



Count on it.

Operator's Manual

TM5490 5-Gang or TM7490 7-Gang Trailed Mower

Model No. 02700—Serial No. 315000001 and Up

Model No. 02701—Serial No. 315000001 and Up



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

Introduction

This machine is a trailed, reel-blade lawn mower intended to be used by professional, hired operators in commercial applications. It is primarily designed for cutting grass on parks, sports fields, caravan parks, cemeteries, and commercial grounds. It is not designed for cutting brush or for agricultural use.

Read the tractor operator’s manual for more information on using the tractor and attaching equipment to the tractor.

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 for product safety and operation training materials, accessory information, help finding a dealer, or to register your product at Toro Commercial Products Service Department Spellbrook, Bishop’s Stortford, CM23 4BU, England, +44(0)1279 603019; Email: uk.service@toro.com.

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. The model and serial numbers are under the front cover. Write the numbers in the space provided.

Model No. _____

Serial No. _____

This manual identifies potential hazards and has safety messages identified by the safety alert symbol (Figure 1), which signals a hazard that may cause serious injury or death if you do not follow the recommended precautions.



Figure 1

- 1. Safety alert symbol

This manual uses 2 words to highlight information.

Important calls attention to special mechanical information and **Note** emphasizes general information worthy of special attention.

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Safety

Improperly using or maintaining the 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 the instruction may result in personal injury or death.

Safe Operating Practices

Training

- Read the *Operator's Manual* and other training material carefully. Be familiar with the controls, safety signs, and the proper use of the equipment.
- If the operator or mechanic cannot read or understand the information, it is the owner's responsibility to explain it to them.
- Never allow children or people unfamiliar with these instructions to use or service the mower. Local regulations may restrict the age of the operator.
- Never mow while people, especially children, or pets are nearby.
- Keep in mind that the operator or user is responsible for accidents or hazards occurring to other people and damage to their property.
- Do not carry passengers.
- All drivers and mechanics should seek and obtain professional and practical instruction. The owner is responsible for training the users. Such instruction should emphasize:
 - The need for care and concentration when working with trailed mowers
 - Control of the trailed mower sliding on a slope will not be regained by the application of the brake. The main reasons for loss of control are:
 - ◇ insufficient wheel grip, especially on wet grass
 - ◇ being driven too fast
 - ◇ inadequate braking
 - ◇ the type of machine is unsuitable for its task
 - ◇ lack of awareness of the effect of ground conditions, especially slopes
 - ◇ incorrect hitching and load distribution

Preparation

- While mowing, always wear substantial, slip-resistant footwear, long trousers, hard hat, and safety glasses. Long hair, loose clothing, or jewelry may get tangled in moving parts. Do not operate the equipment when barefoot or wearing open sandals.
- Thoroughly inspect the area where the equipment is to be used and remove all objects which may be thrown by the machine.

- Use only accessories and attachments approved by the manufacturer.
- Before using, always visually inspect to see that the blades, blade bolts, and cutter assembly are not worn or damaged. Replace worn or damaged blades and bolts in sets to preserve balance.
- On multi-bladed machines, take care as rotating 1 blade can cause other blades to rotate.
- Check that the safety switches and shields are attached and functioning properly. Do not operate unless they are functioning properly.

Operation

- Mow only in daylight or in good artificial light.
- Before attempting to start the tractor engine, set the parking brake, disengage the cutting-unit drive system and ensure that the forward/reverse speed controls are in the NEUTRAL position.
- Do not use on a slope of more than 15 degrees when in use or 10 degrees with the cutting units raised. Care should be taken when using the mower on any slope where ground conditions are such that there may be a risk of the mower rolling over.

The slope angle may be reduced if the stability angle of the towing tractor is less than that of the mower.

- Remember that there is no such thing as a safe slope. Traveling on grass slopes requires particular care. To guard against overturning:
 - Do not stop or start suddenly when going up or downhill.
 - Machine speeds should be kept low on slopes and during tight turns.
 - Stay alert for humps and hollows and other hidden hazards.
 - Do not turn sharply. Use care when reversing.
- Do not operate near drop-offs, ditches, steep banks, or water.
- Watch out for traffic when crossing or near roadways.
- Stop the blades rotating before crossing surfaces other than grass.
- When using any attachments, never direct discharge of material toward bystanders nor allow anyone near the machine while in operation.
- Never operate the machine with damaged guards, shields, or without safety protective devices adjusted and functioning properly.
- Before leaving the operator's position:
 - Stop on level ground.
 - Disengage the drive to the cutting units.
 - Lift the cutting units to the transport position and securely lock the safety latches, or lower the cutting units to the ground.

- Ensure that the transmission is in neutral and engage the parking brake.
- Stop the engine and remove the key.
- When moving the mower between work sites, it is important to ensure that the cutting units cannot be inadvertently lowered and started:
 - disengage the drive to the cutting units;
 - raise the cutting units to the transport position;
 - engage the transport latches and the safety locking rings.
- Stop the tractor engine and disengage the drive to the cutting units:
 - before making height adjustment unless adjustment can be made from the operator's position.
 - before clearing blockages;
 - before checking, cleaning, or working on the mower;
 - after striking a foreign object or if an abnormal vibration occurs. Inspect the mower for damage and make repairs before starting and operating the equipment.
- Keep hands and feet away from the cutting units.
- Look behind and down before backing up to be sure of a clear path.
- Slow down and use caution when making turns and crossing roads and sidewalks. Stop the cylinders / cutting units if not mowing.
- Do not operate the mower when you are ill, tired, or 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.
- Use care when loading or unloading the machine into or out of a trailer or a truck.
- Use care when approaching blind corners, shrubs, trees, or other objects that may obscure vision.
- Know how to stop the tractor engine quickly.
- Raise and latch the cutting units when driving from one work area to another.
- When a person or pet appears unexpectedly in or near the mowing area, stop mowing. Careless operation, combined with terrain angles, ricochets, or improperly positioned guards can lead to thrown-object injuries. Do not resume mowing until the area is cleared.
- Be careful during adjustment of the machine to prevent entrapment of the fingers between moving blades and fixed parts of the machine.
- On multi-bladed machines, take care, as rotating 1 blade can cause other blades to rotate.
- Disengage drives, lower the cutting units, set the parking brake, stop the engine, and remove key from the tractor ignition. Wait for all movement to stop before adjusting, cleaning, or repairing.
- Use jack stands to support components when required.
- Carefully release pressure from components with stored energy.
- Use care when checking the cutting units. Wear gloves and use caution when servicing them.
- Make sure that all hydraulic-line connectors are tight and all hydraulic hoses and lines are in good condition before applying pressure to the system.
- Keep your body and hands away from pin-hole leaks or nozzles that eject hydraulic fluid under high pressure. Use paper or cardboard, not your hands, to search for leaks. Hydraulic fluid escaping under pressure can have sufficient force to penetrate the skin and cause serious injury. If fluid is injected into the skin it must be surgically removed within a few hours by a doctor familiar with this form of injury; otherwise, gangrene may result.
- Keep hands and feet away from moving parts. If possible, do not make adjustments with the tractor engine running.
- Before disconnecting or performing any work on the hydraulic system, all pressure in the system must be relieved by stopping the engine and lowering the cutting units to the ground.
- If the engine must be running to perform a maintenance adjustment, keep hands, feet, clothing, and any parts of the body away from the cutting units, attachments, and any moving parts. Keep everyone away.
- If major repairs are ever needed or if assistance is desired, contact an Authorized Toro Distributor.
- 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.

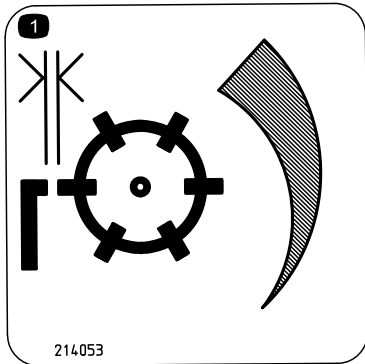
Maintenance and Storage

- Keep all nuts, bolts, and screws tight to be sure the equipment is in safe working condition.
- Keep all parts in good working condition and all hardware and hydraulic fittings tightened. Replace all worn or damaged parts and decals with Toro authorized parts.

Safety and Instructional Decals

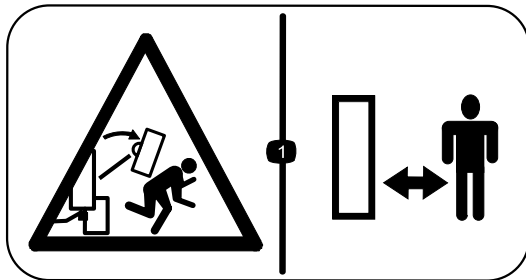


Safety decals and instructions are easily visible to the operator and are located near any area of potential danger. Replace any decal that is damaged or lost.



214053

1. On-cut adjustment



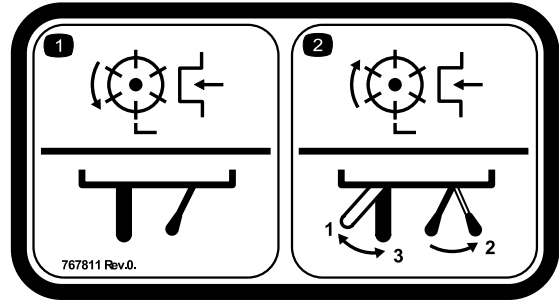
749804

1. Crushing/falling hazard—keep bystanders away from the machine.



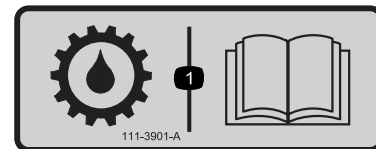
767810

1. Tire pressure—2.2 bar (32 psi)
2. Torque the nuts—214 N-m



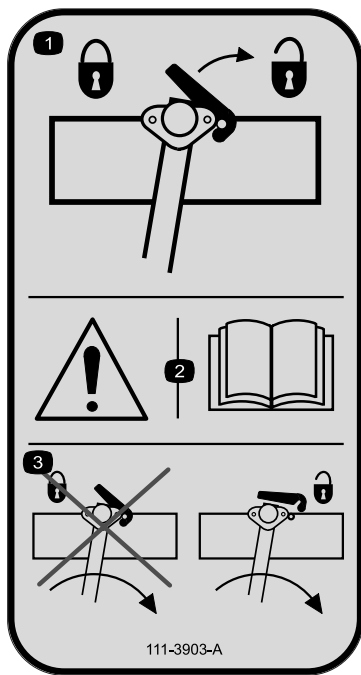
767811

1. Normal position of rotary valve controls for forward cutting unit rotation.
2. To engage backlap—rotate the lock lever CW to position 1; rotate the rotary valve CCW to position 2; release the lock lever CCW to position 3.



111-3901

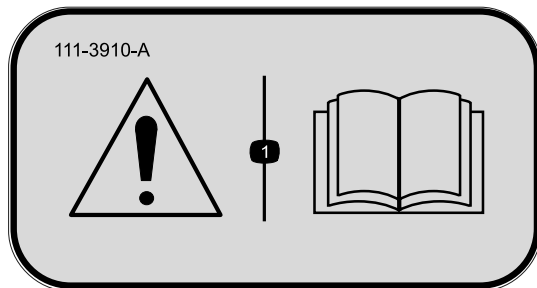
1. Transmission oil—read the *Operator's Manual* for more information.



111-3903

Model 02701 Only

1. Move the lever to the left to lock—move the lever to the right to unlock.
2. Warning—read the *Operator's Manual*.
3. Do not lower the lift arm when the cutting unit is latched in position—unlock the latch before lowering the cutting unit.



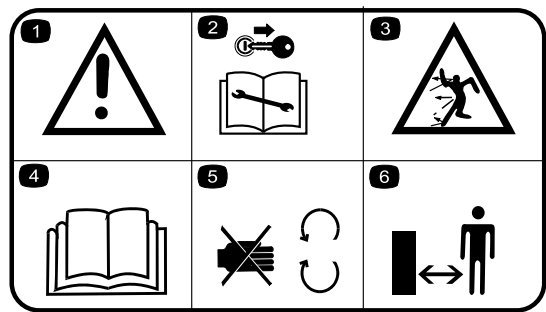
111-3910

1. Warning—read the *Operator's Manual*.



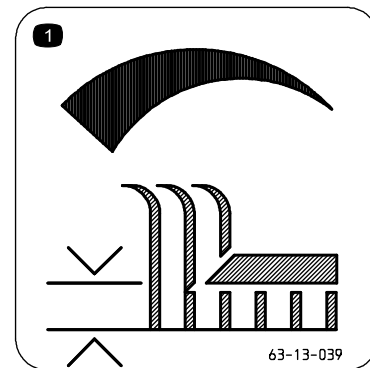
40-13-010

1. Cutting hazard of hand
2. Cutting hazard of foot



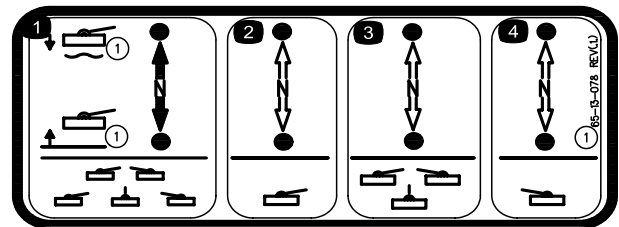
61-13-019

1. Warning
2. Remove the key from the ignition before performing maintenance.
3. Thrown object hazard
4. Read the *Operator's Manual*.
5. Keep away from moving parts.
6. Keep bystanders away from machine.



63-13-039

1. Height-of-cut adjustment



65-13-078

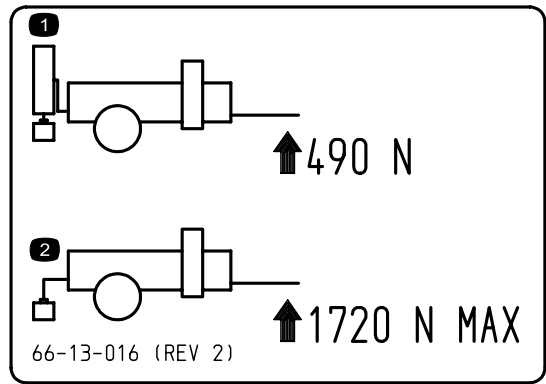
Model 02700

1. Raise/lower all the cutting units.
2. Raise/lower the left cutting unit.
3. Raise/lower the center cutting units.
4. Raise/lower the right cutting unit.



65-13-079

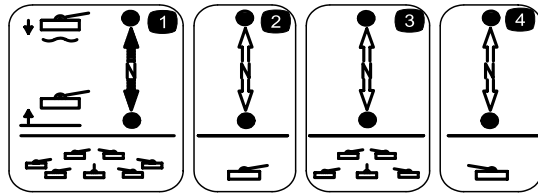
1. Warning—entanglement hazard
2. Lubricate the PTO shaft every 8 hours—PTO 540 rpm



66-13-016

Model 02700

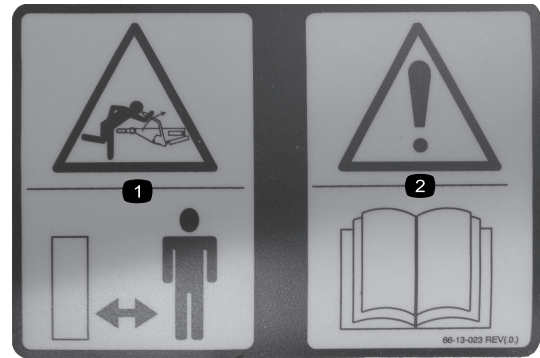
1. Minimum drawbar load—490 N
2. Maximum drawbar load—1720 N max



66-13-013

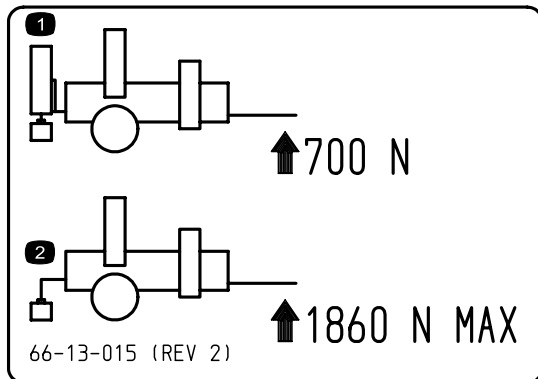
Model 02701

1. Raise/lower all the cutting units.
2. Raise/lower the left cutting unit.
3. Raise/lower the center cutting units.
4. Raise/lower the right cutting unit.



66-13-023

1. Hazard—spring-loaded parking brake; keep bystanders away.
2. Warning—read the *Operator's Manual*.



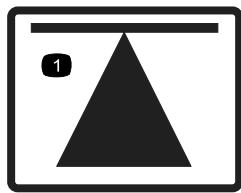
66-13-015

Model 02701

1. Minimum drawbar load—700 N
2. Maximum drawbar load—1860 N max

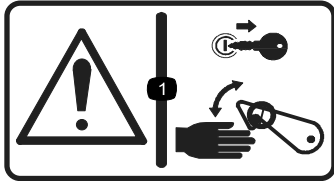
<p>WARNING </p> <p>TENSION BRAKE LINKAGE BEFORE REMOVING LOCKING PIN. REMOVE LOCKING PIN BEFORE COMMISSIONING THE MOWER.</p>	<p>AVERTISSEMENT </p> <p>TENDEZ LA TIMONERIE DU FREIN AVANT DE RETIRER LE GOIJON DE BLOCAGE. RETIREZ LE GOIJON DE BLOCAGE AVANT DE METTRE LA TONDEUSE EN SERVICE.</p>	<p>WARNUNG </p> <p>BREMSEGESTANGE VOR ENTFERNEN DES SPERRBOLZENS ANZIEHEN. SPERRBOLZEN VOR INBETRIEBNAHME DES MAHERS ENTFERNEN.</p>	<p>WAARSCHUWING </p> <p>VOORDAT DE BORGPEN WORDT VERWIJDERD, DE STANGVERBINDING VAN HET REMSYSTEEM ONDER SPANNING ZETTEN. VOORDAT DE MAAMACHINE WORDT GEBRUIKT, DE BORGPEN VERWIJDEREN.</p>
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66-13-025



70-13-072

1. Jacking point
-



70-13-077

1. Warning—stop the engine and remove the ignition key before releasing or operating safety latches.
-

Setup

Loose Parts

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

Procedure	Description	Qty.	Use
1	Cutting unit (sold separately)	–	Install the cutting units.
2	Light board Light-board bracket Bolt (M8 x 80) Washer (M8) Locknut (M8) Light-board securing plate Bolt (M10 x 40) Washer (M10) Locknut (M10)	1 2 4 8 4 2 4 8 4	Install the lights.
3	No parts required	–	Check the minimum PTO length (maximum compressed condition).
4	No parts required	–	Check the maximum PTO length.

1

Installing the Cutting Units

Model 02700 (TM5490) Only

Parts needed for this procedure:

–	Cutting unit (sold separately)
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Installing the Cutting Units

Model 02700 (TM5490) Only

⚠ CAUTION

Some components on the cutting unit are sharp and can cut you.

Take care to avoid the sharp edges of the cutting cylinder and the bottom blade when lifting or working on the cutting unit.

⚠ WARNING

The cutting unit is heavy and can cause personal injury.

Use suitable lifting equipment when removing the cutting unit from the carton and during installation.

1. Start the tractor engine, hitch up the mower, and connect the PTO shaft.
2. Operate the control lever to lift the suspension arms to the fully raised position to reduce pressure on the arms; refer to [Control Levers \(page 19\)](#).
3. Unlock the cutting-unit suspension arms by moving the red transport latches to the released position and carefully lower the arms to the floor; refer to [Transport Latches \(page 19\)](#).
4. Unpack the 5 cutting units.
5. Lay out the cutting units around the machine in the correct positions as shown in [Figure 2](#).

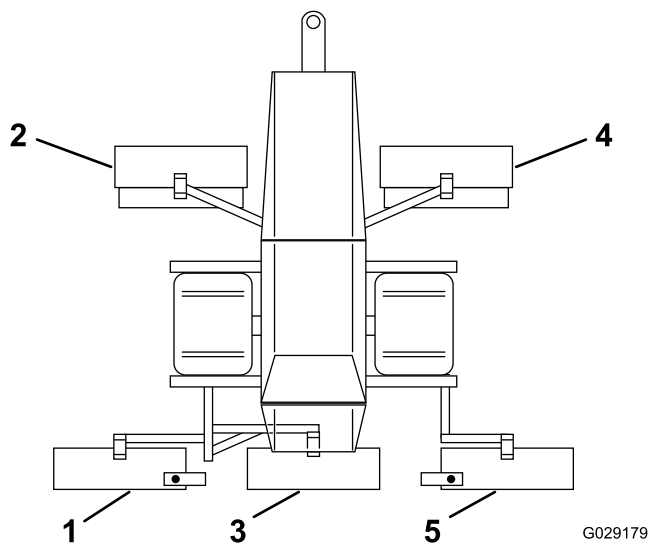


Figure 2

- | | |
|-------------------|-------------------|
| 1. Cutting unit 1 | 4. Cutting unit 4 |
| 2. Cutting unit 2 | 5. Cutting unit 5 |
| 3. Cutting unit 3 | |

6. For 254 mm (10 inch) cutting units, fit the bump stop, 2 roller-box plates, and the roller plate to cutting units 1 and 5 (hydraulic-motor end) using 1 carriage bolt (M10 x 55 mm), 1 hex-head bolt (M10 x 90 mm), 2 locknuts (M10), and 2 washers (M10); refer to [Figure 3](#).

For 200 mm (8 inch) cutting units, fit the bump stop, 1 roller-box plate, and the roller box to cutting units 1 and 5 (hydraulic-motor end) using 1 carriage bolt (M10 x 55 mm), 1 hex-head bolt (M10 x 90 mm), 2 locknuts (M10), and 2 washers (M10); refer to [Figure 4](#).

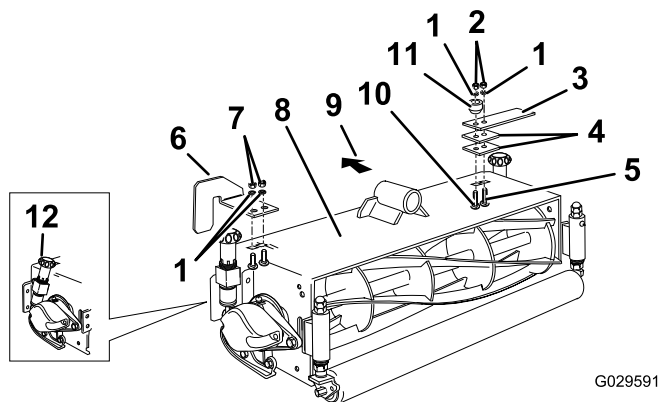


Figure 3

Cutting units 1 and 5 only

- | | |
|--------------------------------|---------------------------------------|
| 1. Washer (M10) | 7. Locknut (M5) |
| 2. Locknut (M10) | 8. Cutting-unit assembly |
| 3. Plate | 9. Forward |
| 4. Roller-box plate | 10. Bolt (M10 x 90 mm) |
| 5. Carriage bolt (M10 x 55 mm) | 11. Bump stop |
| 6. Right deflector plate | 12. Handwheel in angled-back position |

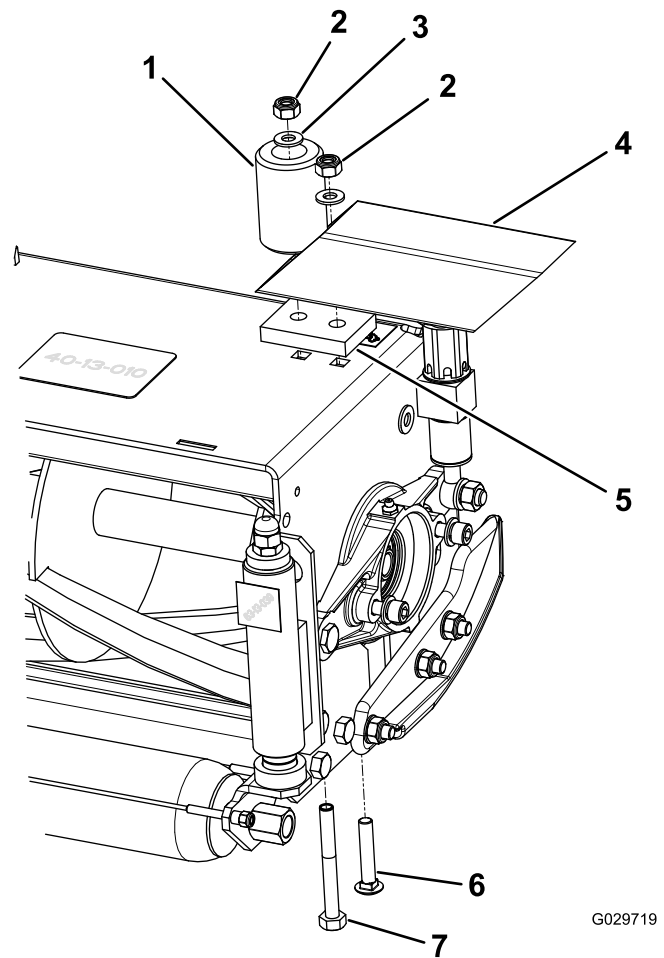


Figure 4

200 mm (8 inch) cutting unit only

- | | |
|------------------|--------------------------------|
| 1. Bump stop | 5. Roller-box plate |
| 2. Locknut (M10) | 6. Carriage bolt (M10 x 55 mm) |
| 3. Washer (M10) | 7. Bolt (M10 x 90 mm) |
| 4. Roller box | |

7. Modify cutting units 4 and 5 from left-hand to right-hand configuration as follows:
- Remove and discard the protective cover.
 - Remove the snap ring.
 - Remove the counterweight together with the O-ring and fit it to the non-drive end.
 - Tighten the socket-head cap screws to 80 N-m (59 ft-lb).

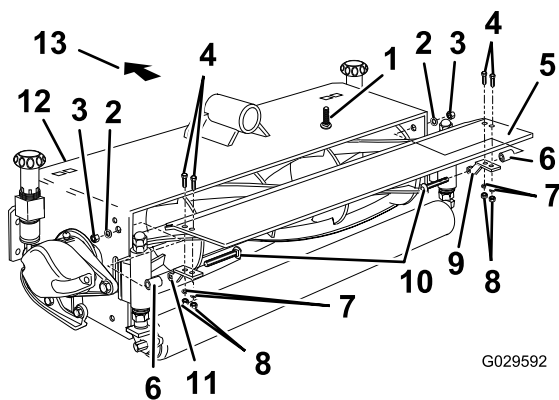


Figure 5

Cutting units 2 and 4 only

- | | |
|--------------------------------|---------------------------------|
| 1. Carriage bolt (M10 x 25 mm) | 8. Locknut (M5) |
| 2. Washer (M10) | 9. Right deflector bracket |
| 3. Locknut (M10) | 10. Carriage bolt (M10 x 55 mm) |
| 4. Screw (M5 x 16 mm) | 11. Left deflector bracket |
| 5. Rear deflector | 12. Cutting-unit assembly |
| 6. Deflector spacer | 13. Forward |
| 7. Washer (3/16 inch) | |

Important: Fit the snap ring to the drive end.

8. Modify the cylinder-adjustment handwheel assemblies on cutting unit 3 to the angled-back position as follows (Figure 6):
 - A. Remove the nuts, bolts, and washers from the forward holes.
 - B. Remove the nuts, bolts, and washers which attach the handwheel assemblies to the cutting-unit frame.
 - C. Remove the ring bolt clamp nuts, washers, and spring washers, and remove the handwheel assemblies.
 - D. Adjust the handwheel assemblies to provide the correct fastening centers and install them in the alternative positions.
 - E. Install all fasteners and tighten them securely.

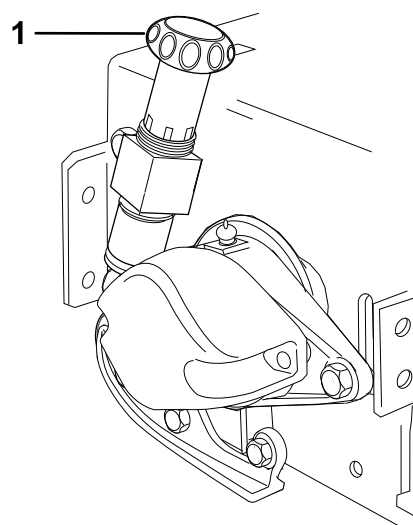


Figure 6

1. Handwheel angled to rear

9. Secure each cutting unit to the mower in the correct position using the pivot pin, 2 locknuts (M24), 2 washers (M24), 2 nut caps, a pin retainer, 2 Belleville washers (where applicable), a setscrew (M12 x 30 mm), and a spring washer (Figure 7).

Note: Cutting units 2 and 4 mount **in front of** their respective suspension arms.

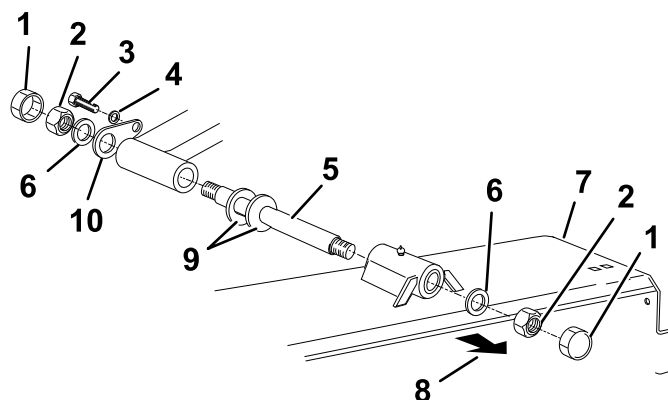


Figure 7

254-mm cutting unit

- | | |
|-----------------------------------|--------------------------|
| 1. Nut cap | 6. Washer (M24) |
| 2. Locknut (M24) | 7. Cutting-unit assembly |
| 3. Screw (M12 x 30 mm) | 8. Forward |
| 4. Spring washer (M12) | 9. Belleville washers |
| 5. Supplied with the cutting unit | 10. Pin retainer |

Installing the Cutting Units

Model 02701 (TM7490) Only

⚠ CAUTION

Some components on the cutting unit are sharp and can cut you.

Take care to avoid the sharp edges of the cutting cylinder and the bottom blade when lifting or working on the cutting unit.

⚠ WARNING

The cutting unit is heavy and can cause personal injury.

Use suitable lifting equipment when removing the cutting unit from the carton and during installation.

1. Start the tractor engine, hitch up the mower, and connect the PTO shaft.
2. Operate the control lever to lift the suspension arms to the fully raised position to reduce pressure on the arms; refer to [Control Levers](#) (page 19).
3. Unlock the cutting-unit suspension arms by moving the red transport latches to the released position and carefully lower the arms to the floor; refer to [Transport Latches](#) (page 19).
4. Unpack the 7 cutting units.
5. Lay out the cutting units around the machine in the correct positions as shown in [Figure 8](#).

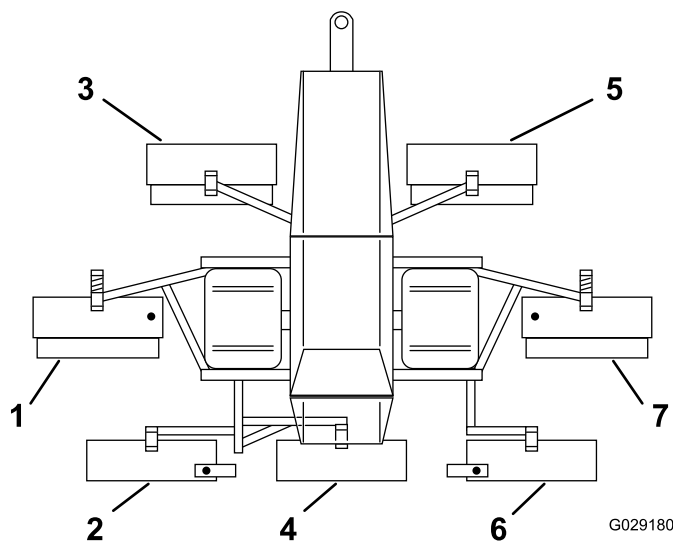


Figure 8

- | | |
|-------------------|-------------------|
| 1. Cutting unit 1 | 5. Cutting unit 5 |
| 2. Cutting unit 2 | 6. Cutting unit 6 |
| 3. Cutting unit 3 | 7. Cutting unit 7 |
| 4. Cutting unit 4 | |

6. Assemble the wing-arm latch plates for cutting units 1 and 7 as follows ([Figure 9](#)):
 - A. Fit the washer (M16), the latch, the spring washer (M12), and the locknut (M12) to the shouldered pin on the latch plate.
 - B. Tighten the nut so that the latch is stiff but can move from side to side.
 - C. Assemble the hose guide and 4 nuts (M10) to the latch plate.
 - D. Prepare the other assembly in the opposite hand configuration.

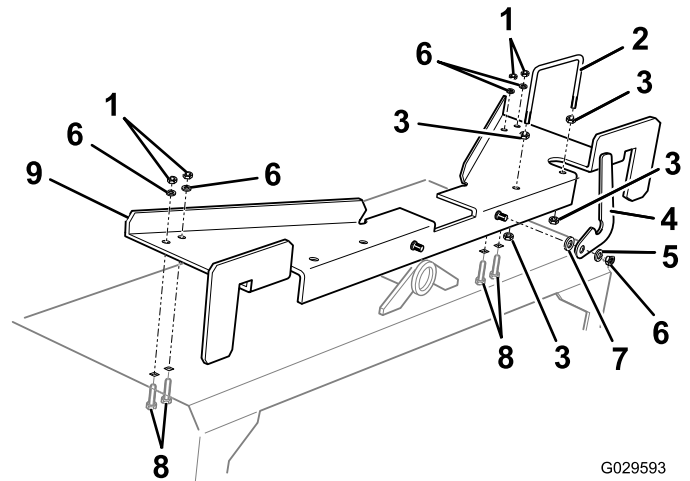


Figure 9
Cutting units 1 and 7 only

- | | |
|------------------------|--------------------------------|
| 1. Locknut (M10) | 6. Locknut (M12) |
| 2. Hose guide | 7. Washer (M16) |
| 3. Nut (M10) | 8. Carriage bolt (M10 x 25 mm) |
| 4. Latch | 9. Latch plate |
| 5. Spring washer (M12) | |

7. For 254 mm (10 inch) cutting units, fit the bump stop, 2 roller-box plates, and the roller plate to cutting units 2 and 6 (hydraulic-motor end) using 1 carriage bolt (M10 x 55 mm), 1 hex-head bolt (M10 x 90 mm), 2 locknuts (M10), and 2 washers (M10); refer to [Figure 10](#).

For 200 mm (8 inch) cutting units, fit the bump stop, 1 roller-box plate, and the roller box to cutting units 2 and 6 (hydraulic-motor end) using 1 carriage bolt (M10 x 55 mm), 1 hex-head bolt (M10 x 90 mm), 2 locknuts (M10), and 2 washers (M10); refer to [Figure 11](#).

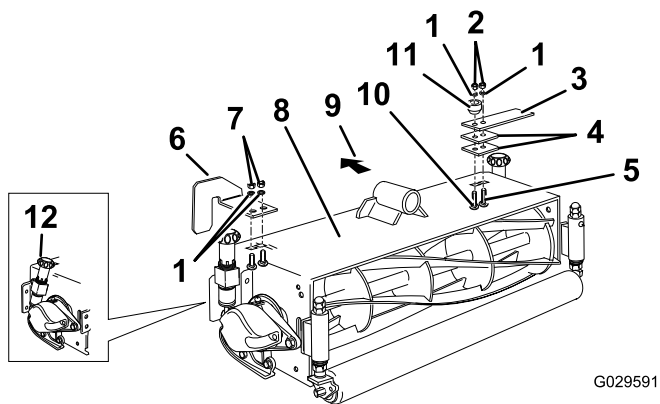


Figure 10

Cutting units 2 and 6 only

- | | |
|--------------------------------|---------------------------------------|
| 1. Washer (M10) | 7. Locknut (M5) |
| 2. Locknut (M10) | 8. Cutting-unit assembly |
| 3. Plate | 9. Forward |
| 4. Roller-box plate | 10. Bolt (M10 x 90 mm) |
| 5. Carriage bolt (M10 x 55 mm) | 11. Bump stop |
| 6. Right deflector plate | 12. Handwheel in angled-back position |

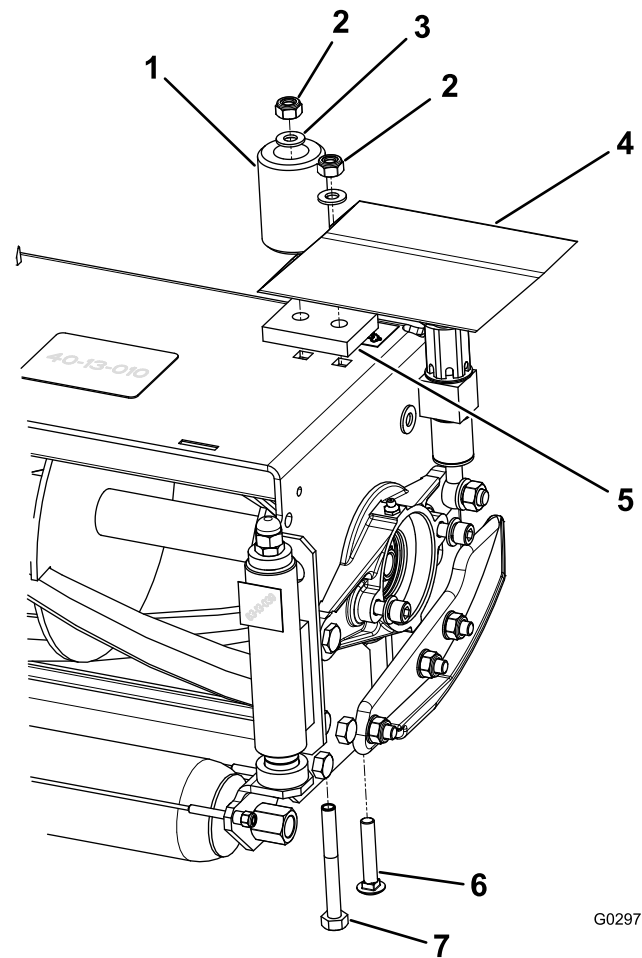


Figure 11

200 mm (8 inch) cutting unit only

- | | |
|------------------|--------------------------------|
| 1. Bump stop | 5. Roller box plate |
| 2. Locknut (M10) | 6. Carriage bolt (M10 x 55 mm) |
| 3. Washer (M10) | 7. Bolt (M10 x 90 mm) |
| 4. Roller box | |

8. Install the wing-arm latch-plate assemblies (step 6) to the respective cutting units, and secure each assembly with 4 carriage bolts (M10 x 25), 4 washers (M10), and 4 locknuts (M10).
9. Modify cutting units 5, 6, and 7 from left-hand to right-hand configuration as follows:
 - A. Remove and discard the protective cover.
 - B. Remove the snap ring.
 - C. Remove the counterweight together with the O-ring and fit it to the non-drive end.
 - D. Tighten the socket-head cap screws to a torque of 80 N-m (59 ft-lb).
 - E. Fit the snap ring to the **drive end**.

Note: Refer to the cutting unit operator's manual for more information.

10. Modify the cylinder-adjustment handwheel assemblies on cutting unit 4 to the angled-back position as follows; refer to [Figure 6](#):
 - A. Remove the nuts, bolts, and washers from the forward hole.
 - B. Remove the nuts, bolts, and washers which attach the handwheel assemblies to the cutting-unit frame.
 - C. Remove the ring bolt clamp nuts, washers, and spring washers and remove the handwheel assemblies.
 - D. Adjust the handwheel assemblies to provide the correct fastening centers and install them in the alternative positions.
 - E. Install all fasteners and tighten them securely.
11. Secure each cutting unit to the mower in the correct position using the pivot pin, 2 locknuts (M24), 2 washers (M24), 2 nut caps, a pin retainer, 2 Belleville washers (where applicable), a setscrew (M12 x 30 mm), and a spring washer ([Figure 12](#)).

Note: Cutting units 3 and 5 mount **in front of** their respective suspension arms

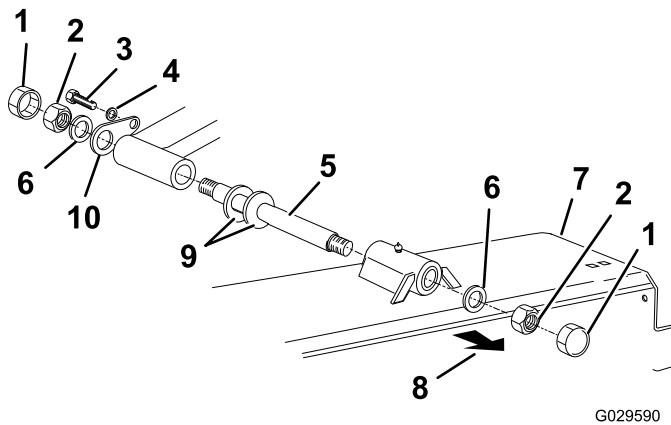


Figure 12

- | | |
|-----------------------------------|--------------------------|
| 1. Nut cap | 6. Washer (M24) |
| 2. Locknut (M24) | 7. Cutting-unit assembly |
| 3. Screw (M12 x 30 mm) | 8. Forward |
| 4. Spring washer (M12) | 9. Belleville washers |
| 5. Supplied with the cutting unit | 10. Pin retainer |
-
12. Assemble the hydraulic-motor assemblies to the cutting units as follows:
 - A. Remove the socket cap screws, spring washers, plain washers, and the protective cover.
 - B. Remove the hose tie securing the hydraulic-motor assembly to the machine.
 - C. Unfold the hoses and ensure that they are neatly routed while offering the motor up to the cutting unit.

Note: The hoses for cutting units 1 and 7 must pass through the hose guide on the respective wing-arm latch-plate assembly.

- D. Align and mesh the motor-shaft spline with the coupling on the cutting cylinder. Ensure that the motor is fully located into the bearing housing. If necessary, gently tap the motor into position with a **soft** mallet, until it is secure against the bearing housing.
 - E. Secure the motor in position using the fasteners previously removed and torque to 80 N-m (59 ft-lb).
 - F. Repeat steps **A** to **E** for the remaining cutting units.
13. Fit the deflectors to cutting units 1, 3, 5, and 7 using the deflector brackets and spacers, and secure them with the fasteners as shown in [Figure 13](#).

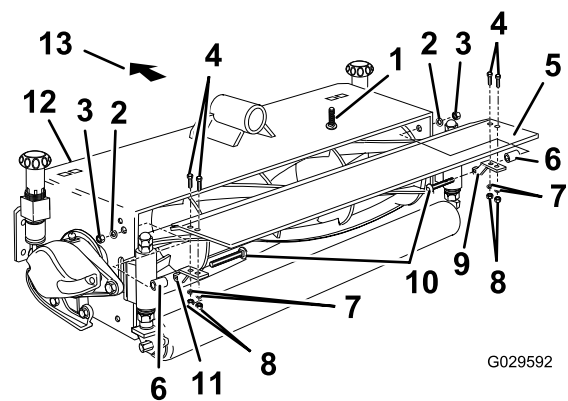


Figure 13

Cutting units 1, 3, 5, and 7 only

- | | |
|--------------------------------|---------------------------------|
| 1. Carriage bolt (M10 x 25 mm) | 8. Locknut (M5) |
| 2. Washer (M10) | 9. Right deflector bracket |
| 3. Locknut (M10) | 10. Carriage bolt (M10 x 55 mm) |
| 4. Screw (M5 x 16 mm) | 11. Left deflector bracket |
| 5. Rear deflector | 12. Cutting-unit assembly |
| 6. Deflector spacer | 13. Forward |
| 7. Washer (3/16 inch) | |

14. Immediately following installation, fill all bearing housings full of grease via the grease fittings.

Note: This requires a significant quantity of a good-quality, medium-grade grease.

2

Installing the Lights

Parts needed for this procedure:

1	Light board
2	Light-board bracket
4	Bolt (M8 x 80)
8	Washer (M8)
4	Locknut (M8)
2	Light-board securing plate
4	Bolt (M10 x 40)
8	Washer (M10)
4	Locknut (M10)

Procedure

1. Assemble the light-board brackets to the rear of the machine, using 4 bolts (M8 x 80), 8 washers (M8), and 4 locknuts (M8), as well as the 2 fasteners holding the diverter valves for the two rear corner cutting units (cutting units 1 and 5 for Model 02700; cutting units 2 and 6 for Model 02701) to secure the lower part of the bracket as shown (Figure 14).

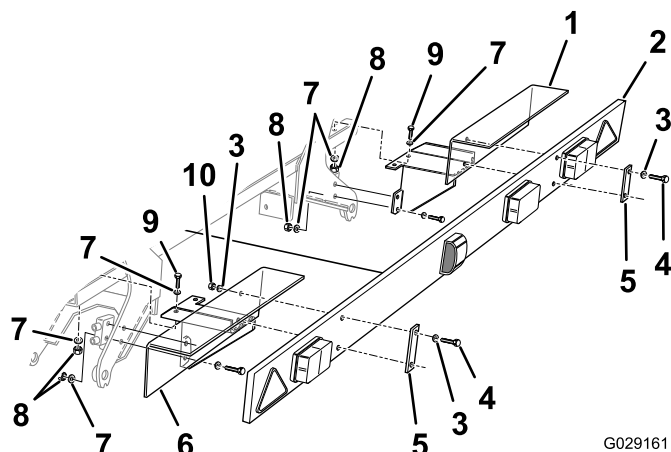


Figure 14

- | | |
|----------------------------------|-----------------------------|
| 1. Right light-board bracket | 6. Left light-board bracket |
| 2. Lighting board | 7. Washer (M8) |
| 3. Washer (M10) | 8. Locknut (M8) |
| 4. Bolt (M10 x 60 mm) | 9. Bolt (M8 x 80 mm) |
| 5. Lighting board securing plate | 10. Nut (M10) |

⚠ WARNING

A malfunctioning diverter valve could lead to an accident and cause personal injury or property damage.

Ensure that the cam follower is in contact with the cam and that the diverter valve action is in full working order after assembling the diverter-valve fasteners.

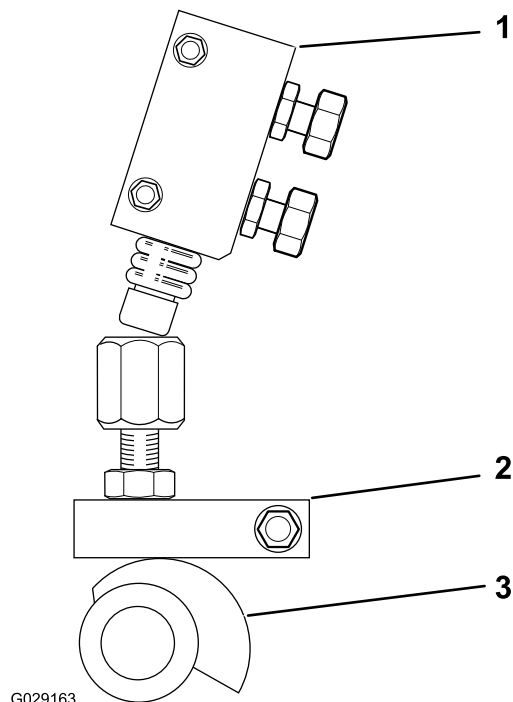


Figure 15

- | | |
|-------------------|------------|
| 1. Diverter valve | 3. Arm cam |
| 2. Cam follower | |

2. Fit the light board to the brackets and secure it using 2 light-board securing plates, 4 bolts (M10 x 40), 8 washers (M10), and 4 locknuts (M10); refer to Figure 14.

3

Checking the Minimum PTO Length

No Parts Required

Procedure

Each tractor can be different. Check the minimum PTO length every time that you connect the mower to a different tractor.

Important: Remove the PTO shaft before positioning the tractor and performing this procedure.

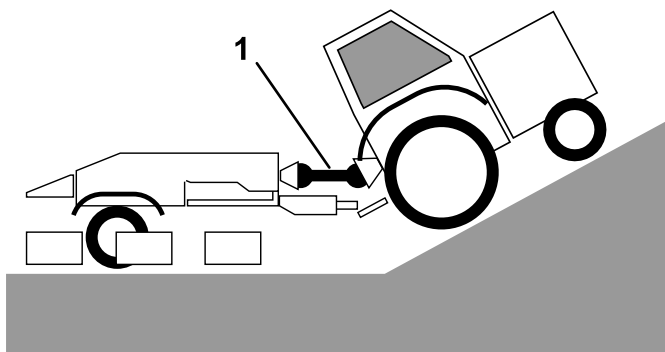
⚠ DANGER

Operating a machine on a slope steeper than that specified by the machine manufacturer could result in possible injury or death.

- Follow the slope limits specified by the tractor manufacturer.
- Do not use the mower on slopes greater than 15 degrees with the cutting units lowered, or greater than 10 degrees with the cutting units raised.

Reduce the slope angle as required if the stability angle of the towing tractor is less than that of the mower.

1. With the tractor coupled to the machine in a straight line and parked in a position to give the shortest PTO-shaft length (Figure 16), apply the handbrake of the tractor, turn the ignition switch to the OFF position, and apply the mower parking brake.

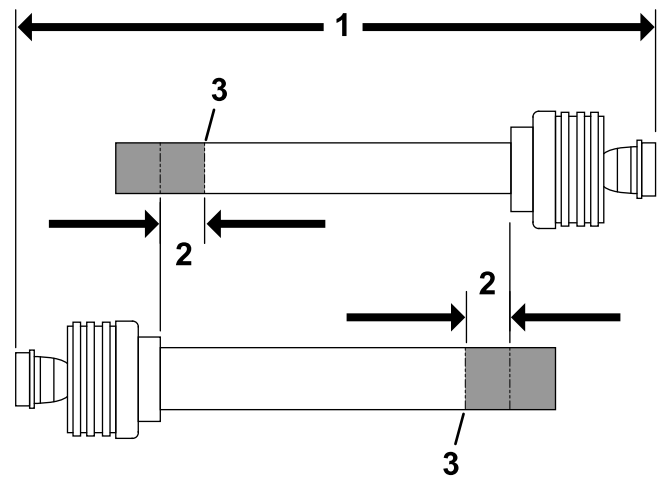


G029173

Figure 16

1. Location of PTO shaft (removed)

2. Separate the 2 halves of the PTO shaft.
3. Assemble the half with the wide angle joint to the tractor and the other half to the mower.
4. Align the 2 halves side by side and transfer a mark from the back of the guard end of the other half. From this mark, measure back 40 mm (1-9/16 inches) and mark a cutting line on both halves.



G029165

Figure 17

1. PTO shaft at shortest working length
2. 40 mm (1-9/16 inches)
3. Cut the guard here.

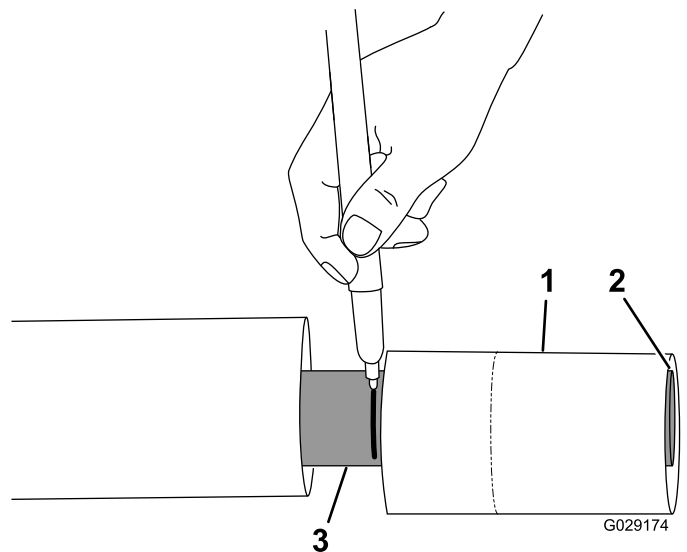
5. Remove the shafts from the machine and the tractor.

Note: Cut only the plastic guard at each cutting line, taking care not to mark the shaft inside.

Note: Retain the cut-off sections of the guard.

6. Using a cut-off section of the guard as a template, mark a cutting line from the end of each shaft (Figure 18).

Note: This ensures that you remove the same amount of shaft and guard.



G029174

Figure 18

1. Cut-off section of guard
2. End of PTO shaft aligned with end of guard section
3. PTO shaft

7. Cut each shaft at the mark, using a suitable cutting device, such as a hacksaw or an abrasive cutting wheel.

⚠ CAUTION

You could be injured if you do not wear the appropriate personal protective equipment while cutting the shafts.

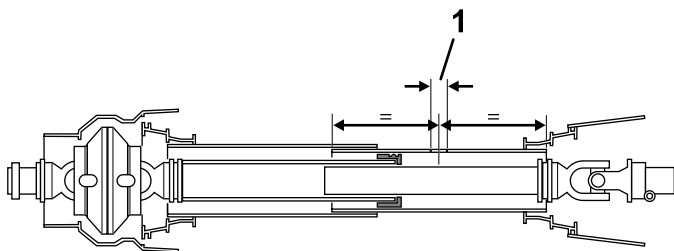
Wear eye protection, ear protection, and work gloves.

8. Remove any burrs and rough edges from the inside and outside of each shaft.

Important: Burrs and rough edges will damage the Rilsan coating on the shafts and shorten the working life of the shaft.

9. Drill a 25 mm (1 inch) hole on the inner guard tube through 1 wall only, and remove all burrs (Figure 19).

Note: This is for future greasing of the shaft.



G029177

Figure 19

1. 25 mm (1 inch) hole

10. Grease the 2 shafts and assemble them together.

Note: Ensure that the halves slide smoothly and uninterrupted.

11. Install the PTO shaft to the machine and the tractor.

Important: Do not modify the PTO shaft in any other way.

4

Checking the Maximum PTO Length

No Parts Required

Procedure

Each tractor can be different. Check the maximum PTO length every time that you connect the mower to a different tractor.

Connect the mower to a tractor; refer to [Connecting the Mower to a Tractor](#) (page 22).

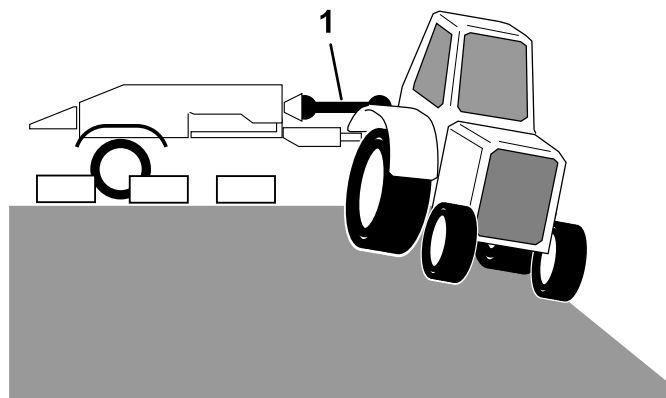
1. Remove the PTO shaft.
2. Position the tractor/mower combination with the tractor turning sharply on a steep downward slope and the mower on level ground (Figure 20).

⚠ DANGER

Operating a machine on a slope steeper than that specified by the machine manufacturer could result in possible injury or death.

- Follow the slope limits specified by the tractor manufacturer.
- Do not use the mower on slopes greater than 15 degrees with the cutting units lowered, or greater than 10 degrees with the cutting units raised.

Reduce the slope angle as required if the stability angle of the towing tractor is less than that of the mower.



G029172

Figure 20

1. PTO shaft

3. Set the tractor parking brake, stop the engine, remove the ignition key, apply the mower handbrake, and chock the rear tractor wheels.
4. Assemble the PTO shaft, ensuring that the large wide-angle joint is connected to the tractor PTO (as shown on the PTO guard).

Important: Ensure that the release clips are fully engaged. In this position, the overlap of the 2 shafts must be at least 1/3 of the length of each half-shaft (**Figure 21**). If the shaft extension does not achieve this minimum overlap, then serious damage will result.

The telescopic shaft should operate with as much engagement as possible under normal working conditions for optimum working life. If it is less than the minimum, contact your Authorized Toro Distributor.

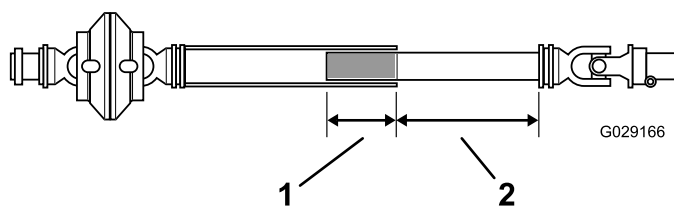


Figure 21

1. 1/3

2. 2/3

Product Overview

Controls

The standard controls included with the machine are levers. If your machine has the optional electric lift kit, refer to the kit instructions for information about those controls.

Control Levers

The control levers (Figure 22) raise and lower the cutting units. The short lever on the left raises and lowers all the cutting units together. The long left lever raises and lowers only the left-most cutting unit. The long center lever raises and lowers the center cutting units. The long right lever raises and lowers only the right-most cutting unit.

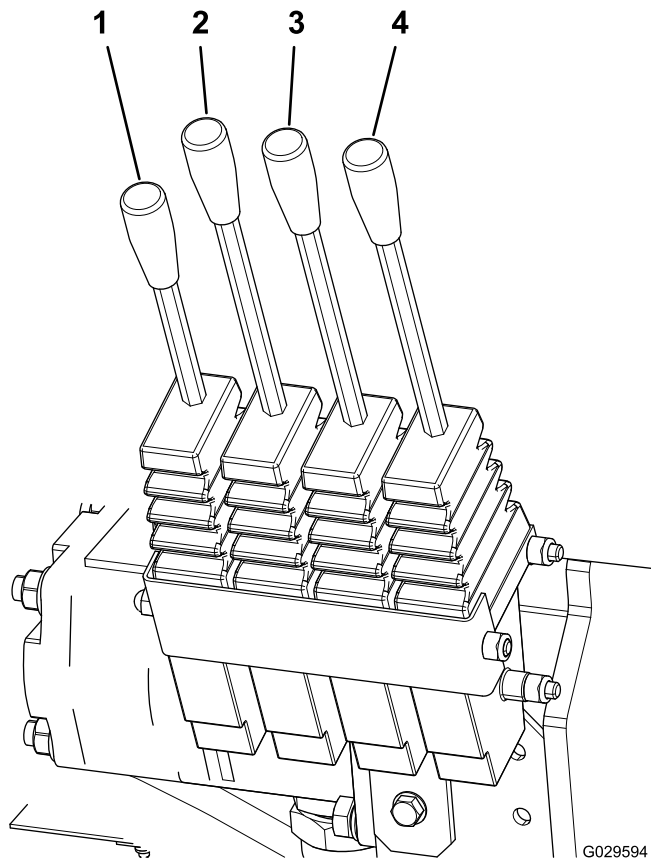


Figure 22

- | | |
|----------------------|-------------------------|
| 1. All cutting units | 3. Center cutting units |
| 2. Left cutting unit | 4. Right cutting unit |

Back-Lap Controls

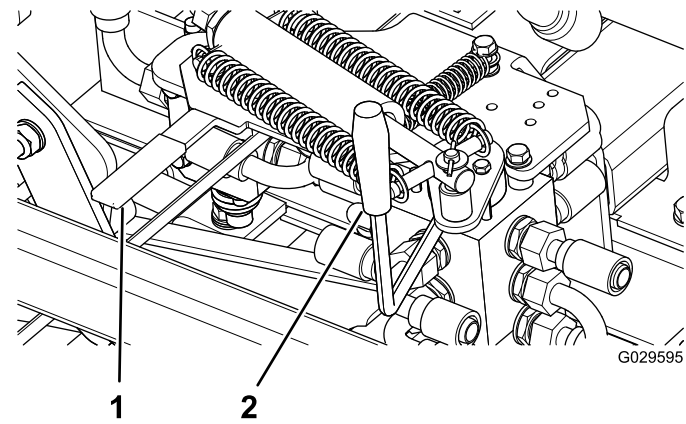


Figure 23

- | | |
|---------------|-------------------|
| 1. Lock lever | 2. Back-lap lever |
|---------------|-------------------|

Lock Lever

Rotate the lock lever (Figure 23) clockwise allow the back-lap lever to move. Rotate it counterclockwise to lock the back-lap lever into position.

Back-Lap Lever

Rotate the back-lap lever (Figure 23) counterclockwise to start back lapping the cutting units.

Transport Latches

The transport latches (Figure 24, Figure 25, and Figure 26) automatically secure the cutting units into position when you raise the lift arms. Use the safety lock to prevent the latch from bouncing up and releasing the arm.

Note: If a safety lock is in the engaged position while the cutting units are in the lowered position, it prevents the transport latch from latching automatically when you raise the lift arms. There is no safety lock on the wing-head latches (Model 02701 only).

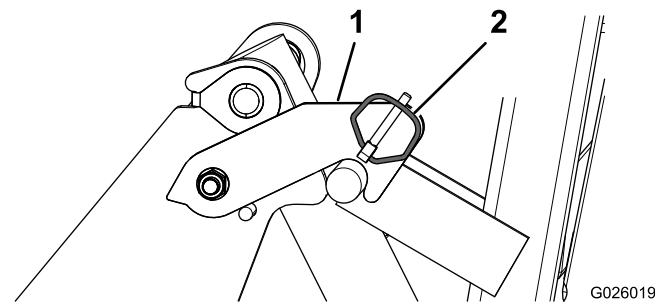


Figure 24

- | | |
|--|---------------------------|
| 1. Transport latch—automatic latching position | 2. Safety lock—flipped up |
|--|---------------------------|

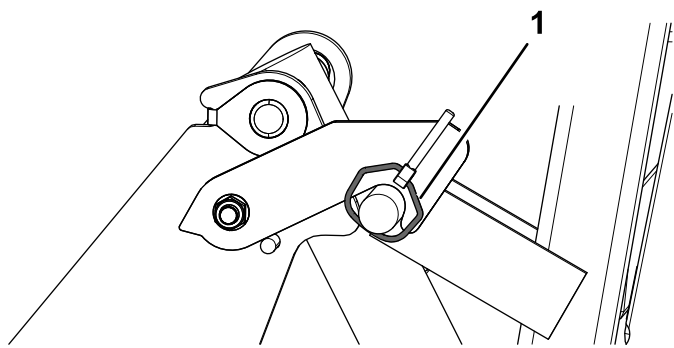


Figure 25

1. Safety lock—engaged

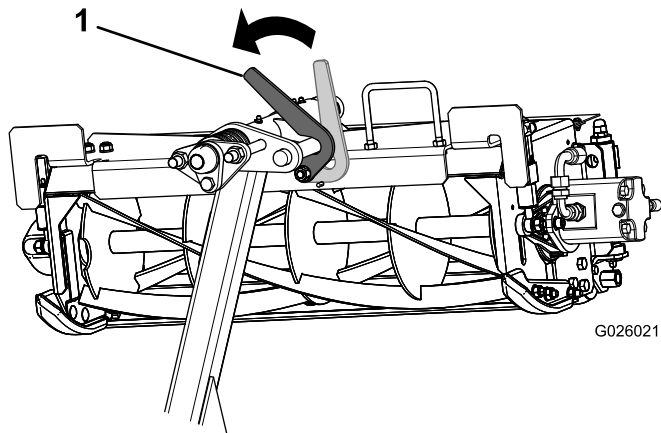


Figure 26

1. Wing-head latch (Model 02701 only)

Specifications

	Model 02700	Model 02701
Overall working width	368.0 cm (144.9 inches)	497.0 cm (195.7 inches)
Mowing width	350.0 cm (137.8 inches)	478.0 cm (188.2 inches)
Transport width	212.0 cm (83.5 inches)	237.0 cm (93.3 inches)
Overall length	360.0 cm (141.7 inches)	360.0 cm (141.7 inches)
Transport height	161.0 cm (63.4 inches)	160.0 cm (63.0 inches)
Approximate working weight	1385 kg (3053 lb)	1680 kg (3703 lb)
Drawbar weight (transport)	50 kg (110.2 lb)	55 kg (121.3 lb)

PTO Gearbox

Input	540 rpm, 1-3/8 inch 6-spline PTO shaft, counterclockwise rotation (looking on end of shaft)
Output	1862 rpm at pump coupling
Capacity	1.0 L (1.06 US qt)

Attachments/Accessories

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

To best protect your investment and maintain optimal performance of your Toro equipment, count on Toro genuine parts. When it comes to reliability, Toro delivers replacement parts designed to the exact engineering specification of our equipment. For peace of mind, insist on Toro genuine parts.

Operation

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

Checking the Tire Pressure

Service Interval: Before each use or daily

Tire pressure: 221 kPa (32 psi)

Checking the Hydraulic Fluid

Service Interval: Before each use or daily

Tank capacity: 133 L (35.1 US gallons)

Total system capacity: 142 L (37.5 US gallons)

Ambient temperature range	
0° to 30° C (32° to 86° F)	ISO viscosity grade 46 hydraulic fluid
15° to 40° C (59° to 104° F)	ISO viscosity grade 68 hydraulic fluid

1. Remove the filler cap on top of the hydraulic tank.
2. Check the level of the hydraulic fluid. If it is not at the upper black line on the fluid-level sight gauge located at the front of the tank under the pump cover, fill it to the correct level with the correct grade of hydraulic fluid.
3. Install the filler cap and wipe clean any spillage.

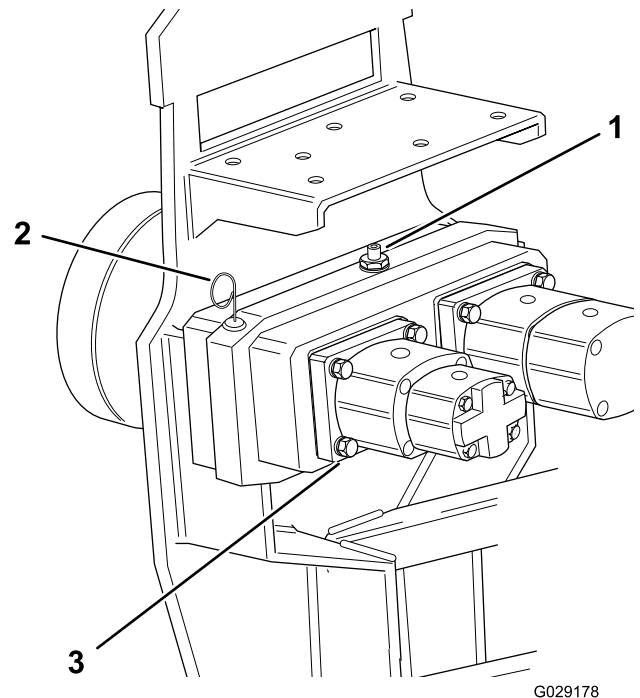
Checking the Pump-Gearbox Oil

Capacity: 1.0 L (1.06 US qt)

EP 90 gear oil

1. Check that the oil is up to the level of the upper mark on the dipstick (Figure 27).
2. Top up with the correct grade of oil as necessary through the dipstick hole.

Important: Do not overfill the gearbox.



G029178

Figure 27

- | | |
|-------------------------|---------------------------|
| 1. Filler plug/breather | 3. Drain plug (underside) |
| 2. Dipstick | |

Preparing the Tractor

The TM5490 and TM7490 trailed gang mowers are designed for use with standard agricultural or industrial tractors having a minimum power of 45 bhp (TM5490) and 70 bhp (TM7490). They must also be equipped with a ring hitch (pintle hook) and a 540 rpm rear PTO.

The TM5490 and TM7490 gang mowers have a fully independent hydraulic system which is powered from the tractor rear PTO. The system is live when you engage the tractor rear PTO. You can raise or lower the cutting units via a remote control sited adjacent to the operator.

▲ DANGER

Modifying a safety cab or a ROPS can weaken it and increase the chances of serious injury or death in the event of a crash.

Do not attach the mounting brackets to the frame or structure of a safety cab or a ROPS.

Do this procedure after attaching the mower to the tractor for the first time.

A quick-release mounting bracket is supplied with the machine for mounting the control levers to the tractor, in a convenient position for the operator. When choosing a position leave adequate slack in the Bowden cables to allow for articulation of the tractor and mower when turning or negotiating brows of hills, etc. Serious damage could result if the Bowden cables become stretched or pinched in work. Check the routing of the Bowden cables and ensure that they are free of pinch points and have adequate slack.

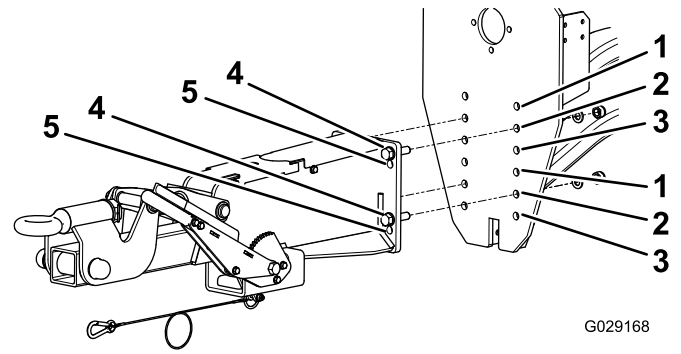
The tractor should be equipped with turf-pattern tires to minimize damage to fine turf areas. Consult your tractor operator's manual or tractor dealer for full details of recommended tire equipment. Pay particular attention to the tractor tire pressures as this has a considerable effect on steering, traction, and associated turf damage.

Connecting the Mower to a Tractor

Important: Before using the mower, ensure that the PTO shaft is the appropriate length; refer to [Setup \(page 9\)](#).

Connecting the Hitches

1. Reverse the tractor to approximately the correct position in relation to the mower to establish the mower drawbar position.
2. Apply the tractor parking brake, stop the engine, and remove the ignition key.
3. Align the mower tow hitch with the tractor ring hitch. If necessary adjust the height of the ring hitch by fitting the drawbar in the appropriate mounting holes in the mower front plate; refer to [Drawbar Mounting Locations \(page 22\)](#).



G029168

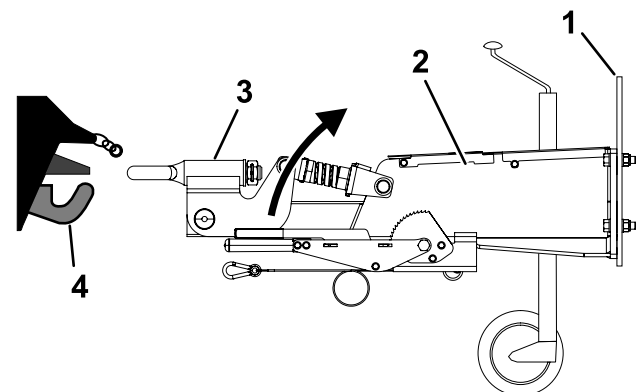
Figure 28

1. Top set of holes on mower
2. Middle set of holes on mower
3. Bottom set of holes on mower
4. Upper holes in drawbar
5. Lower holes in drawbar

Drawbar Mounting Locations

	Upper holes in drawbar	Lower holes in drawbar
Top set of holes on mower	546 to 570 mm (21.50 to 22.44 inches)	571 to 620 mm (22.48 to 24.41 inches)
Middle set of holes on mower	496 to 520 mm (19.53 to 20.47 inches)	521 to 545 mm (20.51 to 21.46 inches)
Bottom set of holes on mower	0 to 470 mm (0 to 18.50 inches)	471 to 495 mm (18.54 to 19.49 inches)

4. Assemble the drawbar to the mower in the required position and tighten the 4 fasteners to 200 N-m (148 ft-lb).
5. Lubricate the contact points between the mower ring hitch and the tractor hitch with grease.
6. Connect the mower ring hitch to the tractor hitch.



G029170

Figure 29

1. Mower front plate
2. Drawbar
3. Tow hitch
4. Tractor hitch

7. Rotate the jockey-wheel handle clockwise to raise the jockey wheel to a position just above the ground.

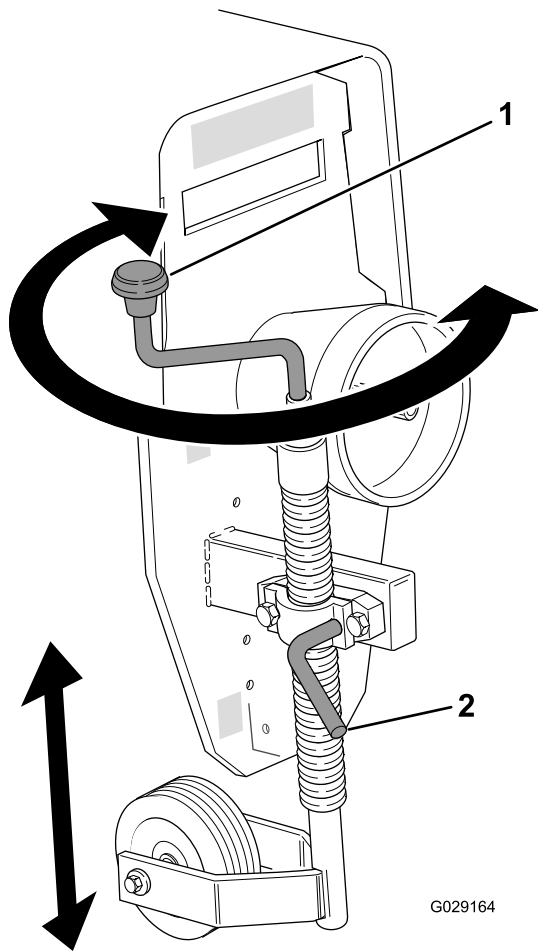


Figure 30

1. Handle
2. Clamp lever

8. Unclamp the jockey-wheel assembly, move it upward to the highest position, and clamp it again to secure it in the storage position.
9. Check that the mower frame is still horizontally aligned with the ground and adjust it if necessary.
10. Assemble the breakaway cable between the handbrake lever and a rigid location on the tractor.

Note: Ensure that the breakaway cable location provides straight-line operation in the event of a breakaway.

Note: In the event of the mower uncoupling from the tractor the breakaway cable automatically applies the brakes.

⚠ WARNING

Using a damaged breakaway cable could result in personal injury or property damage.

Ensure that the breakaway cable is in good working condition.

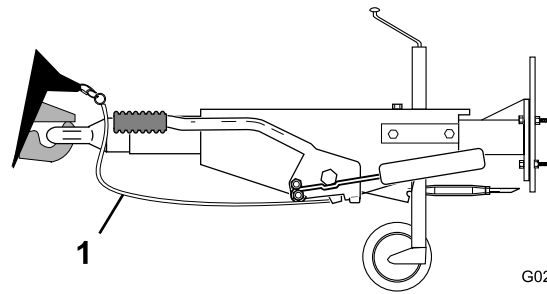


Figure 31

1. Breakaway cable

11. Release the handbrake by carefully moving it to the lowest position.
12. Assemble the PTO shaft.

⚠ WARNING

Always examine the condition of the PTO shaft and guards before use. Never use a damaged PTO shaft assembly.

Important: Ensure that the PTO-shaft rest is folded down in the storage position when the PTO shaft is connected to the tractor.

13. Grease the PTO shaft by partially withdrawing the telescoping shaft to expose the grease nipple through the outer guard aperture and lubricating it with a good-quality grease.
14. Push the telescoping section back into position.
15. Grease the universal joints.
16. Assemble the large wide angle joint to the tractor (as shown on the PTO guard) and the other end to the mower, ensuring that the release clips are fully engaged.
17. When the PTO is correctly installed, attach the PTO shaft-guard restraint chains: connect 1 chain to the hole on the mower PTO guard and connect the other chain to a suitable position on the tractor.

Important: If the tractor is equipped with a 3-point linkage, check the relationship with the mower for potential interference when making tight turns or when mowing undulating ground. To eliminate potential damage, remove the lower link arms when using the mower.

Positioning the Control Levers

Unhook the control-lever assembly from the mower mounting bracket and attach it to the tractor mounting bracket, ensuring that the remote cables are clearly routed and free to allow articulation of the tractor relative to the mower.

Connecting the Lights

Connect the lighting plug of the mower to the light socket on the tractor, and ensure that all lights operate correctly before

using the mower. Ensure that the cable is neatly routed alongside the control cables.

Connecting the Brake Hose

Connect the brake hose from the front bulkhead of the mower to the tractor auxiliary brake connector. Check that the braking system operates correctly before using the mower. Ensure that the hose is neatly routed alongside the control cable and the lighting cable.

Disconnecting the Mower from a Tractor

⚠ WARNING

Improperly disconnecting the mower from a tractor could result in serious injury or property damage.

Before attempting to disconnect the mower from the tractor always do the following:

- Position the tractor and the mower on level ground.
- Apply the tractor parking brake, disengage the PTO drive, stop the engine, remove the ignition key, and set the mower handbrake.

1. Carefully raise the handbrake lever to the highest position to engage the mower brakes.
2. Disconnect the breakaway cable from the tractor.
3. Support the mower on the jockey wheel as follows (Figure 30):
 - A. Release the clamp lever to unclamp the jockey wheel.
 - B. Lower the wheel to the ground, and clamp the jockey assembly again.
 - C. Turn the handle to cause the drawbar to rise up and off the tractor hitch.
4. Disconnect the PTO shaft from the tractor and store it on the PTO-shaft rest.

Note: Never rest the PTO shaft on the ground.

5. Disconnect the manual-lever control: Remove the control-lever assembly from the tractor and attach it to the storage position on the mower with the cables neatly coiled and protected from damage.
6. If the mower is equipped with the optional electric lift kit, disconnect the power cable from the cigar-lighter socket and the control cable from the in-cab remote-control unit as follows:

Detach the remote-control box from its mounting bracket on the tractor and stow it on the mower.

Note: Do not allow the remote-control box to lie on the ground.

7. Disconnect the lighting-system plug and cable from the tractor socket and store it on the mower.
8. Operate the tractor to disconnect the ring hitch from the mower tow hitch.
9. Disconnect the brake hose from the auxiliary brake connector on the tractor.
10. Connect the brake hose to the fitting mounted on the mower bulkhead.
11. Move the tractor away from the mower.

Important: Check that there are no obstructions and that all connections to the mower are disconnected before driving the tractor away from the mower.

Preparing the Mower for Transport

1. Start the tractor engine and engage the PTO drive.
2. Operate the override control lever (short control lever) to lift all cutting units to the fully raised transport position.
3. Stop the tractor engine, return to the mower, and secure all cutting-unit suspension arms and outer cutting units in the transport position by locking the transport-latch safety locks.
4. Apply a thin coating of grease to all exposed hydraulic-cylinder rods and to the faces of the diverter-valve operating cams.

Operating the Mower

Checking the Controls

Operate the outer long control levers in turn to lift the 2 wing cutting units (cutting units 1 and 5 for Model 02700, or cutting units 1 and 7 for Model 02701). Carry out this exercise with care and observe the movement of the cutting units to ensure that they are not impeded by poor routing of the hydraulic hoses. It is normal to experience some delay in the response of the controls for the first time as air is purged from the hydraulic system. Lower the cutting units to the ground.

Operate the center long control lever to raise the central cutting units (cutting units 2, 3, and 4 for Model 02700, or cutting units 2, 3, 4, 5, and 6 for Model 02701), following the same procedure outlined above.

Commissioning the Braking System

⚠ WARNING

If you test the machine where there are other people and vehicles, there is a risk of injury and property damage.

Perform these tests on a private road, where possible.

1. Inspect the brake system and ensure that all components are assembled and secured correctly and that all cables are correctly tensioned. Carefully operate the handbrake upwards. Ensure brakes are on when the lever has moved 70 to 80 percent of its travel. If not, release the handbrake, adjust using turnbuckle and retry.

Note: Repeat this sequence until 70 to 80 percent has been achieved.

2. Apply the handbrake again.
3. Operate the tractor and attempt to pull the mower forwards. Check that the mower brakes operate satisfactorily. Operate the tractor and attempt to push the mower in reverse. Check that the mower brakes operate satisfactorily.

Note: If correct operation is not achieved, check the brake system linkages again. Consult your dealer if assistance is required.

4. Lower the handbrake lever to its lowest position to release the brakes.
5. Drive the tractor/mower combination in a straight line at 32 km/h (20 mph) and brake gradually and firmly without skidding. Check the braking performance of the mower.

Note: If the braking effect at the left and right wheels is unequal, adjust the wheel brake cables. Repeat the braking test until satisfactory performance is achieved.

6. Drive the tractor/mower combination at the maximum speed at which it is to be used but do not exceed 40 km/h (25 mph); refer to [Safe Operating Practices \(page 3\)](#). Apply the brake firmly without skidding. Before coming to rest, increase the speed back to maximum.

Note: Ensure that the braking performance is gradual and sympathetic to the system (not severe). Avoid aggressive/violent braking during these tests in order to allow the brake pads to bed-in correctly.

Operating Tips

- The rotational speed of the cutting cylinders should always be kept as high as possible in order to maintain the highest quality of cut. This in turn requires that the tractor engine speed be kept as high as possible without exceeding a PTO speed of 540 rpm.
- Excessive forward speed causes the quality of cut to deteriorate. Always balance the quality of cut with the work rate required and set the forward speed accordingly.
- Never let the tractor engine labor. Reduce the forward speed or increase the height of cut. Check that the cutting cylinders are not in heavy contact with their bottom blades.
- Regularly check the cylinder to the bottom blade adjustment every few hours even when cutting performance appears to be satisfactory. Heavy contact or excessive clearance between the cylinders and bottom blades causes rapid wear to take place.
- Always disengage the tractor PTO when travelling across areas with no grass. Grass lubricates the cutting edges while mowing. Excessive heat will build up if you run the cutting cylinders when not mowing, and this causes rapid wear to take place. Therefore, reduce the cutting cylinder speed when mowing lightly grassed areas or when the grass is dry.
- Cutting performance is best when cutting against the lie of the grass. Therefore, you should attempt to alternate the direction of mowing between cuts.
- Do not leave uncut strips of grass at the overlap points between the adjacent cutting units by avoiding tight turns.
- Remove the rear roller scrapers where conditions allow, as best grass discharge is achieved without them. Install the scrapers when conditions are such that mud and grass start to build up on the rollers.

Maintenance

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

Note: To obtain an electrical schematic or a hydraulic schematic for your machine, visit www.Toro.com.

Recommended Maintenance Schedule(s)

Maintenance Service Interval	Maintenance Procedure
After the first 50 hours	<ul style="list-style-type: none"> Adjust the brakes. Change the hydraulic-fluid return filter.
Before each use or daily	<ul style="list-style-type: none"> Check the tire pressure. Check the hydraulic fluid. Check the tire pressure. Grease the bearings, bushings, and pivots (grease them immediately after every washing regardless of the interval listed). Lubricate the PTO shaft.
Every 50 hours	<ul style="list-style-type: none"> Grease the bearings, bushings, and pivots (grease them immediately after every washing regardless of the interval listed).
Every 250 hours	<ul style="list-style-type: none"> Lubricate the brake link. Inspect the brakes.
Every 500 hours	<ul style="list-style-type: none"> Replace all brake cables. Service the hydraulic system. Change the hydraulic-fluid return filter.

Daily Maintenance Checklist

Duplicate this page for routine use.

Maintenance Check Item	For the week of:						
	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.	Sun.
Check the safety interlock operation.							
Check the brake operation.							
Check unusual operating noises.							
Check the hydraulic-system oil level.							
Check hydraulic hoses for damage.							
Check for fluid leaks.							
Check the tire pressure.							
Check the operation of the controls.							
Check the cylinder-to-bedknife adjustment.							
Check the height-of-cut adjustment.							
Check all grease fittings for lubrication. ²							
Touch up damaged paint.							
1. Check the glow plug and injector nozzles if hard starting, excess smoke, or rough running is noted.							
2. Immediately after every washing, regardless of the interval listed							

Notation for Areas of Concern

Inspection performed by:		
Item	Date	Information
1		
2		
3		
4		
5		

Lubrication

Greasing the Bearings, Bushings, and Pivots

Service Interval: Before each use or daily

Every 50 hours

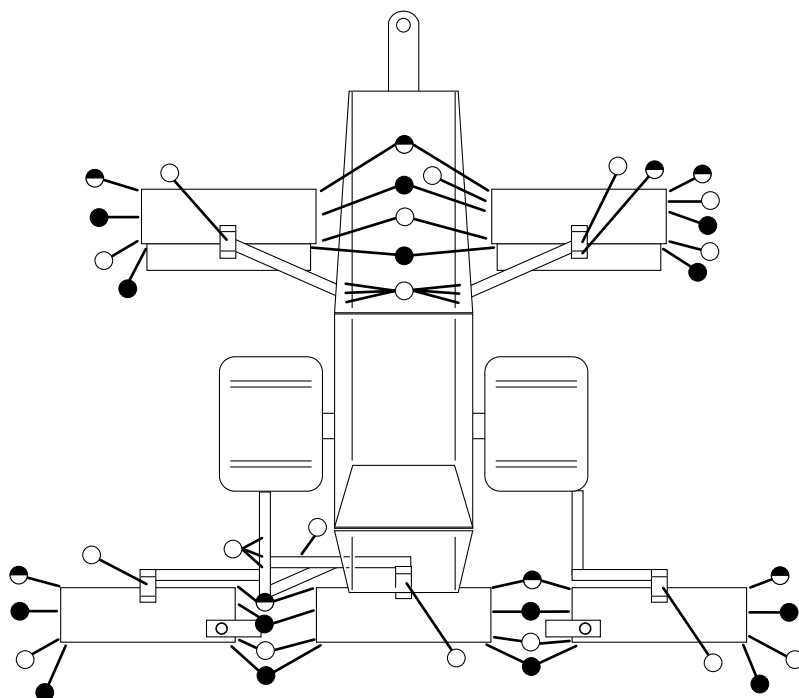
Lubricate all grease fittings for the bearings and bushings with general-purpose, lithium-based grease. Lubricate bearings and bushings **immediately** after every washing, regardless of the interval listed.

Replace any damaged grease fittings.

Grease all cutting-unit-grease points and inject sufficient grease such that you can see clean grease escaping from the roller end caps. This provides visible evidence that the roller seals have been purged of grass, ensuring maximum working life.

The grease-fitting locations and quantities are as follows:

Note: If your machine is equipped with the overrun drawbar, the drawbar may require lubrication as well.



G029582

Figure 32
Model 02700

1. ● – Grease daily
2. ◐ – Grease daily (if fitted)

3. ○ – Grease every 50 hours (weekly)

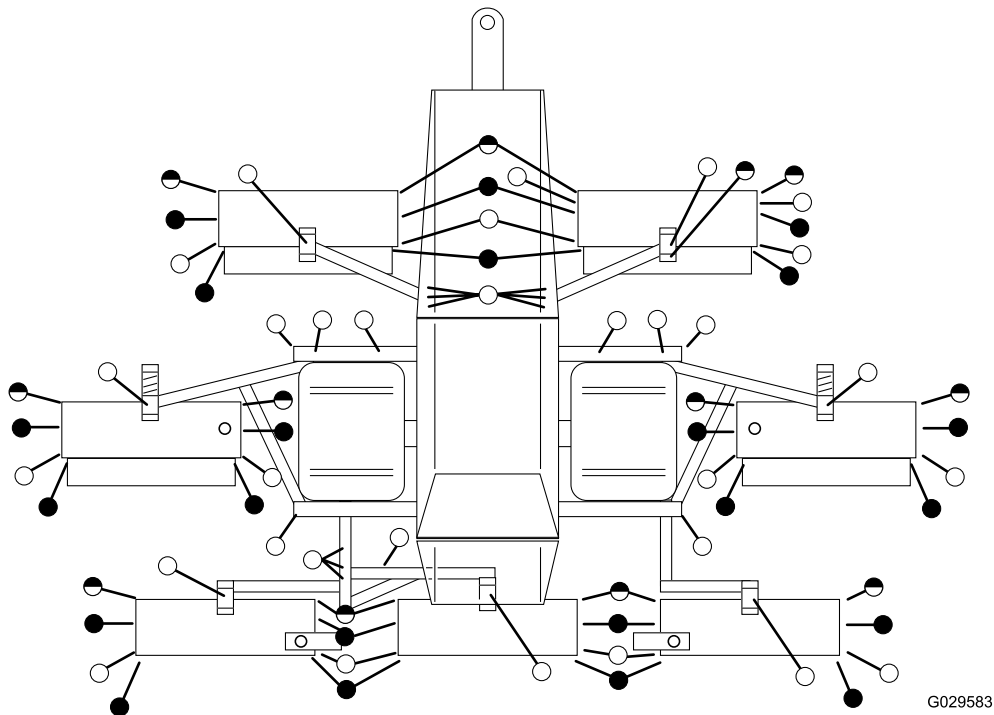


Figure 33
Model 02701

1. ● – Grease daily
2. ◐ – Grease daily (if fitted)

3. ○ – Grease every 50 hours (weekly)

Lubricating the Brake Link

Service Interval: Every 250 hours

Lubricate the brake link with oil and ensure that it operates freely.

Lubricating the PTO Shaft

Service Interval: Before each use or daily

Expose the grease fitting on the shaft through the outer guard aperture, and inject grease into the fitting.

Lubricate the universal joints.

Lubricating the Cutting Units

Refer to the cutting unit *Operator's Manual* for additional information about lubricating the cutting units.

Brake Maintenance

Inspecting the Brakes

Service Interval: Every 250 hours

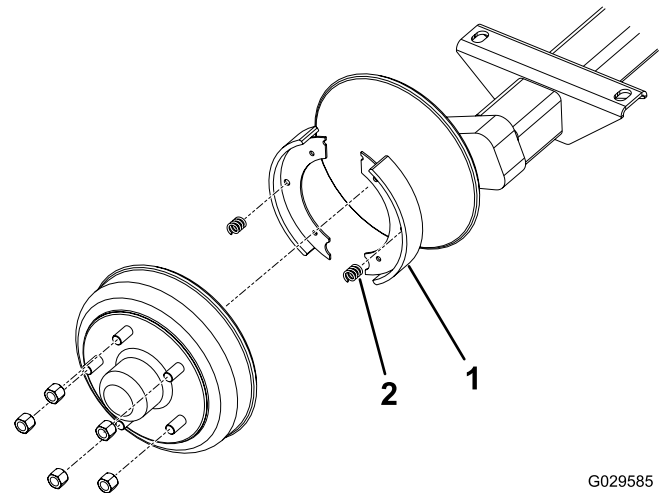


Figure 34

1. Brake shoe
2. Spring

Remove the wheel hubs and inspect the brake shoes ([Figure 34](#)). Replace the shoes if the lining thickness is less than 1.5

mm (0.059 inch). Use genuine Toro replacement parts. Do not reline the brake shoes.

- Check that the brake wedges operate the brake shoes correctly. Wedges which are worn excessively do not apply the brakes fully; replace them.
- Ensure that the brake cables operate freely and that there are no signs of fraying or other damage. Always replace damaged cables.
- Ensure that all brake linkages are in good condition, operate freely, and are secured correctly. Lubricate all pivot points with oil.

Check the brake cylinder and the associated hydraulic hoses for leaks. Always replace any leaking components.

Replacing the Brake Cables

Service Interval: Every 500 hours

Contact your Authorized Toro Distributor.

Adjusting the Brakes

Service Interval: After the first 50 hours

1. Raise the machine so that the wheels are off the ground.

⚠ WARNING

Mechanical or hydraulic jacks may fail to support the machine and cause serious injury.

Use jack stands when supporting the machine.

2. Rotate the left wheel in the direction of forward travel.
3. Turn the brake adjuster (Figure 35) until the wheel is no longer able to rotate.

Note: This puts preload on the brakes.

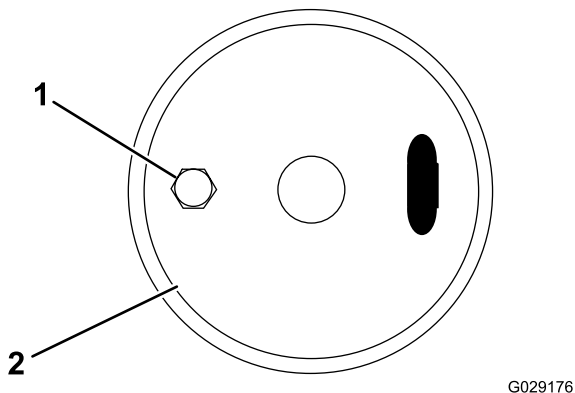


Figure 35

- | | |
|-------------------|--------------|
| 1. Brake adjuster | 2. Backplate |
|-------------------|--------------|

4. Turn the brake adjuster back in half-turn increments—tapping the adjuster after each increment—until you can rotate the wheel by hand against slight resistance.
5. Repeat the procedure for the other wheel.
6. Carefully lower the machine to the ground.

Hydraulic System Maintenance

Servicing the Hydraulic System

Service Interval: Every 500 hours

⚠ WARNING

Hydraulic fluid escaping under pressure can penetrate skin and cause injury.

- Make sure that all hydraulic fluid hoses and lines are in good condition and all hydraulic connections and fittings are tight before applying pressure to the hydraulic system.
 - Keep your body and hands away from pin-hole leaks or nozzles that eject high-pressure hydraulic fluid.
 - Use cardboard or paper to find hydraulic leaks.
 - Safely relieve all pressure in the hydraulic system before performing any work on the hydraulic system.
 - Get immediate medical help if fluid is injected into skin.
1. Lower the cutting units to the ground and drain the hydraulic fluid by removing the hydraulic-tank drain plug.
 2. Remove the oil-tank-filler flange to access the strainer inside the tank.
 3. Unscrew and remove the strainer.
 4. Clean the strainer in paraffin (kerosene).
- Note:** Replace the strainer if it is damaged.
5. Install the strainer.

Replace the return-line oil-filter element; refer to [Changing the Hydraulic-Fluid Return Filter](#) (page 30).

Changing the Hydraulic-Fluid Return Filter

Service Interval: After the first 50 hours

Every 500 hours

1. Remove the top of the return-filter assembly.

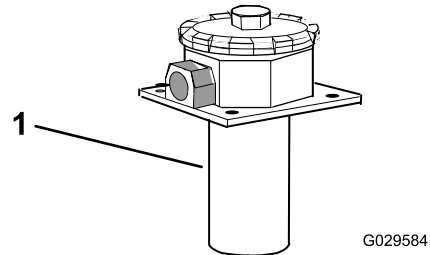


Figure 36

1. Filter canister (Part 65-06-483)
-
2. Withdraw the filter-element canister and discard it.
 3. Install a new filter canister (Part 65-06-483) and install the screw top.

Important: Ensure that the O-ring seal is correctly positioned.

Cutting-Unit System Maintenance

Back Lapping the Cutting Units

This process is for restoring the sharp cutting edges to the cylinders and the bottom blades, which are essential for good-quality grass cutting.

This process removes only a small amount of metal to restore the cutting edges. If the blade edges are severely worn or damaged, remove the component parts and have them ground again.

1. Lower the cutting units to the ground.
2. Ensure that the tractor engine is off and that the parking brake is set.
3. Adjust the cutting cylinders to the bottom blades to obtain fleeting contact.
4. Apply a medium-grade, detergent-based carborundum paste to the cutting edges of the cylinders with a long-handled brush.

80-grade carborundum paste	
Weight	Part number
0.45 kg (1 lb)	63-07-088
11.25 kg (25 lb)	63-07-086

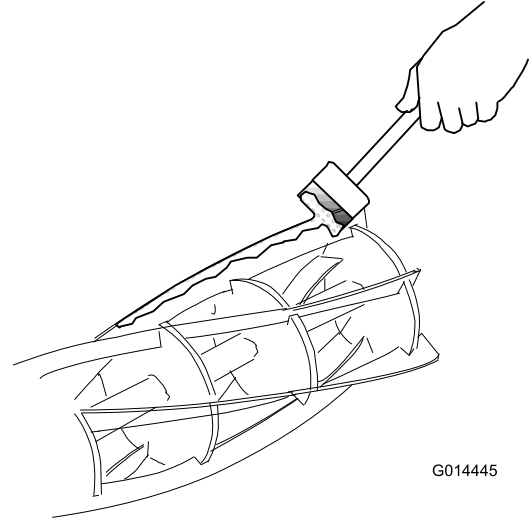


Figure 37

5. Sit on the operator seat, start the tractor engine, and set the engine speed at idle.

⚠ WARNING

If you touch the cutting units when the engine is running, you could be seriously injured.

- Ensure that the area surrounding the cutting units is clear of people.
- Keep hands and feet clear of the cutting cylinders during the period when the tractor engine is running.

6. Set the rotary valve at the rear of the machine to REVERSE; refer to [Figure 38](#).

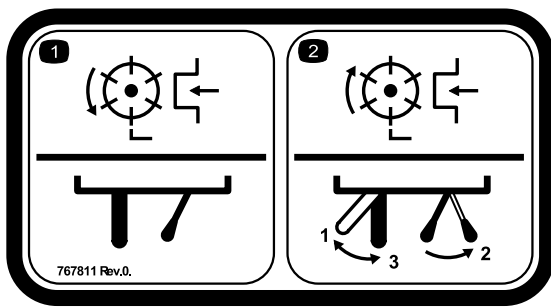


Figure 38

1. Normal position of rotary valve controls for forward cutting-unit rotation
 2. To start the back-lapping procedure, rotate the lock lever clockwise to position 1; rotate the rotary valve counterclockwise to position 2; release the lock lever counterclockwise to position 3.
-
7. Operate the tractor PTO switch/lever to the OFF position (Figure 38) and switch off the tractor engine when the grinding action has stopped.
 8. Thoroughly clean the blade edges and adjust the cutting cylinders to the bottom blades.
 9. Check that a thin piece of paper can be cut cleanly at all points along the cutting edges while rotating the cylinders by hand.
 10. If further back lapping is necessary, repeat steps 3 through 9.
 11. Thoroughly remove and wash off all traces of the carborundum paste from the cylinders and the bottom blades.
 12. Move the control lever to the original position for normal operation.

Note: The back-lap control lock should spring back, locking the control lever in position.

Storage

- Park the mower on level ground.
- Perform routine checks.
- Release the mower brakes—operate the mower handbrake downward to the lowest position to release the mower brakes.
- Adjust the cutting cylinders such that they are clear of the bottom blades.
- Prevent tire distortion—support the mower chassis on blocks such that the tires are clear of the ground to prevent tire distortion.
- Prevent corrosion—treat bare metal surfaces including the cutting edges of the cutting cylinders, bottom blades, and exposed hydraulic-cylinder rods with grease, oil, or a proprietary corrosion inhibitor.

Grinding the Cutting Units

Have your Toro Authorized Distributor carry out a grinding operation to correct the cylinder spiral edges and/or bottom-blade edges when they have become excessively rounded or distorted. If the bottom blades are nearing the end of their wear life, have them replaced. Have the new blades ground on their holders prior to installing them. Grind both the cylinders and the bottom blades at the same time. The only exception to this rule is when a new cylinder is fitted, in which case it is only necessary to grind the bottom blade. All such grinding operations should be carried out by your authorized dealer or distributor on a quality, well-maintained cylinder / bottom-blade grinding machine.

Troubleshooting

Problem	Possible Cause	Corrective Action
There are areas of uncut grass at the overlap between cutting cylinders.	<ol style="list-style-type: none"> 1. You are turning too tightly. 2. The machine slides sideways when travelling across the face of a slope. 3. There is no ground contact on 1 end of the cutter because of poorly routed hoses or wrongly positioned hydraulic adaptors. 4. There is no ground contact on 1 end of the cutter because a pivot pin is seizing. 5. There is no ground contact on 1 end of the cutter because of grass buildup under the cutterhead. 	<ol style="list-style-type: none"> 1. Increase the turning radius 2. Mow up/down the slope. 3. Correct the hose routing or the position of the hydraulic adaptors. 4. Release and grease the pivot points. 5. Clear the grass buildup.
There are full-width ridge lines in the cut across the direction of travel.	<ol style="list-style-type: none"> 1. The forward speed is too high. 2. The cylinder speed is too slow. 3. The height of cut is too low. 	<ol style="list-style-type: none"> 1. Reduce forward speed. 2. Increase the tractor engine speed. 3. Raise the height of cut.
There are ridge lines in the cut grass, across the direction of travel, over the cutting width of 1 cylinder.	<ol style="list-style-type: none"> 1. A cylinder is running slow. 	<ol style="list-style-type: none"> 1. Check the cylinder speed; consult your authorized distributor.
There is a step in the cut grass height at the point of overlap between cutting cylinders.	<ol style="list-style-type: none"> 1. There is an inconsistent height of cut setting on 1 cylinder. 2. The raise/lower position control is not in the float position. 3. There is no ground contact on 1 end of the cutter because of poorly routed hoses or wrongly positioned hydraulic adaptors. 4. There is no ground contact on 1 end of the cutter because of pivot pins seizing. 5. There is no ground contact on 1 end of the cutter because of grass buildup under the cutterhead 	<ol style="list-style-type: none"> 1. Check and adjust the height of cut setting. 2. Set the position control to the float position. 3. Correct the hose routing and the position of the hydraulic adaptors. 4. Release and grease the pivot points. 5. Remove the grass buildup.
There are some uncut or poorly cut strands of grass.	<ol style="list-style-type: none"> 1. A cutting cylinder is partially out of contact with the bottom blade. 2. A cutting cylinder is in heavy contact with the bottom blade. 3. The height of cut is too high. 4. The cutting edges of the cutting cylinders/bottom blades are rounded. 	<ol style="list-style-type: none"> 1. Adjust the contact between the cutting cylinder and the bottom blade. 2. Adjust the contact between the cutting cylinder and the bottom blade. 3. Lower the height of cut. 4. Back lap or grind the edges.
There are lines of uncut or badly cut grass in the direction of travel.	<ol style="list-style-type: none"> 1. There is tram lining of the cutting edges due to heavy contact caused by poor cutting-cylinder-to-bottom-blade adjustment. 2. The bottom blade is in contact with the ground. 3. The bottom blade has a nose-down attitude. 4. The cutterheads are bouncing. 5. There are worn cylinder bearings/bearing housing pivots. 6. There are loose components in the cutterhead. 	<ol style="list-style-type: none"> 1. Back lap or grind the edges. 2. Raise the height of cut. 3. Adjust the cutterhead to position the bottom blade parallel to the ground. 4. Reduce the forward speed and reduce the weight transfer. 5. Replace any worn parts. 6. Check and tighten components as necessary.

Problem	Possible Cause	Corrective Action
There is scalping of the turf.	<ol style="list-style-type: none"> 1. The undulations are too severe for the height of cut setting. 2. The height of cut is too low. 	<ol style="list-style-type: none"> 1. Use floating cutterheads. 2. Raise the height of cut.
There is excessive bottom blade wear.	<ol style="list-style-type: none"> 1. The bottom blade is in heavy contact with the ground. 2. The cutting edges of the cutting cylinder and/or bottom blade are rounded. 3. The cylinder is in heavy contact with the bottom blade. 4. There is a damaged cutting cylinder or bottom blade. 5. There are excessively abrasive ground conditions. 	<ol style="list-style-type: none"> 1. Raise the height of cut. 2. Back lap or grind the edges. 3. Adjust the contact between the cutting cylinder and the bottom blade. 4. Grind or replace parts as necessary. 5. Raise the height of cut.
The hydraulic system overheats.	<ol style="list-style-type: none"> 1. The cylinders are tight against the bottom blades. 2. The relief valve setting is low. 3. The brakes are applied. 4. The fluid level is low. 5. The work rate is too excessive. 6. The hydraulic fluid is the wrong viscosity. 	<ol style="list-style-type: none"> 1. Adjust the settings. 2. Have the relief valve pressure checked. Consult your authorized distributor. 3. Release the brakes. 4. Fill the reservoir to the correct level. 5. Reduce the work rate by increasing the height of cut and/or decreasing the forward speed. 6. Drain the hydraulic system and fill it with fluid of the correct grade and viscosity.
There is excessive noise in the hydraulic system.	<ol style="list-style-type: none"> 1. A pump is worn or damaged. 2. A motor is worn or damaged. 3. There is air leaking into the system. 4. The suction strainer is blocked or damaged. 5. The fluid viscosity is increased due to cold conditions. 6. The relief-valve setting is low. 7. The hydraulic-fluid level is low. 	<ol style="list-style-type: none"> 1. Identify the noisy pump and service it or replace it. 2. Identify the noisy motor and service it or replace it. 3. Tighten or replace the leaking hydraulic fittings, particularly in the suction lines. 4. Clean or replace the suction strainer. 5. Allow the system to warm up. 6. Have the relief-valve pressure checked. Consult your authorized distributor. 7. Fill the reservoir to the correct level.
The cylinders rotate in the wrong direction.	<ol style="list-style-type: none"> 1. The back-lap control lever is not locked in the NORMAL OPERATION position. 2. The hoses are connected wrongly. 	<ol style="list-style-type: none"> 1. Lock the back-lap control lever in the NORMAL OPERATION position. 2. Check the hydraulic circuit and connect the hoses correctly.

Problem	Possible Cause	Corrective Action
After an initial period of satisfactory operation, the machine loses power.	<ol style="list-style-type: none"> 1. A pump or motor is worn. 2. The hydraulic-fluid level is low. 3. The fluid in the hydraulic system has the wrong viscosity. 4. The filter element is blocked. 5. The pressure relief valve is malfunctioning. 6. The system is overheating. 7. There are leaks on the suction hose. 	<ol style="list-style-type: none"> 1. Replace parts as necessary. 2. Fill hydraulic fluid tank to correct level 3. Replace the oil in the hydraulic tank with the correct viscosity-grade oil; refer to the Specifications section. 4. Change the filter element. 5. Have the relief valve cleaned and the pressure checked. Consult your authorized distributor. 6. Check the cylinder-to-bottom-blade adjustment. Reduce the work rate (increase the height of cut or reduce the forward speed). 7. Check and tighten the fittings. Replace the hose if necessary.
A cylinder knocks while rotating.	<ol style="list-style-type: none"> 1. There is a high spot on the cylinder or the bottom blade due to contact with a foreign object. 2. The cylinder bearings are worn. 	<ol style="list-style-type: none"> 1. Remove the high spot with a stone and back lap to restore the cutting edges. Severe damage will require grinding. 2. Replace the bearings as necessary.
One cylinder rotates slowly.	<ol style="list-style-type: none"> 1. A cutting cylinder bearing is seized. 2. A motor with incorrect rotation was installed. 3. The motor integral check valve is jammed open. 4. The cutting cylinder is tight on the bottom blade. 5. The motor is worn. 	<ol style="list-style-type: none"> 1. Replace the bearings as necessary. 2. Check the motor and replace it if necessary. 3. Have the check valve cleaned and checked. 4. Adjust the setting. 5. Replace the motor.
A cutting unit fails to lift out of work.	<ol style="list-style-type: none"> 1. There is a lift-cylinder seal failure. 2. The pressure relief valve is jammed open or wrongly set. 3. There is a malfunctioning control valve. 4. There is mechanical blockage. 	<ol style="list-style-type: none"> 1. Replace the seals. 2. Have the relief valve pressure checked. Consult your authorized distributor. 3. Overhaul the control valve. 4. Remove the blockage.
The cutting units do not follow the contours of the ground.	<ol style="list-style-type: none"> 1. The hose routing or the orientation of the hydraulic fittings is incorrect. 2. The pivot points are too tight. 3. The mower is being operated in the HOLD position. 4. The weight transfer is set too high. 	<ol style="list-style-type: none"> 1. Move the cutting units throughout the extremes of movement and observe any tightness in the hoses. Correctly route the hoses and orientate the fittings as necessary. 2. Release and grease the pivot point as necessary. 3. Move the position control switch to the DOWN/FLOAT position. 4. Reduce the weight transfer.

Problem	Possible Cause	Corrective Action
The cutting units fail to start up when lowered into work.	<ol style="list-style-type: none"> 1. The seat sensor switch is malfunctioning. 2. The hydraulic-fluid level is low. 3. A driveshaft is sheared. 4. The pressure relief valve is jammed open or wrongly set. 5. A cutting cylinder is jammed. 6. A cutting cylinder is tight on the bottom blade. 7. A cutting-unit control valve is in the OFF position, caused by malfunctioning control valve. 8. A cutting-unit control valve is in the OFF position, caused by an electrical fault. 9. The lift-arm proximity switch is incorrectly set. 	<ol style="list-style-type: none"> 1. Check the mechanical and electrical operation of the switch. 2. Fill the hydraulic-fluid reservoir to the correct level. 3. Check the motor and cylinder driveshafts and replace them if necessary. 4. Have the relief-valve pressure checked. Consult your authorized dealer. 5. Clear any jams as necessary. 6. Adjust the setting. 7. Overhaul the control valve. 8. Have the electrical system checked for an electrical fault. 9. Check and adjust the proximity switch.
The PTO shaft is heavily worn.	<ol style="list-style-type: none"> 1. There is a lack of lubrication. 2. There is insufficient overlap the inner section and the outer section of the shaft. 3. There is damage due to contact with the tractor drawbar pin. 	<ol style="list-style-type: none"> 1. Grease the PTO shaft every 8 hours. 2. Check and adjust the PTO operating length. 3. Check and adjust the vertical alignment of the mower drawbar.
There is excessive handbrake travel and/or poor braking performance.	<ol style="list-style-type: none"> 1. The brake shoes are worn. 2. There is slack in the brake cables. 3. A brake cylinder is worn. 	<ol style="list-style-type: none"> 1. Adjust or replace the brake shoes as necessary. 2. Adjust the brake cables. 3. Replace the cylinder.
The mower pulls to 1 side while braking.	<ol style="list-style-type: none"> 1. The cable adjustment is unbalanced. 	<ol style="list-style-type: none"> 1. Adjust the brake cables.

Notes:

Notes:

International Distributor List

Distributor:	Country:	Phone Number:	Distributor:	Country:	Phone Number:
Agrolanc Kft	Hungary	36 27 539 640	Maquiver S.A.	Colombia	57 1 236 4079
Balama Prima Engineering Equip.	Hong Kong	852 2155 2163	Maruyama Mfg. Co. Inc.	Japan	81 3 3252 2285
B-Ray Corporation	Korea	82 32 551 2076	Mountfield a.s.	Czech Republic	420 255 704 220
Casco Sales Company	Puerto Rico	787 788 8383	Mountfield a.s.	Slovakia	420 255 704 220
Ceres S.A.	Costa Rica	506 239 1138	Munditol S.A.	Argentina	54 11 4 821 9999
CSSC Turf Equipment (pvt) Ltd.	Sri Lanka	94 11 2746100	Norma Garden	Russia	7 495 411 61 20
Cyril Johnston & Co.	Northern Ireland	44 2890 813 121	Oslinger Turf Equipment SA	Ecuador	593 4 239 6970
Cyril Johnston & Co.	Republic of Ireland	44 2890 813 121	Oy Hako Ground and Garden Ab	Finland	358 987 00733
Equiver	Mexico	52 55 539 95444	Parkland Products Ltd.	New Zealand	64 3 34 93760
Femco S.A.	Guatemala	502 442 3277	Perfetto	Poland	48 61 8 208 416
ForGarder OU	Estonia	372 384 6060	Pratoverde SRL.	Italy	39 049 9128 128
G.Y.K. Company Ltd.	Japan	81 726 325 861	Prochaska & Cie	Austria	43 1 278 5100
Geomechaniki of Athens	Greece	30 10 935 0054	RT Cohen 2004 Ltd.	Israel	972 986 17979
Golf international Turizm	Turkey	90 216 336 5993	Riversa	Spain	34 9 52 83 7500
Guandong Golden Star	China	86 20 876 51338	Lely Turfcare	Denmark	45 66 109 200
Hako Ground and Garden	Sweden	46 35 10 0000	Solvart S.A.S.	France	33 1 30 81 77 00
Hako Ground and Garden	Norway	47 22 90 7760	Spypros Stavrinides Limited	Cyprus	357 22 434131
Hayter Limited (U.K.)	United Kingdom	44 1279 723 444	Surge Systems India Limited	India	91 1 292299901
Hydroturf Int. Co Dubai	United Arab Emirates	97 14 347 9479	T-Markt Logistics Ltd.	Hungary	36 26 525 500
Hydroturf Egypt LLC	Egypt	202 519 4308	Toro Australia	Australia	61 3 9580 7355
Irrimac	Portugal	351 21 238 8260	Toro Europe NV	Belgium	32 14 562 960
Irrigation Products Int'l Pvt Ltd.	India	0091 44 2449 4387	Valtech	Morocco	212 5 3766 3636
Jean Heybroek b.v.	Netherlands	31 30 639 4611	Victus Emak	Poland	48 61 823 8369

European Privacy Notice

The Information Toro Collects

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

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

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

The Way Toro Uses Information

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

Retention of your Personal Information

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

Toro's Commitment to Security of Your Personal Information

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

Access and Correction of your Personal Information

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

Australian Consumer Law

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



The Toro 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.

Countries Other than the United States or Canada

Customers 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.