Form No. 3354-416 Rev A

Snowthrower

For Compact Utility Loaders

Model No. 22456—260000001 and Up

Operator's Manual

Register your product at www.Toro.com

Original Instructions (EN)

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Introduction

Read this manual carefully to learn how to operate and maintain your product properly. The information in this manual can help you and others avoid injury and product damage. Although Toro designs and produces safe products, you are responsible for operating the product properly and safely.

You may contact Toro directly at www.Toro.com for product and accessory information, help finding a dealer, or to register your product.

Whenever you need service, genuine Toro parts, or additional information, contact an Authorized Service Dealer or Toro Customer Service and have the model and serial numbers of your product ready.

Write the product model and serial numbers in the space below:

Model No: _____

Serial No. _____

This manual identifies potential hazards and has special safety messages that help you and others avoid personal injury and 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 you do not follow the recommended precautions.

Warning signals a hazard that *may* cause serious injury or death if you do not follow the recommended precautions.

Caution signals a hazard that may cause minor or moderate injury if you do not follow the recommended precautions.

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

Safety

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

⚠ Warning ⚠

The loader arms may lower when in the raised position crushing anyone under them.

Lower the attachment lift or install the cylinder locks each time you shut off the traction unit.

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Danger

When the snowthrower is in operation, the impeller and auger can be rotating and cut off or injure hands and feet.

- **Before adjusting, cleaning, repairing and inspecting the snowthrower, and before unclogging the discharge chute, *move the auxiliary hydraulics lever to the off position, stop the engine, and wait for all moving parts to stop.* Remove the key.**
- **Use a stick, *not your hands*, to remove an obstruction from the discharge chute.**
- **Stay behind the handles and away from the discharge opening while operating the snowthrower.**
- **Keep face, hands, feet, and any other part of your body or clothing away from concealed, moving, or rotating parts.**

Warning

The auger/impeller may pick up and throw stones, toys, and other foreign objects, causing serious personal injury to the operator or to bystanders.

- **Keep the area to be cleared free of all objects that could be picked up and thrown by the auger/impeller.**
- **Keep all children and pets away from area of operation.**

General Snowthrower Safety

The following instructions have been adapted from the ANSI/OPEI and ISO standards.

Preparation

- Thoroughly inspect the area where the equipment is to be used and remove all doormats, sleds, boards, wires, and other foreign objects.
- Do not operate the equipment without wearing adequate winter outer garments. Wear footwear that will improve footing on slippery surfaces.
- Adjust the auger housing height to clear gravel or crushed rock surface.
- Never attempt to make any adjustments while the engine is running, except when specifically recommended by Toro.
- Let engine and machine adjust to outdoor temperatures before starting to clear snow.
- The operation of any powered machine can result in foreign objects being thrown into the eyes. Always wear safety glasses or eye shields during operation or while performing an adjustment or repair.

Operation

- Do not put hands or feet near or under rotating parts. Keep clear of the discharge opening at all times.
- Exercise extreme caution when operating on or crossing gravel drives, walks, or roads. Stay alert for hidden hazards or traffic. Do not carry passengers.
- After striking a foreign object, stop the engine, cycle the auxiliary hydraulics lever, disconnect the hydraulic lines, thoroughly inspect the snowthrower for any damage, and repair the damage before restarting and operating the snowthrower.
- If the unit should start to vibrate abnormally, stop the engine and check immediately for the cause. Vibration is generally a warning of trouble.
- Stop the engine whenever you leave the operating position, before unclogging the auger/impeller housing or discharge chute, and when making any repairs, adjustments, or inspections.
- When cleaning, repairing, or inspecting, stop the engine, make certain the auger/impeller and all moving parts have stopped, cycle the auxiliary hydraulics lever, and disconnect the hydraulic lines.
- Do not clear snow across the face of slopes. Exercise extreme caution when changing direction on slopes. Do not attempt to clear steep slopes.
- Never operate the snowthrower without proper guards, plates, or other safety protective devices in place.
- Never operate the snowthrower near glass enclosures, automobiles, window wells, drop-offs, and the like without proper adjustment of the snow discharge angle. Keep children and pets away.
- Do not overload the machine capacity by attempting to clear snow at too fast a rate.
- Never operate the machine at high transport speeds on slippery surfaces. Look behind and use care when moving in reverse.
- Never direct discharge at bystanders or allow anyone in front of the unit.
- Disengage power to the auger/impeller when the snowthrower is transported or not in use.
- Never operate the snowthrower without good visibility or light.

Maintenance and Storage

- Check fasteners at frequent intervals for proper tightness to be sure the equipment is in safe working condition.
- Always refer to the operator's manual for important details if the snowthrower is to be stored for an extended period.
- Maintain or replace safety and instruction labels, as necessary.
- Run the machine a few minutes after throwing snow to prevent freeze-up of the auger/impeller.

Toro Snowthrower Safety

The following list contains safety information specific to Toro products or other safety information that you must know that is not included in the ANSI or ISO standards.

- **The rotating auger/impeller or rotor blades can cut off or injure fingers or hands.** Stay in the operator's position and away from the discharge opening while operating the snowthrower. **Keep your face hands, feet, and any other part of your body or clothing away from concealed, moving, or rotating parts.**
- Before adjusting, cleaning, repairing, and inspecting the snowthrower, and before unclogging the discharge chute, **stop the engine, remove the key, and wait for all moving parts to stop**. Also, cycle the auxiliary hydraulics lever and disconnect the hydraulic lines.
- Use a stick, **not your hands** to remove obstructions from the discharge chute.
- **Before** leaving the operator's position, stop the engine, remove the key, and wait for all moving parts to stop.
- Do not wear loose fitting clothing that could possibly get caught in moving parts.
- If a shield, safely device, or decal is damaged, illegible, or lost, repair or replace it before beginning operation. Also, tighten any loose fasteners.
- **Do not** use the snowthrower on a roof.
- Perform only those maintenance instructions described in this manual. Before performing any maintenance, service, or adjustment, stop the engine, remove the key, cycle the auxiliary hydraulics lever, and disconnect the hydraulic lines. If major repairs are ever needed, contact your Authorized Toro Service Dealer.
- To ensure the best performance and safety, purchase only genuine Toro replacement parts and accessories to keep the Toro all Toro. **Do not use "Will Fit" replacement parts and accessories as they could cause a safety hazard.**
- When using the snowthrower in a raised position, stay away from overhead power lines and drive the traction unit only on level surfaces.
- Always transport the snowthrower in a lowered position.
- Use the snowthrower only to remove snow. Other materials may damage the snowthrower and cause a hazard.
- Do not tilt the snowthrower so that it discharges towards the operator or bystanders.

Safety Decals

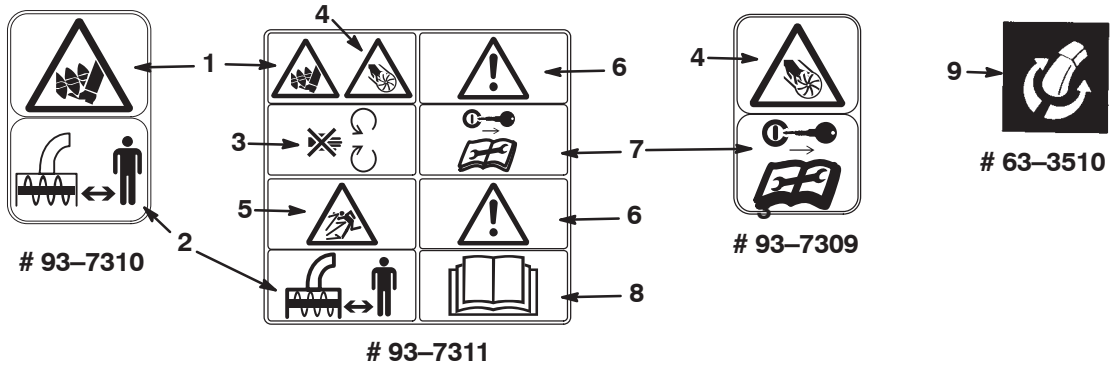


Figure 1

1. Cutting hazard—rotating auger
2. Keep bystanders away
3. Do not place hands or feet into areas with moving parts
4. Cutting hazard—rotating impeller
5. Thrown object hazard
6. Safety alert symbol
7. Remove the key and read the operator's manual before servicing
8. Read the operator's manual
9. Discharge chute rotation

Specifications

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

Width	47.75 inches (121.3 cm)
Length	43.2 inches (109.7 cm)
Height	50.4 inches (128 cm)
Weight	335 lbs (152 Kg)
Clearing width	44 inches (111.7 cm)
Auger diameter	16 inches (40.6 cm)
Impeller diameter	13.5 inches (34.3 cm)
Auger speed	125 rpm @ 8.5 gpm
Impeller speed	1125 rpm @ 8.5 gpm
Hydraulic motor displacement	1.58 cu. in. (25.9 cc)

Stability Ratings

To determine the degree of slope you can traverse with the snowthrower installed on a traction unit, find the stability rating for the hill position you want to travel in the 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.

Orientation	Stability Rating
Front Uphill 	C
Rear Uphill 	C
Side Uphill 	B

Note: On traction units with a rear operator platform, the snowthrower is rated for use without the counterweight. If you use the counterweight with the snowthrower, the traction unit will be less stable in the front and side uphill positions.

Warning

If you exceed the maximum recommended slope, the traction unit may tip over crushing you or others.

Do not drive the traction unit on a slope steeper than the maximum recommended slope, as determined in the previous table and the traction unit operator's manual.

Installation

Loose Parts

Description	Qty	Use
Snowthrower housing	1	Install the discharge chute.
Discharge chute assembly	1	
Deflector shield	1	
Carriage bolt	3	
Washer	3	
Lock nut	3	
Cable guide	1	Install on the loader arm crossbar to guide the control cable.
Chute control bracket	1	Install the chute control bracket on the traction unit.
Knob	2	
Handle clamp (200/300 series only)	1	
Washer, large (200/300 series only)	1	
Washer, small (200/300 series only)	1	
Mounting bracket (400 series only)	1	
Self-tapping screws, 5/16-18 x 3/4 in. (400 series only)	2	
Retaining plate (400 series only)	1	

Installing the Discharge Chute

Install the deflector shield and the discharge chute assembly onto the snowthrower housing with three carriage bolts (heads to inside), washers, and lock nuts (Fig. 2).

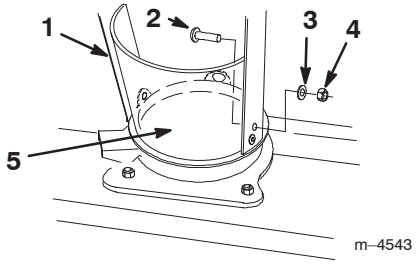
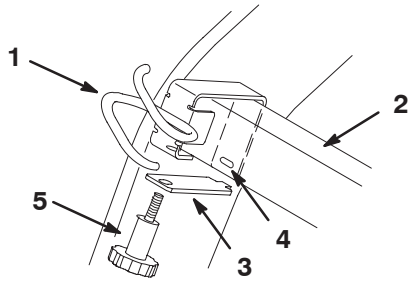


Figure 2

1. Discharge chute
2. Carriage bolt
3. Washer
4. Lock nut
5. Deflector shield

Installing the Cable Guide (200/300 Series Traction Units Only)

1. If your traction unit has a bolt installed in the underside of the loader arm cross bar, between the right loader arm and the hydraulic hoses, remove the bolt.
2. Place the cable guide over the loader arm cross bar on the far right side (Fig. 3).
3. Insert the clamp into the slot in the cable guide, then secure it with a knob (Fig. 3).



m–4545

Figure 3

1. Cable guide
2. Loader arm cross bar
3. Clamp
4. Slot
5. Knob

Installing the Snowthrower on a 200/300 Series Traction Unit

1. Connect the snowthrower to the traction unit mount plate and connect the hydraulic lines. Refer to your traction unit operator's manual for instructions.

2. Locate the hole in the side plate of the frame (Fig. 4) that is located just behind and to the left of the left handle. If there is no hole, complete the following:

A. Copy page 12, cut out the template, and align it with the upper left side plate of the traction unit (the arrow on the template should point up).

Note: The template is designed to fit on the outside of the side plate.

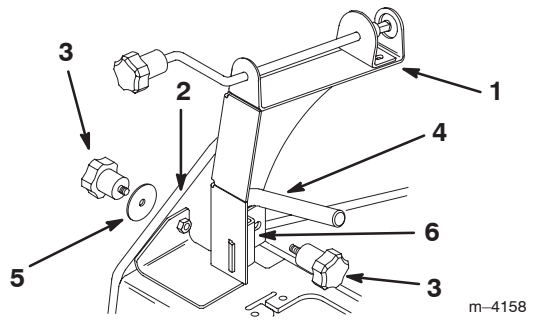
B. Mark the hole location on the side plate at the center of the cross hairs on the template.

C. Drill a 3/8 to 1/2 inch (1 to 1.25 cm) hole through the frame at the marked location.

3. Place the chute control bracket between the left handle and the side plate (Fig. 4).

4. Secure the bracket to the frame with a knob and the large washer (Fig. 4).

5. Insert the handle clamp into the slot in the chute control bracket, wrapping it around the handle, then secure it with a knob (Fig. 4).



m–4158

Figure 4

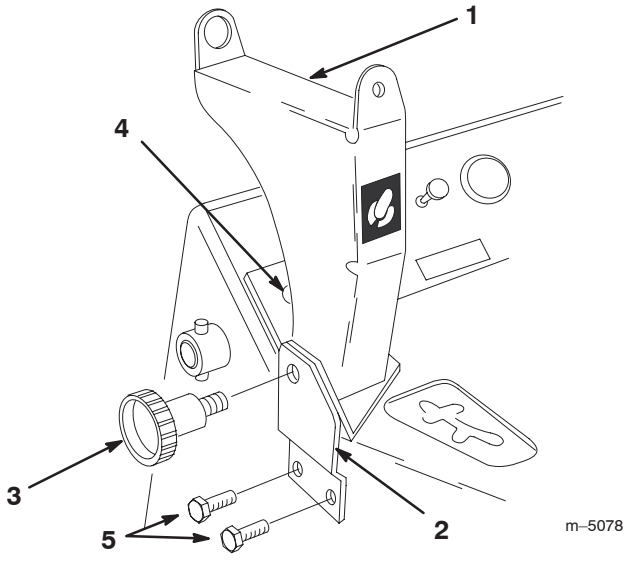
1. Chute control bracket
2. Upper left side plate
3. Knob
4. Left handle
5. Large washer
6. Handle clamp

6. Route the chute control cable through the cable guide.

Installing the Snowthrower on a 400 Series (TX) Traction Unit

1. Connect the snowthrower to the traction unit mount plate and connect the hydraulic lines. Refer to your traction unit operator's manual for instructions.

2. Using a knob, connect the mounting bracket to the chute control bracket (Fig. 5).



m–5078

Figure 5

1. Chute control bracket
2. Mounting bracket
3. Knob
4. Location for 3/8 in. hole through the control panel.
5. Self-tapping screws, 5/16–18 x 3/4 in. and location of the two 0.290 in. holes through the frame

3. Align the bracket assembly on the left side of the traction unit as illustrated in Figure 5.

4. Mark the hole locations on the traction unit for the two mounting bracket holes and for the hole in the control bracket on the control panel (Fig. 5).

5. Using an 0.290 in. (size L) drill bit, drill the holes for the mounting bracket through the traction unit frame (Fig. 5).

6. Using a 3/8 in. drill bit, drill the hole for the control bracket in the control panel (Fig. 5).

7. Install the mounting bracket with the two, 5/16–18 x 3/4 in. self–tapping screws (Fig. 5)

8. Secure the control bracket to the control panel using the other knob and the retaining plate (inserted from behind the control panel) (Fig. 6).

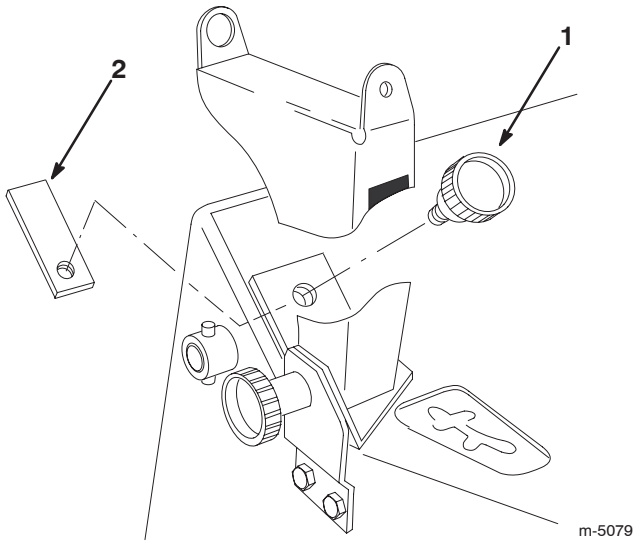


Figure 6

1. Knob
2. Retaining plate

Removing the Snowthrower

1. Start the engine and lower the attachment to the ground or onto a trailer, then stop the engine.

2. Remove the chute control bracket as follows:

   - On 200/300 series traction units, remove the knobs, washer, and handle clamp from the chute control bracket and remove the bracket.
   - On 400 series traction units, remove the knobs and retaining plate from the chute control bracket and remove the bracket.

3. Install the fastening hardware on the chute control bracket for safe keeping.

4. On 200/300 series traction units, remove the chute control cable from the cable guide.

5. Disconnect the hydraulic lines and remove the snowthrower from the mount plate. Refer to your traction unit operator's manual for instructions.

Operation

Danger

When the snowthrower is in operation, the impeller and auger can be rotating and cut off or injure hands and feet.

- **Before adjusting, cleaning, repairing and inspecting the snowthrower, and before unclogging the discharge chute, *stop the engine and wait for all moving parts to stop*. Remove the key.**
- **Use a stick, *not your hands*, to remove an obstruction from the discharge chute.**
- **Stay away from the discharge and auger openings while operating the snowthrower.**
- **Keep face, hands, feet, and any other part of your body or clothing away from concealed, moving, or rotating parts.**

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

Tips for Throwing Snow

- Always use full throttle (maximum engine speed).
- If your traction unit has a speed selector, use the slow position (turtle).
- If your traction unit has a flow divider, set it as appropriate for the snow conditions (i.e., vary the setting from 10 o'clock for heavy snow to 12 o'clock for lighter snow).
- The discharge chute can be rotated 180° side to side. The direction is controlled by turning the chute control crank in the chute control bracket.
- The chute deflector, on top of the discharge chute, can be moved up and down to control the height and distance snow is thrown (Fig. 7).

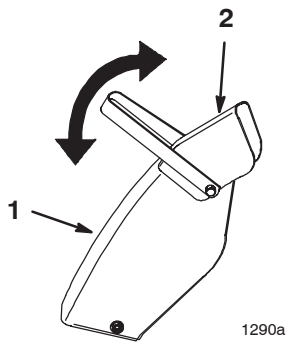


Figure 7

1. Discharge chute
2. Chute deflector

- Remove snow as soon as possible after it falls. This produces the best snow removal results.
- Adjust the skids to match the type of surface being cleaned; refer to Adjusting Skids.
- The snowthrower is designed to clean snow down to the contact surface, but there are times when the front of the snowthrower may tend to ride up. If this happens, reduce forward speed.
- Discharge snow downwind whenever possible, and overlap each pass to ensure complete snow removal. If wheels slip, reduce forward speed.
- Run the snowthrower for a few minutes after clearing snow so moving parts do not freeze.
- Do not overload the snowthrower by clearing snow at too fast a rate. If the engine slows down, reduce forward speed or adjust the flow divider (where applicable) to supply more power to the snowthrower.
- In some snow and cold weather conditions, some controls and moving parts may freeze. Therefore, when any control becomes hard to operate, stop the machine and wait for all moving parts to stop; then check all parts for freeze up. **Do not use excessive force when trying to operate frozen controls.** Free all controls and moving parts before operating.

Maintenance

Recommended Maintenance Schedule

Maintenance Service Interval	Maintenance Procedure
25 hours	Discharge chute—check and adjust
50 hours	Auger gearbox—check oil
100 hours	Scraper blade—check\replace
Yearly/Storage	Skids—adjust as required Scraper blade—check\replace Auger gearbox—check oil Discharge chute—check and adjust

Caution

If you leave the key in the traction unit ignition switch while the snowthrower is attached, someone could accidently start the engine and seriously injure you or other bystanders.

Remove the key from the ignition and disconnect the wire(s) from the spark plug(s) before you do any maintenance, requiring that the snowthrower be attached to the traction unit. Set the wire(s) aside so that it does not accidentally contact the spark plug(s).

Checking the Auger Gear Box Oil

Check level of oil in auger gear box every 50 hours.

1. With the snowthrower lowered and on a level surface, remove the pipe plug from the auger gear box (Fig. 8) by placing the open end of a 3/8 in. drive socket extension over the plug and using a 3/8 in. open end wrench on the square end of the extension.

2. Check the level of oil in the gear box. The oil must be at the point of overflowing in the filler opening.

3. If the oil level is low, add SAE 90 EP GL-4 transmission oil to the gear box.

4. Install the pipe plug in the gear box.

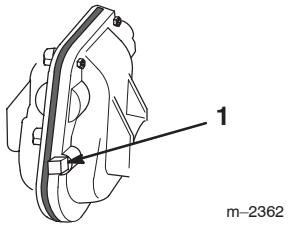


Figure 8

1. Pipe plug

Checking/Adjusting the Discharge Chute

Check the operation of the discharge chute every 25 hours to ensure that the chute rotates smoothly when the chute control crank is turned. If it does not rotate smoothly, adjust the worm gear as follows:

1. Loosen the worm bracket mounting screws (Fig. 9), firmly pushing the worm gear against the teeth in the retaining ring.

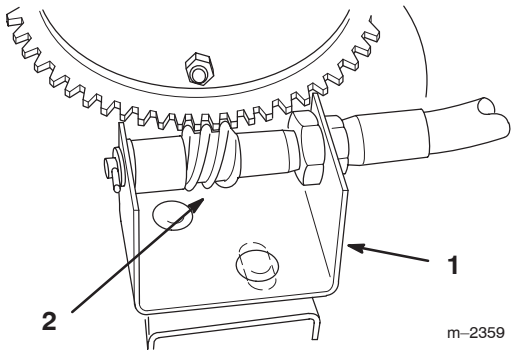


Figure 9

1. Worm bracket
2. Worm gear

2. While holding the bracket in place, tighten the mounting screws.

Adjusting the Skids

The distance between the scraper blade and the ground is controlled by skids on each side of the housing. The height can be adjusted so the scraper blade will not catch on uneven surfaces

1. Lower the snowthrower until it is 1 to 2 inches above a level surface, then stop the engine.

2. Remove the nuts, washers, and bolts securing the skids to the housing (Fig. 10).

3. Position the skids equally on both sides, to obtain a level scraping action, and secure the skids with the nuts, washers, and bolts (Fig. 10).

Note: On smooth, paved surfaces, the scraper blade can be close to the surface On uneven, gravel or crushed rock surfaces, adjust the skids to raise the scraper, to prevent catching or picking up rocks.

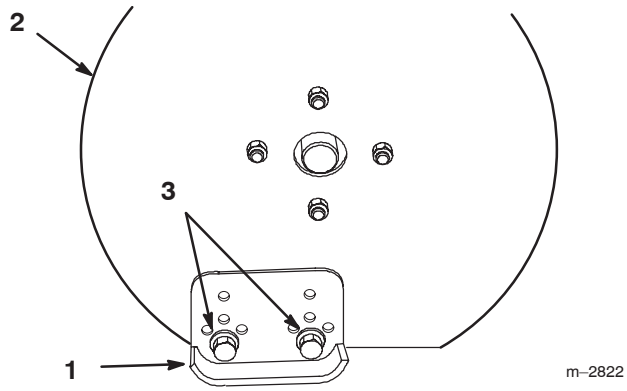


Figure 10

1. Skid
2. Housing
3. Nuts, washers, and bolts (bolt heads to the outside)

Important The scraper should be higher above the pavement if the pavement surfaces on which the snowthrower will be used are cracked, rough, or uneven.

Replacing the Scraper Blade

The scraper blade contacts the ground preventing damage to the snowthrower housing. Periodically inspect the scraper blade for wear. When the scraper becomes worn, before the working surface contacts the housing, replace the scraper blade.

1. Raise the snowthrower a foot off of the ground and stop the engine.
2. Remove the nuts, washers, carriage bolts, and scraper blade (Fig. 11).
3. Replace the scraper blade and secure the new blade with the previously removed hardware (Fig. 11).

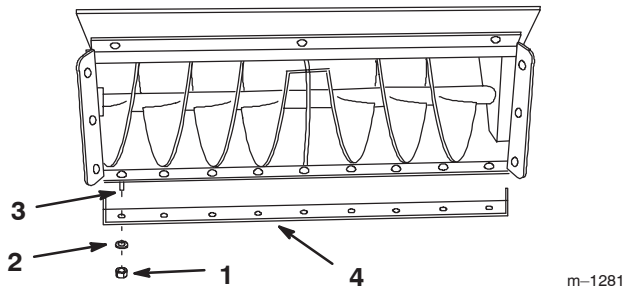


Figure 11

1. Nut
2. Washer
3. Carriage bolt
4. Scraper blade

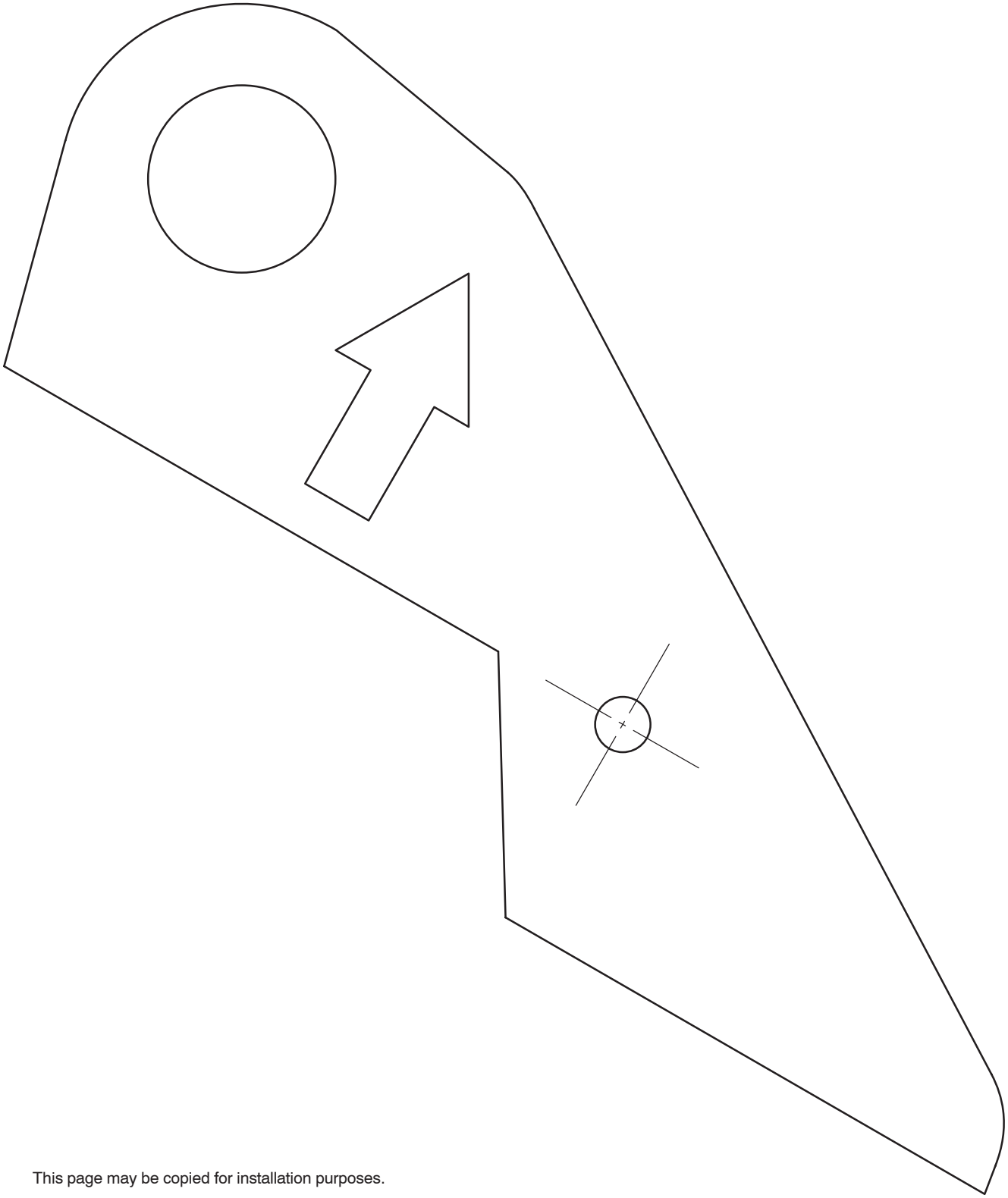
Storage

1. Before long term storage, wash the snowthrower with mild detergent and water to remove dirt and grime.
2. Check the condition of the scraper blade; refer to Replacing Scraper Blade, page 10.
3. Check the auger gear box oil level; refer to Checking the Auger Gear Box Oil, page 9.
4. Check and tighten all bolts, nuts, and screws. Repair or replace any part that is damaged or defective.
5. Paint all scratched or bare metal surfaces. Paint is available from your Authorized Service Dealer.
6. Store the snowthrower in a clean, dry garage or storage area. Cover the snowthrower to protect it and keep it clean.

Troubleshooting

PROBLEM	POSSIBLE CAUSES	CORRECTIVE ACTION
Snowthrower 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. Auxiliary valve on the traction unit is not opening.	4. Repair the valve.

Side Plate Template for Marking the Hole Location (not for all models)



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