



John Deere

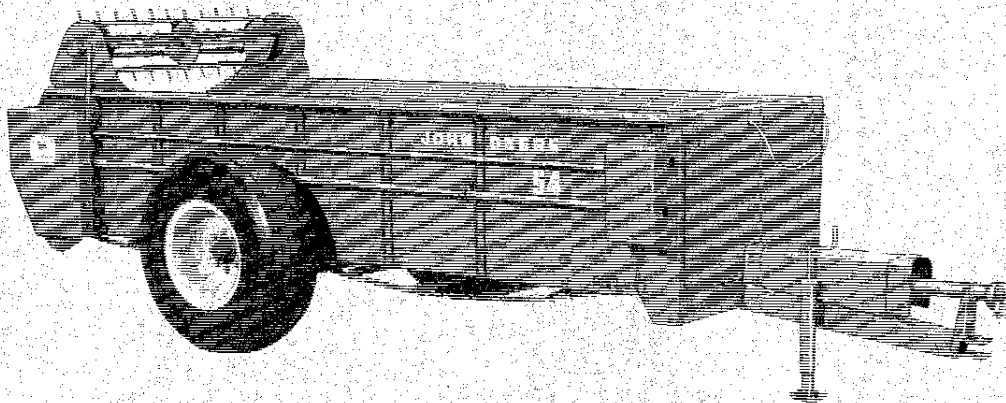
Operator's Manual

54

OM-E51550

Spreader

Issue G1






To the Purchaser

Your new spreader 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, or service. Read the Table of Contents to learn where each section is located. Use the alphabetical index for fast reference.

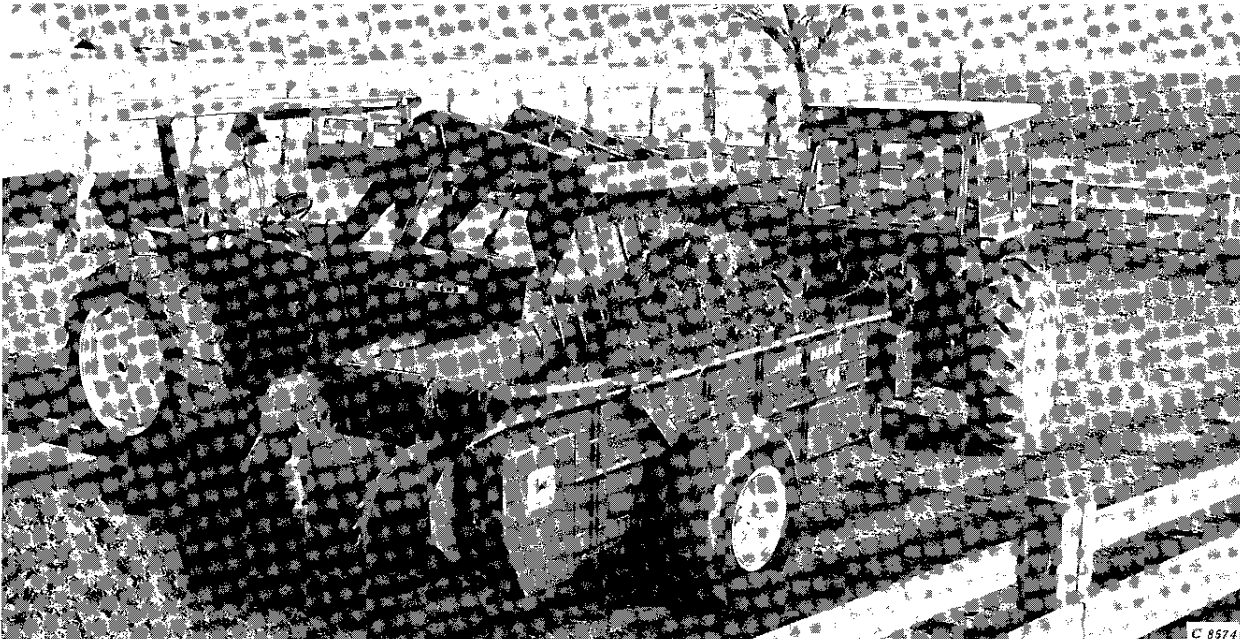
In addition to the the equipment furnished with your spreader, attachments are available to help you do a better job in special manure conditions. These are described in the operation and attachments section of this manual and can be purchased from your John Deere dealer.

 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.

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

Record your spreader serial number in the spaces provided on page 40. Your dealer needs this information to give you prompt, efficient service when you order parts. If your spreader requires replacement parts, go to your John Deere dealer where you can obtain Genuine John Deere parts—accept no substitutes.

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



JOHN DEERE 54 SPREADER

PREDELIVERY CHECK LIST

After the spreader has been completely lubricated and attachments installed, inspect it to be sure it is in good running order before delivering it to the customer. The following check list is a reminder of points to inspect. Check off each item as it is found satisfactory or after proper adjustment is made.

- Nuts on all bolts have been tightened, and all cotter pins have been spread.
- All grease fittings have been lubricated. (See lubrication section, page 11.)
- Oil level in gear case has been checked. (See lubrication section, page 14.)
- All chains have been tested for proper adjustment. (See service section, pages 16, 19 and 20.)
- The spring clutch has been properly adjusted. (Page 17.)
- Ratchet feed and beater throw-out have been adjusted. (Page 15.)
- Conveyor chain has been tightened. (Page 19.)
- Drive chains have been oiled. (See lubrication section, page 11.)
- Beater has been checked to see that it is free running with clutch disengaged.
- Tires have been checked to be sure they are inflated to proper air pressure. (Page 3.)
- Recheck tightness of wheel bolts. (Page 31.)
- The spreader has been checked for proper operation. (See service section, page 15.)
- All shields are in place and in good condition. The spinner shields on the side shaft and the PTO shaft rotate freely.

(Date Set Up)

(Signature of Set-Up Man)

Insert for OM-E51550 (G1)
Litho in U.S.A.

DELIVERY CHECK LIST

At time spreader is delivered, the following check list is a reminder of very important information which should be conveyed directly to the customer. Check off each item as it is fully explained to customer.

- Emphasize the importance of keeping all shields in place.
- Advise the customer about the location, operation, and adjustment of the spring clutch.
- Explain the proper chain tension to the customer.
- Advise the customer of the danger of escaping hydraulic oil under pressure. If the spreader is equipped with a power-seal endgate (attachment), explain the importance of tight connections; lines, pipes, and hoses free of damage. Also, the importance of relieving all hydraulic pressure before disconnecting lines or pipes of tractor hydraulic system.
- Point out the shear bolt in the chain bracket if the spreader is equipped with a power-seal endgate (attachment).
- Advise the customer that the life expectancy of this or any other machine is dependent on regular lubrication as described in operator's manual.
- Advise the customer of the safety precautions he must exercise while using this spreader.
- When the spreader is transported on a road or highway at night or during the day, accessory lights and devices should be used for adequate warning to operators of other vehicles. In this regard, tell customers to check local governmental regulations. The reflector bracket is designed for installation of a safety light.
- Give the operator's manual to the customer and explain all operating adjustments and lubrication fully to him.

(Date Delivered)

(Signature)

AFTER-SALE CHECK LIST

It is suggested that the following items be checked during the first 25 to 50 loads, or during the first season's operation of the spreader, whichever occurs first.

- Go over entire machine for loose or missing bolts.
- All safety shields are in place.
- All chains are properly tightened.
- Spring clutch is properly adjusted.
- Check for broken or damaged parts.
- Check shear bolt if spreader is equipped with power-seal endgate (attachment).
- Check to see that the side shaft and PTO spinner shields rotate freely.
- Check tires for proper inflation.
- Check tightness of wheel bolts. (See page 31.)
- If possible, run the spreader to see if it is functioning properly.
- Review the entire operator's manual with the customer and stress the importance of proper and regular lubrication and safety precautions. Be sure he understands how to make all proper field adjustments.
- Advise the customer of the optional attachments that are available for special manure conditions.

(Date Checked)

(Signature)

OWNER REGISTER

Name

Post Office

County State.....

Serial No.

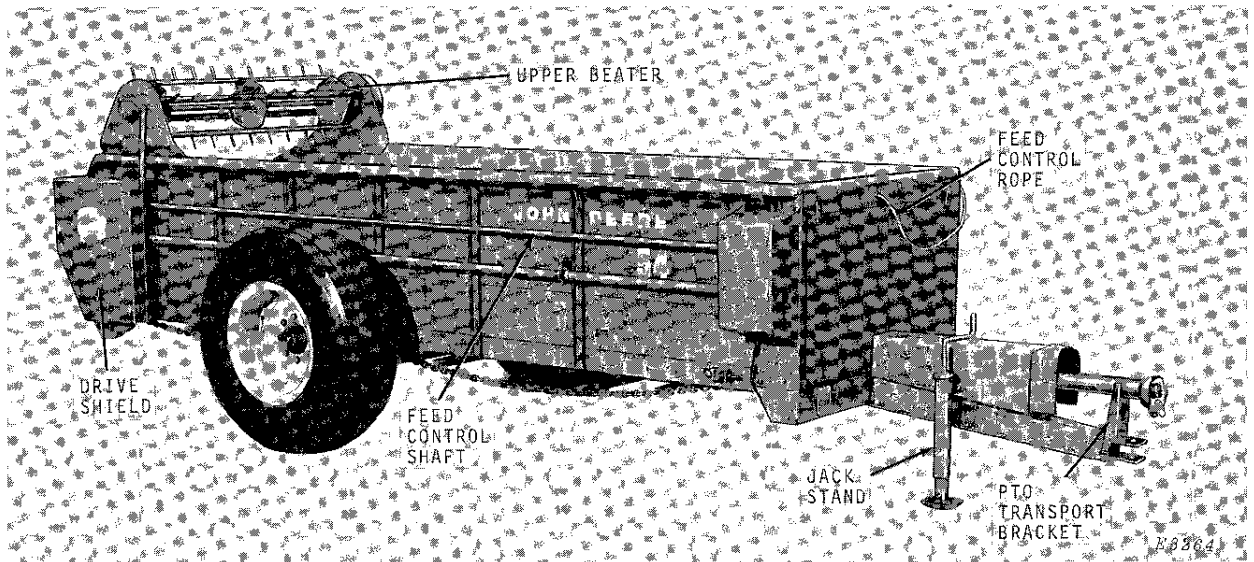
Operator's Manual No.

Date Purchased



Contents

	Page
Identification View	1
Operation	2
Lubrication	11
Service	15
Trouble Shooting	24
Attachments	26
Assembly	29
Specifications	40
Index	41



Right-Hand Front View of John Deere 54 Spreader



Operation

GENERAL INFORMATION

The John Deere 54 Spreader is a high-capacity spreader built for the large feedlot and the large dairy farmer. The 54 Spreader ASAE-rated capacity is 207 cubic feet (formerly 220 bushels).

The spreaders may be equipped for either 540 or 1000 rpm PTO operation which assures constant and even unloading regardless of ground conditions.

Two unloading settings, combined with the various tractor operating speeds provide a wide range of spreading rates. Feed rate changes can be made from the tractor seat with the feed control rope.

Three types of beaters are available: a 9- or 18-inch drum beater widespread, or a paddle beater with 12 replaceable paddles. An upper beater also is available as an attachment for use with tough shed manure.

The 18-inch drum beater widespread is designed for manure that has little, if any, bedding. The drum nearly fills the rear of the spreader and prevents soft manure from running out. In many cases, the drum eliminates the need for an endgate.

The 9-inch drum beater widespread plugs some of the gap at the rear of the spreader but still handles strawy, packed manure quickly. It is designed for operations having a variety of spreader requirements from tough manure to soft.

The paddle beater has more teeth than the drum beater widespread and takes deeper bites for shredding and spreading hard, packed, strawy manure in a hurry. Teeth are easy to replace.

The single beater and bed conveyor operate from a bevel gear case and worm gear case located on the right rear spreader side.

The bevel gear case regulates the speed of the conveyor. The worm gear case drives the bed conveyor.

The beater can be stopped while the bed conveyor continues to clean out the spreader.

Two endgates are available to help contain semi-liquid manure.

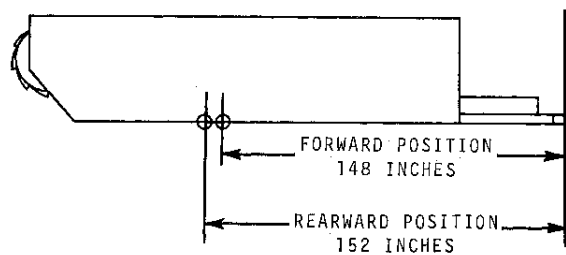
The power-seal endgate which operates in front of the beater is operated by the tractor remote hydraulic cylinder. The endgate may be stopped at any height through its range to "meter" semi-liquid manure to the beater.

The rear endgate, with door and controls, is recommended when spreading semi-liquid or loose, strawy manure. A rope, conveniently positioned near the tractor seat, opens the endgate door.

The two-position axle allows the operator to vary the weight of the spreader at the hitch point to suit his particular tractor and equipment.

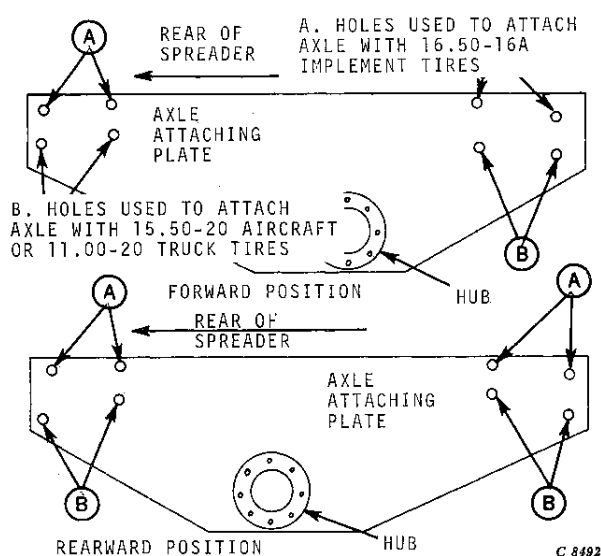
PREPARING THE SPREADER

Positioning Axle



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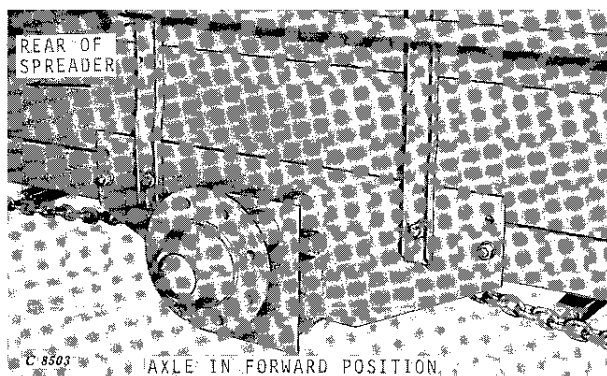
For forward position, the center of the axle hub is 148 inches from the end of the hitch. For rearward position, the center of the axle hub is 152 inches from the end of the hitch.



Two axle positions are provided so spreader weight on the tractor hitch can be increased or decreased, according to the tractor being used with the spreader. Two axle heights may be used, depending upon the wheel and tire sizes used on the spreader.

IMPORTANT: The spreader axle must always be in forward position when used with John Deere 3020, 4000, 4020 and 4320 Tractors, or other tractors equivalent in size and weight.

The spreader axle can be moved to the rearward position when used with John Deere 4620 or 5020 Tractors, or tractors other than John Deere equivalent in size and weight, when the hitch weight can be supported by the tractor drawbar.



To move the axle from forward to rearward position, or from rearward to forward position, rotate the complete axle so hubs are positioned on the opposite sides of the spreader

Tire Inflation

The tire sizes listed below are the only sizes recommended for use with this spreader. Check to be sure tires are inflated according to the chart below.

TIRE INFLATION

Tire Size	Ply Rating	Inflation
11.00-20 Truck	Optional	45 psi
16.50-16A Implement	10	32 psi
15.50-20 Aircraft	Optional	45 psi

PREPARING THE TRACTOR

Tractor Requirements

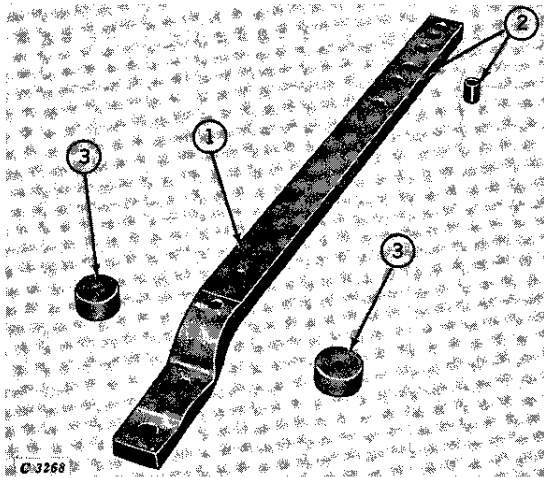
The John Deere 54 Spreader may be used with John Deere 3020, 4000, 4020, 4320, 4620, and 5020 Tractors. When the spreader is used with the 3010 Tractor, the tractor must be equipped with a 3020 Tractor drawbar. When used with 4620, or 5020 Tractors, the 54 Spreader must be equipped with 1000 rpm PTO drive.

Other makes and models of tractors equal in size to the John Deere tractors mentioned above may be used if the drawbar support and drawbar have a 1500-pound minimum static vertical load rating.

CAUTION: Be sure to use a tractor capable of handling your spreader when in hilly country. Always transport your loaded spreader at a slow and safe speed.

PREPARING THE TRACTOR—Continued

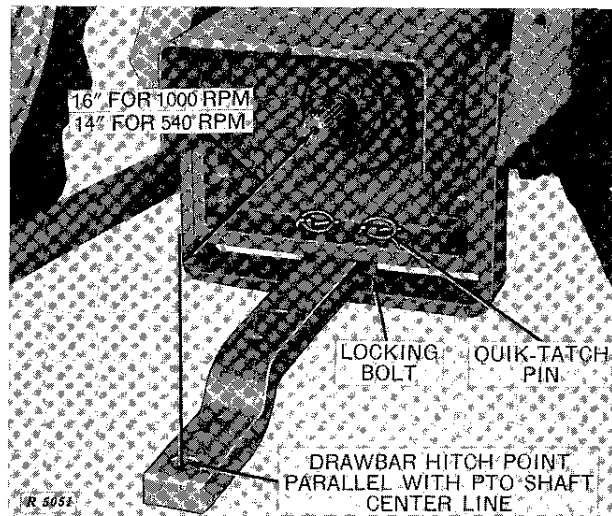
Drawbar for 3010 Tractor



A 3020 Tractor drawbar with bushings must be used on the 3010 Tractor when used with the 54 Spreader.

1. Install 3020 Tractor Drawbar (AC13006C) on tractor. The hitch pin hole in the drawbar must be in line with the tractor PTO shaft and must be 14 (540 rpm) or 16 (1000 rpm) inches from the shaft as shown in illustration on this page.
2. Fasten front of drawbar to tractor with drawbar pin previously removed and 1-inch O.D. x 1-1/2-inch bushing over drawbar pin.
3. Install 2-1/2-inch O.D. x 1-1/4-inch spacers over pins at each side of drawbar to secure drawbar directly in line with tractor PTO shaft.
4. Replace master PTO guard on tractor if it has been removed.

Positioning Drawbar



Position the tractor drawbar as shown with the offset in the drawbar down. The distance from the end of the tractor power take-off to the drawbar hitch pin hole must be 14 inches for 540 rpm PTO operation or 16 inches for 1000 rpm PTO operation. Lock the drawbar in its crossbar, parallel with the centerline of the powershaft, placing the locking bolts on either side of the drawbar.

CAUTION: Do not attempt to operate the spreader-tractor combination unless the PTO operating speed of the spreader and tractor are the same.

NOTE: The 4620, and 5020 Tractors are equipped with 1000 rpm PTO drive only. Be sure the spreader is equipped for 1000 rpm PTO operation when used with these tractors.

Hydraulic Equipment

If the spreader is equipped with the powerseal end-gate, which is operated by the tractor remote hydraulic cylinder, the tractor must be equipped with at least one tractor selective control valve and one ASAE standard 8-inch stroke remote hydraulic cylinder. See your tractor operator's manual for information regarding operating the remote cylinder.

Front End Weighting

Provide sufficient weighting to stabilize tractor when operating on hilly land or other adverse conditions. See your tractor operator's manual for front end weighting information.

Rear Wheel Spacing and Weighting

Adjust wheel spacing, for maximum stability, as shown in tractor operator's manual.

Add rear wheel weights or liquid ballast to the tractor as recommended in the tractor operator's manual.

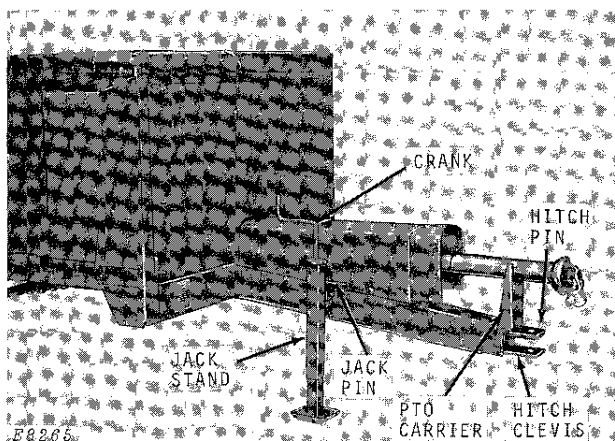
Tire Inflation

Check front and rear tires on the tractor to be sure they have been inflated according to the recommendations in the tractor operator's manual.

Tractor Control

The spreader is operated by the tractor power take-off. For information concerning proper power take-off operation, see your tractor operator's manual.

HITCHING TO TRACTOR



Carefully back the tractor into position. Make sure the jack pin is in the spreader jackstand. Using the crank on the jackstand, raise or lower the spreader hitch into position to engage the tractor drawbar. Secure the spreader hitch to the tractor drawbar with a hitch pin. Raise jackstand, remove jack pin, and rotate jack to transport position. Replace jack pin and Quik-Lock pin previously removed.

CAUTION: Do not transport the spreader unless the hitch pin is secured and the jackstand is in transport position.

Connecting Telescoping Hookup

The PTO operating speed of the tractor and the spreader must be the same. The tractor half of the powershaft will be equipped with six splines for 540 rpm operation or 21 splines for 1000 rpm operation.

CAUTION: Never hook up a spreader equipped for 540 rpm operation to a 1000 rpm tractor PTO.

Slide the front end of the telescoping hookup onto the tractor powershaft until it is secured with the spring-lock pin.

NOTE: Never use a steel hammer when connecting or removing the telescoping hookup. Keep the hookup and powershaft splines clean.

After making the connection, check to be sure the powershaft spinner shields are free to operate.

Push the carrier down onto the hitch.

Control Ropes

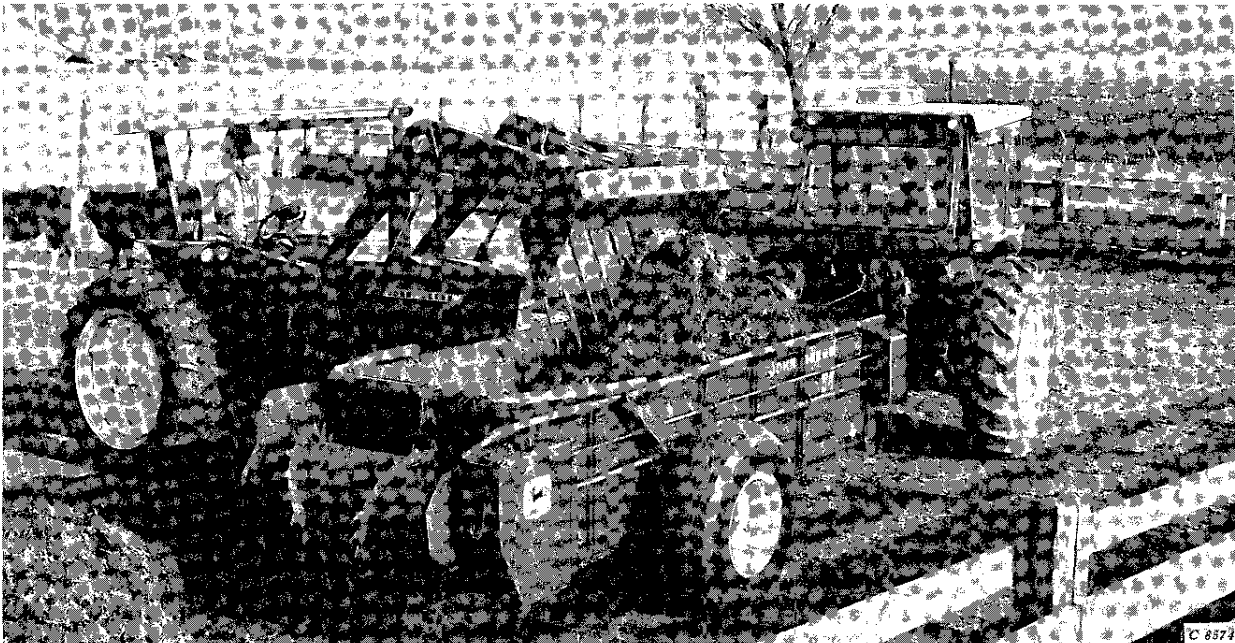
Attach the spring clip for the feed control rope to the rear of the tractor, at a location that is within easy reach of the operator. The spring clip will release the control rope if the operator should forget to disconnect it.

If the spreader is equipped with a rear endgate, attach the endgate control rope to the tractor in the same manner. Keep the ropes separated as widely as possible to avoid pulling the wrong rope when operating the spreader.

UNHITCHING FROM TRACTOR

When unhitching the spreader, lower the jackstand, insert the jack pin and secure it with the Quik-Lock pin. Turn crank until the weight of the spreader is removed from the tractor drawbar. Disconnect the powershaft and place it in the carrier, before removing the spring locking pin and hitch pin.

OPERATING THE SPREADER



Before Loading Spreader

Operate a new spreader for a few minutes before loading to make certain all parts are operating properly.

In cold weather, check to be sure the conveyor chains and flights are not frozen to the bed. Clean endgate rubber flaps if spreader is equipped with them.

Check the bed conveyor chain tension and adjust if necessary. See page 20.

IMPORTANT: Be sure the feed indicator is in "B" (beater) position before loading the spreader. This eliminates the possibility of operating the bed conveyor with the beater disengaged and jamming the load against it.

Loading Spreader

Always start to load the spreader at the front, next to the dash. Then continue to load toward the rear.

IMPORTANT: Avoid excessive loading. For best spreading results, do not load the spreader more than 15 inches above the beater. The 54 Spreader is designed to haul up to a maximum load of 6-1/2 tons net, using a manure density of 60 pounds per bushel. If the manure contains sand and weighs over 60 pounds per bushel, reduce the load height so the maximum load limit will not be exceeded.

IMPORTANT: Be sure tractor drawbar and support are heavy enough to support the recommended load. See page 3 for tractor requirements.

Unloading Spreader

CAUTION: Be sure no one is standing near the rear of the spreader before placing the spreader in operation.

Before engaging the PTO, be sure the feed rate indicator is in the "B" (beater) position.

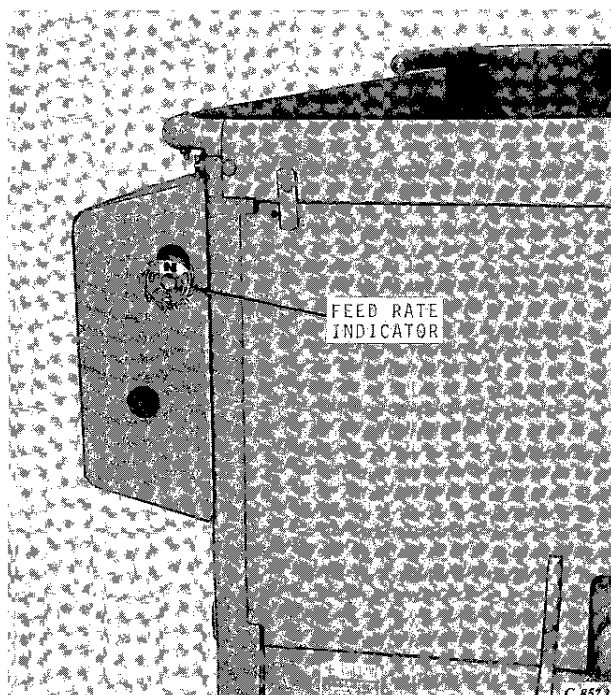
Always engage the tractor PTO slowly to avoid slipping the clutch when starting to unload. If the clutch should slip, you will hear a clicking sound. Determine the cause and readjust the spring clutch. Instructions for readjusting the spring clutch are given on page 17.

The rate of unloading can be changed by varying the feed position, and tractor PTO and ground speeds. The first and second feed positions are used to unload the spreader and the "C" (cleanout) position when the spreader is nearly empty. This eliminates any throw-back of material and allows the bed to be completely emptied.

During cold weather, be sure to empty the bed completely to prevent the conveyor chain from freezing to the bed.

After the bed is emptied, pull the feed control rope to the neutral position. Disengage the tractor PTO.

Spreader Controls



The bed conveyor chain and the beater are both controlled by a single rope operated from the tractor seat.

Six different positions can be obtained by pulling the control rope. See chart in the next column for various positions.

Control and Indicator Settings

Position of Control	Conveyor Speed (Feet Per Minute)			Beater Drive
	Regular Sprocket	Decreased 1st Speed Sprocket	Increased 2nd Speed Sprocket	
N (Neutral)	0	0	0	Disengaged
B (Beater)	0	0	0	Engaged
1 (1st Speed)	5.1	4.7	5.1	Engaged
B (Beater)	0	0	0	Engaged
2 (2nd Speed)	7.2	7.2	9.0	Engaged
C (Cleanout)	7.2	7.2	9.0	Disengaged

The feed rate indicator at the front of the spreader shows the position in which the feed control is set.

In the neutral position, the beater and bed conveyor is disengaged. When loading, place the feed rate indicator in the "B" (beater) position to be sure the beater is engaged when the PTO is engaged. This prevents jamming of material against the beater which could damage drive parts.

To change the position, pull the control rope lightly until indicator shows the required position.

To change from the slower to the faster rate of feed, pull the control rope twice to move the controls through the "B" (beater) position located between "1" (1st speed) and "2" (2nd speed).

NOTE: It may be necessary to have the PTO turning slowly to allow the conveyor clutches to engage properly when changing control position.

IMPORTANT: With a fully loaded spreader do not operate the PTO when the control is in "C" (cleanout) position. The material will jam against the beater (beater is disengaged in "C" position) and shear the conveyor drive pin.

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