

# 50 and 51 Backhoes



JOHN DEERE

## OPERATORS MANUAL

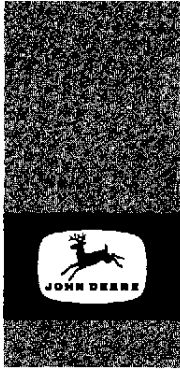
50 and 51  
Backhoes

OMU15148 J7 English

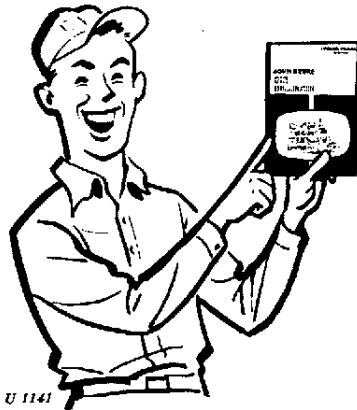
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# TO THE PURCHASER



This manual covers operating, lubricating, servicing and adjusting instructions for John Deere 50 and 51 Backhoes.

The way you operate your backhoe and the care you give it will have much to do with the service and satisfaction you get from it. Read this manual and follow the instructions provided.

If you find you need information not covered in this manual, or if your backhoe requires special servicing, take advantage of the facilities offered by your John Deere dealer. He has trained servicemen who are kept informed on the best

methods of servicing and can give you prompt "know-how" service in the field or in his shop. By giving your backhoe proper attention during slack periods, it will always be ready for use without delays when you need it.

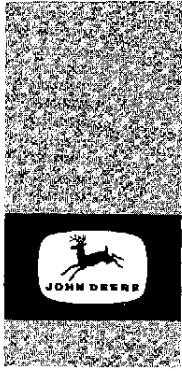
Backhoes are identified by serial number. Record this serial number below so it will be available for future reference.

Sometime in the future, your backhoe may need new parts to replace worn or broken parts, or emergency repairs may be required. If so, go to your John Deere dealer. He will see that you get high-quality, genuine John Deere parts.

When the term "Right" or "Left" is used, it is determined from a position on the backhoe seat facing the backhoe.

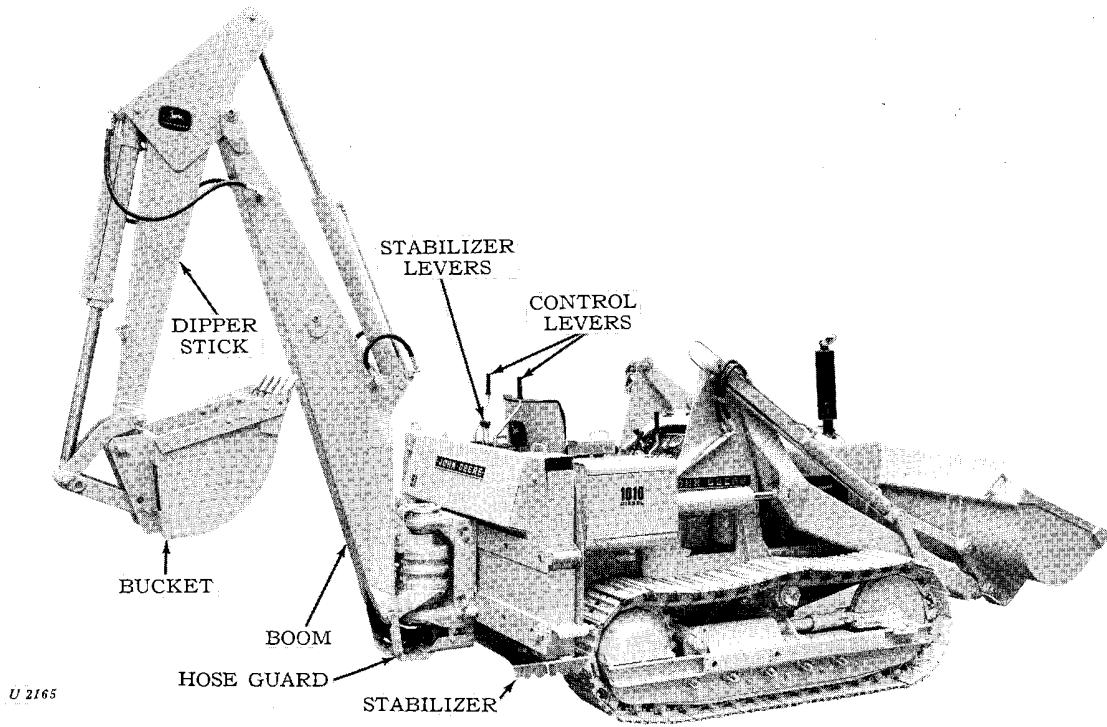
<b>Backhoe</b> Model No. ....
<b>Backhoe</b> Serial No. ....
<b>Swing Cylinder</b> Serial No. ....
<b>Date Purchased</b> . . . . ., 19 . . . .

**CAUTION:** Before operating the backhoe, run the tractor engine for fifteen minutes to be sure all foreign matter has been picked up by the reservoir filter. This will reduce plugging of relief valve screen.



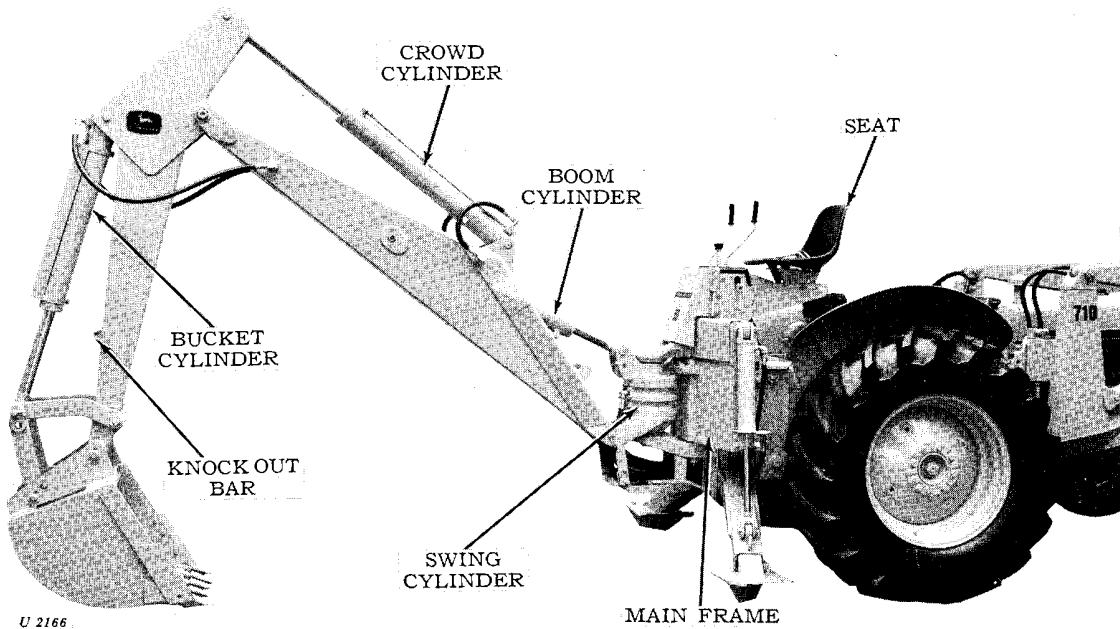
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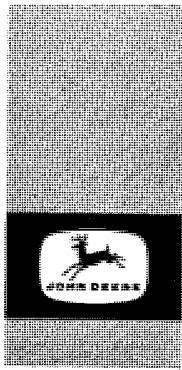
U 2165

*John Deere 51 Backhoe Mounted with 1010 Crawler Loader*

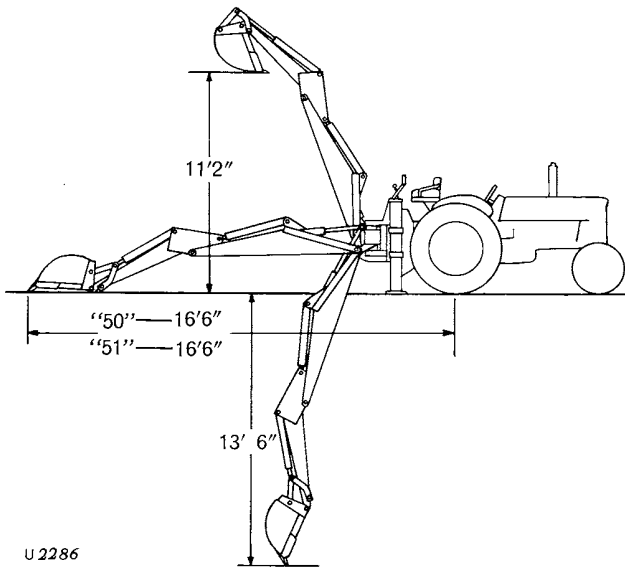


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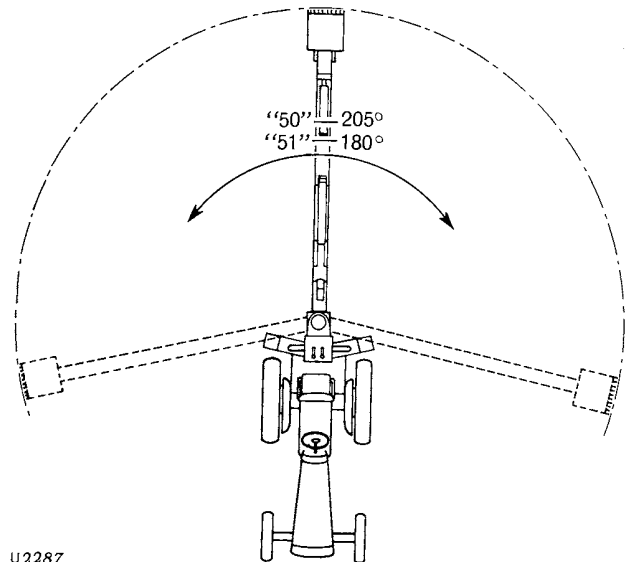
*John Deere 50 Backhoe Mounted with 710 Wheel Loader*



# SPECIFICATIONS



U2286



U2287

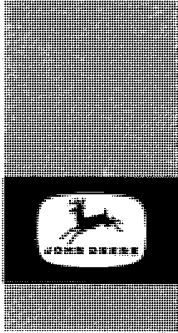
	50 Backhoe	51 Backhoe
Maximum Digging Depth . . . . .	13' 6"	13' 6"
Maximum Reach Ground Level (Centerline Cylinder) . . . . .	16' 6"	16' 6"
Maximum Dump Clearance (Bucket Closed) . . . . .	11' 0"	11' 0"
Maximum Swing . . . . .	205°	180°
Bucket Arc . . . . .	155° or 170°	155° or 170°
Bucket Roll-Back . . . . .	27° or 45°	27° or 45°
Pryout Pressure (Lbs.) . . . . .	20,000	20,000
Controls . . . . .	Two Lever	Two Lever
Positions Available . . . . .	One	Five
Transport Height . . . . .	11' 2"	11' 2"
Shipping Weight with Mounts and Bucket (Approximate) . . . . .	2550 Lbs.	2850 Lbs.

## HYDRAULIC SYSTEM:

Operating Pressure . . . . .	2000 psi.	2000 psi.
Pump . . . . .	Cessna or Webster (Gear-Type)	Cessna or Webster (Gear-Type)
Filters . . . . .	Full-Flow Micronic and Wire Mesh	Full-Flow Micronic and Wire Mesh
Valve . . . . .	Cessna (Stack-Type)	Cessna (Stack-Type)

*When the term "Right" or "Left" is used, it is determined from a position on the backhoe seat facing the backhoe.*

*(Specifications and design subject to change without notice.)*



# OPERATION

## CONTROLS

**CAUTION:** Run tractor engine for fifteen minutes before operating backhoe for the first time to be sure oil has been filtered through reservoir filter. This will reduce possibility of plugging relief valve screens.

### ENGINE SPEED

The speed at which the backhoe works is partially dependent upon engine RPM. Operators may regulate speed of operation by varying the engine RPM, with maximum speed being reached at full throttle on most John Deere tractors.

**CAUTION:** When operating the backhoe with a John Deere 740 Loader, engine speed should not exceed 1700 RPM.

### SELECTOR VALVE CONTROL LEVER



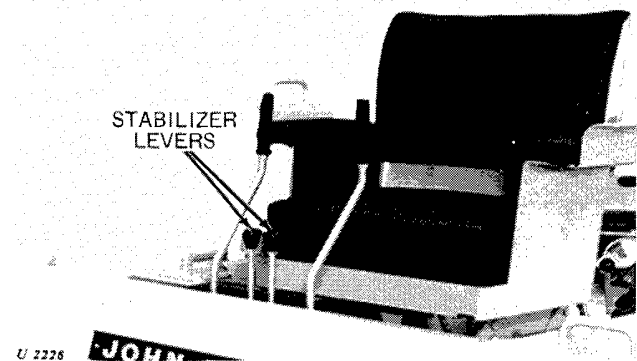
A selector valve is provided with some backhoe-loader or backhoe-bulldozer combinations. The selector valve directs the flow of oil to either the backhoe or the front-mounted equipment.

When the selector valve handle is pulled out, the flow of oil is directed to the backhoe. When the handle is pushed in, the flow of oil is directed to the front-mounted equipment.

There is no selector valve on backhoes using the power beyond or closed center circuits. In this system, pressure oil is automatically diverted to either the backhoe or the front-mounted equipment when the control levers on either unit are moved.

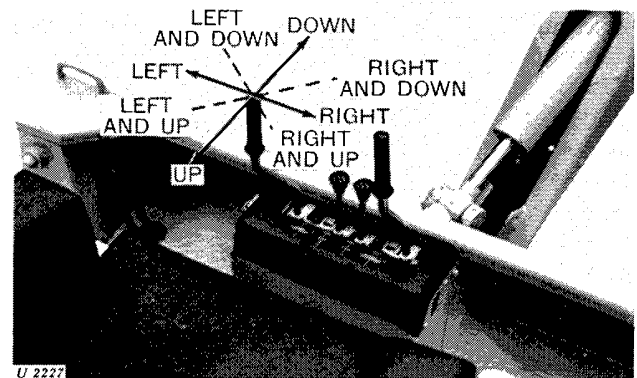
### STABILIZER CONTROL LEVERS

The right and left stabilizer legs on each side of the main frame are individually controlled by the two levers shown below. The stabilizers may be raised or lowered individually, or simultaneously.



To lower the stabilizers for backhoe operation, move the control levers forward. To raise them, pull the levers rearward.

### BOOM CONTROL LEVER



The boom control lever pictured above controls four functions—raising or lowering the boom, and swinging it to the left or right.

Lower the boom by pushing the control lever forward. Raise the boom by moving the lever rearward. Swing left by moving the lever left and swing right by moving it to the right.

By moving the lever to one of the intermediate positions, the boom can be swung left or right at the same time it is being raised or lowered, performing the two operations simultaneously.

SWING LEFT AND LOWER the boom by moving the control lever forward and to the left.

SWING LEFT AND RAISE the boom by moving the control lever rearward and to the left.

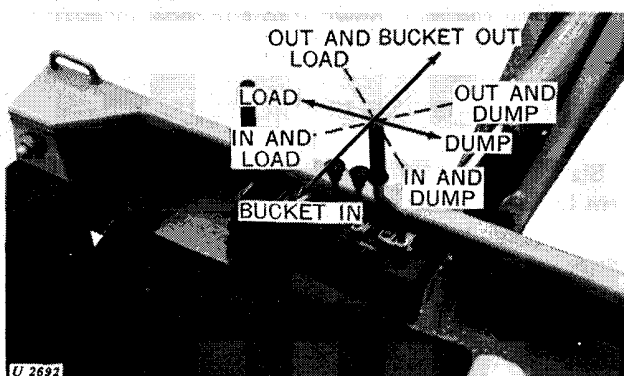
SWING RIGHT AND LOWER the boom by moving the lever forward and to the right.

SWING RIGHT AND RAISE the boom by moving the lever rearward and to the right.

The two simultaneous operations of the boom lever, combined with two operations performed by the bucket control lever as described below, provide a total of four simultaneous operations from the two levers, reducing cycle time to a minimum.

Boom stops are provided as safety cushions for the boom when it travels too far to the right or left. Do not use the stops as a gauge to limit full swing to the right or left. Continuous hitting of the stops will cause damage to the boom or dipper stick.

#### BUCKET CONTROL LEVER



The bucket control lever also performs two simultaneous functions—extending or retracting the bucket, while loading or dumping it.

Extend the bucket to the out position by moving the control lever forward.

Retract the bucket to the in position by pulling the lever rearward.

Dump the bucket by moving the control lever to the right and load it by moving the lever to the left.

By moving the lever to one of the intermediate positions, the bucket can be extended or retracted at the same time it is moved into dump or load position.

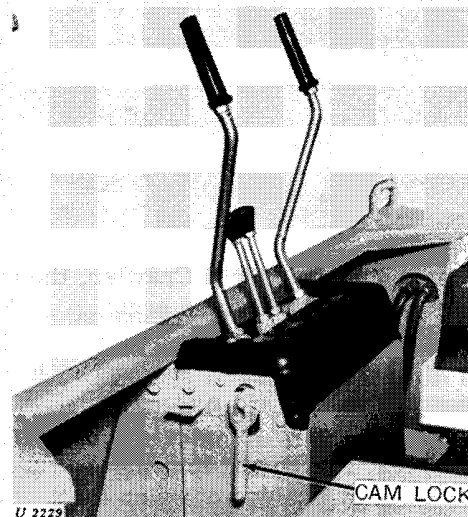
Extend out and dump the bucket by moving the lever forward and to the right.

Retract in and dump the bucket by moving the lever rearward and to the right.

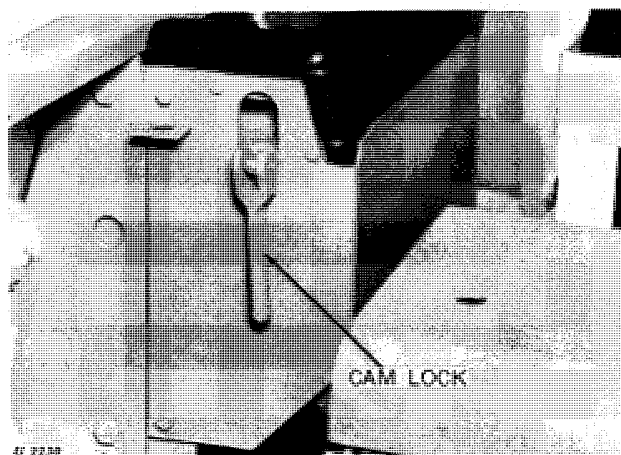
Extend out and load the bucket by moving the lever forward and to the left.

Retract in and load by moving the lever rearward and to the left.

#### CAM LOCK FOR POSITIONING CONTROL LEVERS



Controls Moved Forward



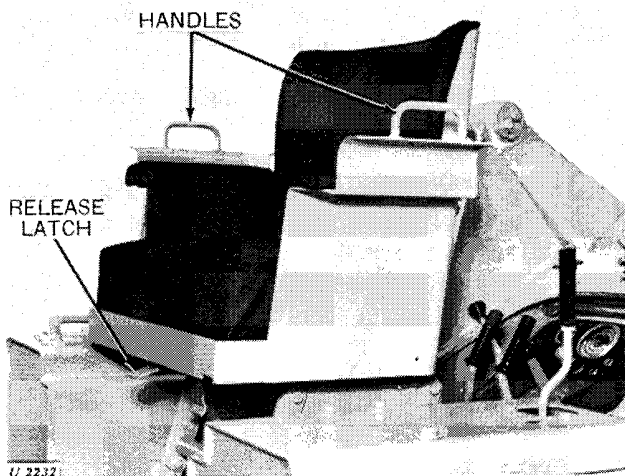
Controls Moved Backward

Control levers can be moved toward or away from the operator as shown above. This adjustment is provided so the levers can be placed in a position that will allow the operator to work comfortably. To position the lever assembly, raise the cam lock, move the levers to the desired location, and lower the cam lock.

## 6 Operation

### ADJUSTING SEAT

#### 1010 CRAWLER BACKHOE SEAT



When mounted on a 1010 Crawler, the backhoe and crawler use the same seat.

To change the seat from crawler to backhoe position, lift up on the seat using the handles provided and turn the seat around.

To return the seat to crawler position pull up on the release latch and turn the seat around. Lower the seat by pushing down on the foot-trip latch on the lower left side of the seat.

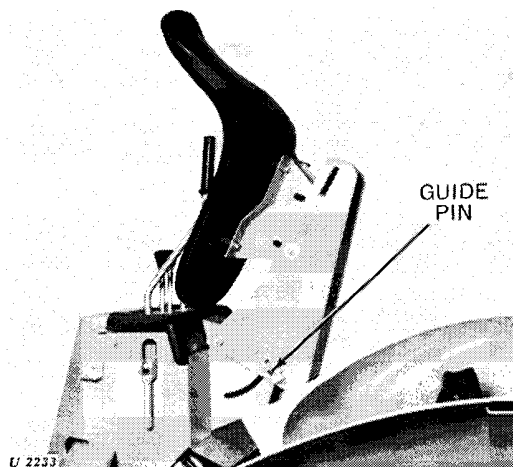
**CAUTION: When lowering seat, use foot to trip the foot latch and keep hands on seat handles.**

#### 2010 CRAWLER BACKHOE SEAT



When a backhoe is used with a 2010 Crawler tractor, the backhoe seat attaches to the back of the tractor seat. The seat can be raised or lowered for most efficient operation.

#### WHEEL TRACTOR BACKHOE SEAT



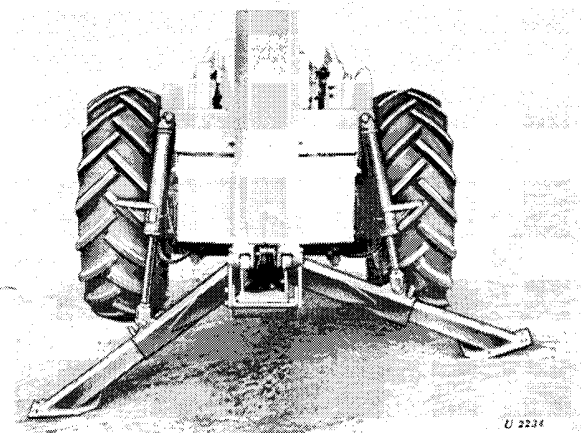
Raise the fiber glass backhoe seat by pulling down on the guide pin and lifting the seat up and forward until the guide pin locks in the track.

Lower the seat by lifting up on the guide pin and pulling the seat down into backhoe operating position.

### ADJUSTING STABILIZERS

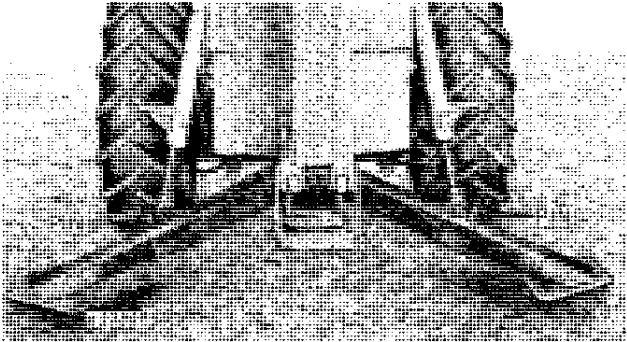
Stabilizers support the machine and give it a firm base on which to operate. They are hydraulically raised or lowered independently and are adjustable to left and right to increase stability as needed, depending on the working area.

Before operating the backhoe, lower the stabilizers until most of the rear weight of the tractor is supported on the stabilizers. Always keep ground clearance of tires or tracks at a minimum.

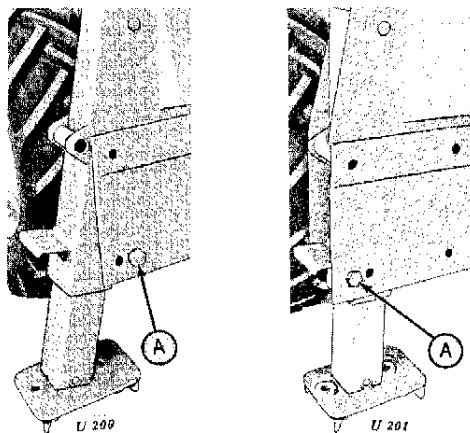




When working on uneven ground, level the machine by extending or retracting the stabilizers until proper balance is gained. The stabilizers may be adjusted to a full spread or narrow position.



Adjust the 50 Backhoe stabilizers by removing the pins in the stabilizers and sliding the legs in or out. Each can be adjusted to three different positions. For best results, keep the stabilizers in the intermediate or full spread position.



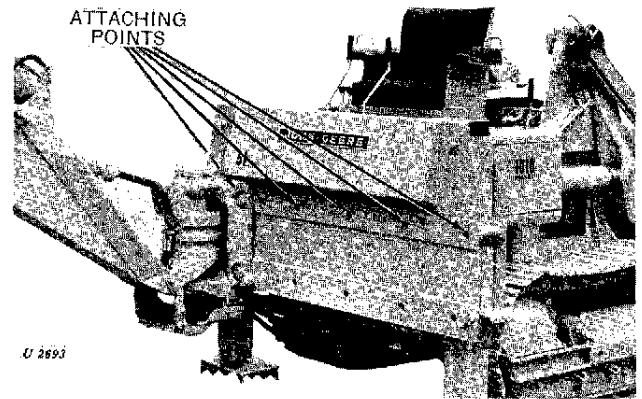
Adjust the 51 Backhoe stabilizers by removing bolts on each side as shown by Figure "A" in illustration above, and repositioning the legs to either the angled or vertical position.

**CAUTION:** When the boom is moved to an offset position, the stabilizers must be adjusted to the vertical position.

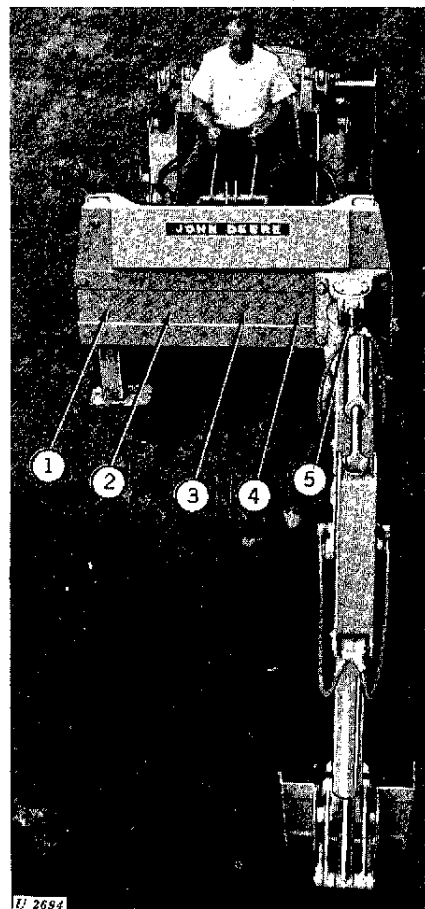
#### SHIFTING POSITION OF BOOM ON 51 BACKHOE

The 51 Backhoe can be positioned on the main frame in five different locations. This makes it possible to work close to walls or buildings, as shown in illustration at right.

To move the backhoe on the frame, center the boom and remove two bolts from the side toward which the boom is to be moved. Swing the boom in the direction the unit is to be moved, and lower the bucket into the ground so it will hold firmly. Remove the two remaining bolts.



Move the bucket and boom control levers and pull the unit into alignment with the desired holes on the main frame. Prevent binding on mast assembly by manipulating boom and bucket levers. Reinstall two attaching bolts, swing boom to center and install the remaining two bolts.



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