

JOHN DEERE 25 A 3-POINT HITCH SPRAYER



JOHN DEERE

OPERATORS MANUAL JOHN DEERE 25 A 3-POINT HITCH SPRAYER

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ENGLISH



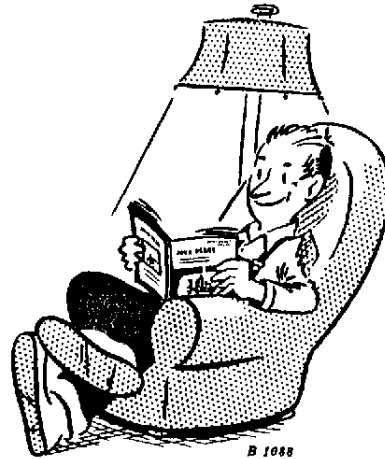
TO THE PURCHASER

Your new John Deere Sprayer is efficient and dependable. It will give long and efficient service if given proper care and operation.

This operator's manual is provided to furnish information on the proper operation, adjustment, and maintenance of your new sprayer.

When in need of parts, see your John Deere dealer. He will furnish genuine John Deere Parts and prompt and efficient service in the field or in the shop.

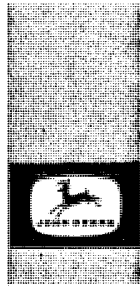
Right-hand and left-hand reference is determined by standing at the rear of the sprayer and facing the direction of travel.



Study this manual carefully. Keep it handy, in a safe place, for future reference.

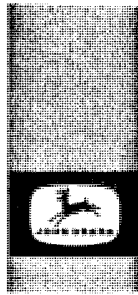
JOHN DEERE 25A 3-POINT HITCH SPRAYER	
Date Purchased	
Optional Equipment	
BOOMS	
6-Row	<input type="checkbox"/>
8-Row	<input type="checkbox"/>
PTO PUMP	
7-Roller Ni-Resist.	<input type="checkbox"/>
6-Roller Ni-Resist.	<input type="checkbox"/>
6-Roller Grey Iron.	<input type="checkbox"/>
Piston Pump	<input type="checkbox"/>
Centrifugal Pump	<input type="checkbox"/>
HAND GUN	
25-Foot Hose.	<input type="checkbox"/>
50-Foot Hose.	<input type="checkbox"/>
High Pressure Hand Gun	<input type="checkbox"/>
BOOM EXTENSION NOZZLES	<input type="checkbox"/>
WIDE-SPRAY JET	<input type="checkbox"/>
ROW-CROP DROPS	
10 Inches Long.	<input type="checkbox"/>
18 Inches Long.	<input type="checkbox"/>
30 Inches Long.	<input type="checkbox"/>

(To be filled in by purchaser)



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SPECIFICATIONS

TYPE

The 25A Sprayer is a 3-point hitch sprayer.

It can be used, less booms, with a 493, 493A, 494, 494A, 495, 495A, 694, 694A, 694AN, 695, 695A, or 894A Planter; 184, 186 or 186W Fertilizer Unit for pre-emergence spraying.

TANK

Regular - 150-gallon.

BOOMS

Regular - 6-row booms (21 feet, 8 inch) to cover six 40-inch rows.

Optional - 8-row booms (27 feet) to cover eight 40-inch rows.
8-row boom extension (30 feet 4 inch) to cover twelve 30-inch rows.

Booms are made of square tubing. Nylon nozzles are clamped to the booms. Rubber hoses are connected to the nozzles.

The nozzle clamps are adjustable for row widths of 24 to 40 inches. Spacing between nozzles can be adjusted from 12 to 20 inches. Booms are made in three sections with the center section stationary and the outer sections mounted on four-way hinges.

PTO PUMP

Regular - Six-roller grey iron pump.

Optional - Six- or seven-roller ni-resist pump, piston pump or centrifugal pump.

BOOM CONTROL

The boom control is a two-position selector valve. Either half of the total boom coverage may be operated independently of the other half.

WIDE-SPRAY JET—ATTACHMENT

A wide-spray jet is available as optional equipment in lieu of the booms and boom control. It is used for broadcast spraying grains, pastures, etc.

HAND GUN—ATTACHMENT

A light, regular, or heavy duty hand gun and controls may be ordered in lieu of the booms and boom controls.

Hand guns may also be used in conjunction with or independently of the boom type or wide-spray jet type sprayers. Each hand gun is available with either a 25-foot or a 50-foot hose.

High pressure hoses are available.

The hand gun may be used for spraying crops, animals, fence rows, etc.

**HIGH CLEARANCE BOOM FRAME
—ATTACHMENT**

The high clearance boom frame provides additional crop clearance where required.

NOZZLE TIPS

Nozzle tips are made of brass or stainless steel. B11875B brass nozzle tip is regular equipment. All other nozzle tips are optional equipment.

**ROW-CROP DROPS—
ATTACHMENT**

Row-crop drops (10-, 18-, or 30-inch long) are available for the six- or eight-row booms. Each row-crop drop has two nozzles which can be

turned up to spray the underside of the leaves, or down to spray the ground between the rows.

**BOOM EXTENSION NOZZLES—
ATTACHMENT**

These nozzles are used as boom extensions to expand the over-all width of boom coverage approximately 7 feet on each side of the regular spray pattern.

**OVER-ALL TRANSPORT DIMEN-
SIONS WITH BOOMS**

Transport Width: Approximately 7 feet.

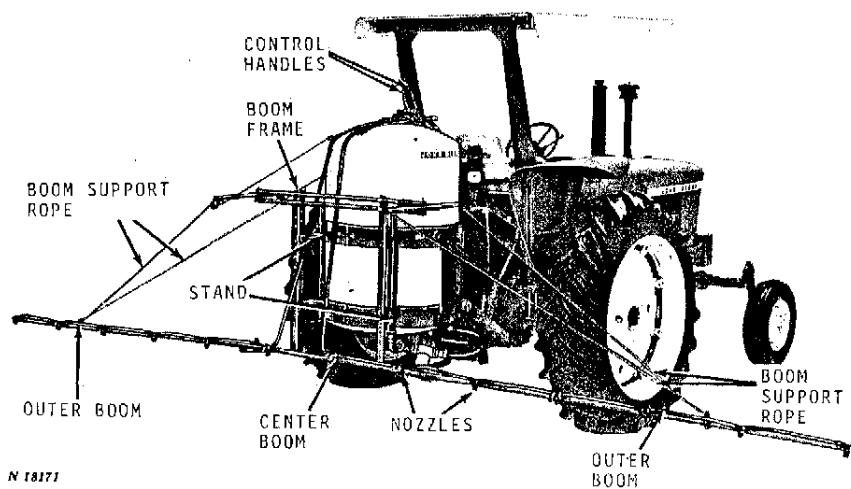
Transport Height with Booms Vertical:

6-Row Boom: 13 feet 8 inches

8-Row Boom: 17 feet

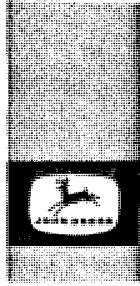
8-Row with Extensions: 18 feet 8 inches

(Specifications and design subject to change without notice.)



N 18171

25A Sprayer with Six-Row Booms in Working Position



OPERATION

PREPARING THE TRACTOR

For complete operating instructions concerning the tractor refer to the tractor operator's manual.

CENTER LINK

Remove the center link from the tractor 3-point hitch.

BELT PULLEY

Remove the rear-mounted belt pulley from the tractor, if the tractor is so equipped.

TIRE PRESSURE

Consult your tractor operator's manual for front and rear tire pressure.

2010 SERIES TRACTORS

Set the 3-point hitch lift links at their maximum length. See the tractor operator's manual.

Install sway blocks to eliminate all side sway when operating sprayer.

Adjust tractor hydraulic system so integral cylinders are parallel and the lift arms operate together. See tractor operator's manual.

Set the load-and-depth control selector lever in the "D" position.

1020 OR 2020 SERIES TRACTORS

NOTE: The 25A Sprayer is not approved for use with the 1020 or 2020 Tractor equipped with 12.4 or smaller tires.

Use a minimum of 200 pounds front end weight on the John Deere 1020RU and LU Series Tractors and a minimum of 100 pounds on the front of the 1020 HU Tractor.

Set sway blocks on both tractors in the down position.

Set the load-and-depth control selector lever in the "D" position.

2510, 3010, 3020, 4010, OR 4020 SERIES TRACTORS

Set the selector lever in the "D" position.

Install sway blocks to eliminate all side sway when operating sprayer.

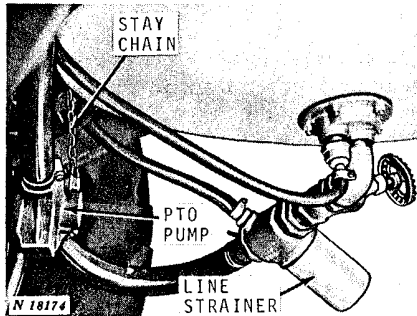
520 OR 530 SERIES TRACTORS

Install sway locks to eliminate all side sway when operating sprayer.

ATTACHING SPRAYER TO TRACTOR

PTO PUMP

Back the tractor up to the sprayer.



Install the pump on the tractor PTO shaft to obtain clearance between the draft links.

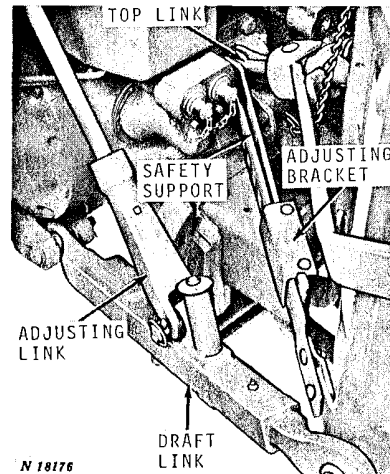
Arrows on the pump ports indicate proper rotation.

Place the key between the splines on the PTO shaft and tighten the set screws against the key to secure pump on shaft.

Attach the stay chain to some fixed point on the tractor and adjust the length so it will hold pump in a horizontal position.

Agricultural chemicals can be dangerous! Improper selection or use can injure persons, animals, plants, soils or other property. **BE SAFE:** Select the right chemical for the job. Handle and apply it with care. Follow instructions of the chemical manufacturer.

HOOKUP AND ADJUSTING SAFETY SUPPORTS



Attach the top link and one end of each safety support to the tractor where the center link was removed.

NOTE: On a tractor with only one connecting hole for the center link, attach the safety support on the same pin that holds the top link. On a tractor with more than one connecting hole for the center link, use pin furnished and attach safety support as illustrated above.

Attach the tractor draft links and the other end of each safety support to the sprayer.

Adjust the safety supports so the sprayer cannot be lowered far enough to damage the tank.

CAUTION: Do not operate sprayer so low that all the weight of the sprayer is on the safety supports.

Remove the pin and raise each stand. Replace the pin to lock each stand in the raised position.

6 Operation

LEVELING SPRAYER

Level the sprayer tank fore-and-aft by adjusting the length of the sprayer top link. Level the sprayer tank laterally by adjusting the right-hand draft link.

NOTE: Refer to tractor operator's manual for adjustment of draft link when leveling sprayer.

DETACHING SPRAYER FROM TRACTOR

Remove the pin and lower each stand. Replace the pin to lock each stand in the lowered position.

Detach the draft links, top link, and safety supports.

Remove the pump from the tractor PTO shaft.

Drive the tractor away from the sprayer.

FILLING THE TANK

Open the lid and fill the tank with water. Add the chemical to be used as tank is being filled. Close the lid. After tank is filled, operate the spray pump to mix chemical thoroughly.

SAFETY SUGGESTIONS

Be careful during the operation of the sprayer, to avoid injury to yourself and the people working with you.

Only one person—the operator—should be permitted on the tractor platform when the tractor and sprayer are in operation.

When transporting the sprayer on road or highway at night or during the day, use accessory lights and devices for adequate warning to operators of other vehicles. In this regard check local governmental regulations. Various safety lights and devices are available from your John Deere dealer.

Be careful when operating on hill-sides because the tractor may tip sideways if it strikes a hole, ditch or other irregularity.

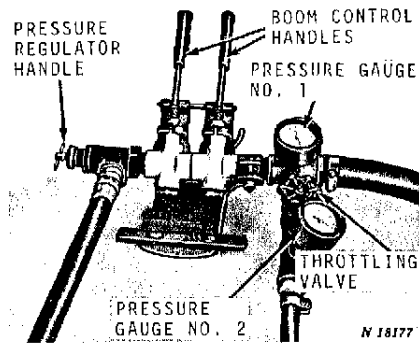
Refuel the tractor only when the engine has been shut off. Do not smoke or use an oil lantern when working around flammable fuel, especially when refueling the tractor.

Agricultural chemicals can be dangerous! Improper selection or use can injure persons, animals, plants, soils or other property. **BE SAFE:** Select the right chemical for the job. Handle and apply it with care. Follow instructions of the chemical manufacturer.

Finally, remember this: An accident is usually caused by someone's carelessness, neglect or oversight.

SPRAYER FOR BOOM OPERATION

CONTROLS



The spray delivery to either half of the sprayer is regulated by the control handles.

When both handles are forward and horizontal, both sides of the sprayer are in operation.

When the right-hand handle is forward and horizontal and the left-hand handle is vertical, the right-hand side of the sprayer is in operation.

When the left-hand handle is forward and horizontal and the right-hand handle is vertical, the left-hand side of the sprayer is in operation.

Placing both handles in the vertical position shuts off the sprayer.

Gauge No. 1 shows the operating pressure. Gauge No. 2 shows the agitation pressure.

Regulate the operating pressure (gauge No. 1) by turning the pressure regulator handle clockwise to increase the operating pressure and counterclockwise to decrease the operating pressure.

Regulate the agitation pressure (gauge No. 2) by turning the throttling valve handle counterclockwise to increase the agitation pressure and clockwise to decrease the agitation pressure.

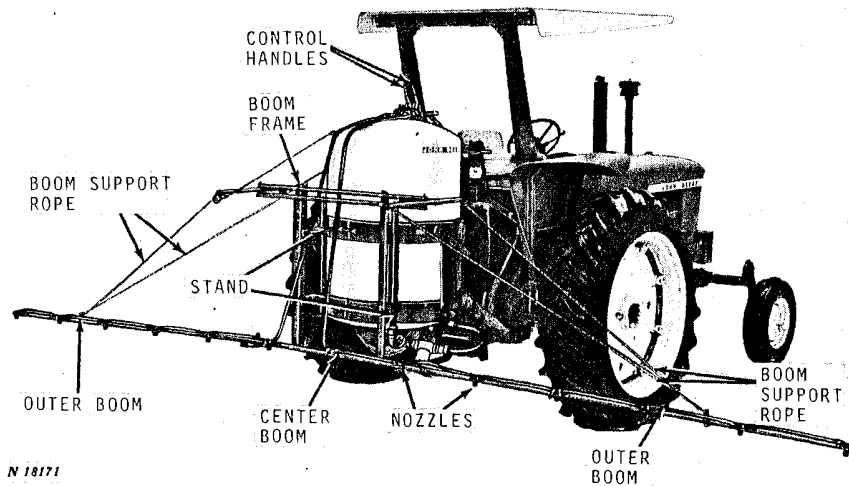
NOTE: The agitation pressure should never be less than 30 psi.

CAUTION: Never regulate the pressure unless the sprayer is in operation. Do not operate the sprayer at pressures so high that the maximum pressure gauge capacity will be exceeded when the flow to the booms is shut off.

CAUTION: Do not operate the boom at pressure in excess of 150 psi.

8 Operation

BOOMS



Lower the booms to the operating height. Adjust the rope stops on the boom support ropes so the booms are level and so the outer booms are in line with the center boom section.

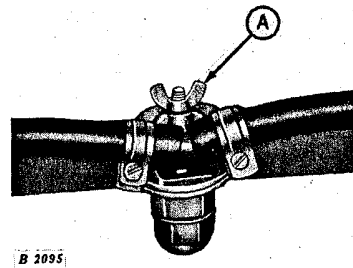
Adjust the safety supports (page 5) after raising or lowering the sprayer to the proper height.

Adjust the height of the booms so there is approximately 18 inches of clearance between the nozzle tips and the surface to be sprayed.

The boom frame may be adjusted up or down on the tank frame, or the whole sprayer may be raised or lowered with the tractor hydraulic system. If the tractor hydraulic system is used to adjust to the operating height, level the sprayer fore-and-aft with the top link of the sprayer after the desired operating height has been reached, then readjust the safety supports.

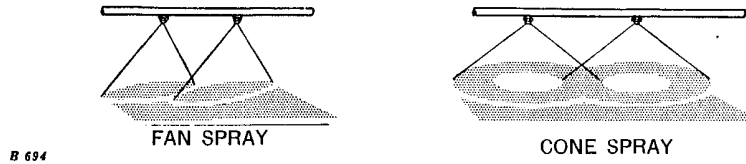
NOZZLES

Nozzle Adjustment



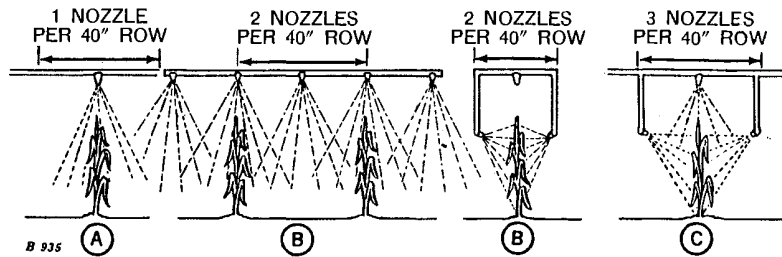
The nozzles may be adjusted for different row spacings. Loosen nut "A," and slide the nozzle clamp on the boom to the desired spacing and tighten nut "A."

Nozzle Tips



Nozzle tips are available in two types, either a fan or cone spray pattern as shown in the illustration above. These tips are available in a number of different hole or orifice sizes to provide a variety of rate applications. Fan nozzles are normally used for weed control, broadcast applications or pre-emergence applications. Cone nozzles are normally used for insect control.

Adjust the fan spray nozzles so that the slot in the bottom of each nozzle is at right angles to the direction of travel.



The above illustrations show the various nozzle combinations which can be used. See Gallons Per Acre in Rates of Application Chart.

IMPORTANT

A series of studies have recently been conducted by the Departments of Agronomy and Agricultural Engineering at some of our leading universities to determine variations in spray volume or distribution pattern due to nozzle tip wear.

The results of the studies indicate that both volume and pattern may vary considerably - particularly when wettable powders are used.

We suggest that the sprayer be calibrated daily and that operating pressures be gradually lowered to compensate for wear until such time that nozzle tips require replacement.

Stainless steel tips are much more resistant to wear than brass tips.

10 *Operation*

RATE OF APPLICATION

1. All capacity tabulations in this operator's manual are based on water unless otherwise stated.

The weight of water is 8.34 pounds per gallon. A variation in the weight per gallon of a solution will effect capacity, as indicated below.

2. Since solution weight per gallon effects the capacity of a nozzle, it is necessary to use conversion factors in determining the coverage of solutions with weights different from water. To obtain the correct coverage for such solutions multiply capacity data as listed in the tables by the following conversion factors.

This procedure can also be used in determining the correct nozzle tip.

Weight of Solution	Specific Gravity	Conversion Factors
7.0 lbs per gallon	.84	1.09
8.0 lbs per gallon	.96	1.02
8.34 lbs per gallon	1.00	1.00
9.0 lbs per gallon	1.08	.96
10.0 lbs per gallon	1.20	.91
11.0 lbs per gallon	1.32	.87
12.0 lbs per gallon	1.44	.83

EXAMPLE: The table (page 13) for B11891B Fan Spray Nozzle Tip lists at 30 psi (based on water) a coverage at 3 mph of 6.8 Gallons Per Acre (GPA). If the actual solution to be sprayed weighs 10 pounds per gallon, then the conversion factor above of 0.91 would be used and the nozzle with the solution would provide:

A coverage of 6.8 G.P.A. x 0.91 or 6.19 G.P.A.

3. If there is a choice between two different nozzle spray tips each delivering the same required capacity but at different operating pressures, remember that the higher the operating pressure the finer the particle size of spray, and inversely the lower the operating pressure the coarser the particle size. In general a finer particle size may tend to drift more but will give more thorough coverage.

To calibrate sprayer in the field see page 11.

4. G.P.A. tabulations for boom spray nozzles are based on 20- and 40-inch nozzle spacings. When spacings are different, multiply the tabulated G.P.A. coverage by the following conversion factors.

Other Spacing	8"	10"	12"	14"	16"	18"	22"	24"	30"
Conversion Factor	2.5	2	1.67	1.43	1.25	1.11	.91	.83	.68

Other Spacing	28"	30"	32"	34"	36"	38"	42"	44"	48"
Conversion Factor	1.43	1.33	1.25	1.18	1.11	1.05	.95	.91	.83

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