

## **BL1** Backlapping Machine

Setup, Maintenance, and Operations Guide

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Revision 1

## **Welcome to Panther Automation!**

Congratulations on your purchase of a backlapping machine from Panther Automation!

We have designed this machine to provide a best in case combination of value and performance. This machine, manufactured entirely in the USA is designed to give you years of trouble free service without the excessive expense of the offerings of other vendors.

#### Introduction

This manual is designed to give you an understanding of the maintenance and upkeep requirements of the backlapping machine.

It is beyond the scope of this manual to cover the specifics of using this machine with a specific type of mower, or to provide a detailed procedure for performing backlapping operations. A video showing the machine being used in a backlapping operation can be found our web site.

As you perform backlapping operations, your technique will improve and you will develop a process that works well for you and achieves outstanding results.



This symbol identifies information that if not carefully followed could result in personal injury or death, or will cause equipment damage.



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# **⚠** DANGER!

This machine, like all machine-tools, is a dangerous piece of equipment that is desired to be operated by trained, qualified operators that are familiar with the safe operation of this type of equipment.

Backlapping involves close interaction with sharp reels spinning at high enough speeds to cause dismemberment. You are responsible for performing a backlapping operation safely.

It is your responsibility as the operator to stay at the machine, ready to intervene if there is any problem. No amount of safety sensors, guards, or equipment can match a competent human operator.

You are responsible for the safe operation of this machine.

It is your responsibility as the owner of this machine to take all necessary steps to ensure the safety of yourself and others, and to safeguard your machine from operation by untrained and/or unqualified operators.

Panther Automation, LLC is not responsible for any injury that results from the use of this machine. If you are unable or unwilling to operate this machine in a safe and responsible manner do not attempt to operate this machine until such time as you are able to do so.

## **A** WARNING!

This manual provides critical safety instructions on the proper setup, maintenance and service of this machine.

Failure to read, understand, and follow the instructions given in this manual may result in serious injury or death.

The owner of this machine is solely responsible for the safe use of the machine. This responsibly includes – but is not limited to – proper installation in a safe environment, training of anyone who will be using this machine, ensuring that only trained, responsible operators are using this machine, making all safety instructions and manuals available to anyone using this machine, and ensuring that the owner and all other individuals comprehend and follow all safety instructions and best practices.

Panther Automation, LLC will not be held liable for injury or property damage arising for negligence, improper training or use by improperly trained operators, unapproved modification, or misuse.

#### The DO's and DON'Ts of Operating Your Machine

#### DO

- Keep all bystanders a safe distance from the machine while operating.
- Provide and use appropriate safety gear including, but not limited to, safety glasses and hearing protection for you and any bystanders. The backlapping process produces flying yard debris from the mower blades as well as flying water droplets containing small particles of abrasive and even small metal shavings. Prescription glasses are not safety glasses. Safety Glasses should carry an ANSI rating appropriate for the type of material you are working with. Consider a full face shield in addition to your safety glasses.
- Read, understand, and follow this entire manual as well as the manual for any additional components that come with your machine before performing any setup, startup, or operation of the machine.
- Always operate this machine from a power source protected by a Ground Fault Interrupted (GFI).
- Use grounded extension cords that are in good condition.
- Use an extension cord that is suitably rated for the current requirements found on the motor's information placard.

#### DO NOT

- Operate this machine while under the influence of drugs or alcohol.
- Operate this machine while tired or fatigued in any way.
- Operate this machine if you have any physical limitation that limits your ability to move quickly, but calmly, to the power switch in the event that the machine needs to be urgently stopped for any reason.
- Wear loose clothing that could become snagged or otherwise entangled in the machine or the mower being operated by the machine.
- Leave the machine unattended at any time when plugged in.
- Fail to consider how far debris may be be thrown if the machine is in operation, and take appropriate steps for you and all bystanders.
- Exceed the machine's capabilities.
- Operate the machine with any guards removed or not fully installed and secured.

Panther Automation cannot design a machine to work safely with every possible accessory or add-on that the operator may come up with. It is your responsibility to make sure any additional accessories or add-ons are installed and used safely.

## **Limited Warranty**

This machine is warranted against defects in materials and workmanship for a period of one year from the shipping date when employed in a residential role, or 90 days from the shipping date when used in a commercial environment. Upon receipt of a defective part, we will repair or replace it at our discretion and send it back to you.

This warranty has the following exclusions:

- Shipping costs for you to ship the item to us.
- Expedited shipping costs for us to return the item to you.
- Costs associated with advance replacement (cross-shipping).
- Normal wear and tear
- Any repair or replacement made necessary due to negligence or misuse of the product.
- Any repair or replacement made necessary due to unauthorized modification, alteration, or disassembly of the machine.
- Any costs associated with the return of an item without a return merchandise authorization (RMA).
- Force Majeure.

## **Site Preparation and Unpacking**

#### **Unpacking and Setup**

Upon opening the box, remove the instapaks that surround the sides and top of the machine. Carefully remove the machine and place it on a level surface.

An accessory bag is included with the machine that will include the following:

- 3/8" socket bar
- 3/8" socket swivel
- Shaft Coupler

To assemble these accessories, perform the following steps:

- 1. Remove the wing nuts and washers from the studs at the sides of the machine.
- 2. Carefully lift the top of the machine while leaving the base flat on the surface the machine is sitting on.
- 3. Swing the support bars up, and carefully pull them outwards to allow them to slip over the studs. This should be done with the machine as "unfolded" as possible to minimize stress on the support arms.
- 4. Reinstall the washers and wing nuts and tighten. It is unnecessary to excessively tighten the wing nuts.
- 5. Insert the socket bar into the shaft coupler. Line the socket bar up so that the drilled detent in the bar lines up with the coupler's setscrew.
- 6. Tighten the setscrew firmly using a hex key wrench.
- 7. Insert the other end of the shaft coupler onto the machine shaft and tighten the other setscrew firmly.
- 8. Install the swivel fitting onto the end of the socket bar.

This completes setup of the machine.

#### Lubrication

Before first use and occasionally thereafter, apply a few drops of oil to the bearings and between the shaft locks and the bearings on the output drive shaft. The type of oil used is not critical, but it should be true oil and not an aerosol lubricant. 3-in-1 oil or any motor oil would be acceptable lubricants.

#### **Additional Maintenance**

During backlapping operations, sprays of water may get on the machine. The operator should take reasonable precautions to minimize this by taking care when using water sprays during backlapping. After using the machine, it is advisable to unplug and wipe down the machine thoroughly, or use compressed air to chase the water off the machine. If using compressed air, care should be taken to ensure that water is not driven into the motor or switch housing by the air stream.

If water is not adequately cleaned from the machine on a regular basis, rust may develop on some of the components. Such rusting should not impact the operation or functionality of the machine.

## **Backlapping**

#### **Preparing for Backlapping**

The first task before the first backlapping operation can take place is to understand how to couple the machine to the particular mower being used. This backlapping machine has been tested using Jacobson and Tru-Cut mowers.

Your reel mower has a mechanical linkage that couples the reels to the gearbox of the mower. This linkage must be disengaged, removed, or otherwise disabled to allow the backlapping machine to spin the reels freely without it attempting to rotate the engine or the rest of the drive mechanism of the mowers. The procedure to accomplish this varies from mower to mower. Refer to your mower operating manuals or check with the manufacturer of your mower to understand how to perform this action on your particular mower.

This machine should be usable for all types of mowers that allow the reels to be driven backwards by rotating a hex head bolt (or similar fitting) on the side of the reel chassis.

It is your responsibility to determine the means to accomplish this with your mower and obtain a 3/8" socket that is suitable to couple to your mower. Individual sockets of varying sizes can be purchased at any major home improvement center or tool retailer. In the event that a 3/8" socket is not available, a 3/8" to  $\frac{1}{2}$ " adapter may be employed. It is not recommended that the 3/8" drive be adapted down to  $\frac{1}{2}$ " however.

The machine should be positioned so that the motor is as far as possible from the reels when operating. This means that the motor should be facing the handles of the mower, and the switch should be facing you when you are in front of the mower performing backlapping.



Never use socket extensions to increase the distance between the machine and the mower. Doing this makes it more difficult to reach the power switch should it need to be reached quickly, resulting in personal injury.

The shaft coupler can be positioned on the left or right side of the machine to allow a variety of configurations. The machine must be placed so that the reels spin in the proper direction. The reels must spin in the direction opposite that in which they spin while mowing. If you are operating in a commercial setting, this may mean that the machine will sometimes be used one way and sometimes others. Panther Automation can provide you with an additional shaft coupler and drive shaft if you wish to equip both sides of your machine in this case.

If you are using the machine with one type of mower exclusively and you find that you need to position the machine with the motor facing the front of the mower, you should consider reversing the motor to allow the machine to be positioned correctly. The wiring diagram for motor reversal can be found on the motors information placard.



Always unplug the machine before attempting to change the direction of the motor.