



INSTALLATION INSTRUCTIONS AND OPERATORS GUIDE
ProVantage Bucket Conversion Kit
Part Number: 84133 (50”), 83133 (54”) and 85133 (60”)
Application: Front Mount Plow*

** Not recommended for use with Center Mount Plow*
**Not compatible with Tapered Plow Blades*

Your safety, and the safety of others, is very important. To help you make informed decisions about safety, we have provided installation and operating instructions and other information on labels and in this guide. This information alerts you to potential hazards that could hurt you or others. It is not possible to warn you about all potential hazards associated with this product, you must use your own good judgment.

CARELESS INSTALLATION AND OPERATION CAN RESULT IN SERIOUS INJURY OR EQUIPMENT DAMAGE.
READ AND UNDERSTAND ALL SAFETY PRECAUTIONS AND OPERATING INSTRUCTIONS BEFORE INSTALLING AND OPERATING THIS PRODUCT.

This guide identifies potential hazards and has important safety messages that help you and others avoid personal injury or death. **WARNING** and **CAUTION** are signal words that identify the level of hazard. These signal words mean:

⚠ WARNING signals a hazard that *could* cause serious injury or death, if you do not follow recommendations.
⚠ CAUTION signals a hazard that *may* cause minor to moderate injury, if you do not follow recommendations.

This guide uses **NOTICE** to call attention to important mechanical information, and **Note**: to emphasize general information worthy of special attention.

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As you read these instructions, you will see WARNINGS, CAUTIONS, NOTICES and NOTES. Each message has a specific purpose. WARNINGS are safety messages that indicate a potentially hazardous situation, which, if not avoided could result in serious injury or death. CAUTIONS are safety messages that indicate a potentially hazardous situation which, if not avoided, could result in minor or moderate injury. A CAUTION may also be used to alert against unsafe practice. CAUTIONS and WARNINGS identify the hazard, indicate how to avoid the hazard, and advise of the probable consequence of not avoiding the hazard. NOTICES are messages to avoid property damage. NOTES are additional information to help you complete a procedure. PLEASE WORK SAFELY!



WARNING



IMPACT HAZARD

Failure to observe these instructions could lead to serious injury or death.

- Always use personal protection equipment when servicing, installing, or using product.
- Always wear a helmet and appropriate clothing when operating the vehicle.



WARNING

MOVING PARTS ENTANGLEMENT HAZARD

Failure to observe these instructions could lead to serious injury or death.

- Always stay clear of moving parts and cables.
- Always keep others away when operating or adjusting bucket.



CAUTION

FALLING OR CRUSHING HAZARD

Failure to observe these instructions could lead to minor or moderate injury.

- Always insure vehicle is stable and secure.
- Always operate bucket cautiously, impact with a hidden or stationary object may cause the vehicle to stop suddenly or go out of control.

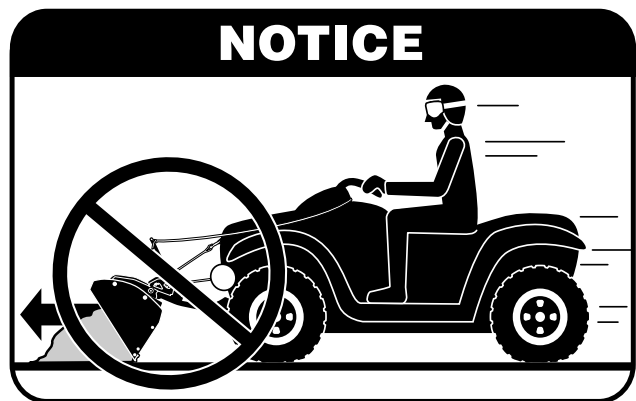


WARNING

FALLING OR CRUSHING HAZARD

Failure to observe these instructions could lead to serious injury or death.

- Always inspect the bucket mechanism, fasteners, cable and adjustments before operating. Replace all worn or damaged parts before operating.
- Always lower bucket completely for removal from vehicle.
- Never stand or ride on the bucket.
- Never exceed 5 MPH with bucket installed.
- Never operate the vehicle on slopes greater than 10° with the bucket installed.
- Never exceed load capacity 180 lb (82 Kg).
- Always:
 - 1) use proper bucket techniques.
 - 2) stay out of danger area.
 - 3) beware of potential pinch points
 - 4) Avoid potential pinch points



Required Tools

- Ratchet
- Allen Wrenches: 5mm, 6mm, 7/32", 3/16"
- Sockets: 13mm, 14mm, Deep 17mm, 1/2", 9/16"
- Box Wrenches: 13mm, 14mm, 15mm, 17mm, 1/2", 9/16"
- Electric Drill & 3/8" (10mm) Bit
- Measuring Tape

Torque Specifications

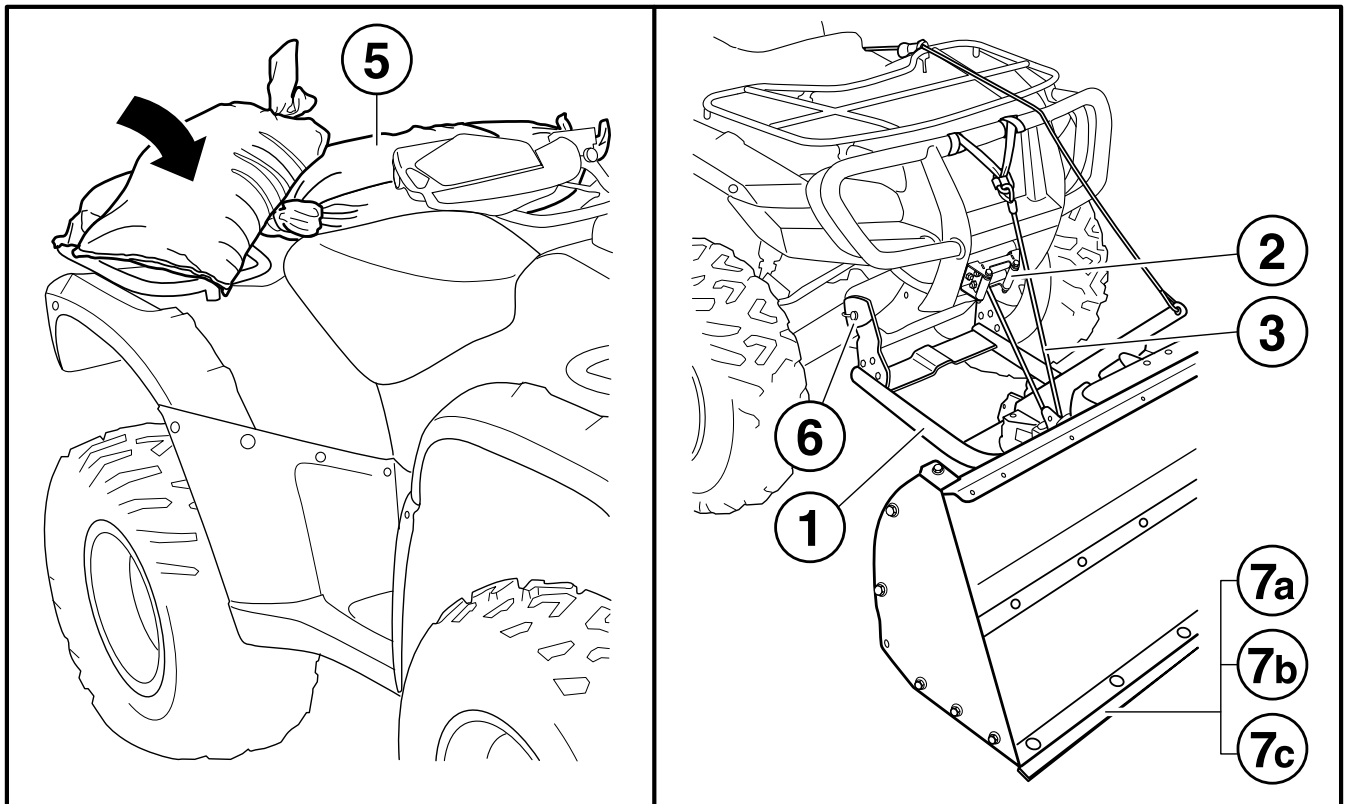
6mm	8 lb. ft. (10.8 N-m)
8mm, 5/16"	17 lb. ft. (12.5 N-m)
10mm, 3/8"	30 lb. ft. (40.7 N-m)

Recommended/Required Parts and Accessories (sold separately)

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>PART NO.</u>
1	PLOW - Front Mounted	92100*
2	Roller Fairlead - Plow	69373**
3	Synthetic Rope - Plow	68560**
4	Winch & Mount	Vehicle Specific
5	Counter Weight (Sand Bags)	Operator
6	Plow Mount	Vehicle Specific
7a	Replacement Wear Bar - 50" HS	84050**
7b	Replacement Wear Bar - 54" HS	84054**
7c	Replacement Wear Bar - 60" HS	84060**
8	Suspension Upgrades	Operator

* Also requires one of the following plow blade kits (78950, 78954, 78960)

** Sold Separately - Recommended



Parts List

Item #	Part #	Qty	Description
A1	83134	1	Plate Main Bucket
A2	83136	1	Plate End Bucket RH
A3	83135	1	Plate End Bucket LH
B1	83765	1	Label Warning Capacity
B3	84119	1	Pulley Mount Bracket LH
B4	84120	1	Pulley Mount Bracket RH
B5	84126	1	Pulley
B6	83255	1	Latch Mount Bracket
B7	83141	1	Latch Bucket
B8	90042	1	Rack Clamp
B9	83752	1	Latch Release Pull Handle
B10	83607	1	Blade Latch Bracket
B11	82076	1	Strap Black Nylon Termination
B12	83840	1	Latch Handle Grip
B13	84406	1	Elastic Cord
C1	63267	16	3/8 x 3/4 Carriage Bolt
C2	6779	23	3/8 Lock Nut
C3	65349	9	3/8 x 3/4 Button Head
C4	35329	1	5/16 Eye-Bolt
C5	1324	3	5/16 Washer
C6	39958	1	5/16 x 3/4 Socket Head Screw
C7	90041	2	5/16 Jam Lock Nut
C8	80396	1	Spring Latch
C9	90039	1	3/8 x 1/2 Shoulder Bolt
C10	2002	3	5/16 Lock Nut
C11	90040	1	3/8 x 1 1/2 Shoulder Bolt
C12	3870	1	5/16 x 3/4 Bolt
C13	81136	1	Spring Shim
C14	9213	6	Flat Shim Washer 1/2 inch
C15	83954	1	Shackle
C16	35136	1	Retaining Pin

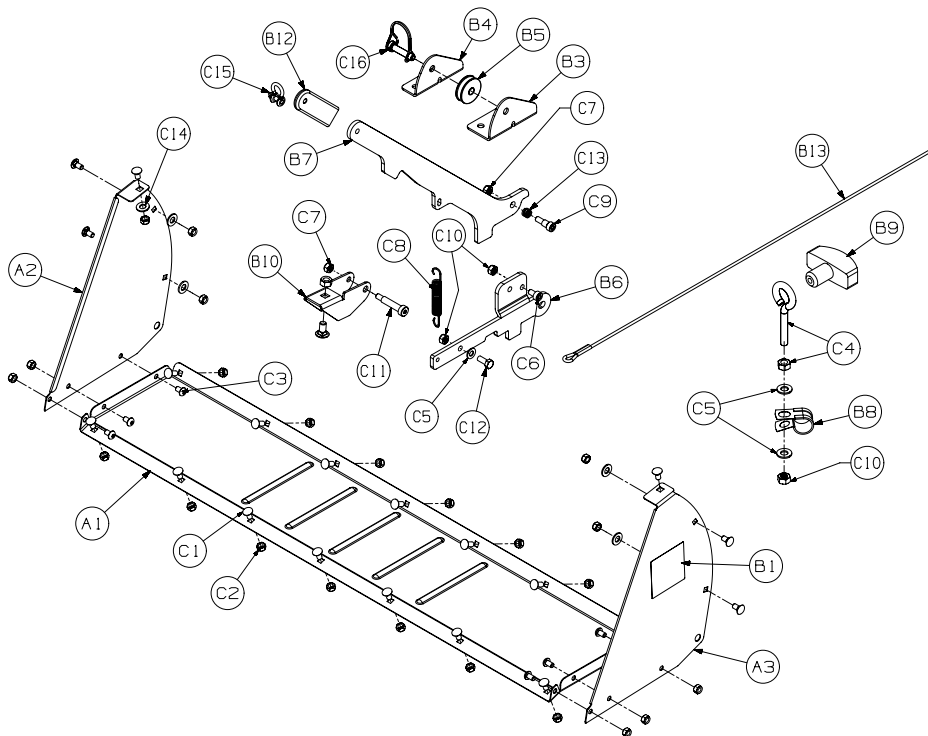


Figure 1

Installation

1. Remove the components shown in the drawing below. The plow wear bar will be installed on the front edge of the bucket unless a new wear bar was purchased for this application. Keep all other parts and hardware together so they can be installed to convert back to plow.

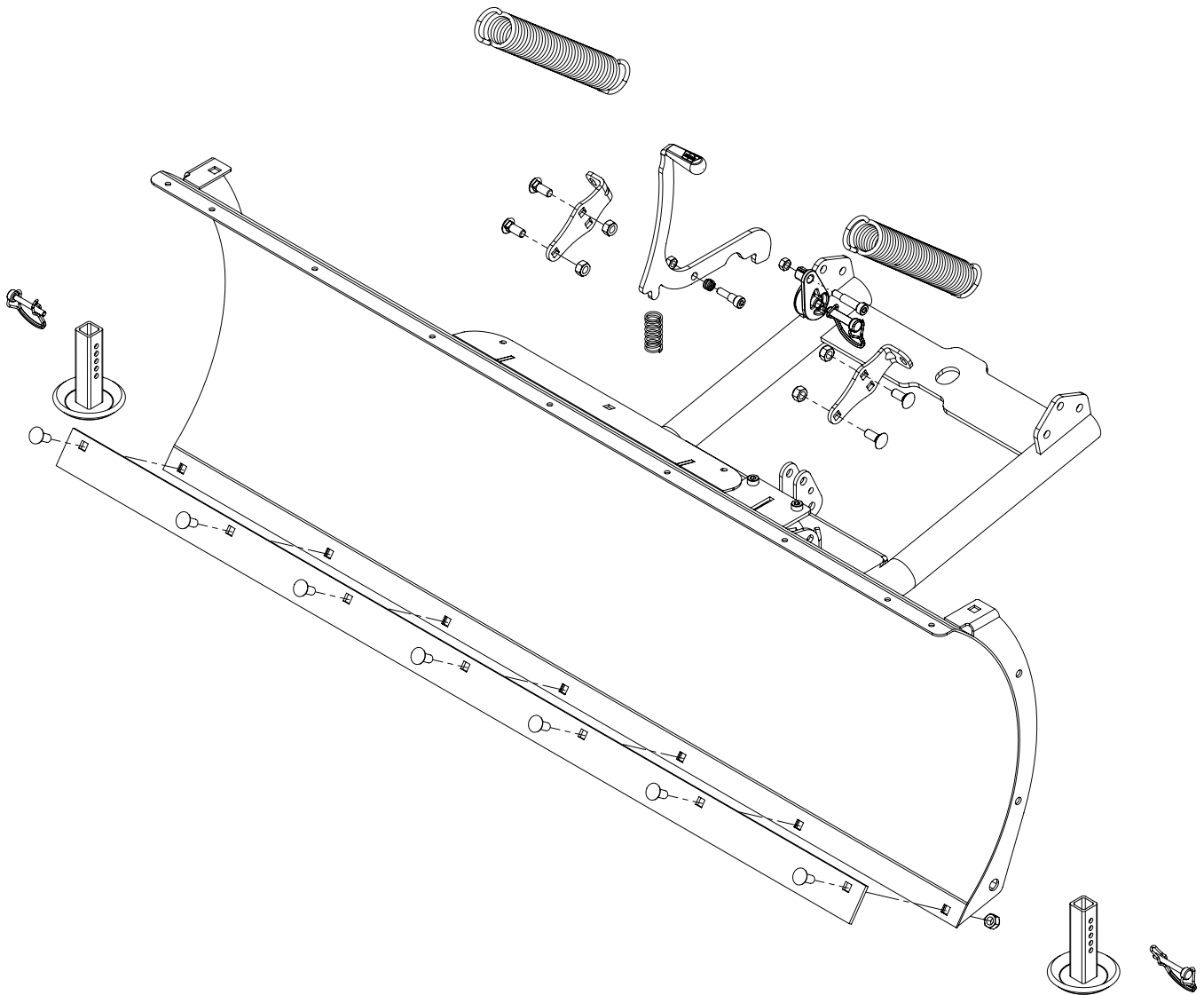


Figure 2

Installation *continued*

2. Measure to locate the center of the ProVantage plow blade horizontal rib (Figure 3). This should be about 9.2" (233mm) from either side.

(Some plow blades may already have this hole.)

3. Position the upper latch bracket on the horizontal blade rib to mark the vertical position of the hole (Figure 4).

Drill the hole in the center of the blade rib in the location marked. Use a 3/8" or slightly larger bit to drill hole for the 3/8" bolt that will be used to secure the bracket.

4. Position the upper latch bracket on the bottom side of the blade horizontal rib (Figure 5). Use a 3/8" carriage bolt if blade rib has a square hole.

If drilling was necessary, then use a 3/8" button head bolt as shown below. Torque the bolt to the specifications in the torque table. Install the 3/8"x1 1/2" shoulder bolt with thin 5/16-18 locking jam nut as shown in Figure 1.

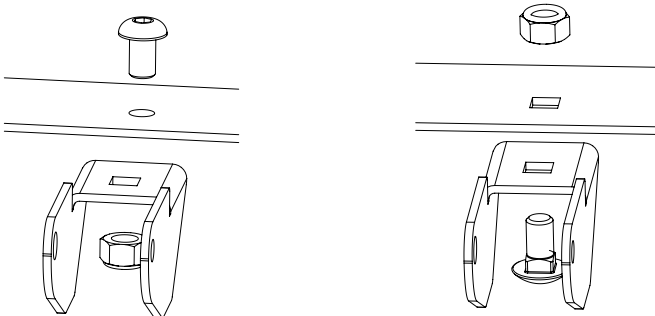


Figure 3



Figure 4



Figure 5

Installation *continued*

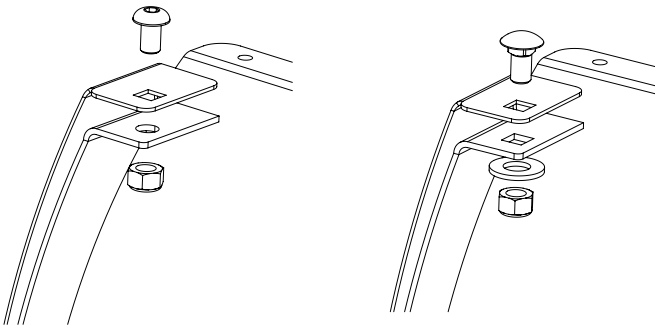
5. Install the main section of the bucket (Figure 6). The edge with larger bend will be secured to the blade in the area the wear bar was removed from.

Install M10x25mm carriage bolts (previously removed) loosely until all parts of the bucket have been attached to the plow.

6. Install both right and left sections of bucket (Figure 7). Secure the side sections of the bucket to the main section with 3/8" button head bolts.

Secure the side sections of the bucket to the plow with 3/8" carriage bolts. A 1/2" shim washer must be installed between both side sections and the plow See Figure 1.

Blades may have either a round or square hole on top surface of outside blade rib. See below for proper hardware use.



Torque all fasteners at this time.

7. Install the wear bar on the bottom of the bucket main section (Figure 8). Use 3/8" carriage bolts to secure the wear bar. The heads of the bolts should be inside the bucket and the 3/8" nuts will be under the bucket.

Torque all fasteners at this time.



Figure 6

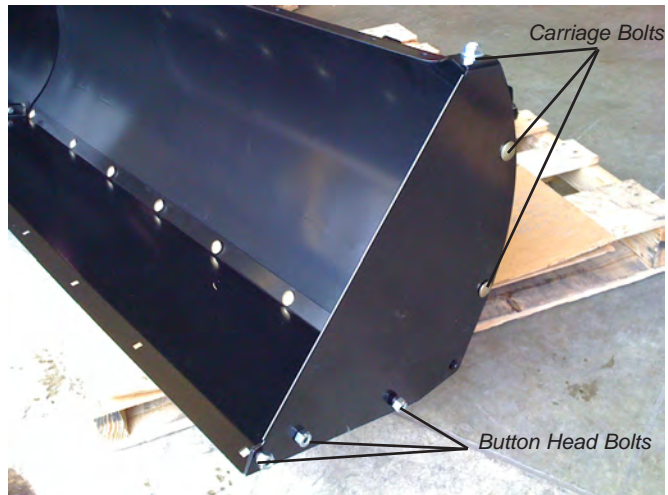


Figure 7



Figure 8

Installation *continued*

8. Make sure the bucket is set in the straight position to the tube assembly.

Install the latch mounting bracket (Figure 9). This bracket will be used in place of the plow latch and will prevent rotation of the bucket.

Use the 5/16" x 3/4" bolt with washer in this kit and the M10 shoulder bolt from the plow to secure the bracket.

Install 5/16" x 3/4" socket head screw, as shown in Figure 9.

Torque all fasteners at this time.

9. Make sure the plow blade stop block is set in the "B" position (Figure 10).

Pull back on the plow blade and use a wrench to insure that the block bolt is tight.

10. Install the latch and latch return spring (Figure 11). Use the short 3/8"x 1/2" shoulder bolt and coil spring from this kit to secure the latch to the mounting bracket. Use one of the thin 5/16-18 locking jam nuts to fasten in place.

Tighten this bolt all the way to compress the coil spring against the latch. The latch may need to be moved up and down a few times to allow it to move freely under the coil spring.

Install the latch return spring after the latch has been installed and is moving freely.



Figure 9



Figure 10



Figure 11

Installation *continued*

11. Install the pulley mounting bracket (Figure 13).

This bracket must be installed on the right side of the plow as shown. Remove the two plow base bolts as shown in Figure 12.

NOTE: The pulley mount contains two L brackets. The L-bracket with longer leg fits under shorter L-bracket.

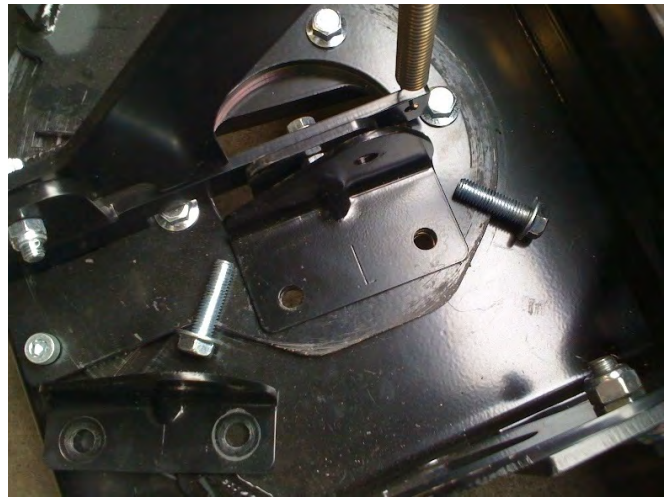


Figure 12

13. Position shorter L-bracket over longer bracket. Secure the brackets to tube assembly with longer M10 flange head bolts provided in this kit.

Tighten the fastener at this time so that the bolt engages the nylon in the lock nut.



Figure 13

14. Install the pulley in the mounting bracket as shown (Figure 14).

Use the 3/8" retaining pin to secure the pulley in the mount.



Figure 14

Installation *continued*

15. Install bucket on vehicle. Slide bucket to the vehicle or have second person help carry it to vehicle. Attach bucket to plow mount. Secure bucket to mount with pins. Make sure pins are secure to mount and will not come out.

16. Route the winch rope through the pulley assembly on plow (Figure 15).

NOTE: A roller fairlead is required for this application. The use of a plow roller fairlead (large roller) and a short synthetic rope is highly recommended.



Figure 15

17. Install the termination strap on the front rack (figure 16). Position this strap so that it is contacting the rack as close to the frame mounting points as possible.

Wrap the strap around the rack and front bumper as needed to position the end of winch rope in an area that will not damage the front of vehicle.

NOTE: The strap must be wrapped around the largest diameter tube available, this will improve life of strap.

Make sure rope hook or termination link is located as far as possible from pulley on bucket.



Figure 16

18. The latch release pull handle will be secured to the front rack with 5/16" eye bolt and rack clamps, as shown in Figure 17.

The end of the eye bolt may need to be trimmed to clear the body plastic under the rack.

Install the eye bolt directly to the front rack if the vehicle is equipped with composite racks. This will require drilling.

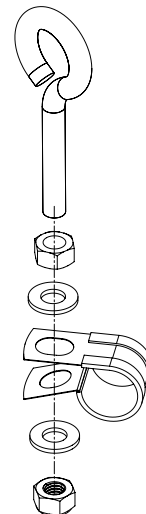


Figure 17

Installation *continued*

19. Install T-handle retaining cord.

This elastic cord is intended to hold the T-handle near the eye-bolt used to hold handle.

Loop the cord around a tube or object in “chocker” style, Figure 18. Insert the pull cord and the barbed end of the elastic cord into the pull handle. Tie the pull cord to the retaining bar. Figure 19. Re-install or adjust length by coiling so there is only light cord tension.

20. Install the rope and T-handle in the eye-bolt (Figure 20) after the holder has been secured to the left rack tube.

21. Tie the Rope Release Rope to the Latch (Figure 21).

Make sure the vehicle and bucket are on flat level surface before securing rope. There should be very little or no slack in the release rope when installing it. This rope will stretch the first few times it is used.

The rope will be slack when the bucket is in the raised position.

Trim excess rope after installation is complete.



Figure 18



Figure 19



Figure 20

Converting Back to Plow

1. The bucket may be converted back to a plow by removing some of the bucket components. See the exploded view drawing below for the components that will be removed. The Upper latch bracket on the back of the blade and the pulley bracket attached to the tube assembly may be left in place while plowing.



Figure 21

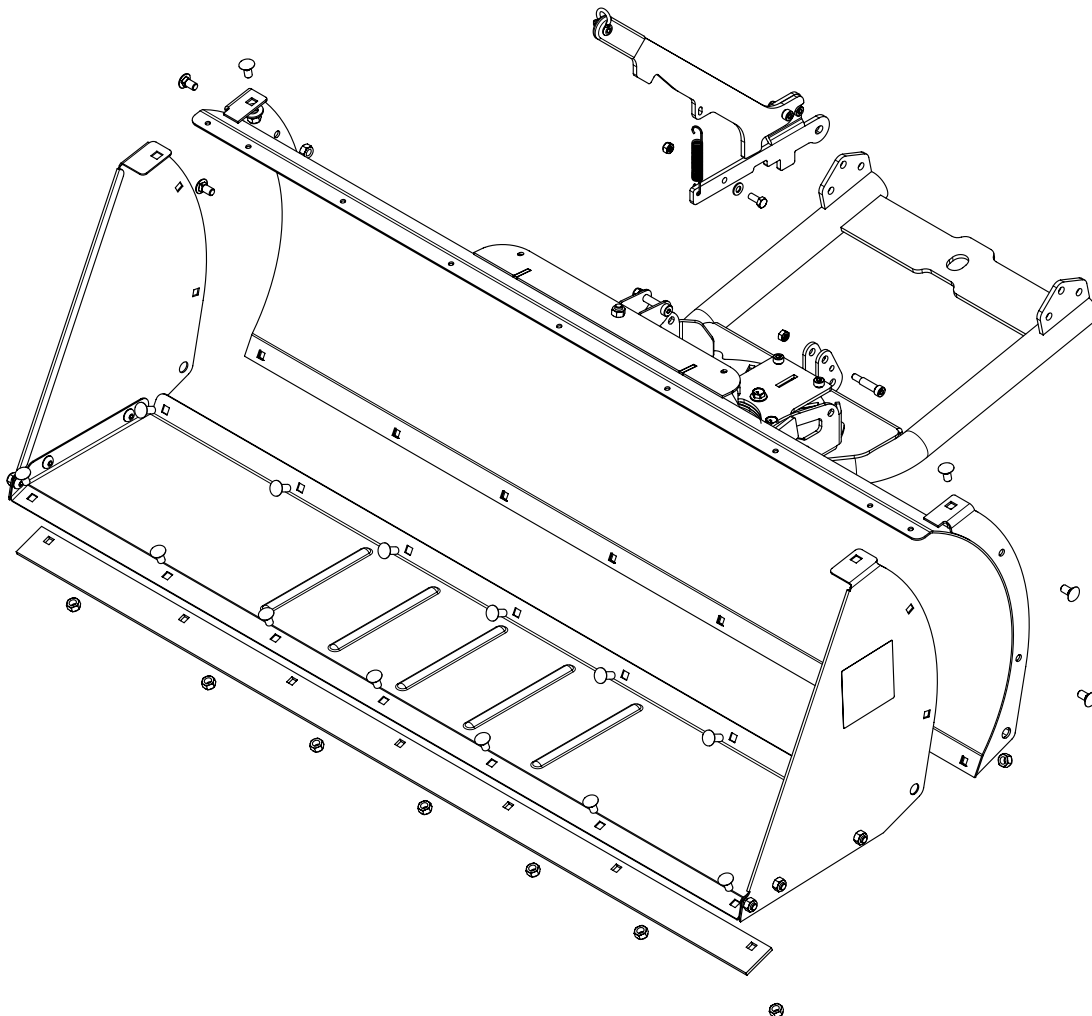


Figure 22

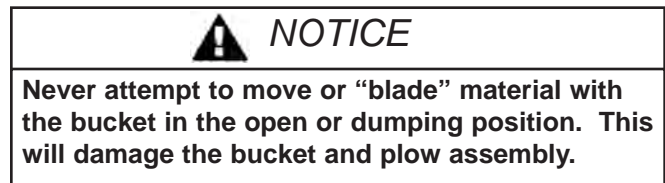
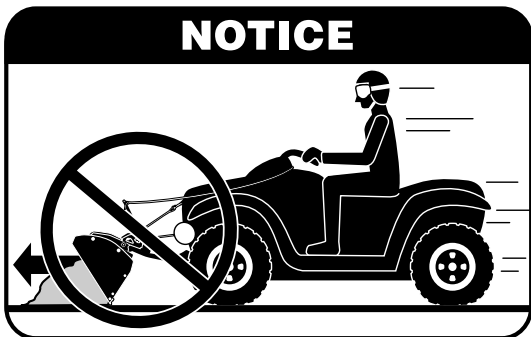
The main section of the bucket and the sides may remain bolted together during storage. Disassemble as needed for easy storage. It is recommended to purchase a replacement wear bar so that a wear bar may be left on the main section of bucket.

OPERATOR'S GUIDE

This bucket conversion kit has been designed to convert a WARN ProVantage plow into a light duty bucket or scoop. The maximum capacity of this bucket is 200 lb. (91 Kg). The actual capacity limit may be lower depending on the vehicle that this product is used on and the equipment that has been installed on it. Below is a table of common materials that may be moved with this bucket and the estimated volume that can be carried in the bucket.

MATERIAL	Lb per cubic foot	Maximum Bucket Load
Bark Dust, Wood refuse	15	Full
Sawdust	17	Full
Compost	24	Full
Garbage	30	Full
Snow - Compacted	30	Full
Earth - Average	99	Less than Half
Gravel - Average	111	Less than Half

Vehicle handling will be affected by the weight of the bucket and the material in it. It is very important that the vehicle be operated at a walking speed when the bucket is installed. Operating the vehicle faster than walking speed can damage the bucket, winch used to lift the bucket, and the vehicle.



Preparing the Vehicle for Work

After the bucket is properly installed on the vehicle it is almost ready for work. Be sure that the operator has read and understands all the warnings in this instruction and the Basic Guide to Winching. Be sure to inspect the bucket, winch rope, and termination strap prior to use. Replace any parts that are worn or damaged before using the bucket.

A counter balance is highly recommended to off-set the weight that will be in the bucket. Be sure to select a counter balance weight that can be secured to the rear rack or the vehicle so that it will not move during use of the vehicle. Sand bags are recommended as they are an economical weight that will lay flat on the rack and can be easily removed.



See section "Vehicle" on page 20.

Be sure to read the Basic Guide to Plowing and the Basic Guide to Winching prior to using the bucket. Think through what you are going to do before starting work.



Loading the Bucket

Always plan to lift small loads with the bucket the first few times it is used. This will allow the operator to get the "Feel" for how the vehicle will behave with material in the bucket. Gradually increase the size of the load and do not exceed the specified capacity.

Lower the bucket to the ground or slightly off the ground and begin driving forward. Drive the vehicle at a walking speed (less than 5 mph) into the pile of material to be moved. Allow the vehicle to come to a stop in the material. Activate the winch to lift the bucket with material in it.

The vehicle may need to be backed away from the load a very short distance to allow the winch to lift the material and bucket. Look into the bucket to see how much material is in the bucket. Reduce the loading speed if needed to reduce the amount of material in the bucket. Never exceed the 5 mph speed limit to increase the amount of material in the bucket.

Additional material may be shoveled into the bucket if the volume removed from the pile is below the weight capacity of the bucket. Full or over full loads of material such as bark dust may be carried in the bucket.

Transporting Material

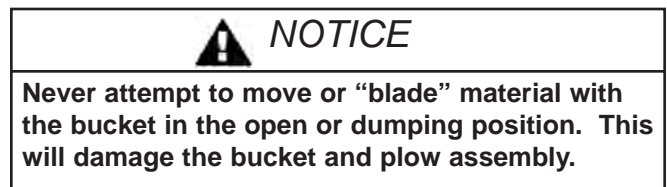
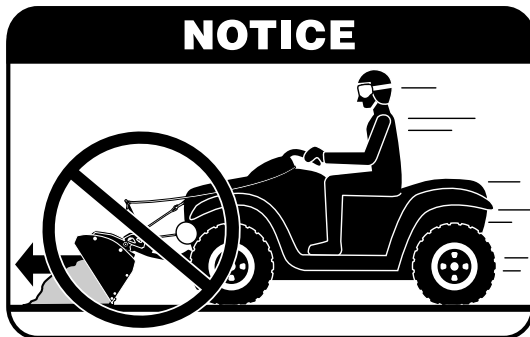
Drive the vehicle with the bucket in the raised position to the dump site. The vehicle is being used like a garden tractor with the bucket installed. This means that it must be operated at similar speeds to a tractor and less than 5 mph (8 Km/h). The heavier the load the slower the vehicle speed should be.

Operate the vehicle very slowly on sloped surfaces. Approach and descend hills very slowly. Never attempt to travel along a sloped surface with a slope greater than 10 degrees. Heavy loads will change the vehicle control on hills.



Dumping the Bucket

Position the bucket in the location material is to be dumped. Pull the release cord to release the bucket and allow the material to fall out. The bucket may need to be lowered toward the ground to allow all of the material to slide out of the bucket.



Place the vehicle in reverse gear. Lower the bucket all the way to the ground. Begin driving the vehicle slowly in reverse when the front edge of the bucket contacts the ground. Drive slowly in reverse until the bucket rotates all the way to the load position and the latch catches the top latch bracket. You will hear a click as the latch is engaged. Lift the bucket off the ground a small distance to allow for bucket transport back to the material pile.

The bucket may also be rotated to the latched position manually. The operator or an assistant may grasp the top edge of the empty bucket and pull the bucket back to the latched position. The bucket will already be in the raised position and ready to return to material pile.

Maintenance/Care

- Inspect all metal parts on the plow, plow mount, actuator, and related hardware. Replace all parts that appears rusted or deformed prior to use.
- Inspect all nuts and bolts on the plow, plow mount, actuator, and related hardware prior to each use. Tighten all nuts and bolts that appear to be loose. Stripped, fractured, or bent bolts or nuts need to be replaced.
- Check all cables or straps prior to use. Replace cables or straps that are worn or frayed.
- Check all moving and rotating parts. Remove debris that may inhibit the part from moving freely.
- Check all bushings and spacers. Replace those that show excessive wear.
- Check all electrical wiring. Replace wiring that shows exposed wire or is severely crimped.

WARNING

Failure to perform regular inspections and maintenance on the plow, plow mount, manual lift, and related hardware may result in vehicle damage and operator injury or death.

The following replacement parts are available for purchase:

Main Plate Kit 50" - 84643

Main Plate Kit 54" - 83955

Main Plate Kit 60" - 84644

Termination Strap Kit - 84524

<u>Part Number</u>	<u>Qty.</u>
82076	1
39172	1

Release Handle Kit - 84525

<u>Part Number</u>	<u>Qty.</u>
83752	1
84406	1
83954	1

Pulley Kit - 84526

<u>Part Number</u>	<u>Qty.</u>
84119	1
84120	1
84126	1
69954	2
35136	1
82076	1
39172	1

Bucket Latch Kit - 84527

<u>Part Number</u>	<u>Qty.</u>
83141	1
83840	1
80370	1
81136	1
80396	1
22491	1

50 Inch High Strength Wear Bar - 84050

<u>Part Number</u>	<u>Qty.</u>
84016	1

54 Inch High Strength Wear Bar - 84054

<u>Part Number</u>	<u>Qty.</u>
84017	1

60 Inch High Strength Wear Bar (non reversible) - 84060

<u>Part Number</u>	<u>Qty.</u>
83816	1

Contact your nearest WARN dealer for ordering. To find a dealer nearest you, contact the WARN dealer locator line at 1-800-910-1122.

If you are having problem installing your ProVantage Plow Bucket Conversion, please follow the steps below:

1. Reference the installation instructions for tips or notes.
2. Contact the dealer where you purchased the kit.
3. Contact WARN customer service at 1-800-543-9276 or www.warn.com.

Vehicle

The vehicle suspension settings will need to be adjusted to support the additional weight. Start by inflating the front tires to about 10psi. The next adjustment will be to increase the front spring setting. Use the required tools to increase the front springs to maximum setting.

A front suspension upgrade is recommended if the vehicle does not have adjustable front suspension and the front springs are not strong enough to support extra weight from bucket. Always adjust suspension back to softer setting for trail riding or when work is complete.