

# **OPERATOR'S MANUAL**

## **60" SNOW PLOW & DOZER BLADE**

**60" DOZER BLADE  
MFG. NO. 1690771**


FORM - 1671069  
PRINTED IN U.S.A.  
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# Safety Rules



**Read these safety rules and follow them closely. Failure to obey these rules could result in loss of control of vehicle, severe personal injury to yourself or bystanders, or damage to property or equipment. The triangle  in the text signifies important cautions or warnings which must be followed.**

ALL WARNING, CAUTION, and instructional messages on this attachment and on your tractor should be carefully read and obeyed. Personal bodily injury can result when these instructions are not followed.

## GENERAL

- Read the operator's manual carefully. Be thoroughly familiar with the controls and proper use of the equipment. Know how to stop the unit and disengage the controls quickly.
- Use only attachments and accessories designed for your machine. See your dealer for a complete list of approved attachments and accessories.
- Never allow children to operate the machine. Do not allow adults to operate it without proper instruction.
- Keep the area of operation clear of all persons, particularly small children, and pets.
- Do not carry passengers.
- Make sure:
  - a. tractor and attachments are in good operating condition,
  - b. all safety devices and shields are in place and in good working condition, and,
  - c. all adjustments (skid shoe-height, etc.) have been made.

## PREPARATION

- Handle fuel with care - it is highly flammable.
  - a. Use approved fuel container.
  - b. Never remove the cap of the fuel tank or add fuel to a running or hot engine, or fill the fuel tank indoors. Wipe up spilled fuel.

- Do not run the engine indoors. Exhaust fumes are dangerous.
- Wear heavy footwear. Do not operate tractor when barefoot or when wearing open sandals or canvas shoes.

## OPERATION

- Do not allow anyone to use the snow plow/dozer unless they have been instructed on how to operate it safely.
- Never attempt to adjust, repair or service the snow plow/dozer blade while the tractor engine is running.
- Be especially careful not to touch tractor or attachment parts which might be hot from operation. Allow such parts to cool before attempting to maintain, adjust, or service.
- Do not allow others near the snow plow/dozer blade while it is being used.
- Use the snow plow/dozer blade only in daylight, or good artificial light.
- Always lower the snow plow/dozer blade completely to the ground when leaving it unattended to prevent it from being accidentally lowered and causing injury.
- Always operate the tractor at reasonable speeds to prevent the blade from catching an object and stopping the tractor abruptly.

# Assembly & Installation

## ASSEMBLY

Assemble the snow plow/ dozer blade as follows:

1. Insert a spacer (4, figure 1) into each of the two mounting holes of the push bar (1).
2. Place blade assembly (3) face down on the ground. Then place push bar (1) in mounting brackets on back of blade assembly.
3. Install 1/2 x 2-1/4 capscrews (2) through holes in push bar and blade mounting brackets. Then install and tighten locknuts (5).
4. Tilt push bar backwards to ground so blade is vertical as shown in figure 2.
5. Insert eyebolt (3, figure 2) through lug (2) and install 5/16 nut (1) so its outer face is flush with end of eyebolt.

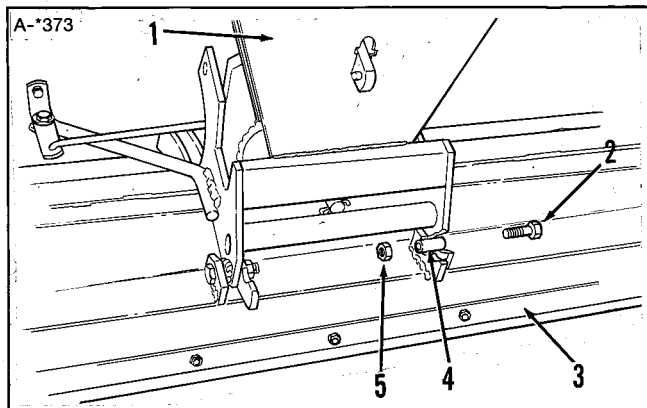


Figure 1. Attach Push Bar to Back of Blade

- |                   |            |
|-------------------|------------|
| 1. Push Bar       | 4. Spacer  |
| 2. Capscrew       | 5. Locknut |
| 3. Blade Assembly |            |



### CAUTION

For your safety, exercise care as you stretch and hook springs into eyebolts. Sudden release of tension can cause entire spring to fly loose.

6. Hook one end of spring (4) in hole of push bar. Stretch spring using a pliers and hook other end in eyebolt.
7. Repeat steps 5 and 6 for other eyebolt and spring.
8. Tighten nut (1) on both eyebolts until there is about 3/4 inch (19 mm) of eyebolt thread beyond the nut.

9. Install second nut (5) on both eyebolts. Hold first nut while tightening second nut until the two nuts are drawn firmly together.

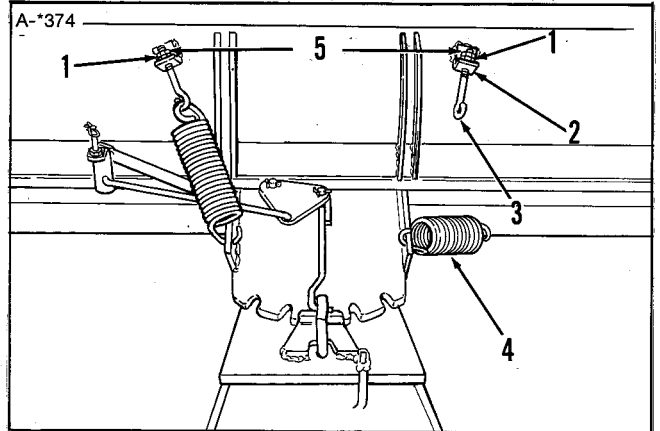


Figure 2. Install Springs

- |            |           |
|------------|-----------|
| 1. Nut     | 4. Spring |
| 2. Lug     | 5. Nut    |
| 3. Eyebolt |           |

## DOZER BLADE INSTALLATION

1. Connect the push bar to the hitch with one pin (1, figure 3) and two clips (2) on each side.
2. Connect the cylinder (3) to the dozer blade and tractor hitch with pin and clip at each end.
3. Connect the hydraulic hoses (4) to the cylinder.

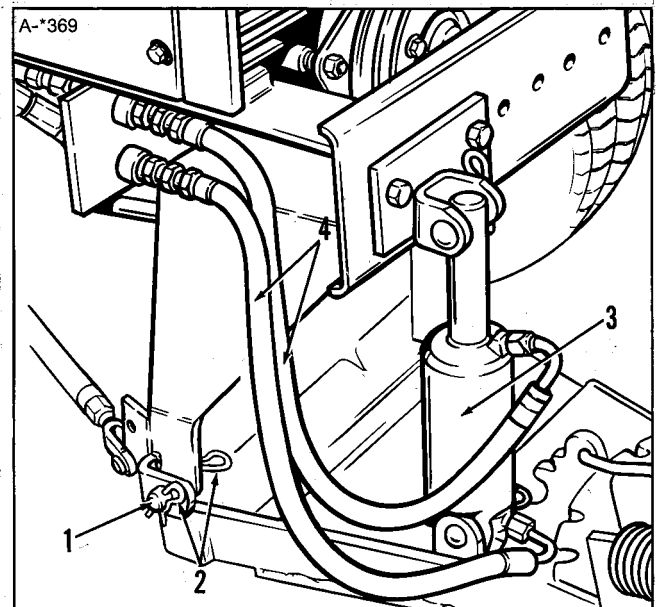


Figure 3.

- |          |             |
|----------|-------------|
| 1. Pin   | 3. Cylinder |
| 2. Clips | 4. Hoses    |

4. Attach the support bracket (1, figure 4) to the side of the tractor as shown with two M12 x 1-1/2 x 40 MM capscrews and 12MM lockwashers. Do not torque more than 35 ft. lbs. (48 N.m).
5. Attach the control rod (2) with the eyebolt (3) lockwasher and 1/4 nut.
6. Attach front end of control rod to dozer blade by placing the clevis (1, figure 5) onto the pin and securing with the spring clip (2).
7. After initial installation, test operation of the hydraulic control. The blade should raise when lever is pulled back, and lower when lever is pushed forward. If it does not, switch around the hoses (4, figure 3).

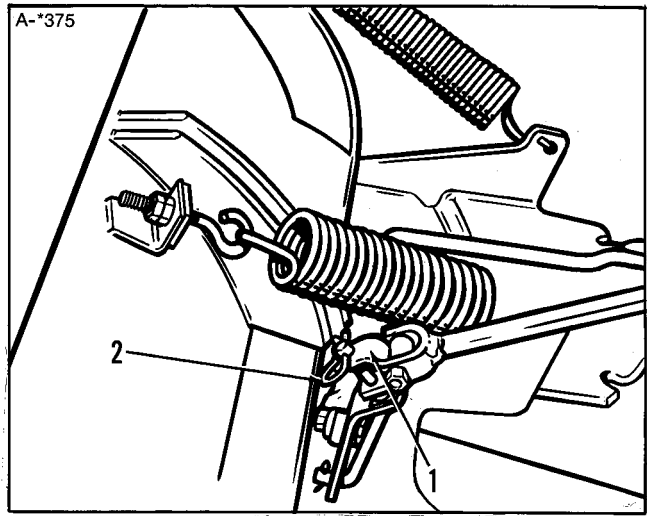


Figure 5.

1. Clevis

2. Spring Clip

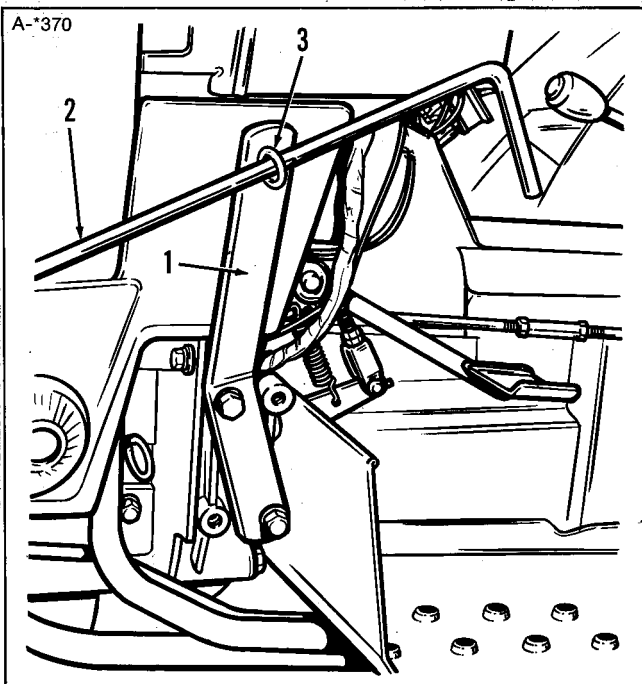


Figure 4.

1. Support Bracket
2. Control Rod
3. Eyebolt

# Operation

## CONTENT OF SECTION

A brief description of the snow plow/dozer blade controls, followed by the basic operating procedures, is given in this section to help you get to know your snow plow/dozer blade and how to operate it safely and efficiently.

## CONTROLS

The snow plow/dozer blade is operated using controls on the tractor. Figure 6 shows the locations, names, and functions of these controls.

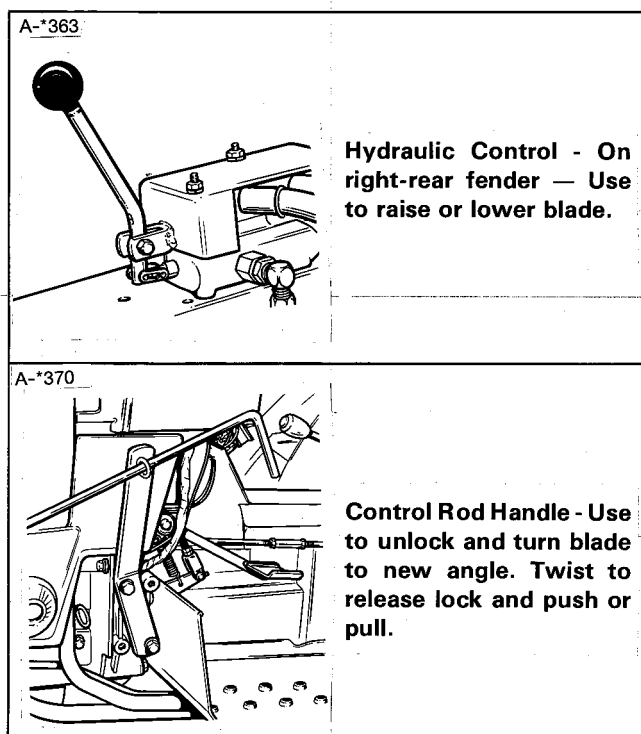


Figure 6. Locations and Functions of Controls

## OPERATING PROCEDURES

The tractor supplies both the power and motion for the snow plow/dozer blade. Therefore, tractor operation is vital to proper operation of the blade. Details for snow plow/dozer blade operation are given in paragraphs that follow. Read all of the paragraphs. Then read the operating procedure for tractor operation given in the tractor manual.

## WARNING

For your safety, before attempting to inspect, adjust, or service the snow plow/dozer blade, make sure the tractor engine is stopped, the ignition key is removed, and blade is lowered to the ground.

## CHECKS BEFORE STARTING

The checks listed below should be performed before each use of the snow plow/dozer blade.

1. Read this manual. Read the tractor operator's manual. Be sure you know safety precautions and the locations and uses of operating controls.
2. Check the snow plow/dozer blade to be sure that it is properly installed on the tractor. Be sure that all nuts, bolts, and spring clips are secure.

## RAISING THE BLADE

Use the front lift control to raise and lower the blade. Pull this control back to raise the blade; push it forward to lower blade. Release the control when the blade is at the desired height. The control will then return to its normal middle position and the hydraulic system will maintain the blade height.

If you want the blade to float, push the front lift control fully forward to the float position. Then the blade will follow the contour of the ground.

## TRANSPORTING THE BLADE

When you use the tractor to transport the snow plow/dozer blade to and from work areas, it should be fully raised. For maximum ground clearance, the blade should also be set straight ahead.

## WARNING

Be particularly careful and operate at low tractor speeds in any area where the blade can hook on solid objects. Such objects can cause the tractor to be jarred or to come to an abrupt stop.

### SETTING BLADE ANGLE

The blade can be set straight ahead or angled at either 15 or 30 degrees to either side. To adjust the blade angle, raise the blade off the ground using the tractor hydraulic lift system. Then twist the control rod handle clockwise to release the latch. Keep the handle twisted as you push or pull it to move the blade toward the desired setting. As the blade nears this setting, allow the handle to twist back to its normal position. The latch can then fall into the next notch on the pivot assembly to secure the blade at the desired angle.

### ENGINE AND TRACTOR SPEED

Generally, low ground speeds are used. Adjust tractor speed to produce the best results.



#### **WARNING**

##### **Operaton On Slopes**

**For your personal safety, be especially careful when operating on slopes. Always travel up and down the face of slopes, and never across the face. For added stability use two rear wheel weights when operating on slopes from 20 to 35 percent (11.3 to 19.3 degrees). Never operate on slopes greater than 35 percent, which is a 3-1/2 feet rise in 10 feet forward.**

**Also, use slow tractor ground speeds for better handling and control when operating on slopes. Use care when changing directions on any slopes.**

### GRADING

For leveling and grading jobs, set the blade straight ahead. Set the skid shoes so the blade wear plate rests directly on the ground as described in the Adjustment Section.

To level an area of loose dirt or gravel, set the front lift control to its float position when you lower the blade. Use slow forward speeds to move the material so the area is roughly leveled. Then reverse the tractor, dragging the blade backwards for final leveling. To pack the leveled material down, raise the blade and drive the tractor back and forth over the area.

For dozing or grading of packed material, lower the blade to the desired height. Then return the front lift control to its middle, hold position. The hydraulic lift system will then create the down pressure on the blade needed for dozing. If you attempt to dig too deeply or hit a rock, the blade will trip forward automatically. The trip point of this safety feature can be adjusted as described in the Adjustment Section.

### SNOW PLOWING

Generally, the blade is angled off to one side for snow plowing. When plowing paved surfaces, you can adjust the skid shoes so the blade wear plate rests on the surface. For gravel or other rough surfaces, set the skid shoes so the blade rides over the high points of the surface. See the Adjustment Section to adjust the skid shoes.

Lower the blade by setting the front lift control to its float position. If the snow is heavy, the weight of the plow may not be enough to keep the blade down. In this case, return the front lift control to its middle, hold position after lowering the blade. The hydraulic lift system will then hold the blade.

As you plow, adjust the controls for a tractor speed that allows the snow to curl cleanly off the end of the blade. In most cases, you will need rear wheel weights and chains to get the traction needed for snow plowing.

# Normal Care

## CONTENT OF SECTION

Your snow plow/dozer blade was designed and built to provide years of service with only minor care. This care, however, must be performed to keep it in good operating condition and to avoid costly repairs. This section shows you how to provide the necessary care.

## SCHEDULED CARE

The only care required for the snow plow/dozer blade on a regular scheduled basis is lubrication. The lubrication should be done as shown in figure 8 before the first use and after every 25 hours of operation.

A Maintenance Record (figure 9) is provided to help you document all operating hours and maintenance repair actions.

## NORMAL STORAGE


To protect the snow plow/dozer blade, store it in an enclosed dry area. Clean it to remove excess snow or dirt.

## OFF-SEASON STORAGE

When the snow plow/dozer blade is to be stored for 30 days or more, take precautions as follows:

1. Remove snow plow/dozer blade from tractor.
2. Thoroughly clean unit using a hose.
3. Coat all bare metal surfaces with a good quality paint (obtainable from your dealer) or a light film of grease or oil.
4. Lubricate snow plow/dozer blade. (See figure 8).

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Symbol	Use	Apply With	Procedure
	Medium weight (SAE 30) oil	Oil can	<ol style="list-style-type: none"> <li>1. Brush and wipe dirt and grass from area.</li> <li>2. Apply a few drops of oil.</li> <li>3. Wipe up any drips or spills.</li> </ol>

**Figure 8. Lubricate Snow Plow/Dozer Blade (25-Hour Care)**



# Troubleshooting

## CONTENT OF SECTION

This section of the manual guides you in troubleshooting some of the more common and easily corrected snow plow/dozer blade problems. The same type of data for the tractor can be found in your tractor owner's manual. For problems not covered in these manuals, it is recommended that you contact your dealer.

## TROUBLESHOOTING PROCEDURES

Troubleshooting procedures are provided in figure 10. To use these procedures, first locate the problem descrip-

tion that best describes the trouble that you have encountered. Check the possible causes one at a time in the order that they are listed. Correct any problems that are found and try to operate the snow plow/dozer blade again to see if you have eliminated the trouble.



### WARNING

For your safety, do not try to adjust, service, or repair the snow plow/dozer blade until engine is stopped, key removed, parking brake set, and blade lowered to the ground.

Problem	Cause/Remedy
1. Blade does not clean surface thoroughly.	A. Skid shoes too low. Adjust skid shoes. B. Material too hard. Do not use "float" position of hydraulic lift.
2. Blade cuts too deeply or tears asphalt.	A. Skid shoes too high. Adjust skid shoes. B. Too much down pressure. Place hydraulic lift control in float position (fully forward).
3. Tractor lacks traction.	A. Tires not gripping. Use different tires and/or chains. B. Not enough weight on drive wheels. Use two or more sets of rear wheel weights.
4. Tractor handles poorly.	A. Tractor speed too fast. Use slower speed, especially when operating on rough or sloping surfaces. B. Front wheels lifting. Raise blade or use float position. C. Tires not properly inflated. Check and correct tire pressures as described in tractor operator's manual.

Figure 10. Troubleshooting Procedures

# Adjustments

## CONTENT OF SECTION

It is important that the snow plow/dozer blade be properly adjusted for the job at hand. This section tells you how to make the needed adjustments.



### WARNING

Before attempting to check or adjust the snow plow/dozer blade, stop engine, remove key, set parking brake, and lower snow plow/dozer blade.

## ADJUSTMENT PROCEDURES

### Skid Shoes

1. Place wooden block in front of the blade.
2. Start the engine and raise the blade. Place in float position so the scraper blade rests on the wooden block. Shut off the engine.
3. Loosen the capscrews (2, figure 11) on the skid shoes.
4. For gravel, drop the skid shoes down so scraper bar will be off the ground. For a hard surface, raise the skid shoes fully.
5. Making sure skid shoe is level, tighten capscrews. Make sure both skid shoes are adjusted at same height.
6. Start the engine and raise the blade. Back up, lower the snowthrower and shut off engine. Remove wooden block.

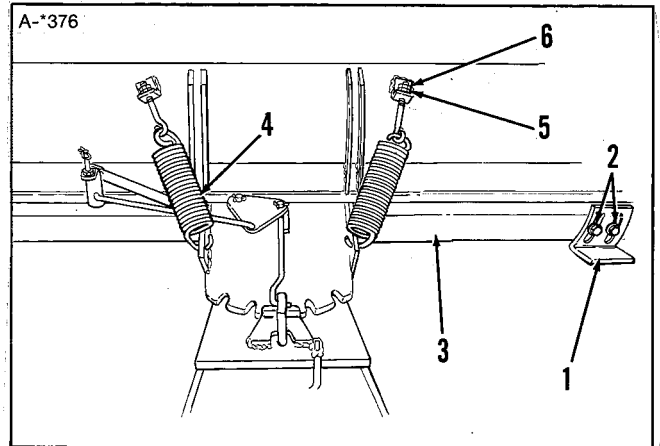


Figure 11. Adjust Skid Shoes and Springs

1. Skid Shoe
2. Capscrew
3. Wear Plate
4. Spring
5. Rear Nut
6. Front Nut

### Spring Tension (Trip Point)

When the wear plate (3, figure 11) strikes a solid object, the top of the blade should trip forward. This action releases the load on the blade in order to prevent damage. The force required to trip the blade in this manner depends upon the tension setting of the springs (4). When the blade trips too easily or fails to trip, readjust the spring tension as follows:

1. Hold rear nut (5) while loosening front nut (6).
2. Turn rear nut (5) clockwise to tighten. Tighten this nut if blade trips too easily. Loosen nut counter-clockwise if blade fails to trip.
3. Hold rear nut (5) while again tightening front nut (6). The two nuts must be drawn firmly enough.
4. Repeat steps 1 through 3 to adjust tension of other spring. Be sure the two springs are adjusted to the same approximate length.
5. Operate snow plow/dozer blade and, if needed, adjust spring tension until blade trips properly.

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