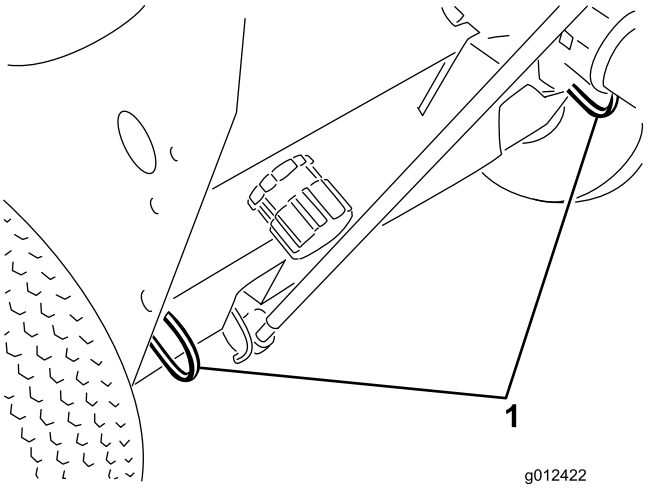


Figure 35

1. Rear tie down locations

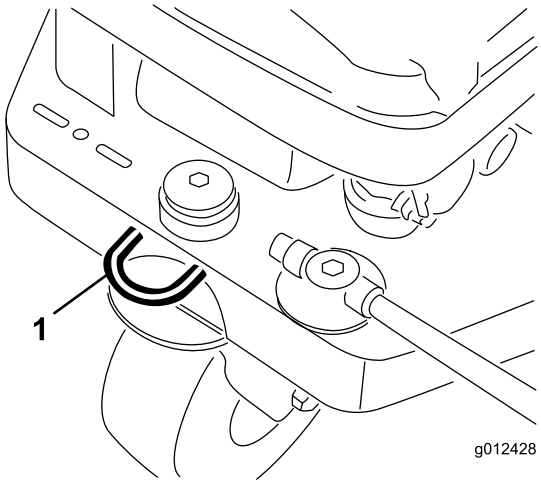


Figure 36

1. Front tie down

Operating Tips

- Review the safety instructions and read this manual carefully before operating the machine.
- Thoroughly inspect the area where you will use the machine and remove all foreign objects.
- Keep everyone, especially children and pets, away from the area of operation.
- If the machine starts to vibrate, immediately stop the engine, disconnect the wire from the spark plug and examine the machine for damage.
- Do not paint wet grass. Paint only dry grass.
- Keep the engine in good running condition.
- To start painting:
  - Fill the paint tank with pre-mixed paint
  - Move the paint/flush lever to paint
  - Start the engine
  - Move the speed control lever to the desired gear
  - Slowly engage the traction lever
  - Engage the paint control

Maintenance

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

Recommended Maintenance Schedule(s)

Maintenance Service Interval	Maintenance Procedure
After the first 5 hours	• Check the engine mounting fasteners. Tighten them if they are loose.
After the first 8 hours	• Change the engine oil.
Before each use or daily	• Check the engine oil level.
Every 25 hours	• Clean the foam pre-cleaner (more frequently in dusty conditions).
Every 50 hours	• Change the engine oil (more often in dusty conditions). • Check for leaks in the fuel system and/or a deteriorating fuel hose. Replace parts if necessary. • Remove any debris from the belts.
Every 100 hours	• Change the engine oil filter • Check the spark plug. • Replace the paper air filter. • Clean the cooling system; remove any debris or dirt from the engine air cooling fins and starter. Clean the system more frequently in dirty or high-chaff conditions. • Clean the fuel filter. • Service the wheels.
Every 300 hours	• Replace the paper air filter (more frequently in dusty conditions). • Clean the combustion chamber-see engine manual • Lap the valves
Yearly	• Empty the fuel tank and clean the fuel filter.

Important: Refer to your *Engine Operator's Manual* for additional maintenance procedures.

⚠ CAUTION

If you leave the wire on the spark plug, someone could accidently start the engine and seriously injure you or other bystanders.

Disconnect the wire from the spark plug before you do any maintenance. Set the wire aside so that it does not accidently contact the spark plug.

Engine Maintenance

Servicing the Air Filter

Service Interval: Every 25 hours—Clean the foam pre-cleaner (more frequently in dusty conditions).

Every 300 hours—Replace the paper air filter (more frequently in dusty conditions).

Important: Do not operate the engine without the air filter assembly; extreme engine damage will occur.

1. Stop the engine and wait for all moving parts to stop.
2. Remove the screw that secures the air filter cover (Figure 37).

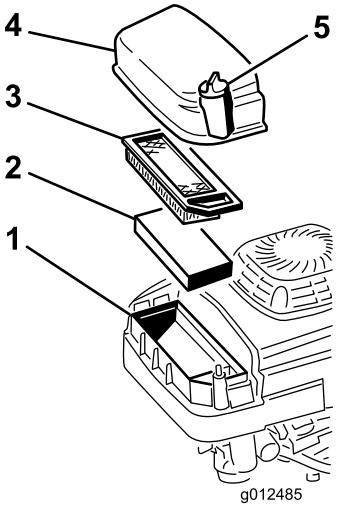


Figure 37

1. Air Filter housing
2. Foam pre-cleaner
3. Paper air filter
4. Cover
5. Screw

3. Remove the cover and clean it thoroughly (Figure 37).
4. Remove and inspect the paper air filter (Figure 37), and discard it if it is excessively dirty.

   Important: Do not try to clean a paper filter.
5. Remove the foam pre-cleaner and wash it with a mild detergent and water, then blot it dry.
6. Saturate the pre-cleaner with oil, then squeeze it (do not twist) to remove the excess oil.
7. Install the foam pre-cleaner.
8. Install the paper air filter.

   Note: Install a new paper air filter if you discarded the old one.
9. Install the cover and secure it with the screw.

Changing the Engine Oil

Service Interval: After the first 8 hours
Every 50 hours

1. Run the engine to warm the engine oil.

   Note: Warm oil flows better and carries more contaminants.

⚠ WARNING

Oil may be hot after engine has been run, and contact with hot oil can cause severe personal injury.

Avoid contacting the hot engine oil when you drain it.

2. Stop the engine and wait for all moving parts to stop.
3. Disconnect the wire from the spark plug (Figure 18).
4. Place a suitable drain pan under the oil drain valve (Figure 38).

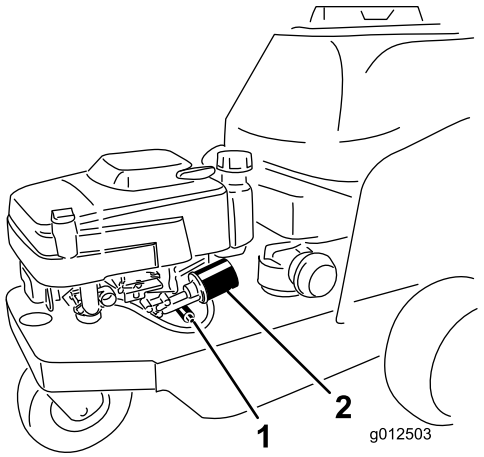


Figure 38

1. Oil drain valve
2. Oil filter

5. Rotate the oil drain valve and allow the oil to drain into the drain pan.
6. After draining the oil, rotate the oil drain valve closed.
7. Recycle the used oil according to local codes.
8. Fill the crankcase to the Full line on the dipstick with fresh oil. Refer to Checking the Engine Oil Level.
9. Wipe up any spilled oil.

Changing the Oil Filter

Service Interval: Every 100 hours/Yearly (whichever comes first)

1. Run the engine to warm the oil.

⚠ WARNING

Oil may be hot after engine has been run, and contact with hot oil can cause severe personal injury.

Avoid contacting the hot engine oil when you drain it.

2. Stop the engine and wait for all moving parts to stop.
3. Disconnect the wire from the spark plug.
4. Drain the engine oil; refer to Changing the Engine Oil.
5. Place a rag under the oil filter to catch any oil that may leak out as you remove the filter.
6. Remove the oil filter.

7. Use your finger to coat the new filter gasket with clean engine oil (Figure 39).

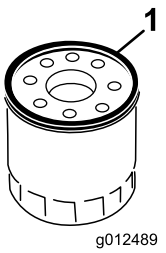


Figure 39

1. Gasket

8. Install the new filter and hand tighten it 2/3 turn only.
9. Fill the crankcase to the Full line on the dipstick with fresh oil. Refer to Checking the Engine Oil Level.
10. Connect the wire to the spark plug.
11. Run the engine for about 3 minutes.
12. Stop the engine, wait for all moving parts to stop, and check for oil leakage around the filter.
13. Add oil to compensate for the oil in the oil filter. Refer to Checking the Engine Oil Level.
14. Recycle the used oil filter according to local codes.

Servicing the Spark Plug

Service Interval: Every 100 hours

Use an **NGK BPR5ES** spark plug or equivalent.

1. Stop the engine and wait for all moving parts to stop.
2. Disconnect the wire from the spark plug (Figure 18).
3. Clean around the spark plug.
4. Remove the spark plug from the cylinder head.

   Important: Replace a cracked, fouled, or dirty spark plug. Do not clean the electrodes because grit entering the cylinder can damage the engine.

5. Set the gap on the plug to 0.030 in. (0.76 mm) (Figure 40).

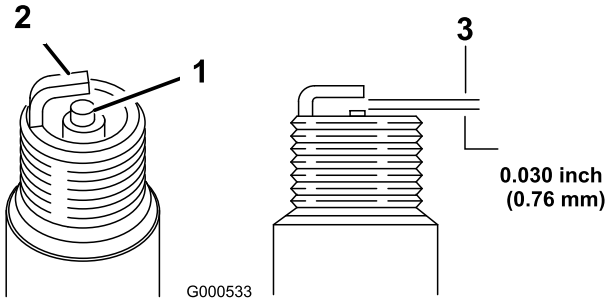


Figure 40

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

6. Install the spark plug and the gasket seal.
7. Torque the plug to 17 ft-lb (23 N·m).
8. Connect the wire to the spark plug.

Fuel System Maintenance

Emptying the Fuel Tank and Cleaning the Fuel Filter

Service Interval: Yearly

The fuel filter (screen) element is located inside the fuel tank.

1. Stop the engine and wait for it to cool down.

   Note: Drain gasoline from a cold engine only.

2. Disconnect the wire from the spark plug (Figure 18).
3. Disconnect the fuel line by loosening the tube clamp at the carburetor.
4. Drain the gasoline completely from the tank and fuel line into an approved fuel container.
5. Pour a small amount of fuel in the fuel tank, move the fuel around in the tank, and pour it out into an approved fuel container.
6. Install the fuel line.

Belt Maintenance

The drive belts on the line painter have been designed to be very durable. However, the normal exposure to UV radiation, ozone or incidental exposure to chemicals can deteriorate the rubber compounding over time and lead to wear or material loss (i.e. chunking).

Annual belt inspection is highly recommended for signs of wear, excessive cushion cracks, or large embedded debris with replacement when needed.

Storage

To prepare the line painter for off-season storage, perform the recommended maintenance procedures. Refer to Maintenance Section in Manual.

Store the machine in a cool, clean, and dry place. Cover the machine to keep it clean and protected.

Preparing the Spray System

1. Clean the spray system.
2. Move the Flush/Paint lever to the flush position and run/flush the tank dry.
3. Move the Flush/Paint lever to the paint position.
4. Pour one gallon of rust inhibiting, non-alcohol based, RV antifreeze solution into the paint tank.
5. Run the pump to circulate the antifreeze solution, then activate the paint control lever until antifreeze sprays out the nozzle.
6. Empty the fresh water tank
7. Drain the excess antifreeze solution from the tank.

Preparing the Engine

1. While the engine is still warm, change the oil from the crankcase. Refer to Changing the Engine Oil.
2. Remove the spark plug.
3. Using an oil can, add about one tablespoon of oil to the crankcase through the spark plug hole.
4. Slowly rotate the engine several times, using the starter rope, to distribute the oil.
5. Install the spark plug but **do not** connect the wire to the spark plug.

Preparing the Fuel System

⚠ WARNING

Gasoline can vaporize if you store it over long periods of time and explode if it comes into contact with an open flame.

- **Do not store gasoline over long periods of time.**
- **Do not store the line painter with gasoline in the fuel tank or the carburetor in an enclosure with an open flame. (For example, a furnace or a water heater pilot light.)**
- **Allow the engine to cool before storing it in any enclosure.**

Empty the fuel tank when before storing the line painter.

1. Run the line painter until the engine stops from running out of fuel.
2. Prime the engine and start it again.
3. Allow the engine to run until it stops. When you can no longer start the engine, it is sufficiently dry.

General Information

1. Clean any dirt and chaff from the engine cylinder head fins, and blower housing.
2. Remove any dirt and grime from the external parts of the engine, the shrouding, and the top of the line painter .
3. Service the air filter; refer to Servicing the Air Filter.
4. Tighten all nuts, bolts, and screws.
5. Touch up all rusted or chipped paint surfaces with paint available from an Authorized Service Distributor.

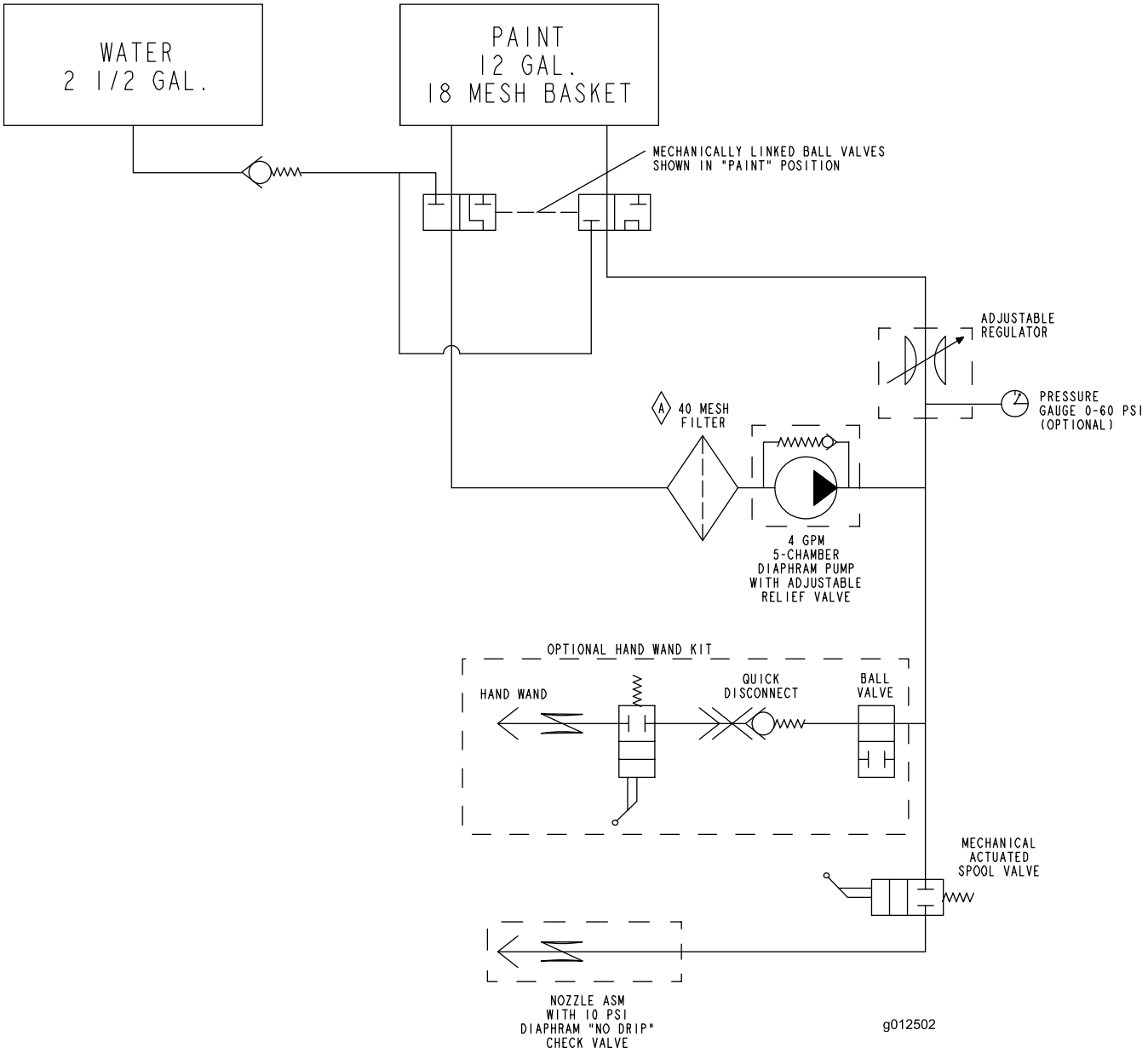
Removing the Line Painter from Storage

1. Check and tighten all fasteners.
2. Remove the spark plug and spin the engine rapidly using the starter to blow excess oil from the cylinder.
3. Clean the spark plug or replace it if it is cracked, broken, or if the electrodes are worn.
4. Install the spark plug. Refer to Servicing the Spark Plug.
5. Perform any needed maintenance procedures; refer to Maintenance.
6. Fill the fuel in the fuel tank with fresh gasoline.
7. Check the engine oil level.
8. Connect the wire to the spark plug.

Troubleshooting

Problem	Possible Cause	Corrective Action
Engine does not start	1. The fuel tank is empty or the fuel system contains stale fuel	1. Drain and/or fill the fuel tank with fresh gasoline. If the fuel tank is empty or the fuel system contains stale fuel problem persists, contact an Authorized Service Distributor.
	2. The wire is not connected to the spark plug.	2. Connect the wire to the spark plug.
	3. The spark plug is pitted, fouled, or the gap is incorrect.	3. Check the spark plug and adjust the gap if necessary. Replace the spark plug if it is pitted, fouled, or cracked.
Engine starts hard or loses power	1. The fuel tank contains stale fuel.	1. Drain and fill the fuel tank with fresh gasoline.
	2. The fuel cap vent hole is plugged.	2. Clean the fuel cap vent hole or replace the fuel cap.
	3. The air cleaner elements are dirty and are restricting the air flow.	3. Service the air cleaner elements.
	4. The spark plug is pitted, fouled, or the gap is incorrect.	4. Check the spark plug and adjust the gap if necessary. Replace the spark plug if it is pitted, fouled, or cracked.
	5. The engine oil level is low or the oil is dirty.	5. Check the engine oil. Change the oil if it is dirty or add oil if it is low.
Engine runs rough	1. The wire is not connected to the spark plug.	1. Connect the wire to the spark plug.
	2. The spark plug is pitted, fouled, or the gap is incorrect.	2. Check the spark plug and adjust the gap if necessary. Replace the spark plug if it is pitted, fouled, or cracked.
	3. The air cleaner elements are dirty and are restricting the air flow.	3. Service the air cleaner elements.
Line painter or engine vibrates excessively	1. The engine mounting bolts are loose.	1. Tighten the engine mounting bolts.
Line painter does not self-propel	1. The self-propel drive cable is out of adjustment.	1. Adjust the self-propel cable.
	2. The shift rod is out of adjustment.	2. Adjust the shift rod.
Line painter creeps when traction is disengaged	1. The traction drive cable is out of adjustment.	1. Adjust per instructions in the Service Manual.
	2. The traction belt is damaged	2. Replace the traction belt

Schematics



Paint System Schematic (Rev. 1)

The Toro Total Coverage Guarantee

A 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:

Commercial Products Service Department
Toro Warranty Company
8111 Lyndale Avenue South
Bloomington, MN 55420-1196
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, brakes pads and linings, clutch linings, blades, reels, bed knives, tines, spark plugs, castor wheels, tires, filters, belts, and certain sprayer components such as diaphragms, nozzles, and check valves, etc.
- Failures caused by outside influence. Items considered to be outside influence include, but are not limited to, weather, storage practices, contamination, use of unapproved coolants, lubricants, additives, fertilizers, water, or chemicals, etc.
- 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.

Note Regarding Deep Cycle Battery Warranty:

Deep cycle 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.

Maintenance is at Owner's Expense

Engine tune-up, lubrication cleaning and polishing, replacement of Items and Conditions Not Covered 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 printed in your *Operator's Manual* 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. If all other remedies fail, you may contact us at Toro Warranty Company.