

Operating the Controls

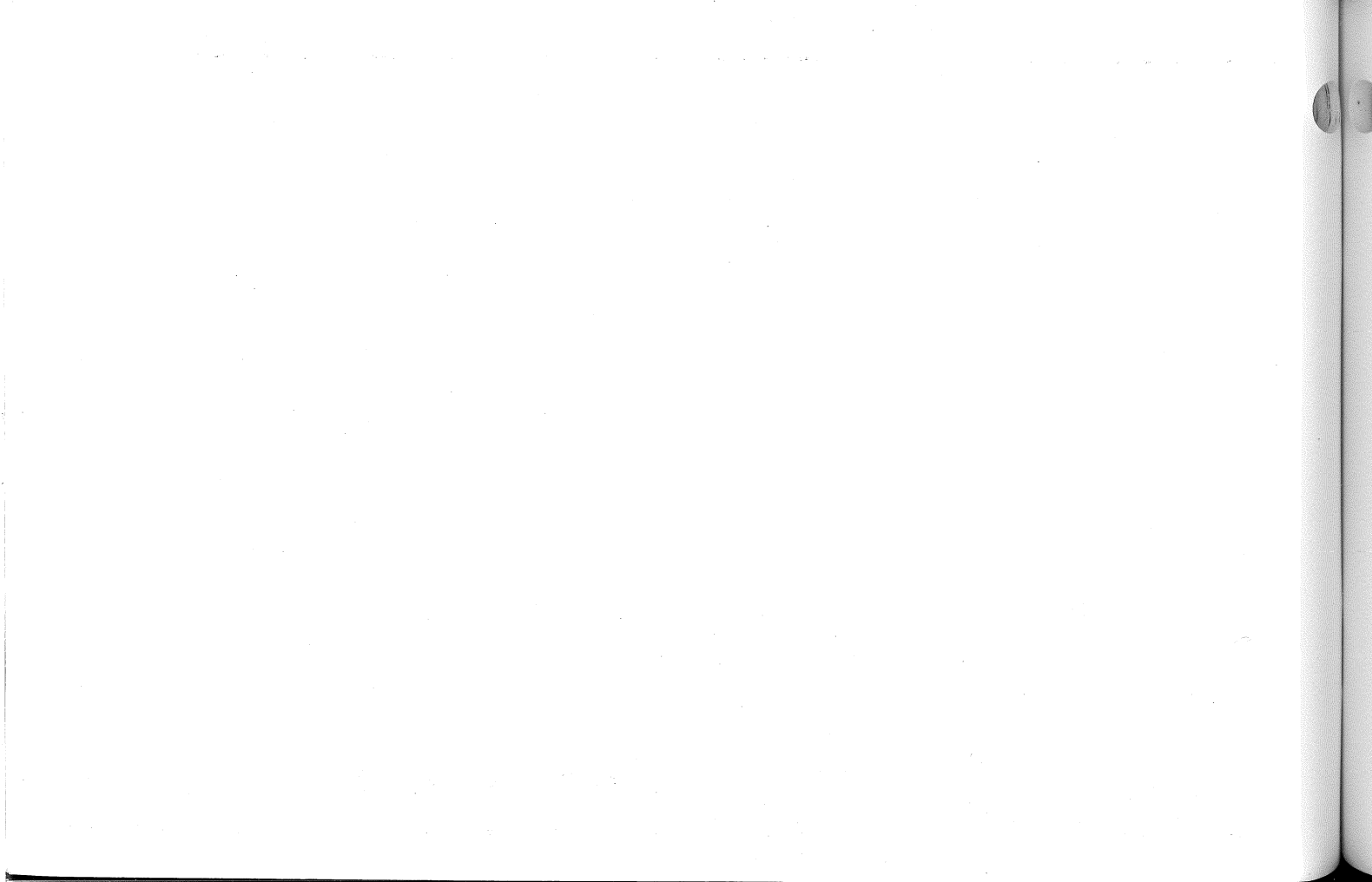
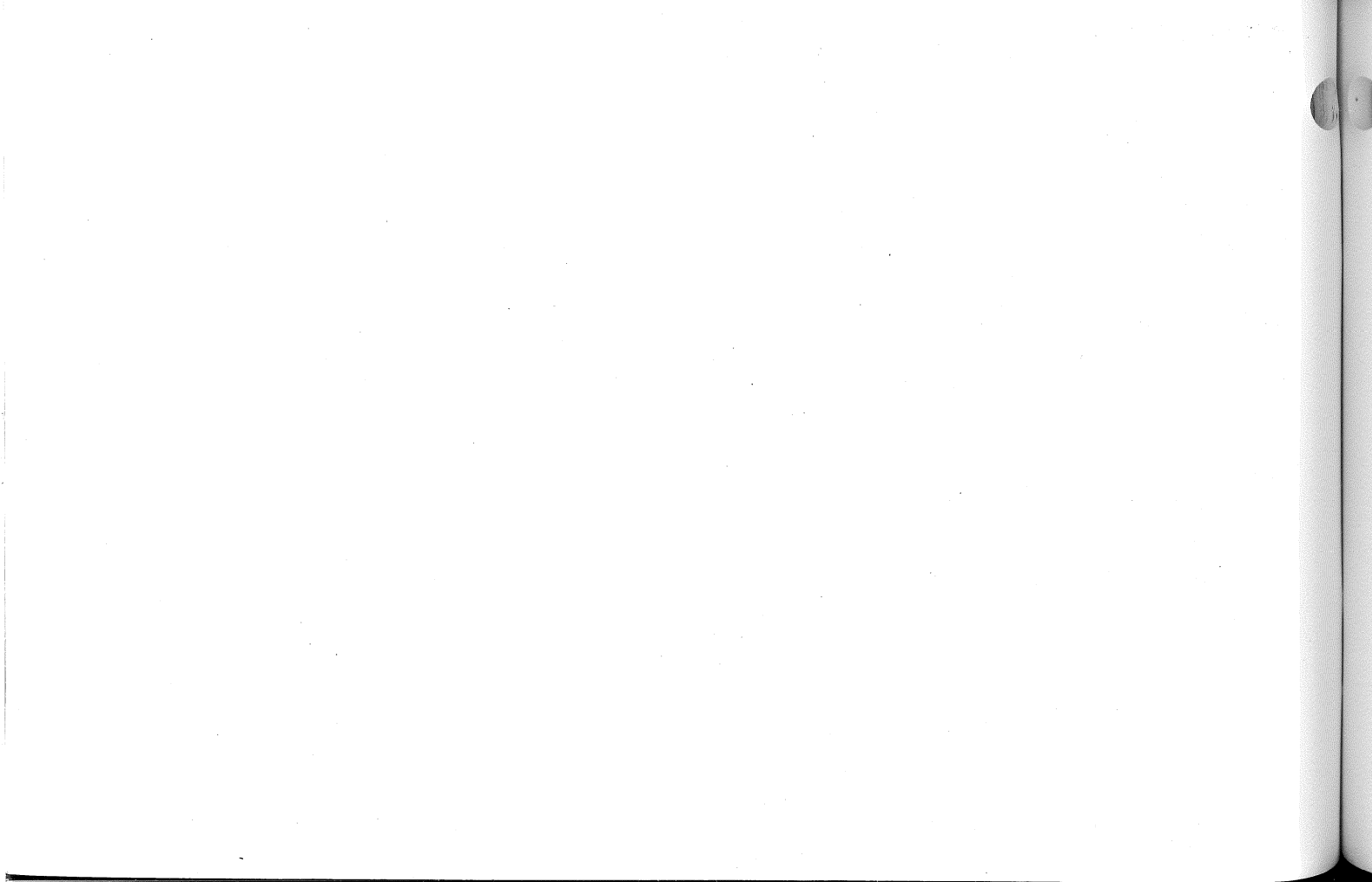


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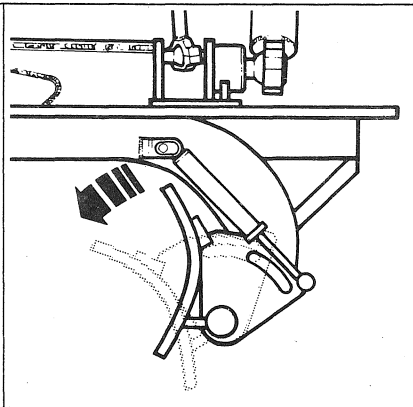
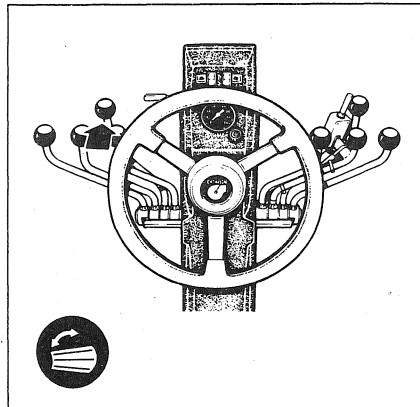
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Moldboard Tilt Lever

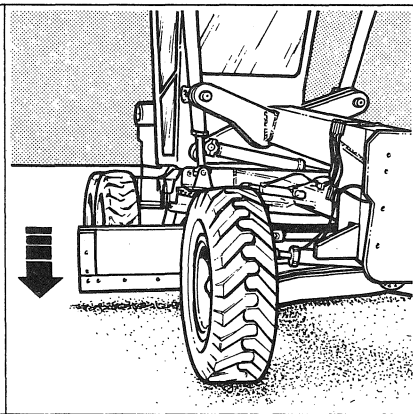
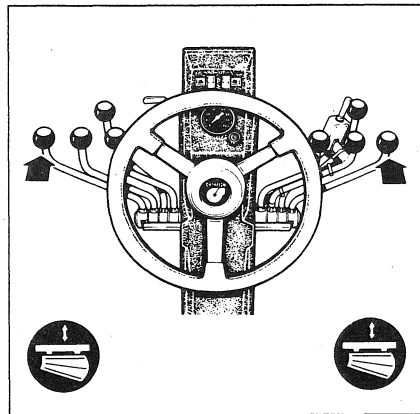
Use the moldboard tilt feature to ensure that the grading material rolls freely off the blade.

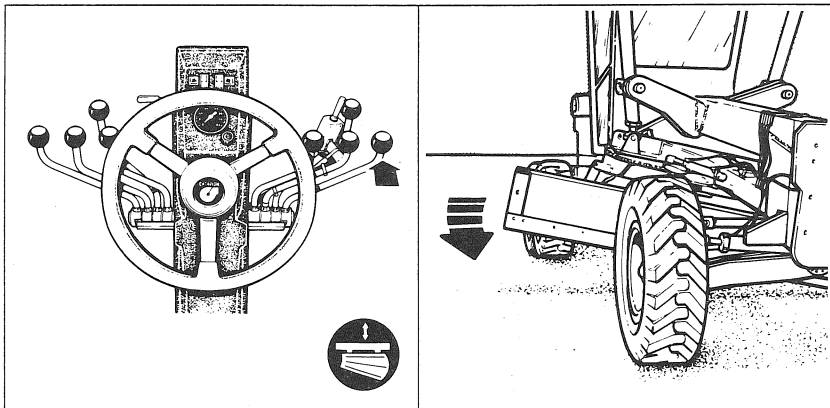
- Push forward on this lever to tilt the moldboard forward.
- Pull back on this lever to tilt the moldboard rearward.



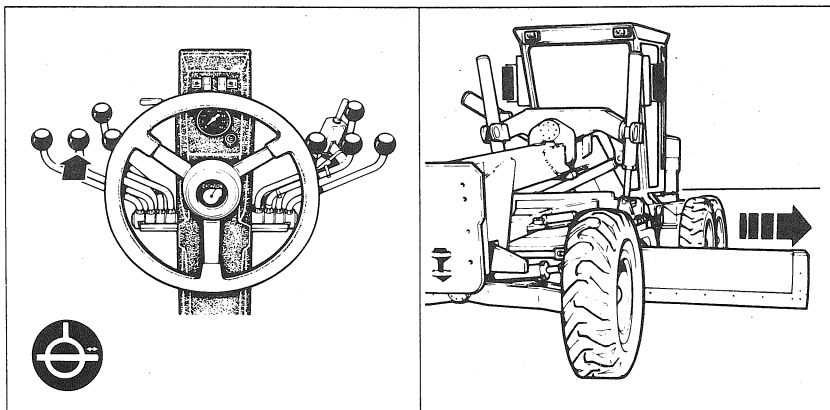
Blade Lift Levers

- Push forward on both levers at the same time to lower the moldboard.
- Pull back on both blade lift levers at the same time to raise the moldboard.



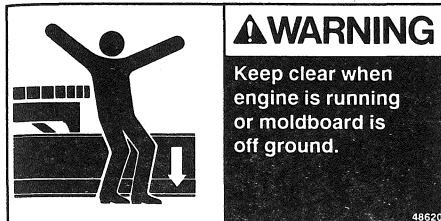
**Blade Lift Lever** continued

- Push forward on the lever for the side you wish to lower.
- Pull back on the lever for the side you wish to raise.

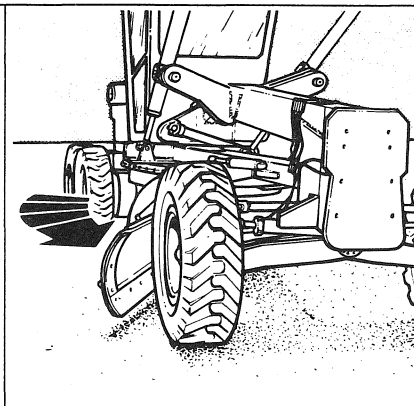
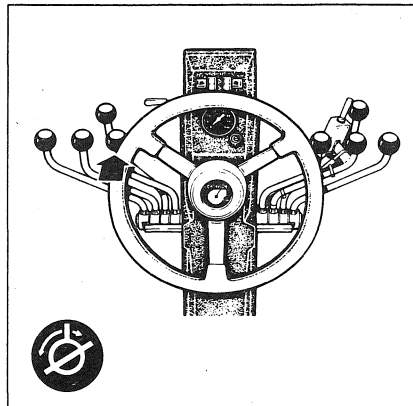
**Moldboard Slide Shift Lever**

- Push forward on the moldboard slide shift lever to slide the blade out to the left-hand side of the grader.
- Pull back on the lever to slide the blade to the right-hand side of the grader.

Circle Turn Lever

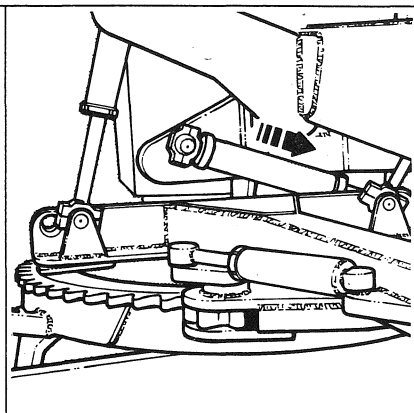
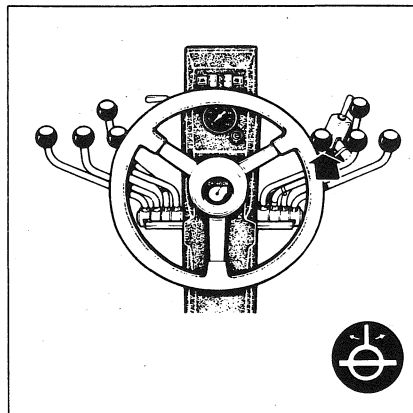


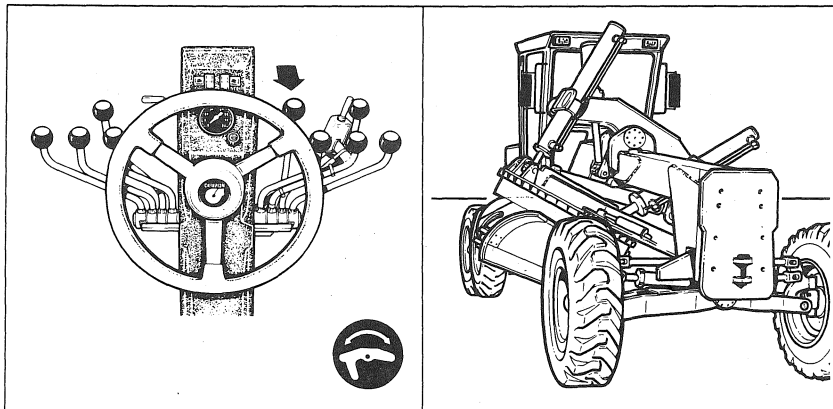
- Push forward on the circle turn lever to rotate the circle counterclockwise.
- Pull back on the lever to rotate the circle clockwise.



Circle Shift Lever

- Push forward on the circle shift lever to move the circle and moldboard assembly out to the left-hand side of the grader.
- Pull back on the lever to move the assembly out to the right-hand side of the grader.

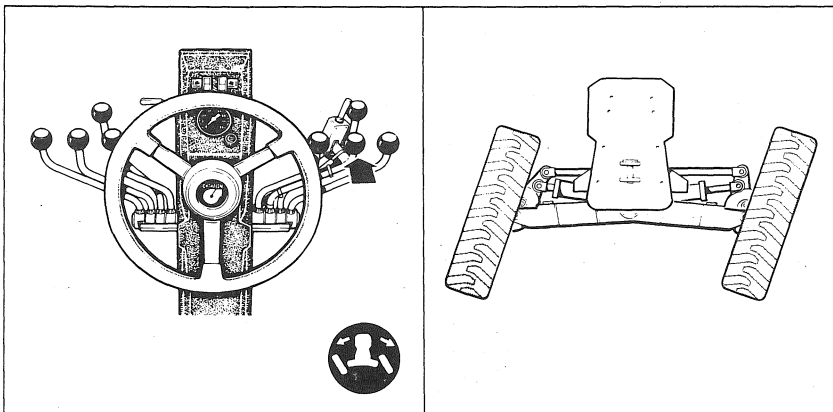


**Hi-Lift Arm Lock Cylinder Lever**

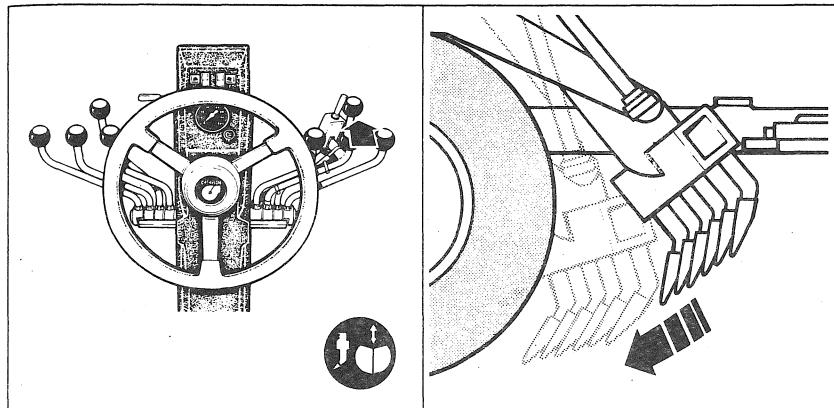
Use this control lever to Hi-Lift the moldboard.

See this section page 9-18.

- Pull back on the lever to extend the cylinder.
- Push forward on this lever to retract the rotary lock cylinder.

**Front Wheel Lean Lever**

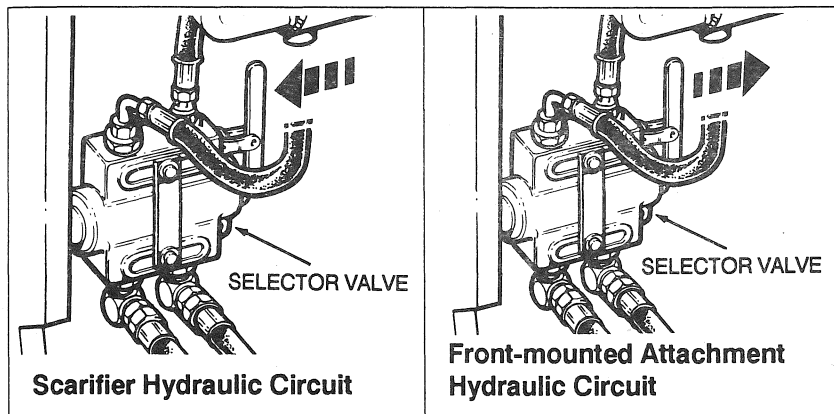
- Push forward on the wheel lean lever to lean the front wheels to the left.
- Pull back on the lever to lean the wheels to the right. See the section - **Driving the Grader - Front Wheel Lean** page 8-30.



Control Lever for Scarifier, Dozer Blade or Snowplow

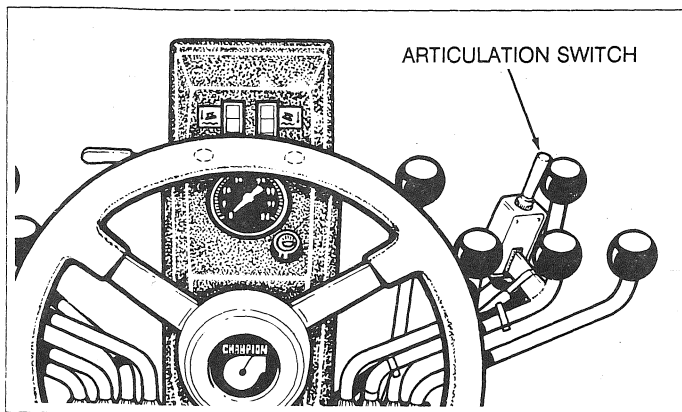
The accessory lever controls a scarifier, snowplow or dozer blade if they are fitted to the grader.

- Push forward on the control lever to lower the attachment.
- Pull back on the lever to raise the attachment.



When the grader is equipped with a scarifier and/or a front-mounted attachment such as a dozer blade or snowplow, they share the same control lever. The sharing function is controlled by a selector valve. This valve is behind the frame on the left-hand side, behind the nose plate.

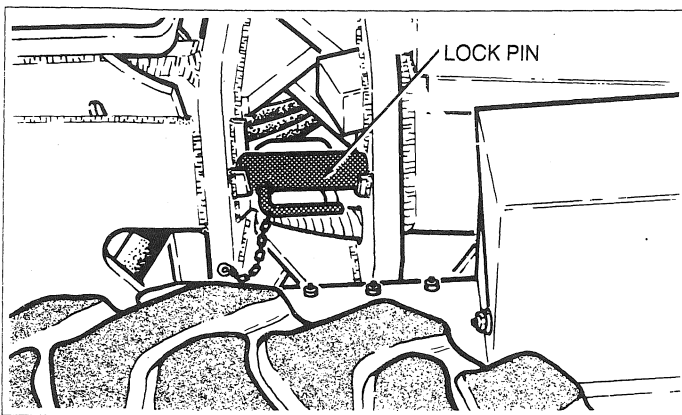
- Push the selector lever forward to choose the scarifier hydraulic circuit.
- Pull the selector lever rearward to choose the front-mounted attachment hydraulic circuit.



Articulation Switch

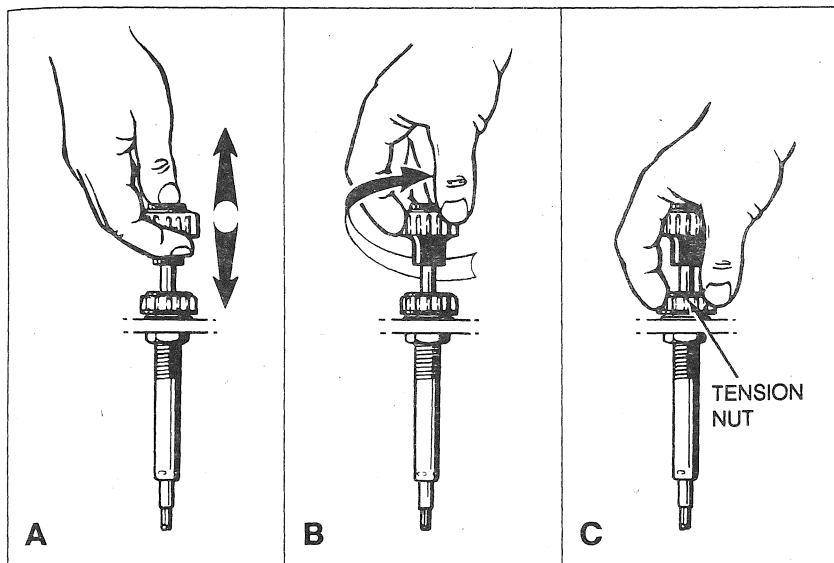
If your grader has an articulated frame the articulation control switch is mounted on the front wheel lean lever.

- Remove the locking pins and reinstall them when not using the articulating function.
 - Move the switch to the right to articulate the grader to the right.
 - Move the switch to the left to articulate the grader to the left.
- The articulation indicator on the left-hand door post indicates the degree of articulation. Refer to the section - **Driving the Grader - Articulation** page 8-32.



⚠WARNING

Do not articulate the grader when operating on steep slopes. Grader could roll over. Severe personal injury or death could result.



Hand Throttle

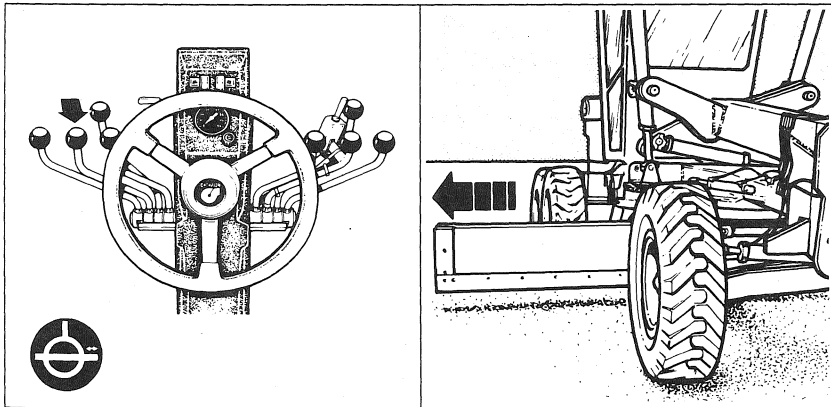
The hand throttle provides a fixed engine speed control during grading. Do not use the hand throttle when roading the grader.

The hand throttle offers two adjustments.

- For quick changes, depress the button in the center of the throttle knob. Pull the knob outward to increase engine speed or push the knob inward to decrease engine speed (A).
- For small, precise adjustments, rotate the knob counterclockwise to increase engine speed or clockwise to decrease engine speed (B).
- You can change the tension or 'tightness' of the hand throttle with the tension nut. Turn the nut clockwise to increase tension or counterclockwise to decrease tension (C).

Moldboard Hi-Lift - Fixed Point Blade Lift System

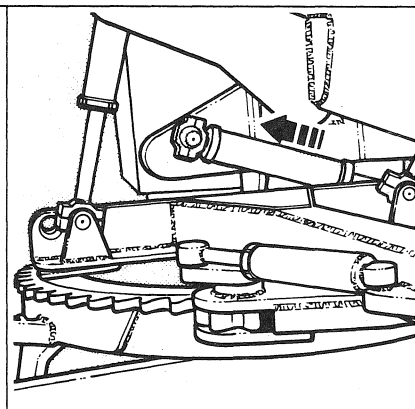
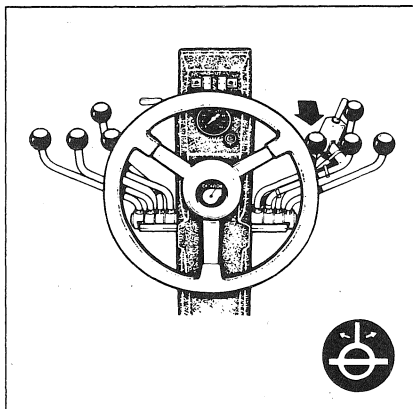
The following instructions describe the right-hand Hi-Lift procedure. If your circle shift cylinder is attached to the right side of the cylinder anchor (see step 2), you can perform this procedure on the right side of the grader only, without further adjustment. If the cylinder is attached to the left side of the anchor, you can perform the Hi-Lift procedure on the left side of the grader only, without further adjustment. **See this section** page 9-15 for the opposite side.



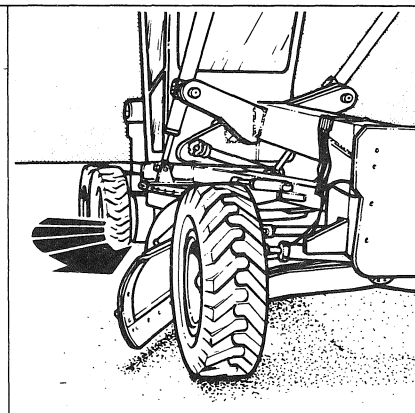
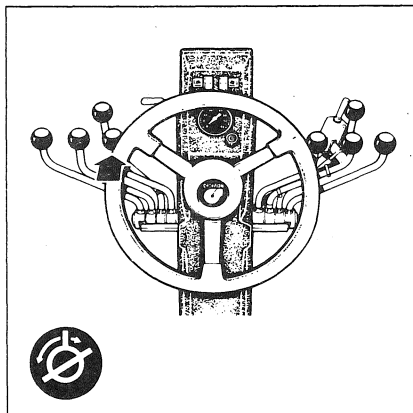
1. Use the moldboard slide shift lever to extend the moldboard as far as possible.

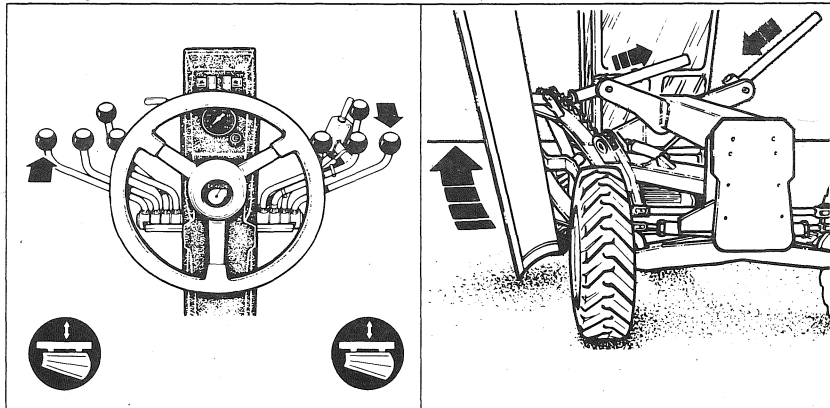
Moldboard Hi-Lift - Fixed Point Blade Lift System *continued*

2. Fully retract the circle shift cylinder.



3. Use the circle turn lever to rotate the circle so that the end of the moldboard is close to the right front wheel.





Moldboard Hi-Lift - Fixed Point Blade Lift System continued

4. Fully retract the right-hand blade lift cylinder.
5. Extend the left-hand blade lift cylinder until the moldboard reaches the desired angle.

Moldboard Hi-Lift - Fixed Point Blade Lift System continued Circle Shift Cylinder Position Reversal

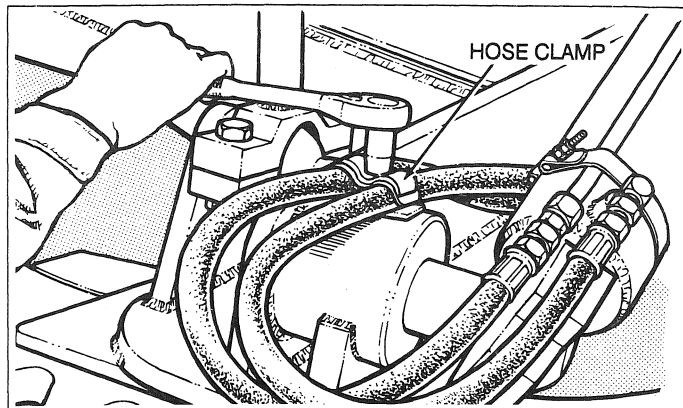
If you need to Hi-Lift the moldboard to the opposite side, you will have to reverse the position of the circle shift cylinder. Place the grader in the Service Position. Refer to the section - **Maintenance and Lubrication - Service Position** page 14-5, before performing any of the following procedures.

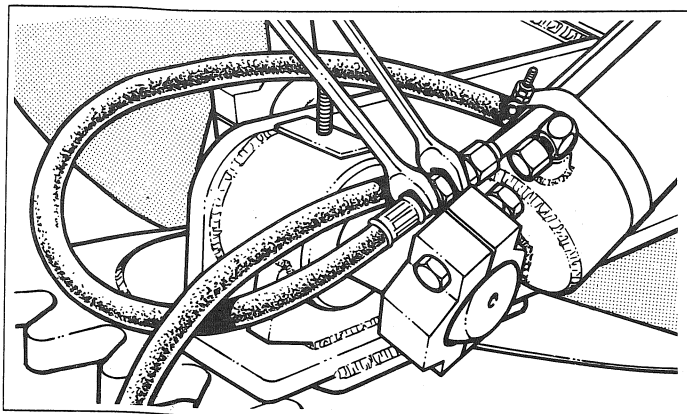
⚠ WARNING

Fluid escaping under pressure can penetrate the skin causing serious injury. Relieve all pressure before disconnecting hoses. Do not use your hand to check for hydraulic leaks.

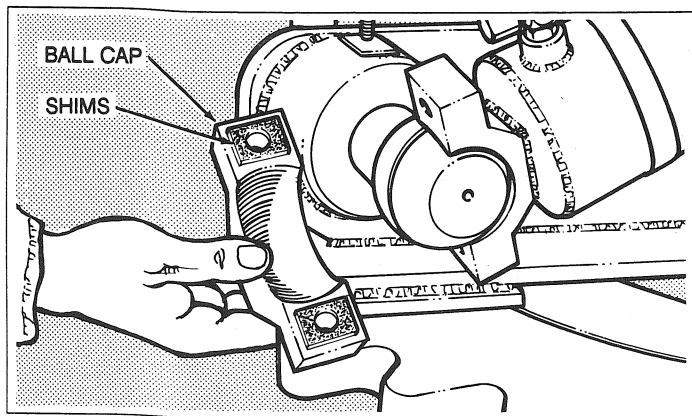
- If contact occurs seek medical attention immediately.
- Use cardboard or a similar material to check for hydraulic leaks.

1. Remove the hose clamp.



**Circle Shift Cylinder Position Reversal** continued

2. Disconnect the hoses from the cylinder. Plug the fittings and ports to prevent contamination.

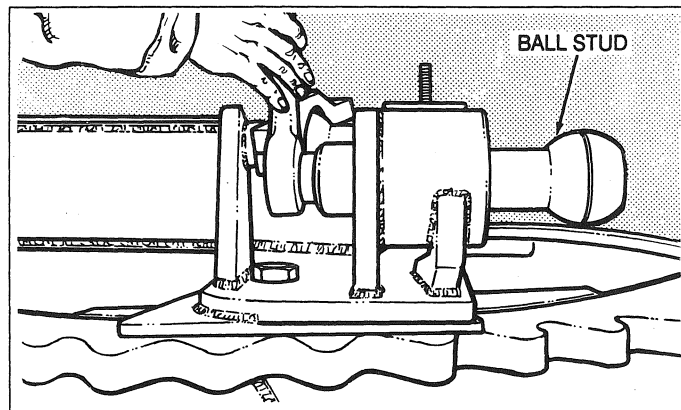


3. Remove the ball caps and shims from each end of the cylinder. Remove the cylinder.

Circle Shift Cylinder Position Reversal continued

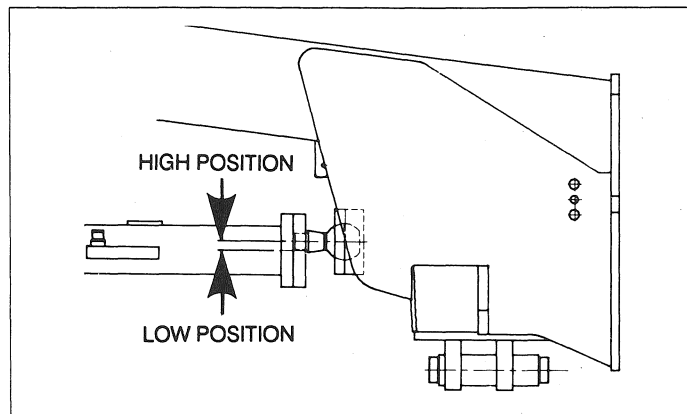
4. Remove the ball studs.

- Install the ball studs in the opposite locations on the drawbar and frame.
- Install the cylinder, ball caps, and shims.
- Reconnect the hoses and install the hose clamp.



Moldboard Hi-Lift - Moveable Point Blade Lift System, Right-hand Side Procedure

- This procedure describes how to maneuver the moldboard into the right-hand side high bank sloping position. This system provides a total blade position range.
- Observe all moving parts to prevent structure fouling when Hi-Lifting the moldboard.
- The left-hand moldboard extension must be removed if fitted.
- Park grader and apply hand brake.
- Place transmission in NEUTRAL.
- Ensure the Hi-lift arm is fully horizontal.
- Fully lower the moldboard and all attachments.
- Ensure that there are no persons or vehicles near grader.

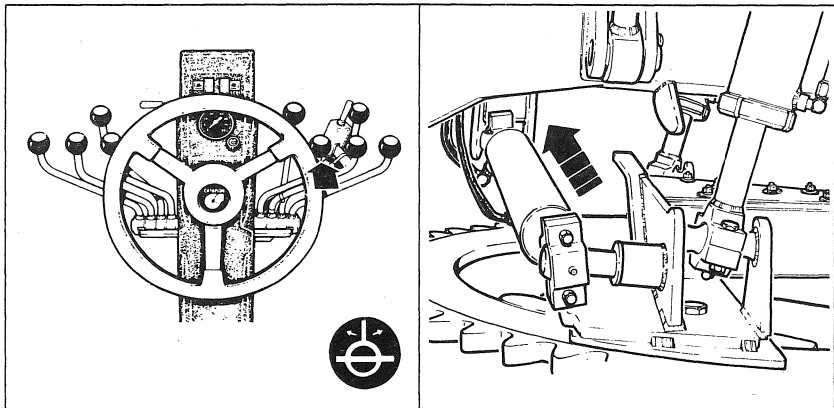


1. Before you start, ensure the drawbar ball stud is installed in the high position. This prevents hose damage and structure fouling between the drawbar ball stud and the grader nose side plate.

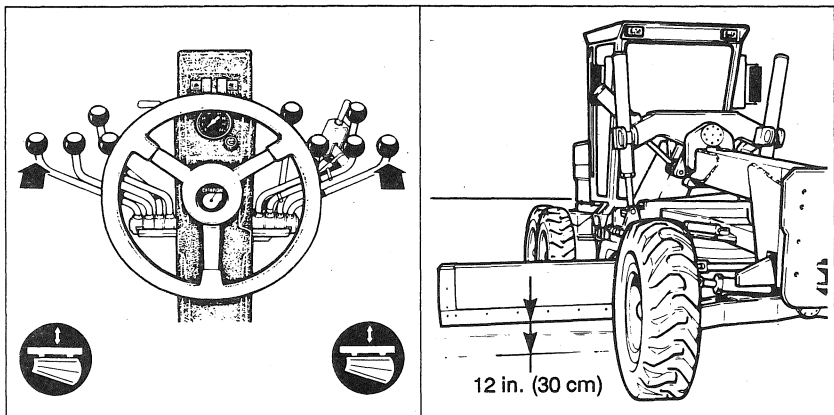
Moldboard Hi-Lift - Moveable Point Blade Lift System continued

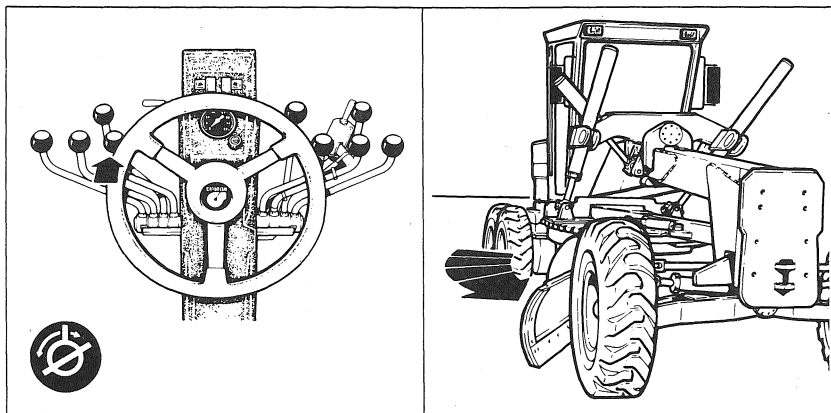
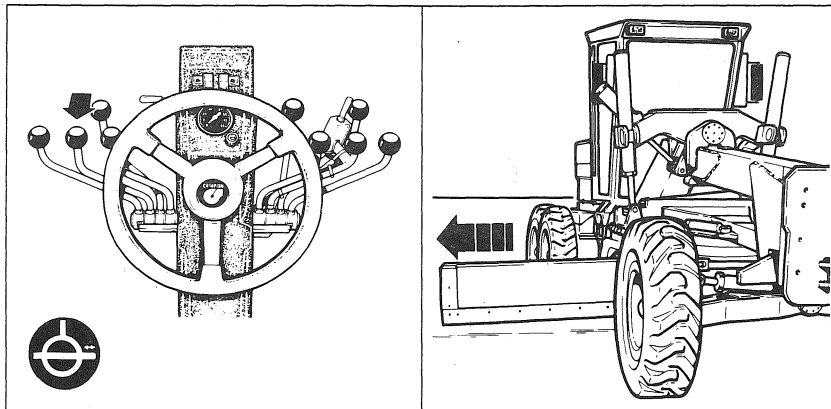
Right-hand Side Procedure continued

2. Raise moldboard slightly and fully retract the circle shift cylinder.



3. Raise the moldboard 12 in. (30 cm) off the ground. This allows adequate clearance between the circle shift cylinder and the frame as the Hi-Lift arm pivots on its central pin.



**Moldboard Hi-Lift - Moveable Point Blade Lift System** continued**Right-hand Side Procedure** continued

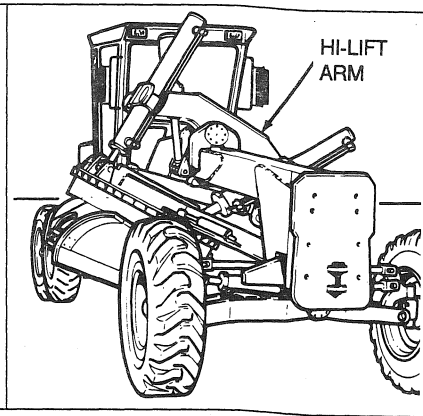
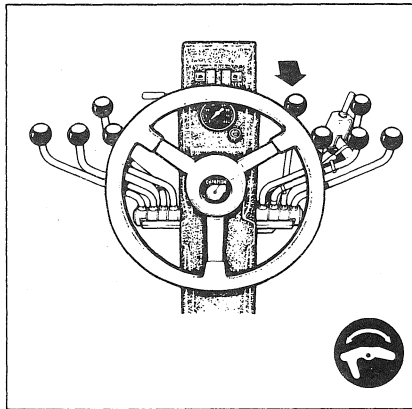
4. Use the moldboard slide shift lever to slide the moldboard as far to the right as possible.

5. Rotate the circle so that the end of the moldboard is close to the front tire.

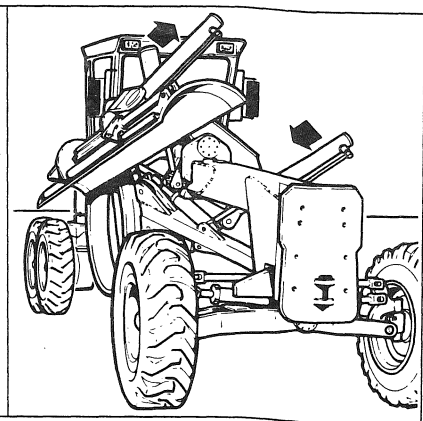
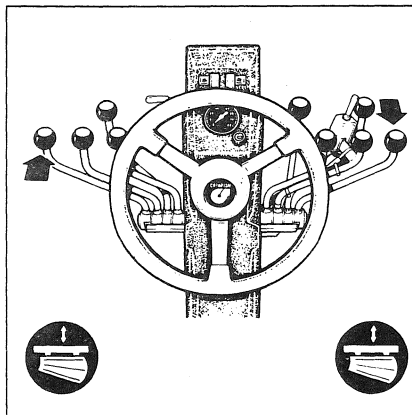
Moldboard Hi-Lift - Moveable Point Blade Lift System *continued*

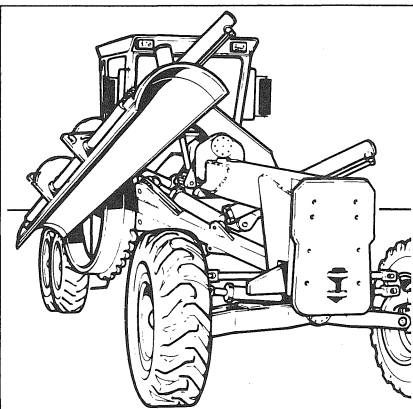
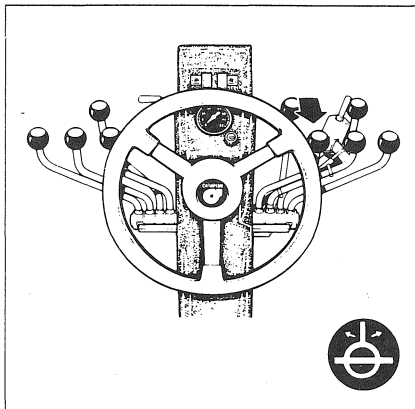
Right-hand Side Procedure *continued*

6. Move the Hi-Lift arm lock cylinder control lever rearward to rotate the Hi-Lift arm to the right.



7. Fully retract the right-hand blade lift cylinder. Fully extend the left-hand blade lift cylinder until the moldboard reaches the desired position.





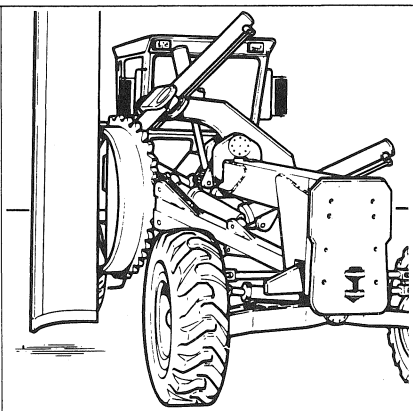
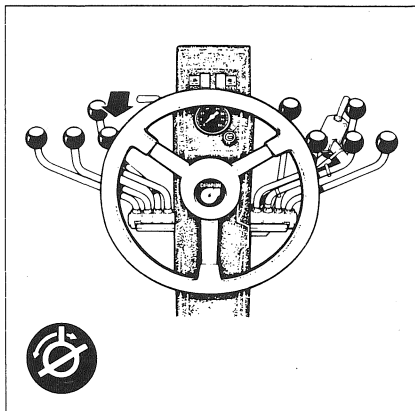
Moldboard Hi-Lift - Moveable Point Blade Lift System continued

Right-hand Side Procedure continued

8. Extend the circle shift cylinder to the desired blade position. Observe all moving parts to prevent structure fouling when Hi-Lifting the moldboard.

▲ CAUTION

Structure fouling hazard. Do not fully extend circle shift cylinder. Component damage could result.



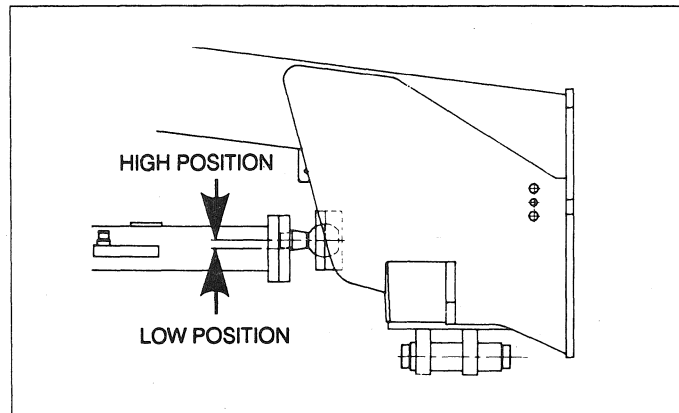
9. Rotate the circle to allow the end of the moldboard to clear the ground.

Reverse this procedure to return the moldboard to the normal grading position.

Moldboard Hi-Lift - Moveable Point Blade Lift System, Left-hand Side Procedure

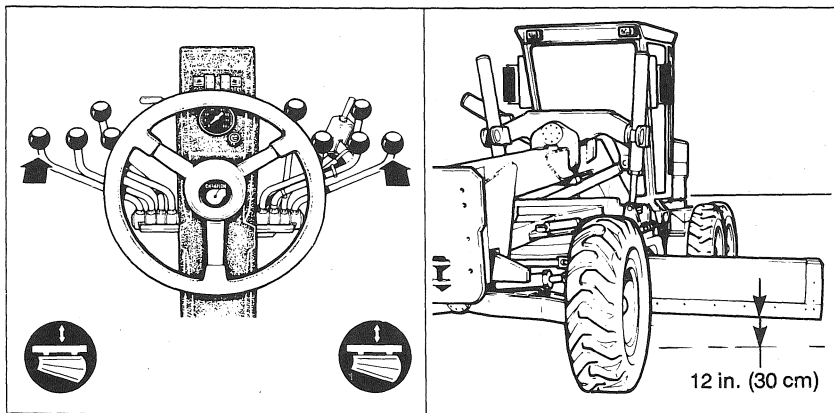
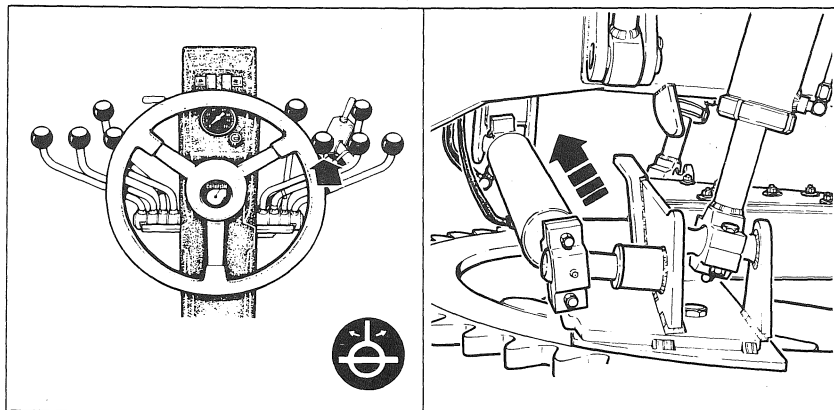
- This procedure describes how to maneuver the moldboard into the left-hand side high bank sloping position.
- This system provides a total blade position range.
- Observe all moving parts to prevent structure fouling when Hi-Lifting the moldboard.
- Remove the right-hand moldboard extension if installed.
- Remove 32 in. (81 cm) slide shift cylinder rod extension if installed.
- Remove 8 in. (20 cm) slide shift cylinder rod extension only to achieve maximum reach to the left.
- Park grader and apply hand brake.
- Place transmission in NEUTRAL.
- Ensure the Hi-lift arm is fully horizontal.
- Fully lower the moldboard and all attachments.
- Ensure that there are no persons or vehicles near grader.

1. Before you start, ensure the drawbar ball stud is in the high position. This prevents hose damage and structure fouling between the drawbar ball stud and the grader nose side plate.



**Moldboard Hi-Lift - Moveable
Point Blade Lift System** *continued***Left-hand Side Procedure** *continued*

2. Raise the moldboard slightly and fully retract the circle shift cylinder.

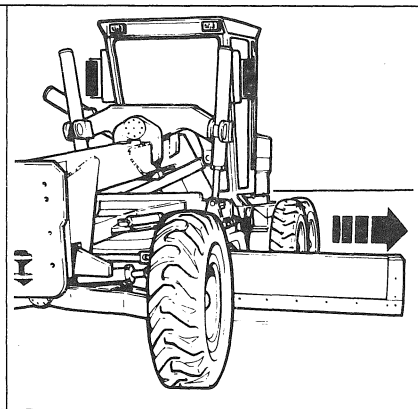
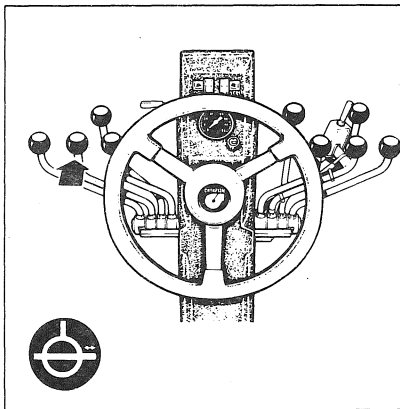


3. Raise the moldboard 12 in. (30 cm) off the ground. This allows adequate clearance between the circle shift cylinder and the frame as the Hi-Lift arm pivots on its central pin.

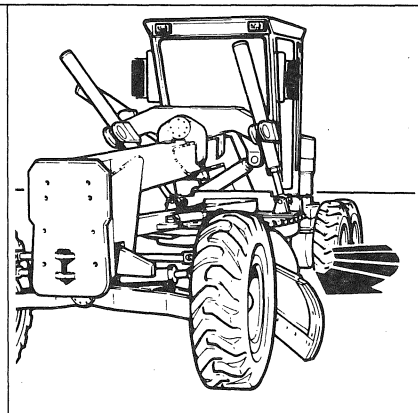
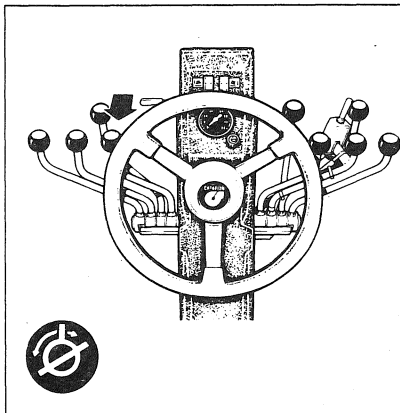
Moldboard Hi-Lift - Moveable Point Blade Lift System continued

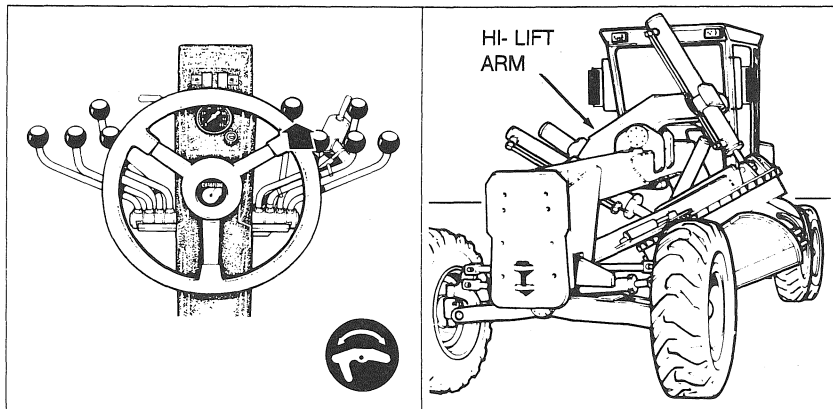
Left-hand Side Procedure continued

4. Use the moldboard side shift lever to slide the moldboard to the left.



5. Rotate the circle so that the end of the moldboard is close to the front tire.





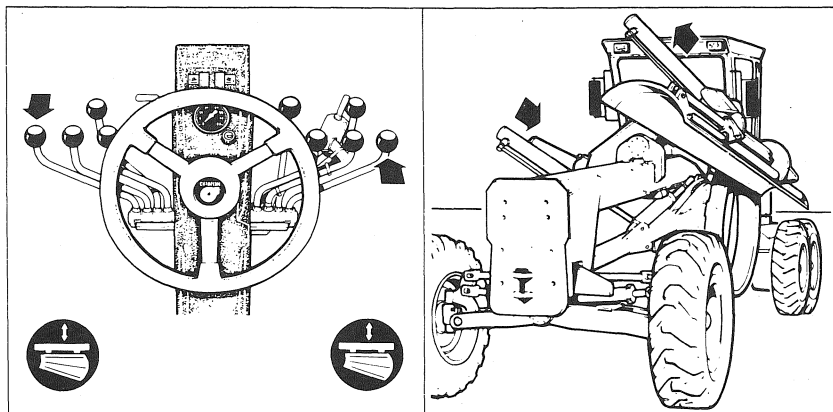
Moldboard Hi-Lift - Moveable Point Blade Lift System continued

Left-hand Side Procedure continued

6. Move the Hi-Lift arm lock cylinder lever forward to rotate the Hi-Lift arm to the left.

⚠ CAUTION

Structure fouling hazard. Do not fully extend right-hand blade lift cylinder when circle shift cylinder is fully retracted. Component damage could occur.



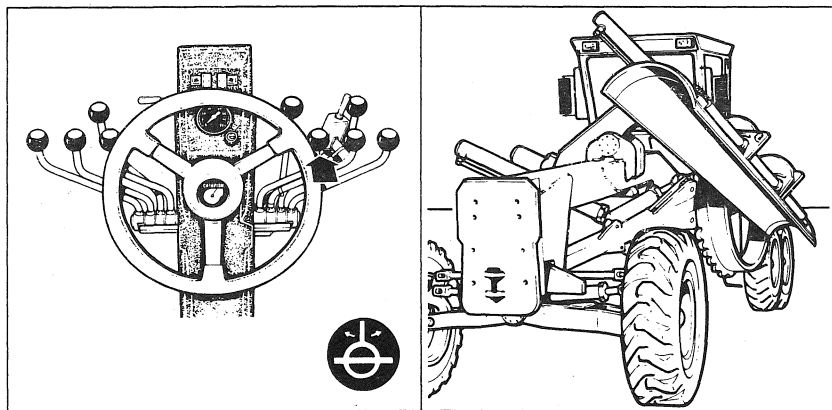
- Do not fully extend right-hand blade lift cylinder when circle shift cylinder is fully retracted.
- If grading position requires full extension of the right-hand blade lift cylinder, first extend circle shift cylinder to provide clearance between left-hand blade lift cylinder and Hi-Lift arm.

7. Fully retract the left-hand blade lift cylinder. Extend the right-hand blade lift cylinder.

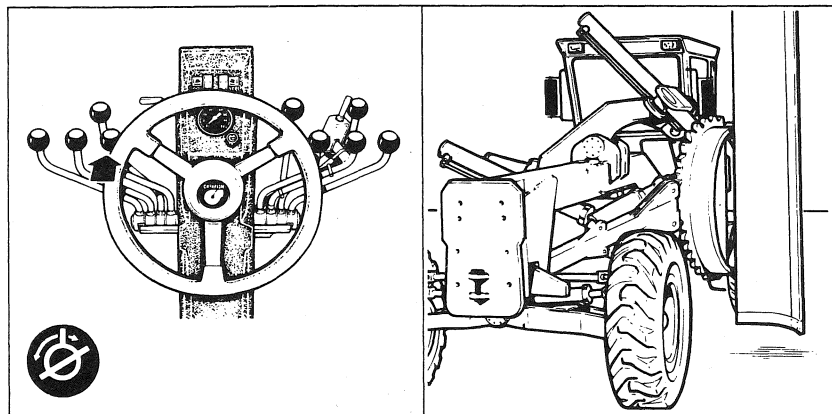
Moldboard Hi-Lift - Moveable Point Blade Lift System continued

Left-hand Side Procedure continued

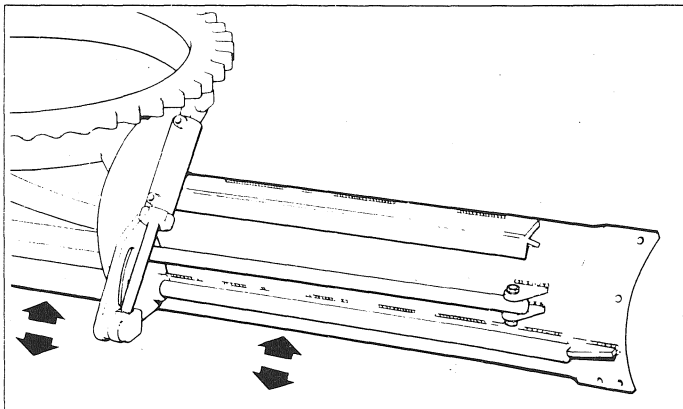
8. Extend the circle shift cylinder to achieve desired blade position.



9. Rotate the circle to allow the end of the moldboard to clear the ground.



Reverse this procedure to return the moldboard to the normal grading position.



Electric Float Valves

⚠ WARNING

Do not use float control to lower moldboard. Loss of control of grader or damage to hydraulic system could result.

- Graders equipped with float valves allow the moldboard to 'float' along the ground by following the surface contours.

- The float valve switches are located on the pedestal, above the tachometer.
- Center and fully lower the moldboard.
- Push the float valve switches to the ON position. A glowing red light in the switches indicates the float valves are on.
- Disengage the float valves by pushing the switches to the OFF position. The glowing red light will de-energize.

