



25A INTEGRAL SPRAYER



JOHN DEERE

OPERATORS MANUAL 25A INTEGRAL SPRAYER

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ENGLISH





To the Purchaser


Your new sprayer was carefully designed and manufactured to give years of dependable service. To keep it running 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, trouble shooting, or service. Read "Contents" to learn where each is located. Use the alphabetical index for fast reference.

Should your sprayer require replacement parts go to your John Deere dealer where you can obtain Genuine John Deere Parts—accept no substitutes. Genuine John Deere Parts fit properly and insure satisfactory service because they are made from the original patterns and from the same materials as used in the new machines.

"Right-hand" and "left-hand" sides are determined by facing in the direction of sprayer forward travel.

Record your sprayer serial number in the space provided on page 40. Your dealer needs this information to give you prompt, efficient service when you order parts or attachments.

The warranty on this sprayer appears on your copy of the purchase order which you should have received from your dealer when you purchased the sprayer.

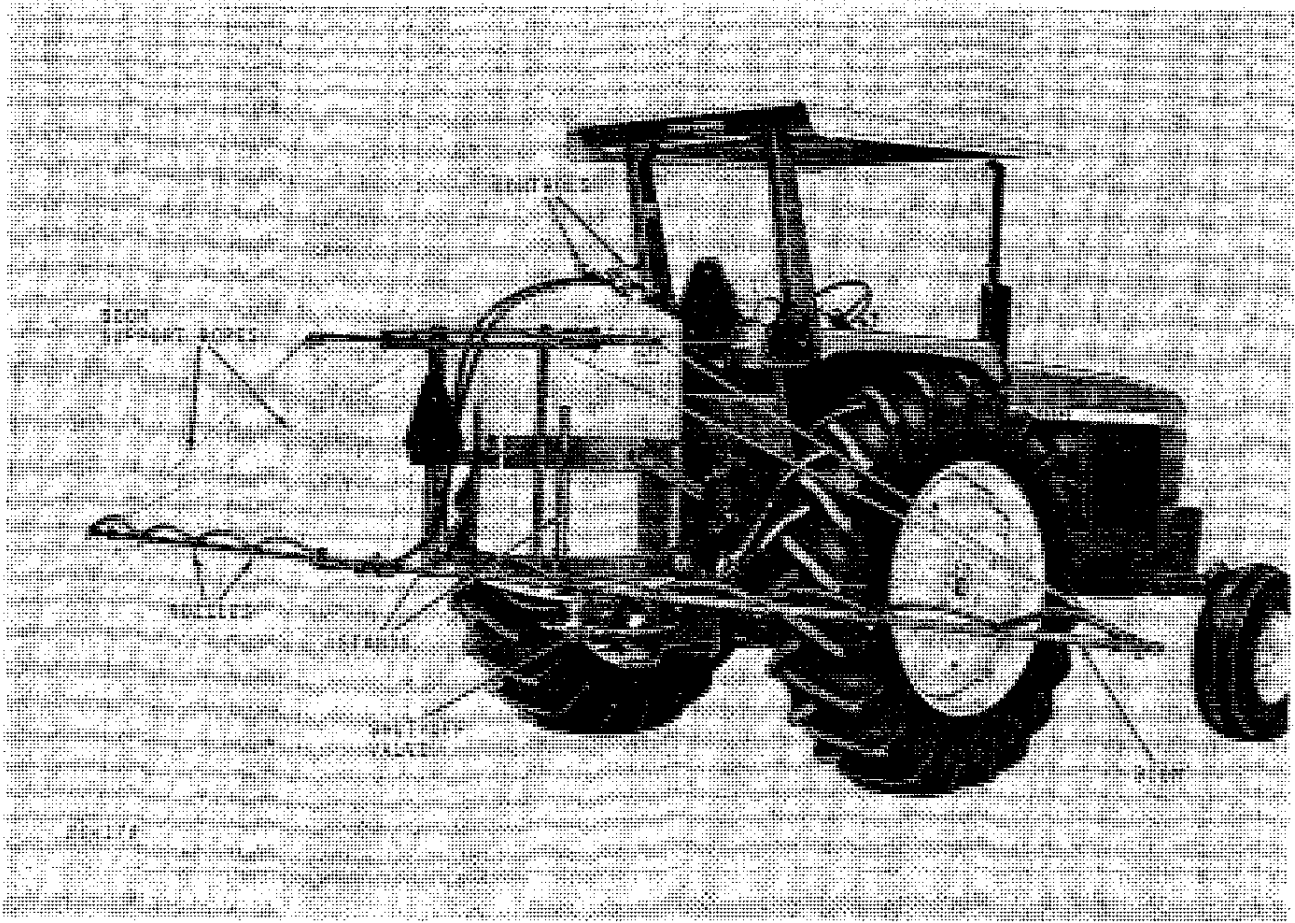
 This safety alert symbol identifies important safety messages in this manual. When you see this symbol, be alert to the possibility of personal injury and carefully read the message that follows.



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2 Identification



John Deere 25A Integral Sprayer Mounted on 4230 Tractor



Operation

PREPARING THE TRACTOR

See your tractor operator's manual for complete tractor operating and adjusting instructions.

Lift Links

Adjust length of lift links to maximum length.

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.

Sway Blocks

Place the sway blocks in the lower, wide setting to prevent sprayer side sway during operation.

Drawbar Position

Place the drawbar in the short, center position to provide maximum clearance between rear of drawbar and sprayer.

Draft Link Bushings

On tractors with Category 2 hitch, (2) F2685R adapter bushings are required to adapt sprayer hitch pins to Category 2 draft links. See your John Deere dealer.

Rockshaft Selector Lever

Place rockshaft selector lever in the "zero" (depth control) position.

NOTE: On earlier model tractors, place lever in "D" (depth control) position.

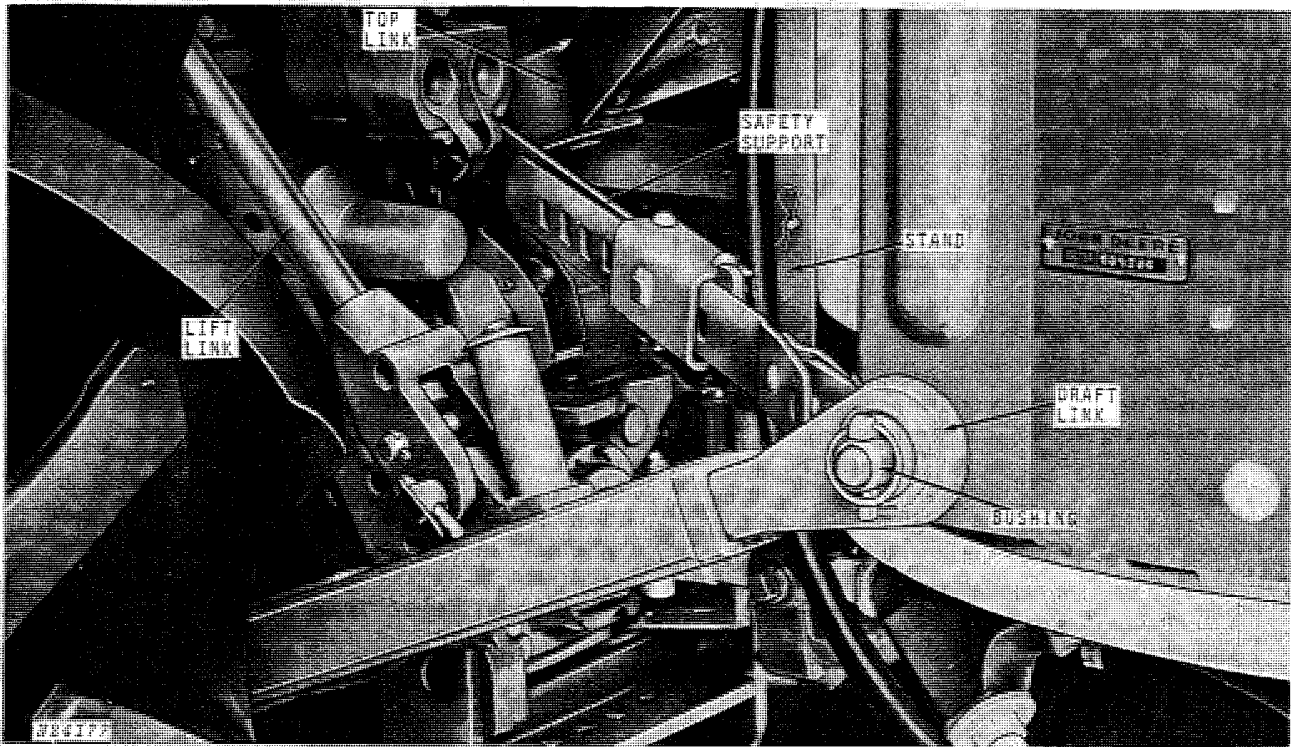
Ballast Information

Tractor front end stability is necessary for safe and efficient operation. Therefore, it is important that the proper amount of weight be installed on the front of the tractor as recommended in your tractor operator's manual.

Use a minimum of 200 pounds front ballast on the John Deere 1020 and 1520 RU and LU Series Tractors and a minimum of 100 pounds on the front of the 1020 and 1520 HU Tractors. Add front ballast as necessary on all tractors to provide adequate transport stability with full solution tank.

IMPORTANT: The 25A Sprayer is not approved for use with the above tractors equipped with 12.4 or smaller tires.

ATTACHING SPRAYER TO TRACTOR



Back the tractor up to the sprayer.

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

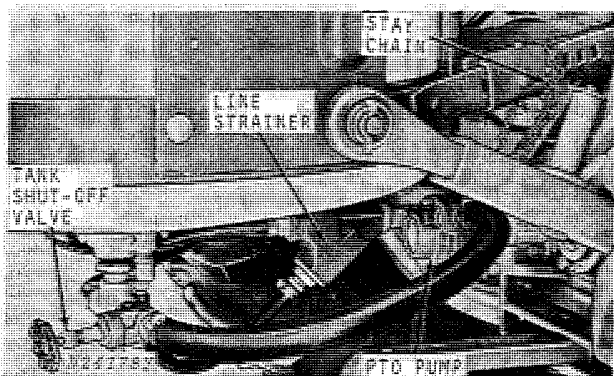
Attach the tractor draft links and the other end of each safety support to the sprayer.

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

IMPORTANT: 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.

PTO Pump



Install the pump on the tractor PTO shaft.

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.

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 lift link length. See your tractor operator's manual.

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.

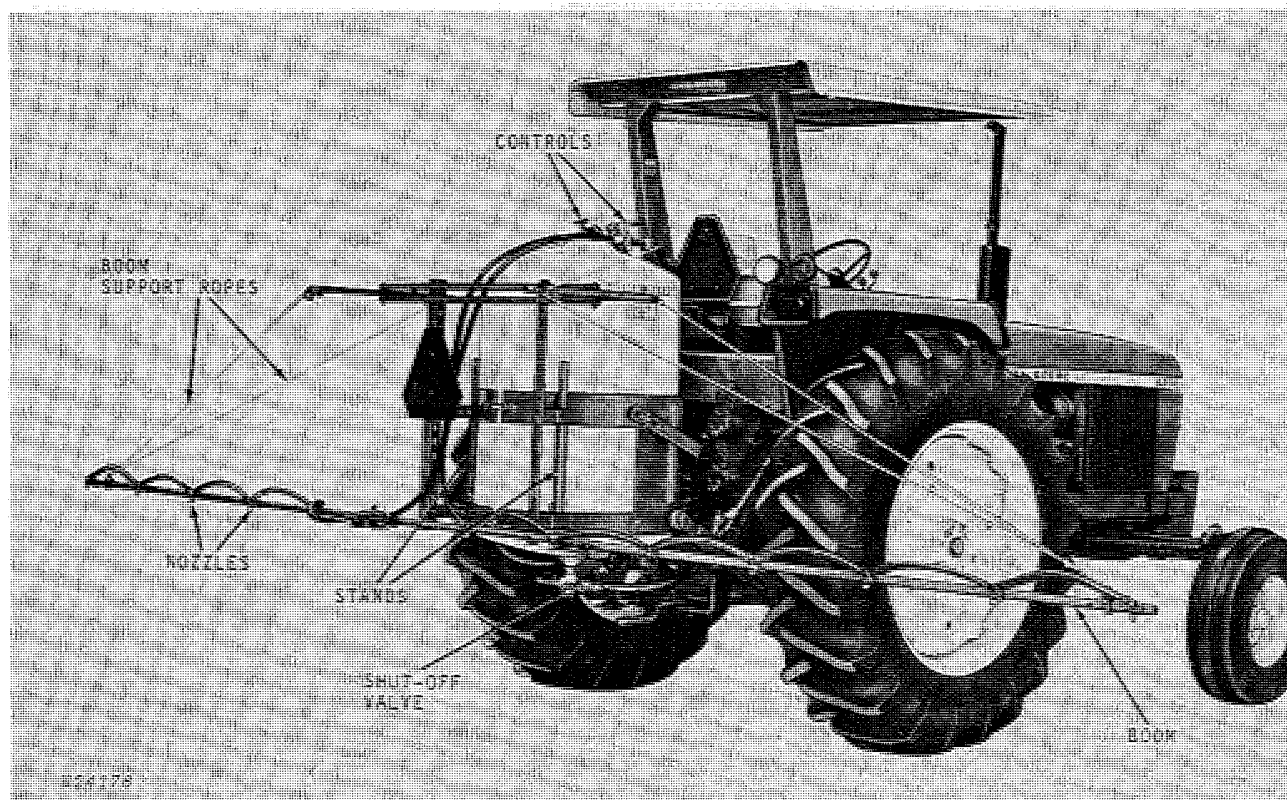
Remove the pump from the tractor PTO shaft.

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.

SPRAYER BOOM AND CONTROLS



Booms

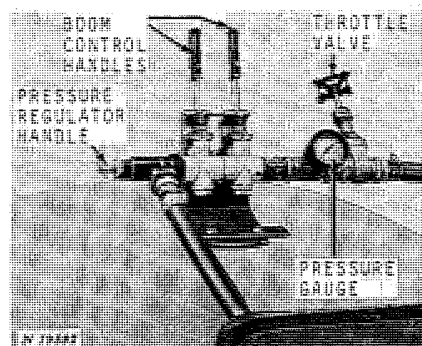
The boom frame may be adjusted up or down on the tank frame, and raised or lowered with the tractor hydraulic system. Level the sprayer fore-and-aft with the top link of the sprayer after the desired operating height has been reached; then readjust the safety supports.

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 4) 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.

Controls



Pull right-hand handle down, leave left-hand handle up to operate right spray boom only.

Pull left-hand handle down, leave right-hand handle up, to operate left spray boom only.

Pull both handles down to operate entire boom.

Pressure

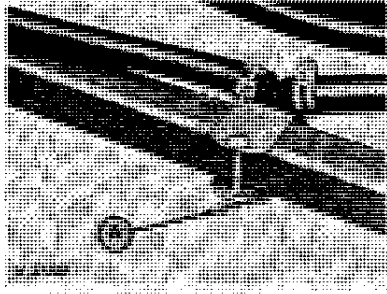
The pressure gauge shows the operating pressure.

Regulate the operating pressure by turning the pressure regulator handle clockwise to increase the pressure, counterclockwise to decrease the pressure.

CAUTION: Regulate pressure **ONLY** when sprayer is in operation. Do not operate at pressures so high that the maximum pressure gauge capacity will be exceeded when the flow to the booms is shut off. Do not operate boom above 150 psi.

NOZZLES

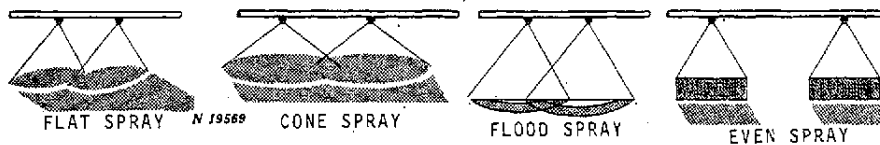
Nozzle Adjustment



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."

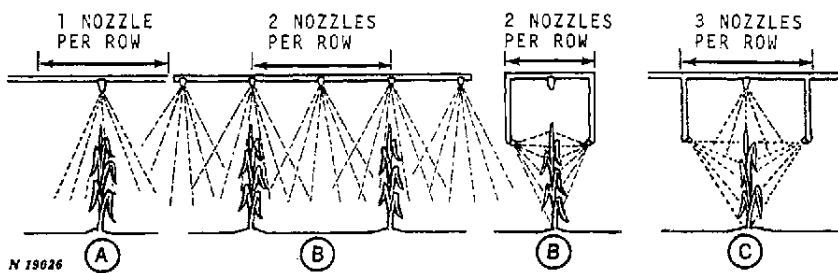
CAUTION: Keep spray material from skin. If spray material comes in contact with the body, wash off immediately with clean water and detergent.

Nozzle Tips



Nozzle tips are available in four types: flat, cone, flood or even spray patterns 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. Flat nozzles are normally used for weed control, broadcast applications or pre-emergence applications. Cone nozzles are normally used for insect control and even nozzles are used for banding. Flood nozzles are used for broadcast spraying.

Adjust the even or flat 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 various nozzle combinations which can be used. See Nozzle Tip Calculator, pages 8 and 9.

Nozzle Strainers

Nozzle strainers are available with 50 and 100 mesh screens. Both are of stainless steel construction. See illustration on page 20.

Nozzle Check Valves

Nozzle check valves are available in two styles: Stainless steel check valve with no screen, for use when applying a high volume rate of application. Stainless steel or brass check valve with 50 mesh screen, for use when high volume rate of application is not required. See illustration on page 20.

SPRAYER CALIBRATION

Certain measuring devices are necessary to calibrate the sprayer. Have the following items handy before you start.

1. Watch with sweep second hand.
2. Plastic container graduated in fluid ounces (quart capacity).

Nozzle Tip Selection

1. Decide on application rate in gallons per acre (GPA).
2. Determine row spacing and select number of nozzles per row.
3. Select a desired operating speed.
4. Select nozzle tip for the desired application rate and pressure setting. See nozzle tip calculator, page 8.

NOTE: Larger tips operated at lower pressures are preferred to minimize spray drift.

Checking Nozzle Tips

Install proper tips and partially fill system with clean water. With sprayer stationary, operate sprayer at pressure setting indicated on nozzle tip calculator (page 8). Check sprayer for leaks and spray pattern. Collect spray from each nozzle tip (15 to 30 seconds). Record each sample and compare with average. Replace tips having an uneven spray pattern and/or where tip flow is greater or less than 10 per cent of average.

Calibration Procedure

1. Fill sprayer with proper chemical mixture. Move

sprayer to field. Measure calibration distance (see chart for the row spacing in the field and mark each end of distance so it can be seen from tractor seat. Drive the sprayer across the marked distance at operating speed and initial pressure setting. Record the travel time in seconds. Stop the sprayer and turn on the spraying system (operate at the same throttle setting). Collect spray from nozzle or nozzles from one row for the same number of seconds as the travel time. Measure the total spray collected in FLUID OUNCES. The number of fluid ounces represents the number of GALLONS PER ACRE (10 ounces collected equals 10 GPA). If fluid ounces collected does not agree with desired application rate, adjust pressure setting and re-collect spray. To increase the application rate, raise the pressure setting. To decrease the application rate, lower the pressure setting. Note final pressure, gear, and throttle settings.

When changing speeds, pressures, sprayer configurations or tips, the sprayer must be recalibrated.

EXAMPLE: A pesticide application requires 10 GPA of spray solution. The sprayer is equipped with two nozzles per 40-inch row. The desired speed is 8 mph. From the nozzle tip selection chart the operating pressure is 32 psi. The calibration distance is 102 feet (see chart). The time for traveling the calibration distance was 9 seconds and the spray collected was 11 ounces from the two nozzles. Reducing the operating pressure to 25 psi, the collected spray totaled 10 ounces. This represents the desired application rate of 10 GPA. The sprayer should be operated at 8 mph and 25 psi.

CALIBRATION DISTANCE CHART

Row Spacing (inches)	Distance (feet)	Row Spacing (inches)	Distance (feet)	Row Spacing (inches)	Distance (feet)	Band Width (inches)	Distance (feet)
40	102	32	128	24	170	14	292
38	107	30	136	22	186	12	340
36	113	28	146	20	204	10	408
34	120	26	157				

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