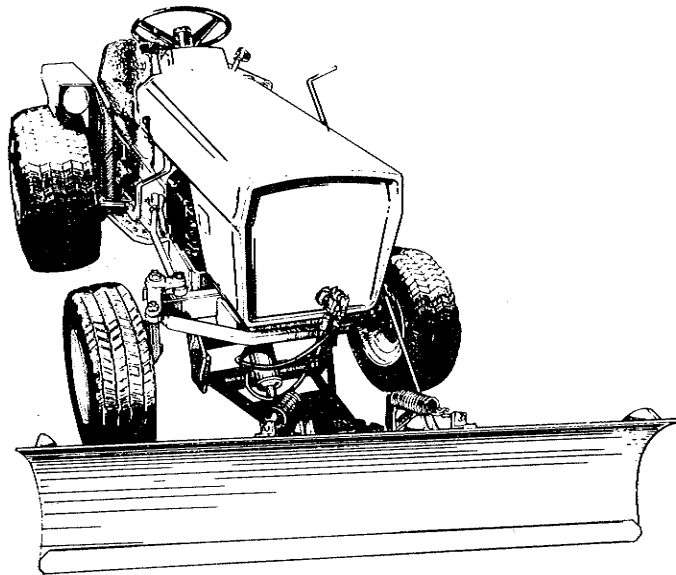


OPERATOR'S MANUAL

60" SNOW PLOW & DOZER BLADE



60" DOZER BLADE
MFG. NO. 1600201

**CAUTION: Read Manual Thoroughly
Before Operating**

FORM - 1652007
PRINTED IN U.S.A.
7610

Dear Customer,

Congratulations on your purchase of this snow plow/dozer blade. It has been carefully designed and built to give you years of dependable service. With proper care, it will help you do your snow removal and grading jobs efficiently.

To make sure you get the best use from your snow plow/dozer blade study this manual carefully. Make sure that it is assembled and installed properly, and that all adjustments are done correctly. Be sure that you (and anyone who operates this machine) know how to use the machine safely. Read this manual and the tractor manual thoroughly and become familiar with the controls of the machine before operation.

For your own safety as well as others, study the safety rules in this manual and those in the tractor manual. Review this information often. It is there for your benefit and is important.

This manual tells how to assemble, install, service, operate and adjust your snow plow/dozer blade. If any help is needed with any of these procedures, your dealer will be happy to help you.

Measurements are given in this manual with metric equivalents in parentheses. For example, behind the measurement 1/8 inch would appear: (3 mm). So, the metric equivalent of 1/8 inch is 3 millimetres.

These metric measurements are provided for your convenience as an aid in converting to the metric system. A list of metric terms and abbreviations used in this manual is provided below.

LIST OF ABBREVIATIONS OF METRIC TERMS

1. m = metre
2. mm = millimetre
3. kg = kilogram

60 Inch Dozer Blade

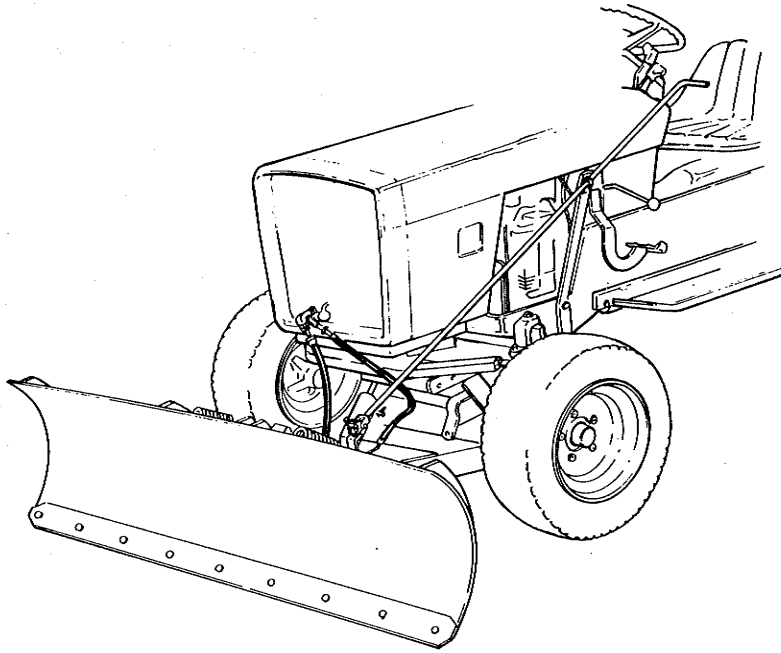


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WARNING

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 affecting safety.

Safety Rules



This notation preceding Cautions and Warnings in the text signifies important precautionary steps which, if not properly followed, could result in personal injury or damage to your equipment affecting safety.

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 gasoline with care — it is highly flammable.
 - a. Use approved gasoline container.
 - b. Never remove the cap of the fuel tank or add gasoline to a running or hot engine, or fill the fuel tank indoors. Wipe up spilled gasoline.
- Do not run the engine indoors. Exhaust fumes are dangerous.
- Shift into neutral before attempting to start the engine.
- 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 blade 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 and Installation

CONTENT OF SECTION

Before you can use the snow plow/dozer blade, you must assemble and then install it on your tractor. This section tells you how to do these tasks. It also tells you how to remove the blade when you have finished plowing.

ASSEMBLY

Assemble the snow plow/dozer blade as follows:

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

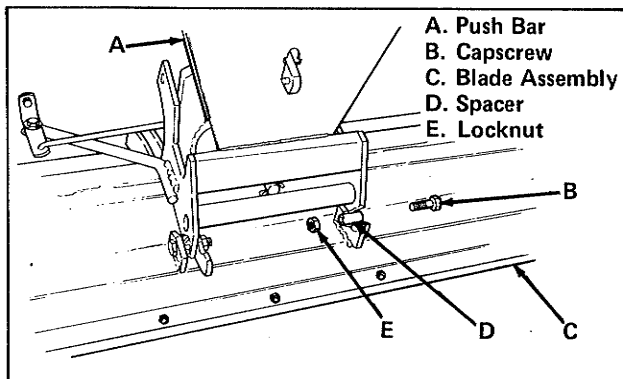


Figure 1. Attach Push Bar to Back of Blade

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 (item D) 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 (item A) on both eyebolts until there is about 3/4 inch (19 mm) of eyebolt thread beyond the nut.
9. Install second nut (item E) on both eyebolts. Hold first nut while tightening second nut until the two nuts are drawn firmly together.

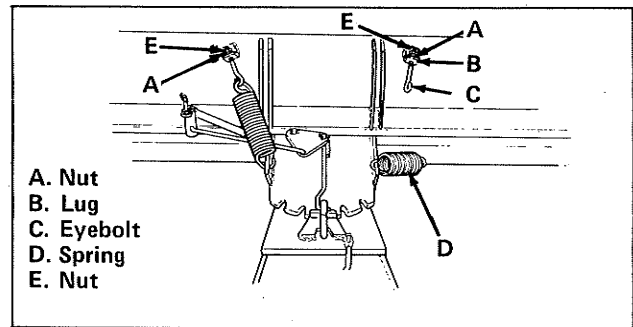


Figure 2. Install Springs

REQUIRED ACCESSORIES

A hitch for front-mounted attachments and a front hydraulic cylinder kit are required to install the snow plow/dozer blade on the tractor. The rear hydraulic cylinder provided with the tractor can be removed and used as a front hydraulic cylinder. However, you will then need special fittings to cap the rear lift hydraulic lines and to adapt the hoses to the front quick-disconnect couplings. See your dealer if you wish to purchase any of these items.

INSTALLATION

Install the assembled snow plow/dozer blade on the tractor as follows:

1. Install hitch for front-mounted attachments (item A, figure 3) on tractor. Use eight capscrews (item B) and lockwashers (item C) to secure the hitch and the control arm bracket (item D) provided with the snow plow/dozer blade.

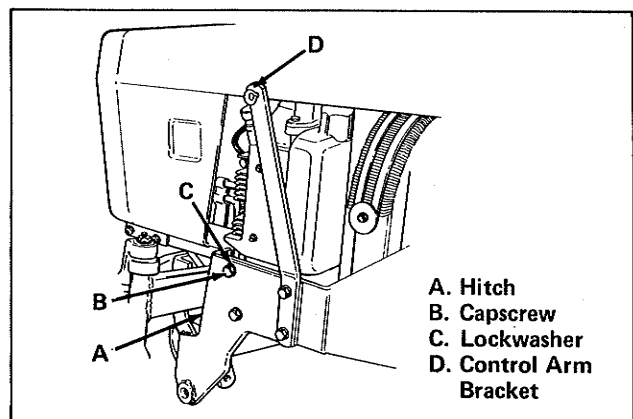


Figure 3. Install Hitch and Control Arm Bracket

NOTE

To prevent loss or damage, insert all spring clips completely into related mounting holes.

2. Attach piston rod (item D, figure 4) of hydraulic cylinder to bracket (item B) using a pin (item A) and spring clip (item C).

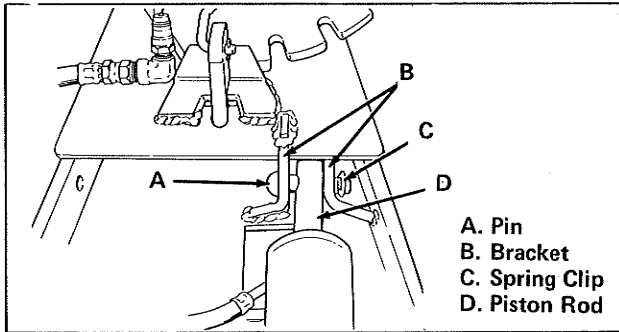


Figure 4. Attach Hydraulic Cylinder

3. Drive tractor forward until front hitch (item D, figure 5) is over rear of push bar (item A).
4. Stop tractor engine, remove ignition key, and set parking brake.
5. Raise push bar (item A) and attach it to front hitch (item D) using two headless pins (item B) and four spring clips (item C).
6. Clean quick-disconnect couplings (item I and J) and fittings on ends of hydraulic hoses. Then connect hoses to couplings. Hose (item H) from free end of cylinder must be connected to right coupling (item I). To make a connection, push outer collar of coupling toward engine and insert fitting at end of hose into coupling. Then release collar and pull hose to be sure connection is locked.

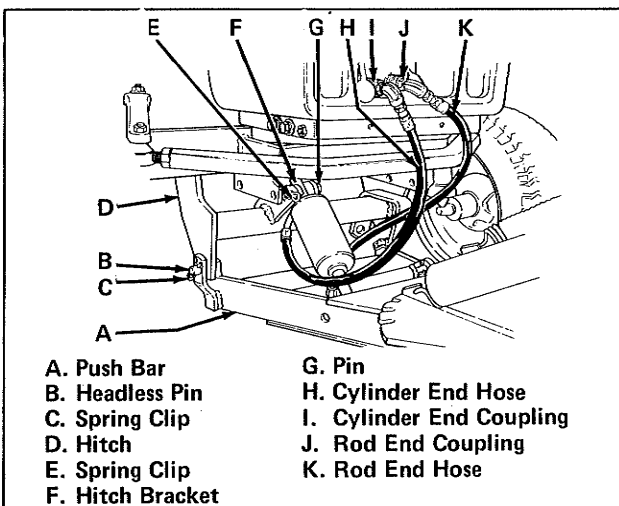


Figure 5. Attach to Tractor

7. Place front lift control on tractor in float position.
8. Use both hands to extend and rotate hydraulic cylinder toward hitch bracket (item F). Attach cylinder to hitch using a pin (item G) and spring clip (item E).
9. Insert handle (item A, figure 6) of control rod through eyebolt (item B). Slip fork at other end of control rod over pivot stud (item D). Then install spring clip (item C) into hole at top of pivot stud.
10. Start engine. Use hydraulic lift lever on tractor to raise snow plow/dozer blade just slightly off ground. Then stop engine and check positions of hose fittings on hydraulic cylinder to be sure that they will clear tractor axle and bottom plate of push bar.

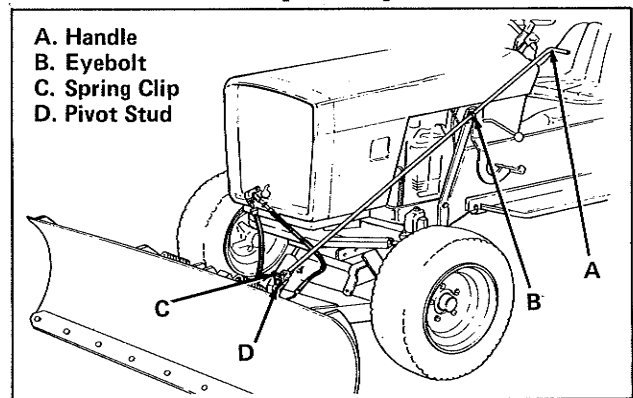


Figure 6. Install Control Rod

REMOVAL

Remove the snow plow/dozer blade from the tractor as follows:

1. Lower snow plow/dozer blade to ground.
2. Stop tractor engine, remove ignition key and set parking brake.
3. Remove spring clip (item C, figure 6) and remove control rod from pivot stud (item D) and eyebolt (item B). Store spring clip in hole of pivot stud.
4. Disconnect hoses (items H and K, figure 5) from quick-disconnect couplings. Then install plastic covers in couplings.
5. Remove spring clips (items C and E) and pins (items B and G) and lower push bar (item A) to ground. Store pins and spring clips in holes of push bar and hydraulic cylinder.
6. If desired, detach piston rod (item D, figure 4) from push bar and remove hitch (item A, figure 3) and control arm bracket (item D) from tractor.

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 7 shows the locations, names, and functions of these controls.

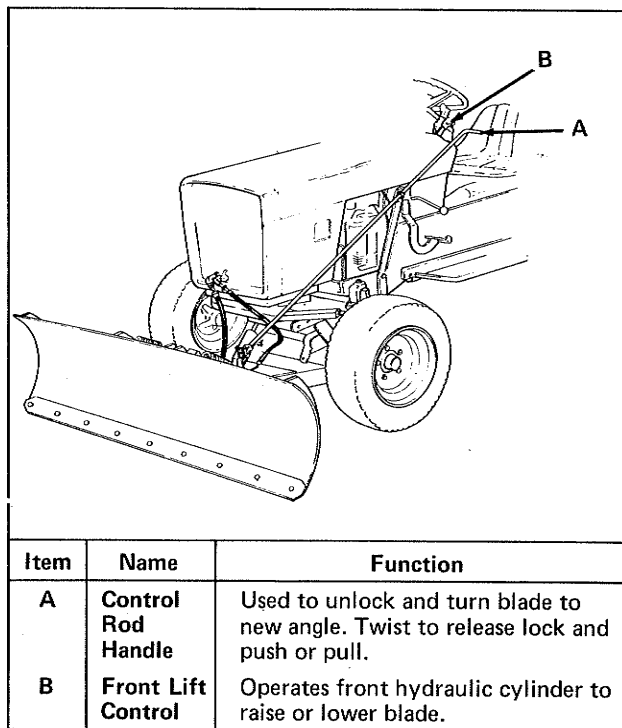


Figure 7. Locations and Functions of Controls

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 general operating procedure for tractor operation with attachments given in the tractor manual before starting into operation.

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 the 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.

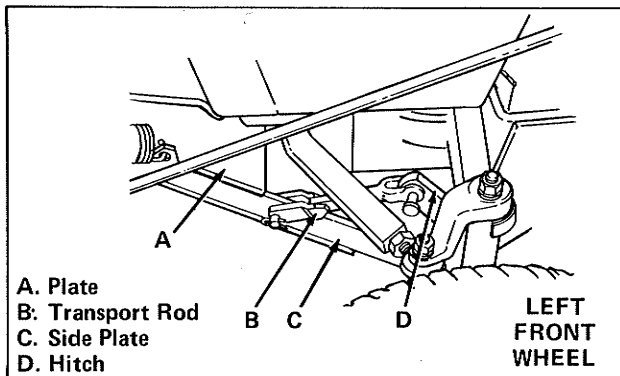


Figure 8. Transport Rod Installation

When you transport the snow plow/dozer blade for a long distance, use the transport rod (item B, figure 8) to keep the blade raised. The transport rod is stored under the plate (item A) and pinned to the side plate (item C). To use this item, remove it from its storage position, Then raise the blade and attach the rod to the side plate (item C) and to the hitch (item D) using two pins and spring clips.

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

Set the engine speed control and gear shift lever on the tractor to produce the power needed for the job. Generally, first or second gear and engine speeds of 1/2 to full speed should be used. As you work, adjust the tractor speed with the hydrostatic control lever to produce the best results.

SLOPE INFORMATION

Use rear wheel weights when needed for traction or counterweighting and use them to operate on slopes greater than 20 percent (11.3°). Never operate on slopes greater than 35 percent (19.3°).

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 hydrostatic control lever 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 9 before the first use and after every 25 hours of operation.

A Maintenance Record (figure 10) 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 9.)

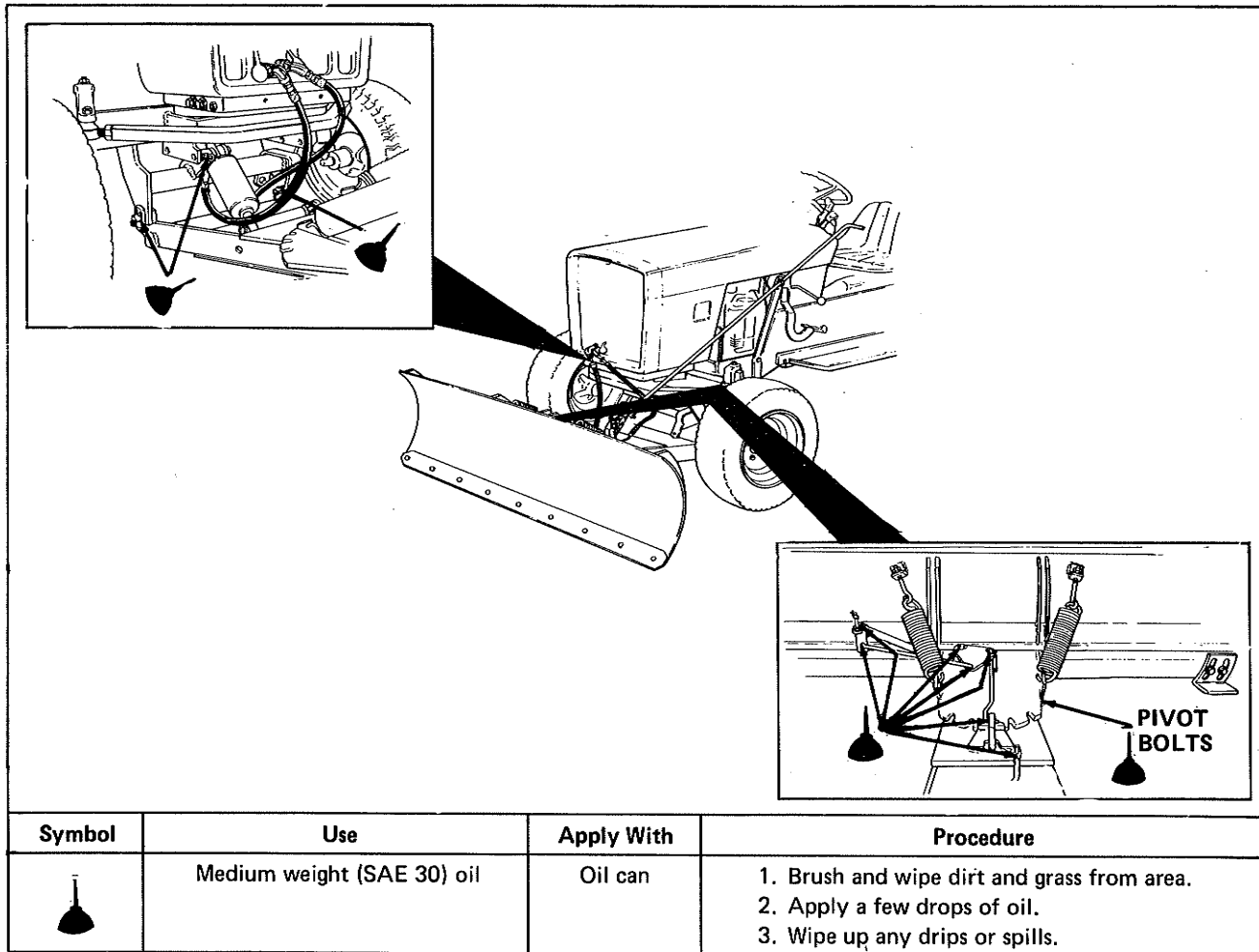


Figure 9. Lubricate Snow Plow/Dozer Blade (25-Hour Care)

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 11. To use these procedures, first locate the problem description 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.	<ul style="list-style-type: none"> A. Skid shoes too low. Adjust skid shoes. B. Material too hard. Use hydraulic lift system to apply down pressure on blade.
2. Blade cuts too deeply or tears asphalt.	<ul style="list-style-type: none"> A. Skid shoes too high. Adjust skid shoes. B. Too much down pressure. Place front lift control in float position.
3. Tractor lacks traction.	<ul style="list-style-type: none"> 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.	<ul style="list-style-type: none"> A. Tractor speed too fast. Use slower speed, especially when running 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 11. 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

The skid shoes (item A, figure 12) must be adjusted to fit the type of work to be done and the condition of the work surface. To plow snow from uneven or gravel surfaces, lower the skid shoes so the wear plate (item C) can ride over high points of the work surface. Raise the skid shoes so the wear plate rests directly on the ground when you intend to plow snow from smooth surfaces or when you intend to do grading or leveling work.

To set the skid shoes, drive the tractor to a level area and proceed as follows:

1. Stop engine, remove ignition key, and set parking brake.
2. Place two pieces of scrap lumber under wear plate (item C). Then place front lift control in its float position to lower blade.
3. Loosen capscrews (item B) that secure both skid shoes (item A).

NOTE

If you are making adjustment so wear plate rides directly on ground, raise blade and remove lumber scraps. Then lower blade to ground.

4. Slide skid shoe (item A) up or down to desired position. Hold skid shoe while retightening capscrews.
5. Repeat step 4 to adjust other skid shoe. Be sure both skid shoes are set to same height.

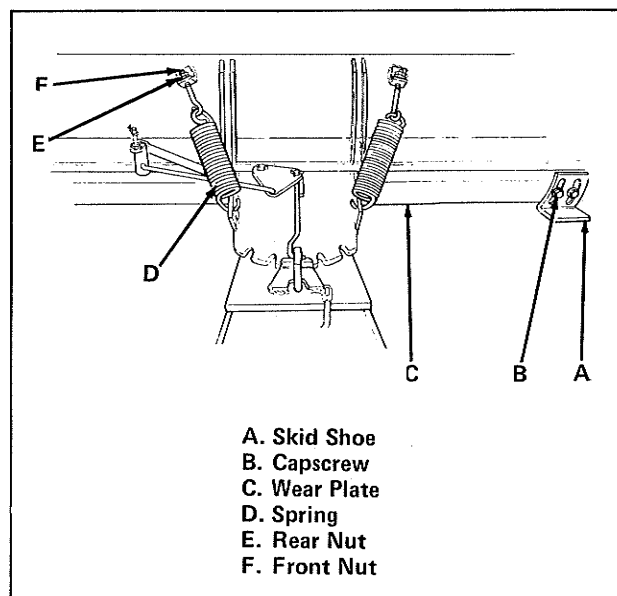


Figure 12. Adjust Skid Shoes and Springs

Spring Tension

When the wear plate (item C, figure 12) 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 (item D). When the blade trips too easily or fails to trip, readjust the spring tension as follows:

1. Hold rear nut (item E) while loosening front nut (item F).
2. Turn rear nut (item E) clockwise to tighten. Tighten this nut if blade trips too easily. Loosen nut counterclockwise if blade fails to trip.
3. Hold rear nut (item E) while again tightening front nut (item F). The two nuts must be drawn firmly together.
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.

Specifications

DIMENSIONS	Width	60 Inches (1.5 m)
	Length	32 Inches (812 mm)
	Height	16 Inches (406 mm)
	Weight	173 Pounds (78 kg)
CONTROLS	Raise and Lower	Tractor Hydraulic Lift Operated by Front Lift Control
	Blade Angle	Control Rod; Handle to Left of Dash
CONSTRUCTION	Blade	Electrically Welded Heavy Gauge Steel Bar and Plate
	Scraper Wear Plate	Hardened, Reversible and Replaceable
	Hitch	Electrically Welded Steel Bar and Plate
	Mounting	Front Axle
	Front Support	Adjustable Skid Shoes
	Angles	Straight Ahead and 15 or 30 Degrees to Either Side
	Blade Trip	Automatic Load Trip with Spring Return

Accessories

There are many optional accessories and attachments available for your tractor to make plowing and dozing easier. See your dealer if you wish to purchase any of the following:

FRONT HYDRAULIC CYLINDER – required to raise and lower snow plow/dozer blade.

HITCH FOR FRONT-MOUNTED ATTACHMENTS – required to attach snow plow/dozer blade to tractor.

REAR WHEEL WEIGHTS – improve traction in loose soil or on slippery surfaces.

CHAINS – provide additional traction.

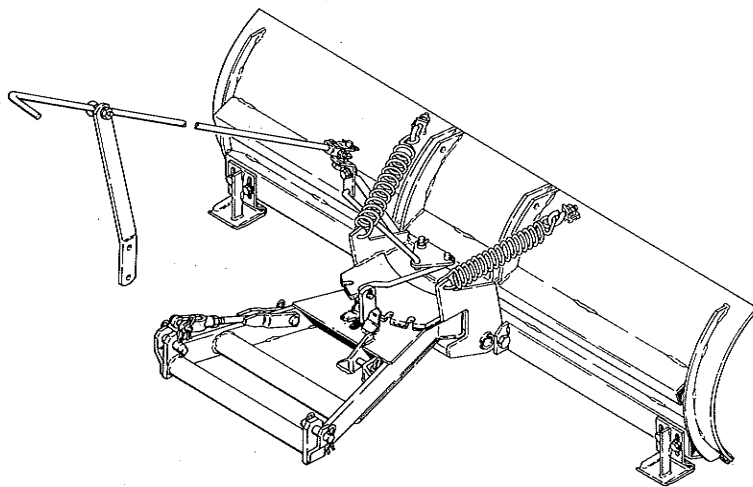
SNOW CAB – protects operator from weather.

HOURLY METER – records operating time to enable care to be done on schedule.

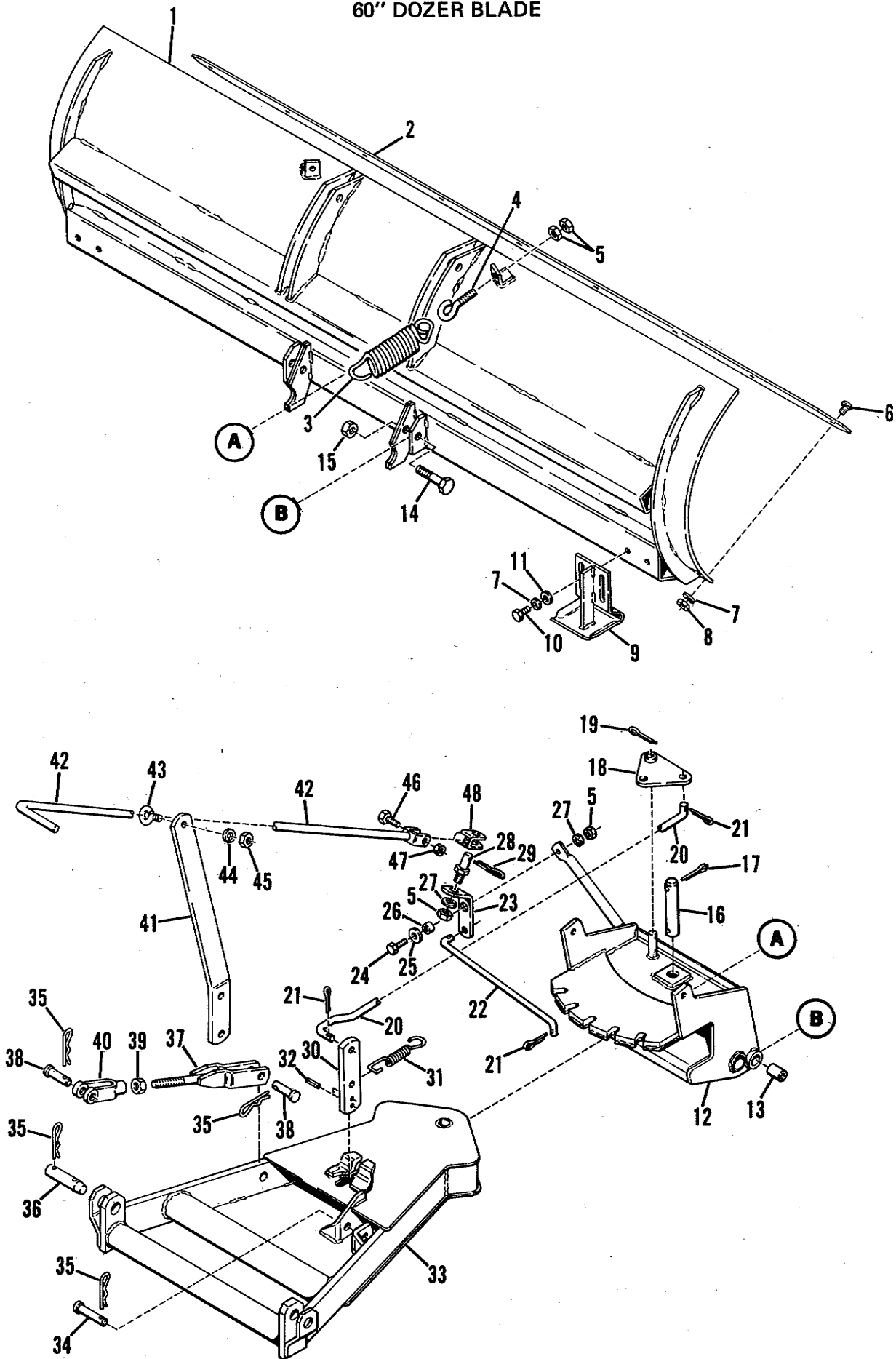
REAR LIGHT KIT – Illuminates work area for rear-mounted attachments.

60" DOZER BLADE

MFG. NO. 1600201 60" DOZER BLADE



60" DOZER BLADE



60" DOZER BLADE

Ref. No.	Part No.	Qty.	Description
1	173355	1	BLADE ASSEMBLY
2	173428	1	PLATE, Wear
3	101126	2	SPRING, Tension
4	107121	2	EYEBOLT
5	917372	6	NUT, Hex, full, 5/16"-18
6	923232	9	BOLT, Carriage, 3/8"-16 x 1" lg.
7	916965	13	LOCKWASHER, 3/8"
8	916950	9	NUT, Hex, full 3/8"-16
9	107106	2	SHOE ASSEMBLY
10	908127	4	CAPSCREW, Hex 3/8"-16 x 3/4" lg.
11	917378	4	WASHER, Flat, 3/8"
12	173343	1	PIVOT FRAME ASSY.
13	174061	2	SPACER
14	927469	2	CAPSCREW, Hex,
15	922134	2	NUT, Hex, full 1/2"-13
16	173571	1	PIN, Pivot
17	919314	2	PIN, Cotter, 3/16" x 1-1/4" lg.
18	107116	1	PIVOT PLATE ASSY.
19	918452	2	PIN, Cotter, 1/8"x1" lg.
20	173348	1	ROD, Latch
21	922000	4	PIN, Cotter, 3/32"x 5/8" lg.
22	173663	1	ROD, Pivot
23	107119	1	ARM, Pivot

Ref. No.	Part No.	Qty.	Description
24	916431	1	CAPSCREW, Hex, 5/16"-18 x 1" lg.
25	917642	1	WASHER, Flat, 5/16"
26	156150	1	SPACER
27	917356	2	LOCKWASHER, 5/16"
28	107120	1	STUD, Pivot
29	8161045	1	CLIP, Spring
30	173347	1	LATCH
31	107135	1	SPRING
32	921469	2	PIN, Roll, 7/32" x 1" lg.
33	173314	1	FRAME ASSEMBLY
34	8181008	2	PIN, King
35	106788	6	CLIP, Hairpin
36	173741	2	PIN, Hitch
37	174778	1	ROD ASSEMBLY
38	157194	2	PIN
39	919262	1	NUT, Hex, jam 1/2"-20
40	157631	1	YOKE
41	174246	1	SUPPORT
42	173568	1	HANDLE ASSEMBLY
43	172162	1	EYEBOLT
44	916964	1	LOCKWASHER, 1/4"
45	923362	1	NUT, Hex, full, 1/4"-20
46	922076	1	CAPSCREW, Hex, 5/16"-18x1-1/2" lg.
47	923362	1	NUT, Hex, full, 5/16"-18
48	106131	1	FORK ASSEMBLY

