Form No. 3460-599 Rev A

TORO®

Count on it.

Operator's Manual

# 4-in-1 Bucket

## Compact Tool Carriers

**Model No. 22478—Serial No. 320000000 and Up**

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

CE UK CA

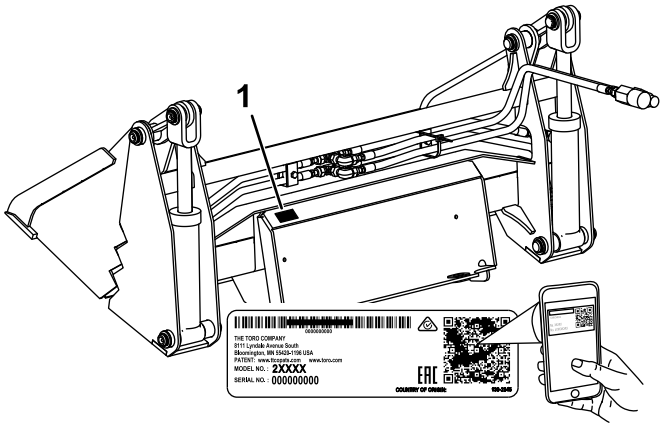
*3460-599*

This product complies with all relevant European directives. For details, please see the Declaration of Incorporation (DOI) at the back of this publication.

**⚠ WARNING**

**CALIFORNIA**
**Proposition 65 Warning**

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




g305274

**Figure 1**

1. Model and serial number location

# Introduction

The 4-in-1 bucket is a load-bearing attachment intended to be used on a Toro compact tool carrier. Using this product for purposes other than its intended use could prove dangerous to you and bystanders.

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

Visit www.Toro.com for product safety and operation training materials, accessory information, help finding a dealer, or to register your product.

Whenever you need service, genuine Toro parts, or additional information, contact an Authorized Service Dealer or Toro Customer Service and have the model and serial numbers of your product ready. Figure 1 identifies the location of the model and serial numbers on the product. Write the numbers in the space provided.

***Important:*** **With your mobile device, you can scan the QR code on the serial number decal (if equipped) to access warranty, parts, and other product information.**

**Model No.** _____

**Serial No.** _____

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



g000502

**Figure 2**
Safety-alert symbol

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

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**8111 Lyndale Avenue South**
**Bloomington, MN 55420**



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# Safety

**⚠ DANGER**

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

**Have the property or work area marked for buried lines and do not dig in marked areas. Contact your local marking service or utility company to have the property marked (for example, in the US, call 811 or in Australia, call 1100 for the nationwide marking service).**

## General Safety

Always follow all safety instructions to avoid serious injury or death.

- Do not exceed the rated operating capacity, as the machine may become unstable, which may result in loss of control.
- **Do not transport an attachment with the arms raised or extended (if applicable)**. Always transport the attachment close to the ground; refer to Transport Position (page 10).
- Have the property or work area marked for buried lines and other objects, and do not dig in marked areas.
- Read and understand the content of this *Operator's Manual* before starting the machine.
- Use your full attention while operating the machine. Do not engage in any activity that causes distractions; otherwise, injury or property damage may occur.
- Never allow children or untrained people to operate the machine.
- Keep your hands and feet away from the moving components and attachments.
- Do not operate the machine without the guards and other safety protective devices in place and working on the machine.
- Keep bystanders and pets away from the machine.
- Stop the machine, shut off the machine, and remove the key before servicing, fueling, or unclogging the machine.

Improperly using or maintaining this machine can result in injury. To reduce the potential for injury, comply with these safety instructions and always pay attention to the safety-alert symbol ⚠, which means Caution, Warning, or Danger—personal safety instruction. Failure to comply with these instructions may result in personal injury or death.

# Slope Safety

- **Operate the machine up and down slopes with the heavy end of the machine uphill.** Weight distribution changes with attachments. An empty load-bearing attachment makes the rear of the machine the heavy end, and a full load-bearing attachment makes the front of the machine the heavy end. Most other attachments make the front of machine the heavy end.
- Raising or extending (if applicable) the loader arms on a slope affects the stability of the machine. Keep the loader arms in the lowered and retracted position when on slopes.
- Slopes are a major factor related to loss of control and tip-over accidents, which can result in severe injury or death. **Operating the machine on any slope or uneven terrain requires extra caution.**
- Establish your own procedures and rules for operating on slopes. These procedures must include surveying the site to determine which slopes are safe for machine operation. Always use common sense and good judgment when performing this survey.
- Slow down and use extra care on hillsides. Ground conditions can affect the stability of the machine.
- Avoid starting or stopping on a slope. If the machine loses traction, proceed slowly, straight down the slope.
- Avoid turning on slopes. If you must turn, turn slowly and keep the heavy end of the machine uphill.
- Keep all movements on slopes slow and gradual. Do not make sudden changes in speed or direction.
- If you feel uneasy operating the machine on a slope, do not do it.
- Watch for holes, ruts, or bumps, as uneven terrain could overturn the machine. Tall grass can hide obstacles.
- Use caution when operating on wet surfaces. Reduced traction could cause sliding.
- Evaluate the area to ensure that the ground is stable enough to support the machine.
- Use caution when operating the machine near the following:
  - Drop-offs
  - Ditches
  - Embankments
  - Bodies of water

  The machine could suddenly roll over if a track goes over the edge or the edge caves in. Maintain a safe distance between the machine and any hazard.
- Do not remove or add attachments on a slope.
- Do not park the machine on a hillside or slope.

# Bucket Safety

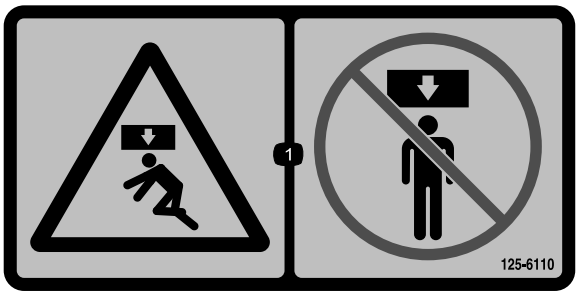
- Always lower the attachment, close the jaws, and shut off the machine each time you leave the operating position.
- When lifting the attachment, keep it level and prevent the load from spilling backward.
- Always close the jaws of the attachment when not in use.
- Always grab and lift long items near the center.
- Do not use the jaws for hooking and/or pulling. Always clamp the material securely.

# Maintenance and Storage Safety

- Check fasteners at frequent intervals for proper tightness to ensure that the equipment is in safe operating condition.
- Refer to this *Operator's Manual* for important details if you store the attachment for an extended period of time.
- Maintain or replace safety and instruction labels, as necessary.

# Safety and Instructional Decals

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




decal125-6110

**125-6110**

1. Crushing hazard—do not stand under any part of the machine.




decal133-8061

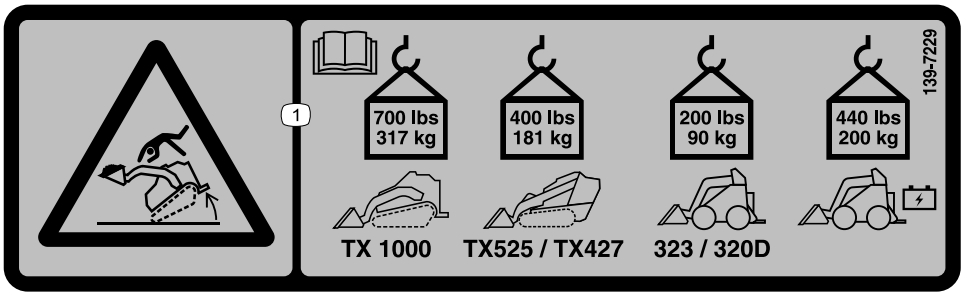
**133-8061**




decal139-7192

**139-7192**

1. Entanglement hazard—keep bystanders away.




decal139-7229

**139-7229**

1. Tipping hazard—read the *Operator's Manual*; the maximum load capacity for the TX 1000 is 317 kg (700 lb); the maximum load capacity for the TX 525/TX 427 is 181 kg (400 lb); the maximum load capacity for the 323/323D is 90 kg (200 lb); the maximum load capacity for the e-Dingo is 200 kg (440 lb).

# Product Overview

## Specifications

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

| | |
|---|---|
| Width | 125 cm (49 inches) |
| Length | 68 cm (27 inches) |
| Height | 55 cm (22 inches) |
| Weight | 132 kg (292 lb) |
| Capacity | |
| SAE struck capacity | 0.08 $m^3$ (2.7 $ft^3$) |
| Heaped capacity | 0.10 $m^3$ (3.3 $ft^3$) |
| Maximum load rating | |
| TX 1000 | 317 kg (700 lb) |
| TX 525 and TX 427 | 181 kg (400 lb) |
| 323 and 320-D Compact Tool Carrier | 90 kg (200 lb) |
| e-Dingo | 200 kg (440 lb) |

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.

## Maximum Material Density at Capacity

The density of the materials moved by the bucket varies and, therefore, so does the amount of material that the bucket can carry before reaching the maximum load rating. The first 2 tables lists the density of material that can be carried, both heaped and struck (i.e., leveled off), in the bucket. The Material Density table lists common materials and their densities.

### TX 1000

| Bucket Capacity | Maximum Density |
|---|---|
| Struck (leveled) bucket | 3962 kg/$m^3$ (259 lb/$ft^3$) |
| Heaped bucket | 3170 kg/$m^3$ (212 lb/$ft^3$) |

**Note:** Maximum density = Maximum load rating / Capacity

### TX 525 and TX 427

| Bucket Capacity | Maximum Density |
|---|---|
| Struck (leveled) bucket | 2262 kg/$m^3$ (148 lb/$ft^3$) |
| Heaped bucket | 1810 kg/$m^3$ (121 lb/$ft^3$) |

### 323 and 320-D Compact Tool Carrier

| Bucket Capacity | Maximum Density |
|---|---|
| Struck (leveled) bucket | 1185 kg/$m^3$ (74 lb/$ft^3$) |
| Heaped bucket | 961 kg/$m^3$ (60 lb/$ft^3$) |

### e-Dingo

| Bucket Capacity | Maximum Density |
|---|---|
| Struck (leveled) bucket | 2611 kg/$m^3$ (163 lb/$ft^3$) |
| Heaped bucket | 208 kg/$m^3$ (13 lb/$ft^3$) |

### Material Density

| Material | Density (Approximate) |
|---|---|
| Caliche | 1250 kg/$m^3$ (78 lb/$ft^3$) |
| Clay: | |
| Natural bed | 1600 kg/$m^3$ (104 lb/$ft^3$) |
| Dry | 1480 kg/$m^3$ (93 lb/$ft^3$) |
| Wet | 1660 kg/$m^3$ (104 lb/$ft^3$) |
| With gravel, dry | 1420 kg/$m^3$ (89 lb/$ft^3$) |
| With gravel, wet | 1540 kg/$m^3$ (96 lb/$ft^3$) |
| Coal: | |
| Anthracite, broken | 1100 kg/$m^3$ (69 lb/$ft^3$) |
| Bituminous, broken | 830 kg/$m^3$ (52 lb/$ft^3$) |
| Earth: | |
| Dry, packed | 1510 kg/$m^3$ (94 lb/$ft^3$) |
| Wet, packed | 1600 kg/$m^3$ (100 lb/$ft^3$) |
| Loam | 1250 kg/$m^3$ (78 lb/$ft^3$) |
| Granite, broken or large crushed | 1660 kg/$m^3$ (104 lb/$ft^3$) |
| Gravel: | |
| Dry | 1510 kg/$m^3$ (94 lb/$ft^3$) |
| Pit run (graveled sand) | 1930 kg/$m^3$ (120 lb/$ft^3$) |
| Dry, 13 to 51 mm (1/2 to 2 inch) | 1690 kg/$m^3$ (106 lb/$ft^3$) |
| Wet, 13 to 51 mm (1/2 to 2 inch) | 2020 kg/$m^3$ (126 lb/$ft^3$) |
| Limestone, broken or crushed | 1540 kg/$m^3$ (96 lb/$ft^3$) |
| Sand: | |
| Dry | 1420 kg/$m^3$ (89 lb/$ft^3$) |
| Wet | 1840 kg/$m^3$ (115 lb/$ft^3$) |
| With gravel, dry | 1720 kg/$m^3$ (107 lb/$ft^3$) |
| With gravel, wet | 2020 kg/$m^3$ (126 lb/$ft^3$) |
| Sandstone, broken | 1510 kg/$m^3$ (94 lb/$ft^3$) |
| Shale | 1250 kg/$m^3$ (78 lb/$ft^3$) |
| Slag, broken | 1750 kg/$m^3$ (109 lb/$ft^3$) |

**Material Density (cont'd.)**

| | |
|---|---|
| Stone, crushed | 1600 kg/m$^3$ (100 lb/ft$^3$) |
| Topsoil | 950 kg/m$^3$ (59 lb/ft$^3$) |

# Operation

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

## Installing and Removing the Attachment

Refer to the *Operator's Manual* for the traction unit for the installation and removal procedure.

***Important:*** **Before installing the attachment, position the machine on a level surface, ensure that the mount plates are free of any dirt or debris, and ensure that the pins rotate freely. If the pins do not rotate freely, grease them.**

**Note:** Always use the traction unit to lift and move the attachment.

**⚠ WARNING**

**If you do not fully seat the quick-attach pins through the attachment mount plate, the attachment could fall off the machine, crushing you or bystanders.**

**Ensure that the quick-attach pins are fully seated in the attachment mount plate.**

**⚠ WARNING**

**Hydraulic fluid escaping under pressure can penetrate skin and cause injury. Fluid injected into the skin must be surgically removed within a few hours by a doctor familiar with this form of injury; otherwise, gangrene may result.**

- **Ensure 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 pinhole leaks or nozzles that eject high-pressure hydraulic fluid.**
- **Use cardboard or paper to find hydraulic leaks; never use your hands.**

**⚠ CAUTION**

**Hydraulic couplers, hydraulic lines/valves, and hydraulic fluid may be hot. If you contact hot components, you may be burned.**

- **Wear gloves when disconnecting the hydraulic couplers.**
- **Allow the machine to cool before touching hydraulic components.**
- **Do not touch hydraulic fluid spills.**

# 4-in-1 Operation and Control

After you attach the 4-in-1 bucket to the mount plate of the traction unit, ensure that the hydraulic couplers are connected. Start and run the machine at full throttle (maximum engine speed).

## Bucket Operation

With the jaws completely closed, you can use this attachment as a standard bucket. You can also open the 4-in-1 bucket jaws to dump the contents into a higher area than a standard bucket can reach.

When loading material, always have the bucket level to the ground and move forward into the material to be lifted. When the bucket is full, tilt it rearward to decrease the lifting resistance when you lift the load.

When transporting a load, keep the bucket as close to the ground as possible.

## Leveller Operation

With the jaws completely open, you can use the bucket floor's rear cutting edge as a leveller. Tip the bucket slightly forward so that the rear cutting edge of the bucket floor is on the ground and the forward edge is off the ground. Lower the cutting edge and begin leveling by dragging it in reverse across the surface of the ground.

## Blade Operation

With the jaws completely open, you can use the back of the bucket as a blade to push material. You can also partially close the jaws and using the bottom of the front bucket to knock the top of clumps and grade with the rear blade.

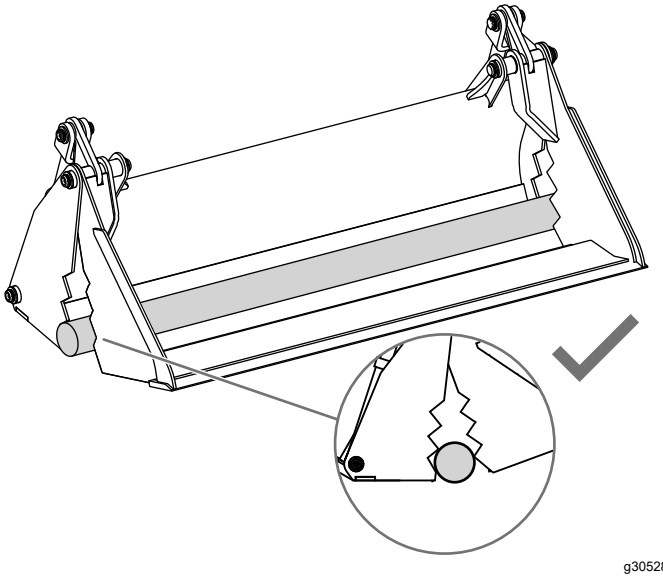
When scraping, levelling and surface stripping, lower the blade to the ground, ensuring that the cutting edge makes contact. The blade will bite into the soil as you move forward.

- Clean the area of trash, branches, and rocks before beginning blade work to prevent equipment damage.
- Always begin with the slowest ground speed possible. Increase speed if conditions permit.
- When scraping, leveling, and surface stripping, lower the blade to the ground, ensuring that the cutting edge makes contact. The blade bites into the soil as you move.

## Grapple Bucket Operation

Use the side jaws for picking up material by closing them over objects or materials to be transported (Figure 3).

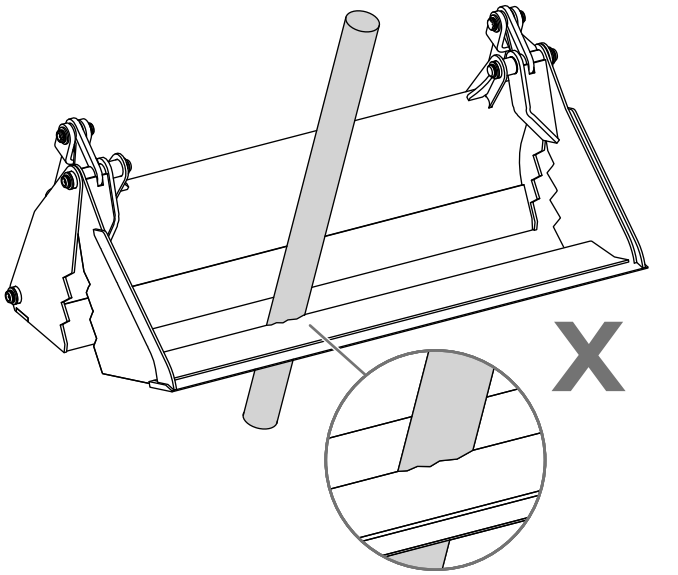
**Note:** Take care when using this method that you do not crush an object that you are picking up between the side jaws.



g305288

**Figure 3**

***Important:*** **Do not use the floor to pick or pull objects. This damages the floor / bucket and will void the bucket warranty (Figure 4).**



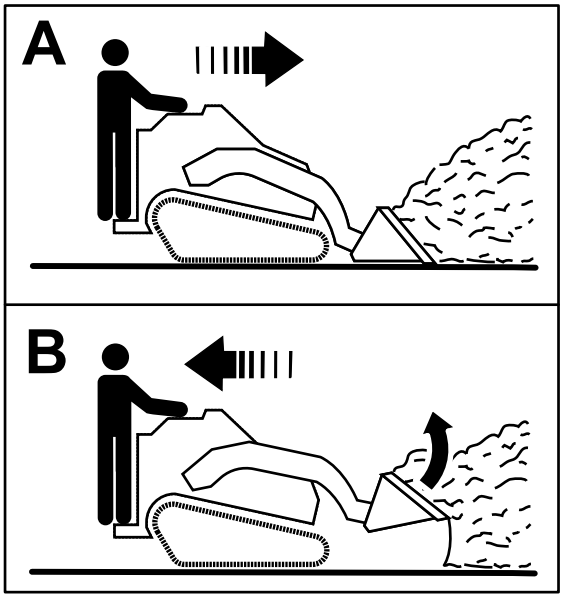

g305386

**Figure 4**

# Filling the Bucket

1. Position the bucket level to the ground.
2. Drive forward and insert the bucket into the pile of material.
3. When the bucket is full, drive the machine in reverse and gently tilt the bucket rearward to decrease the lifting resistance when you lift the load.

   ***Important:*** **Always carry loads close to the ground; refer to Transport Position (page 10).**

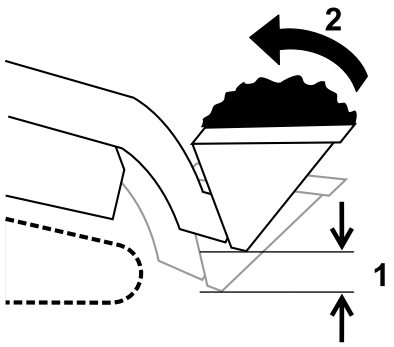



g266856

**Figure 5**

# Transport Position

When transporting a load, keep the attachment as close to the ground as possible, no more than 15 cm (6 inches) above the ground. Tilt it rearward to keep the load level.




g240205

**Figure 6**

1. No more than 15 cm (6 inches) above the ground
2. Tilt the load rearward

# Maintenance

## Recommended Maintenance Schedule(s)

| Maintenance Service Interval | Maintenance Procedure |
|---|---|
| Before each use or daily | • Lubricate the bucket.<br>• Check the hydraulic lines for leaks, loose fittings, kinked lines, loose mounting supports, wear, weather, and chemical deterioration.<br>• Ensure that all fasteners are securely tightened.<br>• Clean the areas around the bucket cylinder and mount plate pivot.<br>• Check for wear of pins, linkages, and cutting edges. |
| Every 200 hours | • Inspect the hydraulic hoses and replace them if they are damaged. |
| Before storage | • Inspect the hydraulic system for leaks and loose fittings.<br>• Inspect the hydraulic hoses and replace them if they are damaged.<br>• Paint chipped or worn surfaces. |

## Lubricating the Bucket

**Service Interval:** Before each use or daily

Using a grease gun, pump general purpose grease into the 3 grease fittings on each side of the 4-in-1 bucket until the grease begins to ooze (Figure 7). Wipe away any excess grease with a shop cloth.

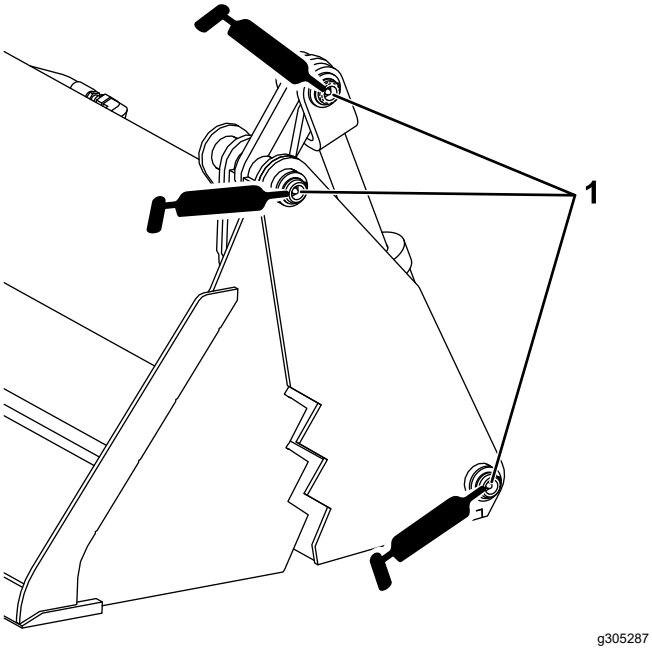



**Figure 7**
Left side shown

1. Grease fittings

## Checking the Hydraulic Lines

**Service Interval:** Before each use or daily

**⚠ WARNING**

**Hydraulic fluid escaping under pressure can penetrate skin and cause injury. Fluid injected into the skin must be surgically removed within a few hours by a doctor familiar with this form of injury; otherwise, gangrene may result.**

- **Keep your body and hands away from pinhole leaks or nozzles that eject high-pressure hydraulic fluid.**
- **Use cardboard or paper to find hydraulic leaks; never use your hands.**

# Storage

1. Before long-term storage, wash the attachment with mild detergent and water to remove dirt and grime.
2. Check and tighten all hardware. Repair or replace any part that is damaged or worn.
3. Ensure that all of the hydraulic hose couplers are connected together to prevent contamination of the hydraulic system.
4. Paint all scratched or bare metal surfaces.

   **Note:** Paint is available from your Authorized Service Dealer.
5. Grease the pivot points; refer to Lubricating the Bucket (page 11).
6. Store the attachment in a clean, dry garage or storage area.
7. Cover the bucket to protect it and keep it clean.

# Notes:

# Declaration of Incorporation

The Toro Company, 8111 Lyndale Avenue South, Bloomington, MN, USA declares that the following unit(s) conform(s) to the directives listed, when installed in accordance with the accompanying instructions onto certain Toro models as indicated on the relevant Declarations of Conformity.

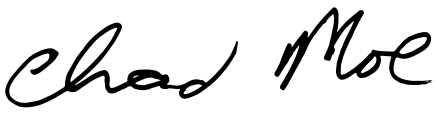
| Model No. | Serial No. | Product Description | Invoice Description | General Description | Directive |
|---|---|---|---|---|---|
| 22478 | 320000000 and Up | 4-in-1 Bucket, Compact Tool Carriers | DINGO 4-IN-1 BUCKET | Bucket | 2006/42/EC |

Relevant technical documentation has been compiled as required per Part B of Annex VII of 2006/42/EC.

We will undertake to transmit, in response to requests by national authorities, relevant information on this partly completed machinery. The method of transmission shall be electronic transmittal.

This machinery shall not be put into service until incorporated into approved Toro models as indicated on the associated Declaration of Conformity and in accordance with all instructions, whereby it can be declared in conformity with all relevant Directives.

Certified:



Chad Moe
Sr. Engineering Manager
8111 Lyndale Ave. South
Bloomington, MN 55420, USA
November 14, 2022

Authorized Representative:

Marcel Dutrieux
Manager European Product Integrity
Toro Europe NV
Nijverheidsstraat 5
2260 Oevel
Belgium

# UK Declaration of Incorporation

The Toro Company, 8111 Lyndale Avenue South, Bloomington, MN, USA declares that the following unit(s) conform(s) to the regulations listed, when installed in accordance with the accompanying instructions onto certain Toro models as indicated on the relevant Declarations of Conformity.

| Model No. | Serial No. | Product Description | Invoice Description | General Description | Regulation |
|---|---|---|---|---|---|
| 22478 | 320000000 and Up | 4-in-1 Bucket, Compact Tool Carriers | DINGO 4-IN-1 BUCKET | Bucket | S.I. 2008/1597 |

Relevant technical documentation has been compiled as required per Schedule 10 of S.I. 2008 No. 1597.

We will undertake to transmit, in response to requests by national authorities, relevant information on this partly completed machinery. The method of transmission shall be electronic transmittal.

This machinery shall not be put into service until incorporated into approved Toro models as indicated on the associated Declaration of Conformity and in accordance with all instructions, whereby it can be declared in conformity with all relevant regulations.

This declaration has been issued under the sole responsibility of the manufacturer.
The object of the declaration is in conformity with relevant UK legislation.

Authorized Representative:

Marcel Dutrieux
Manager European Product Integrity
Toro U.K. Limited
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Sr. Engineering Manager
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Bloomington, MN 55420, USA
November 14, 2022

# California Proposition 65 Warning Information

## What is this warning?

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



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

## What is Prop 65?

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

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

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

## Does this law apply everywhere?

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

## How do the California warnings compare to federal limits?

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

## Why don't all similar products carry the warning?

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

## Why does Toro include this warning?

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