

# JOHN DEERE AUTOMATIC HEADER HEIGHT CONTROL



## OPERATORS MANUAL JOHN DEERE AUTOMATIC HEADER HEIGHT CONTROL

OMH88855 F5 English

JOHN DEERE HARVESTER WORKS  
OMH88855 F5

LITHO IN THE U.S.A. (REVISED)  
ENGLISH






## To the Purchaser

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This new automatic header height control was carefully designed and manufactured to give years of dependable service. To keep it operating efficiently, read the instructions in this operator's manual. Each section is clearly identified so you can easily find the information you need—whether it is operation, lubrication, or service. Read the Table of Contents to learn where each section is located.

 This safety alert symbol identifies important safety messages in this manual. When you see this symbol, be alert to the possibility of personal injury and carefully read the message that follows.

Your operator's manual contains SI Metric equivalents which follow immediately after the U.S. customary units of measure.

Study this manual carefully and keep it handy with your regular combine operator's manual, in a safe place, for future reference.

"Right-hand" and "left-hand" sides are determined by facing in the direction the combine will travel when in use.

If your combine requires replacement parts, go to your John Deere dealer where you can obtain Genuine John Deere parts—accept no substitutes.

The warranty on this automatic header height control appears on your copy of the purchase order which you should have received from your dealer when you purchased the combine.





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# Safety Suggestions

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**⚠** The safety of the operator was one of the prime considerations in the minds of John Deere engineers when this row-crop head was designed. Shielding, simple adjustments, and other safety features were built into the combine whenever possible.

All machinery should be operated only by responsible persons who have been properly instructed and assigned to do so.

Only the operator should be allowed on the operator's platform when the combine is in operation.

Lower safety stop when working on the row-crop head.

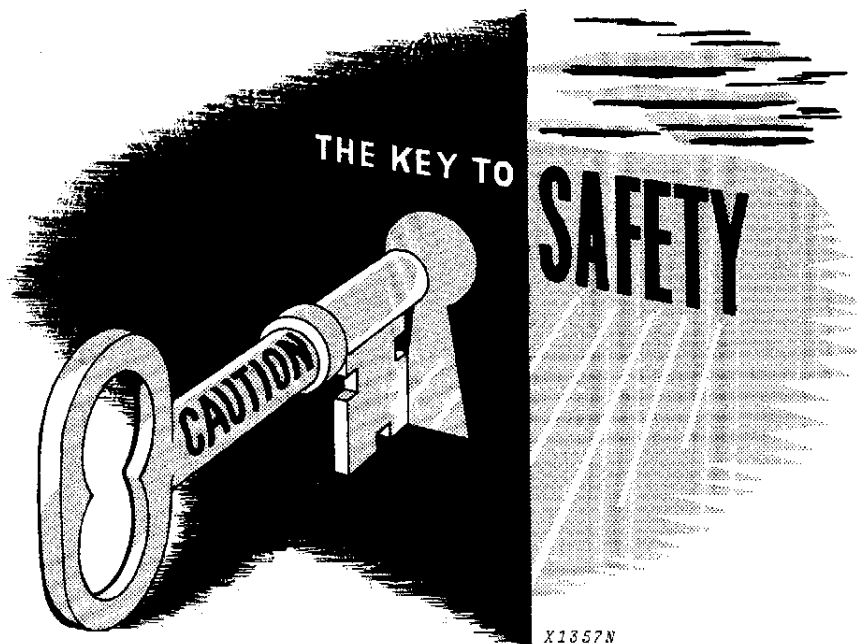
Before leaving the combine unattended, support the row-crop head with either the hydraulic cylinder safety stop or with blocks, or lower it to ground level.

Escaping fluid under pressure can have sufficient force to penetrate the skin, causing serious personal injury. Before disconnecting lines be certain to relieve all pressure. Before applying pressure to system, be certain all connections are tight and that lines, pipes and hoses are not damaged. Fluid escaping from a very small hole can be almost invisible. Use a piece of cardboard or wood, rather than hands, to search for suspected leaks.

If injured by escaping fluid, see a doctor at once. Serious infection or reaction can develop if proper medical treatment is not administered immediately.

Never clean, lubricate, or adjust the combine or row-crop head when it is running.

Be sure shields and guards are in place and in good condition before starting in the field.



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# Operation

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## GENERAL INFORMATION

The automatic header height control has been designed for use with the 50 Series Row-Crop Head. The most desirable position of the row-crop head frame, with respect to all of the individual row units, is maintained by the automatic header height control, which senses the position of each individual row unit.

To achieve a low and consistent cutting height, with respect to the ground, the individual row units were designed to pivot independently about the common drive shaft. Each row unit has a 6-inch (152 mm) float range.

Adjustable skid shoes on each side of the row unit maintain the desired cutting height. Soil pressure on the skid shoes is kept at a minimum by the adjustable float spring on each row unit.

The center row units are equipped with two adjustable gatherer sheets. The two end row units are equipped with one adjustable gatherer sheet and one non-adjustable end shield. A minimum clearance between the adjustable gatherer sheets must be maintained to provide independent float of each row unit.

**IMPORTANT:** For the automatic header height control to perform satisfactorily, the row units must be in the floating position and correct row unit float spring tension and gatherer sheet clearance must be maintained. Row unit skid shoes should be adjusted for the desired height of cut.

### How the Automatic Header Height Control Works

When one or more row units deflect up to follow ground contour, a height sensing actuating rod, located under the header, turns an actuator cam located on the left-hand header side sheet. The actuator cam then opens or closes either a raise switch or a lower switch, also located on the header side sheet. These switches activate the electrical circuit which sends electrical current to the solenoids on the auto header valve located under the operator's platform.

The auto header valve, directs hydraulic oil under pressure to the two header lift cylinders to raise the header and allows return oil to flow back to the hydraulic reservoir for lowering the header.

An actuating switch, located under the operator's platform shuts off the automatic header height control when the header is raised approximately 18 inches (457 mm) above the ground.

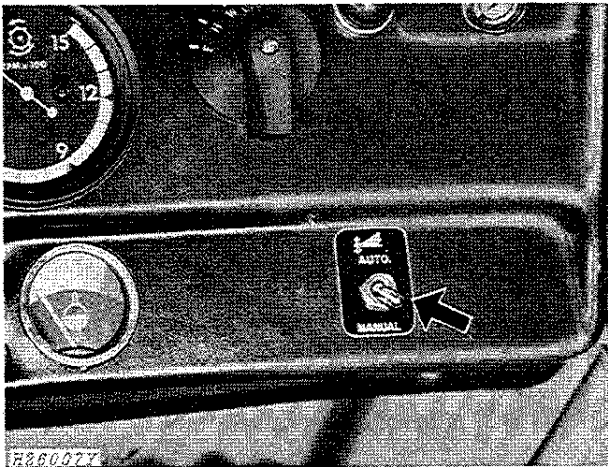
Following is an explanation of the components of the electrical and hydraulic systems of the automatic header height control.

## ELECTRICAL SYSTEM

The electrical system consists of the control switch located on the instrument panel, actuating switch, raise switch, lower switch, "raise" solenoid, and "lower" solenoid. The electrical system actuates the hydraulic system.

The electrical system is protected from overload by a 7.5 amp fuse located in the engine compartment next to the firewall.

### Control Switch



By operating this switch, the automatic header height control is engaged or disengaged.

**IMPORTANT: Be certain to disengage the automatic header height control when transporting the combine.**

### Actuating Switch

The actuating switch located under the operator's platform shuts off the automatic header height control when the header is raised approximately 18 inches (457 mm) above the ground.

A chain, attached to the switch, holds the switch closed when the header is lowered.

### Raise Switch and Lower Switch

The actuator cam opens or closes the raise or lower switch. These switches are located on left-hand header side sheet.

The raise switch is the uppermost of the two switches and closes for raising the header.

The lower switch closes for lowering the header.

The raise switch and the lower switch have slotted mounting holes to obtain proper switch contact with the actuator cam.

## HYDRAULIC SYSTEM

The hydraulic system supplies the hydraulic oil to the platform lift cylinders to raise or lower the header.

The system consists of the header lift cylinders, a drop rate valve, and a auto header valve. The hydraulic system is activated by the electrical system. Hydraulic oil is supplied from a pressure port in the main control valve.

### Auto Header Valve

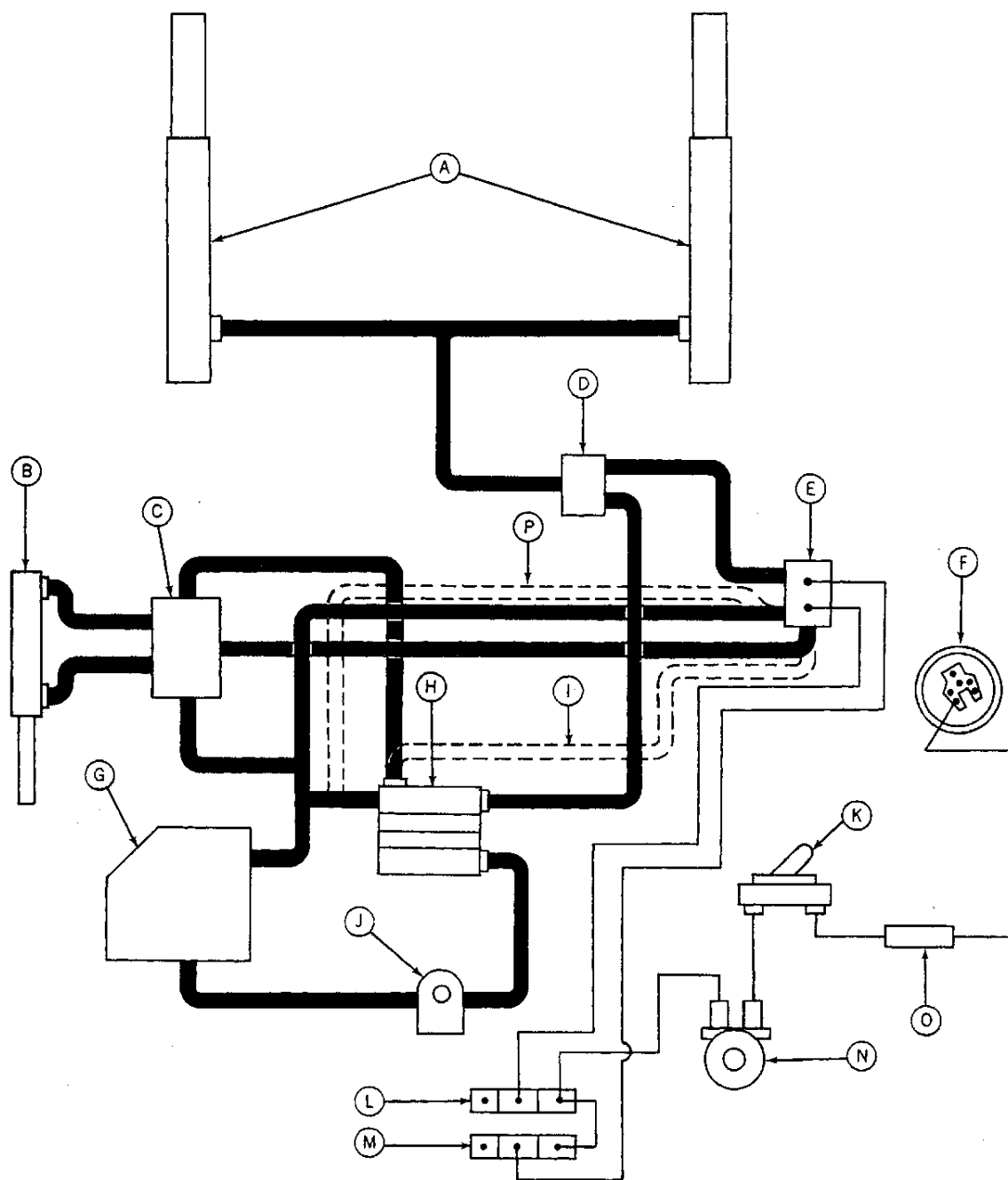
The auto header valve obtains oil from the unloading auger control valve on 6600 and 7700 Combines and directly from the main hydraulic control valve on the 4400 Combine. Oil flowing between the auto header valve and the platform lift cylinders is directed through the drop rate valve. Return oil is directed back to the main hydraulic reservoir.

When the automatic header height control is not activated, a check valve in the auto header valve and a lockout poppet in the main hydraulic system control valve, trap oil to support the header.

### Drop Rate Valve

The drop rate valve allows pressure oil to the platform lift cylinders and controls the rate of drop of the header. Two small orifices in the drop rate valve poppet meter the oil returning to the reservoir. An adjusting screw varies the size of this orifice, permitting drop rate adjustment for varying ground conditions.

### ELECTRICAL AND HYDRAULIC SYSTEMS DIAGRAM



H25957N

- A—Header Lift Cylinders
- B—Unloading Auger Cylinder  
(6600 and 7700 Combines Only)
- C—Unloading Auger Valve  
(6600 and 7700 Combines Only)
- D—Drop Rate Valve

- E—Auto Header Valve
- F—Ignition Switch
- G—Main Hydraulic Reservoir
- H—Main Hydraulic System Control Valve
- I—Line, 4400 Combine Only

- J—Main Hydraulic Pump
- K—Control Switch
- L—Raise Switch
- M—Lower Switch
- N—Actuating Switch
- O—7.5 Amp Fuse
- P—Hose, 4400 Combine Only



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# Lubrication

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**⚠ CAUTION:** Never lubricate or service combine or row-crop head while it is running.

## SYMBOL



Lubricate with John Deere Multi-Purpose lubricant or an equivalent SAE multipurpose-type grease at the hourly interval indicated on the symbol.

## KEEP LUBRICANTS CLEAN

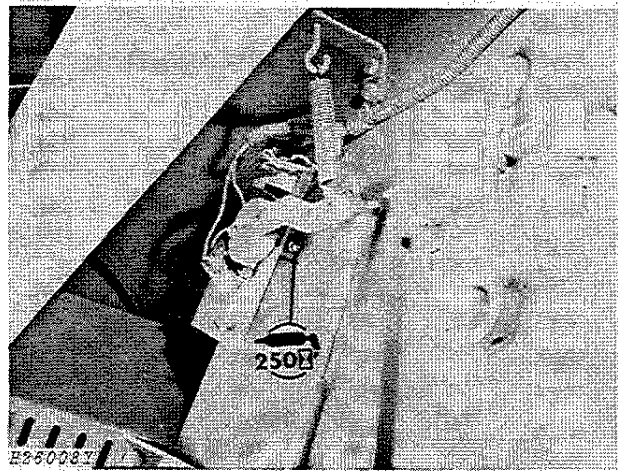
Use only high-grade lubricants which have been stored in clean containers. Wipe grease fittings clean before lubricating.

## LUBRICATE AS REQUIRED

### Clevises, Pivots, and Linkages

When lubricating the row-crop head and the combine, make a practice of putting a few drops of SAE 30 oil on all clevises, pivots, and linkages. This will make them work easier and prolong their life.

### CAM PIVOT SHAFT



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