Form No. 3324-225

TORO®

# Universal Swivel Auger

## Dingo® Attachment

**Model No. 22801–200000001 & Up**

## Operator's Manual

CE

English (CE)

# Contents



# Introduction

We want you to be completely satisfied with your new product, so feel free to contact your local Authorized Service Dealer for help with service, genuine replacement parts, or other information you may require.

Whenever you contact your Authorized Service Dealer or the factory, always know the model and serial numbers of your product. These numbers will help the Service Dealer or Service Representative provide exact information about your specific product. You will find the model and serial number on a plate located on the auger drive head. On augers and extensions, the model and serial number plate is located on the upper portion of the shaft.

For your convenience, write the product model and serial numbers in the space below.

**Model No:** _____

**Serial No.** _____

The warning system in this manual identifies potential hazards and has special safety messages that help you and others avoid personal injury, even death. DANGER, WARNING and CAUTION are signal words used to identify the level of hazard. However, regardless of the hazard, be extremely careful.

**DANGER** signals an extreme hazard that will cause serious injury or death if the recommended precautions are not followed.

**WARNING** signals a hazard that may cause serious injury or death if the recommended precautions are not followed.

**CAUTION** signals a hazard that may cause minor or moderate injury if the recommended precautions are not followed.

Two other words are also used to highlight information. “Important” calls attention to special mechanical information and “Note” emphasizes general information worthy of special attention.

The left and right side of the machine is determined by standing in the normal operator’s position.

# Safety

**Improper use or maintenance by the operator or owner can result in injury. To reduce the potential for injury, comply with these safety instructions and those in the traction unit operator’s manual. 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.**

**⚠ DANGER ⚠**

**POTENTIAL HAZARD**
- **Contact with a moving auger can cause entanglement, severe wounds, and/or death.**

**WHAT CAN HAPPEN**
- **Entangled arms and legs may be cut off or broken. Death may result.**

**HOW TO AVOID THE HAZARD**
- **Keep all others at least 10 feet away from the auger during operation. Also, do not replace the supplied bolt which secures the auger to the drive head with a longer bolt as this may increase the chance for entanglement.**


8111 Lyndale Ave. South
Bloomington, MN 55420-1196

**DANGER**

**POTENTIAL HAZARD**
- **There may be buried power, gas, and/or telephone lines in the work area.**

**WHAT CAN HAPPEN**
- **Shock or explosion may occur.**

**HOW TO AVOID THE HAZARD**
- **Have the property or work area marked for buried lines and do not dig in marked areas.**

**WARNING**

**POTENTIAL HAZARD**
- **When going up or down hill, the machine could overturn if the heavy end is toward the downhill side.**

**WHAT CAN HAPPEN**
- **Someone may be pinned or seriously injured by the machine if it overturns.**

**HOW TO AVOID THE HAZARD**
- **Operate up and down slopes with the heavy end of the machine uphill. An attached auger bit will make the front end heavy.**

**WARNING**

**POTENTIAL HAZARD**
- **When the engine is off, attachments in the raised position can gradually lower.**

**WHAT CAN HAPPEN**
- **Someone nearby may be pinned or injured by the attachment as it lowers.**

**HOW TO AVOID THE HAZARD**
- **Always lower the attachment lift each time you shut off the traction unit.**

## Safety Decals

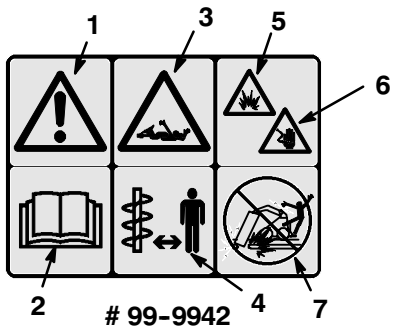



**Figure 1**

1. Safety alert symbol
2. Read operator's manual
3. Full body entanglement
4. Stay away from rotating shafts and augers
5. Explosion hazard
6. Electric shock hazard
7. Do not dig in areas with buried gas or power lines

# Specifications

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

| | |
|---|---|
| Width | 25 inches (64 cm) |
| Length | 18 inches (46 cm) |
| Height | 21 inches (53 cm) |
| Weight (without auger) | 217 lbs (99 Kg) |
| Maximum auger diameter | 15 inches (38 cm) |
| Motor<br>Displacement<br>Rated pressure<br>Flow range | <br>8.0 $in^3$/rev (130 $cm^3$/rev)<br>3000 psi continuous (211 $Kg/cm^2$)<br>0-20 gpm (38-76 Lpm) |
| Drive ratio | 3.75:1 |
| Output shaft diameter | 2.56 inches (6.5 cm) |

| | |
|---|---|
| Bit speed | 80 rpm at 11 gpm (60 Lpm), 95% efficiency |
| Torque | 1060 ft.·lb (1437 Nm) at 11 gpm (60 Lpm), 3000 psi (211 Kg/cm$^2$) |

# Stability Ratings

To determine the degree of slope you can traverse with the auger installed on a traction unit, find the stability rating for the hill position you want to travel in the appropriate table below, then find the degree of slope for the same rating and hill position in the Stability Data section of the traction unit operator's manual.

**Note:** If you have a traction unit other than the Dingo TX, the auger drive head, with an auger smaller than 15 inches, is rated for use without the counterweight. If you use the counterweight, the traction unit will be less stable in the front and side uphill positions.

**IMPORTANT: Do not use augers over 15 inches in diameter, because they may cause instability and the drive head does not produce enough torque to safely turn them in the soil.**

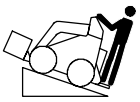
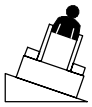
**WARNING**

**POTENTIAL HAZARD**
- **Exceeding the maximum slope can cause the traction unit to tip.**

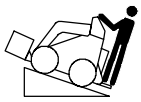
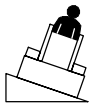
**WHAT CAN HAPPEN**
- **If the traction unit tips, you or bystanders could be crushed.**

**HOW TO AVOID THE HAZARD**
- **Do not drive the traction unit on a slope steeper than the maximum slope.**

## Stability With a 15 inch Auger

| Orientation | Stability Rating |
|---|---|
| Front Uphill  | D |
| Rear Uphill  | D |
| Side Uphill  | C |

## Stability Without an Auger

| Orientation | Stability Rating |
|---|---|
| Front Uphill  | D |
| Rear Uphill  | C |
| Side Uphill  | B |

## Stability With Augers Less Than 15 Inches in Diameter

Augers smaller than 15 inches in diameter will have stabilities between the stability of the drive head alone and the drive head with the 15 inch auger.

# Installation

Refer to your traction unit *Operator's Manual* for more information on installing and removing the drive head on your traction unit.

**Note:** Always use the traction unit to lift and move the drive head. To move an auger without the drive head, sling a strap over each end of the auger and hoist it to the desired location.

## Loose/Separate/Optional Parts

| DESCRIPTION | QTY. | USE |
|---|---|---|
| Auger drive head | 1 | Install on traction unit |
| Auger (sold separately) | 1 | Install auger on drive head |
| Bolt, 7/8"-9 x 4-1/2" | 1 | |
| Nut, 7/8"-9 | 1 | |
| Bolt, 5/8"-11 x 3-1/2" | 4 | |
| Nut, 5/8"-11 | 4 | |
| Auger extensions (sold separately) | 1 | Install between drive head and auger |

## Installing an Auger onto the Drive Head

**WARNING**

**POTENTIAL HAZARD**
- **The auger head swings freely in the cradle arms.**

**WHAT CAN HAPPEN**
- **Hands or fingers could get pinched and severely injured or amputated if they are caught between the cradle arms and the swinging drive head.**

**HOW TO AVOID THE HAZARD**
- **Keep hands and fingers away from the cradle arms.**

1. Raise the loader arms so the drive head clears the ground.
2. Stop the engine.
3. With the drive head in a vertical position, slide two 5/8"-11 x 3-1/2" bolts into the notches and holes in the front and back cradle arms and drive head (Fig. 3).

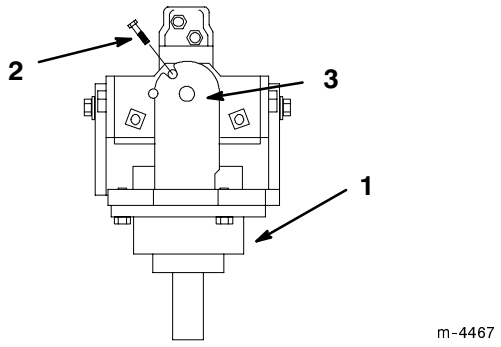



**Figure 2**

1. Drive head (front view)
2. Front cradle arm
3. Bolt (5/8"-11 x 3-1/2")

4. Lightly secure each bolt with a 5/8"-11 nut.
5. Manually rotate the auger drive head up and slide two 5/8"-11 x 3-1/2" bolts through the holes in the left and right cradle arms (Fig. 3).

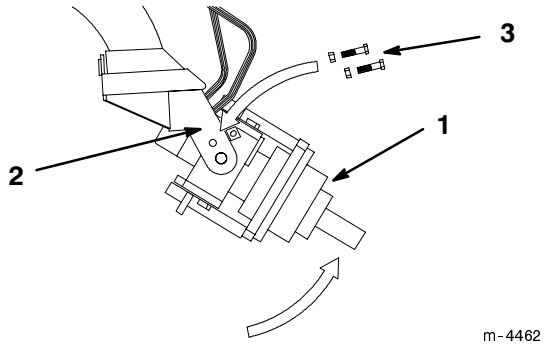



**Figure 3**

1. Drive head (right side view)
2. Right cradle arm
3. Bolts (5/8”-11 x 3-1/2”) and nuts (5/8”-11)

**6.** Lightly secure each bolt with a 5/8”-11 nut.

**7.** If using an extension with the auger, insert the end of the extension into the end of the auger and secure the auger to the drive head with the 7/8”-9 x 4-1/2” bolt and 7/8”-11 nut (Fig. 4).

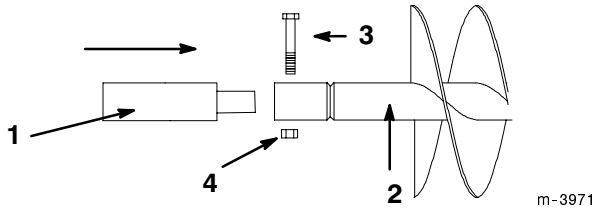



**Figure 4**

1. Extension
2. Auger shaft
3. Bolt (7/8”-9 x 4-1/2”)
4. Nut (7/8”-9)

**8.** Start the engine.

**9.** Maneuver the drive shaft into the end of the auger shaft or extension (if applicable) (Fig. 5).

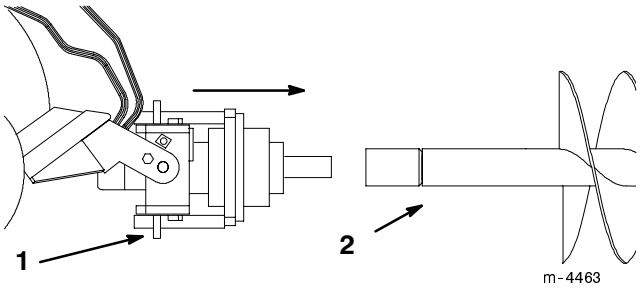



**Figure 5**

1. Drive head
2. Auger shaft

**10.** Stop the engine.

**11.** Secure the auger to the drive head with the 7/8”-9 x 4-1/2” bolt and 7/8”-11 nut (Fig. 6).

**12.** Remove the bolts and nuts from the cradle arms that were installed in step 3 and 5 (Fig. 6).

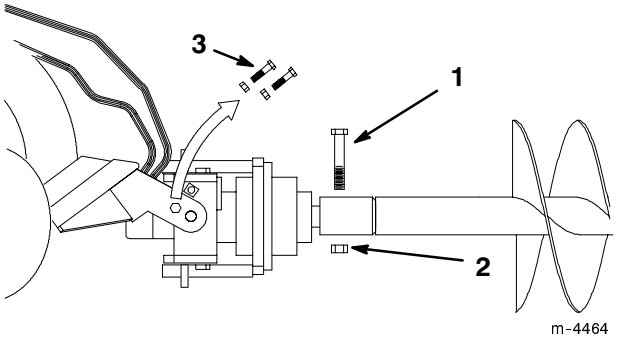



**Figure 6**

1. Bolt (7/8”-9 x 4-1/2”)
2. Nut (7/8”-9)
3. Bolts (5/8”-11 x 3-1/2”) and nuts (5/8”-11)

**13.** Start the engine.

**14.** Raise the auger free of the ground (Fig. 7).

**15.** When the auger is vertical, tilt the attachment plate rearward, until the drive head contacts the attachment plate to stabilize the auger and keep it from swinging freely (Fig. 7).

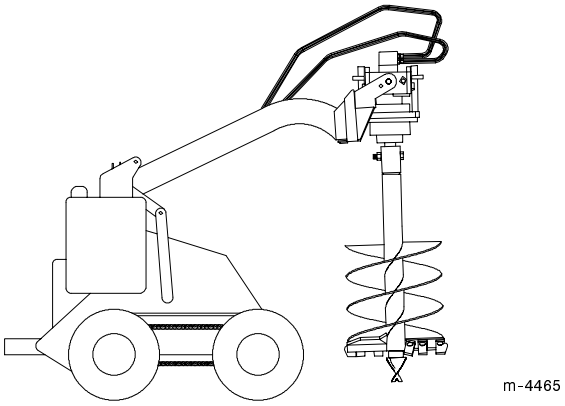



**Figure 7**

# Removing an Auger/Extension from the Drive Head

**1.** Raise the loader arms so the auger comes out of the hole.

**Note:** If you have a 24 inch extension installed between the drive head and the auger, it may be necessary to raise the auger as high as possible and then move the traction unit backward to pull the auger the rest of the way out of the hole.

**2.** Set the auger down in its storage location.

3. While lowering the arms, drive slowly backwards until the auger is horizontal.
4. Stop the engine.
5. Remove the bolt and nut securing the drive head to the auger or extension.
6. Start the engine and back the traction unit away from the auger.
7. If an extension was used, remove the bolt securing it and pull it off of the auger.

# Operation

## Digging a Hole

**DANGER**

**POTENTIAL HAZARD**
- **There may be buried power, gas, and/or telephone lines in the work area.**

**WHAT CAN HAPPEN**
- **Shock or explosion may occur.**

**HOW TO AVOID THE HAZARD**
- **Have the property or work area marked for buried lines and do not dig in marked areas.**

**IMPORTANT: Before digging, ensure that the ground is free of any trash or debris.**

**IMPORTANT: Only use the auger if the auger point and teeth are intact and in good condition.**

1. Lower the auger to the soil at the site of the proposed hole.
2. Move the throttle lever to fast (rabbit)
3. If you have a traction unit other than Dingo TX move the speed selector lever to slow (turtle) and the flow divider control to the 10:00 o'clock position.
4. Pull the auxiliary hydraulics lever backward to begin drilling.
5. Lower the auger slowly as the soil is loosened. As you dig deeper, move the traction unit backward, forward, right, or left as required to keep the hole vertical (Fig. 8).

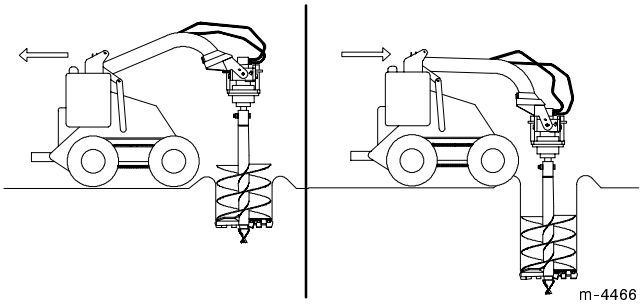



**Figure 8**

6. When the auger becomes full of soil, disengage the auger drive and lift the auger from the hole. Engage the auger drive to spin off the soil, then resume digging.

**Note:** Switching rapidly from forward to reverse will help to shake off the soil.

**DANGER**

**POTENTIAL HAZARD**
- **Excessive downward force may cause the bit to wobble uncontrollably.**

**WHAT CAN HAPPEN**
- **The machine may become unstable and tip over, crushing you or others.**

**HOW TO AVOID THE HAZARD**
- **Do not use excessive downward pressure on the bit. Allow the bit to pull itself into the soil.**

# Maintenance

## Service Interval Chart

| Service Operation | Each Use | 25 Hours | 50 Hours | 1000 Hours | Storage Service | Notes |
|---|---|---|---|---|---|---|
| Auger teeth–inspect | X | | | | X | Replace if damaged or worn |
| Planetary gear case oil-check | | X | | | | |
| Planetary gear case oil-change | | | | X | | |
| Chipped surfaces—paint | | | | | X | |

**CAUTION**

**POTENTIAL HAZARD**
- **If you leave the key in the ignition switch, someone could start the engine.**

**WHAT CAN HAPPEN**
- **Accidental starting of the engine could seriously injure you or other bystanders.**

**HOW TO AVOID THE HAZARD**
- **Remove the key from the ignition switch before you do any maintenance.**

## Checking Planetary Gear Case Oil

Check the oil level in the planetary gear case every 25 hours and top off the oil if necessary.

1. Place the auger drive head on the ground so that the drive shaft is parallel with the ground.
2. Rotate the drive head so that the oil drain plug is located on top and the breather plug is on the bottom (Fig. 9).
3. Remove the oil drain plug (Fig. 9)
4. Rotate the auger drive head so that the drain opening is at the 2 o'clock position (Fig 9). Oil should just begin to come out of the opening.

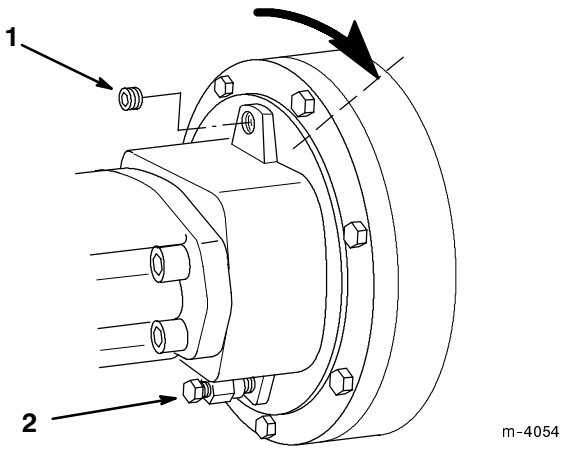



**Figure 9**

1. Drain plug 2. Breather plug

5. If no oil comes out of the opening, add oil (a mild, extreme pressure lubricant API-GL-5, number 80 or 90) until the oil starts to run out when the drain hole is at the 2 o'clock position.
6. Replace the drain plug.

## Changing Planetary Gear Case Oil

Change the oil after the first 50 hours of operation and every 1000 hours thereafter. The planetary gear case requires 2 pints of a mild, extreme pressure lubricant, rated API-GL-5, number 80 or 90.

1. Support the drive head over an oil pan so that the oil drain plug (Fig. 9) is on the bottom of the drive head, facing the oil pan.
2. Remove the oil drain plug to drain the oil.
3. When the oil is completely drained, turn the drive head so that the oil drain opening is on the top of the drive head, facing the up.
4. Add 2 pints of a mild, extreme pressure lubricant, rated API-GL-5, number 80 or 90.
5. Replace the drain plug.

## Storage

1. Before long term storage, wash the attachment with mild detergent and water.
2. Check and tighten all bolts, nuts, and screws. Repair or replace any damaged or worn part.
3. Ensure that all hydraulic couplers are connected together to prevent contamination of the hydraulic system.
4. Paint all scratched or bare metal surfaces. Paint is available from your Authorized Service Dealer.
5. Store the attachment in a clean, dry garage or storage area. Cover it to protect it and keep it clean.

# Troubleshooting

| PROBLEM | POSSIBLE CAUSES | CORRECTIVE ACTION |
|---|---|---|
| Drive head does not operate. | 1. Hydraulic coupler not completely connected | 1. Check and tighten all couplers. |
| | 2. Damaged hydraulic coupler | 2. Check couplers and replace any that are damaged. |
| | 3. An obstruction in a hydraulic hose | 3. Find and remove the obstruction. |
| | 4. Kinked hydraulic hose | 4. Replace the kinked hose |
| | 5. Contamination in the gearbox | 5. Refer to your authorized service dealer. |


TORO®