

Attachments

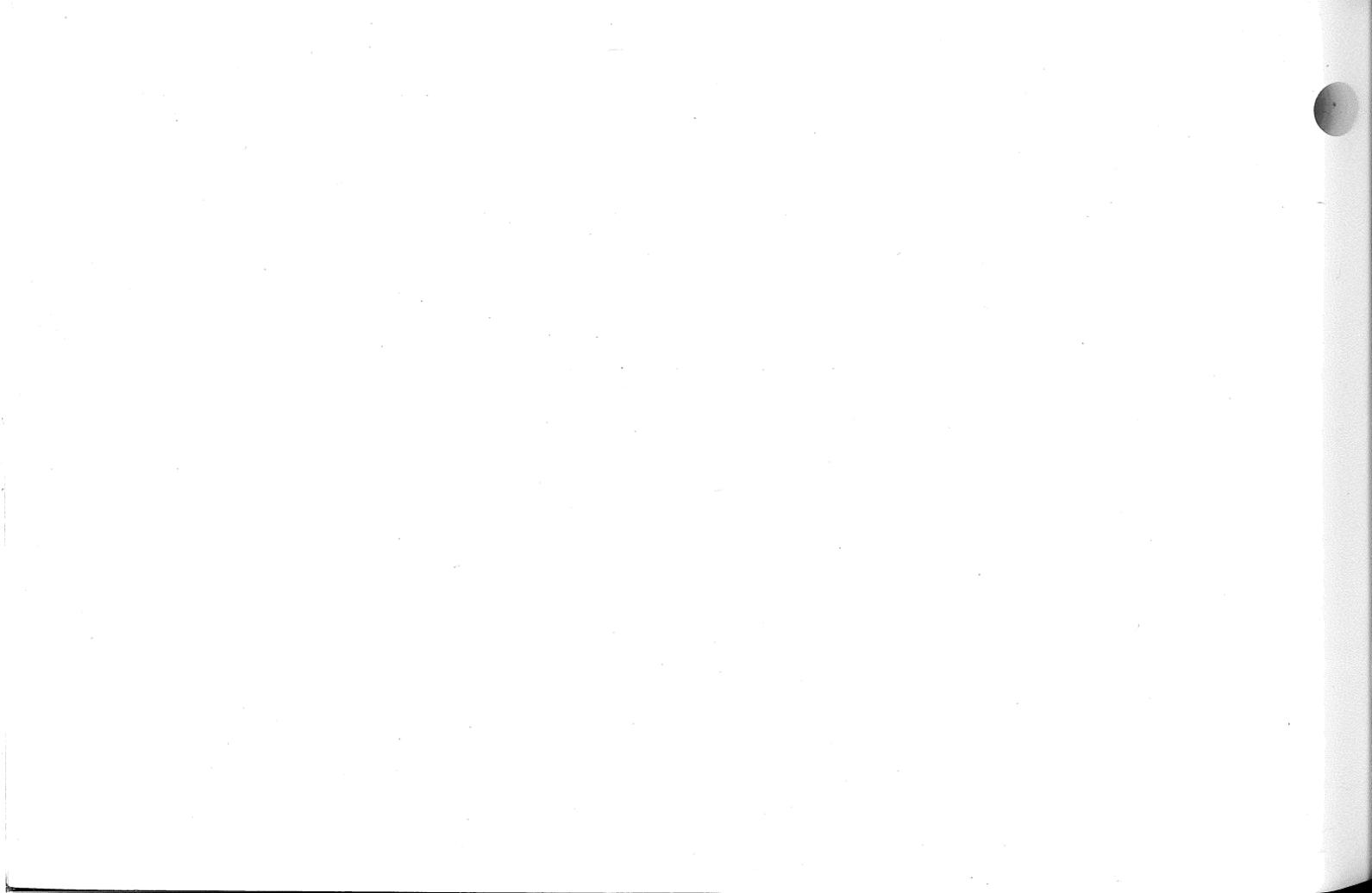


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⚠ WARNING

Crushing hazard. Support the attachment before adjusting or servicing it. Hydraulic or mechanical failure could cause attachment to fall resulting in severe personal injury or death.

⚠ WARNING

Do not work on graders supported only by mold-board or attachments. Hydraulic or mechanical failure could cause grader to fall resulting in severe personal injury or death.

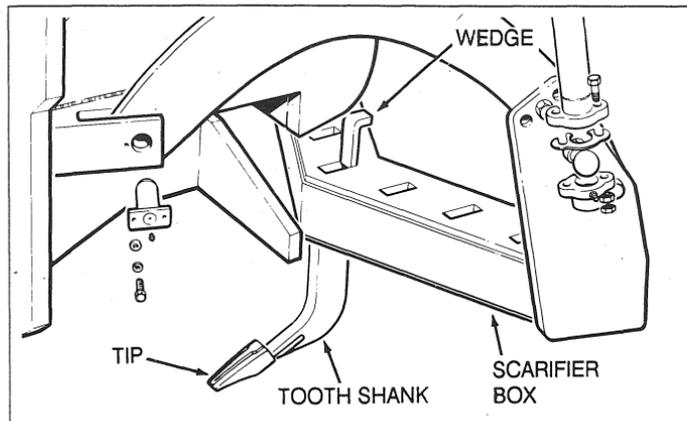
Scarifier

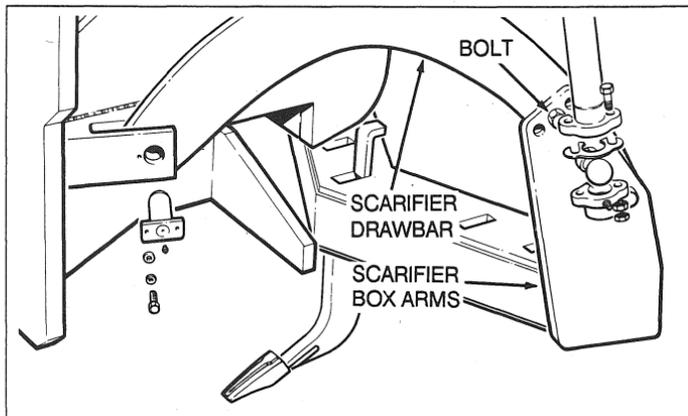
The scarifier is hydraulically raised and lowered using a control lever on the pedestal. Refer to the section - **Operating the Controls** page 9-9.

- Do not skid the teeth along the surface, always lower the teeth directly into the ground.
- Do not use the scarifier when turning, or with the frame articulated.
- Scarify downslope whenever possible. Refer to the section - **Operating Techniques** pages 10-20.

Scarifier Tooth Depth Adjustment

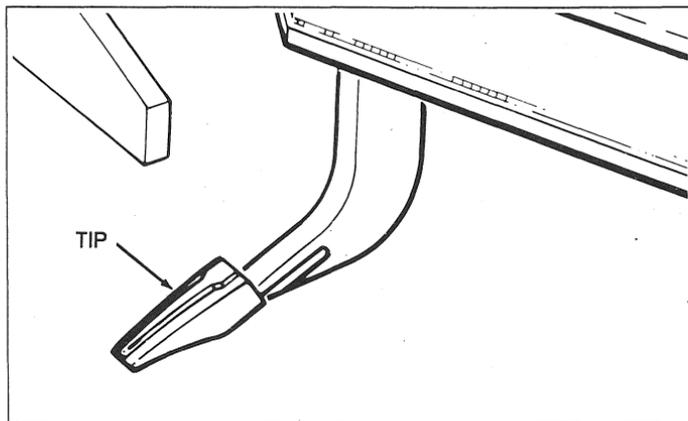
- Lower the scarifier to within several inches of the ground.
- Remove the wedge from each tooth.
- The teeth incorporate adjustment notches. Move the tooth to the desired depth and engage the appropriate notch with the scarifier box.
- Install the wedge.





Scarifier Tooth Angle Adjustment

- Lower the scarifier to the ground.
- Remove the bolts, lockwashers and nuts that hold the scarifier box arms to the scarifier drawbar.
- Tilt the scarifier box to the desired angle and align the bolt holes. You may have to loosen the ball stud nuts. Install and tighten the bolts.



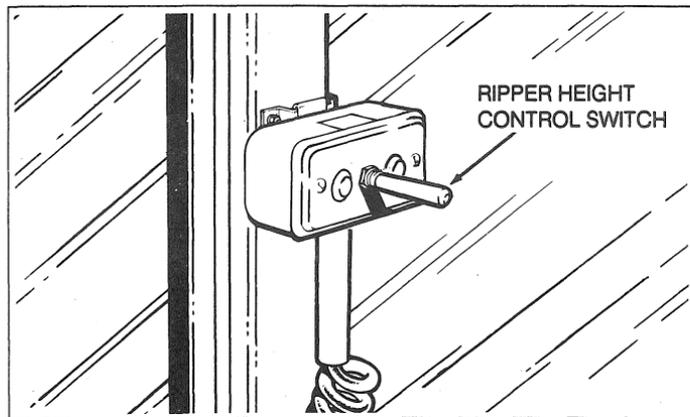
Scarifier Tooth Tips

- The hardened tips of the scarifier teeth are replaceable. Use a hammer and drift to force the tip forward and off the tooth shank.
- Install a new tip and tap onto the shank.

Ripper

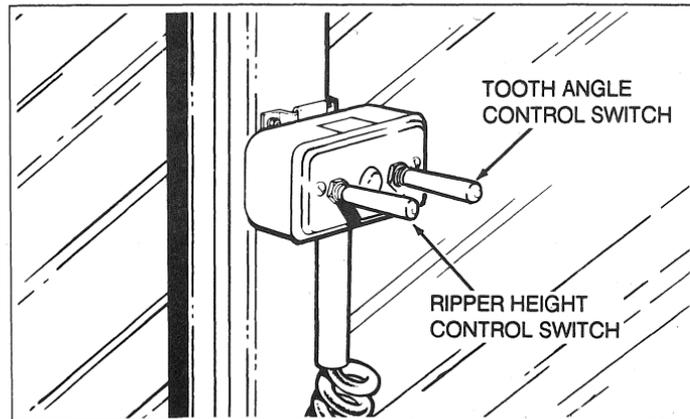
- The height of the ripper is hydraulically controlled by an electric solenoid valve.
- The ripper height control switch is a hand held control box located on the right-hand door post.
- Move the switch up to raise the ripper.
- Move the switch down to lower the ripper.

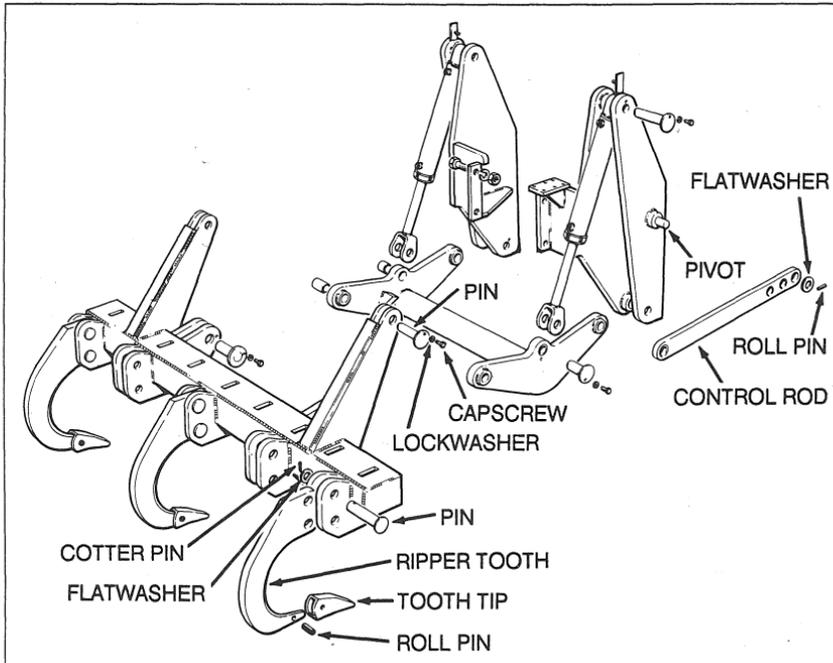
Refer to the section - **Operating Techniques** page 10-21.



Tooth Angle Adjustment

- The ripper tooth angle is adjustable hydraulically or manually.
- For a ripper equipped with hydraulic tooth angle, an additional switch is in the hand held control box.
- Move the switch up to increase tooth angle.
- Move the switch down to decrease tooth angle.





Manual Tooth Angle Adjustment

- For a ripper equipped with manual tooth angle, lower the ripper to the ground. Do not apply down pressure.
- Remove the roll pins and flatwashers from the control rod pivots.
- Remove the capscrews, lockwashers and pins from the control rods & ripper arms.
- Remove the control rods.
- Raise or lower the ripper slowly, to the desired tooth angle.
- Align the control rod appropriately.
- Install the flatwashers and roll pins.
- Install the pins, lockwashers and capscrews.

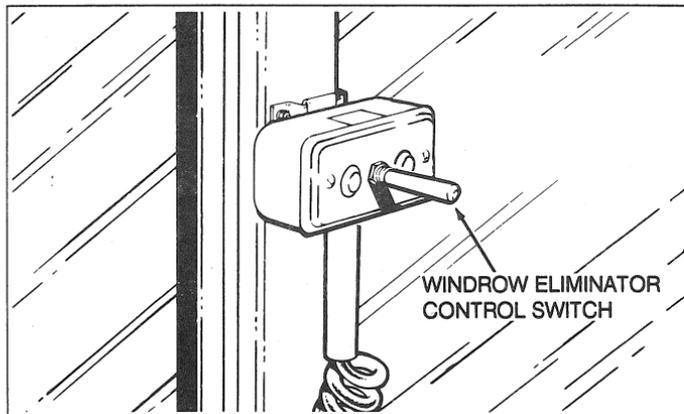
Ripper Tooth Removal

- Lower the ripper onto a support.
- Remove the cotter pins, flatwashers and pins that hold the teeth in the ripper box.
- Remove the teeth carefully. They are heavy.
- To change ripper tooth tips, remove the roll pin. Replace the tip. Install the roll pin.

Windrow Eliminator

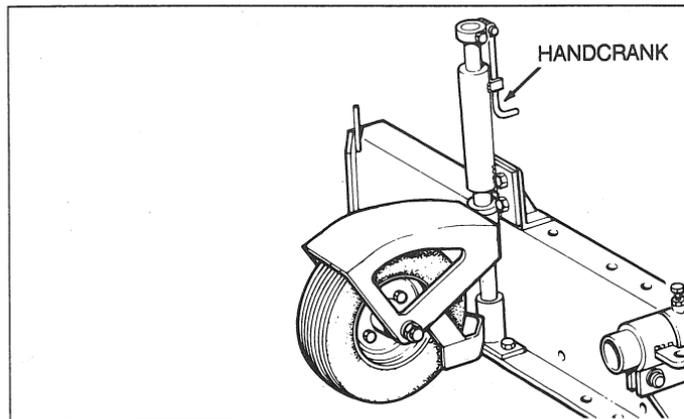
The windrow eliminator is hydraulically controlled by an electric solenoid valve. Raise or lower the windrow eliminator by using the hand held control switch box located on the right-hand door post.

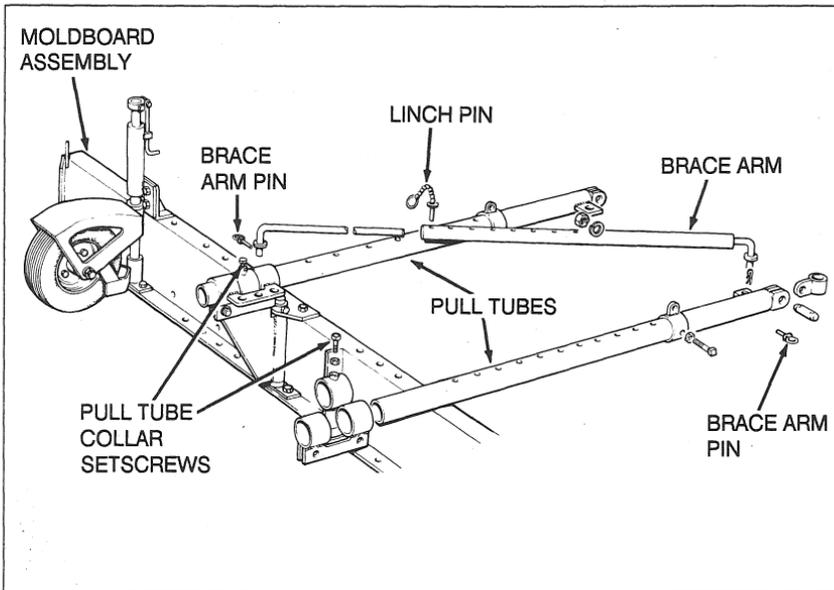
- Move the switch up to raise the windrow eliminator.
- Move the switch down to lower the windrow eliminator.



Moldboard Height Adjustment

- Lower the windrow eliminator to the ground.
- Turn the hand cranks clockwise to increase the spreading height.
- Turn the handles counterclockwise to decrease the spreading height.



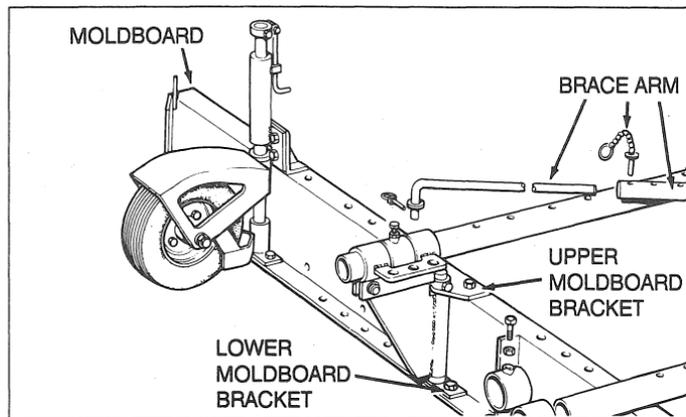


Moldboard Angle Adjustment

- Lower the windrow eliminator to the ground.
- Remove the brace arm pins and the brace arm.
- Loosen the pull tube collar setscrews.
- Maneuver the moldboard assembly to the desired angle.
- Align the appropriate holes in the pull tubes and the pull tube collars.
- Tighten the pull tube collar setscrews.
- Adjust the brace arm length. Remove the linch pin and slide the brace arm tube in or out as required. Replace the linch pin.
- Install the brace arm and secure with the brace arm pins.

Moldboard Position Adjustment- Right-hand to Left-hand grading

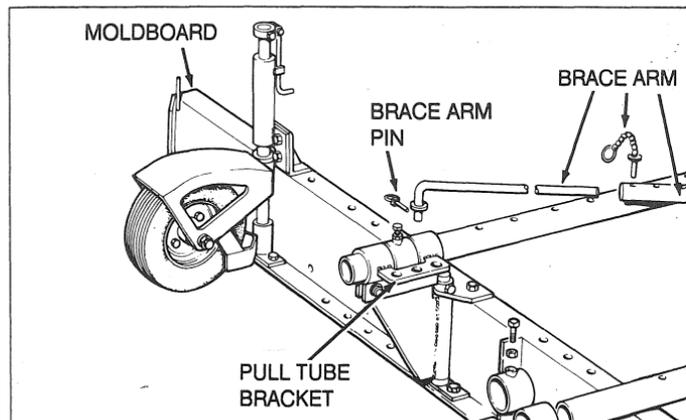
- Lower the moldboard to the ground.
- Remove the brace arm.
- Unfasten the upper and lower moldboard brackets.
- Position the moldboard to the right or left as required.
- Fasten the upper and lower moldboard brackets.
- Replace the brace arm in the opposite position.

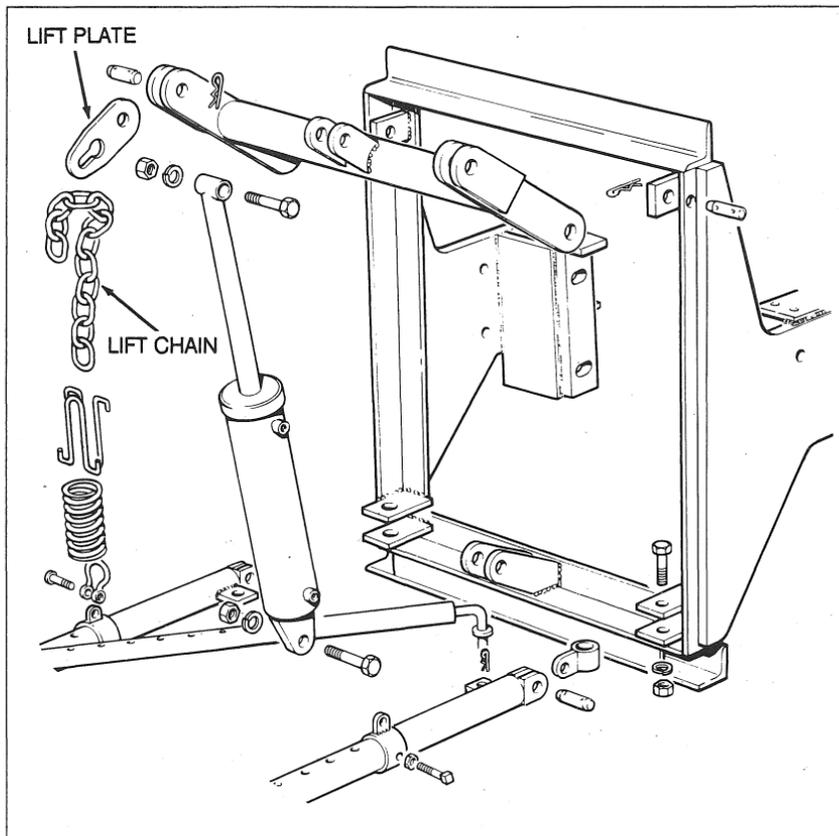


Moldboard Position Adjustment

The moldboard is adjustable to three different positions.

- Remove the brace arm pin.
- Remove the brace arm from the pull tube bracket.
- Move the moldboard to the desired position.
- Reinstall the brace arm in the appropriate bracket hole.
- Replace the brace arm pin.





Lift Chain Adjustment

Both ends of the window eliminator should be the same distance from the ground when raised. Adjust the lift chains if they are not.

- Lower the window eliminator until the lift chains are slack.
- Vary the number of lift chain links through the lift plates on either or both sides. Raise the window eliminator. Repeat adjustment as necessary.

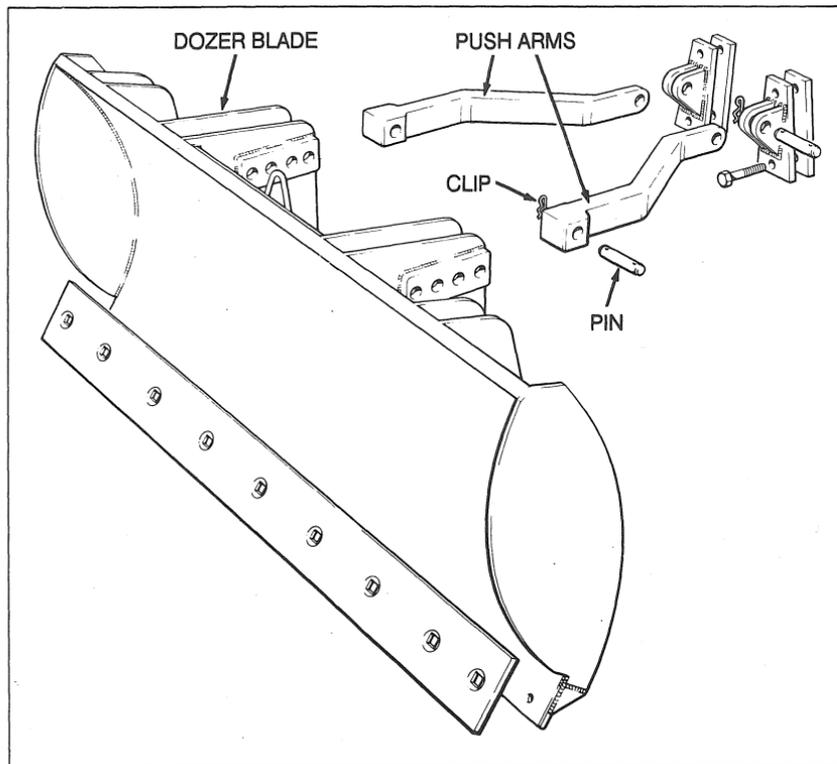
Dozer Blade

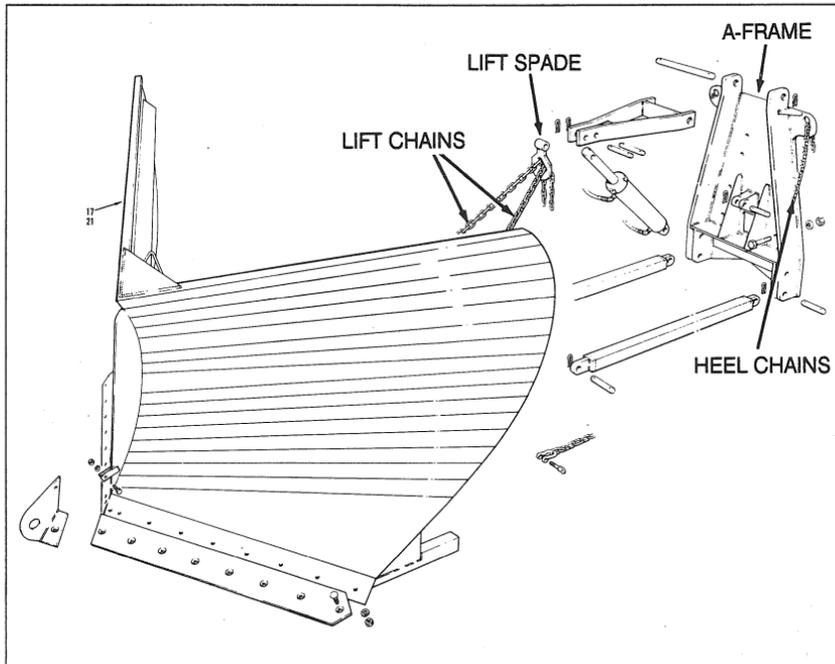
The dozer blade is hydraulically raised and lowered using a control lever on the pedestal. Refer to the section - **Operating the Controls** page 9-9.

Blade Angle Adjustment

The blade angle has four adjustments.

- Lower the dozer blade to the ground. Do not apply down pressure.
- Remove the push arm clips and pins.
- Raise or lower the blade carefully to the desired blade angle.
- Align the appropriate holes in the blade with the holes in the push arms.
- Install the pins and clips.





V-Plow

The V-Plow is hydraulically raised and lowered using a control lever on the pedestal. Refer to the section - **Operating the Controls** page 9-9.

Chain Lift Adjustments

Periodically check and adjust the heel chains and lift chains. The heel chains keep the V-Plow parallel to the ground preventing the tip from digging into the ground.

- Lower the V-Plow to the ground.
- Remove any slack in the chains by adjusting the number of chain links passing through the lift spade and A-frame.
- The lift chains and heel chains must be adjusted the same on both sides.

Optional down pressure V-Plows do not have lift chains or heel chains. Adjustment is not applicable.

Skid Shoe Adjustment

Adjust the skid shoes to allow the V-Plow to clear obstacles in the road surface.

- Lower the V-Plow to the desired height and support it adequately.
- Adjust the shoes to contact the ground.

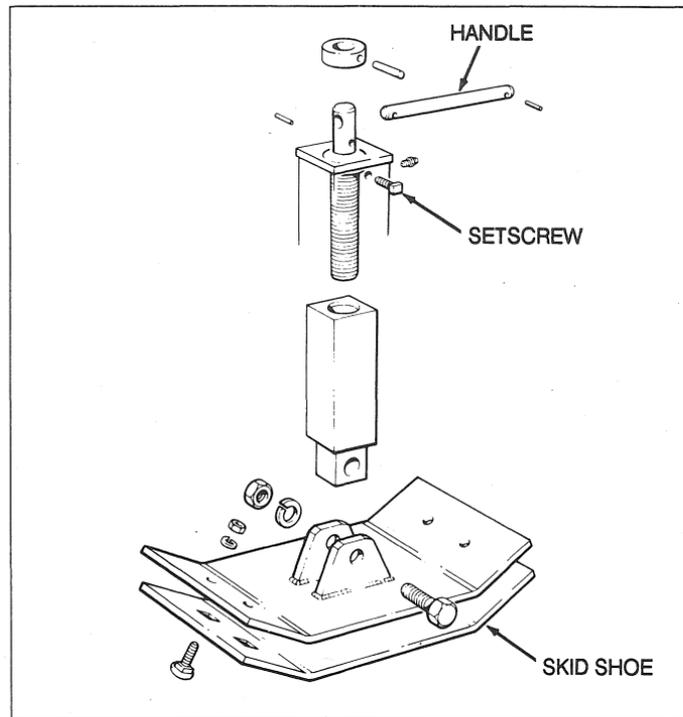
One Way Plow

The One Way Plow is hydraulically raised or lowered using a control lever on the pedestal. Refer to the section - **Operating the Controls** page 9-9. It has several adjustments and includes a spring loaded safety trip design that allows the blade to lift if it strikes an obstacle.

Skid Shoe Adjustment

Adjust the skid shoes to allow the plow to clear obstacles in the road surface.

- Lower the plow to the desired height and support it adequately.
- Loosen the adjuster set screws and turn the handles until the shoes contact the ground.
- Tighten the set screws.



One Way Plow Adjustments- Push Rod Adjustment

The skid shoes may be adjusted to provide more clearance on either side of the plow for specific plowing conditions. This adjustment will cause the push rods to flex or twist. The twist can be removed by adjusting the stabilizer position.

- Lower the plow to the ground.
- Carefully remove the bolt that joins the stabilizer to the cross bar.
- Adjust the skid shoes to the desired plow height.
- Align the appropriate holes on the stabilizer and the cross bar.
- Install and tighten the bolt, lockwasher and nut.
- This adjustment may also be required if different size tires are fitted to the grader.

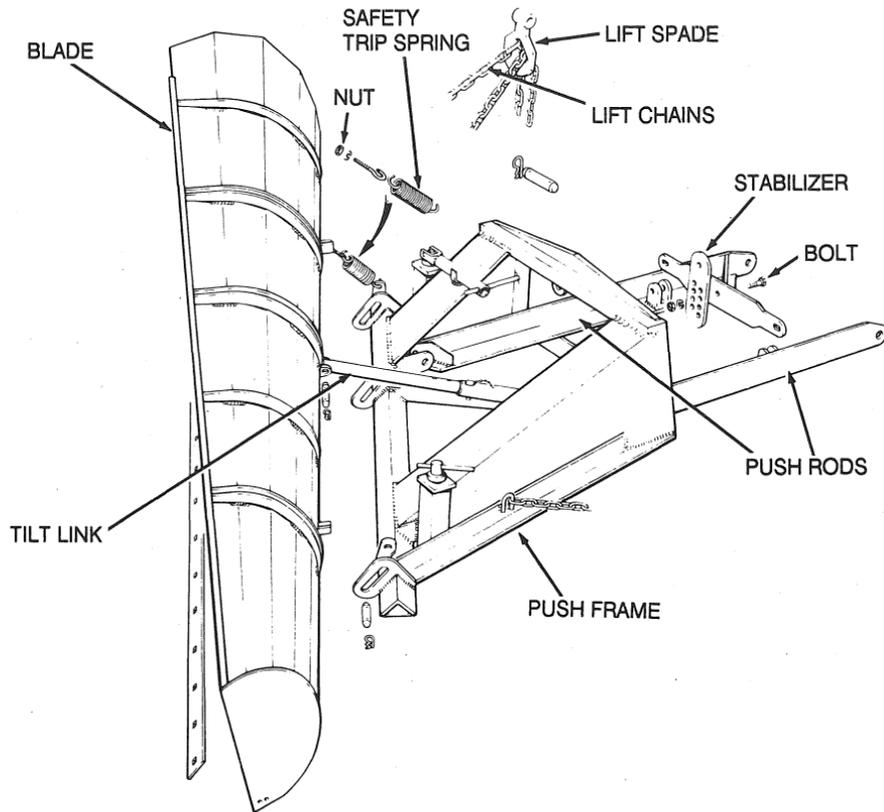
Blade Tilt Adjustment

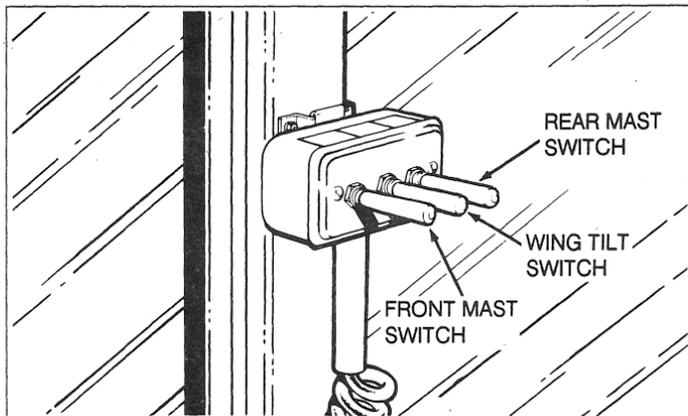
- Lower the plow to the ground.
- Release the tension in the safety trip springs by loosening the nuts.
- Remove the pin from the tilt link.
- Tilt the blade to the desired angle and align the appropriate holes.
- Install the pin.
- Apply tension to the safety trip springs by tightening the nuts.

Lift Chain Adjustment

- Periodically check and adjust the lift chains at the lift spade.
- Lower the plow to the ground.
- Remove any slack in the chains by adjusting the number of chain links passing through the lift spade.

One Way Plow Adjustments

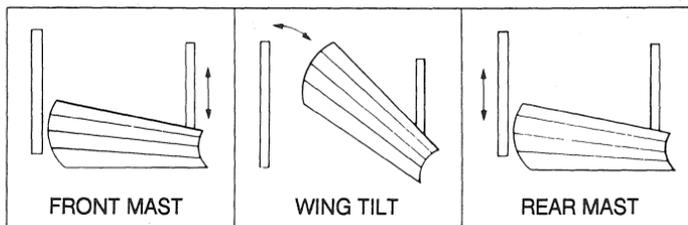




Snow Wings

The snow wing position is hydraulically controlled by electric solenoid valves. The wing control switches are mounted in a hand held control box located on the right hand door post.

- Push up or down on the front mast switch to raise or lower the inboard end of the wing. Position it to catch snow from the moldboard or plow.
- Push up or down on the wing tilt switch to increase or decrease the angle of the wing. Angle the wing to discharge snow at the desired height.
- Push up or down on the rear mast switch to raise or lower the stand-off arms. Keep the mast end of the stand-off arms higher than the wing end to prevent wing collapse under load.



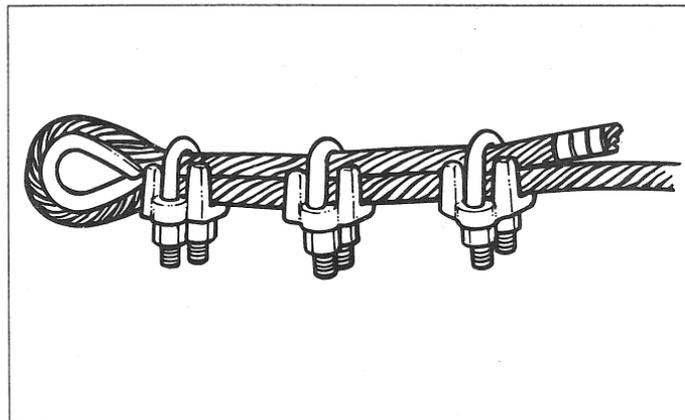
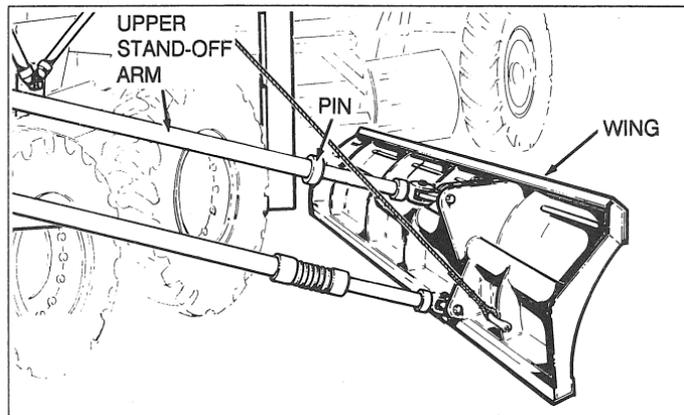
Snow Wing Pitch Adjustment

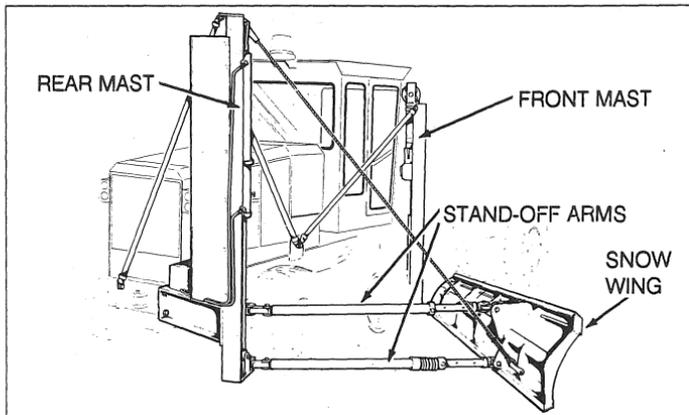
The wing should be pitched forward enough to roll the snow off the outboard end.

- Lower the wing to the ground.
- Remove the pin from the upper stand-off arm.
- Tilt the wing to the desired pitch, align the appropriate holes and install the pin.

Snow Wing Tilt Cable Tension Adjustment

- Lower the wing to the ground.
- Lower the stand-off arms to the bottom of the mast.
- Retract the wing tilt cylinder.
- Remove the ice shield from the rear mast.
- Loosen the cable clamps and pull the cable tight. Tighten the clamps.
- Operate the wing tilt switch to raise and lower the wing several times to seat the cable in the sheaves.
- Lower the wing to the ground.
- Loosen the clamps and extend the wing tilt cylinder 6 inches (15 cm.)
- Pull the cable tight and torque the clamps to 65 lbf.ft. (88 N.m). Always use 3 cable clamps.
- Operate the wing tilt switch to raise the wing slightly and check the cable clamp torque.
- Cut off excess cable, but leave enough for future adjustment.
- Replace the ice shield.





Snow Wing Position For Ridding

- Lower the stand-off arms to the bottom of the mast.
- Raise the wing toward the rear mast but stop halfway to prevent the stand-off arms from contacting each other.
- Raise the stand-off arms 12 to 18 inches (30 to 46 cm.)
- Continue to raise the wing as close to the rear mast as possible.
- Secure the wing with the safety chain.
- Operate the front mast switch to remove any slack in the front mast cable.

⚠ WARNING

Ensure the snow wing is fully raised when not in use and secured with the proper chains. Hydraulic or mechanical failure could cause the snow wing to fall resulting in severe personal injury or death.