

# **MODEL 365 BACK LAPPING MACHINE**

## **OPERATORS MANUAL**



### **WARNING**

**You must thoroughly read and understand this manual before operating the equipment, paying particular attention to the Warning & Safety instructions.**

# SAFETY INSTRUCTIONS



**Safety Awareness Symbols** are inserted into this manual to alert you to possible **Safety Hazards**. Whenever you see these symbols, follow their instructions.



The **Warning Symbol** identifies special instructions or procedures which, if not correctly followed, could result in personal injury.

The **Caution Symbol** identifies special instructions or procedures which, if not strictly observed, could result in damage to or destruction of equipment.

1. **KEEP GUARDS IN PLACE** and in working order.
2. **REMOVE WRENCHES AND OTHER TOOLS.**
3. **KEEP WORK AREA CLEAN.**
4. **DON'T USE IN DANGEROUS ENVIRONMENT.** Don't use back lapper in damp or wet locations. Machine is for indoor use only. Keep work area well lit.
5. **KEEP ALL VISITORS AWAY.** All visitors should keep a safe distance from work area.
6. **MAKE WORK AREA CHILD-PROOF** with padlocks or master switches.
7. **DON'T FORCE THE BACK LAPPER.** It will do the job better and safer if used as specified in this manual.
8. **USE THE RIGHT TOOL.** Don't force the back lapper or an attachment to do a job for which it was not designed.
9. **WEAR PROPER APPAREL.** Wear no loose clothing, gloves, neckties, or jewelry which may get caught in moving parts. Nonslip footwear is recommended. Wear protective hair covering to contain long hair.
10. **ALWAYS USE SAFETY GLASSES.**
11. **SECURE YOUR WORK.** Mount the cutting unit in place before back lapping as prescribed in the operators manual.
12. **DO NOT OVERREACH.** Keep proper footing and balance at all times.
13. **MAINTAIN BACK LAPPER WITH CARE.** Follow instructions in Service Manual for lubrication and preventive maintenance.
14. **DISCONNECT POWER BEFORE SERVICING.**
15. **REDUCE THE RISK OF UNINTENTIONAL STARTING.** Make sure the switch is OFF before plugging in the back lapper.
16. **USE RECOMMENDED ACCESSORIES.** Consult the manual for recommended accessories. Using improper accessories may cause risk of personal injury.
17. **CHECK DAMAGED PARTS.** A guard or other part that is damaged or will not perform its intended function, should be properly repaired or replaced.
18. **NEVER LEAVE BACK LAPPER RUNNING UNATTENDED. TURN POWER OFF.** Do not leave back lapper until it comes to a complete stop.
19. **KNOW YOUR EQUIPMENT.** Read this manual carefully. Learn its application and limitations as well as specified potential hazards.
20. **KEEP ALL SAFETY DECALS CLEAN AND LEGIBLE.** If safety decals become damaged or illegible for any reason, replace immediately. Refer to replacement parts illustrations in Service Manual for the proper location and part numbers of safety decals.
21. **DO NOT OPERATE THE BACK LAPPER WHEN UNDER THE** influence of drugs, alcohol, or medication.

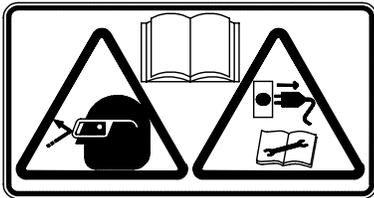
# SAFETY INSTRUCTIONS



This machine is intended for back lapping reel mowing units **ONLY**. Any use other than this may cause personal injury and void the warranty.

To assure the quality and safety of your machine and to maintain the warranty, you **MUST** use original equipment manufacturers replacement parts and have any repair work done by a qualified professional.

**ALL operators of this equipment must be thoroughly trained BEFORE operating the equipment.**



Symbols for Read operators manual, wear safety glasses and disconnect power before servicing.



Symbol to keep visitors a safe distance away from the grinder.



Symbol for sharp object which will cause serious injury.



Symbol identifying a panel, cover, or area as having live electrical components within.

## DAILY MAINTENANCE BY OPERATOR

On a daily basis, clean the back lapper by wiping it off.

On a daily basis, inspect the back lapper for loose fasteners or components.

Contact your company's Maintenance Department if damaged or defective parts are found.

# MACHINE SPECIFICATIONS

The Model 365 Back Lapping machine quickly sharpens the reels and bedknives of your mowers, giving them a fine cutting edge. It connects easily to most reel mowers and to gang mowers while still connected to the frame and tractor.

## STANDARD FEATURES

- Drive coupler
- Socket driver assembly
- Two 6" [15.2 cm] x 6" [15.2 cm] x 15" [38.1 cm] height-adjustable support stands.

## OPTIONAL EQUIPMENT

- Trimmer adapter
- Locke adapter
- Greenmaster adapter
- Ransom adapter
- Lapping compound
- Adapter bushings and Pawl
- Roller Support

## PHYSICAL SPECIFICATIONS

Length	15" [38.1 cm]
Width	16.5" [41.9 cm]
Height	19" [48.3 cm]
Grinder motor	.50-horsepower, 115/220-volt, 60/50-cycle, single-phase, reversing motor operating at 1725/1425 rpm
Lapping speed	140/116 rpm
Weight	54 pounds [24.5 kg]
Sound	Less than 75 Dba when lapping.

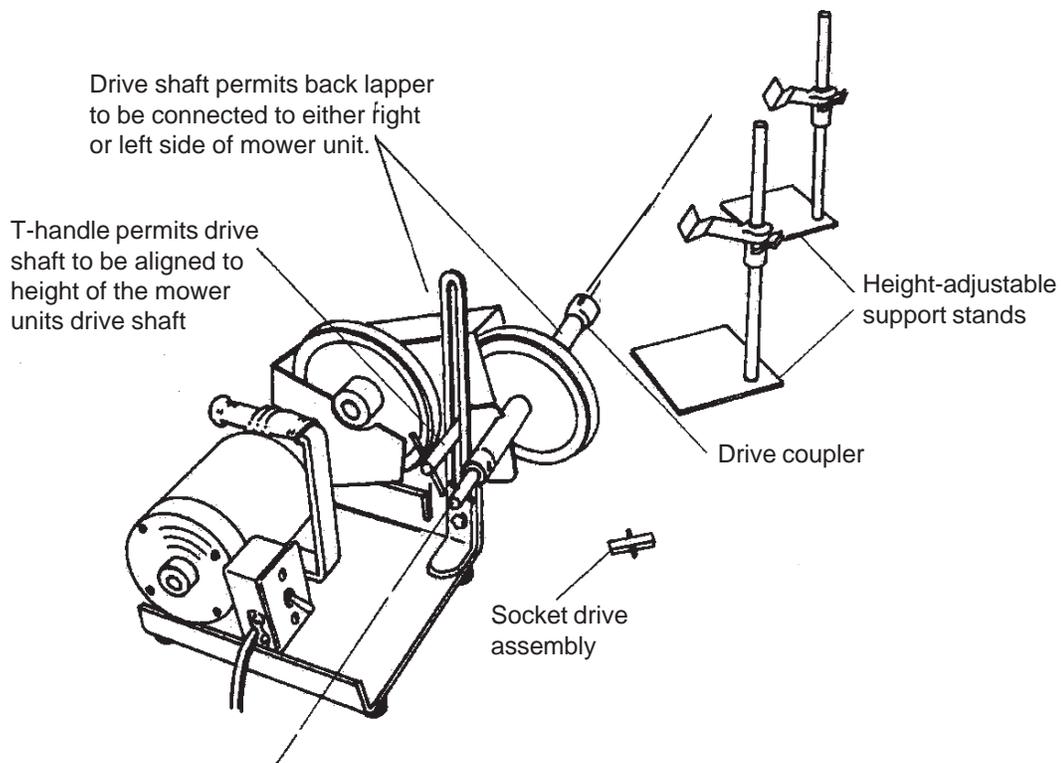


FIG. 1

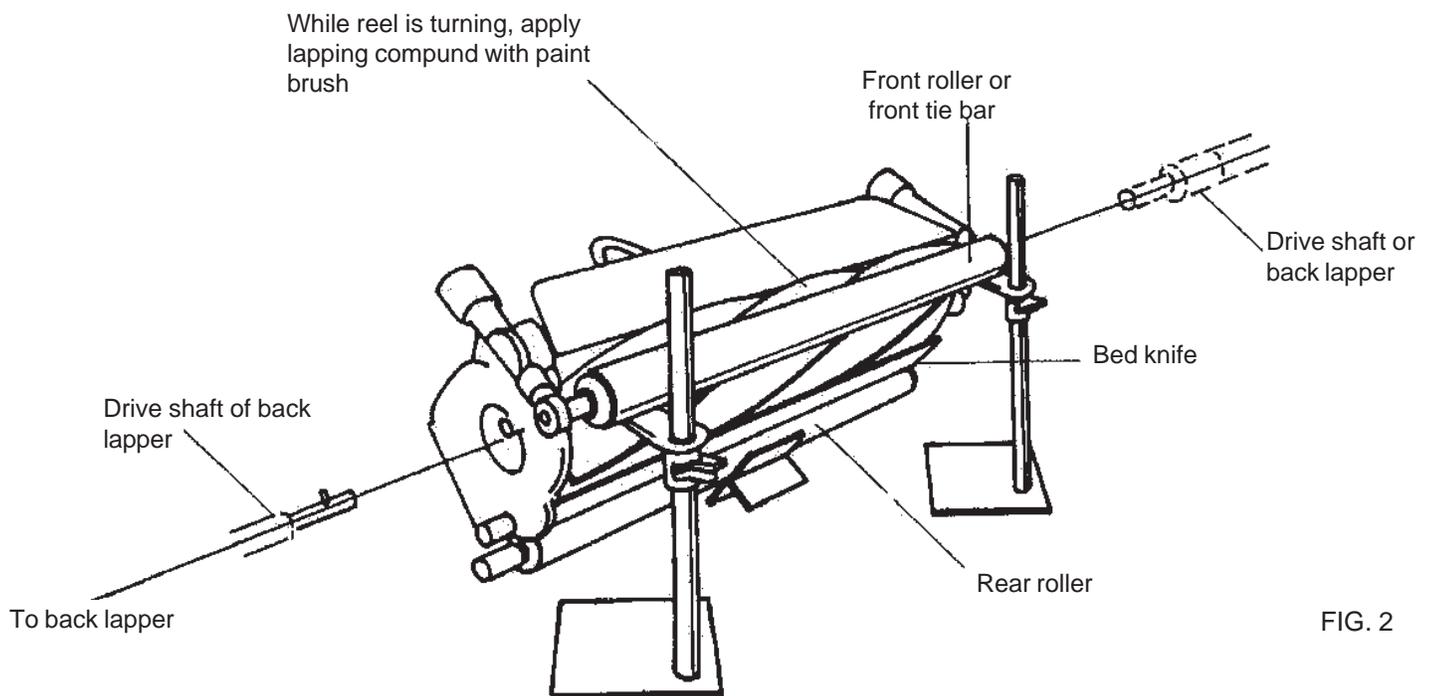
# OPERATING INSTRUCTIONS

## MOUNT THE MOWING UNIT ONTO THE SUPPORTS

**NOTE:** For the mower units with drive wheels, lock out the pinion gear using the procedures appropriate for the mower.

To stabilize the mowing unit while it is being sharpened, mount it onto the supports:

1. Adjust the height of the support stands so that the reel will be clear of the floor or bench.
2. Depending on the type of mower, place the height-adjustable support stands under either the front tie bar or the mower frame; the stands should be placed as far apart as possible.
3. A rear roller support is offered as an OPTION to lift the rear roller if desired. NOTE: The majority of mowing units do not require the rear roller support.
4. For optimum performance of your back lapper, the front edge of your bedknife should be lower than the back of your bedknife. This is a better setup than is shown in FIG. 2.
5. If necessary, readjust the height of the support stands.



# OPERATING INSTRUCTIONS (Continued)

## CONNECT THE BACK LAPPER TO THE MOWER UNIT

Before starting to connect the back lapper to the mower unit, please note the following points:

- \* To connect the back lapper, it is necessary to have access to the reel drive of the mower unit. The procedure to gain access to the reel drive depends upon the individual mower unit; refer to the mower unit's service manual for the correct instructions.
- \* To easily accommodate a wide variety of mower units, the back lapper can connect to either the right or left side of the mower unit, as indicated in FIG. 2.

After obtaining access to the reel drive, use the following procedures to connect the back lapper to the mower unit:

1. Slowly spin the mower unit's reel by hand to make sure it spins freely. There should be no contact with the bedknife. If there is any contact, make the necessary adjustments, according to the mower unit's operating instructions.
2. Align the back lapper to the mower unit. First position the back lapper about 9" [22.9 cm] from the mower unit. Then loosen the T-handle and align the height of the lapper's power drive shaft to the height of the mower unit's reel drive.
3. Connect the drive coupler, socket drive assembly, and any other drive sockets or special adapters necessary to drive the mower reel, according to the order shown in FIG. 3.

Note that there are several different connection combinations, depending upon the size of the reel drive of the mower unit. Use the following information to determine the appropriate combination for your mower:

- \* If the reel drive of the mower unit is too small to fill the hole of the drive coupler of the back lapper, install an OPTIONAL short bushing into the reel shaft. OPTIONALLY available bushings include 1/2" (12.7 mm), 9/16" [14.3 mm], and 5/8" [15.9 mm] bushings inside diameter.\* If the mower unit's drive shaft has a slot at the end of the shaft, the OPTIONAL pawl is required.
  - \* The majority of mower unit manufacturers supply a hex drive for back lapping the mower. In addition, the manufacturer of the Model 365 Back Lapper also offers special adapters for certain mower units. They are available as optional parts and are included in the parts list in the Service Manual. Use the appropriate components for your mower unit.
4. Make a final adjustment of the height and distance alignment of the back lapper to make sure it is square to the reel drive of the mower unit. Use the T-handle to adjust the height of the lapper. Move the lapper closer to the mower unit to adjust the distance.
  5. Connect the back lapper to the reel shaft of the mower unit.

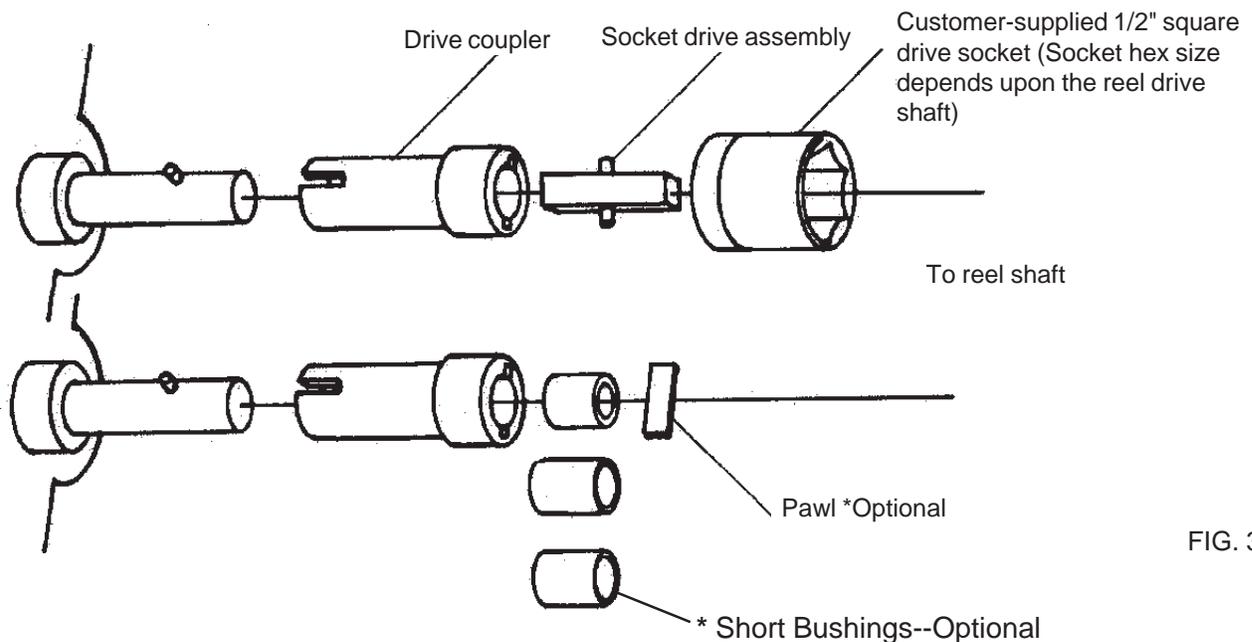


FIG. 3

NOTE: The coupler combination depends upon the mower unit. Use the appropriate combination for your mower.

# OPERATING INSTRUCTIONS (Continued)

## SHARPEN THE MOWING UNIT



KEEP HANDS AND LOOSE CLOTHING CLEAR OF THE MOWING EQUIPMENT AND WEAR SAFETY GLASSES WHEN THE BACK LAPPER IS OPERATING.

1. Select the appropriate lapping compound. The lapping compounds provided by the back lapper's manufacturer are 100% biodegradable. They are available in a wide variety of grits, so that every sharpening requirement can be met.

60 grit	Fast metal removal for fairway mowers.
80 grit	Regular maintenance of fairway and greens mowers and finish lapping.
120 grit	Extra fine finish lapping of greens and tee mowers.
150 grit	Ultra fine finish lapping of greens and tee mowers.

2. Plug the back lapper into the proper electrical circuit.

### Note the following information on grounding:

The back lapper is equipped with an electrical cord having an equipment grounding conductor and a grounding plug. The plug must be plugged into an outlet that is properly installed and grounded. If unsure of the proper electrical grounding, contact the electrical service technician within your company.

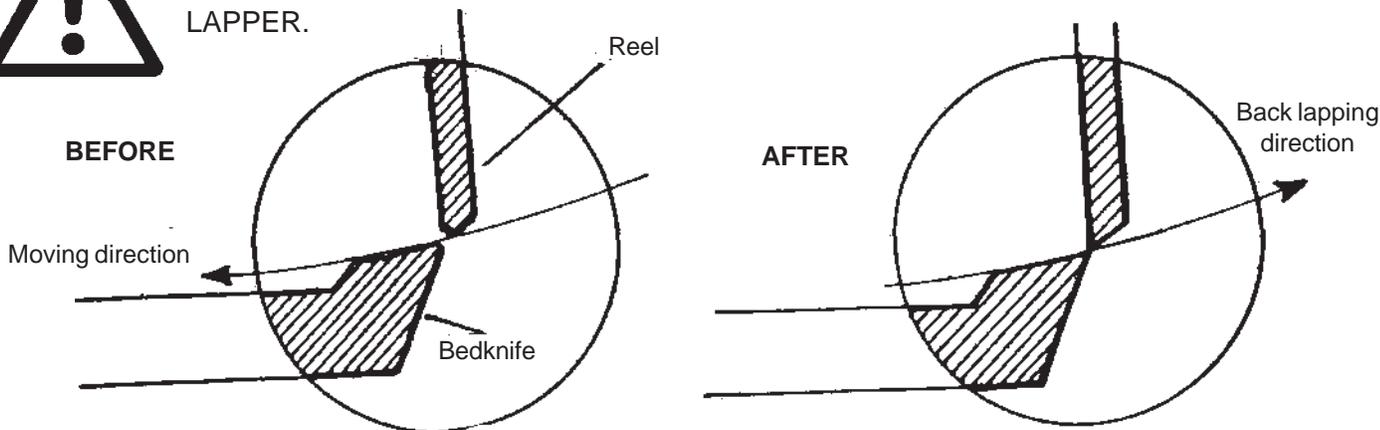


DO NOT MODIFY THE PLUG PROVIDED; IF IT WILL NOT FIT THE OUTLET, HAVE THE PROPER OUTLET AND CIRCUIT INSTALLED BY A QUALIFIED ELECTRICIAN.

3. Turn on the back lapper so that the mower unit's reel turns backward from its normal cutting direction, as shown in FIG. 4.



KEEP ALL VISITORS A SAFE DISTANCE FROM THE REEL AND LAPPER.



Continue lapping until the radius edges of the reel and bedknife are reasonably square.

FIG. 4

It is important to note that the "CW ROTATION" and "CCW ROTATION" labels on the toggle switch indicate the direction of the back lapper's motor; they do not indicate the lapping direction of the mower unit.

4. Using a long handled paint brush, apply the appropriate lapping compound to the rotating blades until the blade runs free. Then, adjust the mechanism that aligns the reel and bedknife. Continue applying the lapping compound and adjusting the reel to the bedknife until the radiused edges of the reel blades are reasonably square, as shown in FIG. 4.

While adjusting the alignment of the mower unit's reel to the bedknife, make certain that the bedknife-to-reel adjustment is uniform across the entire width of the mower unit. Refer to the mower unit's operating instructions for the adjustment procedures.

5. Turn off the back lapper.
6. Uncouple the back lapper and mower unit.
7. Check the sharpness of the mower unit in three locations -- the left side, the center, and the right side.

Use two thicknesses of newspaper approximately 1" wide. To be sufficiently sharpened, the mower unit must cut at least one thickness of the paper. It is important to use newspaper, not another type of paper, for verifying the sharpness because newspaper has a consistent thickness and indicates best how grass will cut.

8. Thoroughly rinse off all of the lapping compound from the mower unit, using a garden hose or water under high pressure.

