



John Deere

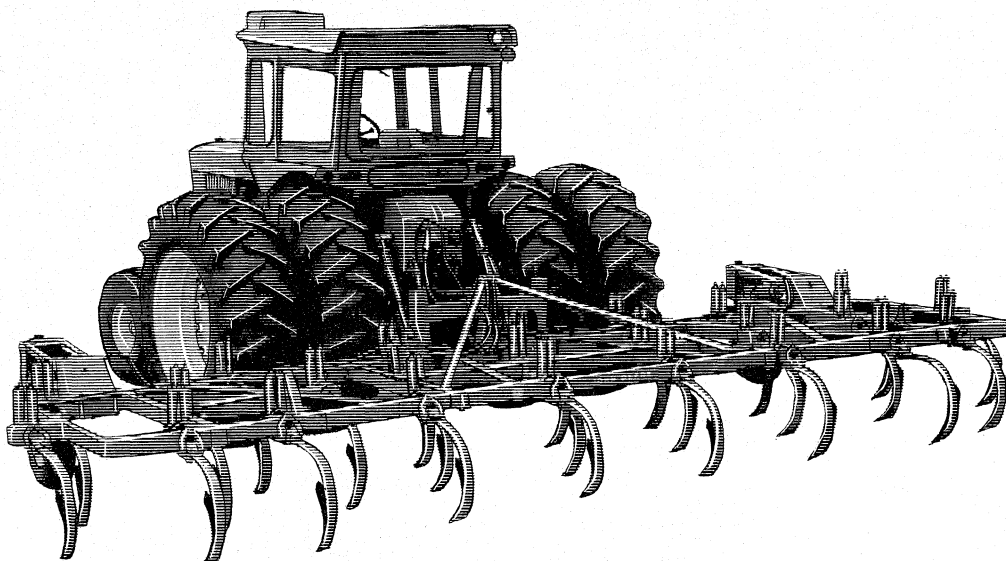
Operator's Manual

100IFH Series

OM-N159730

Integral Chisel Plow

Issue C0





To the Purchaser

This new chisel plow 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, removal and storage or installation. Read the Table of Contents to learn where each is located.

Should your chisel plow 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 new machines.

“Right-hand” and “left-hand” sides are determined by facing the direction the chisel plow will travel when in use.

Record your chisel plow serial number in the space provided on page 25. Your dealer needs this information to give you prompt, efficient service when you order parts or attachments.

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



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.

CONTENTS

	Page
OPERATION	12
Description	2
Preparing the tractor	2-8
Attaching chisel plow to tractor	9
Detaching chisel plow	9
Gauge wheel adjustment	10
Gauge and transport wheel adjustment	10
Maintenance suggestions	11
Storage suggestions	11
Safety suggestions	11
LUBRICATION	12
TROUBLE SHOOTING	13
ASSEMBLY	14-23
SPECIFICATIONS	24-25
SERIAL NUMBER	25



Operation

DESCRIPTION

The 100IFH Chisel Plow is operated completely by the tractor rockshaft control system. Load and depth response for the entire chisel plow, and additional tractor hitch lift capacity, is obtained by moving the rockshaft control lever on the tractor. Gauge wheels mounted on the flexible outriggers, are actuated by hydraulic cylinders connected in series with the tractor rockshaft cylinder. Cylinder displacements are designed so outriggers lift simultaneously with the tractor three-point hitch.

PREPARING THE TRACTOR

Check the tractor over completely before hitching to the chisel plow.

The hydraulic system should be in good condition and checked for optimum pressure rating as outlined in your tractor operator's manual.

Tractor Wheels and Hitch

The tractor should be equipped with a category 2, 3-point hitch, with or without quik-coupler or a category 3 quik-coupler 3-point hitch.

Locate the sway blocks in the category 2 upper position or in the category 3 upper position as shown in your tractor operator's manual. This will permit side sway when the chisel plow is working the ground. Pin the drawbar in the short centered position.

Set the wheels on the 4000, 4010, and 4020 Tractor at minimum (72 inches) spacing. Set the wheels on the 4520, 5010, and 5020 at their maximum possible width. Both wheels should be set equidistant from the center line of the tractor. A wide rear wheel tread contributes to uniformity in depth of operation.

Tire Inflation

Check tractor tires for correct inflation pressures. See your tractor operator's manual.

Lift Links and Center Link

Adjust the length of the lift links to 29-9/16 inches on the 4000, 4010, and 4020 Tractors and to 34-7/8 inches on the 4520, and to 39-9/16 inches on 5010, and 5020 Tractors.

Adjust the length of the center link to 26-7/16 inches on the 4000, 4010, and 4020 Tractor and 29-5/8 inches on the 4520, and to 30-1/8 inches on 5010, and 5020 Tractors.

Float Adjustment

Adjust the lift links for "FLOAT" of the implement. See your tractor operator's manual.

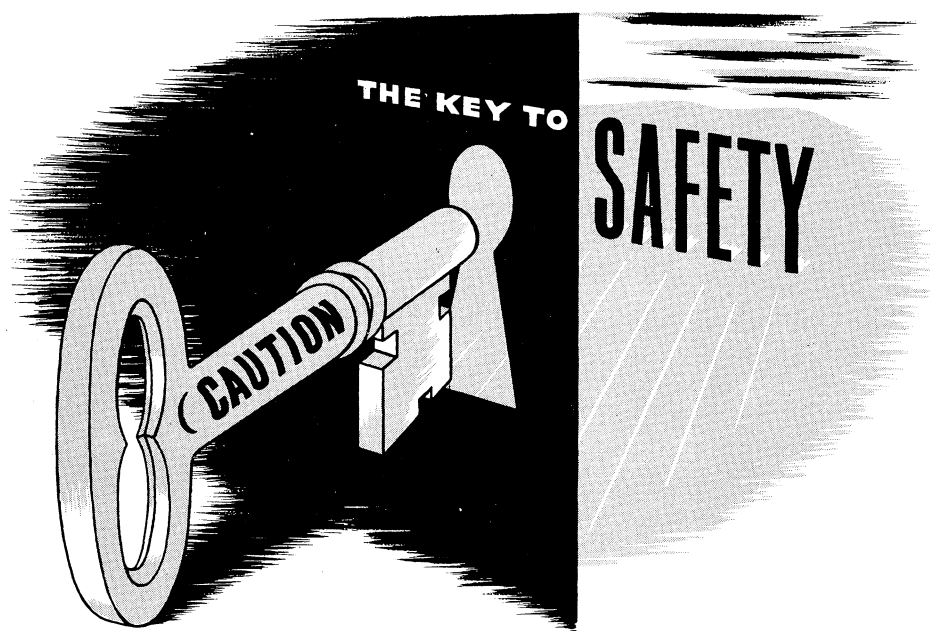
Selector Lever

Place the selector lever in the "LD" position. See your tractor operator's manual.

Front End Weights and Rear Wheel Weights

See your tractor operator's manual for information on the use of rear wheel weights with heavy integral implements. The chart below gives the recommended front end weight requirements for your particular tractor. It is recommended that front end weight given in the chart below be added to the tractor before operating the chisel plow. Front end weights increase the operating stability of the tractor.

TRACTOR MODEL	FRONT AXLE	CHISEL PLOW		
		120IFH	122IFH	124IFH
4000 Row-Crop	Adjustable Tread	820 Lbs.	* N.R.	* N.R.
4020 Row-Crop	Adjustable Tread	820 Lbs.	* N.R.	* N.R.
4520 Row-Crop	Adjustable Tread	735 Lbs.	820Lbs.	820Lbs.
5020 Row-Crop	Adjustable Tread	650Lbs.	735Lbs.	820Lbs.
5020 Standard	Adjustable Tread	650Lbs.	735 Lbs.	820 Lbs.
* Not Recommended				

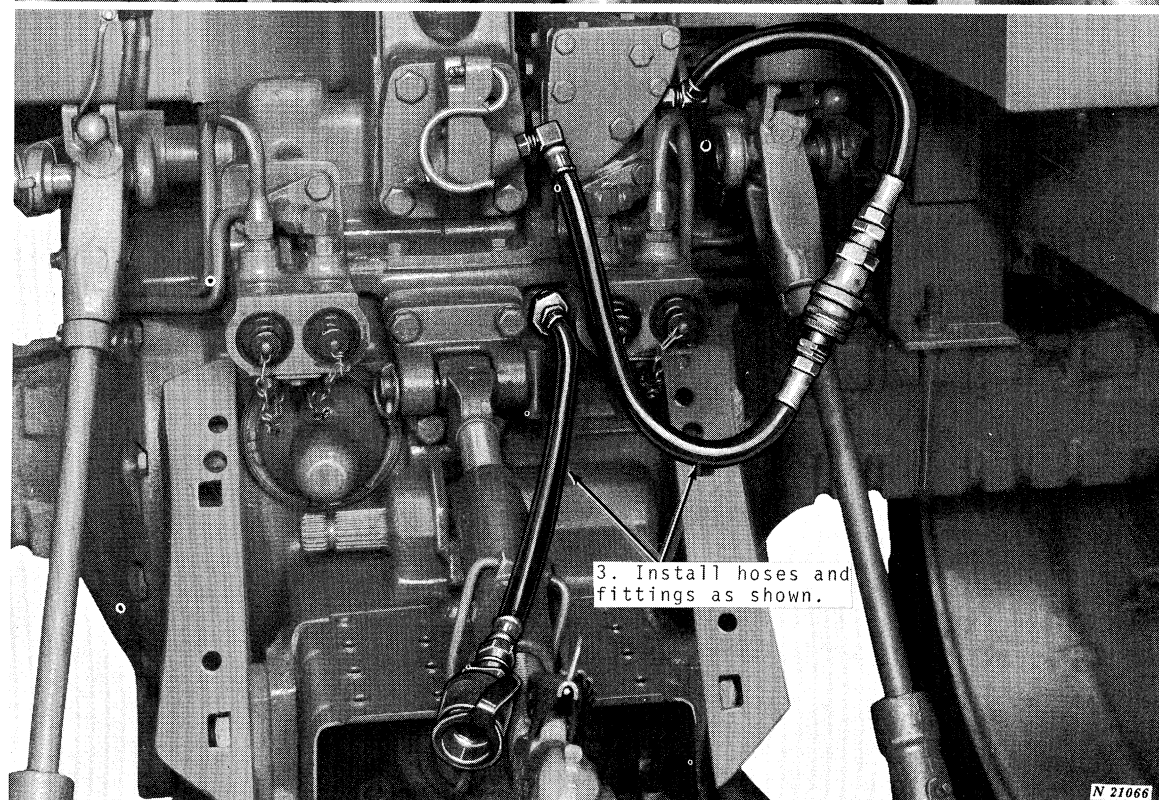
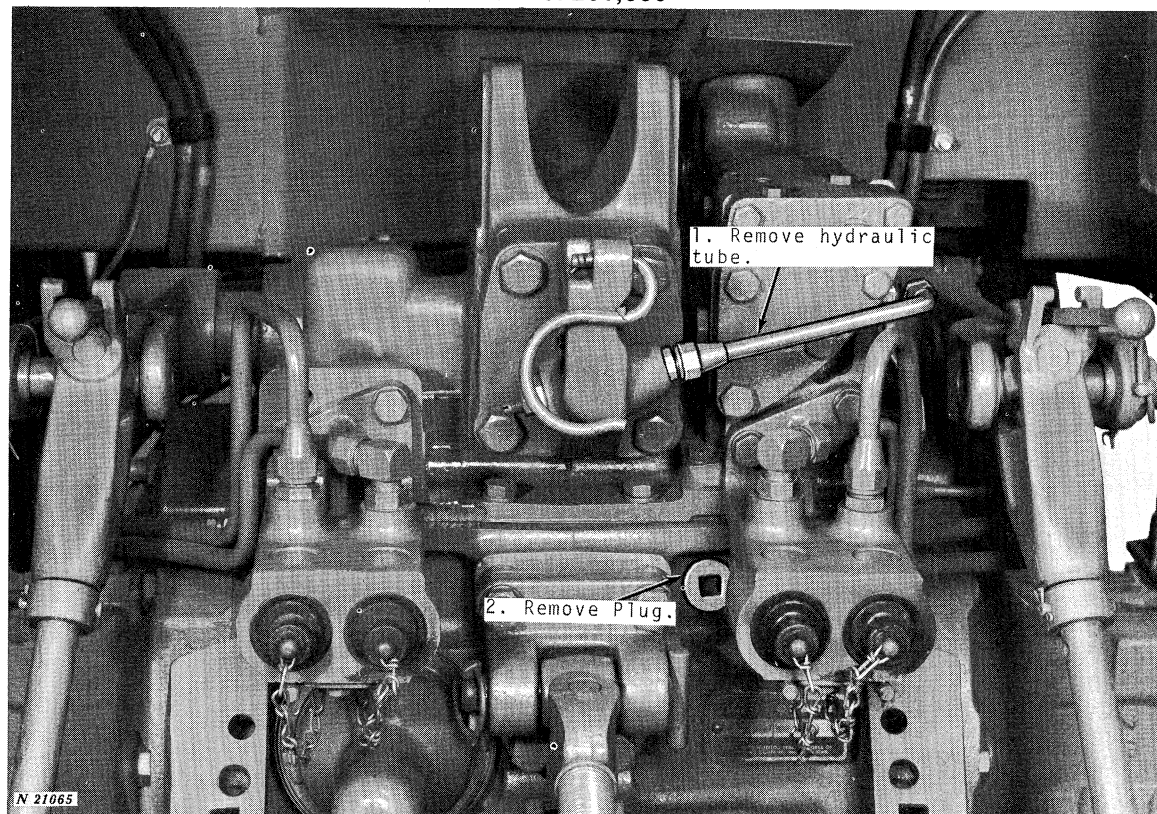


PREPARING THE TRACTOR—Continued

Tractor Hydraulic System

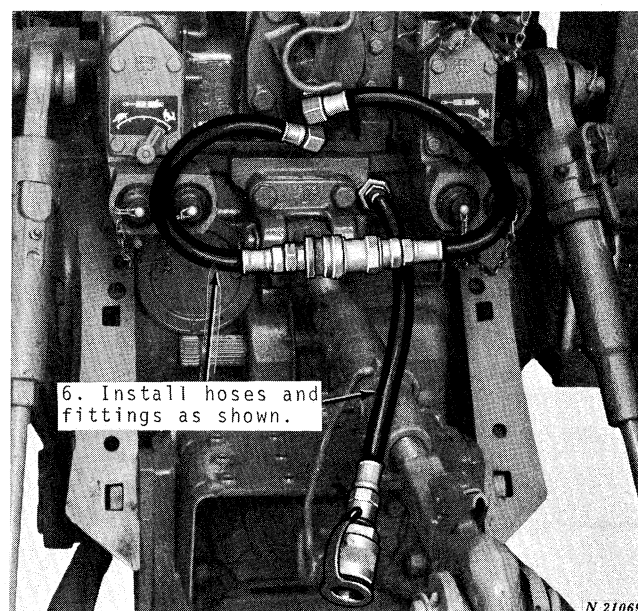
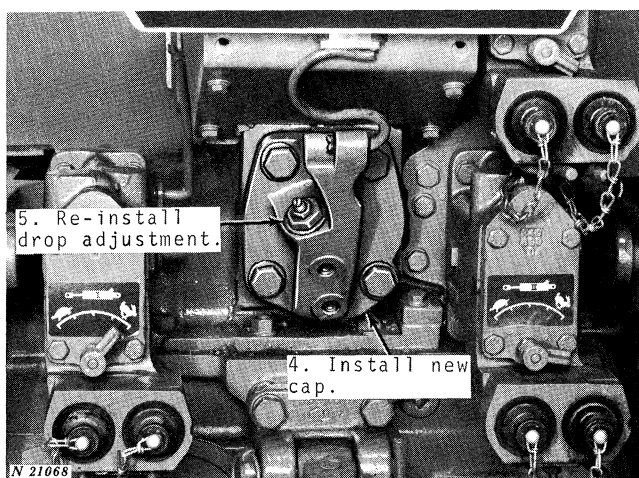
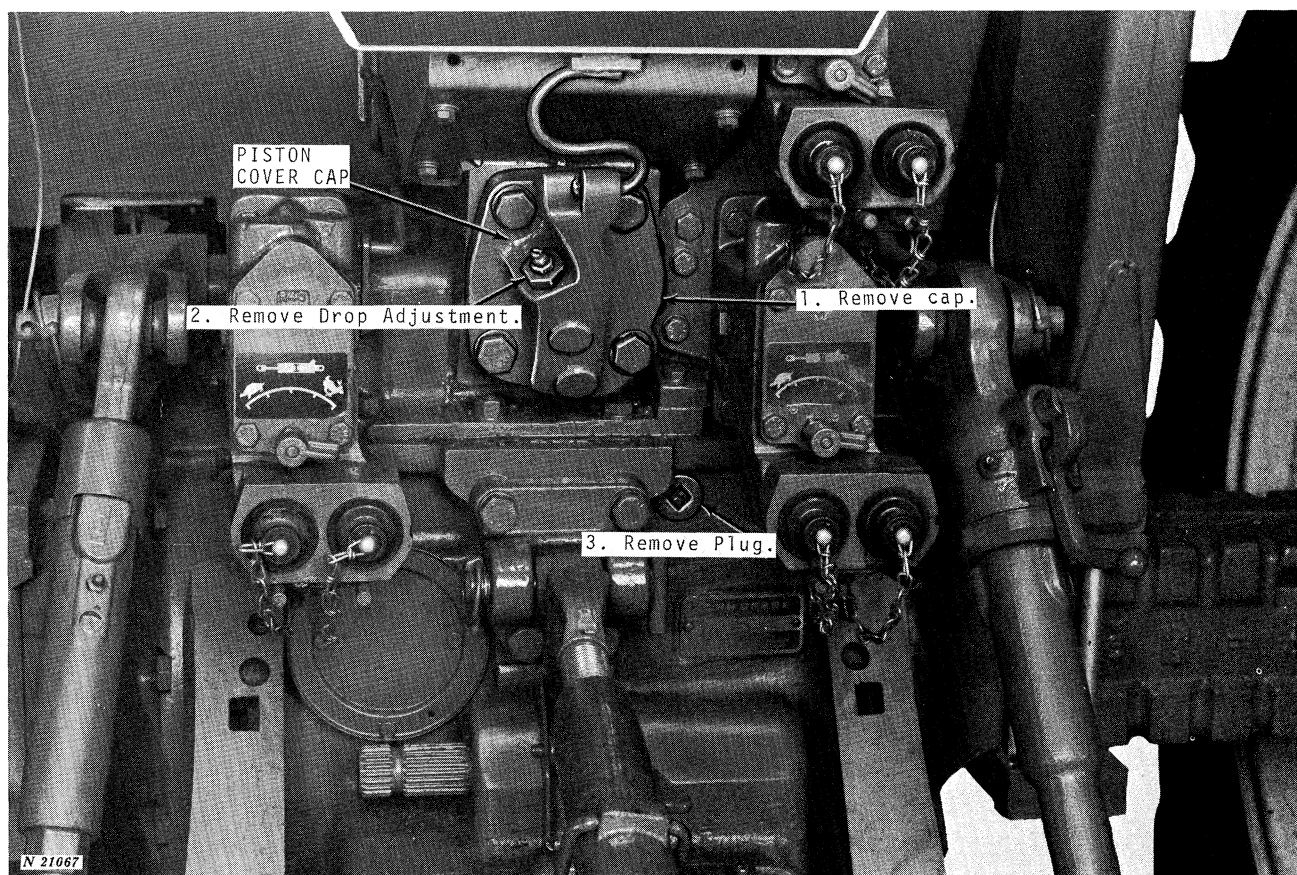
The tractor rockshaft hydraulic control system circuit must be changed to adapt the 1001FH Chisel Plow. Illustrations with instructions for the different tractors should be followed closely when the circuit is changed. Make sure all connections are tight before operating.

All 4010 Tractors and 4020 Tractors Below Serial No. 201,000



4020 Tractor Above Serial No. 201,000

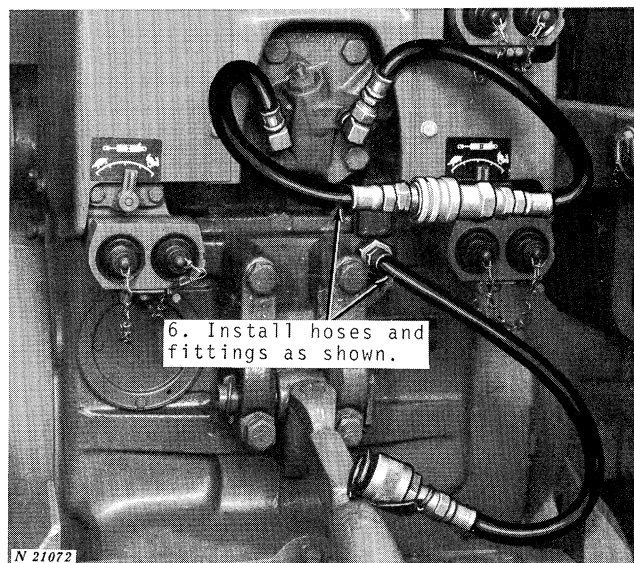
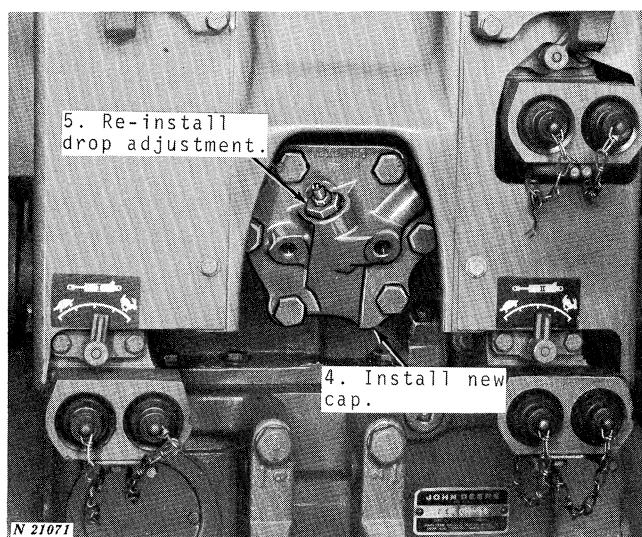
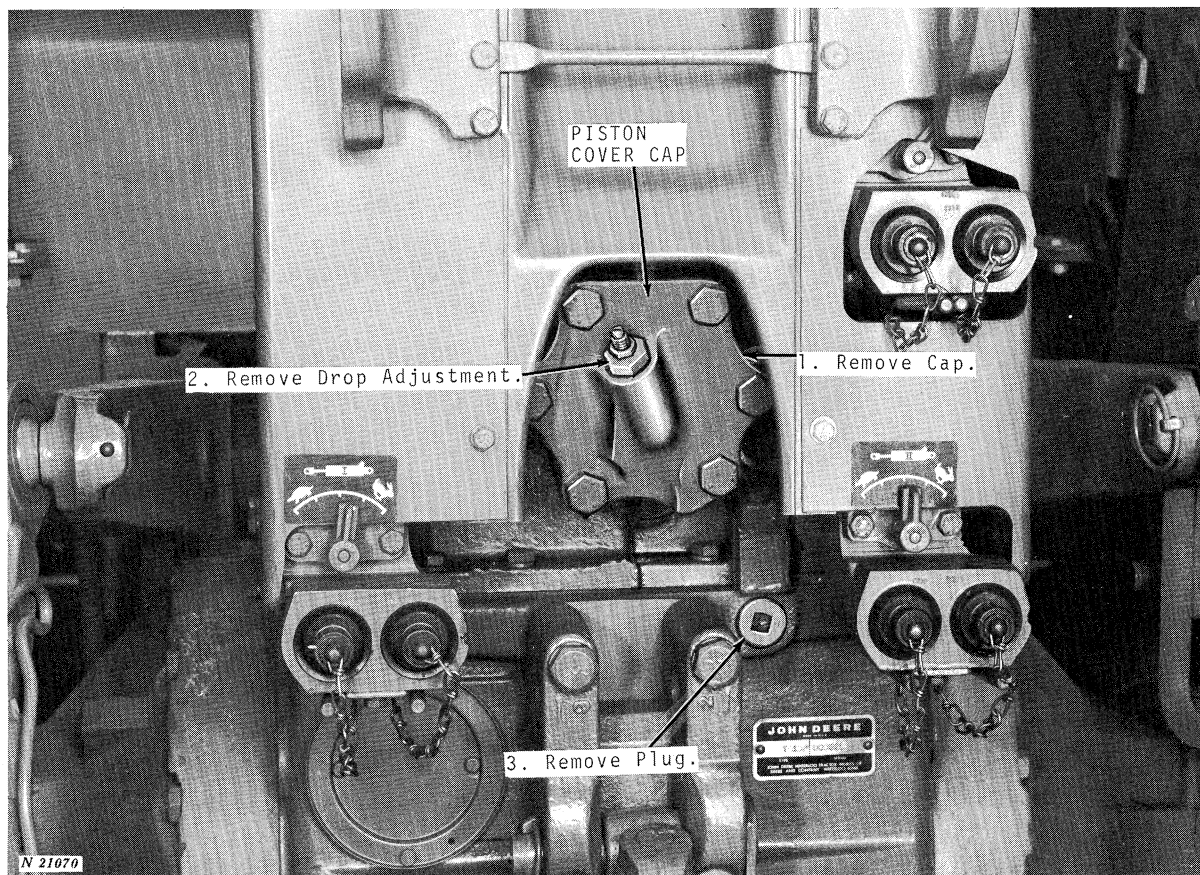
NOTE: A different piston cover cap is required if the tractor is not equipped with the John Deere Power Weight-Transfer Hitch.



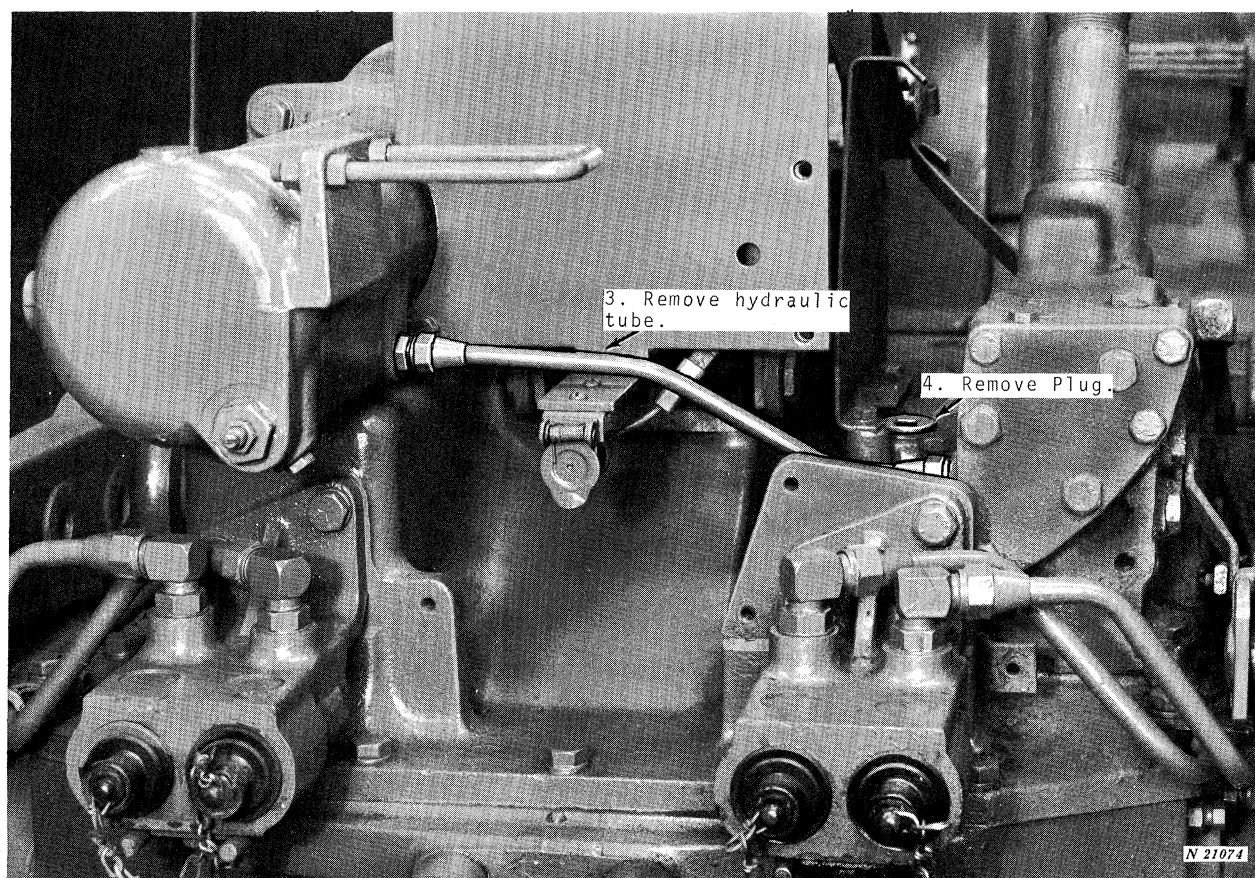
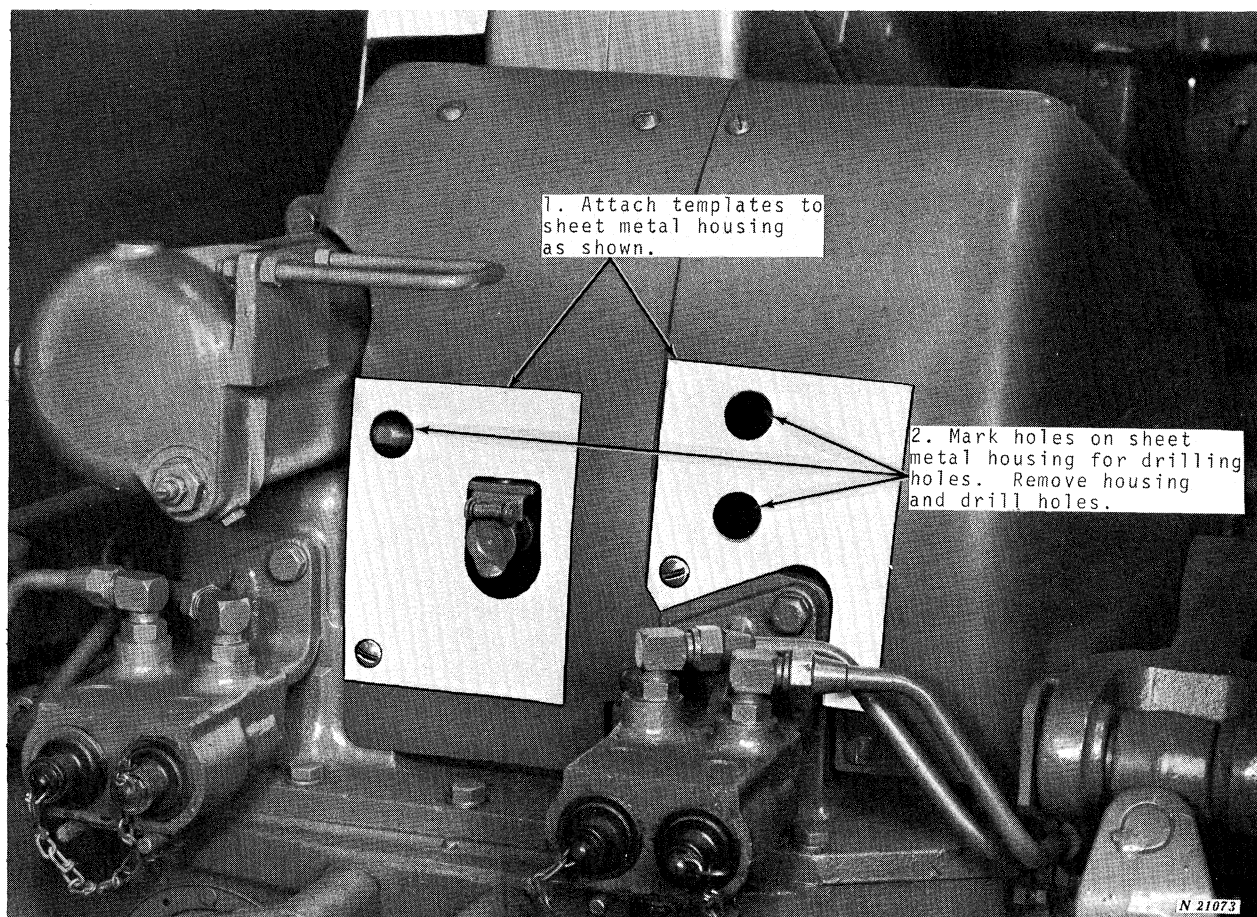
PREPARING THE TRACTOR—Continued

4520 Tractor

NOTE: A different piston cover cap is required if the tractor is not equipped with the John Deere Power Weight-Transfer Hitch.

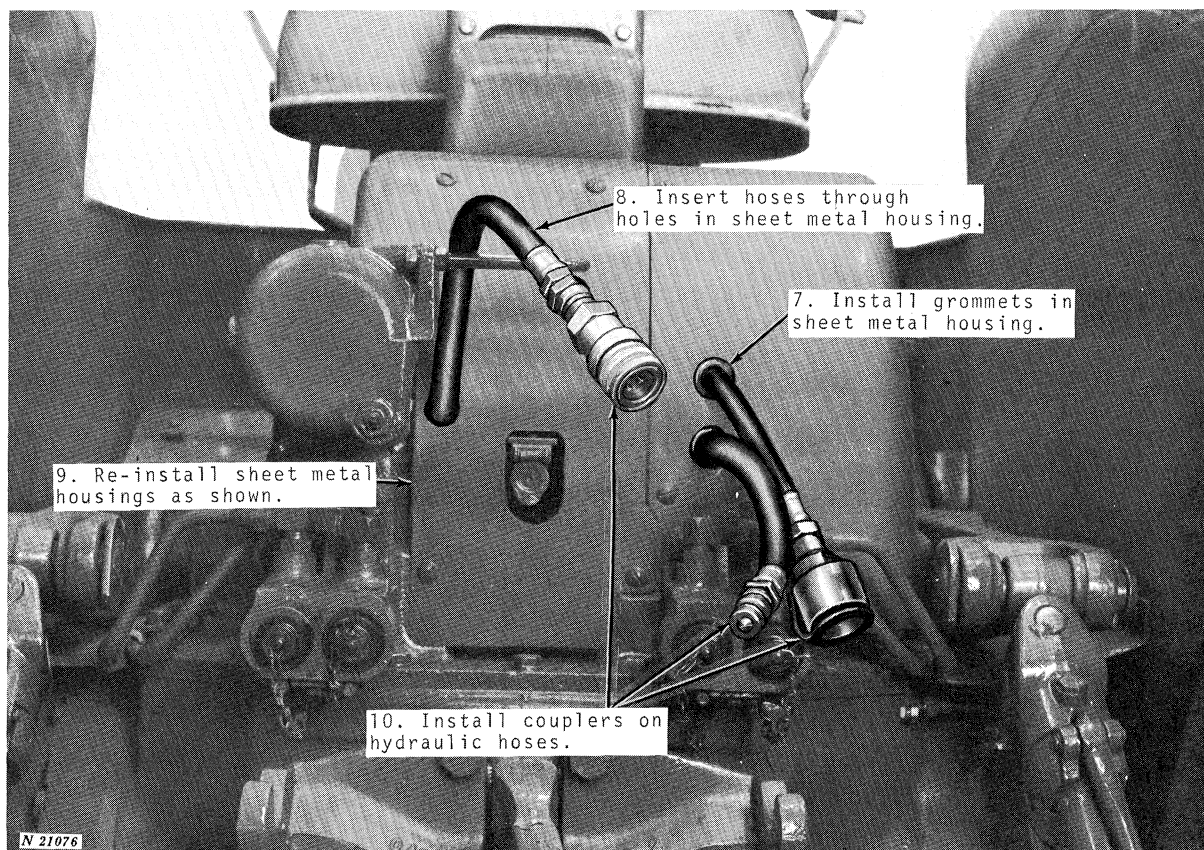
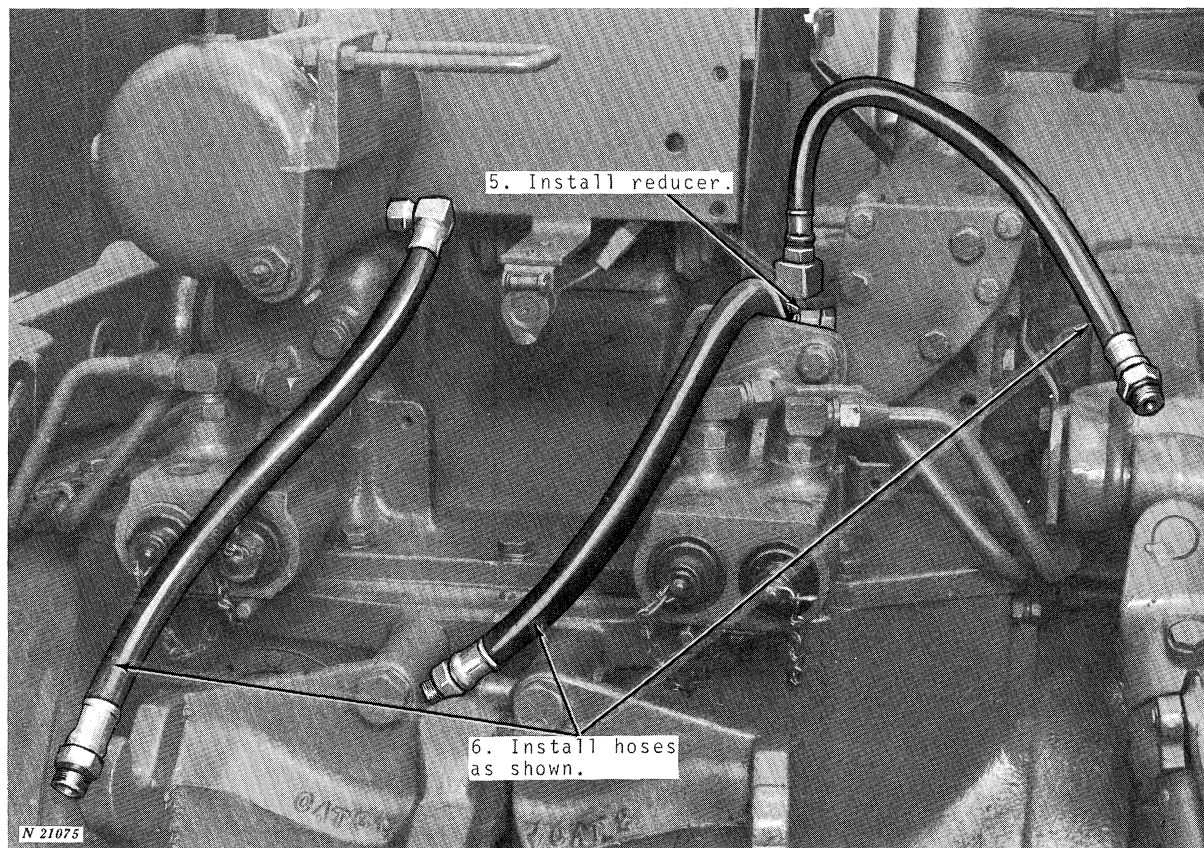


5010 and 5020 Tractor

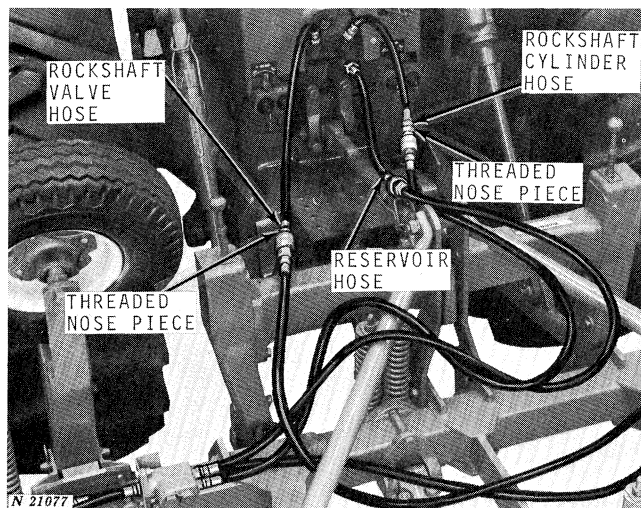


PREPARING THE TRACTOR—Continued

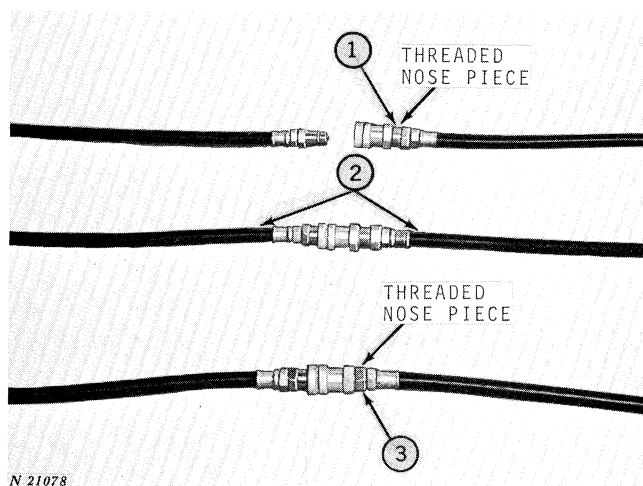
5010 and 5020 Tractor—Continued



ATTACHING CHISEL PLOW TO TRACTOR



Start the tractor engine and back up to the chisel plow hitch. Engage and lock Quik-Coupler or 3-point hitch links.



IMPORTANT: In order to couple the rockshaft valve hose and rockshaft cylinder hose under pressure, the following procedure must be followed:

1. Screw the threaded nose piece on the body coupler out three or four turns as shown above.
2. Connect the two hoses together.
3. Screw the threaded nose piece on the body coupler into the coupler until tight.

After coupling the hoses together, start the tractor engine and raise the chisel plow completely up. This synchronizes the center section with the outriggers of the chisel plow.

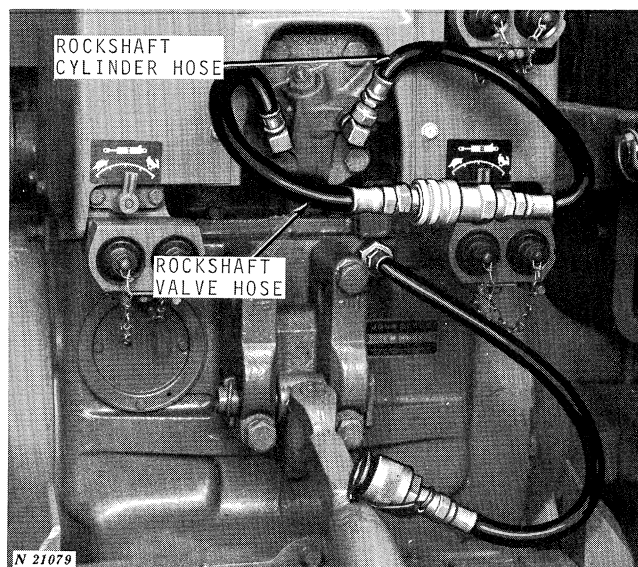
If the chisel plow is equipped with the endwise transport attachment, lower the chisel plow enough to place the transport tongue and wheels in the field working position.

DETACHING CHISEL PLOW

If the chisel plow is equipped with the endwise transport attachment, place the transport tongue and wheels in their transport position. Disengage the Quik-Coupler or 3-point links from the chisel plow hitch. Pull forward (with the hydraulic circuit connected) enough so that the lower hitch links or Quik-Coupler will not reengage with the hitch. Level the chisel plow to its transport position with the tractor rockshaft control lever.

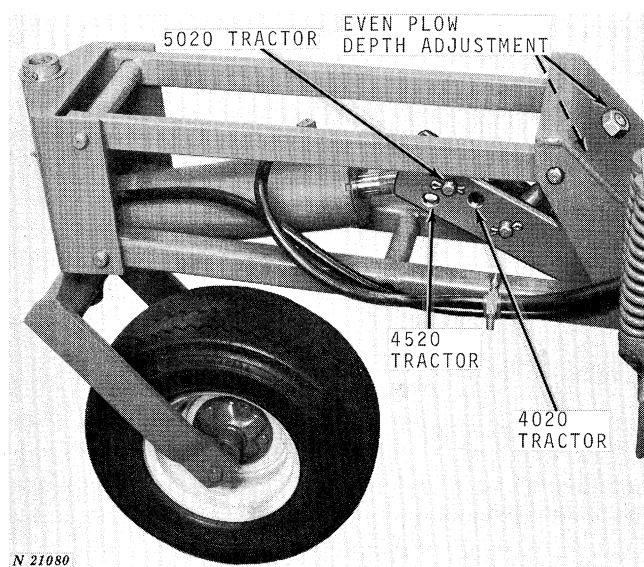
IMPORTANT: In order to disconnect the rockshaft cylinder hose and the rockshaft valve hose under pressure, the following procedure must be followed:

1. Screw the threaded nose piece on the body coupler out three or four turns as shown in the illustration at the left.
2. Disconnect the hoses.
3. Connect the rockshaft cylinder hose and the rockshaft valve hose together for normal rockshaft operation.
4. Screw the threaded nose piece back into the body coupler until tight.



Hoses Connected for Normal Rockshaft Operation

GAUGE WHEEL ADJUSTMENT



Hydraulic Cylinders

Both cylinders must be pinned in the correct hole of the upper cylinder mounting bracket to obtain proper cylinder synchronizing. The illustration above shows the cylinder pinned in the 5020 Tractor position.

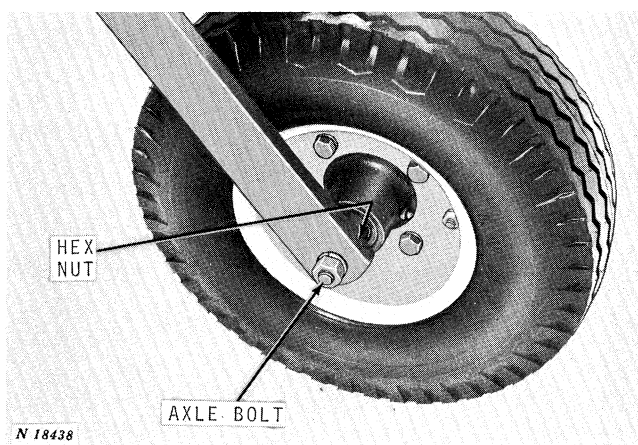
Even Plow Depth Adjustment

The even plow depth adjustment is used to obtain the same plow depth between outriggers and center section. To obtain the proper adjustment, turn the two nuts on the even plow depth adjustment bolt as shown above.

IMPORTANT: The tractor center link and lift links must be adjusted correctly before attempting to level the outriggers. See page 2 for adjusting the hitch on the tractor.

GAUGE AND TRANSPORT WHEEL ADJUSTMENT

Wheel Bearings



To adjust the wheel bearings, loosen the axle bolt. Turn the hex. nut on the inside of the wheel yoke and tighten the axle bolt. There will be a slight drag on the bearing if it is in proper adjustment.

MAINTENANCE SUGGESTIONS

To keep the chisel plow in good working condition, follow these recommendations.

Nuts and Bolts

Keep all nuts and bolts tight, if allowed to work loose, bolts may bend, strip threads, and cause loss of parts.

BOLT TORQUE

Recommended Torque in Foot-Pounds Coarse and Fine Threads			
  			
Bolt Diameter	Plain Head	Three Radial Dashes	Six Radial Dashes
1/4	Not Used	10	14
5/16	Not Used	20	30
3/8	Not Used	35	50
7/16	35	55	80
1/2	55	85	130
9/16	75	130	185
5/8	105	170	250
3/4	185	300	420
7/8	160	445	670
1	250	670	1000

U 6315

Tighten all bolts to the torques specified in the chart above.

Hydraulic System

Check all hoses for extreme wear and loose hose connections. Keep dust caps on when hose couplers are not in use.

Tires

Check tires on chisel plow to be sure they are inflated to pressures shown below.

Wheel	Recommended Tires	Pressure
Gauge	20 x 8.00-10	35 psi
Transport	5.70-5.00 x 8.00	55 psi

STORAGE SUGGESTIONS

Completely clean and lubricate the chisel plow. Store chisel plow where it is adequately protected from weather.

Inspect chisel plow for worn or damaged parts before the next use season.

Relieve hydraulic pressure on the depth control system when storing machine for a long period of time.

SAFETY SUGGESTIONS

Do not permit anyone other than the operator to ride on the tractor. Under no circumstances should anyone ride on the chisel plow.

Drive at speeds slow enough to insure your safety. Reduce speed before turning quickly or applying brakes. Drive slowly over hills and rough ground. Always keep the tractor in gear when driving down steep grades.

Maximum transport speed should not exceed 15 mph.

 **CAUTION:** When transporting the chisel plow on a 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. Lights and devices may be obtained from your John Deere dealer. Your chisel plow is equipped with a slow moving vehicle emblem for warning to the operators of vehicles approaching from the rear. Keep this emblem clean.

Never attempt to adjust, service, or lubricate the chisel plow while any part of the tractor or machine is in operation.

 **CAUTION:** Escaping pressure and oil from a hydraulic system can cause personal injury; therefore, before disconnecting lines from or servicing the hydraulic system, be sure to relieve all hydraulic pressure. Be sure all connections are tight and lines and hoses are not damaged.



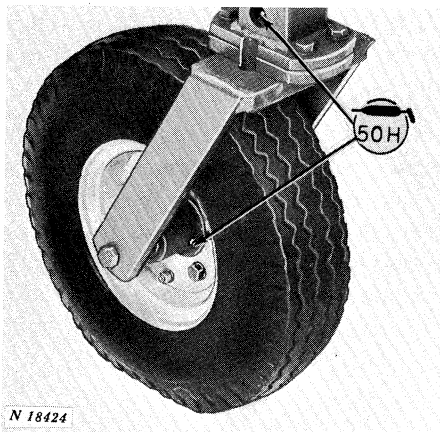
Lubrication

CAUTION: To avoid injury, always stop the tractor, lower the chisel plow, and stop the tractor engine before lubricating.

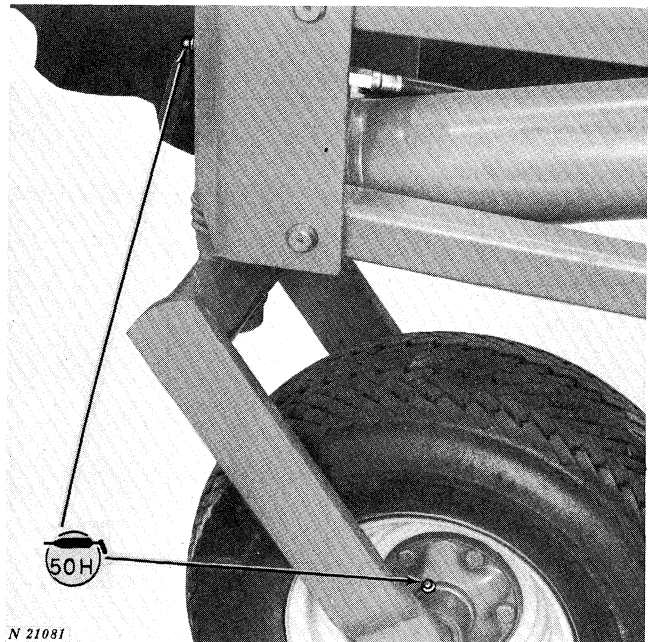
Grease fittings are provided at all points indicated in the lubrication charts. Lubricate all parts provided with grease fittings with SAE multipurpose-type grease. If any grease fittings are missing, replace them immediately. CLEAN THE FITTINGS THOROUGHLY BEFORE USING GREASE GUN.

The lubrication period recommended is based on normal conditions; severe or unusual conditions may require more frequent lubrication.

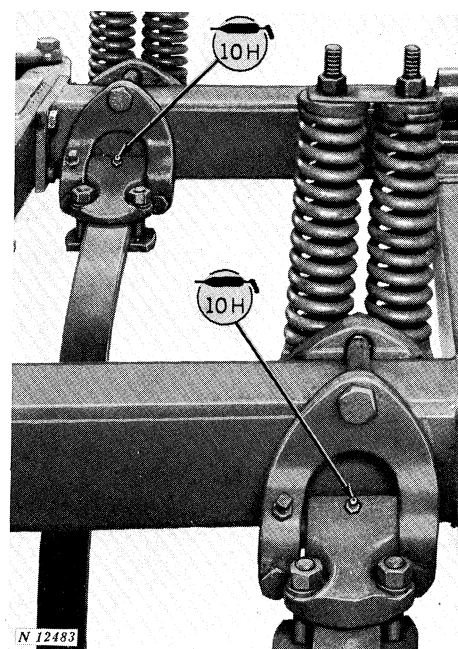
Symbols	
	Lubricate every 50 hours of operation with SAE Multipurpose Grease.
	Lubricate every 10 hours of operation with SAE Multipurpose Grease.



Transport Wheels and Swivel Joints



Gauge Wheel and Spindle



All Standards



Trouble Shooting

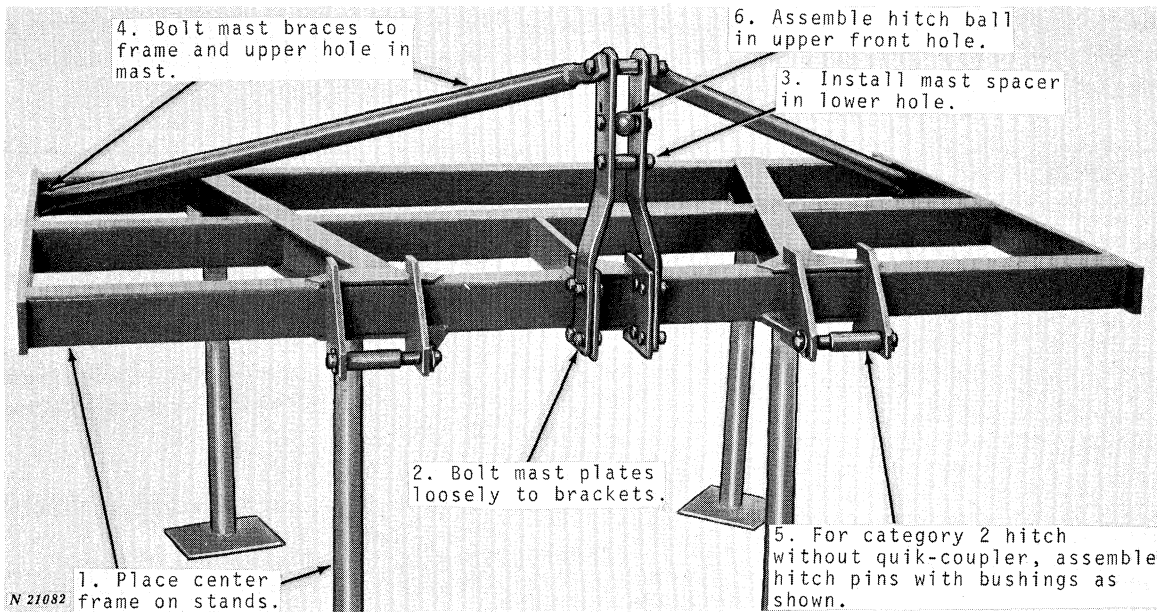
The majority of chisel plow operating problems can be traced to improper adjustment or assembly. The following chart is designed to help you when such a problem develops by suggesting a probable cause and the recommended solution. These suggested remedies should be applied with caution. Make a sincere effort to understand the operation of your chisel plow and know why you are making an adjustment. If you are unable to remedy the trouble, see your John Deere dealer who will be glad to assist you in correcting the problem.

Problem	Cause	Remedy
Center section raises ahead of outer sections.	Chisel plow relief valve to reservoir not opening to let outer sections synchronize with center section. Outrigger gauge wheel cylinder leaking oil past piston (either one or both).	Check relief valve for 3 GPM (gallons per minute) flow at 2125 psi (pounds per square inch). Check tractor rockshaft pressure for 2250 to 2300 psi (pounds per square inch). Check rockshaft cylinder piston for leaks. Check cylinder piston for leaks.
Outer section raises ahead of center section.	Relief valve to reservoir opening too soon. Tractor rockshaft piston leaking oil past piston.	Check relief valve for 3 GPM (gallons per minute) flow at 2125 psi (pounds per square inch). Check tractor rockshaft piston for leaks.
Not Plowing at a uniform depth.	Linkage not adjusted properly on tractor three point hitch or outer section gauge wheels Chisel plow does not synchronize at field ends during turns.	Adjust center section to plow level front to rear and side to side with tractor 3-point hitch links. Raise plow to full height at ends when turning to allow cylinders to extend to full stroke.
Hydraulic system does not operate after chisel plow is attached to tractor.	Hydraulic couplers are not properly assembled.	See page 9 for attaching chisel plow to tractor.

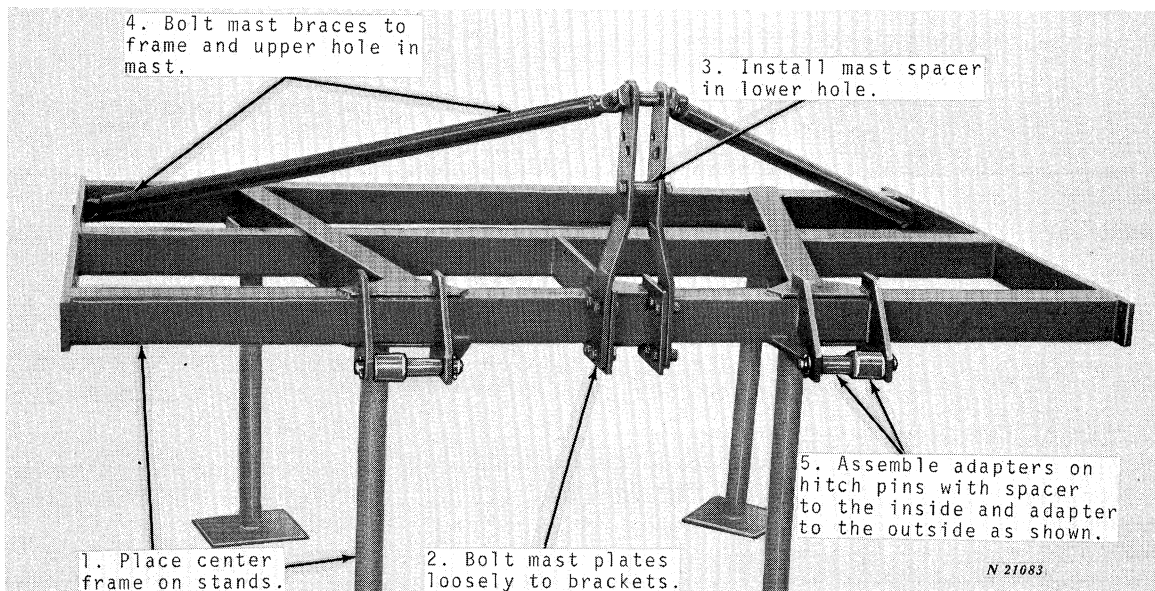


Assembly

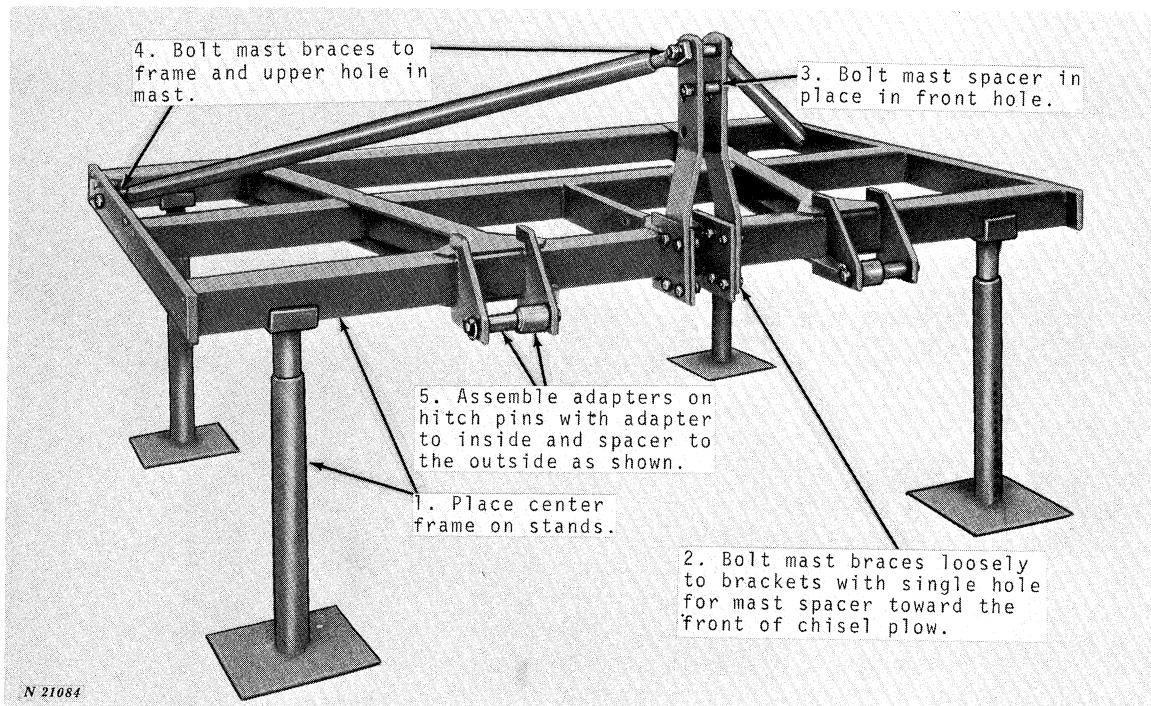
MAST AND HITCH PINS FOR CATEGORY 2 HITCH WITHOUT QUIK-COUPLER



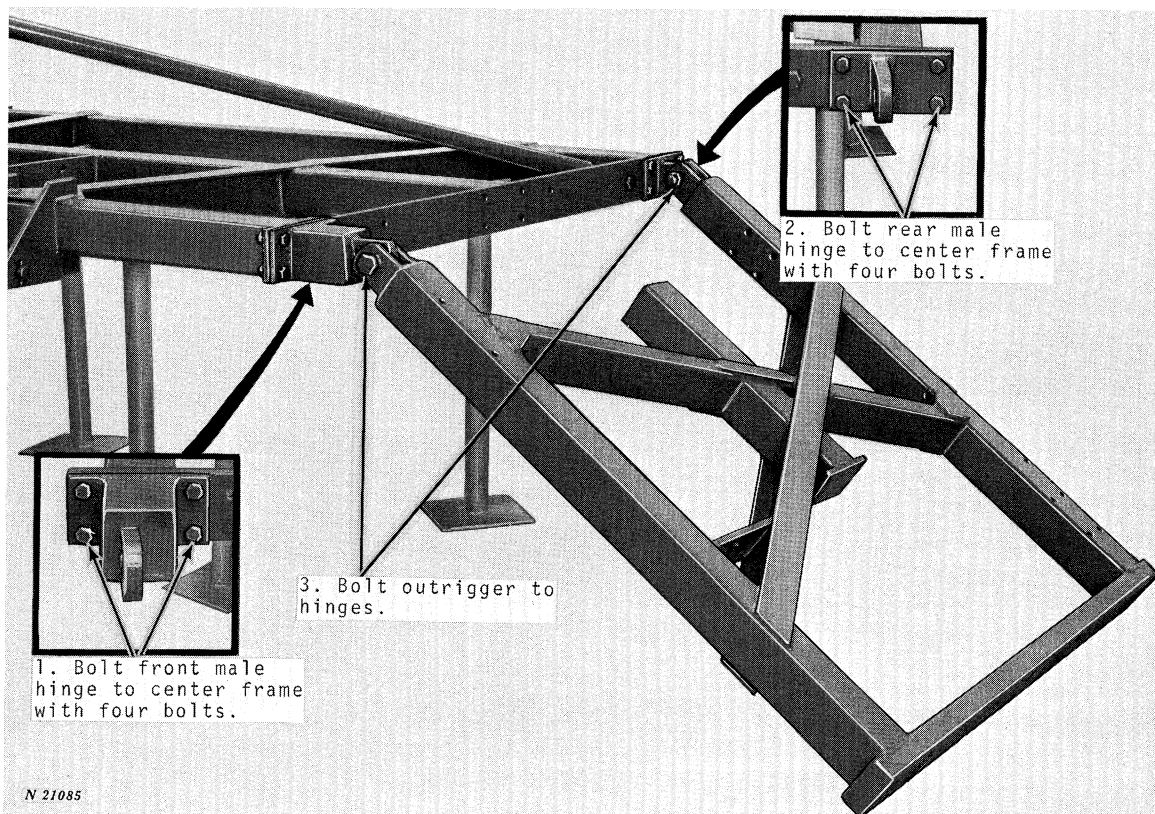
MAST, HITCH PINS, BUSHINGS AND ADAPTERS FOR CATEGORY2 HITCH WITH QUIK-COUPLER



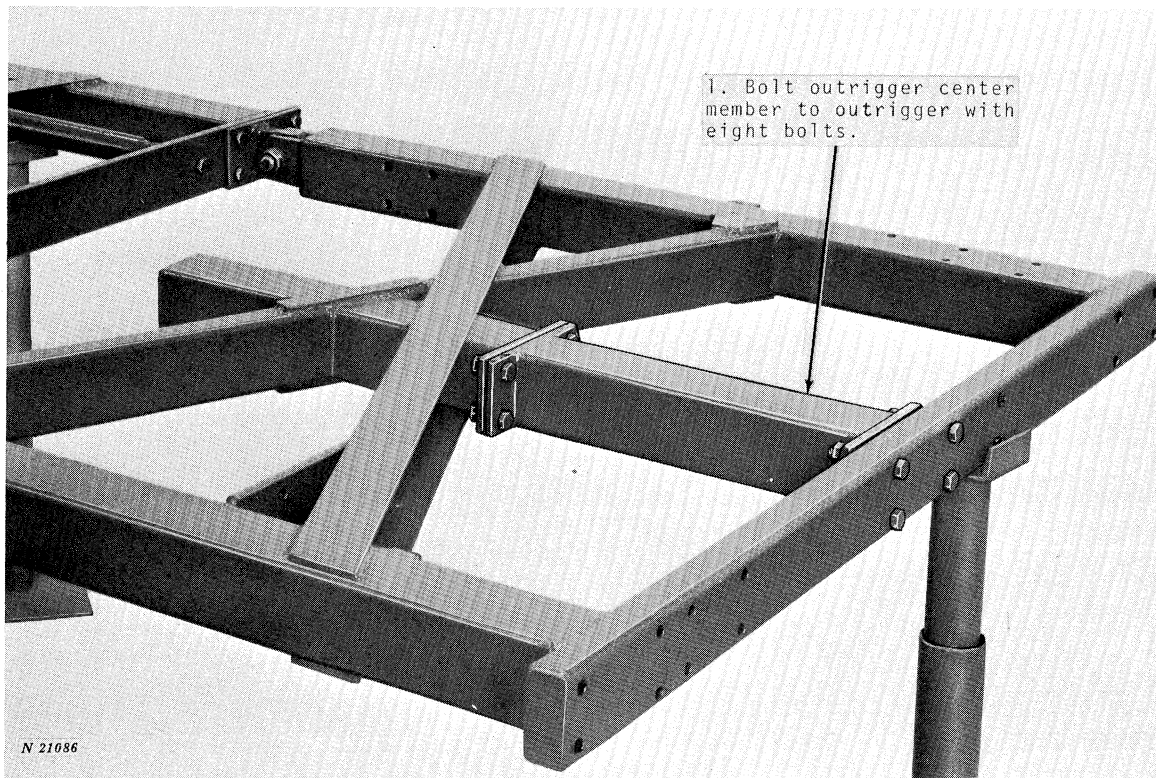
MAST, HITCH PINS, BUSHINGS AND ADAPTERS FOR CATEGORY 3 HITCH WITH QUIK-COUPLER



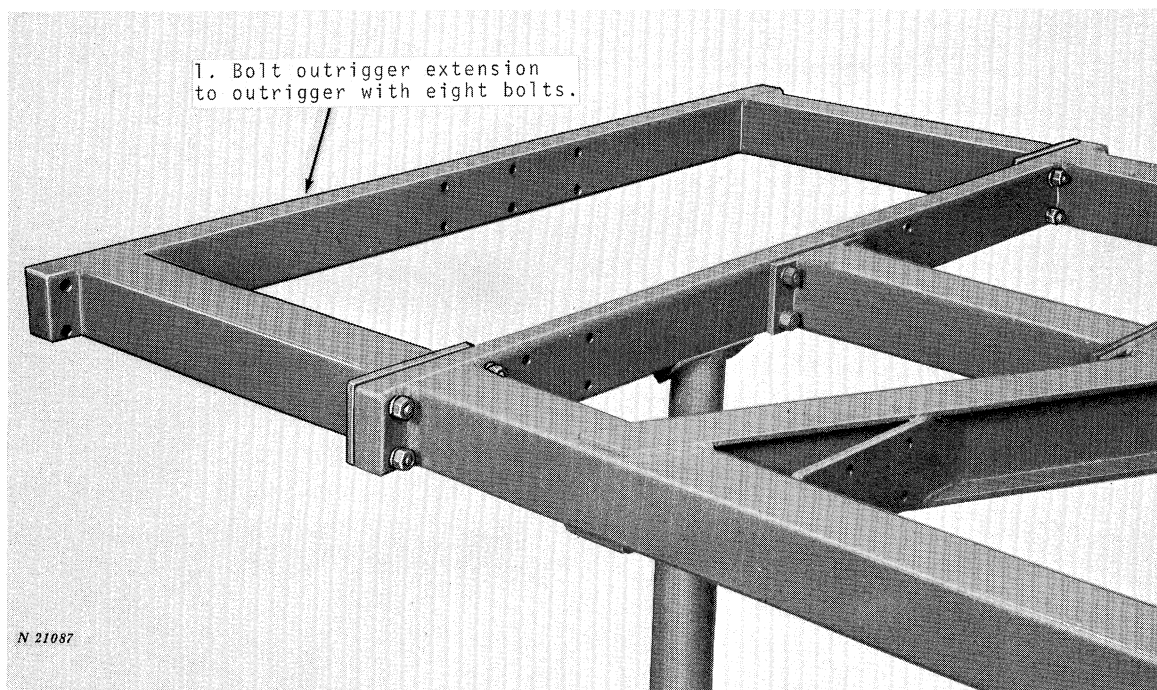
HINGES AND OUTRIGGER



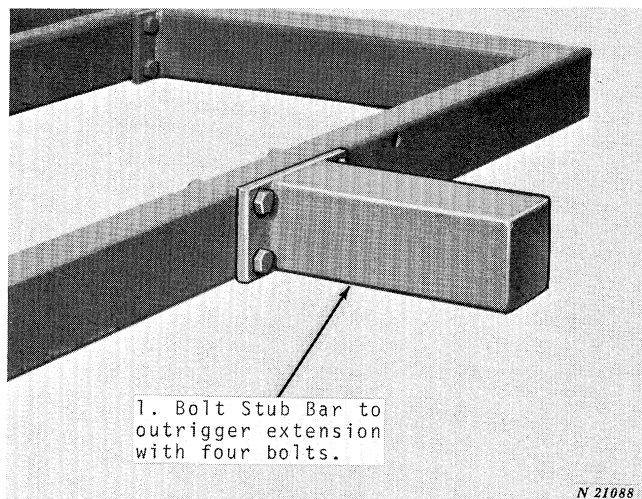
OUTRIGGER CENTER MEMBER



OUTRIGGER EXTENSION

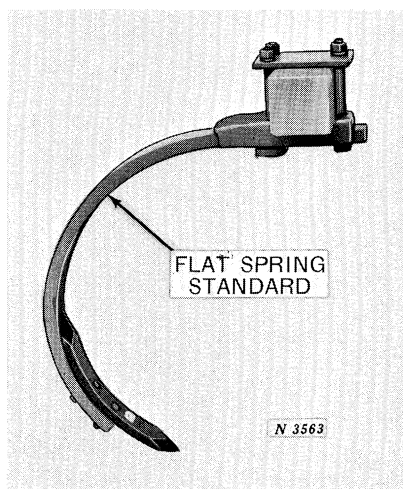


STUB BAR FOR 124IFH CHISEL PLOW



ATTACHING STANDARDS

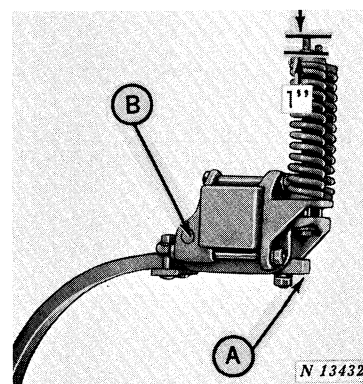
Flat Spring Standards



Clamp the flat spring standards under the frame members with the attaching plate and three bolts.

Flat Cushion Spring Standards

The flat cushion spring standard can be assembled in the clamp either before or after the clamp has been installed on the chisel plow.



To install the clamp, loosen both spring bolts, and the two bottom clamp bolts. Remove the top clamp bolt and slip the clamp on the chisel plow bar. Replace the top clamp bolt, and tighten the two bottom clamp bolts. Adjust the spring bolts until about 1-inch of bolt protrudes through the nut.

Tighten the set screw which holds the hinge pin in place.

Tighten the front standard attaching bolt "A" to 300 ft-lbs torque. Tighten the rear clamp attaching bolts "B" to 105 ft-lbs torque.

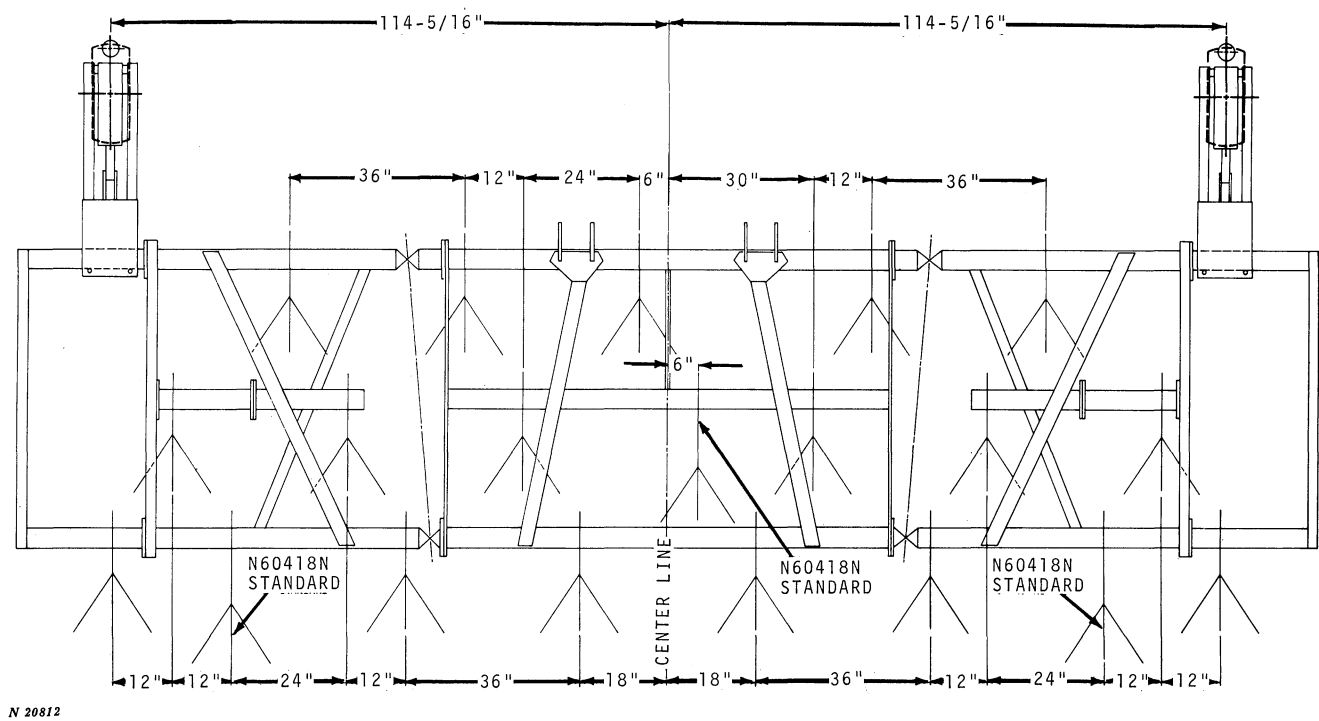
STANDARD SPACING

The following page shows the correct stub bar position, wheel spacing, and standard spacing.

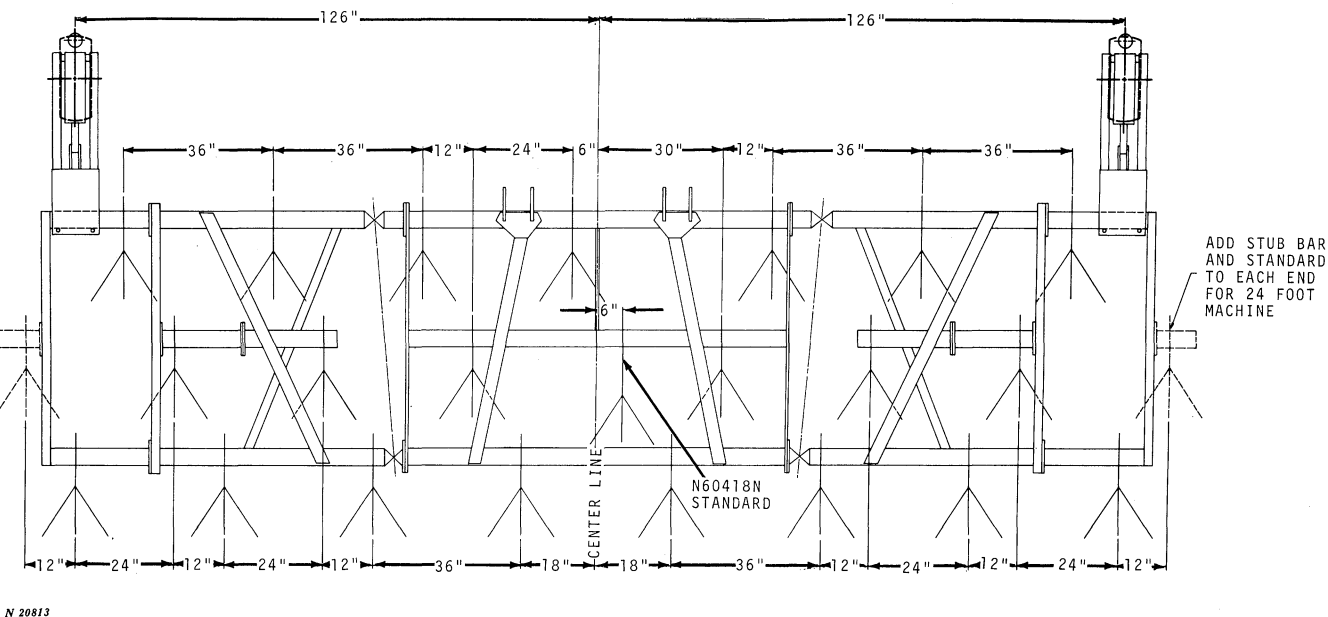
It is important that all standards be placed on the plow frame with the correct spacing. Improper spacing will result in uneven draft and poor performance in the field.

To obtain the correct spacing, determine the location of each individual standard by measuring from the center line of the frame.

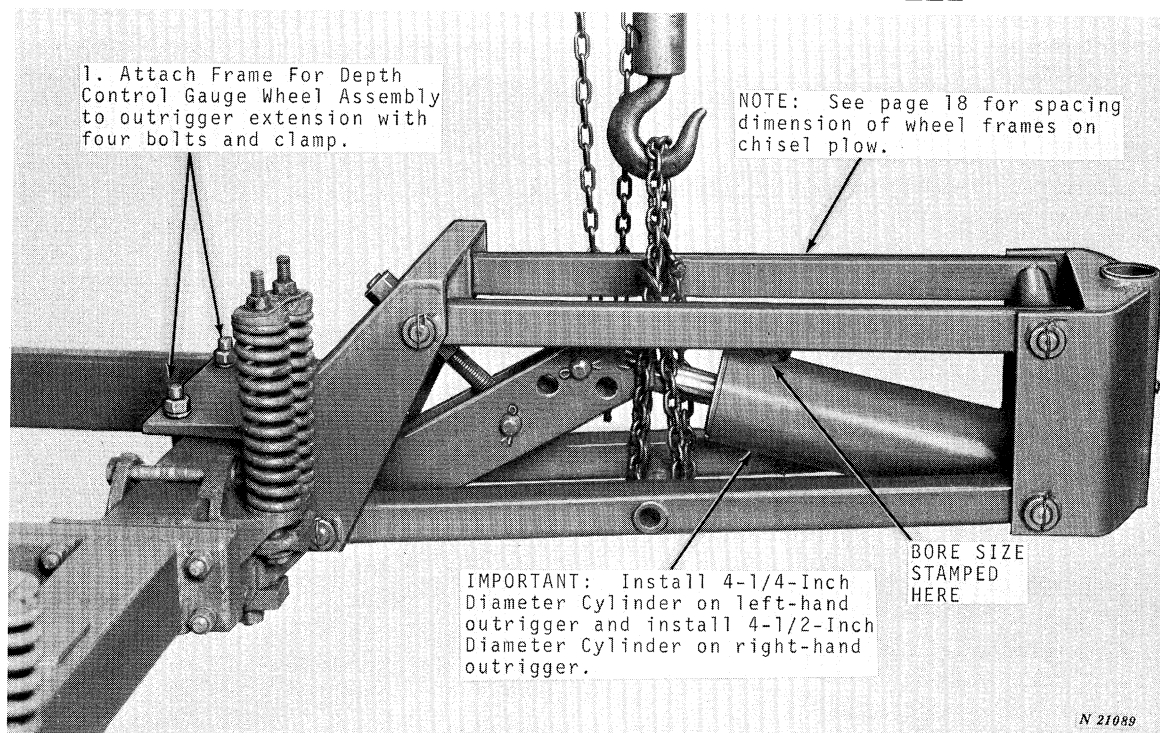
120IFH and 122IFH Chisel Plow Standard Spacing



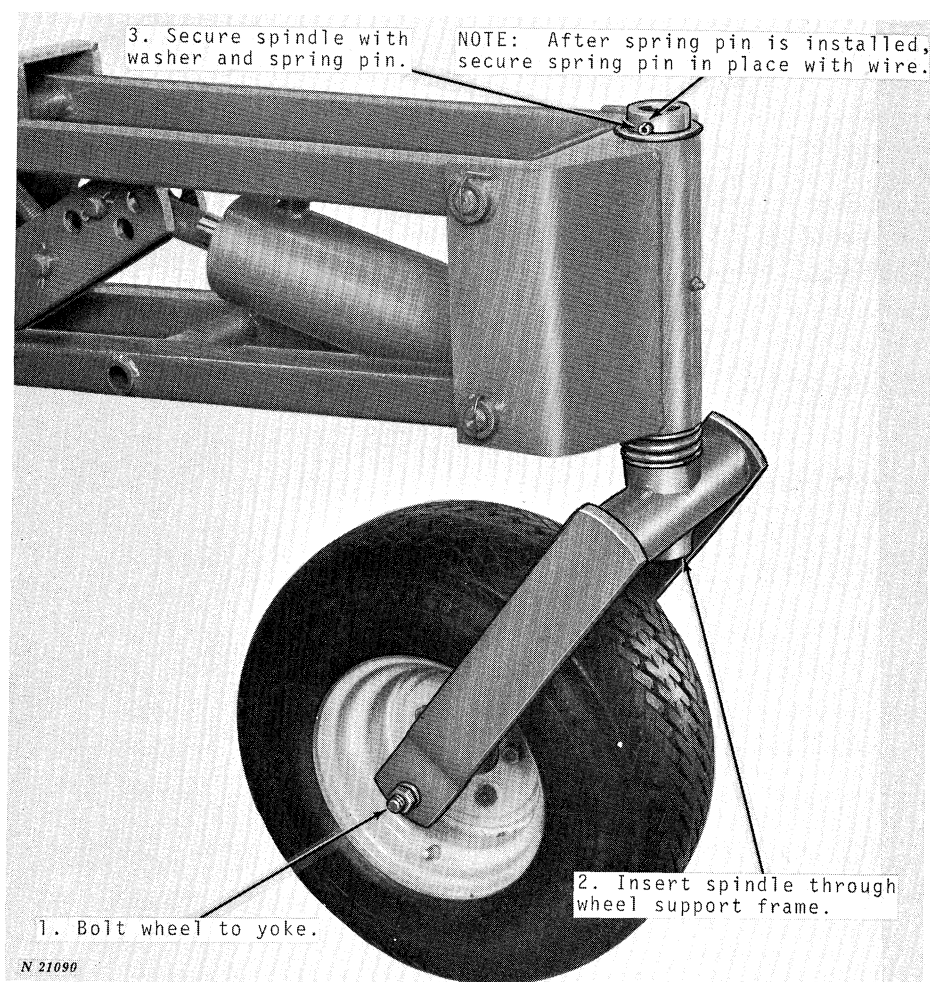
124IFH Chisel Plow Standard Spacing



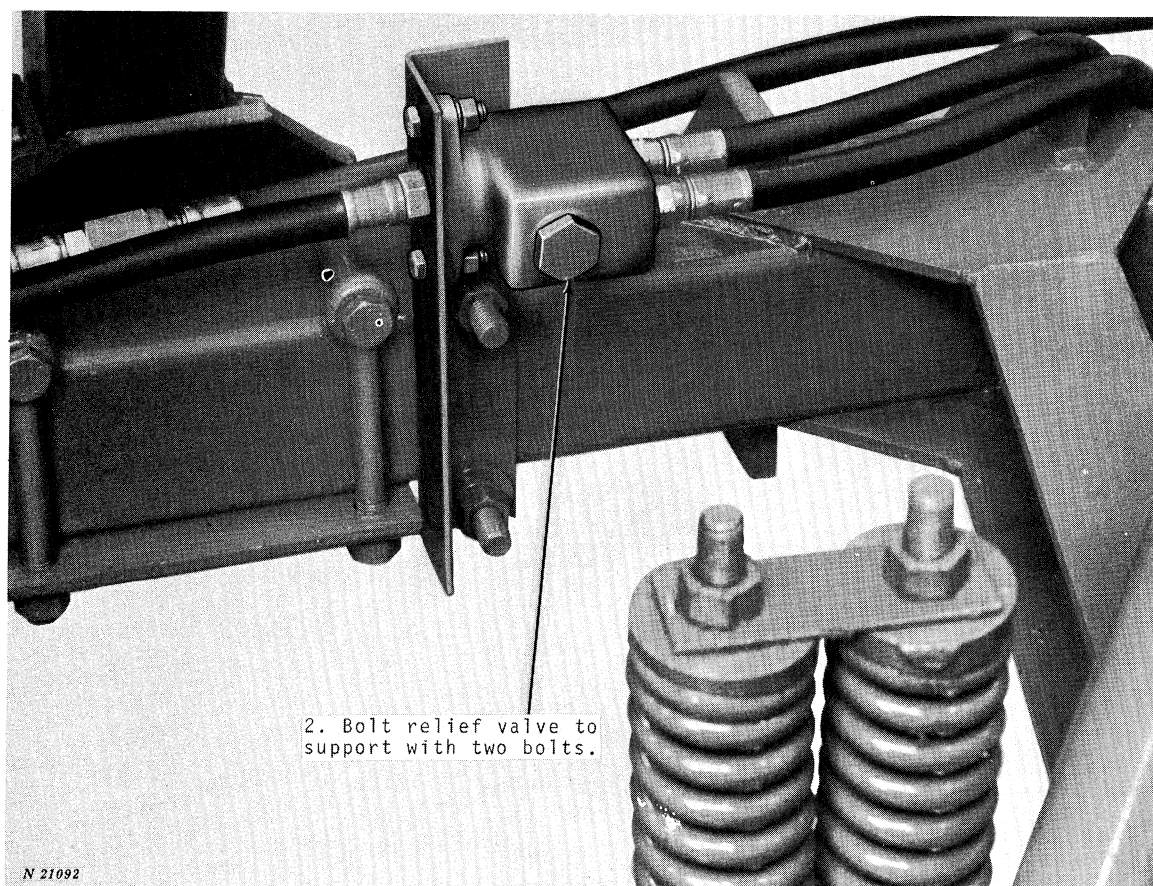
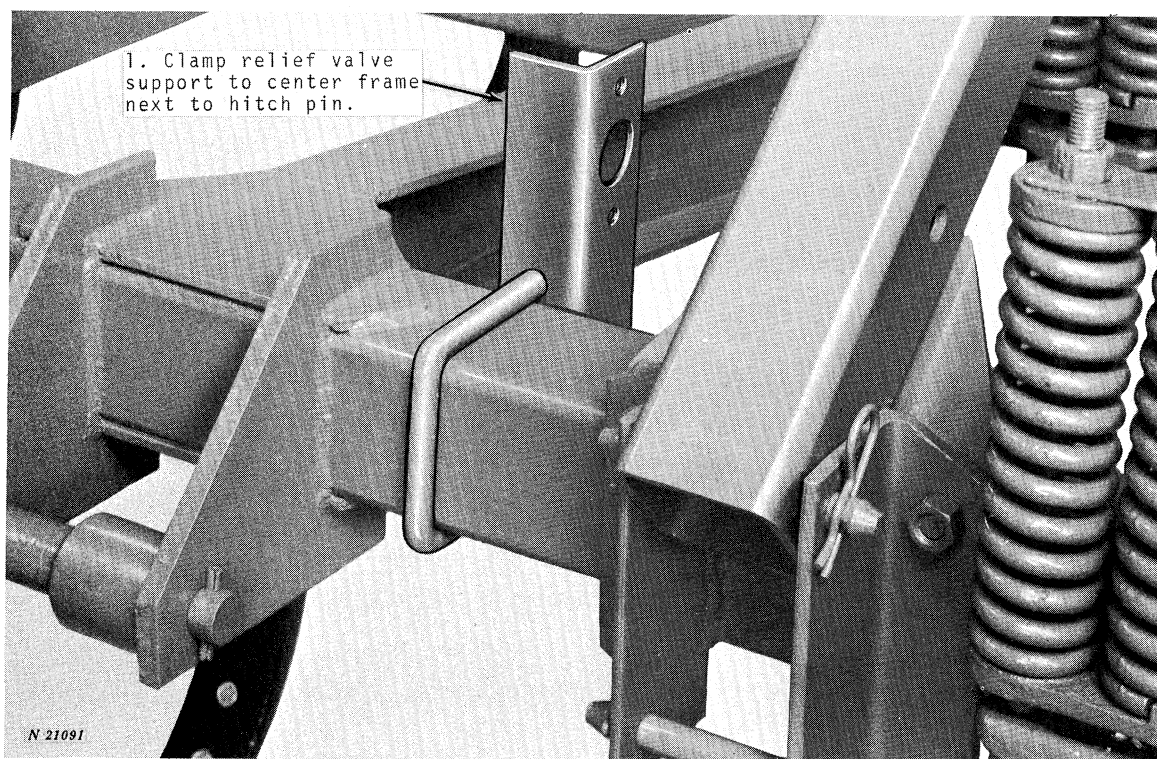
FRAME FOR DEPTH CONTROL GAUGE WHEEL



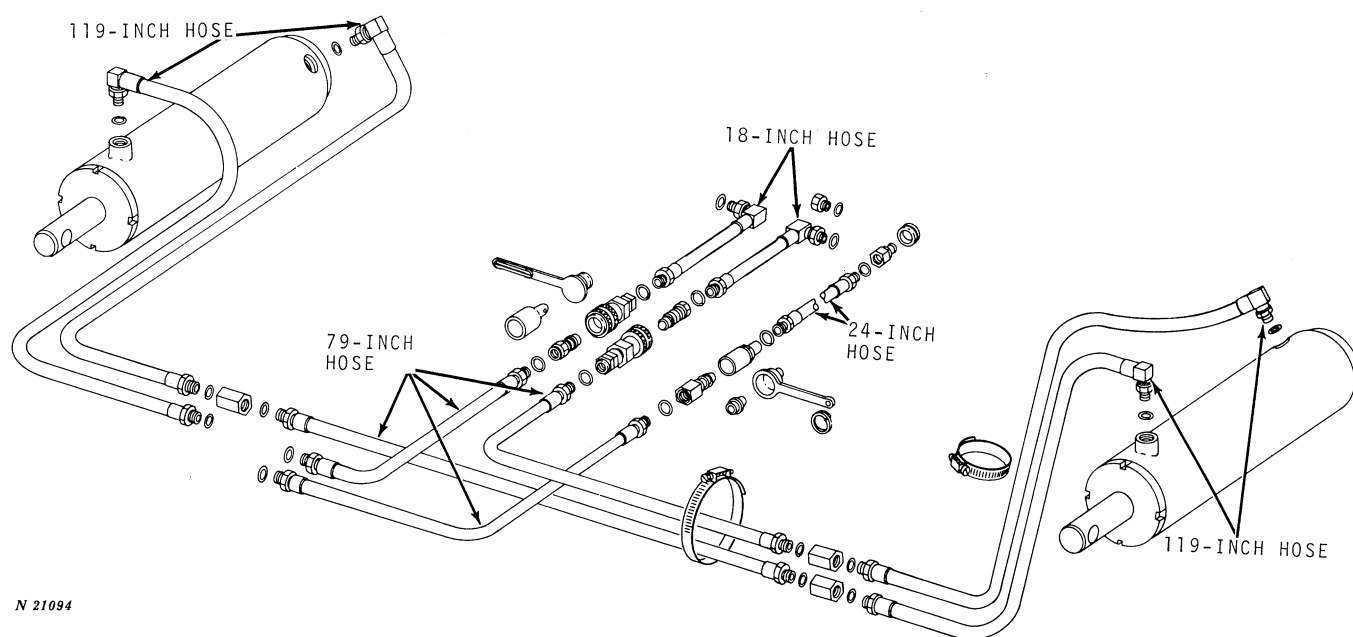
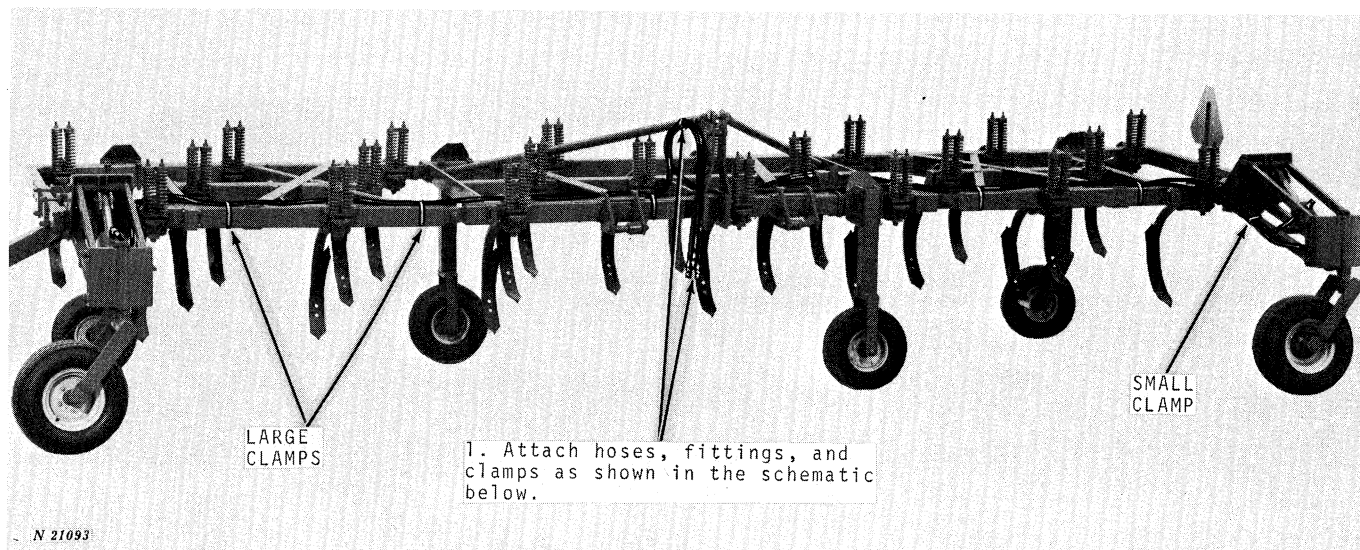
OUTRIGGER GAUGE WHEEL ASSEMBLY



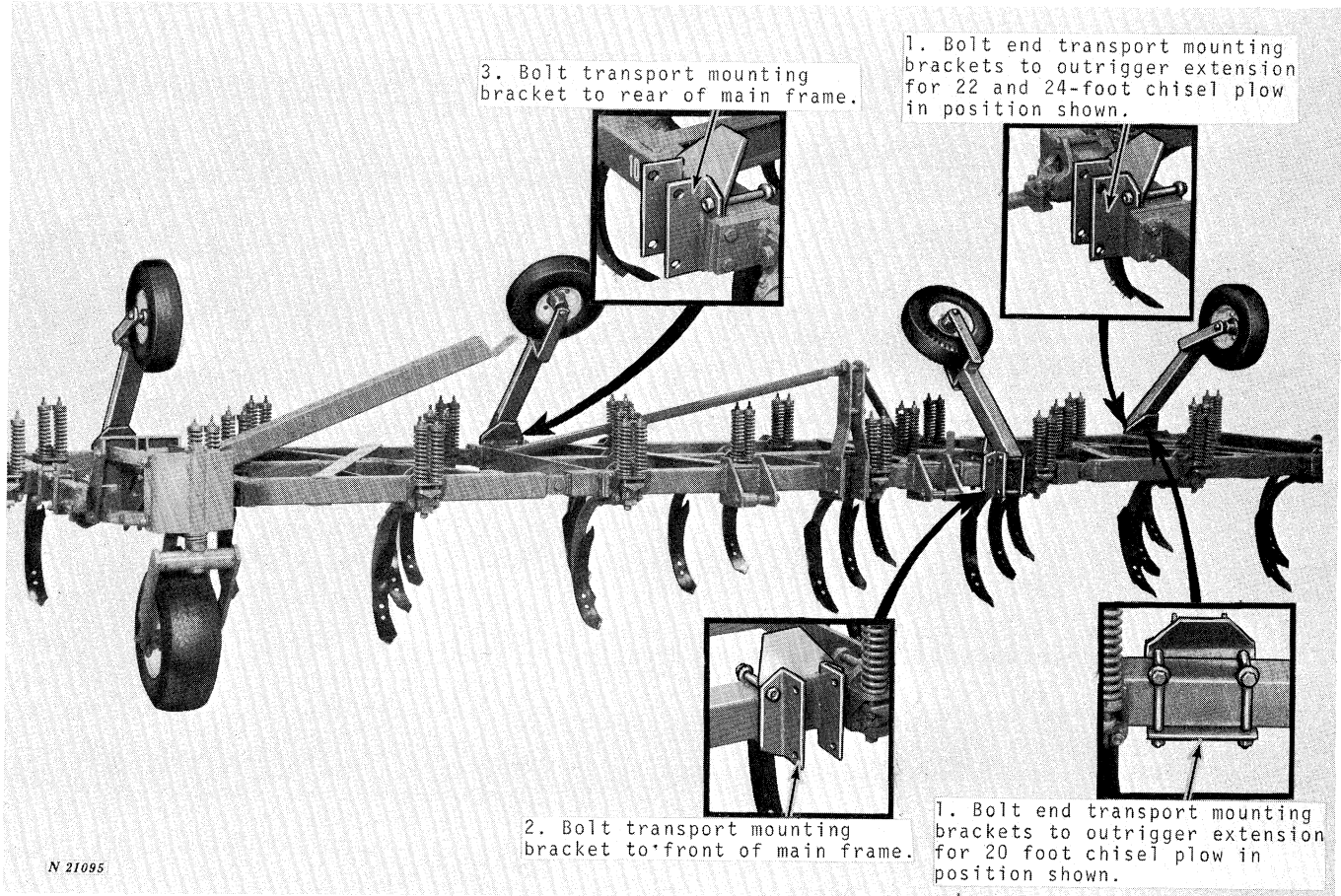
RELIEF VALVE AND SUPPORT



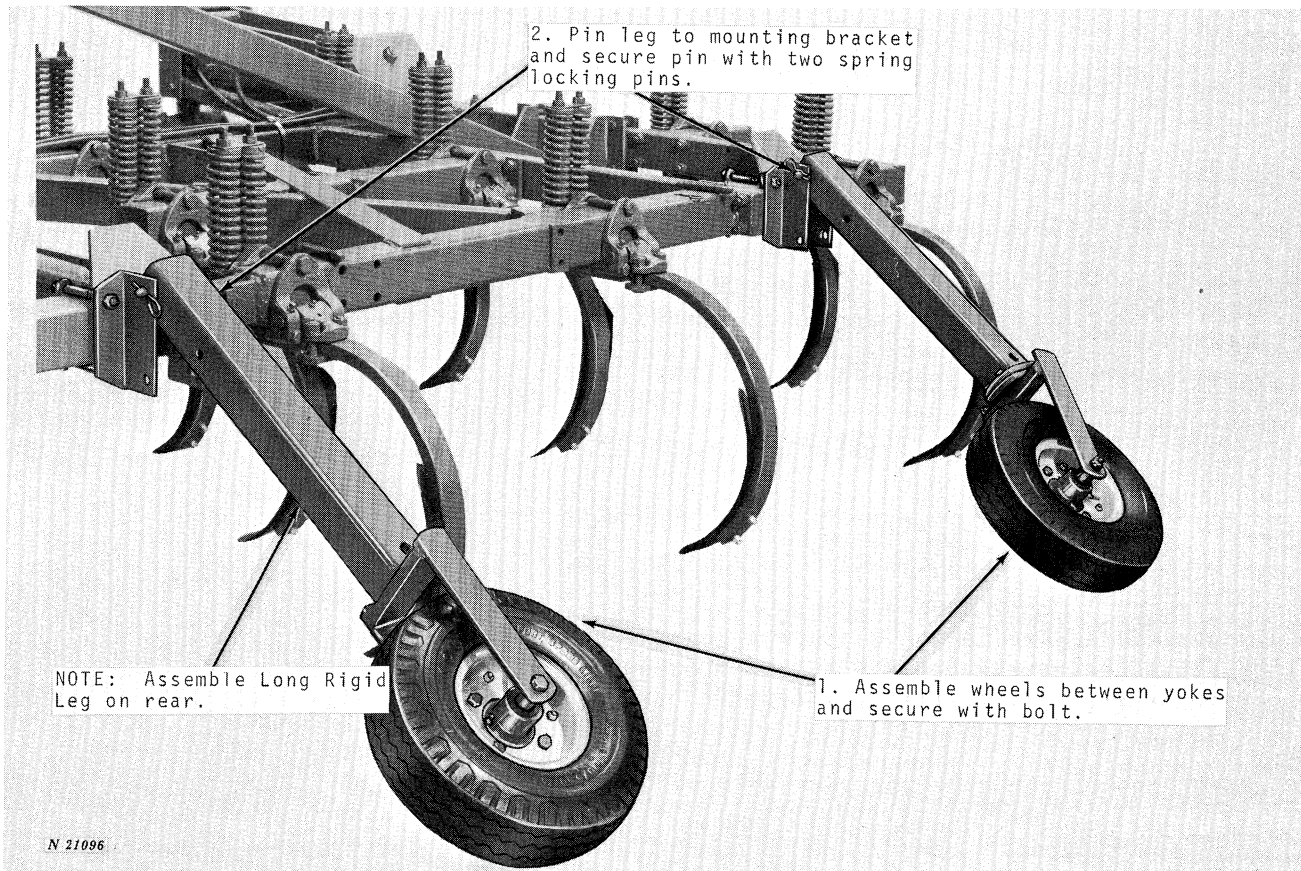
HYDRAULIC HOSES, FITTINGS, AND CLAMPS



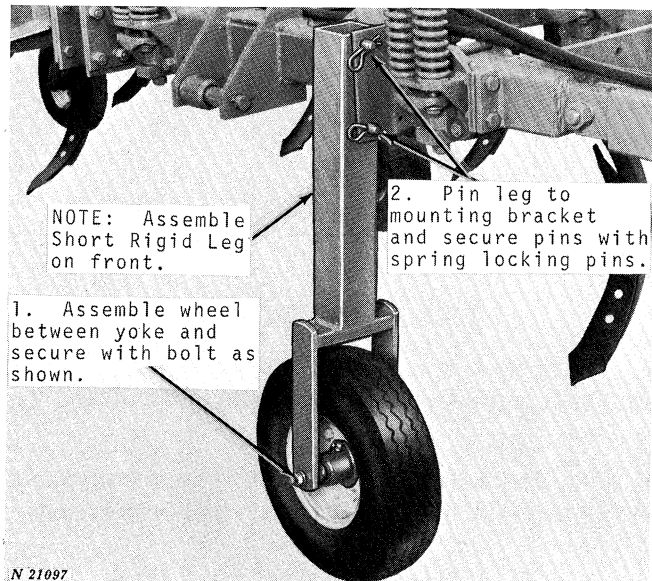
TRANSPORT MOUNTING BRACKETS



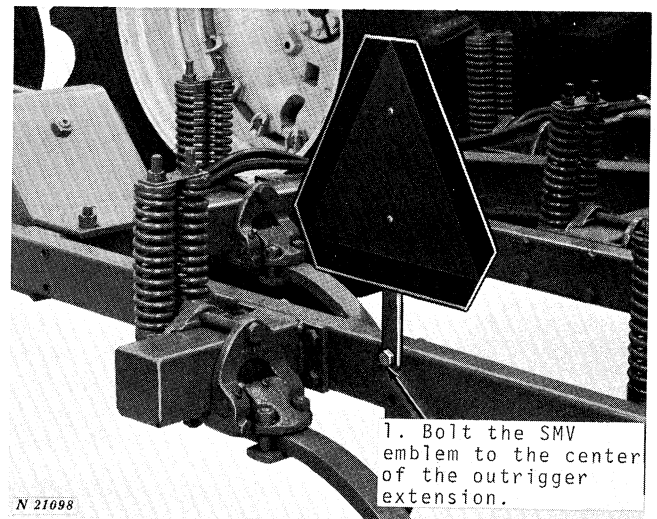
REAR SWIVEL AND RIGID TRANSPORT WHEEL AND LEG



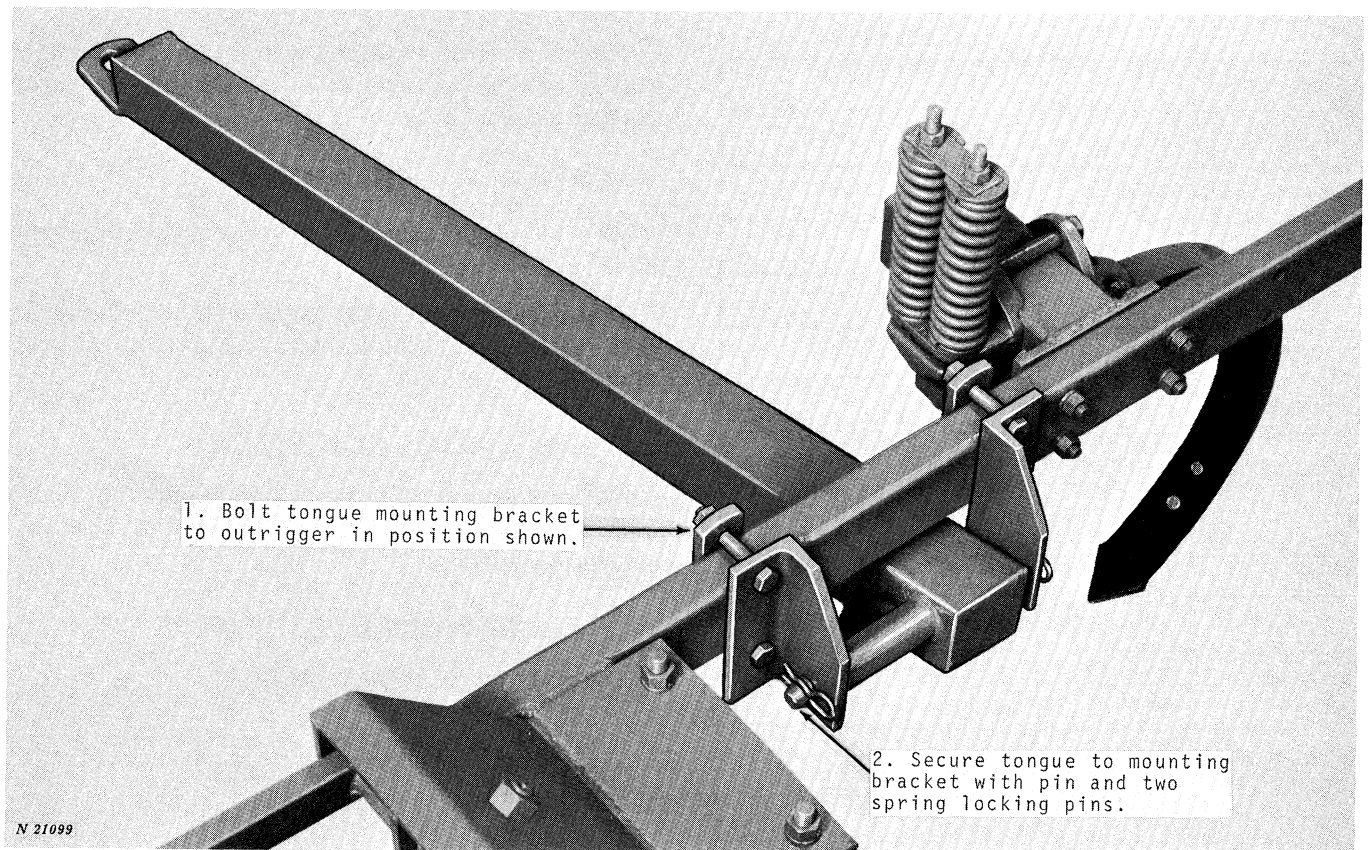
FRONT RIGID TRANSPORT WHEEL AND LEG



SMV EMBLEM



TONGUE AND MOUNTING BRACKET





Specifications

MODELS

120IFH	20-Foot
122IFH	22-Foot
124IFH	24-Foot

	MODEL		
	120IFH	122IFH	124IFH
WEIGHT	* 3618 Lbs.	* 3744 Lbs.	* 3890 Lbs.
SIZE			
Width			
In Transport	11Ft.	11Ft.	11Ft.
In Operation	23Ft.	23Ft.	25 Ft.
Length			
In Operation	7 Ft.	7 Ft.	7 Ft.
In Transport	28 Ft.	28 Ft.	29 Ft.
CYLINDERS			
Depth Control	2 Cylinders 4-1/4 x 10 4-1/2 x 10	2 Cylinders 4-1/4 x 10 4-1/2 x 10	2 Cylinders 4-1/4 x 10 4-1/2 x 10
TIRES			
Gauge Wheel	20x8.00-10	20x8.00-10	20x8.00-10
Transport	5.70-5.00 x8.00	5.70-5.00 x8.00	5.70-5.00 x8.00
NUMBER OF TOOLS	20	22	24
* With transport attachment.			

TRACTOR REQUIRED

John Deere 4000, 4010, 4020, 4520, 5010, and 5020 are recommended for use with the 120IFH Chisel Plow.

John Deere 4520, 5010, and 5020 are recommended for use with the 122IFH and 124IFH Chisel Plows.

TRACTOR REQUIREMENTS

Tractor must be equipped with closed-center hydraulic system (minimum of 2250, and maximum of 2300 psi).

Tractor must be equipped with a category 2 hitch with or without quik-coupler or a category 3 Quik-Coupler 3-point hitch.

FRAME

4 x 4-Inch square tube bars - welded type construction.

One basic 8-foot center frame with hinged outriggers, extensions and stub bars to make the various models.

TOOL EQUIPMENT

Flat cushion-spring or flat spring standards, 1 x 2-inch, for heavy-duty sweeps, chisels, spikes, shovels, and furrow openers.

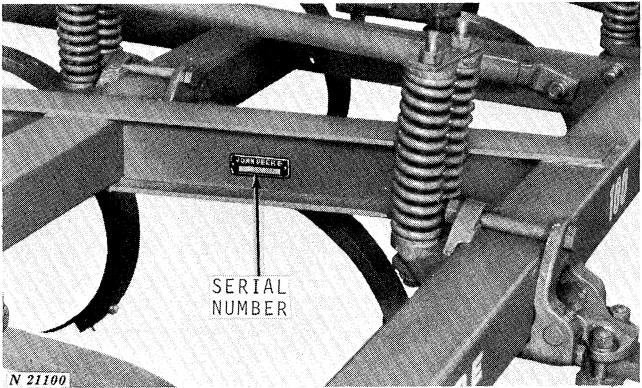
OPTIONAL EQUIPMENT

Endwise transport attachment.

SERIAL NUMBER

The serial number is located on the inside of the center frame I-beam.

When ordering parts, always bring with you the model and serial number. By doing so, you will assist your John Deere dealer in giving you prompt, efficient service. For your convenience, a space is provided at the right for recording this information.



CHISEL PLOW MODEL NUMBER

CHISEL PLOW SERIAL NUMBER

(Specifications and design subject to change without notice.)

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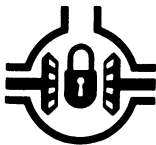
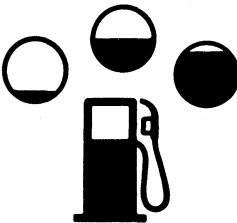
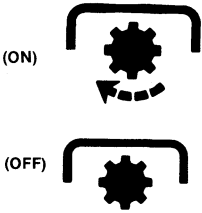
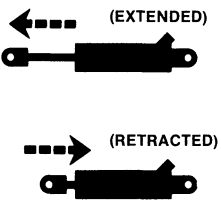
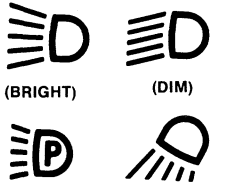
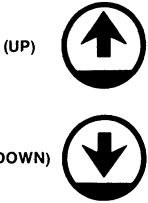
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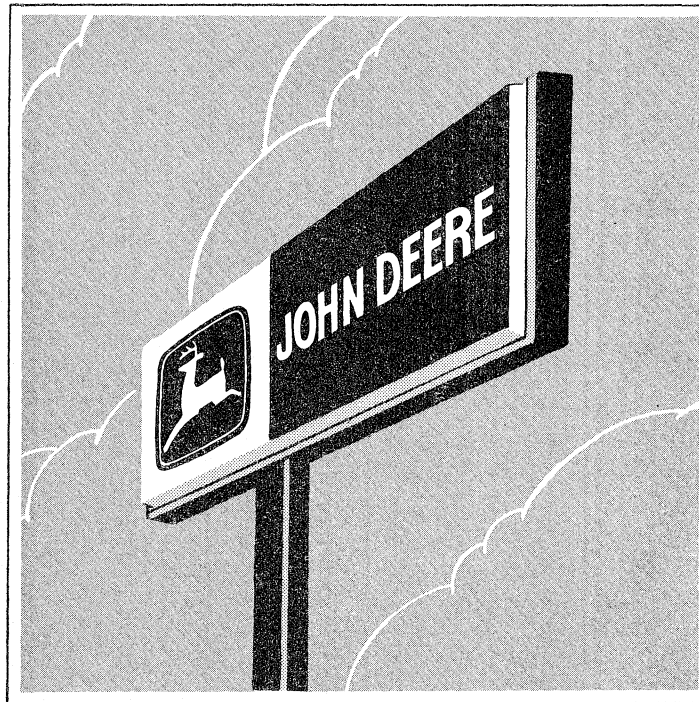
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WORLDWIDE SYMBOLS FOR OPERATOR CONTROLS

Symbols instead of words; that's what John Deere is using to promote worldwide identification of operator controls. Once standardized, they give a quick, positive message anywhere in the world — without translation. Study the symbols below and learn to recognize them at a glance.

				
TRANSMISSION OIL PRESSURE	TRANSMISSION OIL TEMPERATURE	TRANSMISSION OIL FILTER	ENGINE OIL PRESSURE	ENGINE R P M
				
DIFFERENTIAL LOCK	WATER TEMPERATURE	PRESSURIZED — OPEN SLOWLY	AIR FILTER	CHOKE
				
AMMETER OR GENERATOR LIGHT	FUEL	FUEL SHUTOFF	POWER TAKE-OFF	REMOTE CYLINDER
				
SPEED RANGE	VEHICLE FORWARD	VEHICLE REVERSE	NEUTRAL	PARK
				
LIGHTS	WINDSHIELD WIPER	WINDSHIELD DEFROSTER	IMPLEMENT MOVEMENT	CIGAR LIGHTER
				
HORN	(LOAD) (LOAD AND DEPTH) (DEPTH) ROCKSHAFT LOAD AND DEPTH CONTROL		GREASE FREQUENCY	OIL TYPE AND FREQUENCY

We're here today, here tomorrow.
Only a few minutes away from you.
With a ready supply of parts, skilled service,
know-how, and just-right finance plans.
You can count on us...anytime.



With John Deere Dealers
service is a profession...not a sideline.