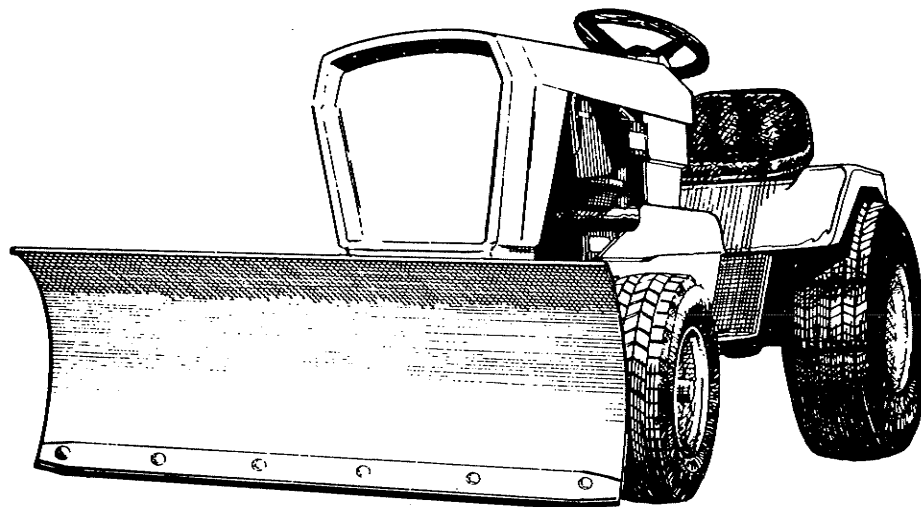


OPERATOR'S MANUAL

46" SNOW PLOW & DOZER BLADE



46" SNOW PLOW & DOZER BLADE
MFG. NO. 1690088
46" BLADE HITCH
MFG. NO. 1690089



**CAUTION: Read Manual Thoroughly
Before Operating**

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 dozing and snow removal 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 attachment) know how to use the machine safely. Read this manual and the tractor manual thoroughly and become familiar with all controls before operating.

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 of 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. mm = millimetre
2. N·m = newton-metre

46 Inch Snow Plow/Dozer Blade

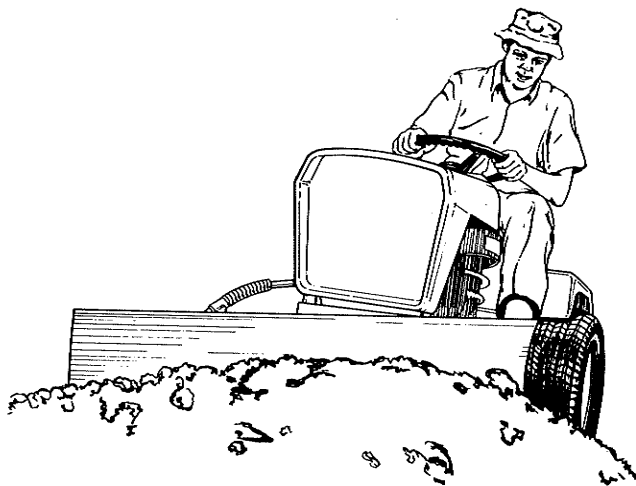


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WARNING

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.
- 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
 - c. and in good working condition, and
 - d. 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.
- 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.

Accessories

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

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

FRONT WHEEL WEIGHTS — improve steering.

ELECTRIC LIFT KIT — raises and lowers snow plow/dozer blade and other attachments with the flip of a switch.

DUAL LIFT LEVER — provides separate lift control of front and rear-mounted attachments. Especially useful when using dozer blade and rotary tiller at the same time.

WINTERIZING KIT — includes shield to keep carburetor warm and side-vented gas cap.

CHAINS — provide additional traction.

COUNTERWEIGHT SPRING KIT — makes it easier to lift snow plow/dozer blade and other front, center and rear-mounted attachments.

SNOW CAB — protects operator from weather.

HOURLMETER — records engine operating time in tenths of an hour.

REAR LIGHT KIT — illuminates work area for rear-mounted attachments.

Assembly and Installation

CONTENT OF SECTION

Before it can be used, the snow plow/dozer blade must be assembled and then installed on your tractor. This section describes how to do this task as well as how to remove the blade when you have finished plowing or dozing.

ASSEMBLY

To assemble the snow plow/dozer blade, proceed as follows:

1. Place blade assembly (item A, figure 1) on a flat surface.
2. Insert one spacer (item B) in each one of two mounting holes in the push bar assembly (item C). Align push bar mounting holes and push capscrews (item D) through push bar and blade and torque locknuts (item E) to 75 ft. lbs. (103 N·m).

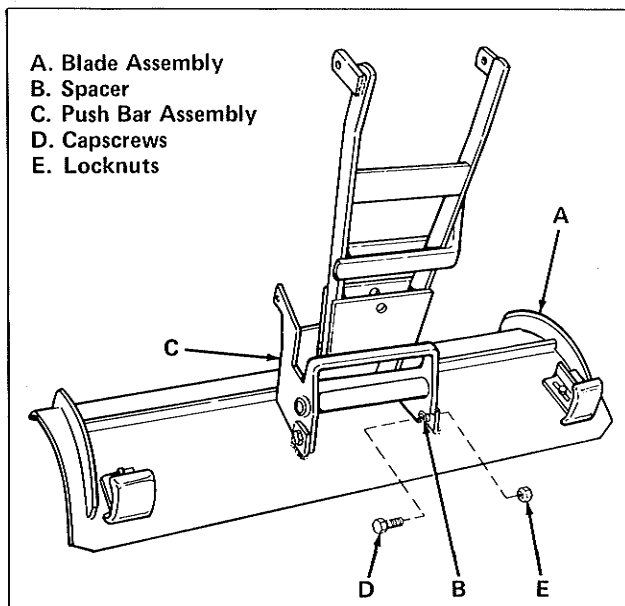


Figure 1. Attaching Blade and Push Bar

3. Insert eyebolt (item A, figure 2) through lug on blade and screw on nut (item B). Screw on nut so it is flush with the threads on edge of the eyebolt.
4. Hook spring (item C) in upper rear hole of push bar. Stretch spring with a pliers to hook spring on eyebolt.

5. Repeat steps 4 and 5 for other spring.
6. Tighten nuts on both eyebolts down to expose about 3/4 inch (19 mm) of thread.
7. Add other nut (item D) and tighten the nuts together. Hold one nut secure with wrench and tighten one nut against the other.

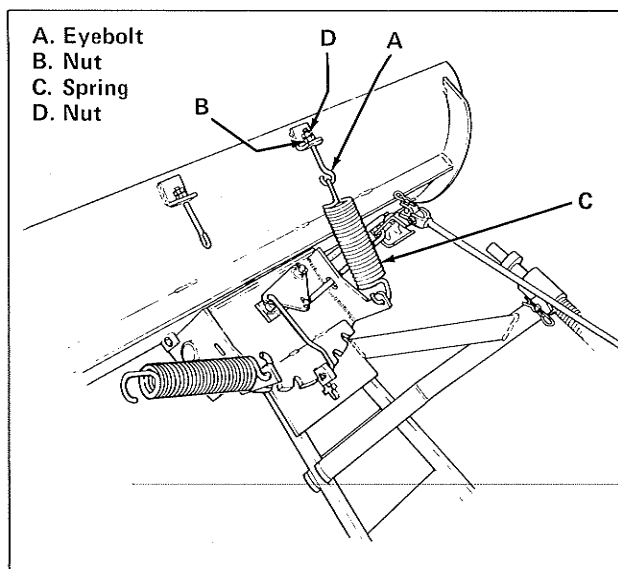


Figure 2. Attaching Springs

8. Position fork assembly of control rod (item A, figure 3) over pivot stud (item B). Be sure handle on other end of control rod points down. Secure with spring clip (item C).

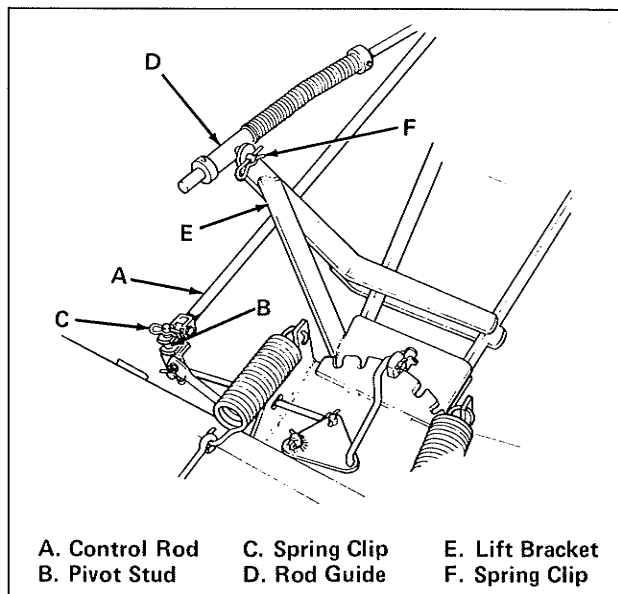


Figure 3. Attaching Control and Lift Arm

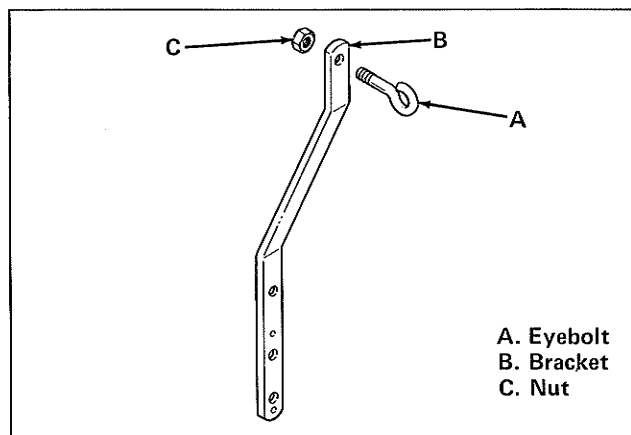


Figure 4. Control Rod Bracket

9. Install tip of rod guide (item D) on lift rod into hole of lift bracket (item E). Secure with spring clip (item F).
10. Attach eyebolt (item A, figure 4) to control rod bracket (item B) and secure with nut (item C).

INSTALLATION

To install the assembled snow plow/dozer blade on your tractor, proceed as follows:

1. For easier installation, swing control rod and lift arm rod forward and place them on the top edge of the blade.
2. Drive tractor forward over push bar (item A, figure 5) until rear of push bar is under front axle hitch.

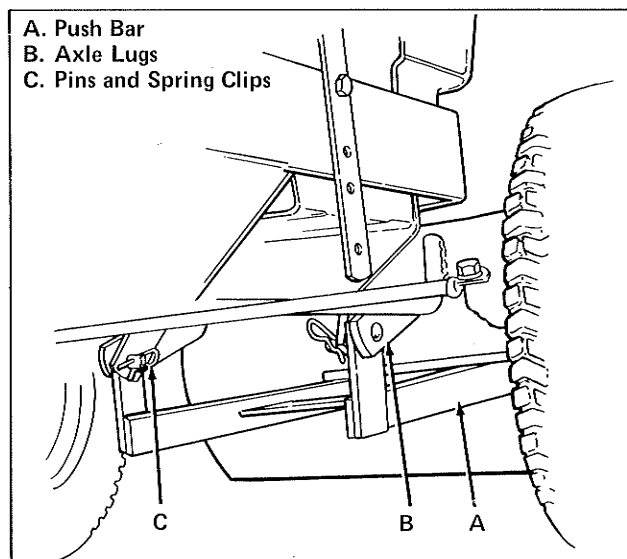


Figure 5. Installing Blade to Tractor

3. Completely lower tractor lift arm using lift lever or optional electric lift.
4. Stop engine, remove key, and set parking brake.
5. Lift and position push bar under tractor to align rear holes of the axle lugs (item B). Secure with two pins and spring clips (item C).
6. Mount control rod bracket (item A, figure 6) to tractor frame with one capscrew and lock-washer.

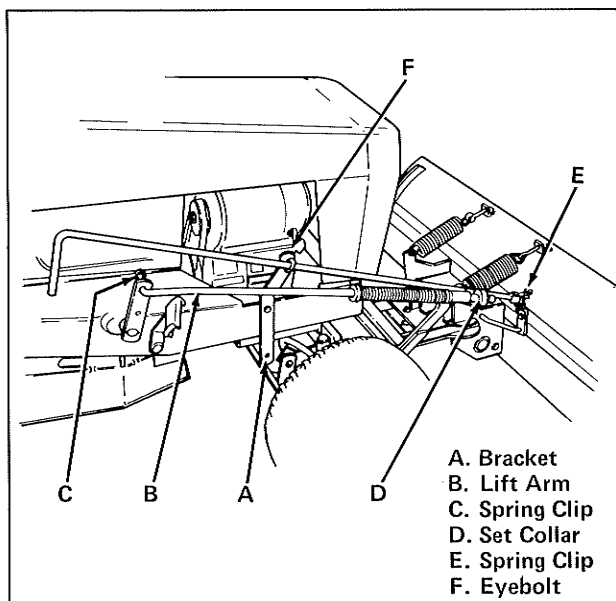


Figure 6. Installing Lift Rod and Control Rod to Tractor

7. Remove spring clip (item E) from control rod and lift off pivot stud. Slide control rod through eyebolt (item F). Secure control rod on pivot stud with spring clip.
8. Place bent end of lift rod in hole of tractor lift arm (item B). Secure with spring clip (item C). To attach lift rod it may be necessary to loosen set collar (item D). Tighten collar after installing lift rod.

NOTE

When dual lift lever is used, install lift arm (item B) to lift lever so that spring clip (item C) is installed outside of lift lever. This is opposite what is shown in figure 6.

9. Carefully raise and lower blade several times using tractor lift and check for proper operation.

REMOVAL

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

1. Using tractor lift lever or optional electric lift, lower blade to ground.
2. Stop engine, remove key, and set parking brake.
3. Remove spring clip (item E, figure 6) to remove control rod from eyebolt (item F).
4. Pull out spring clip (item C, figure 6) and remove lift arm. Place arm over the blade.
5. Remove spring clips and pins (item C, figure 5) and lower push bar assembly (item A) to ground. Install pins and spring clip in push bar assembly for storage.
6. If desired, remove control rod bracket (item A, figure 6) from tractor frame. Install cap-screw and lockwasher on bracket for storage.

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.

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

NOTE

Before attempting to inspect, adjust, or service the snow plow/dozer blade, make sure the tractor engine is stopped and the ignition key is removed.

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

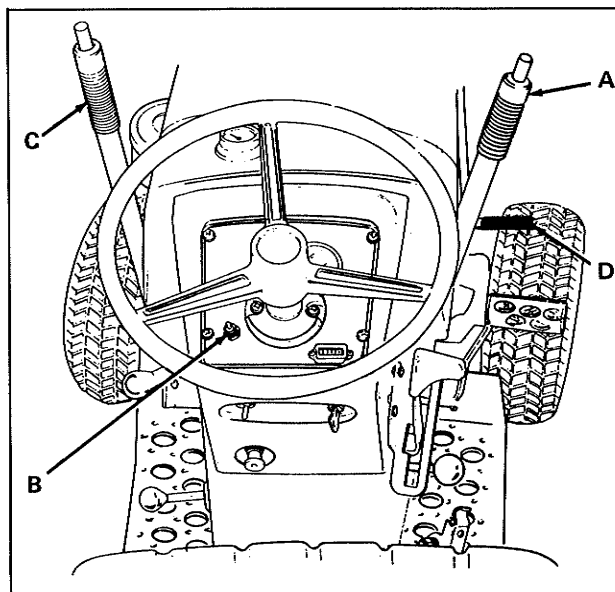
Use the lift lever or optional electric lift switch on the tractor to raise or lower the snow plow/dozer blade.

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 come to an abrupt stop.



Item	Name	Function
A	Dual Lift Lever (Optional)	Provides lift control for front-mounted attachments such as the snow plow/dozer blade.
B	Power Lift Switch (Optional)	Controls optional electrically operated power lift for snow plow/dozer blade if this item is present and item A and C are not present.
C	Lift Lever (Standard)	Used to raise and lower snow plow/dozer blade if items A and B are not present.
D	Control Rod Handle	Used to move blade to 1 of 5 angle positions.

Figure 7. Location and Function of Controls

SETTING BLADE ANGLE

The snow plow/dozer blade can be operated in any one of five positions from the tractor seat. To angle the blade, raise the blade off the surface and grasp control handle (item D, figure 7) firmly. 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.

GRADING

For leveling and grading jobs, the blade can be positioned straight ahead with the skid shoes set to allow the blade to rest directly on the ground. For grading, adjust blade pressure so the blade floats up and down following the ground contours. For dozing, increase the blade pressure. To adjust the skid shoes, blade angle, or blade pressure, see the Adjustments Section of this manual.

Use forward tractor motion to push the dirt to the desired location. Then reverse the tractor and drag the blade backwards for final leveling. Pack down the dirt or gravel by driving the tractor over the leveled area.

SNOW PLOWING

Generally, the blade is angled to one side for snow plowing. The skid shoes should be adjusted so the blade rests on its edge when plowing paved surfaces. For gravel or other rough surfaces, set skid shoes for desired height. For light snow, the blade can be adjusted to float. For heavier snow, some downward blade pressure will be required. To set blade angle, skid shoes, and blade pressure, see Adjustments Sections of this manual.

When plowing snow, plan ahead. Use any grade to your advantage. Plow downhill and set the blade angle so the snow is moving downhill as it leaves the blade. For large drifts, bite off small amounts at a time rather than attempting to plow a full blade width.

For snow plowing, set engine speed to obtain the needed power. Set transmission gear shift lever or control for tractor speed that allows snow to curl cleanly off the end of the blade. It is recommended that rear wheel weights and chains be used for snow plowing.

OPERATION ON SLOPES

Never attempt to plow or doze on excessively steep slopes. Use two rear wheel weights when operating on slopes greater than 20 percent (11.3°). Never operate on slopes greater than 35 percent (19.3°).

Also, for better steering, stability, or traction, it is recommended that tire chains, four rear wheel weights, and two front wheel weights be used whenever applicable. See your tractor Operator's Manual for recommended speed and accessories when operating with attachments.

Normal Care

CONTENT OF SECTION

Your snow plow/dozer blade was built to provide years of service with only minor care. These minor tasks, however, must be done to keep it in good operating condition and to avoid costly repairs. This section describes when and how to perform the needed care.

AFTER EACH USE

After each use, check the snow plow/dozer blade to be sure that all pins and spring clips are securely fastened. After grading or dozing jobs, hose down the blade to remove excess dirt. Then lightly oil pivot points and bare metal surfaces to prevent rusting.

While you are performing these tasks, also check the blade wear plate (item A, figure 8). If this plate is worn excessively, it can be reversed for added life. Simply remove the seven carriage bolts (item B). Then remove the wear plate and turn it upside down, again using the carriage bolts to secure it to the blade.

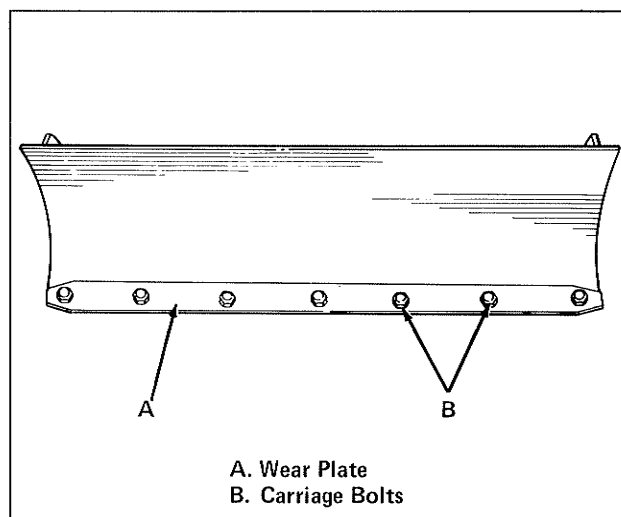


Figure 8. Blade Wear Plate

STORAGE

To store the snow plow/dozer blade for 30 days or more, clean and inspect the blade as you would after each use. Then store the blade in a dry enclosure.

Adjustments

CONTENT OF SECTION

It is important that the snow plow/dozer blade be properly adjusted for the job at hand. This section describes how to do 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.

SKID SHOES

Before using the snow plow/dozer blade, the skid shoes (item A, figure 9) should be adjusted for the type of surface to be worked on. For clearing uneven or gravel surfaces of snow, set the skid shoes so the blade rides above the ground. When plowing smooth surfaces or for grading and leveling set the skid shoes so the blade rides directly on the ground.

To adjust the skid shoes, raise the blade and block it up off the ground with a few pieces of wood. Then loosen two bolts (item B) and move skid shoes up or down for desired height before tightening bolts. Be sure both skid shoes are set at the same height.

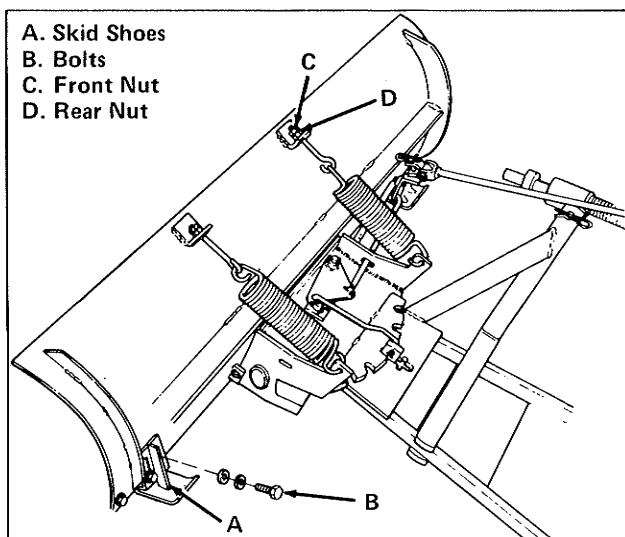


Figure 9. Skid Shoe Adjustment

SPRING TENSION

This snow plow/dozer blade is spring loaded so that when the blade strikes a solid object, the springs will allow the blade to release rather than cause damage. To adjust spring tension, hold rear nut (item D, figure 9) and loosen front nut (item C). Adjust rear nut (item D). Tighten nut to increase spring tension or loosen to decrease. Tighten front nut (item C) so the two nuts are drawn firmly together.

BLADE PRESSURE

The blade will float over minor bumps in the surface or dig into them depending upon the blade pressure adjustment. To make this adjustment, park the tractor and blade on level ground and fully lower the blade. At this point, the gap between the rod guide (item C, figure 10) and the lower set collar (item D) should be about 1 inch (25 mm). If not, loosen setscrew, move set collar and retighten setscrew.

If you want the blade to float, loosen setscrew and move upper set collar (item A) so the gap between it and spring (item B) is about 2 inches (50 mm).

If you want positive blade pressure that causes the blade to dig, loosen setscrew and move upper set collar (item A) so it compresses the spring (item B) 2 to 3 inches (50 to 76 mm). Be sure to retighten setscrew securely. The more the spring is compressed, the greater the blade pressure.

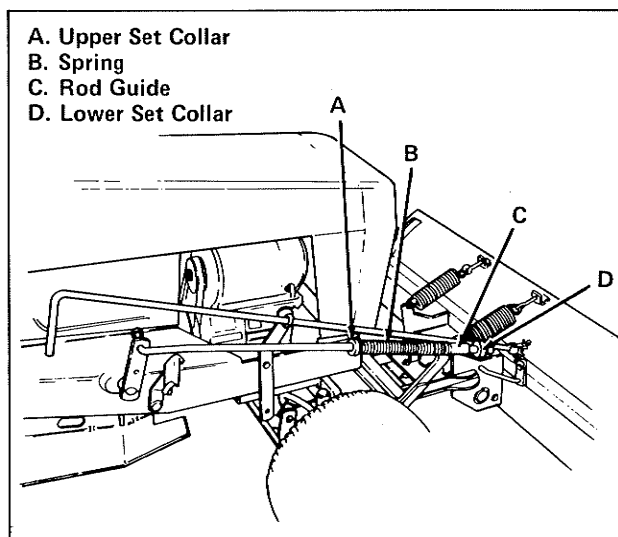


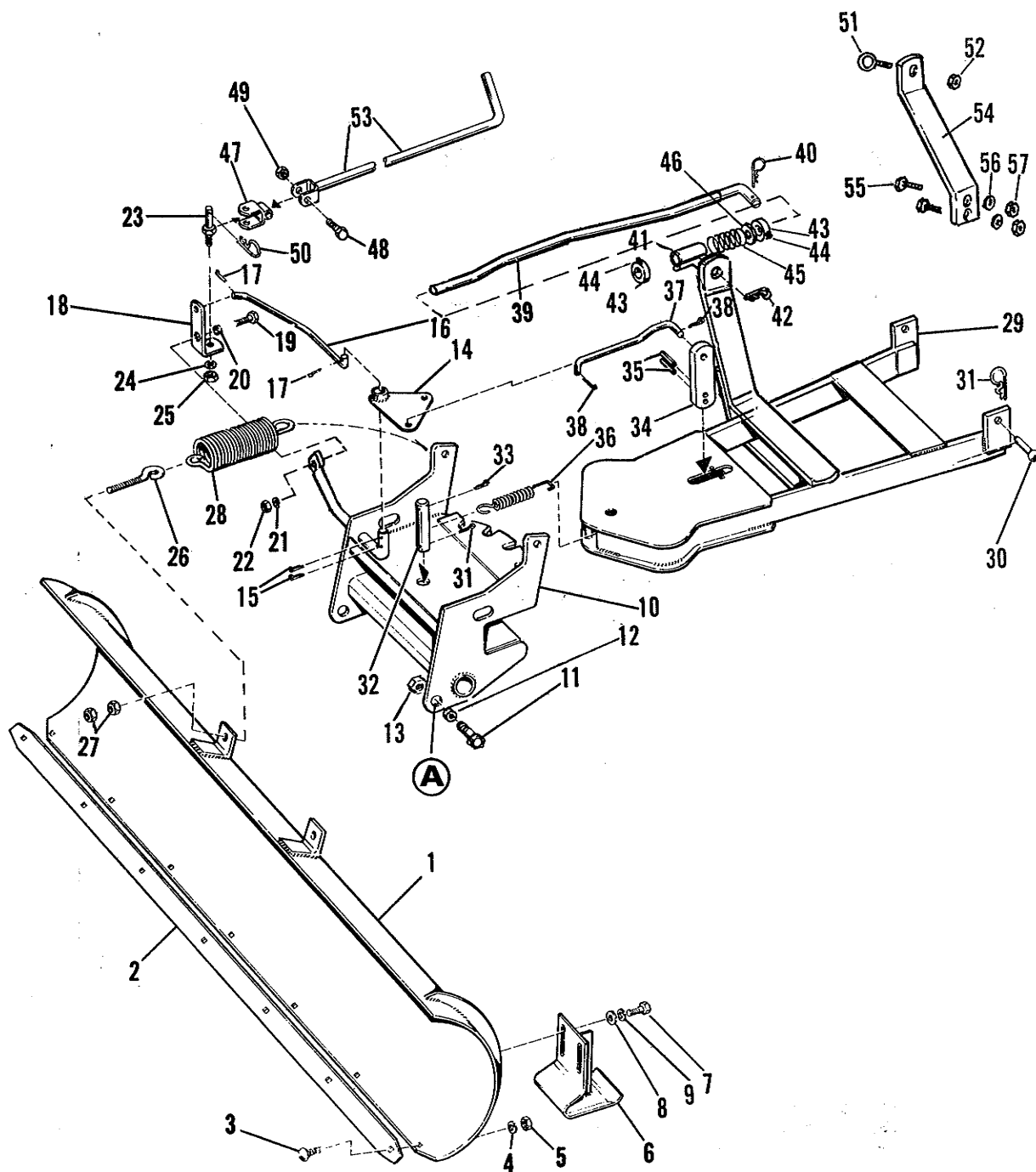
Figure 10. Blade Pressure Adjustment

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46" DOZER BLADE

46" DOZER BLADE, MFG. NO. 1690088
WITH
HITCH ASSEMBLY, MFG. NO. 1690089

PARTS MANUAL



Ref. No.	Part No.	Qty.	Description
1	1652054	1	BLADE ASSY, 46"
2	1652056	1	PLATE, Wear
3	923232	7	BOLT, Carriage, 3/8-16 x 1
4	916965	7	LOCKWASHER, 3/8
5	916950	7	NUT, Hex, full, 3/8-16
6	1652055	2	SHOE ASSEMBLY
7	908127	4	CAPSCREW, Hex, 3/8-16 x 3/4
8	917378	4	WASHER, Flat
9	916965	4	LOCKWASHER, 3/8
10	1652120	1	FRAME ASSY., Pivot
11	920328	2	CAPSCREW, Hex, 1/2-13 x 1-1/2
12	105051	2	SPACER
13	922134	2	LOCKNUT, Hex, 1/2-13
14	1652121	1	PLATE ASSY, Pivot
15	918452	2	PIN, Cotter, 1/8 x 1
16	107118	1	ROD, Pivot
17	918447	2	PIN, Cotter, 3/32 x 3/4
18	1652122	1	ARM, Pivot
19	916431	1	CAPSCREW, Hex, 5/16-18 x 1
20	156160	1	SPACER
21	917356	1	LOCKWASHER, 5/16
22	917372	1	NUT, 5/16-18
23	107120	1	STUD, Pivot
24	917356	1	LOCKWASHER, 5/16
25	917372	1	NUT, 5/16-18
26	107121	2	EYEBOLT
27	917372	4	NUT, 5/16-18
28	101126	2	SPRING, Tension
29	1652123	1	BAR ASSY., Push

Ref. No.	Part No.	Qty.	Description
30	118053	2	PIN, Hitch
31	106788	2	CLIP, Hairpin
32	174066	1	PIN, Pivot
33	919314	2	PIN, Cotter, 3/16 x 1-1/4
34	1652124	1	LATCH
35	921469	2	PIN, Roll, 7/32 x 1
36	107135	1	SPRING, Latch
37	107136	1	ROD, Latch
38	918447	2	PIN, Cotter, 3/32 x 3/4
39	1608023	1	ROD, Front lift
40	106788	1	CLIP, Hairpin
41	171679	1	GUIDE ASSY., Rod
42	106788	1	CLIP, Hairpin
43	8031007	2	COLLAR, Front lift rod
44	928721	2	SETSCREW, 5/16-18 x 1/2
45	1652407	1	SPRING, Front lift rod
46	916960	1	WASHER, Flat, 17/32 x 1-1/4
47	106131	1	FORK ASSEMBLY
48	919933	1	CAPSCREW, Hex, 5/16-18 x 1-1/2
49	923362	1	LOCKNUT, Hex, 5/16-18
50	106788	1	CLIP, Hairpin
51	172162	1	EYEBOLT
52	923358	1	LOCKNUT, 1/4-20
53	1607472	1	ROD ASSY., Control
54	1652125	1	BRACKET, Control rod
55	919357	2	CAPSCREW, Hex, 3/8-16 x 7/8
56	916965	2	LOCKWASHER, 3/8
57	916950	2	NUT, 3/8-16

Mfg. No. 1690088, 46" Dozer Blade Includes Ref. Nos. 1 through 9 and 53.

Mfg. No. 1690089, Hitch Assembly Includes Ref. Nos. 10 through 52 and 54 through 57.

