

50A SKID-MOUNTED SPRAYER



OPERATORS MANUAL 50A SKID-MOUNTED SPRAYER

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LITHO IN THE U.S.A.
ENGLISH



TO THE PURCHASER

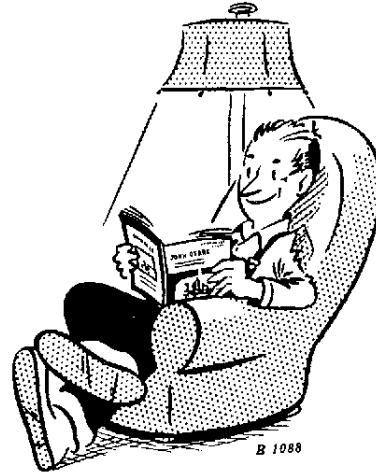
Your new John Deere Sprayer is efficient and dependable. It will give long and efficient service if given proper care and operation.

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.

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.



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

JOHN DEERE 50A SKID-MOUNTED SPRAYER

Date Purchased

3 HP Engine	<input type="checkbox"/>
5 HP Engine	<input type="checkbox"/>
Six Roller Grey Iron Pump	<input type="checkbox"/>
Seven Roller Ni-Resist Pump	<input type="checkbox"/>
Twin Piston Pump	<input type="checkbox"/>
Pump Surge Chamber	<input type="checkbox"/>
Hand Gun	
25-Ft. Hose	<input type="checkbox"/>
Boom Extension Nozzles	<input type="checkbox"/>
Five Gallon Nozzle Tips	<input type="checkbox"/>
Ten Gallon Nozzle Tips	<input type="checkbox"/>
Fifteen Gallon Nozzle Tips	<input type="checkbox"/>
Wide Spray Nozzle	<input type="checkbox"/>
Hand Gun and/or Wide Spray Control	<input type="checkbox"/>
Skid Extension	<input type="checkbox"/>

(To be filled in by purchaser)

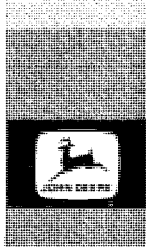
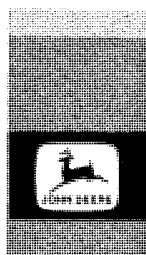
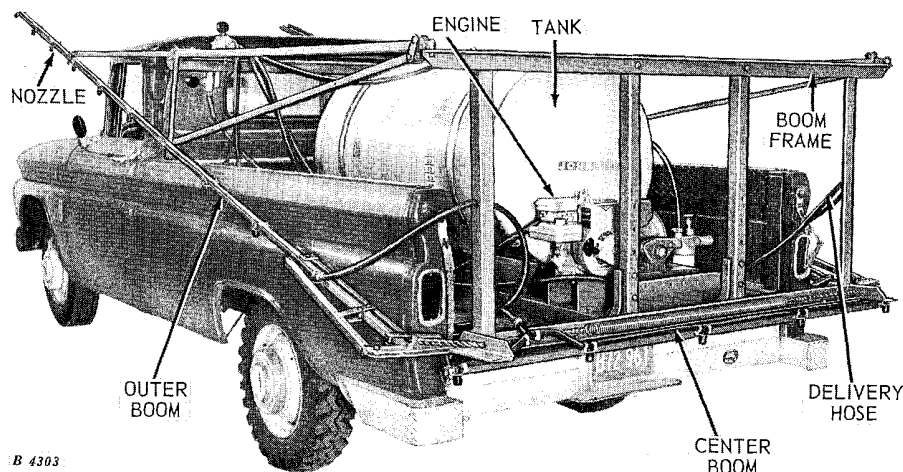


TABLE OF CONTENTS

	Page
SPECIFICATIONS	2-3
OPERATION	4-20
Mounting Sprayer	4
Engine	4
Filling the Tank	4
Positioning Booms	4-5
Controls	5
Nozzles	6-7
Sprayer Calibration	8-10
Nozzle Tip Selection Chart	9
Calibration Distance Chart	10
Nozzle Tip Identification Chart	10
Pump	11
Pump Surge Chamber	12
Pressure Surge Dampener	12
Pump Capacity	12
Wide-Spray Jet and Controls	13-14
Hand Gun	15-16
Boom Extension Nozzles	17
Transporting	18
Cleaning Sprayer	19
Safety Suggestions	20
LUBRICATION	21
SERVICE	22-33
Nozzles	22
Strainer	23
Pump Surge Chamber	23
Pressure Surge Dampener	24
Pressure Regulator	24
Roller Pump	25-28
Piston Pump	29-33
TROUBLE SHOOTING	34
ASSEMBLY	35-44



SPECIFICATIONS



John Deere 50A Skid-Mounted Sprayer Mounted on a 3/4-Ton Pick-Up Truck (Transport Position)

TYPE

The 50A Skid-Mounted Sprayer can be mounted on a pick-up truck or wagon. It is equipped with a 200-gallon, translucent-plastic tank reinforced with fiberglass and a six-roller grey iron pump. The pump is powered by a 3 h.p. air-cooled, four-cycle, one-cylinder gasoline engine. Optional equipment and attachments can be ordered.

BOOM

The boom, which covers twelve 40-inch rows, is made of square tubing with nylon fittings connected with rubber hose and mounted on adjustable clamps for varying the row

widths from 24 to 42 inches, or 12- to 21-inch spacing between the nozzles.

The boom is made in three sections with the center section being stationary, and the outer booms mounted on spring stabilized hinges.

BOOM CONTROL

The boom control is a seven position selector valve which controls the spray delivery to any of the three boom sections or any combination of sections. The selector valve handle is also the control for turning "ON" or "OFF" in any of the selected positions.

NOZZLES

The nozzle bodies, nozzle caps and strainer bodies are made of nylon for resistance to chemicals. The nozzles and line strainer screens are made of stainless steel.

NOZZLE TIPS

Nozzle tips are made of brass or stainless steel.

OVER-ALL TRANSPORT DIMENSIONS WITH BOOMS

Transport Width: approximately 8 feet.

Transport Height: approximately 9 feet from bottom of skid.

OPTIONAL EQUIPMENT

ENGINE

A 5 h.p. engine is available and may be ordered in lieu of the 3 h.p. engine.

NOTE: Engines are rated by manufacturer at 3600 rpm.

PUMPS

A six-roller grey iron pump, or a twin piston pump is available, and may be ordered in lieu of the seven-roller ni-resist pump.

PUMP SURGE CHAMBER

This attachment will minimize pulsation in the entire spray line. It is recommended for use with the piston pump.

PRESSURE SURGE DAMPENER

This attachment will protect the No. 1 pressure gauge from excessive pulsation. It is recommended for use with the piston pump when the pump surge chamber attachment is not used.

HAND GUN

A hand gun is available with a 25-foot hose. It can be used independently with the hand gun control or attached to the controls of the boom or wide spray jet.

It can be used for spraying animals, fence rows, spot weed control, buildings, and for fire fighting.

WIDE SPRAY JET

A wide spray jet is available and may be ordered in lieu of boom and boom controls.

The wide spray jet is used for broadcast spraying grains and pastures.

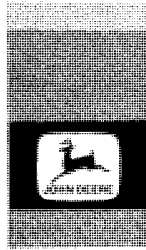
BOOM EXTENSION NOZZLES

This nozzle fits on each end of the boom and increases the boom coverage by an additional 7 feet on each end.

SKID EXTENSION

This extension is available for trucks with longer beds.

(Specifications and design subject to change without notice.)



OPERATION

MOUNTING SPRAYER

Place the sprayer in a pick-up truck, or on a trailer, and bolt down the skid.

NOTE: The boom frame may be assembled on either end of the skid. See page 38. This will permit sprayer engine to be at front of the bed, or rear of the truck or trailer bed.

ENGINE

Refer to the engine operator's manual for instructions covering operation, lubrication and maintenance of the engine.

FILLING THE TANK

FROM THE TOP

Open the lid and fill the tank with water. Add the chemical to be used as tank is being filled. Close the lid. Operate pump after tank is filled to mix chemical thoroughly.

WITH THE SPRAYER PUMP

The sprayer pump can be used to fill the tank.

Turn the shut-off valve to the "OFF" position.

Disconnect the pump suction hose from the inlet side of the strainer.

Obtain one length of 3/4-inch hose, not over 50 feet long, with a female hose connection on one end and a strainer on the other end. Connect the female hose connection to the pump where the suction hose was removed. Place the end of the hose with the strainer into the water.

NOTE: Do not place pump at height of more than 20 feet above source of water.

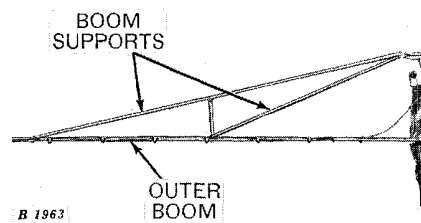
NOTE: The hose used for filling tank does not have to be chemical resistant.

Disconnect the pump discharge hose from the boom control and place loose end of hose into the tank.

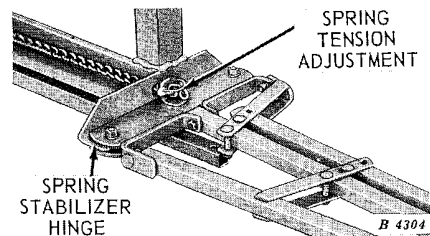
Start the sprayer pump. Add the chemical as tank is being filled.

CAUTION: Clean the suction line strainer screen after filling the tank.

POSITIONING BOOMS

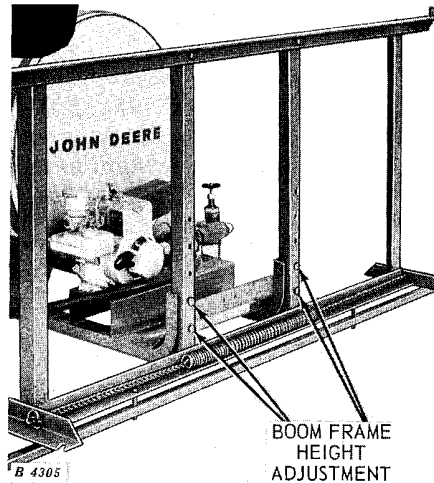


Lower the outer booms to the operating level and adjust the boom supports so that the booms are level.



Oil the outer boom spring stabilized hinges so outer booms pivot freely.

If necessary, adjust the spring tension for each outer boom so the boom will come back into position after it hits an obstruction.



Adjust the boom frame up or down so that the desired spray pattern can be obtained.

The nozzle tips should normally be 18 to 22 inches above surface to be sprayed.

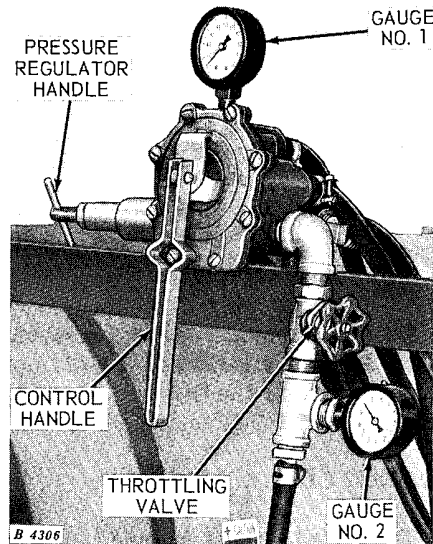
CONTROLS

CAUTION: Do not operate the booms at pressures in excess of 150 psi.

The spray delivery by any of the three boom sections, or any combinations of the suctions, can be obtained by turning the control handle to the position indicated on the control housing. The control handle also controls the "ON" — "OFF" valve. The operating positions are marked as follows:

- L - Outer left-hand boom.
- LR - Outer left- and right-hand booms.
- LCR - All three booms operating.
- C - Center boom.
- LC - Outer left-hand and center booms.

- CR - Center and outer right-hand booms.
- R - Outer right-hand boom.



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.

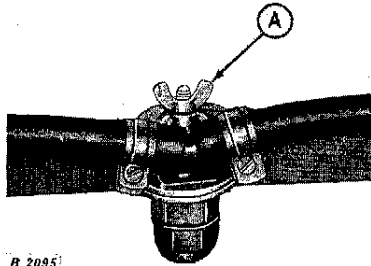
NOTE: The agitation pressure should never be less than 30 psi.

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.

6 Operation

NOZZLES

ADJUSTING NOZZLE SPACING

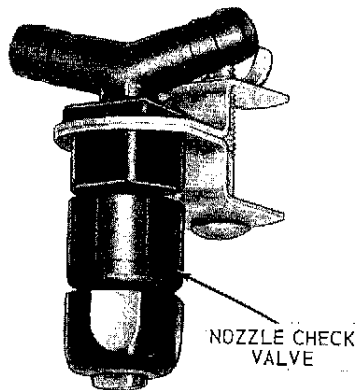


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To adjust nozzle spacing, loosen nuts "A," and slide the nozzle clamp on the boom to the desired spacing and tighten nut "A."

NOZZLE CHECK VALVES

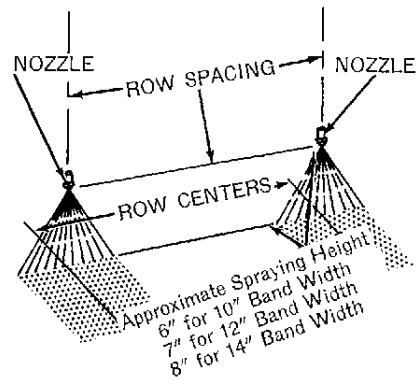
The nozzle check valves may be used in conjunction with the regular nozzles.



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When the spraying system is shut off, check valves will completely stop the flow of chemical at the nozzles. If the spraying system is shut off at the boom controls, check valves will reduce the flow at the nozzles to a drip.

ADJUSTING WIDTH OF SPRAY BAND



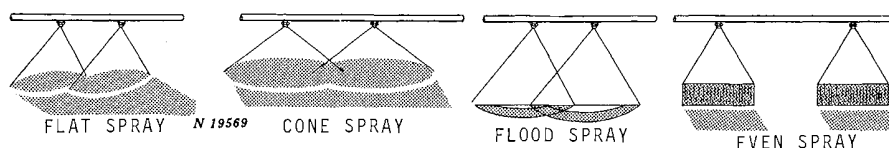
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The height of each nozzle from the ground determines the width of the band of spray on the soil.

Raise the nozzles to increase the width of the bands. Lower the nozzles to decrease the width of the bands.

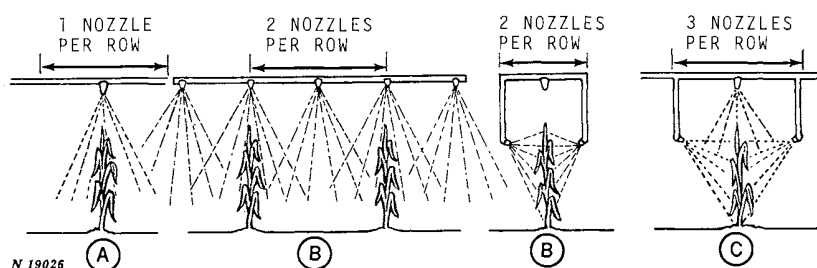
Adjust the nozzles so that the slot in the bottom of each nozzle is at right angles to the direction of travel.

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 the various nozzle combinations which can be used. See Nozzle Tip Selection 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.

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 selection chart, page 9.

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

CHECKING NOZZLE TIPS

1. Install proper tips and partially fill system with clean water. With sprayer stationary, operate sprayer at pressure setting indicated on nozzle tip selection chart (page 9). 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, page 10) for the row spacing in the field and mark each end of distance so it can be seen from tractor seat. Drive tractor with 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 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 re-calibrated.

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, page 10). The time for traveling the calibration distance was 9 seconds. 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.

NOTE: When calibrating for banding applications use band width to find calibration distance (see chart, page 10). Follow above calibration procedure to find application rate for band width.

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