

JOHN DEERE 100 & 150 SERIES- RIGID 100FH & 150FH SERIES FLEXIBLE CHISEL PLOWS



JOHN DEERE

OPERATORS MANUAL

**JOHN DEERE 100 & 150 SERIES-RIGID 100FH &
150FH SERIES FLEXIBLE CHISEL PLOWS**

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ENGLISH**



TO THE PURCHASER

This operator's manual contains information regarding assembly, operation, and adjustments so that you may obtain maximum service and satisfaction from your new chisel plow.



Study this manual carefully and keep it handy in a safe place for future reference.

Right-hand and left-hand reference is determined by standing at the rear of the chisel plow and facing the direction of travel.

If you should find that you require information not covered in this manual, consult your John Deere dealer. He will be glad to answer any question that may arise regarding the operation of your chisel plow. Your John Deere dealer has trained mechanics who are kept informed on the best service methods and will render you prompt service if needed.

Occasionally, your chisel plow may need new parts to replace worn parts. If you will furnish your dealer the description and the information which should be recorded below when the chisel plow is delivered, he can give you prompt and efficient parts service.

The warranty on your 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.

John Deere 100, 100FH, 150 and 150FH Series Chisel Plows

No. of Chisel Plow

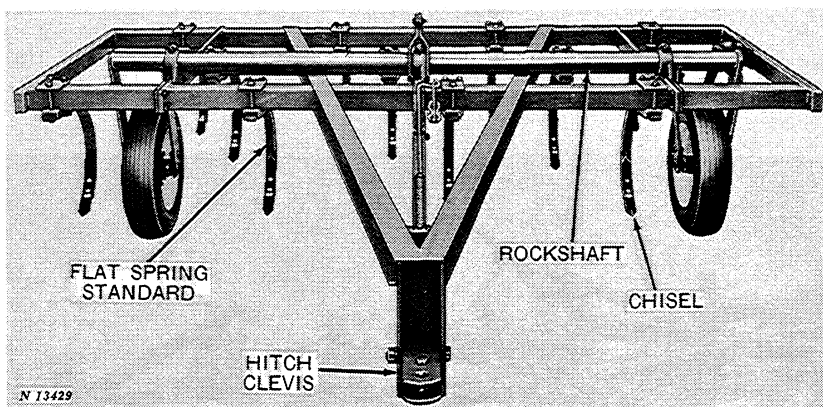
No. of Tool Equipment

Date Purchased 19

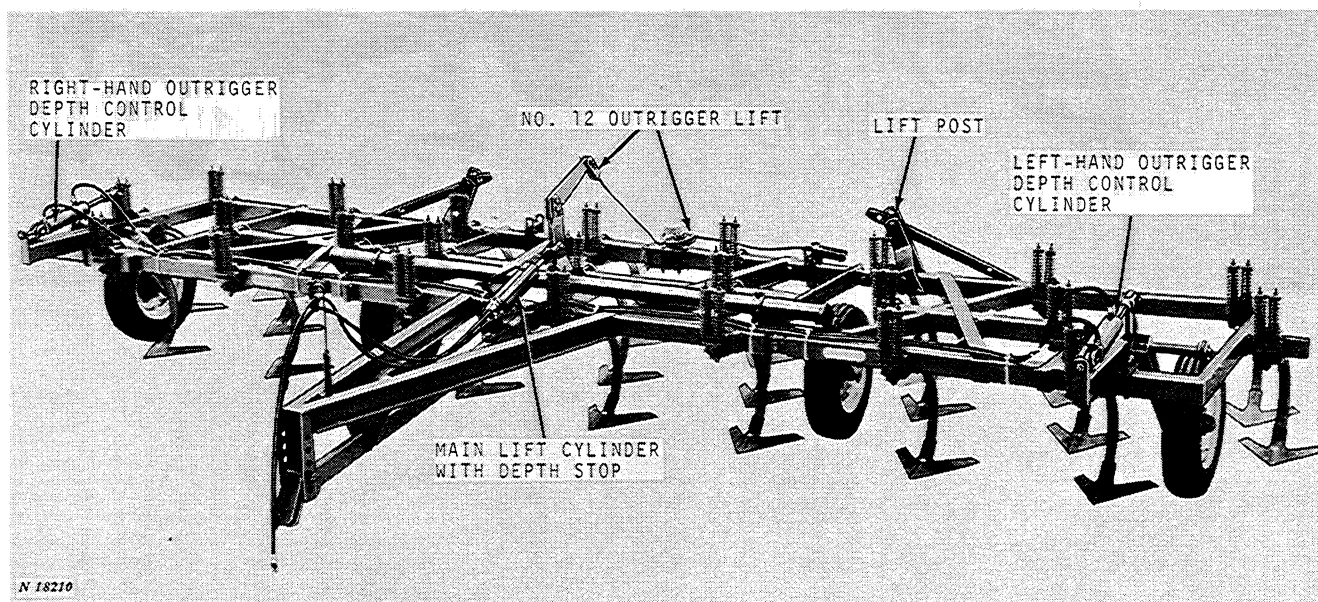
(To be filled in by purchaser)

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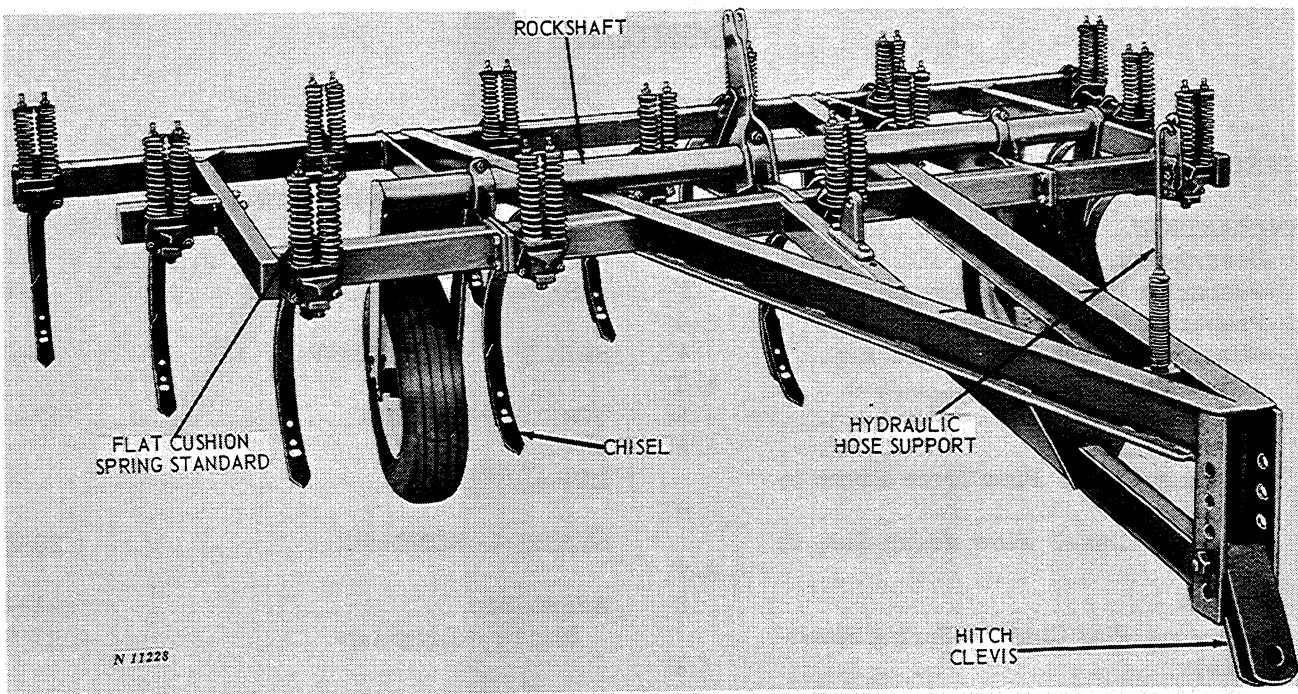
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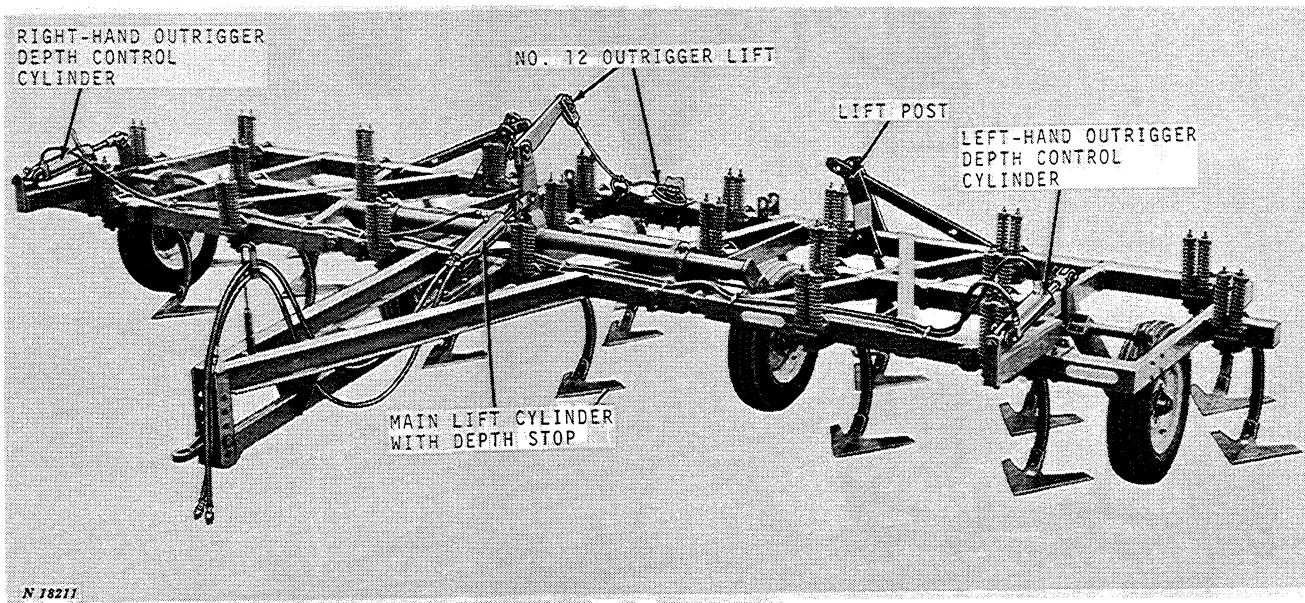
John Deere 112-12-Foot Chisel Plow with Flat Spring Standards



John Deere 124FH Chisel Plow with Flat Cushion-Spring Standards



John Deere 164 Chisel Plow with Flat Cushion-Spring Standards



John Deere 172FH Chisel Plow with Flat Cushion-Spring Standards

OPERATION

GENERAL

Chisel plows are ideally suited for seed-bed preparation, stubble-mulch and deep fallow tillage, roughing fields to reduce erosion and increase moisture absorption. Chisel plows can also be used for killing such persistent weeds as quackgrass, heavy-duty field cultivating, and renovating pastures.

On 100FH and 150FH Chisel Plows, the outriggers can be raised for transporting by using either a No. 11 Outrigger Lift or a No. 12 Outrigger Lift.

The No. 11 Outrigger Lift will lift the outriggers in one of two positions. The intermediate lift position (about 35 degrees from horizontal position) is for crossing narrow culverts, moving across ends of crop strips and similar needs. The full lift (near vertical position) is for narrow width highway transport.

The No. 12 Outrigger Lift will lift the outriggers in only the vertical position for highway transport.

Both lifts utilize locking pins to hold the outriggers in the raised or vertical position.

One standard 3 x 8-inch hydraulic cylinder with depth stop is used to control depth of penetration on the 100 and 150 Chisel Plows.

Three hydraulic cylinders are used to control the depth of penetration on the 100FH and 150FH Chisel Plows.

For tractors with high pressure (approximately 2000 psi) hydraulic systems, the 100FH or 150FH Chisel Plow is regularly equipped with three hydraulic cylinders. A 3-1/4 x 8-inch cylinder is used on the right-hand outrigger, a 3 x 8-inch cylinder is used on the left-hand outrigger, and a 3-1/2 x 8-inch cylinder with depth control stop is used on the center rockshaft. The 3-1/2 x 8-inch cylinder with depth control stop, raises, lowers, and controls depth of the entire chisel plow.

For tractors with low pressure (approximately 1000 psi) hydraulic systems, optional hydraulic cylinders are available. See the shipping bundles on pages 22 and 26.

PREPARING THE CHISEL PLOW

Before taking the Chisel Plow to the field, be sure the machine is thoroughly lubricated (page 19) and wheel bearings are adjusted properly (page 8). Check tire inflation pressure (page 13), standard spacing, and make sure all wheel frame nuts, bolts and clamps are tight (page 7).

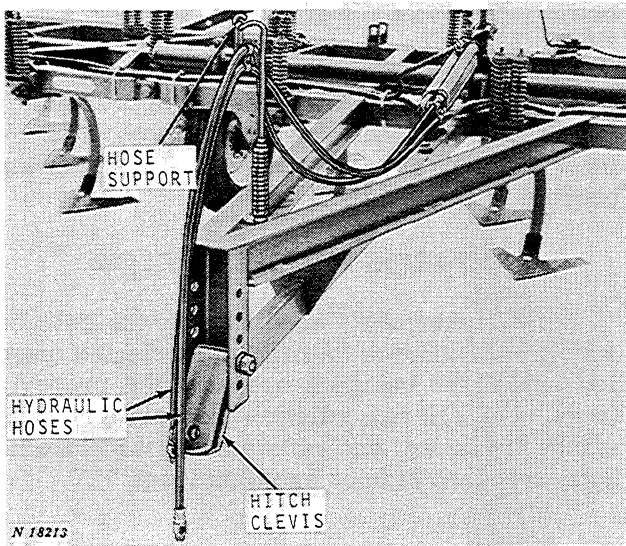
PREPARING THE TRACTOR

Before hitching the chisel plow to the tractor, pin the tractor drawbar in a fixed, centered position. Although a swinging drawbar aids turning when pulling a large implement, a fixed drawbar will provide greater stability.

See your tractor operator's manual for proper ballast and tire inflation when tractor is used to tow heavy implements.

See your tractor operator's manual for rock-shaft selector lever setting for use with or without Power Weight-Transfer Hitch.

ATTACHING CHISEL PLOW TO TRACTOR



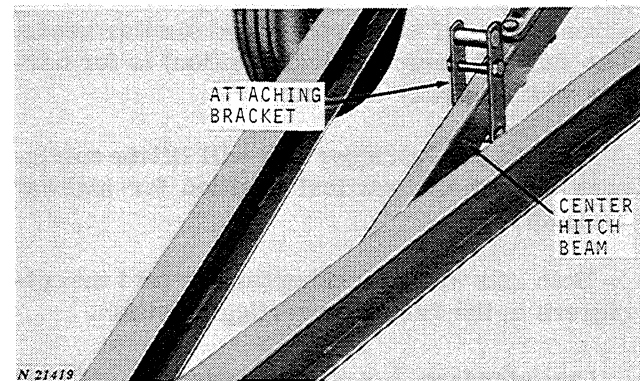
The 100FH and 150FH Chisel Plows must have the three hydraulic cylinders and hoses installed as shown on pages 37 and 38.

Back the tractor into position and attach the hitch clevis to tractor drawbar.

Connect the hydraulic hoses to couplers on tractor. Raise and lower the chisel plow several times to be sure the cylinders are working properly and that hoses are attached correctly and tightly to cylinders.

IMPORTANT: If hydraulic hoses are not attached to cylinders as outlined on pages 37 and 38 hydraulic cylinders will not function properly.

Always wipe ends of hoses clean. Keeping the hydraulic system clean at all times is a must to insure against damage to cylinder seals.



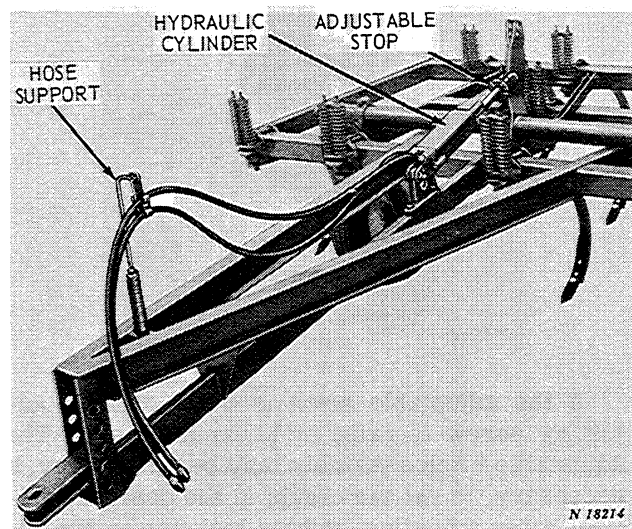
When using the Power Weight-Transfer Hitch, clamp the attaching bracket to the center hitch beam of the chisel plow.

Locate the bracket to allow the Power Weight-Transfer Hitch adjustable link to be pinned into the bracket.

The distance from the attaching point on the Power Weight-Transfer Hitch to the bracket may be from 47 inches to 62 inches.

DEPTH CONTROL

100 AND 150 CHISEL PLOWS



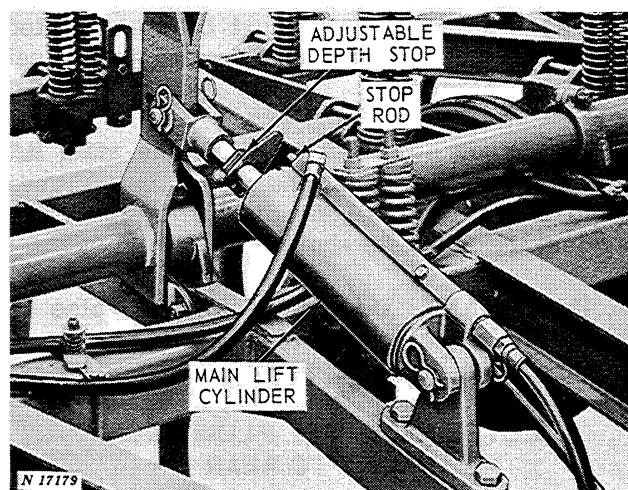
The remote hydraulic cylinder raises the chisel plow for transport and lowers it for operation.

Position the hydraulic hoses in the hose supports to keep the hoses clear of the corners of the hitch frame.

Hose extensions are available to reach the hydraulic couplers on the tractor. The hoses should be no longer than is necessary to allow the tractor to turn with the plow.

Depth of operation is controlled by the location of the adjustable stop on the hydraulic cylinder. See your tractor operator's manual. The cylinder is retracted in operating position. It is extended in transport position. When operating the chisel plow the adjustable depth stop should be against the stop rod arm on the cylinder.

100FH AND 150FH CHISEL PLOWS

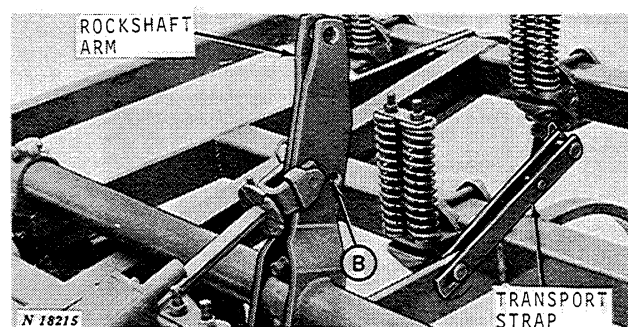


Depth of operation is controlled by the location of the adjustable depth stop on the center main lift cylinder. The cylinder is retracted in operating position. It is extended in raised position.

When operating the chisel plow, the adjustable depth stop should be against the stop rod on the main lift cylinder. To increase the depth of penetration, move the depth stop toward the shoulder of the yoke that connects the cylinder to the center rockshaft lift arm. To decrease the depth of penetration, move the depth stop toward the cylinder. When positioning the depth stop make sure it lines up with stop rod on main lift cylinder.

TRANSPORT STRAP

100 AND 150 CHISEL PLOWS



A transport strap is provided to take the strain off the hydraulic cylinder when transporting the machine. The strap also holds the plow in a raised position with the remote hydraulic cylinder removed.

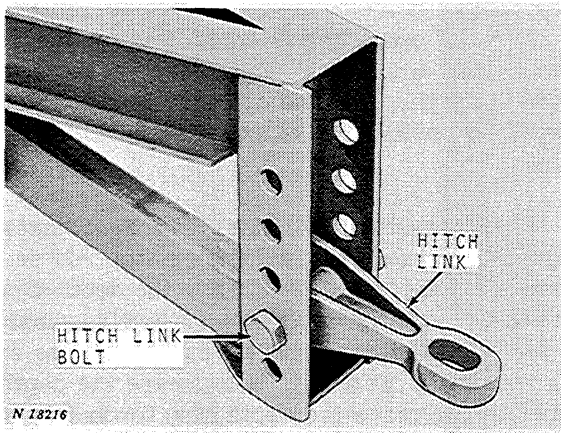
TRANSPORT STRAP—Continued

The transport strap must be disconnected from the rockshaft before lowering the chisel plow for operation.

To detach the strap, operate the main lift cylinder just enough so the pin can be removed from hole "B." Pull the pin and lay the strap against the frame as shown.

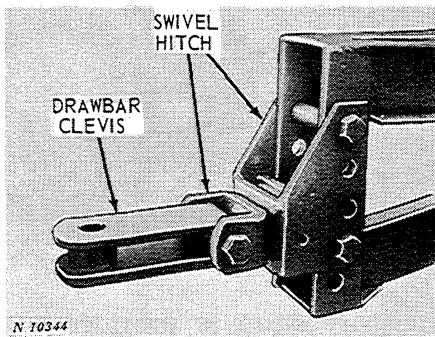
IMPORTANT: Do not attempt to raise or lower the chisel plow with the transport strap attached to the rockshaft arm.

LEVELING CHISEL PLOW FROM FRONT TO REAR

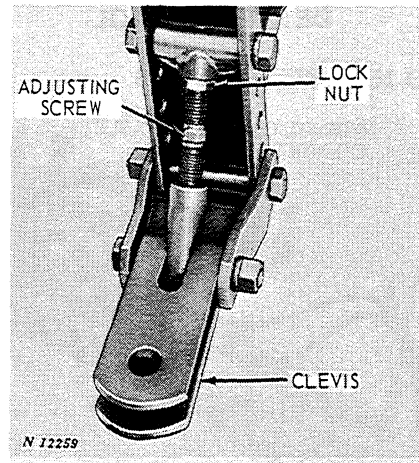


When operating in the field, the frame of the chisel plow should be level from front to rear so all tools will penetrate the soil to the same depth.

Bolt the hitch link to that set of holes in the hitch frame that will set the frame of the chisel plow level when operating in the field.



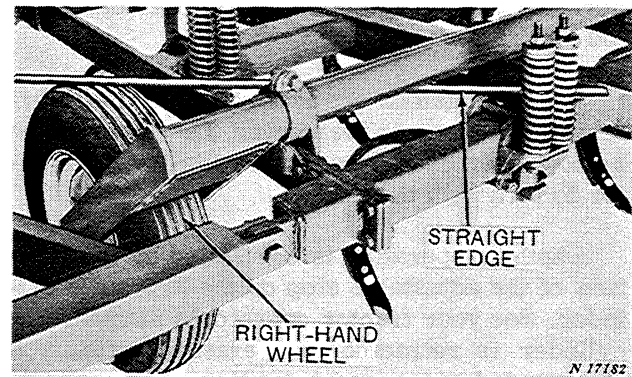
The swivel hitch is useful in extremely rolling terrain. It can be bolted to the hitch frame as shown, or it can be mounted upside down, if necessary, to level the chisel plow.



If the adjustable hitch is used, turn the adjusting screw to raise or lower the clevis. The adjustable hitch assembly may be turned over, if necessary, to set the clevis in the desired position. After adjusting, tighten lock nut on the adjusting screw, and tighten nuts on the hitch bolts.

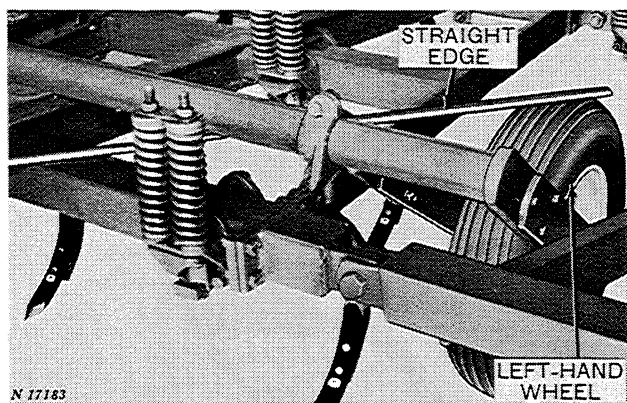
LEVELING CHISEL PLOW FROM SIDE TO SIDE

LEVELING THE CENTER FRAME



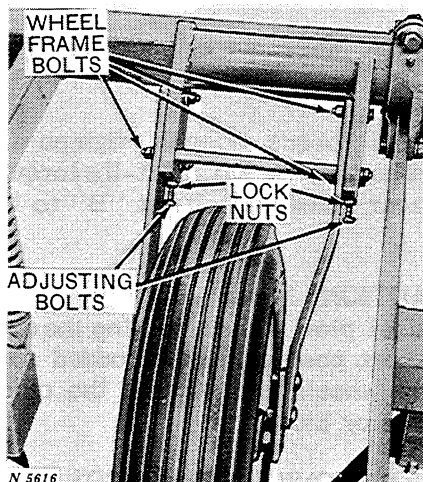
Place a straight edge across at least two center frame members and over the right-hand wheel as shown.

Use the hydraulic system to raise the wheels until the right-hand wheel just touches the bottom of the straight edge.



Keep the right-hand wheel in this position and use the straight edge to check the height of the left-hand wheel. The top of the wheel should just touch the bottom of the straight edge. If necessary adjust the wheel frame until the left-hand wheel touches the straight edge.

NOTE: Do not put one end of the straight edge on the outrigger frame when leveling the center frame.



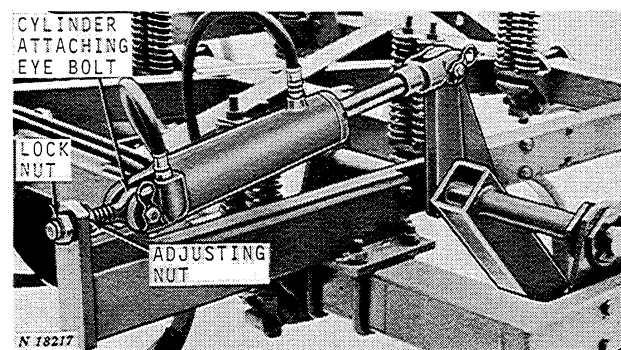
To adjust the height of the left-hand wheel, loosen the bolts securing the wheel frame plates to the rockshaft. Loosen the lock nuts on the adjusting bolts. Turn the adjusting bolts until the wheel is the proper height. Tighten all bolts. Be sure the lock nuts are tight.

NOTE: Upper wheel frame bolts must be assembled with the nuts inside the wheel frame.

IMPORTANT: Before using the chisel plow each day, check the wheel frame bolts and nuts to be sure they are tight. If the nuts are loose, the weight of the plow will cause the bolts to bend, resulting in unstable operation.

The two lower front wheel frame bolts are extra high strength bolts (19H1851) and should be replaced when necessary with the same type bolt.

LEVELING THE OUTRIGGERS ON THE 100FH AND 150FH CHISEL PLOWS



Adjust each cylinder attaching eyebolt to raise or lower the outrigger wheels so the outriggers are level with the center frame.

Turn the adjusting nut and lock nut on the end of the eyebolt clockwise to lower the outrigger. Turn the adjusting nut and lock nut on the end of the eyebolt counterclockwise to raise the outrigger.

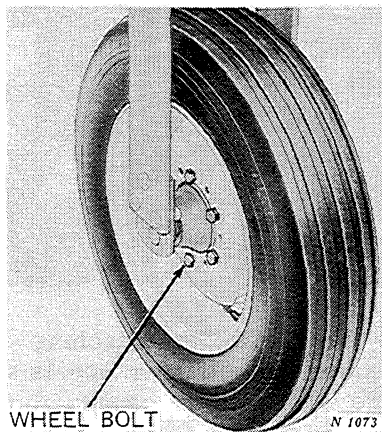
The depth of operation of both the center frame and outriggers is controlled by the location of the adjustable depth stop on the center main lift cylinder. See page 5.

POSITIONING LEFT-HAND WHEEL FRAME

The left-hand wheel frame plates can be set for either wide or narrow spacing.

To avoid interference between the chisel plow wheel and the blades, it is necessary to set the left-hand wheel frame plates for a narrow setting when wide blade sweeps are used. See page 28. When flat spring or flat cushion-spring standards are used, the wheel frame should be positioned for the wide setting.

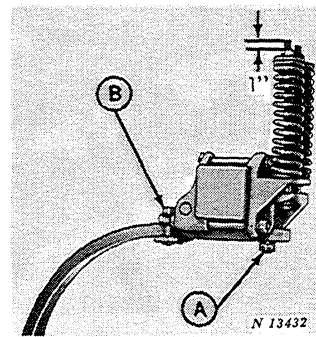
WHEELS



Check and adjust the tightness of all wheel bolts and wheel bearings, during the first week of operation, and periodically thereafter.

To tighten the wheel bearing, remove the cotter pin and tighten the slotted nut until there is a slight drag on the bearings, while turning the wheel. Then loosen or back off the nut one slot and insert the cotter pin. There should be a slight drag on the bearings following the adjustment.

ADJUSTING FLAT CUSHION-SPRING STANDARDS



Adjust the nuts on top of the springs for the desired amount of standard movement. Tighten the nuts for less movement; loosen the nuts for more movement. Leave 1 inch of threads showing above the nuts for an average setting.

IMPORTANT: Adjust all springs to the same degree of tightness to keep the chisel plow stable.

Keep the hinge pin set screw and all clamp bolts tight.

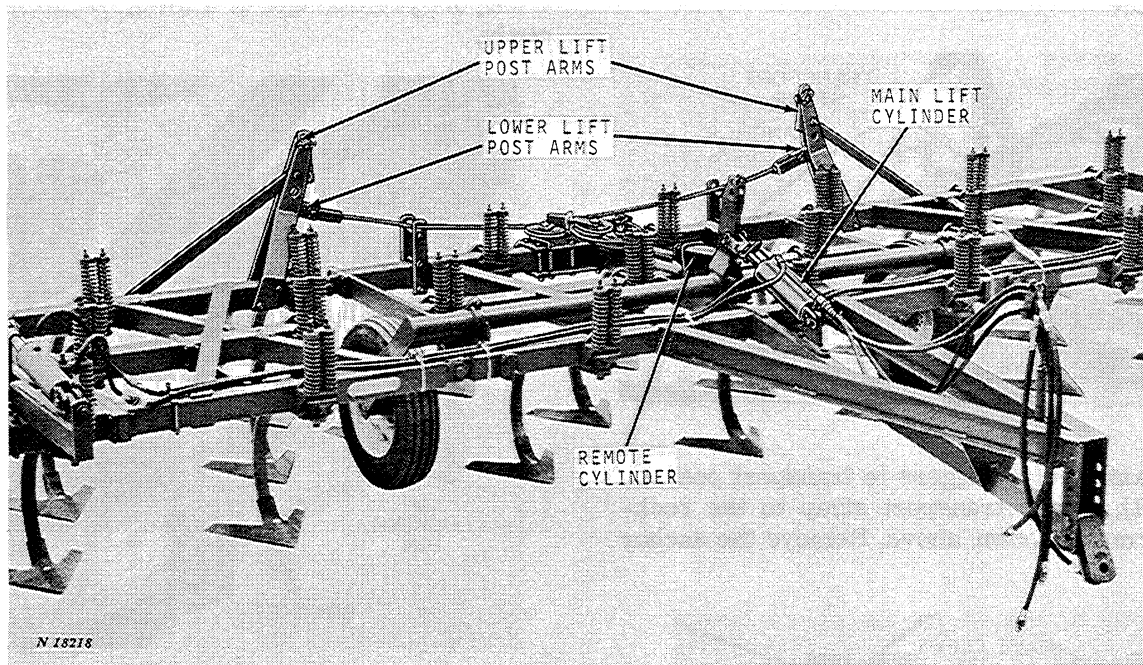
Using a torque wrench, tighten the front standard bolt at "A" to 300 ft-lbs torque. Tighten the rear standard bolts at "B" to 105 ft-lbs torque.

CAUTION: Never work on or under the chisel plow without locking the chisel plow in transport position. As an added safeguard, block the wheels and support the chisel plow with stands or blocks.

REMOVING STANDARDS

Field conditions can cause the tractor to stall when chisel plow is operating at the desired depth. To maintain working depth and reduce draft, it may be necessary to remove standards to reduce the working width and load of the chisel plow. Remove the same number of standards from each side of the chisel plow.

OPERATING NO. 11 OUTRIGGER LIFT—100FH AND 150FH CHISEL PLOWS



Outriggers in Operating Position

When the chisel plow is equipped with the No. 11 Outrigger Lift, outriggers can be partly raised to clear obstacles in the field (intermediate position), fully raised to transport (vertical position), then lowered to operating position.

If the chisel plow is to be operated in the intermediate position, it is recommended that a remote cylinder be used.

The chisel plow outriggers can be raised to transport position (vertical) with the main lift cylinder, but it is desirable to have a remote cylinder so that the main lift cylinder will not have to be removed from its normal operating position.

Hose extensions must be used when using either the main lift cylinder or a remote cylinder for raising and lowering outriggers. The hose coupler illustrated on page 12 must be used when using the main lift cylinder to raise or lower outriggers. Anchor straps are also required when using the main lift cylinder to operate outriggers.

CAUTION: Stay clear of chisel plow when raising or lowering outriggers. Lower outriggers slowly. Maintain a constant pressure on lift cables to avoid cable breakage.

LOWERING OUTRIGGERS

To lower outriggers from transport or vertical position, attach lift cable clevises to lower arms on outrigger lift posts. Retract cylinder, until lift cables are taut. Remove locking pins from lift posts. Extend cylinder to lower outriggers.

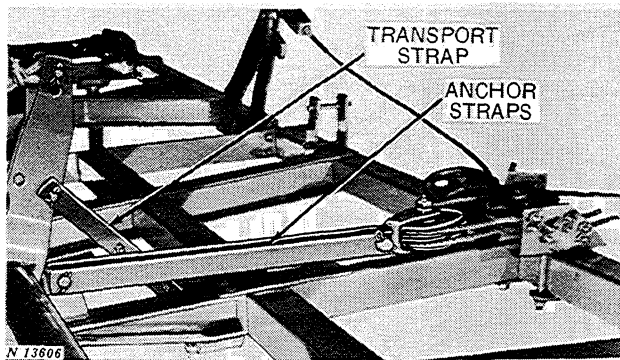
RAISING OUTRIGGERS - INTERMEDIATE POSITION

To raise outriggers to intermediate position, connect lift cable clevises to upper lift post arms and retract cylinder. Always leave cable clevises in this position when operating chisel plow in the field.

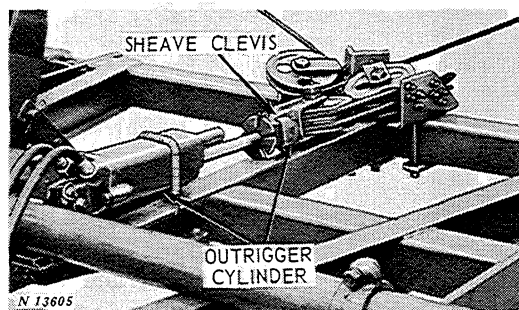
The intermediate position is to be used only for clearing obstacles such as narrow culverts or moving between crop strips. Never use this position to transport the chisel plow.

CAUTION: Stay clear of chisel plow when raising or lowering the outriggers.

RAISING OUTRIGGERS - VERTICAL POSITION

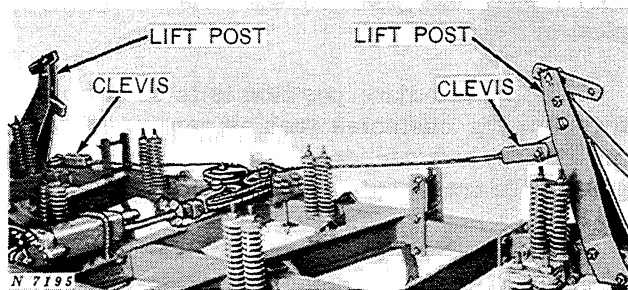


To raise the outriggers to transport position (vertical), attach transport strap to the rockshaft arm as shown above. Remove the anchor straps.



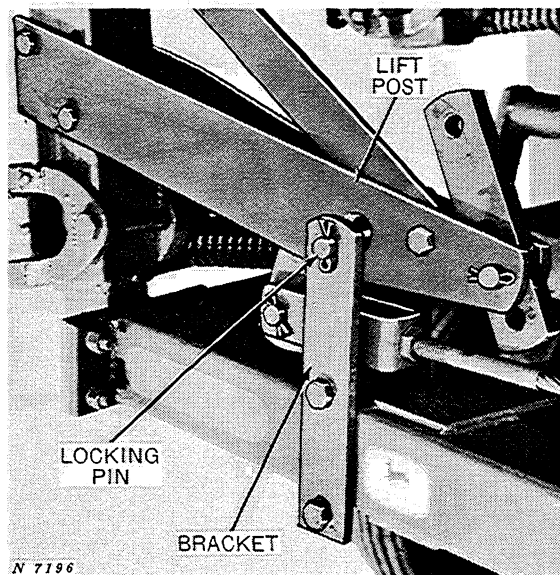
Attach cylinder to the anchor just behind the rockshaft. Attach rod end of cylinder to the sheave clevis at rear of chisel plow as shown.

NOTE: If a remote cylinder is available, use it in place of the main lift cylinder. This will save time by not having to remove the main lift cylinder from its normal operating position.



Detach clevises from upper lift arms. Remove attaching pin from upper lift arms and turn arms around so they point away from center of chisel plow. Attach one clevis to the lower arm on the lift post.

IMPORTANT: Outriggers must be raised to transport position one at a time, not simultaneously.



Raise the outrigger to transport position and lock the outrigger in place with the locking pin as shown above.

To raise the other outrigger, extend the cylinder rod and attach the other clevis to the lower lift post arm. Raise this outrigger to transport position and lock it in place with the locking pin.

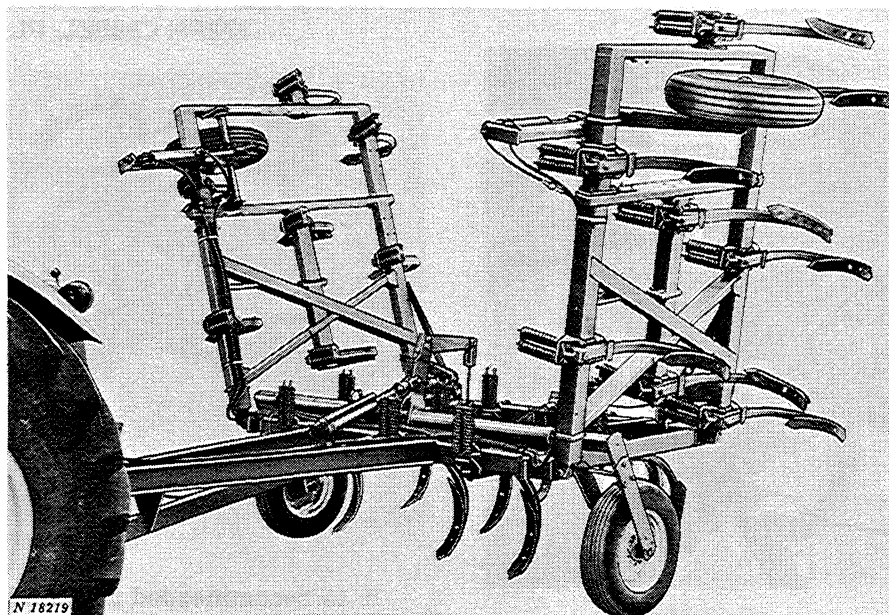
CAUTION: Make sure both outrigger locking pins are securely fastened before transporting chisel plow on public roads. Transport speed should never exceed ten miles per hour.

ADJUSTING CABLES — 100FH AND 150FH CHISEL PLOWS

Rough adjustments for changing the length of the cables can be made with the clamps. Fine adjustments are to be made with the adjusting nuts.

During the first few days of operation, there may be minor stretching of the cables as they become seated at the various attaching points. When the cable is first adjusted, the adjusting bolt should have a maximum amount of thread left inside the nut so the cables can be tightened after the initial stretch is out of them.

OPERATING NO. 12 OUTRIGGER LIFT—100FH AND 150FH CHISEL PLOWS

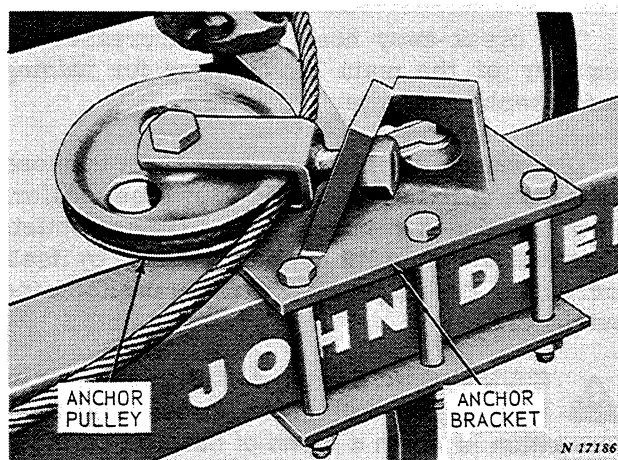


Outriggers in Vertical Position

When the chisel plow is equipped with the No. 12 Outrigger Lift, the outriggers can be raised to transport (vertical position), then lowered to the operating position.

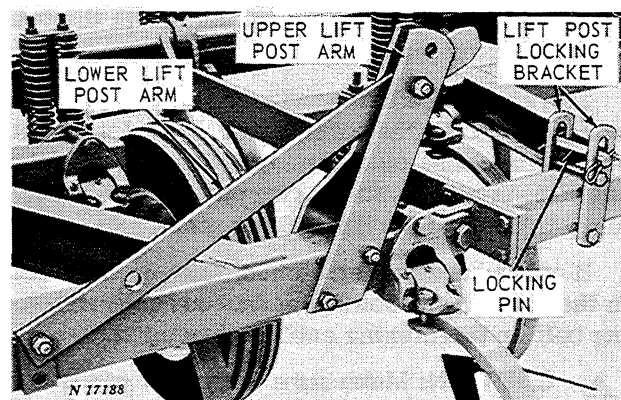
CAUTION: Stay clear of chisel plow when raising or lowering the outriggers.

RAISING OUTRIGGERS FOR TRANSPORT



Position the anchor pulley to the left or right of the anchor bracket depending upon which outrigger will be raised first.

NOTE: Only one outrigger can be raised to transport position at one time.

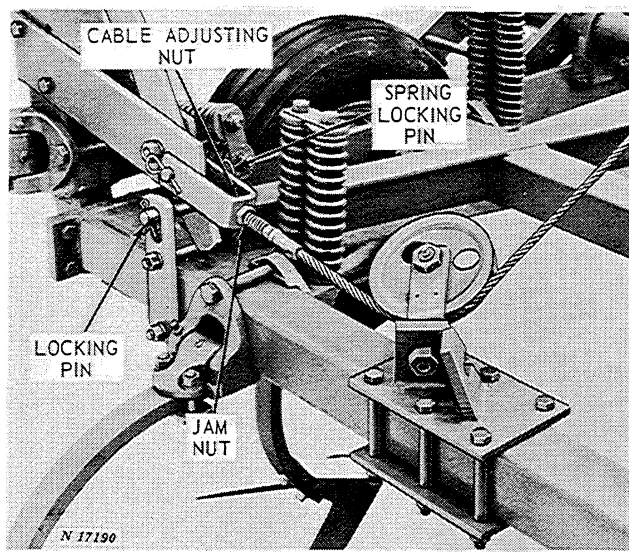


To raise the outrigger, retract the main lift cylinder.

Attach cable clevis to upper lift post arm with clevis pin. Secure clevis attaching pin in place with the two spring locking pins.

IMPORTANT: Raise the outriggers slowly. Maintain a constant pressure on lift cable to avoid cable breakage.

RAISING OUTRIGGERS FOR TRANSPORT— Continued



Raise outrigger to transport position and lock outrigger in place with locking pin as shown above. Secure locking pin in place with the two spring locking pins.

To raise the other outrigger, extend the cylinder and attach the cable clevis to the lower lift post arm. Raise outrigger to transport position and lock in place with locking pin. Secure locking pin with the two spring locking pins.

If cable becomes stretched, take up the slack in the cable by loosening jam nut on cable attaching bolt and tightening cable adjusting nut.

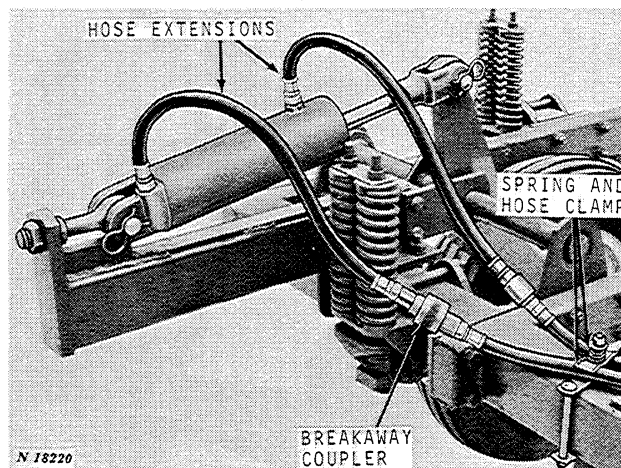
CAUTION: Make sure transport strap and outrigger locking pins are securely fastened before transporting chisel plow on public roads. Transport speed should never exceed ten miles per hour.

LOWERING OUTRIGGERS TO OPERATING POSITION

To lower the outriggers from transport or vertical position, attach the lift cable clevis to upper lift post arm. Retract main lift cylinder enough until tension is released on locking pin. Remove locking pin from lower lift post arm. Extend main lift cylinder until the outrigger is lowered to operating position.

When lowering outriggers into the operating position, extend the main lift cylinder slowly. Keep a constant pressure on lift cable to avoid cable breakage.

BREAK-AWAY HOSE COUPLER — 120FH, 122FH, 124FH, 168FH, 170FH AND 172FH CHISEL PLOWS



It is recommended that the break-away hose coupler shown above be used on wider chisel plows when the main lift cylinder is used to raise and lower outriggers.

The break-away hose coupler is attached to the front hose extension on the right-hand outrigger depth control cylinder. A break-away coupler male plug is attached to the 119-inch hose with 90° fitting that attaches to the rear port of the main lift cylinder. Springs for hose clamps with longer attaching hardware are assembled between hose clamps as shown above.

The break-away hose coupler increases the capacity of the main lift cylinder for raising and lowering outriggers.

Disconnect the 119-inch hose from the hose extension utilizing the break-away hose coupler. Plug the 119-inch hose into the tractor outlet. This lets the main lift cylinder operate by itself increasing its lift capacity to raise and lower the outriggers.

CAUTION: Be careful when raising or lowering the outriggers. An ounce of safety prevention is worth a pound of hospital care.

TOOTH PATTERNS

Two different tooth patterns can be used with flat cushion-spring standards or flat spring standards. Each pattern has advantages under different conditions. These tooth patterns are illustrated on pages 47 through 67.

DIAGONAL PATTERN

The diagonal pattern arrangement has standards angled from left-to-right, and front to rear, as viewed from the rear of the chisel plow. This arrangement provides for maximum trash clearance and is desirable for most operating conditions.

When operating on hillsides with the left-hand wheel on the high side, the diagonal pattern eliminates side slippage, giving the chisel plow more stability.

SPLIT PATTERN

The split pattern arrangement has the standards angling from the front to the rear, in both directions. In other words, the pattern forms a wedge.

This pattern is recommended when operating in flat land when the soil is extremely hard and dry. The use of the split pattern, when working under these conditions, will keep the chisel plow trailing straight behind the tractor.

CARE OF RUBBER TIRES

It is very important that tires be kept properly inflated; considerable damage may result to the tire if proper pressure is not maintained.

Lack of pressure will allow the tire to slip on the rim or the sidewalls to buckle, resulting in torn valve stems, fabric breaks, and uneven tread wear. Too much pressure causes undue strain on fabric, excessive tread wear, and allows the tire to cut in more on wet ground, thus greatly increasing the draft.

Recommended tire inflation pressure is:

- 6.70 x 15, 4-ply tires — 32 psi.
- 6.70 x 15, 6-ply tires — 40 psi.
- 7.60 x 15, 6-ply tires — 36 psi.
- 7.60 x 15, 8-ply tires — 48 psi.

Equal tire pressure in all tires is necessary for even penetration—a low tire will cause deeper penetration on one side than the other. The increased penetration on one side will result in the chisel plow running unevenly.

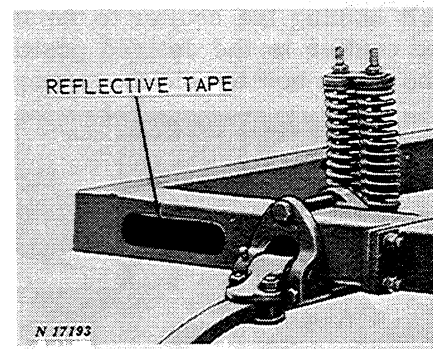
SAFETY SUGGESTIONS

 The safety of the operator was one of the prime considerations in the minds of John Deere engineers when the chisel plow was designed. Simple adjustments and safety features were built into the chisel plow wherever possible.

However, investigation of thousands of farm accidents shows that nearly one-third are caused by careless use of machinery. You can make your farm a safer place to live and work by observing the following suggestions. Study these carefully and insist they be followed by those working for you and with you.

To avoid injury, always be careful while operating your tractor and chisel plow.

Never ride, or permit others to ride, on the drawbar of the tractor or on the chisel plow.



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 the operators of other vehicles. In this regard, check local governmental regulations. Various safety lights and devices are available from your John Deere dealer.

Always attach the transport strap to the rock-shaft arm and main frame before working on or under the chisel plow when it is in the raised position.

SPECIAL EQUIPMENT

WIDE BLADE SWEEPS—150 AND 150FH CHISEL PLOWS

For stubble-mulch work, wide blade sweeps are available for the 164, 164FH, and the 166FH Chisel Plows. Two five-foot blades and one six-foot blade on the 164FH or 166FH models provide 15 feet of cut. Three six-foot blades on the 164, 164FH, and 166FH Chisel Plows give 17 feet of cut.

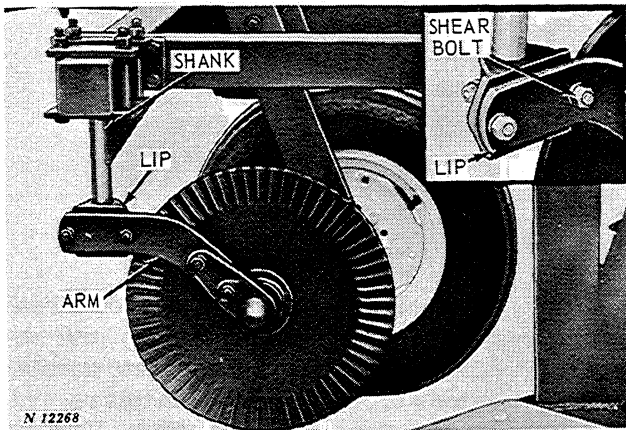
A 20-inch rippled rolling coulters with anti-friction bearings may be used with both the 5- and 6-foot blades to give a clean cut in heavy stubble.

LEVELING CHISEL PLOW FRAME

When using the wide blade sweeps, it is important that the chisel plow be level from front to rear. Even a slight angling of the chisel plow frame may tilt the large blades excessively. Use the adjustable hitch if more precise leveling is necessary.

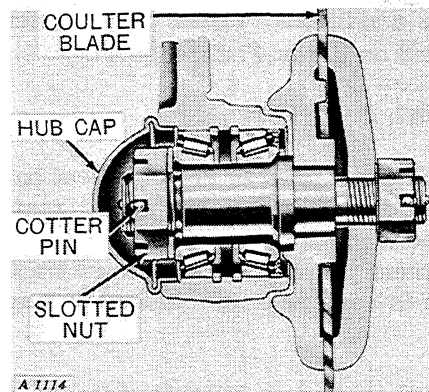
COULTERS

If coulters are used, set the coulters deep enough to penetrate the soil adequately, but do not set it so deep that trash builds up around the hub. To adjust the coulters vertically, loosen the clamp bolt holding the coulters to the standard. Move the coulters to the desired position, and tighten the clamp bolt to hold the setting.



The coulters shank bracket is factory-assembled with the lip of the bracket over the top edge of the coulters arm. This will give maximum strength in normal soil conditions. However, in adverse rocky soil conditions, reverse the bracket (lip down) to prevent possible damage to the coulters shank. See insert in illustration above. The rear bolt will then shear to protect the coulters shank. When replacing the shear bolt use a 19H1965 cap screw.

COULTER BEARINGS



Cross-Section View of Rolling Coulters

If there is any looseness in the coulters bearings, disassemble, clean, and repack with SAE multipurpose-type grease. Tighten nut until there is drag on the bearing. Do not back off nut after drag is encountered on the bearing. Keeping drag on the bearing will prevent grease loss from bearings.

These anti-friction bearing rolling coulters are packed with grease at the factory. Every 500 hours of operation, disassemble the bearing, clean and repack as outlined above.

Do not use chassis lubricant in anti-friction bearings.

POWER WEIGHT-TRANSFER HITCH ATTACHING BRACKET

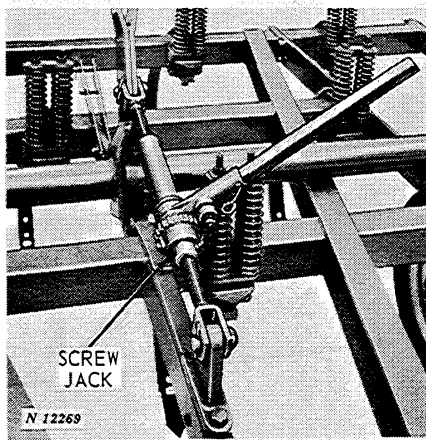
See Page 4.

NO. 11 OUTRIGGER LIFT

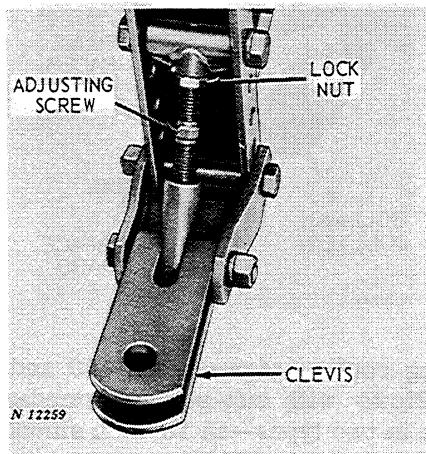
See Pages 33 and 34.

NO. 12 OUTRIGGER LIFT

See Pages 35 and 36.

SCREW JACK

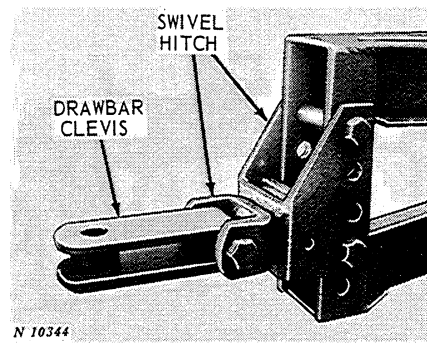
A screw jack is available as special equipment for use in place of the front cylinder on the chisel plow, when remote cylinder is not available.

ADJUSTABLE HITCH

A screw-type adjustable hitch is available in place of the regular hitch clevis. The adjusting screw may be turned to raise or lower the clevis as needed for leveling the chisel plow. It is extremely useful for leveling when the chisel plow is used with wide blade sweeps.

HOSE EXTENSIONS

Twenty-four-inch hose extensions are available for use with the No. 11 outrigger lift on 100FH and 150FH Chisel Plows. When the 100 or the 150 Chisel Plow is used with a 3010, 3020, 4010, or 4020 Tractor with wide swinging drawbar, hose extensions can be used.

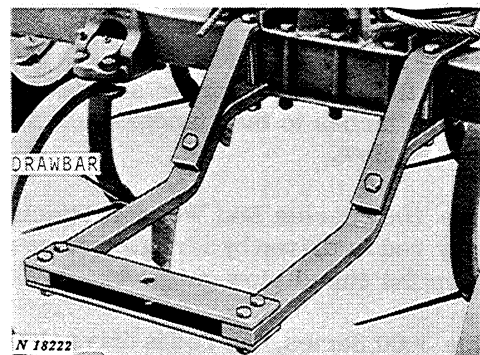
SWIVEL HITCH

The swivel hitch is very useful in extremely rolling terrain. It can be mounted upside down on the hitch bracket, if necessary, to level the chisel plow.

DRAWBAR CLEAVISES

A heavy-duty drawbar clevis is available as special equipment for use with tractors having a clevis type drawbar with drawbar pins 1-1/4 to 2 inches in diameter.

Also available is a clevis for tractors without clevis-type drawbar.

DRAWBAR FOR ATTACHMENTS

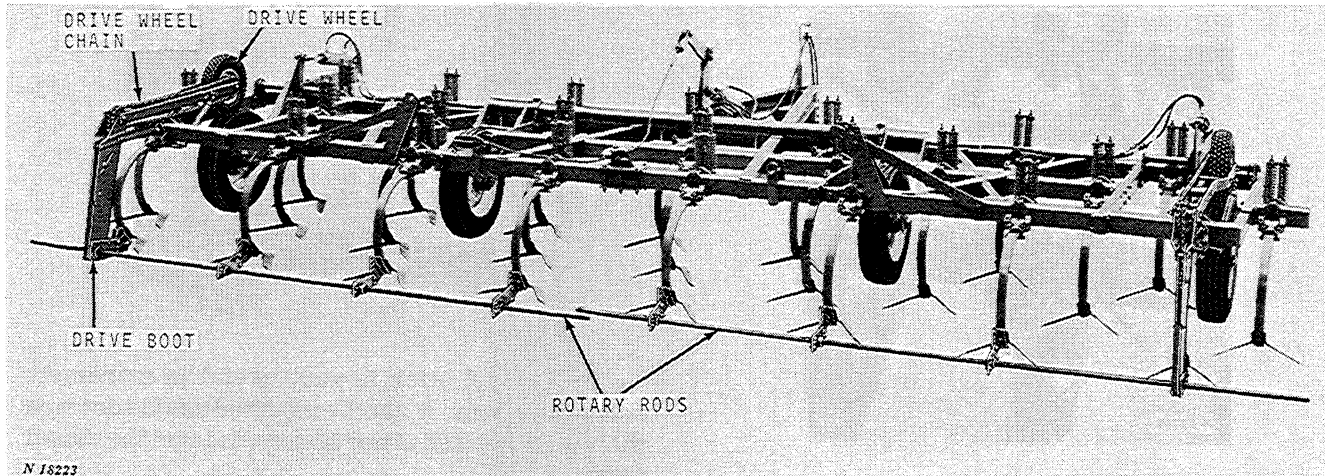
A drawbar is available as special equipment for attaching rod weeders, grain drills, and other such implements to the rear of the chisel plow.

STUB BARS — 100FH AND 150FH CHISEL PLOWS

Two 11-inch stub bars are available to provide 2 feet of additional width on the 118FH, 122FH, 168FH, and 172FH Chisel Plows.

Two 7-inch stub bars are available to provide 2 feet of additional width on the 116FH and 164FH Chisel Plows.

ROD WEEDER ATTACHMENTS



John Deere 1122 Rod Weeder on 124FH Chisel Plow

The 1000 Rod Weeder Attachment can be installed on 100, 100FH, 150, or 150FH Chisel Plow. The 3000 Rod Weeder Attachment is also available for the 100 or 150 Chisel Plow.

A rod weeder attachment makes it possible to combine two operations—sweeping the field and rod weeding—into a once-over operation. The rod weeder attachment closes the top layer of soil against evaporation, immediately behind the chisel plow.

The chisel plow must be equipped with flat spring or flat cushion-spring standards. The rotary rod attaches to the standards on the rear of the chisel plow.

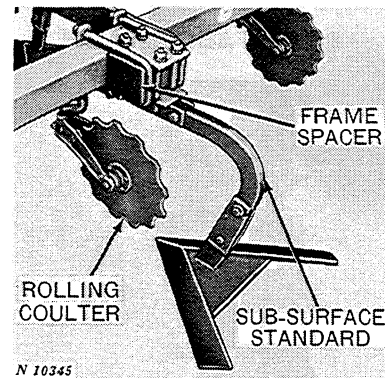
On the 1000 Series Rod Weeder Attachment, the rotary rod is driven by a friction drive wheel running on the chisel plow gauge wheel.

On the 3000 Series, the rod is driven by a hydraulic motor which is operated off the tractor hydraulic system.

100 SERIES HIGH CLEARANCE CHISEL PLOW

See Page 43.

ROLLING COULTERS — 100 AND 100FH CHISEL PLOWS



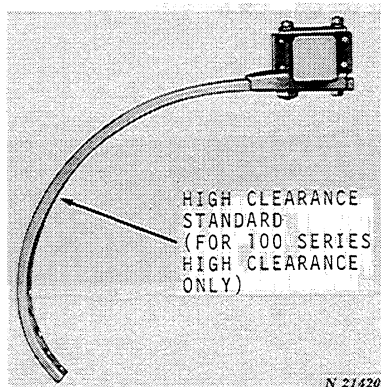
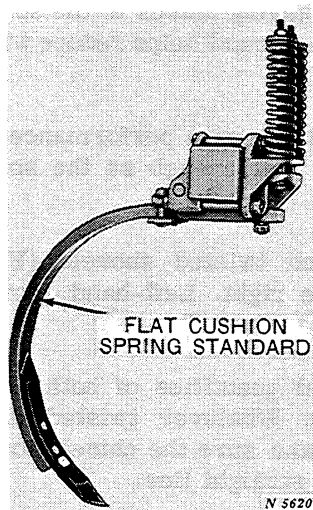
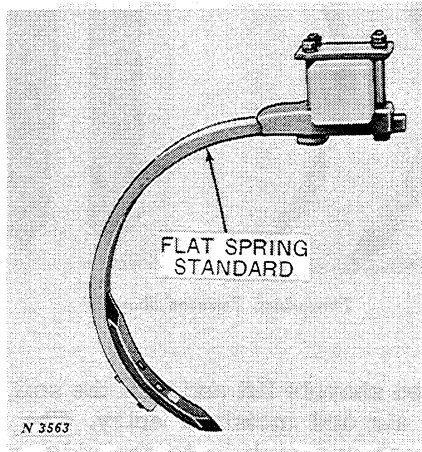
Rolling coulters for use on 100 and 100FH Chisel Plows with sub-surface standards are available in two types—an 18-inch smooth blade and a 17-inch notched blade.

Align each coulters blade with the point of the sweep. This must be done to obtain effective operation. Also, set the blade to maximum depth while still keeping the coulters bearing clear of trash. To adjust the coulters vertically, loosen coulters shank clamp bolts and move the coulters to the desired position. Tighten clamp bolts to hold the setting.

TOOL EQUIPMENT

STANDARDS

Four types of standards are available for use with chisel plows.

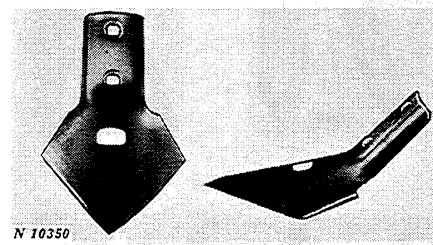


SUB-SURFACE STANDARDS

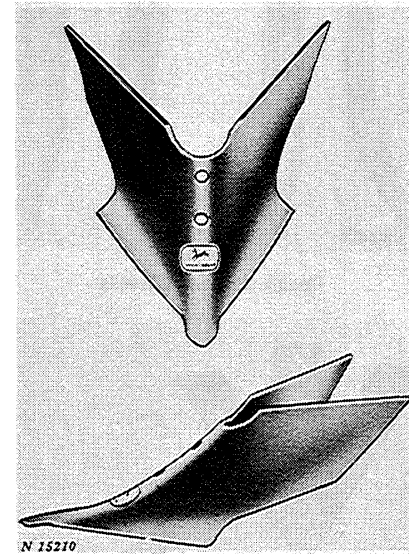
See Page 46.

TOOLS

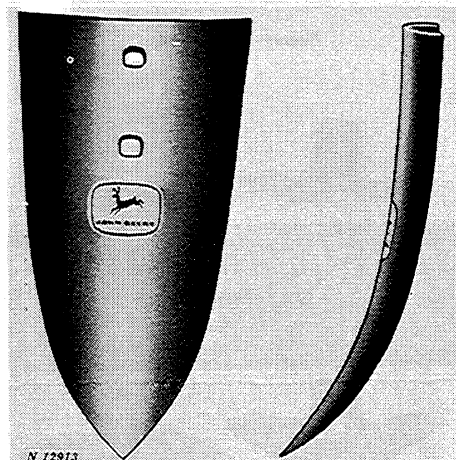
Chisels, sweeps and shovels illustrated here and on the following page are available for use on the chisel plow. Available sizes are listed on pages 21, 23, 25, and 27.



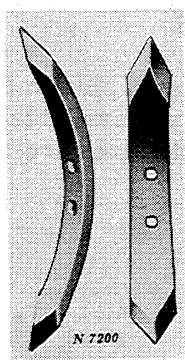
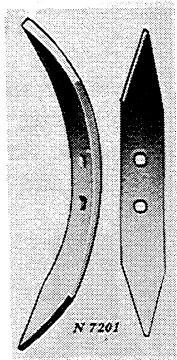
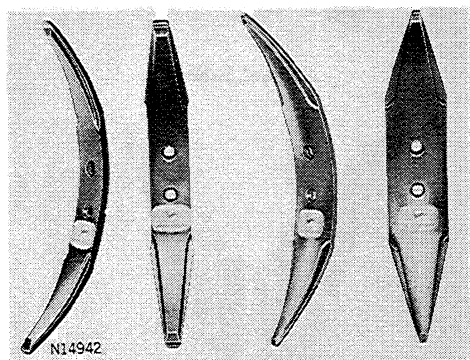
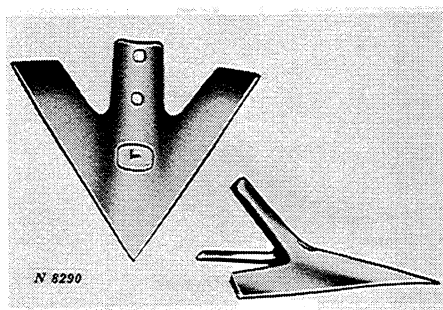
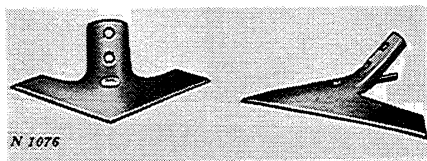
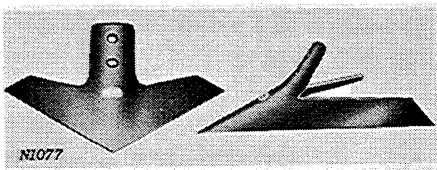
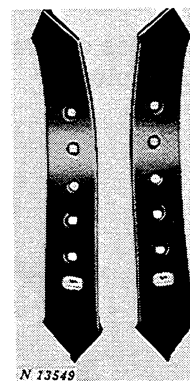
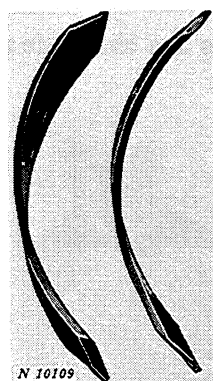
Chisel Sweep



Furrow Opener



Beavertail Shovel

TOOLS—Continued**Chisels****Spikes****Double Pointed Chisels****Heavy-Duty Sweeps****Wheatland Sweeps****Hi-Crown Wheatland Sweeps****TWISTED SHOVELS****Three-Inch Twisted Shovels**

Twisted shovels lift and turn the soil, allowing easy air and moisture entry. The shovels throw trash and stubble to the side, reducing the trash build-up on the standards. Some stubble is covered, adding humus to the soil. Trash left on top of the ground helps reduce wind and water erosion.

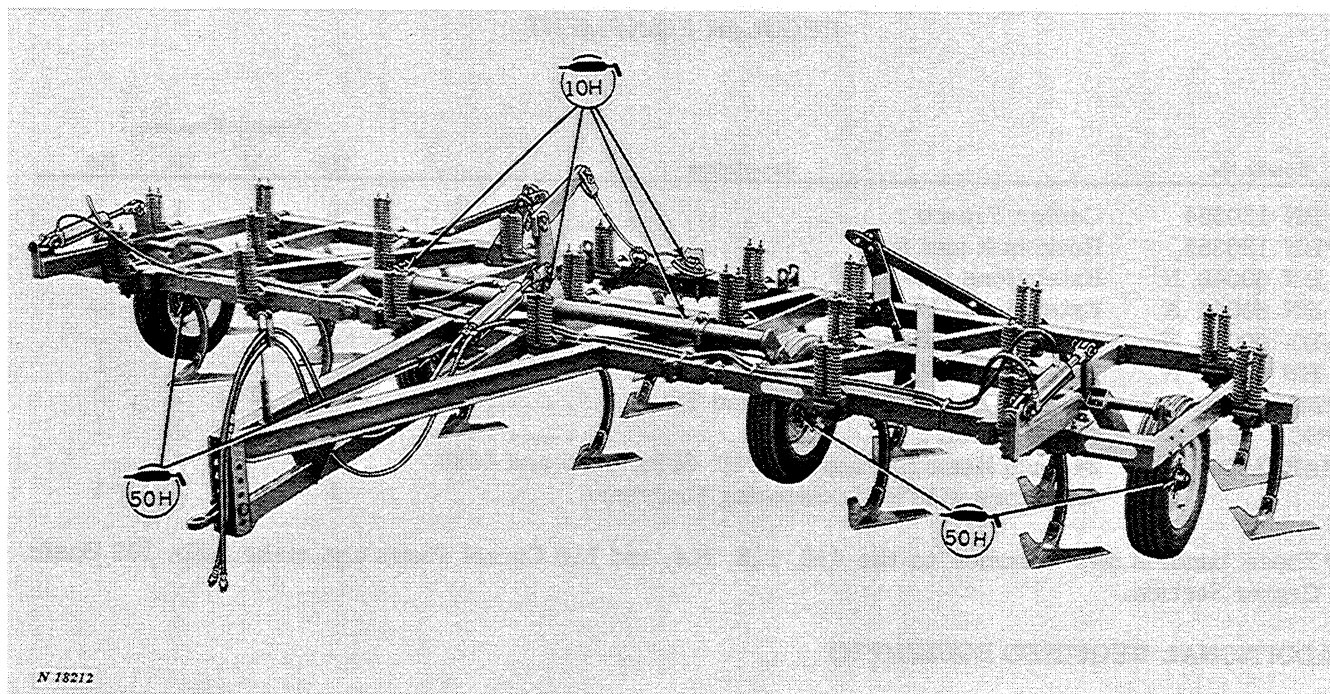
For most effective performance, operate the chisel plow fast enough so the soil appears to "boil up."

Right-hand twisted shovels (Y994N) throw trash to the right. Left-hand shovels (Y995N) throw trash to the left.

Use equal quantities of both shovels on the chisel plow. Whatever twisted shovel pattern you use, make sure the chisel plow follows the tractor in a straight line.

Two suggested twisted shovel arrangements are shown on page 44.

LUBRICATION



Symbols	
	Lubricate every 10 hours of operation with SAE multipurpose-type grease.
	Lubricate every 50 hours of operation with SAE multipurpose-type grease.



CAUTION: Do not clean, lubricate, or adjust your machine while it is in motion.

ROLLING COULTERS

The anti-friction bearings in the rolling coulters are packed with grease at the factory. Every 500 hours of operation, disassemble the bear-

ings, clean, and repack with SAE multipurpose-type grease. Do not use chassis lubricant in anti-friction bearings.

SHIPPING BUNDLES—100 CHISEL PLOW

REGULAR EQUIPMENT

Bundle No.	Description	Quantity Required			
		110	112	114	116
*BN 130354	Center Frame	1	1	1	1
*BN 130355	Rockshaft and Axle	1	1	1	1
BN 60040 N	Extensions (10-Foot).	1	..	..	..
BN 60041 N	Extensions (12-Foot).	..	1	1	..
BN 60042 N	11-Inch Stub Bar	..	..	2	..
BN 60284 N	Extensions (16-Foot).	..	..	..	1
*JD 680	15-Inch Wheel (Less Tire and Tube)	2	2	2	2
*SC 645 N	Wheel Bolts.	1	1	1	1
*AR 36005	24-Inch Hose Extension (3010, 3020, 4010 and 4020 Tractors with Wide Swinging Drawbar)	1	1	1	1

*These bundles are common to the 110, 112, 114, and 116 Chisel Plows and make a No. 108 Basic Center Section.

ADDITIONAL REQUIRED EQUIPMENT

BN 60174 N	7-Inch Stub Bar (For Diagonal Pattern)	..	..	..	1
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OPTIONAL EQUIPMENT

BN 130533	High Clearance Rockshaft.	1	1	1	1
BN 130536	Hitch Extension (required for use with BN130533).	1	1	1	1
SC 706 N	Wheel (With Tire and Tube) (6.70 x 15- 4-ply).	2	2	2	2
SC 757 N	Wheel (With Tire and Tube) (6.70 x 15- 6-ply).	2	2	2	2
JD 3400	15-Inch Wheel (Less Tire and Tube for 8.00 x 15 Tires)	2	2	2	2
BN 60011 N	Wheel (With Tire and Tube) (7.60 x 15- 6-ply).	2	2	2	2
BN 60441 N	Wheel (With Tire and Tube) (7.60 x 15- 8-ply).	2	2	2	2

SPECIAL EQUIPMENT

SD 2314 A	Screw Jack	1	1	1	1
BN 130386	Drawbar	1	1	1	1
BN 130128	Swivel Hitch	1	1	1	1
AN 60842 N	Drawbar Clevis Assembly	1	1	1	1
BN 60456 N	Adjustable Hitch.	1	1	1	1
BN 130544	Power Weight-Transfer Attaching Bracket. (required for use with Power Weight-Transfer Hitch for towed implements)	1	1	1	1

TOOL EQUIPMENT

Bundle No.	Description	Quantity									
		110 TE-67	112 TE-68	114 TE-69	116 TE-70	110 TE-71	112 TE-72	114 TE-73	116 TE-74	110, 112, 116 TE-83	114, 116 TE-84
BN 60044 N	Flat Cushion Spring Standard Clamp.	10	12	14	16	...	...	...	...	...	...
BN 130158	Heavy-Duty Flat Cushion Spring Standard Clamp (in lieu of BN60044N)	10	12	14	16	...	...	...	...	...	...
BN 60045 N	Flat Spring Standard Clamp.	...	...	...	...	10	12	14	16	...	...
C 1460 N	Flat Spring Standard	7	9	11	13	7	9	11	13	...	...
N 60418 N	Long Flat Spring Standard.	3	3	3	3	3	3	3	3	...	...
***BN 61656	High-Clearance Standards.	10	12	14	16	...	...	...	...	...	...
Y 916 N	14-Inch Chisel	10	12	14	16	10	12	14	16	...	...
*BN 130147	Plow Bolt Set (7/16" x 2-1/4")	1	1	1	1	1	1	1	1	...	...
BN 60157 N	Sub-Surface Stiff Standard.	...	...	...	...	...	...	...	...	5	7
YA 905 N	30-Inch Sweep.	...	...	...	...	...	...	...	...	5	7
**BN 130146	Plow Bolt Set (7/16" x 2")	1	1	1	1	1	1	1	1	...	...
***BN 130145	Plow Bolt Set (7/16" x 1-3/4")	1	1	1	1	1	1	1	1	...	...

*Use only with Y916N, Y917N and Y938N Chisels.

**Use with sweeps, shovels, chisels and furrow openers except Wheatland sweeps and Y916N, Y917N and Y938N Chisels.

***Use with Wheatland sweeps.

****For use with BN130533 Only (High Clearance Rockshaft)

SPECIAL TOOL EQUIPMENT FOR USE WITH SUB-SURFACE STIFF STANDARDS

Bundle No.	Description	Quantity			
		110	112	114	116
SC 648 N	17-Inch Notched Rolling Coulter.	5	5	7	7
SD 1432 AN	18-Inch Plain Rolling Coulter	5	5	7	7
BN 60175 N	Frame Spacer (2 per bundle) (used with SC648N or SD1432AN)	1	1	1	1

OPTIONAL IN PLACE OF Y916N CHISEL

Bundle No.	Description	Bundle No.	Description
N130114	16-Inch Lo-Crown Wheatland Sweep	Y 970 N	3-Inch Double-Pointed Chisel
N130115	18-Inch Lo-Crown Wheatland Sweep	Y 971 N	4-Inch Double-Pointed Chisel
Y 917 N	16-Inch Chisel	Y 972 N	6-Inch Furrow Opener
Y 918 N	14-Inch Spike	Y 973 N	8-Inch Furrow Opener
Y 919 N	16-Inch Spike	Y 974 N	10-Inch Furrow Opener
Y 953 N	8-Inch Wheatland Sweep	Y 978 N	14-Inch Hi-Crown Wheatland Sweep
Y 954 N	10-Inch Wheatland Sweep	Y 979 N	16-Inch Hi-Crown Wheatland Sweep
Y 955 N	12-Inch Wheatland Sweep	*Y 992 N	18-Inch Hi-Crown Wheatland Sweep
N130106	14-Inch Wheatland Sweep	*Y 993 N	20-Inch Hi-Crown Wheatland Sweep
N130107	16-Inch Wheatland Sweep	Y 994 N	3-Inch Twisted Shovel, R.H.
*N130108	18-Inch Wheatland Sweep	Y 995 N	3-Inch Twisted Shovel, L.H.
*N130109	20-Inch Wheatland Sweep	N 61113 N	6-Inch Chisel Sweep
Y 966 N	4-Inch Beavertail Shovel	YA 949 N	30-Inch Sweep (For sub-surface standard)
Y 967 N	5-Inch Beavertail Shovel	*Eighteen inch or larger sweeps can not be used on flat spring or flat cushion-spring standards in the front row next to the wheels. Large sweeps in these positions will damage tires.	
Y 968 N	6-Inch Beavertail Shovel		
Y 969 N	2-Inch Double-Pointed Chisel		

SHIPPING BUNDLES—100FH CHISEL PLOW

Bundle No.	Description	Quantity Required				
		116FH	118FH	120FH	122FH	124FH
REGULAR EQUIPMENT						
AR 30008 R	Hose Extension 24".....	..	..	2	2	2
BN 130354	Center Frame.....	1	1	1	1	1
BN 60042 N	Stub Bar - 11-Inch.....	..	..	..	..	2
BN 60274 N	Stub Bar - 7-Inch (2).....	..	1	..	..	..
BN 130000	Rockshaft and Axle.....	1	1	1	1	1
BN 130352	Wheel Hub and Axle, Right-Hand.....	1	1	1	1	1
BN 130353	Wheel Hub and Axle, Left-Hand.....	1	1	1	1	1
BN 60271 N	Extension.....	..	..	1	1	1
BN 60272 N	Outrigger.....	2	2	2	2	2
BN 130351	Cylinder Attaching Parts.....	1	1	1	1	1
JD 680	15-Inch Wheel Less Tire and Tube.....	4	4	4	4	4
SC 645 N	Wheel Bolts.....	2	2	2	2	2
AN 130348	Hydraulic Cylinder, 3-1/4 x 8.....	1	1	1	1	1
AN 130349	Hydraulic Cylinder, 3-1/2 x 8.....	1	1	1	1	1
AN 130763	Hydraulic Cylinder, 3 x 8.....	1	1	1	1	1

OPTIONAL EQUIPMENT

SC 757 N	Wheel with 6.70 x 15 - 6 ply Tire and Tube	4	4	4	4	4
JD 1091	15-Inch Wheel for 8.00 x 15 Tire Less Tire and Tube.	4	4	4	4	4
BN 60011 N	Wheel with 7.60 x 15 - 6 ply Tire and Tube	4	4	4	4	4
BN 60441 N	Wheel with 7.60 x 15 - 8 ply Tire and Tube	4	4	4	4	4
*AN 130392	Hydraulic Cylinder, 3-3/4 x 8	1	1	1	1	1
*AN 131000	Hydraulic Cylinder, 4-1/4 x 8	1	1	1	1	1
*AN 131001	Hydraulic Cylinder, 4 x 8	1	1	1	1	1

*Use on chisel plows for tractors with low-pressure (approximately 1000 psi) hydraulic systems.

SPECIAL EQUIPMENT

BN 60042 N	Stub Bar - 11-Inch (to provide 2-foot additional width).	..	2	..	2	..
BN 60174 N	Stub Bar - 7-Inch (to provide 2-foot additional width).	2	..	..	..	..
SD 2314 A	Screw Jack.	1	1	1	1	1
BN 60420 N	Drawbar Clevis (for Tractors without clevis-type drawbar).	1	1	1	1	1
AN 60842 N	Drawbar Clevis (Heavy-Duty) (for Tractors with clevis-type drawbar).	1	1	1	1	1
BN 130128	Swivel Hitch.	1	1	1	1	1
BN 60456 N	Adjustable Hitch	1	1	1	1	1
BN 130306	No. 12 Outrigger Lift.	1	1	1	1	1
BN 60276 N	No. 11 Outrigger Lift Posts (AR30008R required in addition)	1	1	1	1	1
BN 60394 N	No. 11 Outrigger Lift Parts.	1	1	1	1	1
AR 30008 R	Hose Extension 24"	1	1	1	1	1
BN 130388	Hose Coupler	..	..	1	1	1
BN 130386	Drawbar	1	1	1	1	1
BN 130544	Power Weight-Transfer Attaching Bracket. (required for use with Power Weight-Transfer Hitch for towed implements)	1	1	1	1	1

TOOL EQUIPMENT

Bundle No.	Description	Quantity Required							
		116FH		118FH		120FH		122FH	
		TE70	TE74	TE113	TE117	TE114	TE118	TE115	TE119
BN 60044 N	Flat Cushion Spring Clamp.	16	..	18	..	20	..	22	..
BN 130158	Heavy Duty Flat Cushion Spring Standard Clamp (In lieu of BN60044N).	16	..	18	..	20	..	22	..
BN 60045 N	Flat Spring Clamp.	..	16	..	18	..	20	..	22
C 1460 N	Flat Spring Standard.	13	13	13	13	13	13	19	19
N 60418 N	Long Flat Spring Standard.	3	3	5	5	7	7	3	3
Y 916 N	14-Inch Chisel.	16	16	18	18	20	20	22	22
*BN 130147	Plow Bolt Set (7/16" x 2-1/4")	1	1	2	2	2	2	2	2
**BN 130146	Plow Bolt Set (7/16" x 2")	1	1	2	2	2	2	2	2
***BN 130145	Plow Bolt Set (7/16" x 1-3/4")	1	1	2	2	2	2	2	2

*Use only with Y916N, Y917N and Y938N Chisels.

**Use with sweeps, shovels, chisels and furrow openers except Wheatland sweeps and Y916N, Y917N and Y938N Chisels.

***Use with Wheatland sweeps.

SUB-SURFACE STANDARDS AND SWEEPS

		116FH TE152	118FH TE153	120FH	122FH TE154	124FH TE155
BN 60157 N	Sub-Surface Sweep Standards.	8	10	..	10	12
Y 905 N	30-Inch Sweep.	6	8	..	2	6
Y 949 N	36-Inch Sweep.	2	2	..	8	6

SPECIAL TOOL EQUIPMENT FOR USE WITH SUB-SURFACE STIFF STANDARDS

SC 648 N	17-Inch Notched Rolling Coulter.	8	10	..	10	12
SD 1432 AN	18-Inch Plain Rolling Coulter.	8	10	..	10	12
BN 60175 N*	Frame Spacers	1	1	..	2	..

*BN60175N required when SC648N or SD1432AN are used with BN60175N, except on TE155.

OPTIONAL IN PLACE OF Y916N CHISEL

Bundle No.	Description	Bundle No.	Description
N130114	16-Inch Lo-Crown Wheatland Sweep	Y 969 N	2-Inch Double-Pointed Chisel
N130115	18-Inch Lo-Crown Wheatland Sweep	Y 970 N	3-Inch Double-Pointed Chisel
Y 917 N	16-Inch Chisel	Y 971 N	4-Inch Double-Pointed Shovel
Y 918 N	14-Inch Spike	Y 972 N	6-Inch Furrow Opener
Y 919 N	16-Inch Spike	Y 973 N	8-Inch Furrow Opener
Y 953 N	8-Inch Wheatland Sweep	Y 974 N	10-Inch Furrow Opener
Y 954 N	10-Inch Wheatland Sweep	Y 978 N	14-Inch Hi-Crown Wheatland Sweep
Y 955 N	12-Inch Wheatland Sweep	Y 979 N	16-Inch Hi-Crown Wheatland Sweep
N130106	14-Inch Wheatland Sweep	Y 992 N	18-Inch Hi-Crown Wheatland Sweep
N130107	16-Inch Wheatland Sweep	Y 993 N	20-Inch Hi-Crown Wheatland Sweep
N130108	18-Inch Wheatland Sweep	*Y 994 N	3-Inch Twisted Shovel, R.H.
N130109	20-Inch Wheatland Sweep	*Y 995 N	3-Inch Twisted Shovel, L.H.
Y 966 N	4-Inch Beavertail Shovel	N 61113 N	6-Inch Chisel Sweep
Y 967 N	5-Inch Beavertail Shovel		
Y 968 N	6-Inch Beavertail Shovel		

*Use equal quantities of Y994N and Y995N.

SHIPPING BUNDLES—150 CHISEL PLOW

REGULAR EQUIPMENT

Bundle No.	Description	Quantity Required			
		158	160	162	164
BN 60457 N	Center Frame.	1	1	1	1
BN 130019	Rockshaft and Axle	1	1	1	1
BN 60040 N	Two 1-Foot Frame Extensions.	1	..	..	..
BN 60041 N	Two 2-Foot Frame Extensions.	..	1	1	..
BN 60042 N	Stub Bar	..	..	2	..
BN 60284 N	Two 4-Foot Frame Extensions.	..	..	..	1
JD 680	15-Inch Wheel (Less Tire and Tube)	2	2	2	2
SC 645 N	Wheel Bolts	1	1	1	1
AR 36005	Hose Extension.	1	1	1	1

OPTIONAL EQUIPMENT (Optional in place of JD680)

SC 706 N	Wheel with Tire and Tube (6.70 x 15 - 4 ply)	2	2	2	2
SC 757 N	Wheel with Tire and Tube (6.70 x 15 - 6 ply)	2	2	2	2
JD 1091	15-Inch Wheel (Less Tire and Tube for 8.00 x 15 Tires)	2	2	2	2
BN 60011 N	Wheel with Tire and Tube (7.60 x 15 - 6 ply)	2	2	2	2
BN 60441 N	Wheel with Tire and Tube (7.60 x 15 - 8 ply)	2	2	2	2

SPECIAL EQUIPMENT

SD 2314 A	Screw Jack.	1	1	1	1
BN 130386	Drawbar for Attachments	1	1	1	1
BN 130128	Swivel Hitch.	1	1	1	1
AN 60842 N	Drawbar Clevis (Heavy-Duty)	1	1	1	1
BN 60420 N	Drawbar Clevis (For Tractors without clevis-type drawbar).	1	1	1	1
BN 60456 N	Adjustable Hitch	1	1	1	1
BN 130544	Power Weight-Transfer Attaching Bracket. (required for use with Power Weight-Transfer Hitch for towed implements)	1	1	1	1

TOOL EQUIPMENT

Bundle No.	Description	158 TE179	158 TE180	160 TE67	160 TE71	162 TE68	162 TE72	164 TE69	164 TE73
BN 60044 N	Flat Cushion Spring Clamp	8	..	10	..	12	..	14	..
BN 130158	Heavy Duty Flat Cushion Spring Standard Clamp (in lieu of BN60044N)	8	..	10	..	12	..	14	..
BN 60045 N	Flat Spring Clamp	..	8	..	10	..	12	..	14
C 1460 N	Flat Spring Standard	6	6	7	7	9	9	11	11
N 60418 N	Long Flat Spring Standard	2	2	3	3	3	3	3	3
Y 916 N	14-Inch Chisel	8	8	10	10	12	12	14	14
*BN 130147	Bolt Set (7/16" x 2-1/4")	1	1	1	1	1	1	1	1
**BN 130146	Bolt Set (7/16" x 2")	1	1	1	1	1	1	1	1
***BN 130145	Bolt Set (7/16" x 1-3/4")	1	1	1	1	1	1	1	1

*Use only with Y916N, Y917N and Y938N Chisels.

**Use with sweeps, shovels, chisels and furrow openers except Wheatland sweeps and Y916N, Y917N and Y938N Chisels.

***Use with Wheatland sweeps.

WIDE BLADE SWEEPS

								164 TE194
BN 60478 N	Six-Foot Sweep with Standard . .	..	..	..	..	..	..	3
BN 60479 N	Center Sweep Mounting Brackets .	..	..	..	..	..	..	1
BN 60482 N	Outer Sweep Mounting Brackets .	..	..	..	..	..	..	2
BN 60480 N	Center Sweep Mounting Plate . .	..	..	..	..	..	..	1

SPECIAL TOOL EQUIPMENT FOR USE WITH WIDE BLADE SWEEPS

BA 11085 A	20-Inch Anti-Friction Rippled Rolling Coulter	..	..	..	..	..	..	3
BN 60481 N	Coulter Mounting Bracket (For BA11085A)	..	..	..	..	..	..	3

OPTIONAL IN PLACE OF Y916N CHISEL

Bundle No.	Description		Bundle No.	Description
N130114	16-Inch Lo-Crown Wheatland Sweep	Y	968 N	6-Inch Beavertail Shovel
N130115	18-Inch Lo-Crown Wheatland Sweep	Y	969 N	2-Inch Double-Pointed Chisel
Y 917 N	16-Inch Chisel	Y	970 N	3-Inch Double-Pointed Chisel
Y 918 N	14-Inch Spike	Y	971 N	4-Inch Double-Pointed Shovel
Y 919 N	16-Inch Spike	Y	972 N	6-Inch Furrow Opener
Y 953 N	8-Inch Wheatland Sweep	Y	973 N	8-Inch Furrow Opener
Y 954 N	10-Inch Wheatland Sweep	Y	974 N	10-Inch Furrow Opener
Y 955 N	12-Inch Wheatland Sweep	Y	978 N	14-Inch Hi-Crown Wheatland Sweep
N130106	14-Inch Wheatland Sweep	Y	979 N	16-Inch Hi-Crown Wheatland Sweep
N130107	16-Inch Wheatland Sweep	Y	992 N	18-Inch Hi-Crown Wheatland Sweep
N130108	18-Inch Wheatland Sweep	Y	993 N	20-Inch Hi-Crown Wheatland Sweep
N130109	20-Inch Wheatland Sweep	*Y	994 N	3-Inch Twisted Shovel, R.H.
Y 966 N	4-Inch Beavertail Shovel	*Y	995 N	3-Inch Twisted Shovel, L.H.
Y 967 N	5-Inch Beavertail Shovel	N 61113 N		6-Inch Chisel Sweep

*Use equal quantities of Y994N and Y995N.

SHIPPING BUNDLES—150FH CHISEL PLOW

Bundle No.	Description	REGULAR EQUIPMENT				
		Quantity Required				
		164FH	166FH	168FH	170FH	172FH
AR 30008 R	Hose Extension 24"	..	..	2	2	2
BN 60457 N	Center Frame	1	1	1	1	1
BN 60042 N	Stub Bar - 11-Inch.	..	..	..	..	2
BN 60274 N	Stub Bar - 7-Inch (2)	..	1	..	..	..
BN 130019	Rockshaft and Axle	1	1	1	1	1
BN 130352	Wheel Hub and Axle, Right-Hand.	1	1	1	1	1
BN 130353	Wheel Hub and Axle, Left-Hand.	1	1	1	1	1
BN 60271 N	Extension	..	..	1	1	1
BN 60272 N	Outrigger	2	2	2	2	2
BN 130351	Cylinder Attaching Parts	1	1	1	1	1
JD 680	15-Inch Wheel Less Tire and Tube	4	4	4	4	4
SC 645 N	Wheel Bolts.	2	2	2	2	2
AN 130348	Hydraulic Cylinder, 3-1/4 x 8.	1	1	1	1	1
AN 130349	Hydraulic Cylinder, 3-1/2 x 8.	1	1	1	1	1
AN 130763	Hydraulic Cylinder, 3 x 8.	1	1	1	1	1

OPTIONAL EQUIPMENT

SC 757 N	Wheel with 6.70 x 15 - 6-Ply Tire and Tube	4	4	4	4	4
JD 1091	15-Inch Wheel for 8.00 x 15 Tire Less Tire and Tube	4	4	4	4	4
BN 60011 N	Wheel with 7.60 x 15 - 6-Ply Tire and Tube	4	4	4	4	4
BN 60441 N	Wheel with 7.60 x 15 - 8-Ply Tire and Tube	4	4	4	4	4
*AN 130392	Hydraulic Cylinder, 3-3/4 x 8.	1	1	1	1	1
*AN 131000	Hydraulic Cylinder, 4-1/4 x 8.	1	1	1	1	1
*AN 131001	Hydraulic Cylinder, 4 x 8.	1	1	1	1	1

*Use on chisel plows for tractors with low pressure (approximately 1000 psi) hydraulic system.

SPECIAL EQUIPMENT

BN 60042 N	Stub Bar - 11-Inch (to provide 2-foot additional width)	..	2	..	2	..
BN 60174 N	Stub Bar - 7-Inch (to provide 2-foot additional width)	2	..	..	..	..
SD 2314 A	Screw Jack	1	1	1	1	1
BN 60420 N	Drawbar Clevis (for tractors without clevis-type drawbar)	1	1	1	1	1
AN 60842 N	Drawbar Clevis (Heavy Duty) (for tractors with clevis-type drawbar)	1	1	1	1	1
BN 130128	Swivel Hitch	1	1	1	1	1
BN 60456 N	Adjustable Hitch.	1	1	1	1	1
BN 130306	No. 12 Outrigger Lift	1	1	1	1	1
BN 60276 N	No. 11 Outrigger Lift Posts (AR30008R required in addition).	1	1	1	1	1
BN 60394 N	No. 11 Outrigger Lift Parts	1	1	1	1	1
AR 30008 R	Hose Extension 24"	1	1	1	1	1
BN 130388	Hose Coupler.	..	..	1	1	1
BN 130386	Drawbar	1	1	1	1	1
BN 130544	Power Weight-Transfer Attaching Bracket. (required for use with Power Weight-Transfer Hitch for towed implements)	1	1	1	1	1

TOOL EQUIPMENT

Bundle No.	Description	164FH TE69	164FH TE73	166FH TE181	166FH TE182	168FH TE183	168FH TE184	170FH TE185	170FH TE186	172FH TE115	172FH TE119
BN 60044 N	Flat Cushion Spring Clamp.	14	..	..	16	..	18	..	20	22	..
BN 130158	Heavy Duty Flat Cushion Spring Standard Clamp (in lieu of BN60044N).	14	..	..	16	..	18	..	20	22	..
BN 60045 N	Flat Spring Clamp.	..	14	16	..	18	..	20	..	..	22
C 1460 N	Flat Spring Standard.	11	11	12	12	12	17	17	17	19	19
N 60418 N	Long Flat Spring Standard.	3	3	4	4	6	6	3	3	3	3
Y 916 N	14-Inch Chisel.	14	14	16	16	18	18	20	20	22	22
*BN 130147	Plow Bolt Set (7/16" x 2-1/4")	1	1	2	2	2	2	2	2	2	2
**BN 130146	Plow Bolt Set (7/16" x 2")	1	1	2	2	2	2	2	2	2	2
***BN 130145	Plow Bolt Set (7/16" x 1-3/4")	1	1	2	2	2	2	2	2	2	2

*Use only with Y916N, Y917N and Y938N Chisels.

**Use with sweeps, shovels, chisels and furrow openers except Wheatland sweeps and Y916N, Y917N and Y938N Chisels.

***Use with Wheatland sweeps.

WIDE BLADE SWEEPS

		164FH TE193	166FH TE194	166FH TE193	164FH TE194
BN 60477 N	Five-Foot Sweep with Standard.	2	..	2	..
BN 60478 N	Six-Foot Sweep with Standard.	1	3	1	3
BN 60479 N	Center Sweep Mounting Brackets	1	1	1	1
BN 60482 N	Outer Sweep Mounting Brackets	2	2	2	2

SPECIAL TOOL EQUIPMENT FOR USE WITH WIDE BLADE SWEEPS

BA 11085 A	20-Inch Anti-Friction Rippled Coulter.	3	3	3	3
BN 60481 N	Coulter Mounting Bracket (For BA11085A).	3	3	3	3

OPTIONAL IN PLACE OF Y916N CHISEL

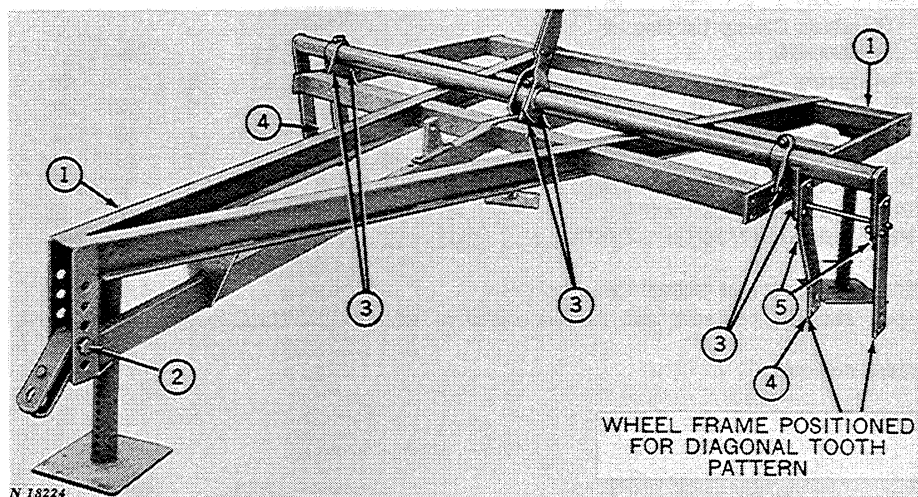
Bundle No.	Description	Bundle No.	Description
N130114	16-Inch Lo-Crown Wheatland Sweep	Y 969 N	2-Inch Double-Pointed Chisel
N130115	18-Inch Lo-Crown Wheatland Sweep	Y 970 N	3-Inch Double-Pointed Chisel
Y 917 N	16-Inch Chisel	Y 971 N	4-Inch Double-Pointed Shovel
Y 918 N	14-Inch Spike	Y 972 N	6-Inch Furrow Opener
Y 919 N	16-Inch Spike	Y 973 N	8-Inch Furrow Opener
Y 953 N	8-Inch Wheatland Sweep	Y 974 N	10-Inch Furrow Opener
Y 954 N	10-Inch Wheatland Sweep	Y 978 N	14-Inch Hi-Crown Wheatland Sweep
Y 955 N	12-Inch Wheatland Sweep	Y 979 N	16-Inch Hi-Crown Wheatland Sweep
N130106	14-Inch Wheatland Sweep	Y 991 N	20-Inch Wheatland Sweep
N130107	16-Inch Wheatland Sweep	Y 992 N	18-Inch Hi-Crown Wheatland Sweep
N130108	18-Inch Wheatland Sweep	Y 993 N	20-Inch Hi-Crown Wheatland Sweep
N130109	20-Inch Wheatland Sweep	*Y 994 N	3-Inch Twisted Shovel, R.H.
Y 966 N	4-Inch Beavertail Shovel	*Y 995 N	3-Inch Twisted Shovel, L.H.
Y 967 N	5-Inch Beavertail Shovel	N 61113 N	6-Inch Chisel Sweep
Y 968 N	6-Inch Beavertail Shovel		

*Use equal quantities of Y994N and Y995N.

ASSEMBLY

100FH AND 150FH CHISEL PLOWS

CENTER FRAME



1. Set the center frame on stands or blocks, approximately 28 inches high. The stands illustrated above are not furnished with the chisel plow.

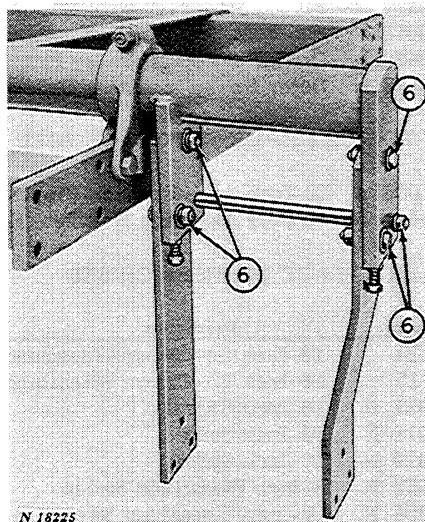
2. Make sure the clevis bolt is tight to prevent the clevis bushing from rotating.

3. Bolt the rockshaft to the center frame.

4. Remove the wheel hubs from the wheel frames.

NOTE: The chisel plow can be assembled with standards in a diagonal tooth pattern or split tooth pattern.

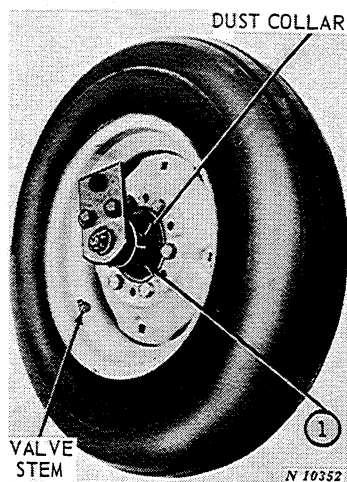
5. When the chisel plow is shipped from the factory it is set up with the wheel frame plates located on the outside of the rockshaft arms. The offset wheel frame plate is on the inside in relation to the flat straight wheel frame plate, with all bolt heads on the outside and the nuts on the inside between the two wheel frame plates. This provides, with the wheel installed, the widest dis-



tance from centerline of chisel plow to center of tire. See tooth pattern diagrams on pages 47 through 67 for desired pattern.

6. Assemble wheel frame plates as illustrated above for the narrowest distance from centerline of chisel plow to center of tire. All bolt heads should be on the outside of the wheel frame with the nuts on the inside between the two wheel frame plates. See tooth pattern diagrams on pages 47 through 67 for desired pattern.

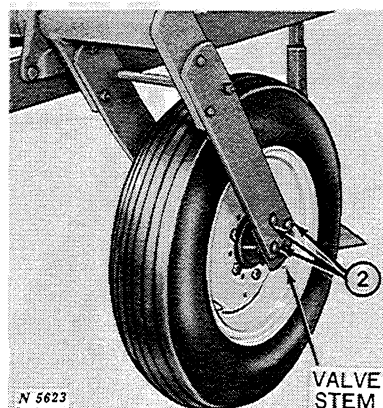
MAIN FRAME WHEELS



1. Position hubs on wheels so the dust collars are at the rear of the wheel plates.

Valve stems should face the left-hand side of the chisel plow when wheels are installed.

Bolt hubs to wheels with six bolts in each hub. Tighten all six bolts securely.



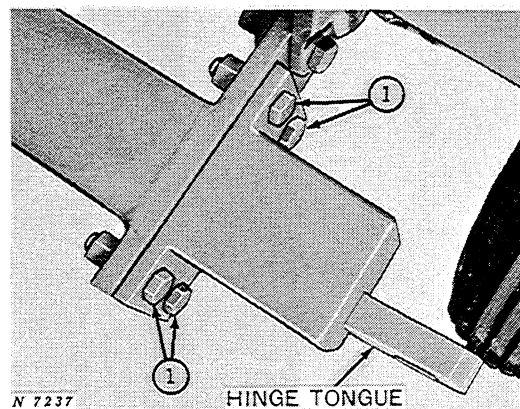
2. Attach wheels and hubs to wheel frames.

Tighten all wheel bolts and check the wheel bearings by turning the wheels. You should notice a slight drag on the bearings while turning the wheel if the bearings are in adjustment.

To improve the bearing adjustment, remove the cotter pin and tighten the slotted nut until there is a slight drag on the bearings while turning the wheel, then loosen or back off the nut one slot and insert the cotter pin. There should be a slight drag on the bearings following adjustment.

NOTE: Before continuing assembly, make sure the main frame and wheels are level. To check, measure the distance from the top of each wheel to the top of the chisel plow frame. If necessary, adjust the height of the left-hand wheel as shown on page 7 until the measurements are equal.

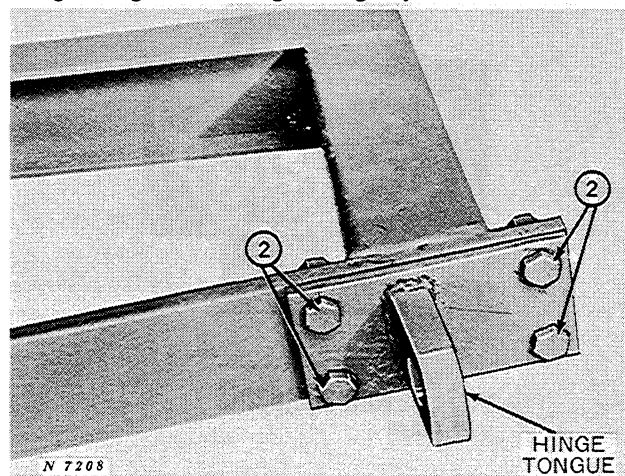
HINGE BRACKETS



Left-Hand Side of Plow Illustrated

1. Bolt front hinge bracket to each side of the center frame as shown.

The front brackets should be attached so the offset hinge tongue is nearer the front of the plow on both the right- and left-hand sides. The hinge tongue will angle slightly to the rear.

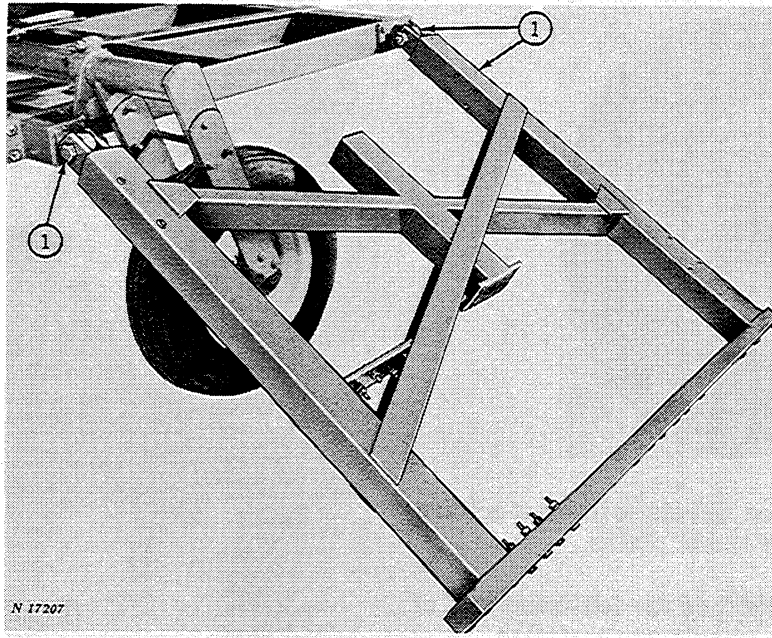


Left-Hand Side of Plow Illustrated

2. Bolt the rear hinge bracket to each side of the main frame.

The rear brackets should be attached so the offset hinge tongue is nearer the front of the plow on both sides of the machine. The hinge tongue will angle slightly to the rear.

OUTRIGGERS



1. Bolt outrigger to hinge brackets on each side of center frame.

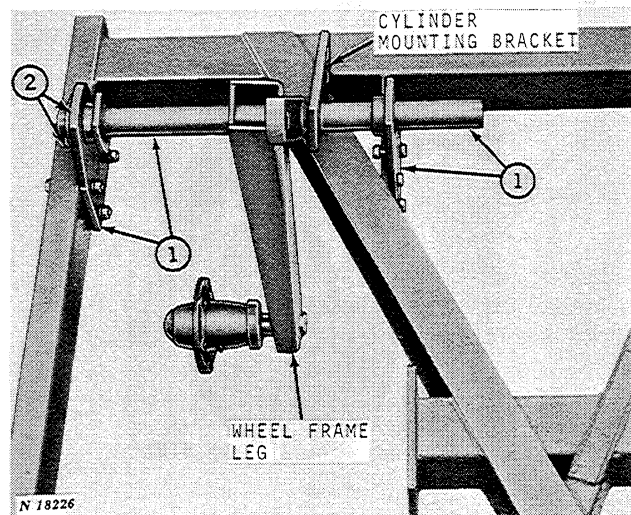
Place a stand or block under outrigger frame to hold it approximately level with center section for further assembly.



be careful.....
avoid accidents

N 18240

116FH, 118FH, 164FH AND 166FH CHISEL PLOWS



Left-Hand Outrigger Illustrated

1. Place brackets on wheel frame shaft with bearing flanges facing the wheel assembly.

NOTE: Be sure to place cylinder mounting bracket support on shaft so that the two square attaching holes line up with the two holes in cylinder mounting bracket as shown on page 31 before bolting wheel frame brackets to outrigger frame.

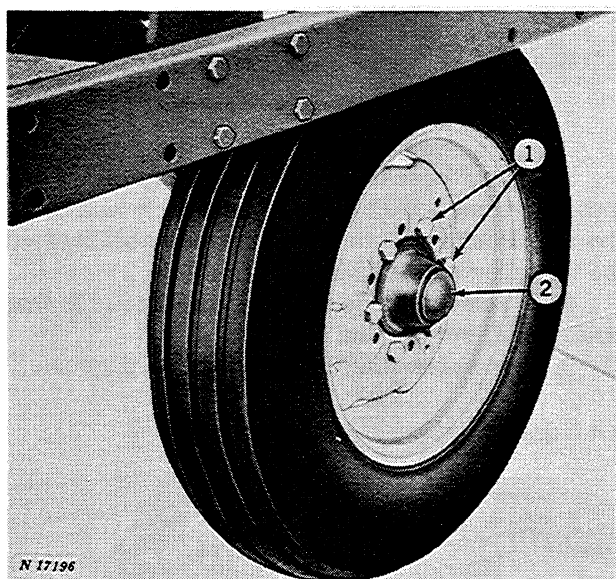
Bolt the two brackets to outrigger frame.

2. Place the washer on the end of the shaft and insert spring pin.

Assemble wheels to hubs as shown below.

NOTE: Wheel frames can be reversed by interchanging one outrigger wheel frame with the other. This will position the wheel spindles to the inside of wheel frame leg. See standard diagrams on pages 47 through 67, for desired pattern.

Wheels



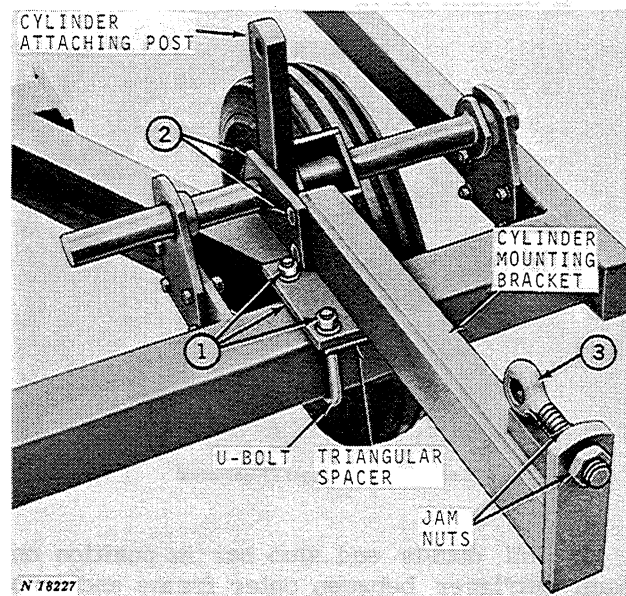
Wheel frames should be attached to the outrigger in the position required for the specific size chisel plow before wheel is assembled on hub. See pages 47 through 67.

1. Bolt wheels to hubs with six bolts in each. Tighten all six bolts securely.

NOTE: Wheels must be attached so valve stem is on hub-cap side of wheel.

2. Turn each wheel to check bearing adjustment. If a slight drag is not evident on wheel bearing, remove hub cap and adjust bearing as instructed on page 8.

Outrigger Cylinder Mounting Bracket



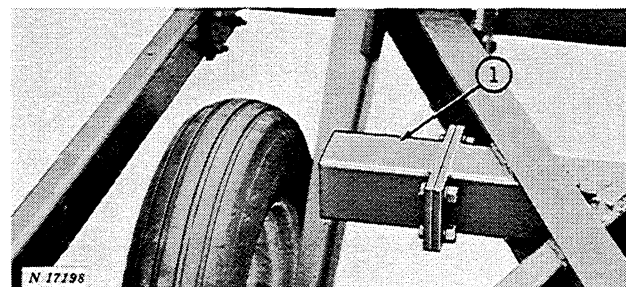
1. Insert triangular spacer between cylinder mounting bracket and outrigger frame. Assemble U-bolt through spacer and cylinder mounting bracket plate and bolt together with lockwasher and nut. Bolt other side of cylinder mounting bracket plate to outrigger frame with other U-bolt. Leave U-bolts loose.

2. Bolt cylinder mounting bracket support to cylinder mounting bracket with two carriage bolts. Leave carriage bolts loose.

3. Install eyebolt on cylinder mounting bracket with jam nut on each side of cylinder mounting bracket lip as shown.

Position cylinder mounting bracket with eyebolt in line with cylinder attaching post. Tighten both U-bolts and carriage bolts.

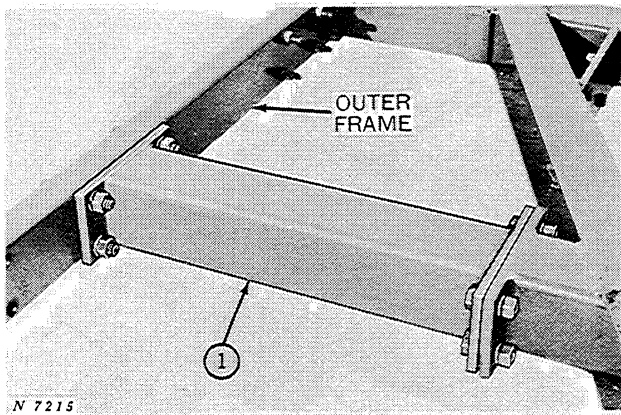
Stub Bar



1. Bolt the stub bar to outrigger frame with four cap screws. See pages 47 through 67 for positions of stub bar.

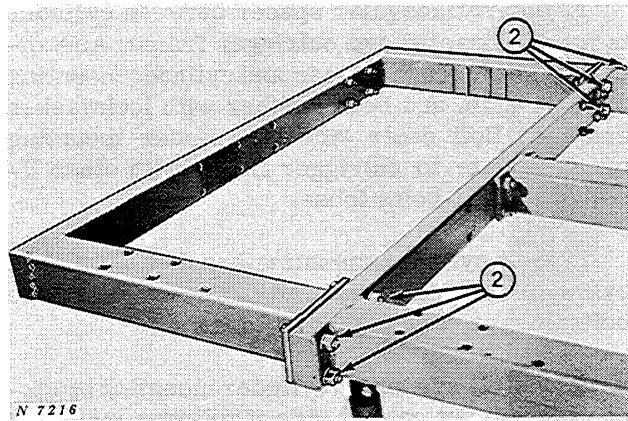
32 Assembly

120FH, 122FH, 124FH, 168FH, 170FH AND
172FH CHISEL PLOWS



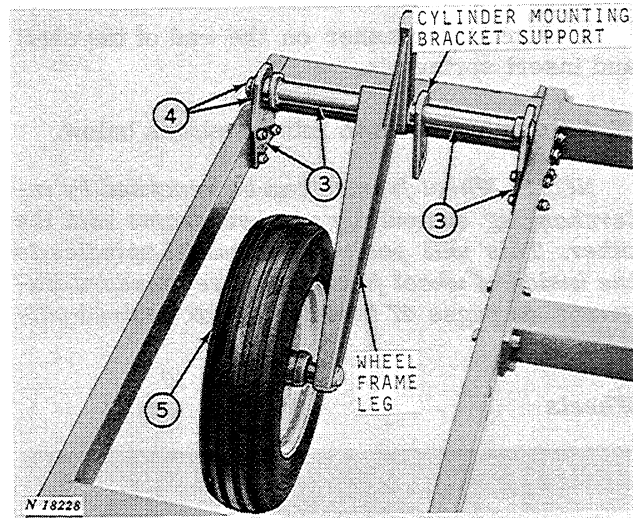
Left-Hand Outrigger Illustrated

1. Bolt double end stub bar in position on each outrigger between outer frame and stub bar mount.



Left-Hand Outrigger Illustrated

2. Bolt the frame extension to the end of each outrigger. Use shims as required to level the frame extension.



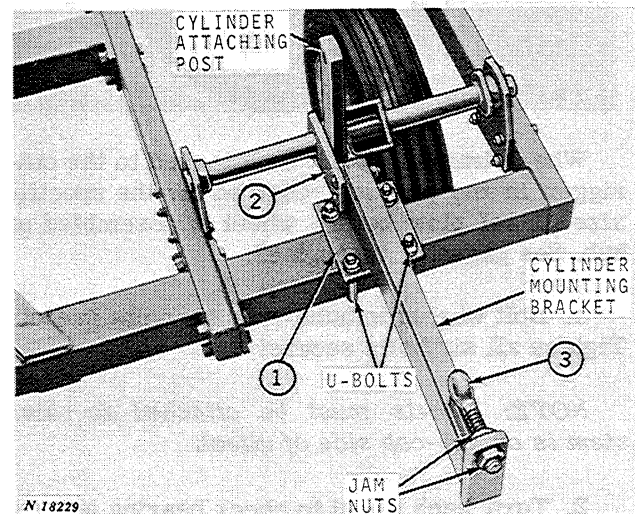
Left-Hand Outrigger Illustrated

3. Place brackets on wheel frame shaft with bearing flange facing wheel assembly and bolt to frame. Position both wheel frames so wheel will be on outer side of wheel frame leg.

4. Place washer on end of wheel frame shaft and insert spring pin.

5. Assemble wheels as shown on page 31.

Outrigger Cylinder Mounting Bracket



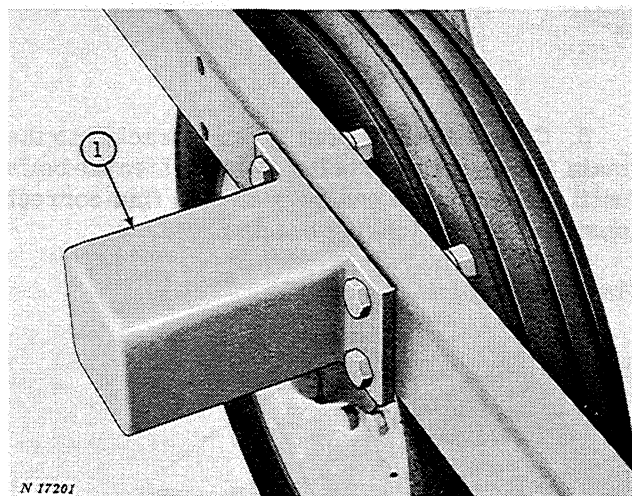
1. Bolt cylinder mounting bracket to the outrigger frame extension as shown. Leave U-bolts loose.

2. Bolt cylinder mounting bracket support to cylinder mounting bracket with two carriage bolts. Leave carriage bolts loose.

3. Install eyebolt on cylinder mounting bracket with jam nut on each side of cylinder mounting bracket lip as shown.

Position cylinder mounting bracket with eyebolt in line with cylinder attaching post. Tighten both U-bolts and carriage bolts.

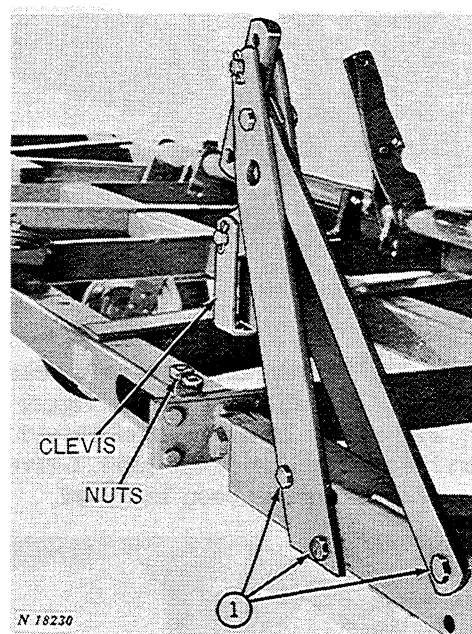
Stub Bar - 122FH and 124FH Chisel Plows



Left-Hand Outrigger Extension Illustrated

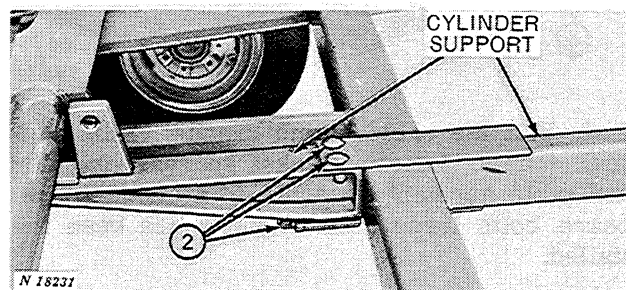
1. Bolt the stub bar to each outrigger extension as shown, through the rear set of holes on the side of the outrigger extension. See pages 47 through 67 for positioning standards.

NO. 11 OUTRIGGER LIFT (Special Equipment)

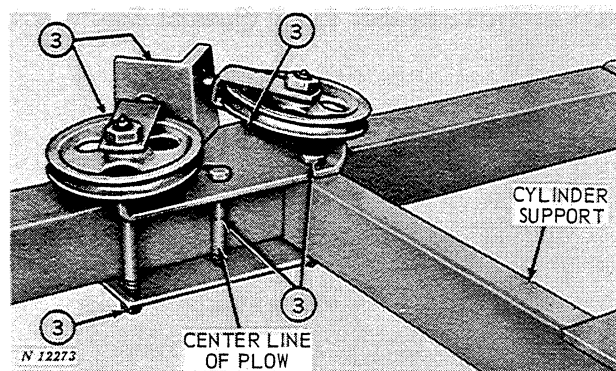


1. Bolt outrigger lift post to the rear of each outrigger frame.

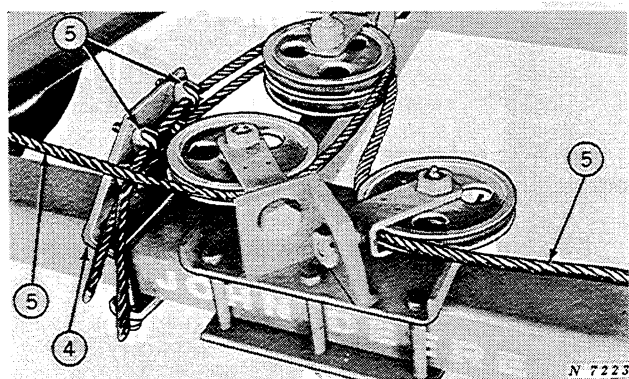
The nuts used to secure the lift cables will be attached to the lift post clevis.



2. Slide the two sections of the outrigger cylinder support in place on each side of the center cross member to the left of the transport strap. Bolt the sections together. Tighten the bolts after lining the sections up with the left bolt in the rear sheave mount.

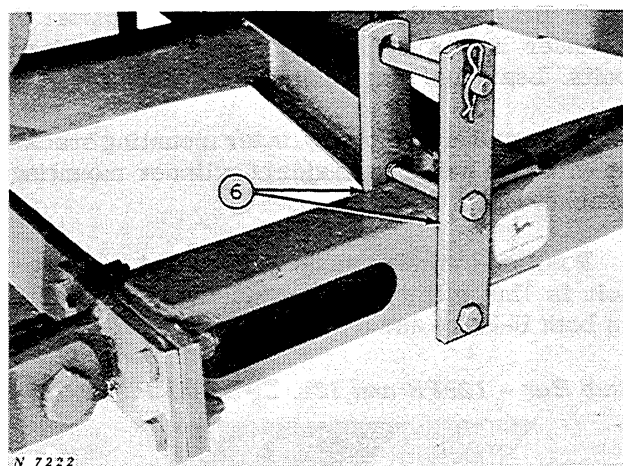


3. Attach the rear cable sheave bracket with the left-hand bolt through the outrigger cable anchor. The center of the bracket should be located on the center line of the plow. Leave bolts loose until cylinder has been installed.



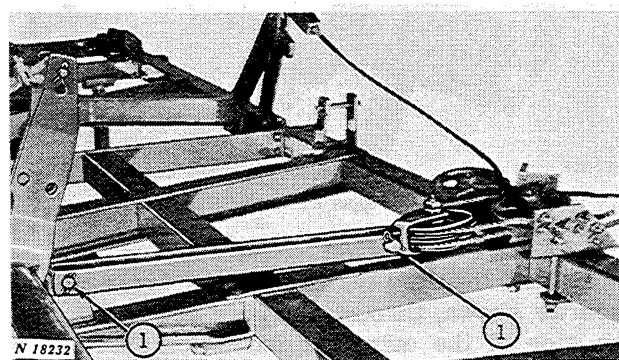
4. Bolt the cable clamp bracket to the plow rear frame. Locate bracket so rear cylinder and cable assembly operate in a straight line. Leave bolts loose until cylinder has been installed.

5. Thread the cables through sheaves as shown above and clamp in place.



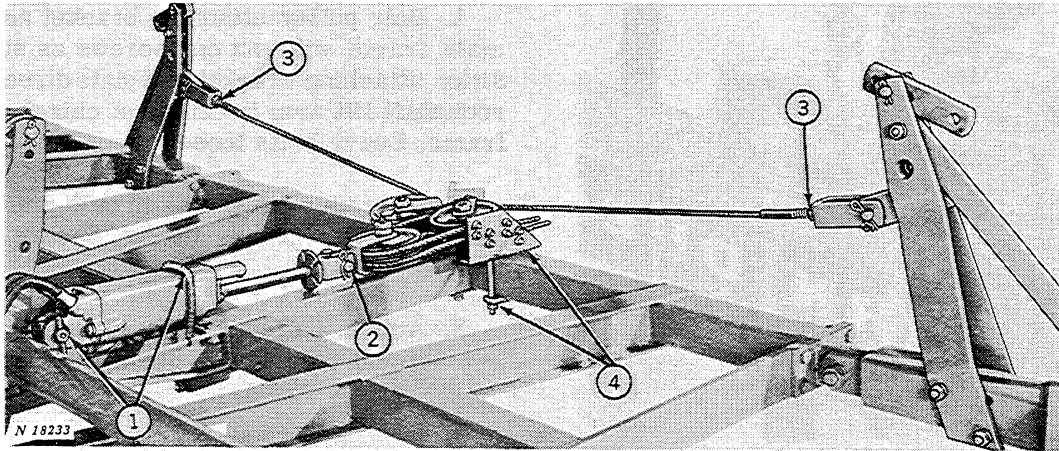
6. Clamp the lift post locking bracket to the main frame with two bolts. Don't tighten the bolts until the outrigger can be raised to find correct position for the locking bracket.

Anchor Straps



1. If a remote hydraulic cylinder is not available, attach anchor straps to the outrigger cylinder support and to the cable sheave to keep cable sheave in place.

Cables and Cylinder



1. Attach the outrigger lift cylinder to the outrigger cylinder support. Hook spring around cylinder.

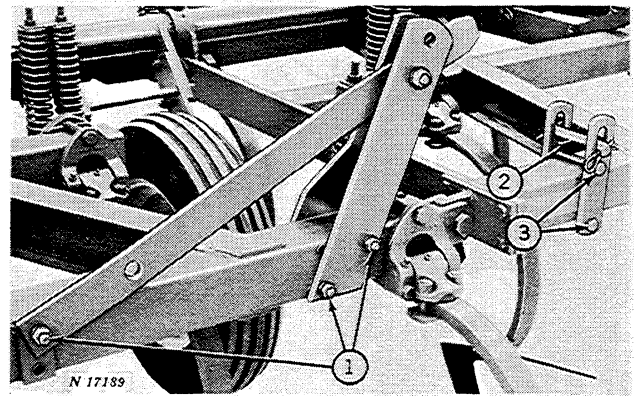
2. Attach cable sheave to cylinder.

3. Attach the ends of the cables at the rear of the plow to the clevis on the lift post arms with the two nuts provided.

NOTE: Leave the maximum amount of thread where the cables attach to the clevis to allow the tightening of the cables after the initial stretching.

4. Position cable clamp brackets and tighten bolts.

NO. 12 OUTRIGGER LIFT (Special Equipment)



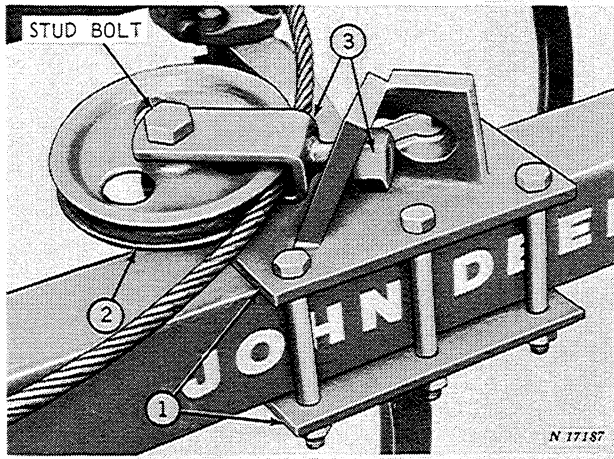
Left-Hand Outrigger Illustrated

1. Bolt outrigger lift post to rear of each outrigger frame.

2. Install 1-inch by 6-1/2-inch locking pin through each pair of locking brackets.

3. Bolt a pair of locking brackets on each end of main frame. Do not tighten bolts in the locking brackets until outriggers can be raised so as to be able to locate correct position for locking brackets.

Cable, Pulley Attaching Bracket and Plate

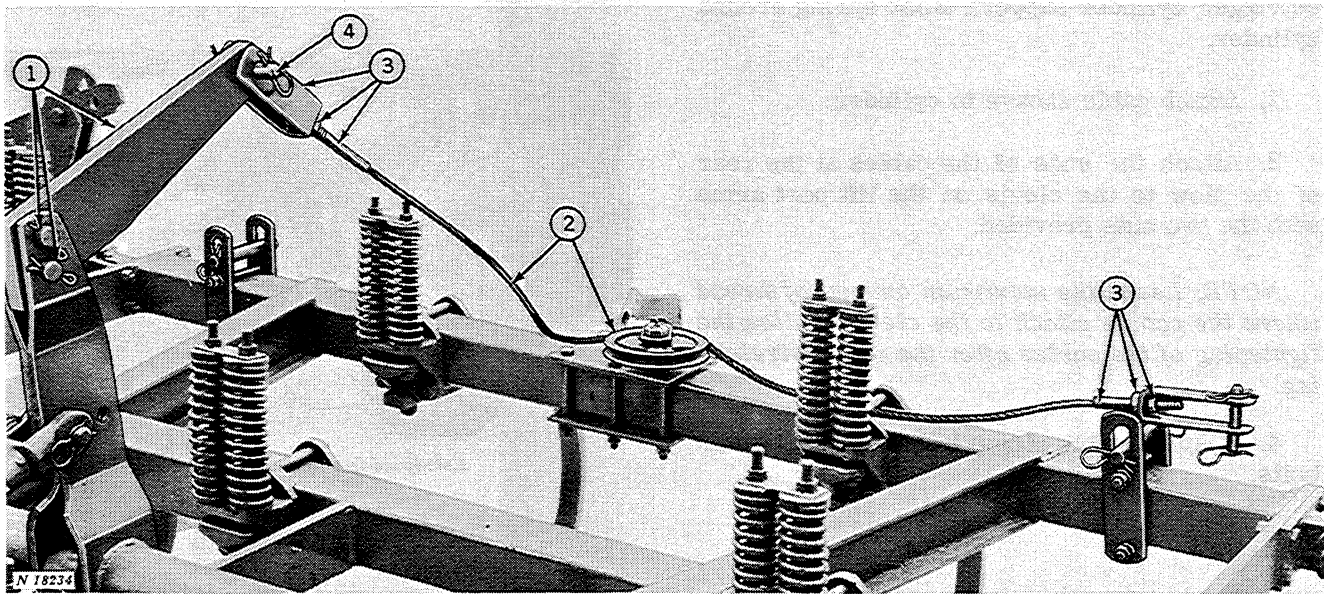


1. Bolt pulley attaching bracket and plate to main frame with six cap screws as shown. Position attaching bracket and plate directly behind rockshaft lift arm in center of chisel plow main frame. Leave bolts loose.

2. Assemble lift pulley to pulley clevis using stud bolt with grease fitting. Secure stud bolt with locking nut.

3. Attach pulley clevis to pulley attaching bracket and secure with nut and spring pin.

Lift Arm, Cable, and Cable Clevis



1. Attach lift arm to rockshaft arm with two pins as shown. Secure pins with four cotter pins.

2. Thread cable around pulley as shown.

3. Attach a clevis to each end of cable with two nuts.

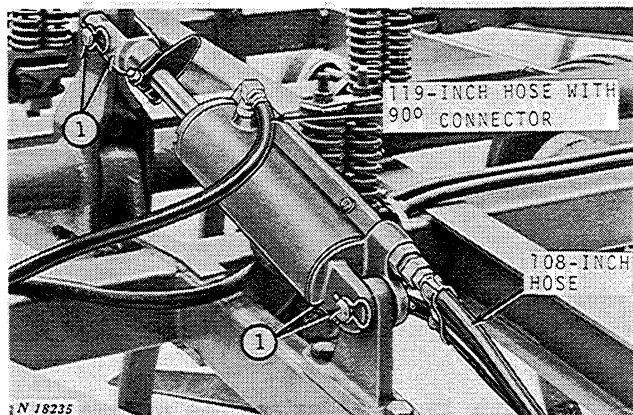
NOTE: Leave a maximum amount of thread where cable attaches to clevis to allow tightening of cable after initial stretching.

4. Pin one end of the clevis attached to cable to the lift arm.

Adjust the pulley attaching bracket and plate to line up directly behind lift arm and tighten bolts.

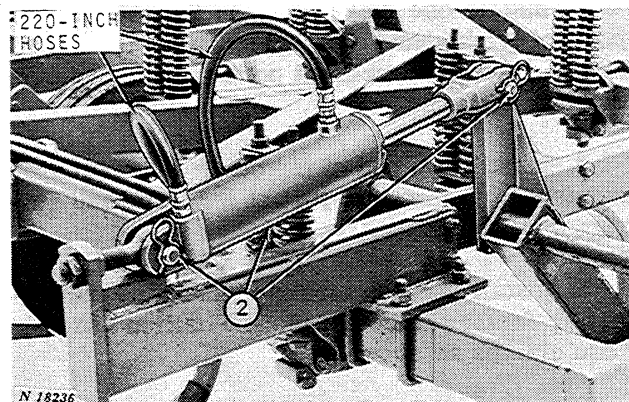
Refer to pages 11 and 12 for operating outriggers. After the outriggers have been raised, adjust the locking brackets and tighten bolts.

INSTALLING MAIN LIFT CYLINDER AND OUTRIGGER DEPTH CONTROL CYLINDERS FOR JOHN DEERE TRACTORS AND OTHER TRACTORS WITH HIGH-PRESSURE (APPROXIMATELY 2000 PSI) HYDRAULIC SYSTEMS



1. Attach main lift cylinder to cylinder support arm and rockshaft lift arm with pins as shown. Secure pins with spring locking pins.

NOTE: See page 38 for installation of cylinders for tractors with low-pressure (approximately 1000 psi) hydraulic systems.

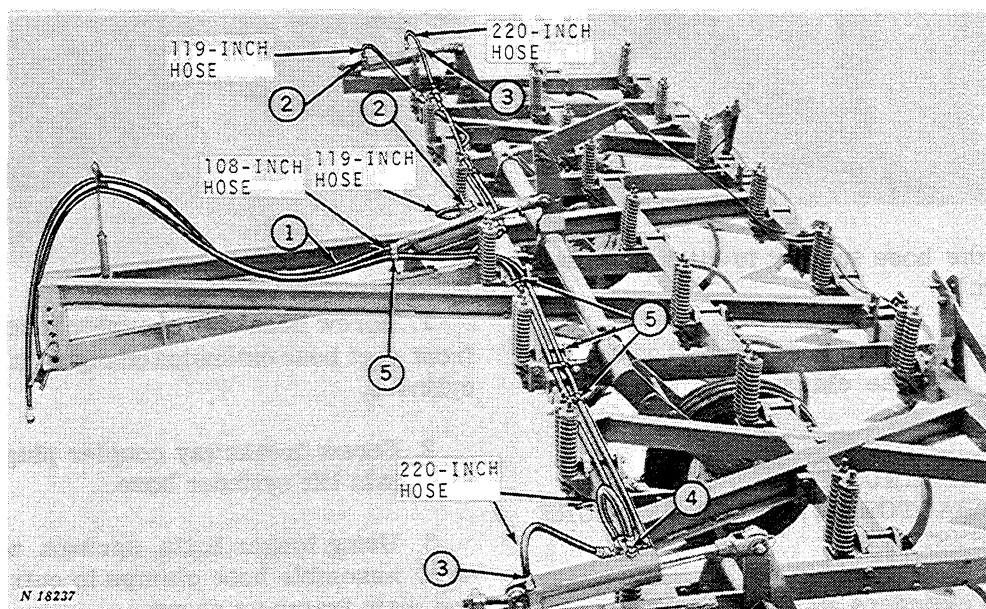


Left-Hand Outrigger Cylinder Illustrated

2. Attach AN130763 (smallest) cylinder on left-hand outrigger eyebolt on cylinder support and cylinder attaching post with pins as shown. Secure pins with spring locking pins.

Attach AN130348 (largest) cylinder, not illustrated, on right-hand outrigger eyebolt on cylinder support and cylinder attaching post with pins. Secure pins with spring locking pins.

INSTALLING HYDRAULIC HOSES TO CYLINDERS



1. Screw end of 108-inch hose into front port on main lift cylinder.

2. Screw 90-degree connector end of 119-inch hose into rear port on main lift cylinder. Install other end of hose to front port on right-hand outrigger cylinder.

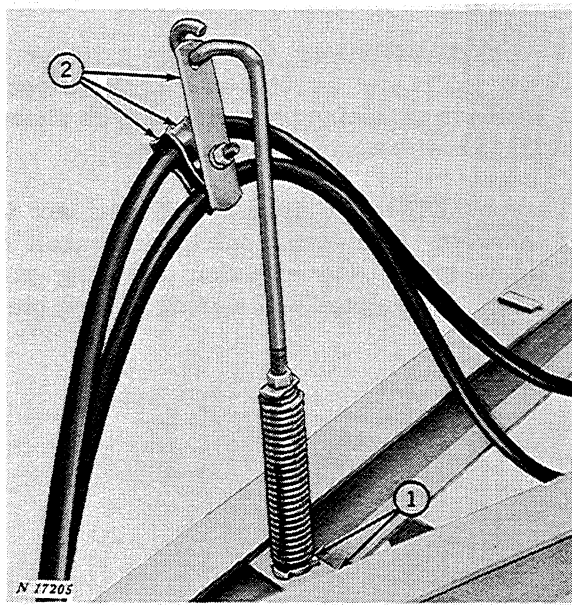
INSTALLING HYDRAULIC HOSES TO CYLINDERS—Continued

3. Install one end of 220-inch hose on rear port of right-hand outrigger cylinder. Install other end of hose on front port of left-hand outrigger cylinder.

4. Install one end of the other 220-inch hose furnished, in the rear port of the left-hand outrigger cylinder.

5. Install hose clamps on main frame and outrigger frames of chisel plow. Position hoses in hose clamps as shown.

Hose Support and Clamp



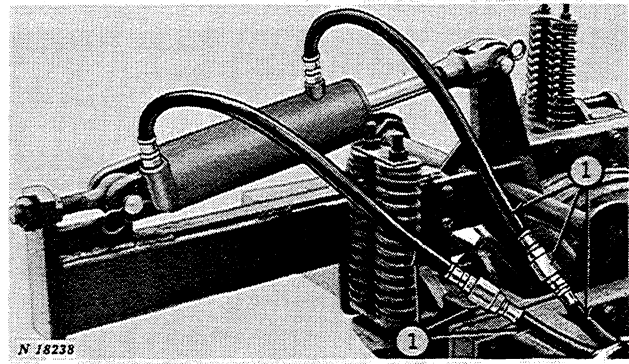
1. Attach the hose support to hitch of chisel plow as shown.

2. Bolt hose clamp to hose support as shown. Attach hoses to hose clamp and tighten hose clamp bolt.

INSTALLING HYDRAULIC CYLINDERS AND HOSES FOR TRACTORS WITH LOW PRESSURE HYDRAULIC SYSTEMS

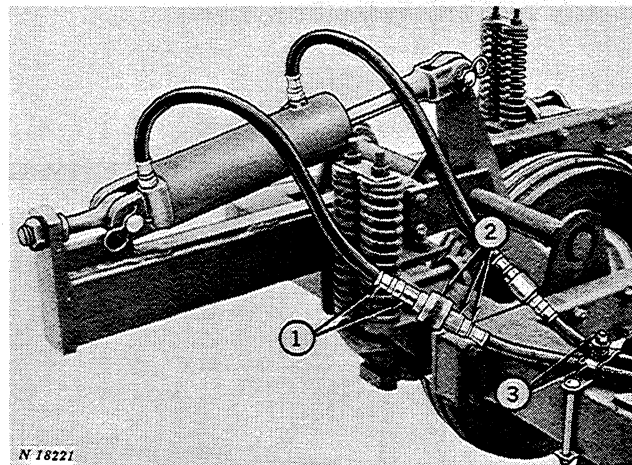
Install the cylinders and hoses on the chisel plow in the same manner as for tractors with high pressure (approximately 2000 psi) hydraulic systems. Attach the main lift cylinder (AN131000) to cylinder support arm and rockshaft lift arm. Attach AN130392 (smallest) on left-hand side of machine. Attach AN131001 on right-hand side of machine.

HOSE EXTENSIONS—120FH, 122FH, 124FH, 168FH, 170FH, AND 172FH CHISEL PLOWS



1. Attach two hose extensions to both outrigger depth control cylinders. Couple the hose extensions to hydraulic hoses with coupler as shown above.

BREAKAWAY HOSE COUPLER—120FH, 122FH, 124FH, 168FH, 170FH, AND 172FH CHISEL PLOWS



1. Screw breakaway coupler receptacle on the front port hose extension on right-hand outrigger cylinder.

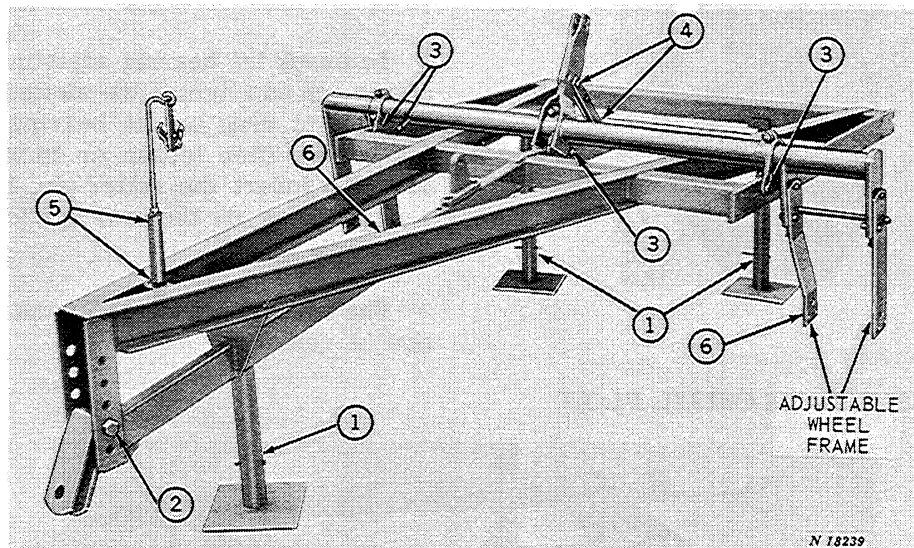
2. Screw breakaway coupler plug on the 119-inch main lift cylinder hose.

3. Using longer bolts, springs, washers, and nuts, assemble hose clamps to outrigger frame and main frame as shown.

Complete assembly of chisel plow should be made before hitching plow to tractor. Review the operating section of this manual before hitching the chisel plow to tractor.

100 AND 150 SERIES CHISEL PLOWS

CENTER FRAME AND ROCKSHAFT



1. Set the center frame on stands or blocks approximately 28 inches high. The stands illustrated above are not furnished with the machine.

2. Make sure the clevis bolt is tight to prevent the clevis bushing from rotating.

3. With a chain hoist, set the rockshaft on the center frame. The adjustable wheel frame should be on the left-hand side of the center frame. Bolt the rockshaft to the center frame.

NOTE: If wide blade sweeps are to be used, the adjustable wheel frame must be set in the narrow position.

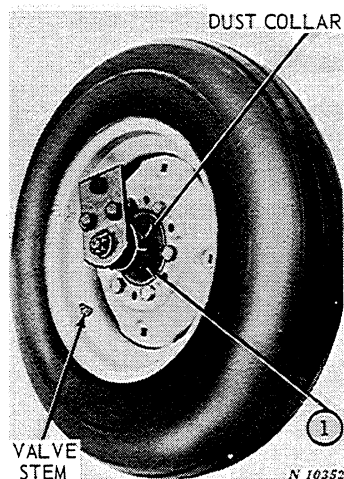
IMPORTANT: Be sure the wheel frame bolts are tight.

4. Pin the transport strap to the rockshaft arm and to the center frame.

5. Bolt hose support to hitch frame.

6. Remove the wheel hubs from the wheel frames.

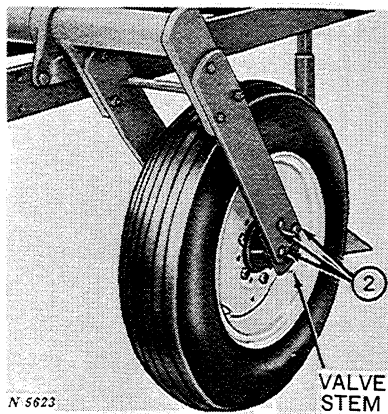
WHEELS



1. Position hubs on wheels so the dust collars are at the rear of the wheel plates.

Valve stems should face the left-hand side of the chisel plow when wheels are installed.

Bolt hubs to wheels with six bolts in each hub. Tighten all six bolts securely.



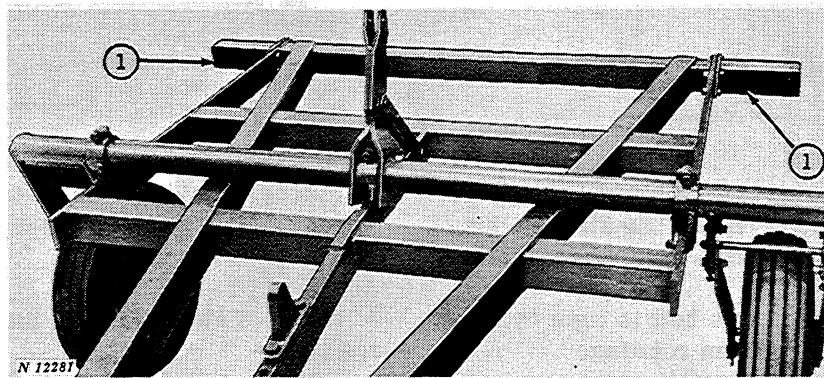
2. Assemble wheels in the wheel frames.

Check and adjust the tightness of all wheel bolts and wheel bearings.

To check the bearing adjustment, remove the cotter pin and tighten the slotted nut until there is a slight drag on the bearings while turning the wheel. Then loosen or back off the nut one slot and insert the cotter pin. There should be a slight drag on the bearings following the adjustment.

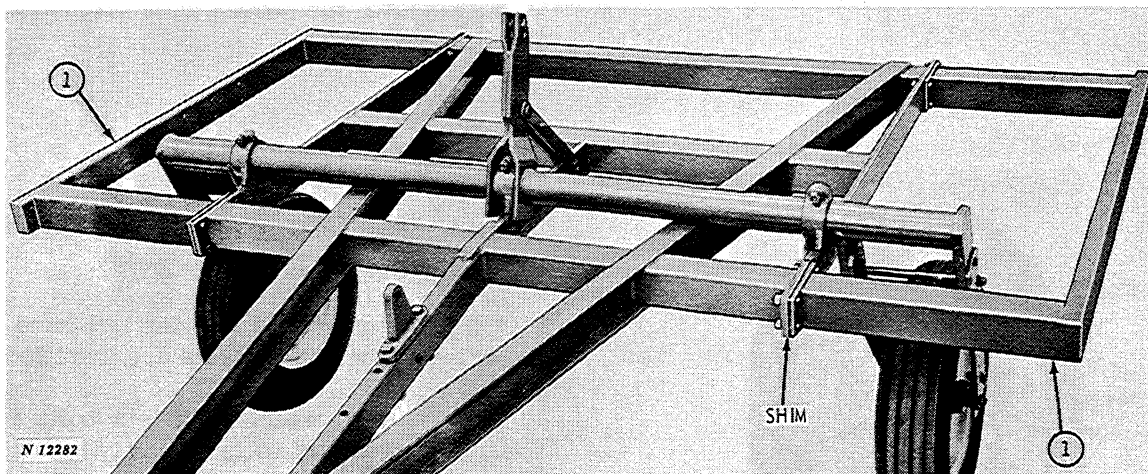
The support stands under the chisel plow may now be removed.

FRAME EXTENSIONS—158 CHISEL PLOW



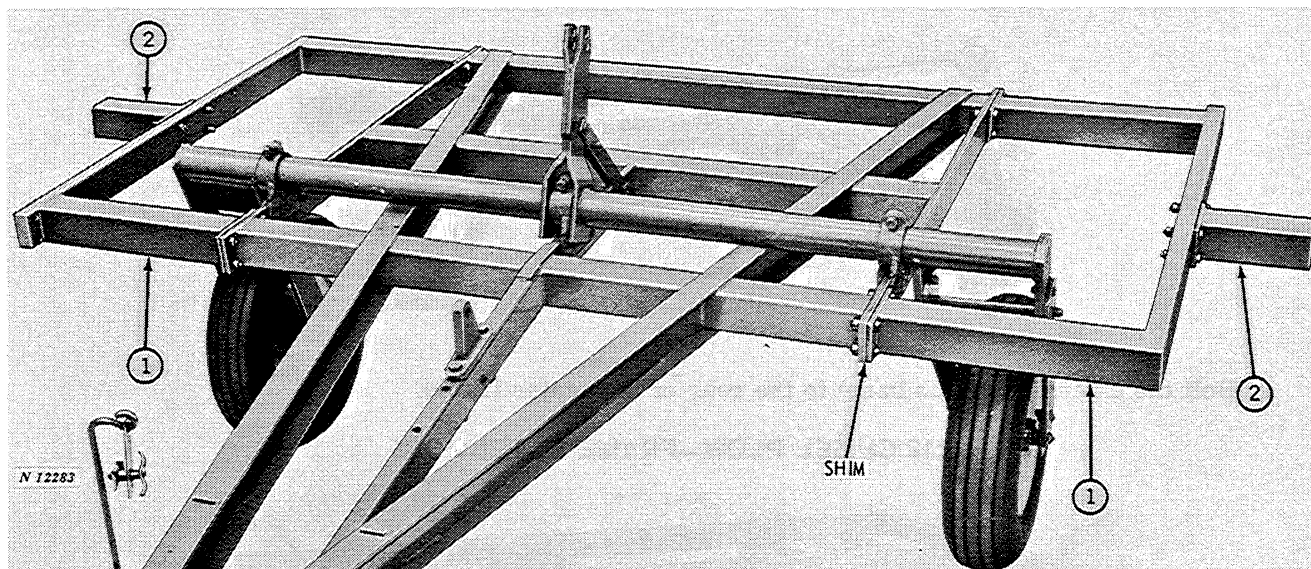
1. Bolt the extensions (stub bars) to the rear of the center frame.

FRAME EXTENSIONS—160 CHISEL PLOW



1. Attach the frame extensions to the center frame as shown above. Shims are provided to level the extensions with the center frame, if necessary.

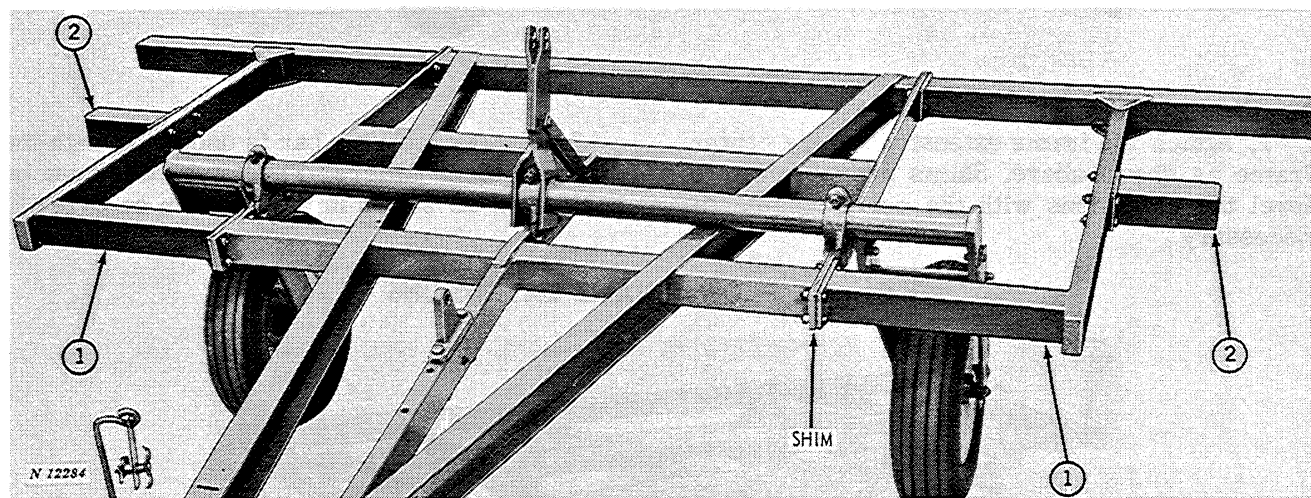
FRAME EXTENSIONS—162 CHISEL PLOW



1. Bolt the frame extensions to the center frame as shown above. Shims are provided to level the extensions with the center frame if necessary.

2. Bolt the stub bars to the outside of the frame extensions, midway between the front and rear tool bars.

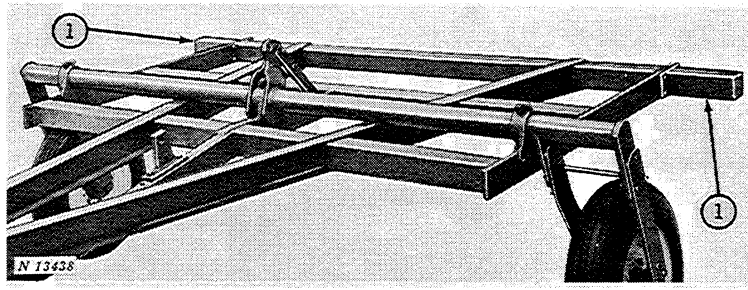
FRAME EXTENSIONS—164 CHISEL PLOW



1. Bolt the frame extensions to the center frame as shown above. Shims are provided to level the extensions with the center frame if necessary.

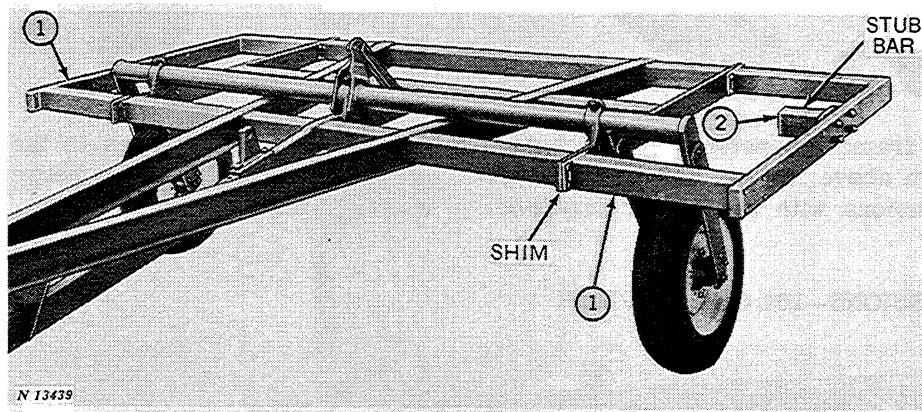
2. Install the stub bars on the outside of the frame extensions, midway between the front and rear tool bars.

110 CHISEL PLOW—FRAME EXTENSIONS



1. Bolt the extensions (stub bars) to the rear of the center frame.

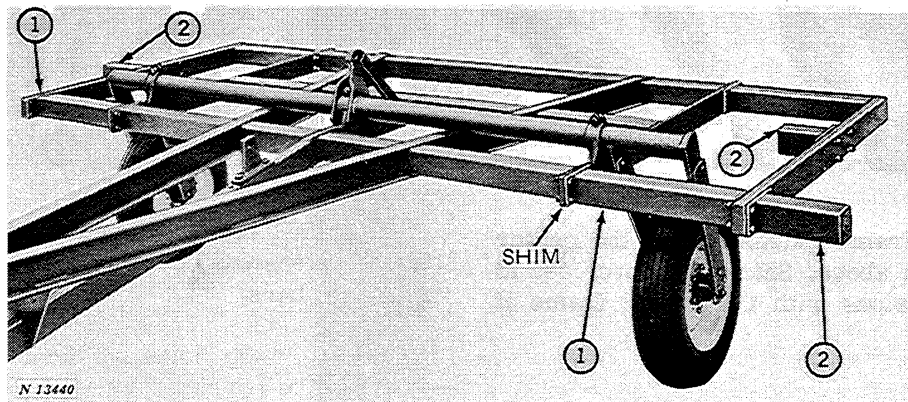
112 CHISEL PLOW—FRAME EXTENSIONS



1. Attach the frame extensions to the center frame as shown above. Shims are provided to level the extensions with the center frame, if necessary.

2. The 7-inch stub bar is used only with the diagonal tooth pattern. This stub bar must be positioned as shown in the diagram on page 48.

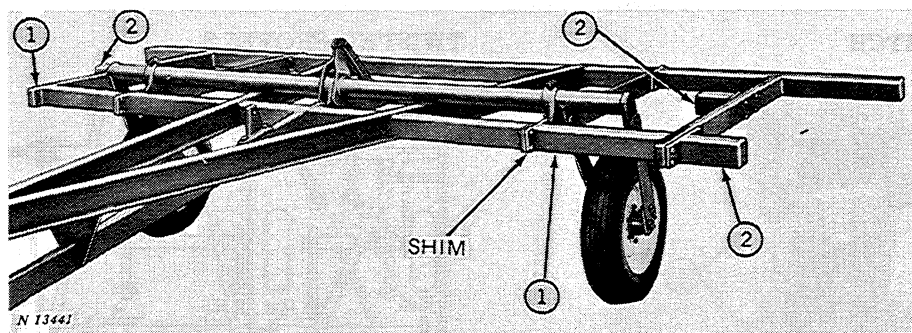
114 CHISEL PLOW—FRAME EXTENSIONS



1. Bolt the frame extensions to the center frame as shown above. Shims are provided to level the extensions with the center frame if necessary.

2. Install the 7- and 11-inch stub bars on the extensions as indicated in the diagrams on pages 50 and 51.

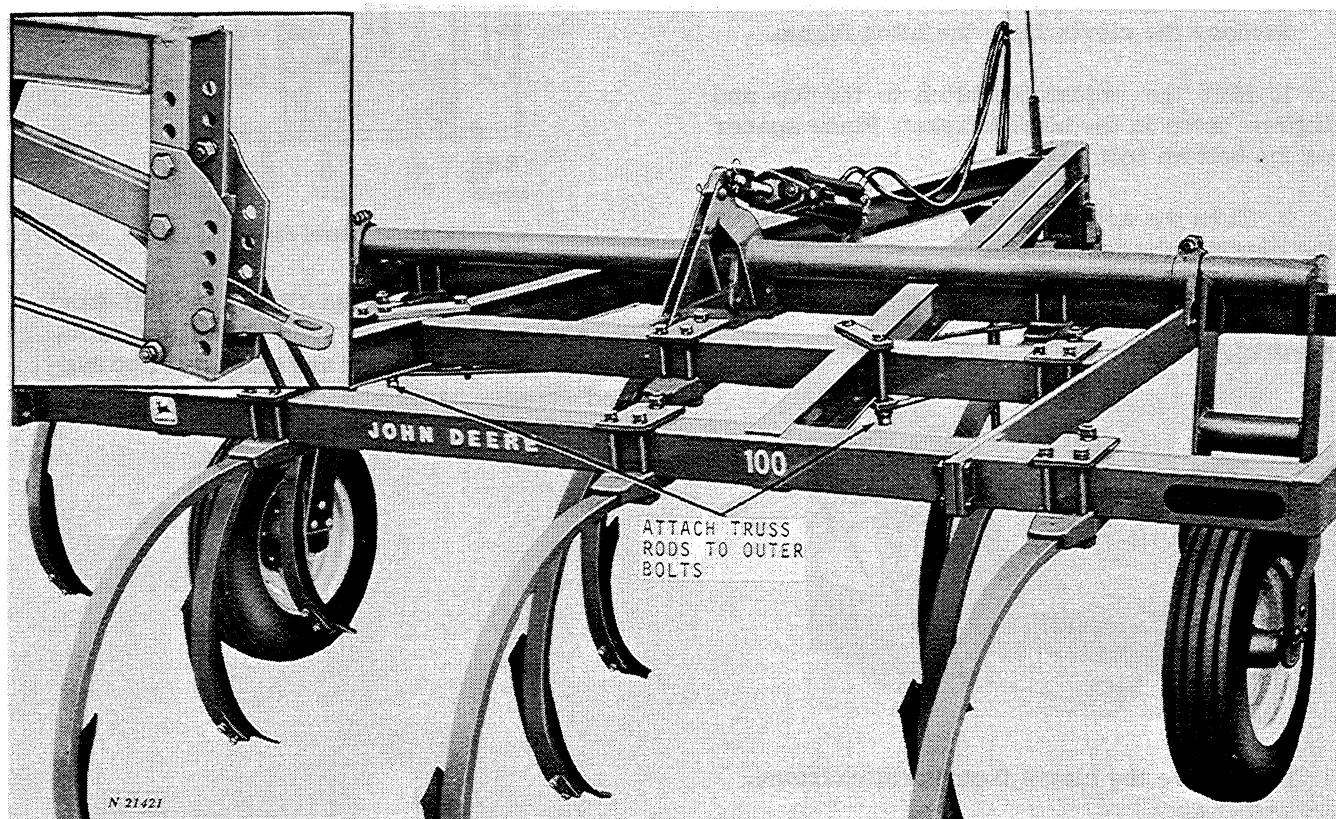
116 CHISEL PLOW—FRAME EXTENSIONS



1. Attach the frame extensions to the center frame as shown above. Shims are provided to level the extensions with the center frame if necessary.

2. Install the 7- and 11-inch stub bars on the extensions as indicated in the diagrams on pages 51 and 52.

100 SERIES HIGH-CLEARANCE CHISEL PLOW HITCH (Optional Equipment)

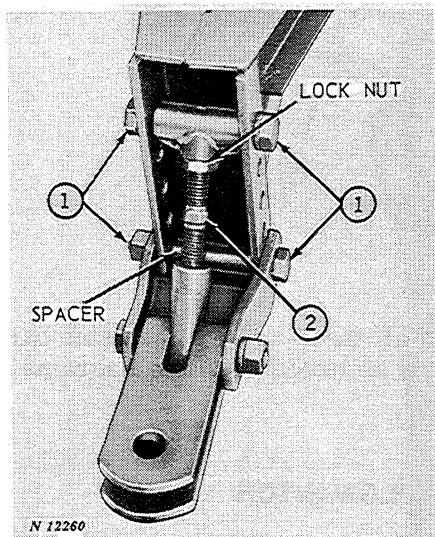


Assemble the 100 Series High-Clearance Chisel Plow in the same manner as the standard chisel plow. The only exception is the hitch and the truss rods. The truss rods are attached to

the outer clamp bolts on the main frame. The hitch is attached to level the chisel plow with the tractor.

100, 100FH, 150, AND 150FH CHISEL PLOWS

ADJUSTABLE HITCH

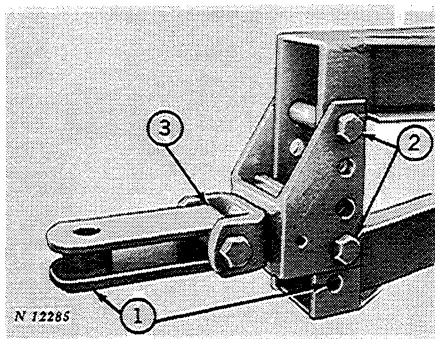


Remove the clevis from the hitch frame.

1. Bolt the adjustable hitch to the top and bottom holes in the hitch bracket. Place spacer on the bottom bolt.

2. Turn the adjusting screw to raise or lower the clevis to the desired position. Tighten the lock nut.

SWIVEL HITCH

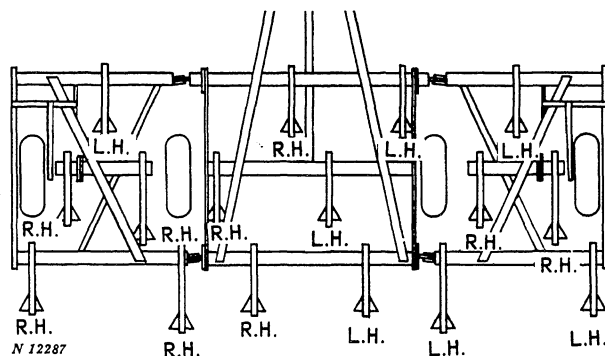


1. Remove the clevis from the hitch frame.

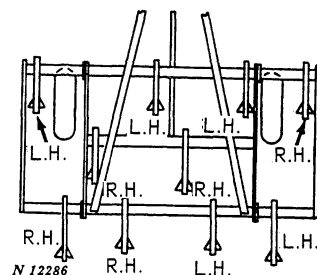
2. Bolt the swivel hitch assembly to the hitch frame.

3. Bolt the clevis to the front of the swivel assembly. Be sure the clevis bolt is tight, to prevent the clevis bushing from rotating.

TWISTED SHOVELS



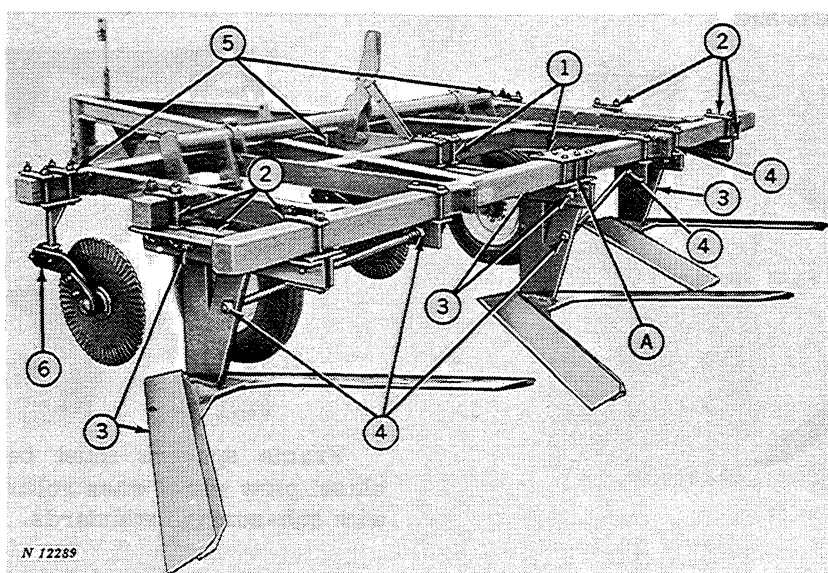
150FH Series Chisel Plow



150 Series Chisel Plow

Arrange the right-hand (R.H.) and left-hand (L.H.) twisted shovels on your chisel plow to obtain good trash movement and stability. Two suggested arrangements are shown above.

WIDE BLADE SWEEPS — 150 AND 150FH CHISEL PLOWS



Wide Blade Sweeps on 150 Series Chisel Plow Illustrated

Position the brackets for the wide blade sweeps on the chisel plow frame as shown on pages 63-66.

1. Clamp the bracket for the center sweep to the second and rear tool bars as shown. Place the spacer plate between the rear bar and the angles and place bar spacers on the front bolts as shown. The center rear bolt "A" must be installed with its head under the lower plate.

2. Clamp the outside sweep brackets to the chisel plow as shown. The V-shaped plates should be between the tool bars and bracket angles. The small ends of the V-shaped plates should face each other. A filler strap is provided for 6-foot blades on 150FH Plows.

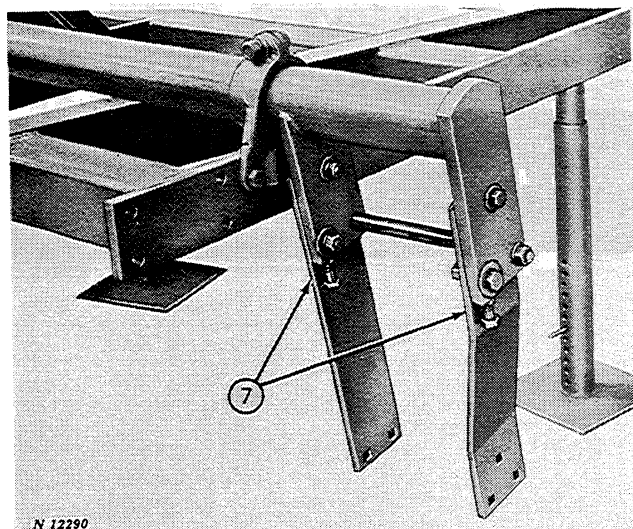
3. Attach the sweeps to the brackets with the two large bolts.

4. Attach truss rod to each sweep and to the small angle. Clamp the rod and angle to the rear tool bar as shown. Tighten the nuts on the truss rod so the sweep standard is straight up-and-down.

5. If coulters are used, clamp the coulters to the front tool bar of the chisel plow. Position the standard so the coulters run in line with the point of the sweep.

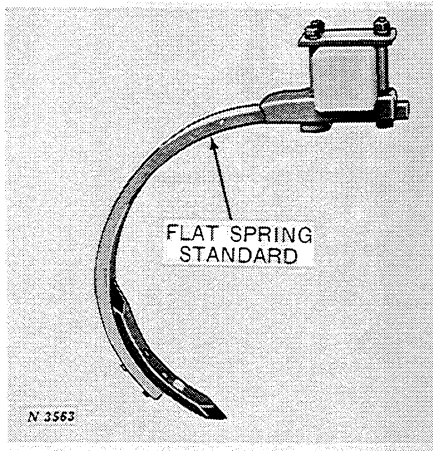
6. Clamp the coulters to the standard. See page 14.

7. When wide blade sweeps are used, the adjustable wheel frame on the left-hand side of the center frame should be assembled with the bent plate to the outside as shown.



ATTACHING STANDARDS

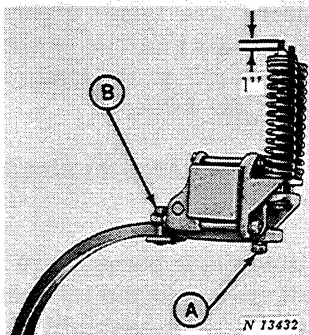
FLAT SPRING STANDARDS



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

FLAT CUSHION SPRING STANDARDS

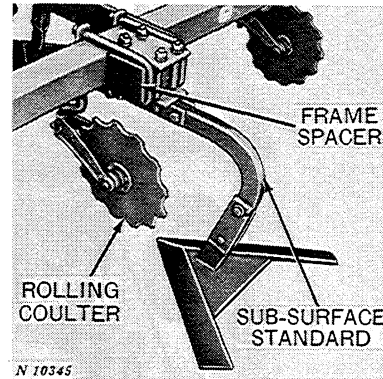
The flat cushion spring standard can be assembled in the clamp either before or after the clamp has been installed on the chisel plow.



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.

SUB-SURFACE STANDARDS—100 AND 100FH CHISEL PLOWS



Frame spacers must be used behind each chisel plow wheel when rolling coulters are used with sub-surface standards.

Clamp the frame spacer and the sub-surface standards to the frame with the attaching plates and four bolts and two U-bolts.

IMPORTANT: After the standards have been installed, level the chisel plow as described on pages 6 and 7.

STANDARD SPACING

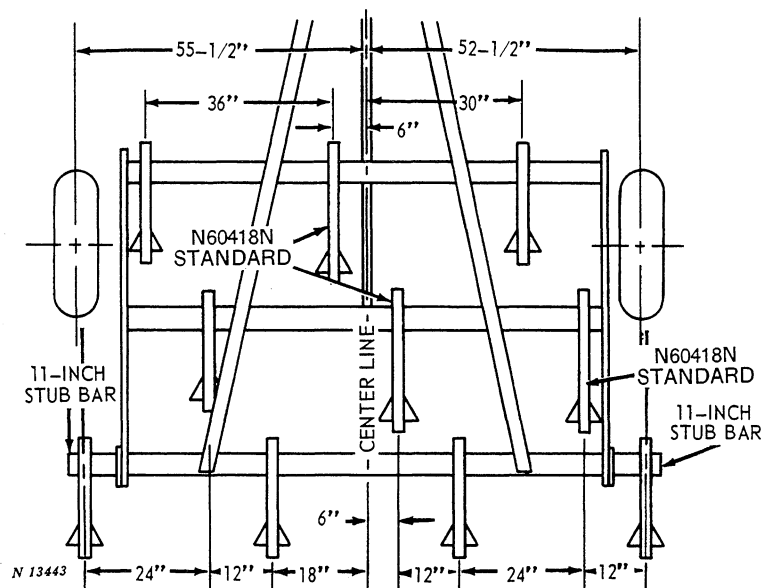
It is important that all standards be placed on the plow frame with the correct spacing. Improper spacing will result in uneven draft and poor performance in the field.

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

When flat spring or flat cushion spring standards are used, 18-inch or larger sweeps cannot be used on the standards in the front row nearest the wheels. If used, these large sweeps will damage the tires.

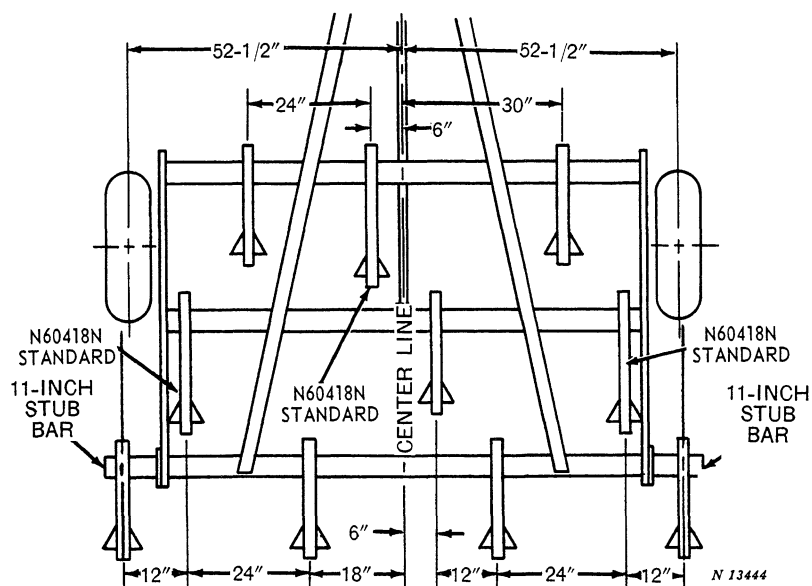
The following pages show the correct stub bar position, wheel spacing, and standard spacing.

110 CHISEL PLOW WITH FLAT CUSHION-SPRING STANDARDS OR FLAT SPRING STANDARDS
IN DIAGONAL PATTERN



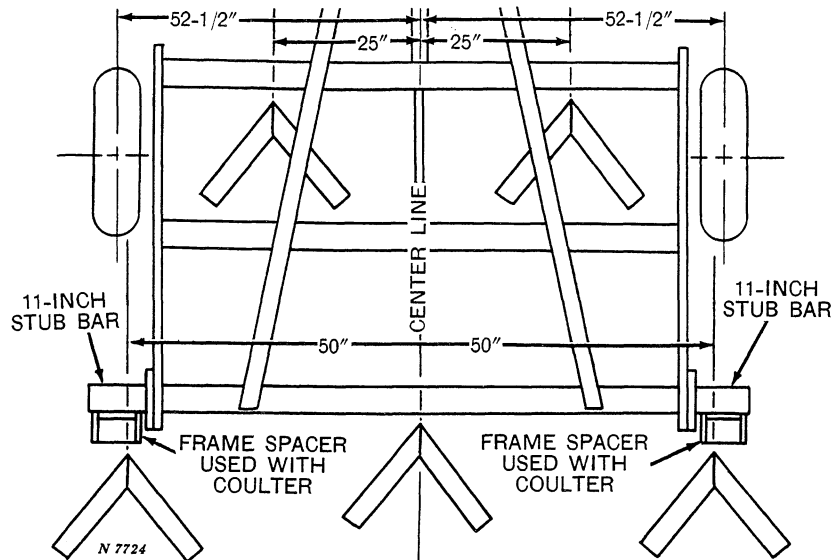
110 Chisel Plow (10-foot) with TE67 or TE71 Tool Equipment
10 Standards-12-Inch Spacing-Diagonal Pattern

110 CHISEL PLOW WITH FLAT CUSHION-SPRING STANDARDS OR FLAT SPRING STANDARDS
IN SPLIT PATTERN



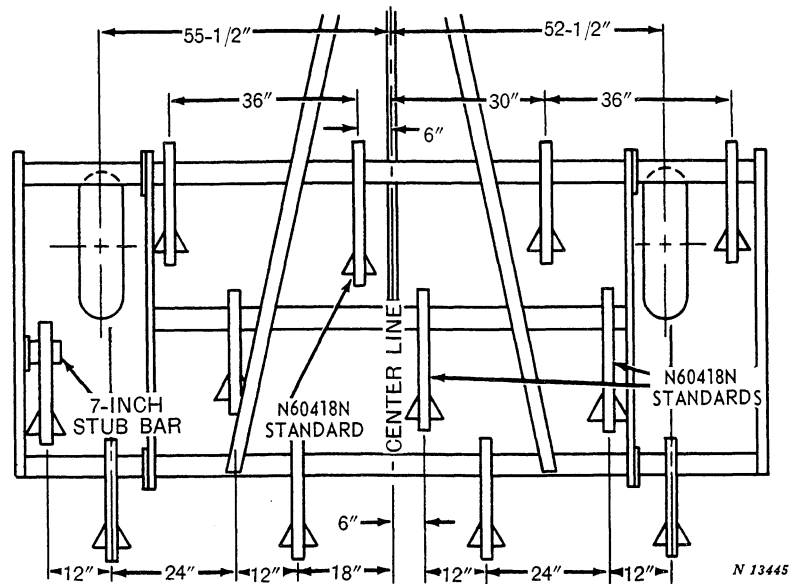
110 Chisel Plow (10-foot) with TE67 or TE71 Tool Equipment
10 Standards-12-Inch Spacing-Split Pattern

110 CHISEL PLOW WITH SUB-SURFACE STANDARDS



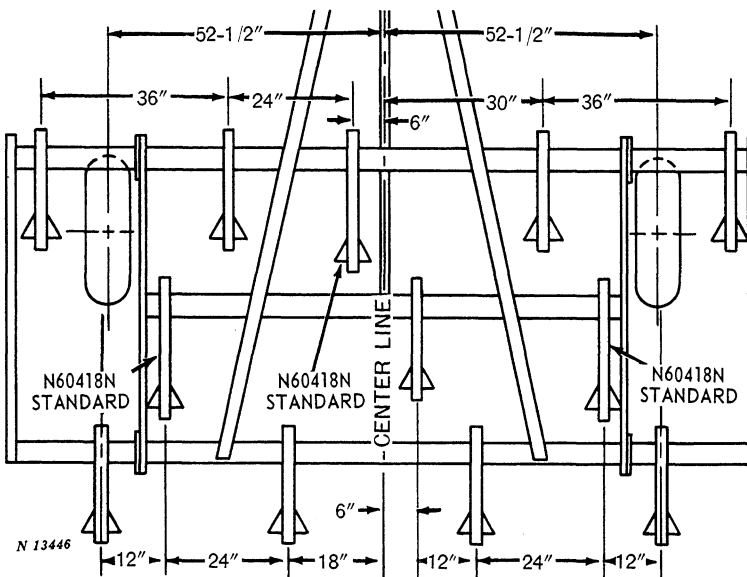
110 Chisel Plow (10-foot) with TE83 Tool Equipment
5 Standards—25-Inch Spacing

112 CHISEL PLOW WITH FLAT CUSHION-SPRING STANDARDS OR FLAT SPRING STANDARDS
IN DIAGONAL PATTERN



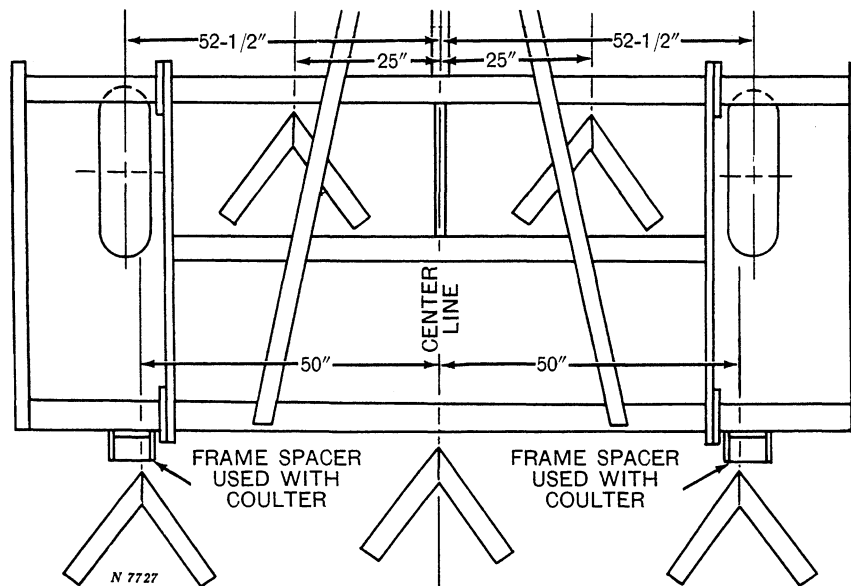
112 Chisel Plow (12-foot) with TE68 or TE72 Tool Equipment
12 Standards—12-Inch Spacing—Diagonal Pattern

112 CHISEL PLOW WITH FLAT CUSHION-SPRING STANDARDS OR FLAT SPRING STANDARDS
IN SPLIT PATTERN



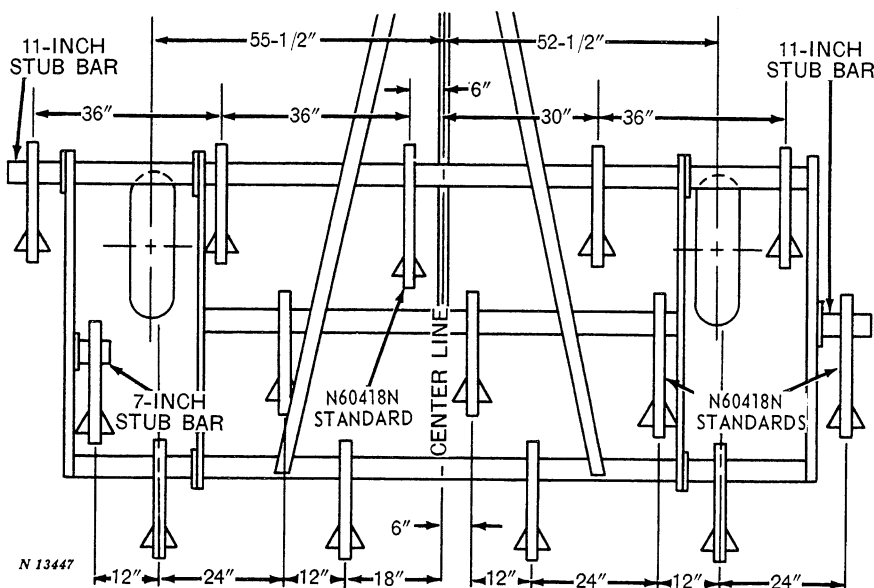
112 Chisel Plow (12-foot) with TE68 or TE72 Tool Equipment
12 Standards-12-Inch Spacing-Split Pattern

112 CHISEL PLOW WITH SUB-SURFACE STANDARDS



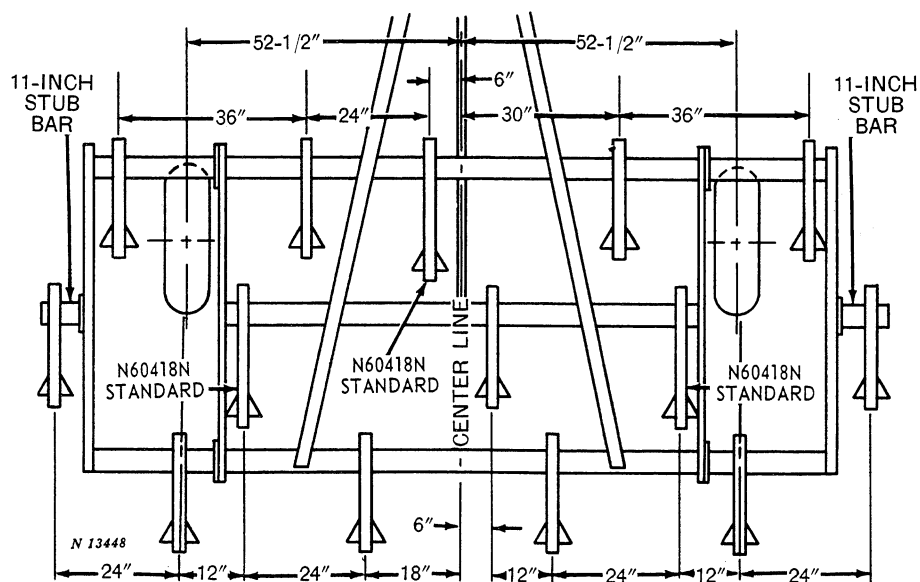
112 Chisel Plow (12-foot) with TE83 Tool Equipment
5 Standards-25-Inch Spacing

114 CHISEL PLOW WITH FLAT CUSHION-SPRING STANDARDS OR FLAT SPRING STANDARDS
IN DIAGONAL PATTERN



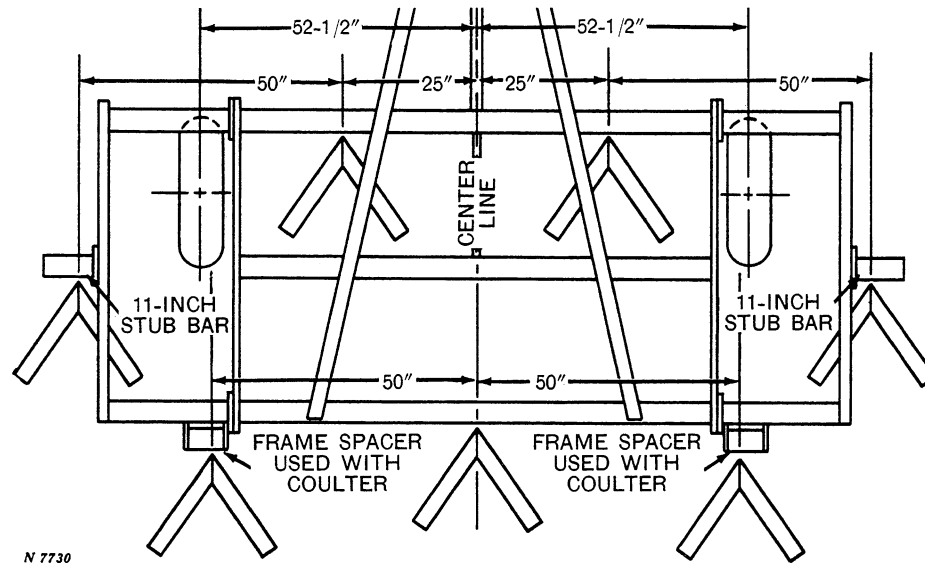
114 Chisel Plow (14-foot) with TE69 or TE73 Tool Equipment
14 Standards-12-Inch Spacing-Diagonal Pattern

114 CHISEL PLOW WITH FLAT CUSHION-SPRING STANDARDS OR FLAT SPRING STANDARDS
IN SPLIT PATTERN



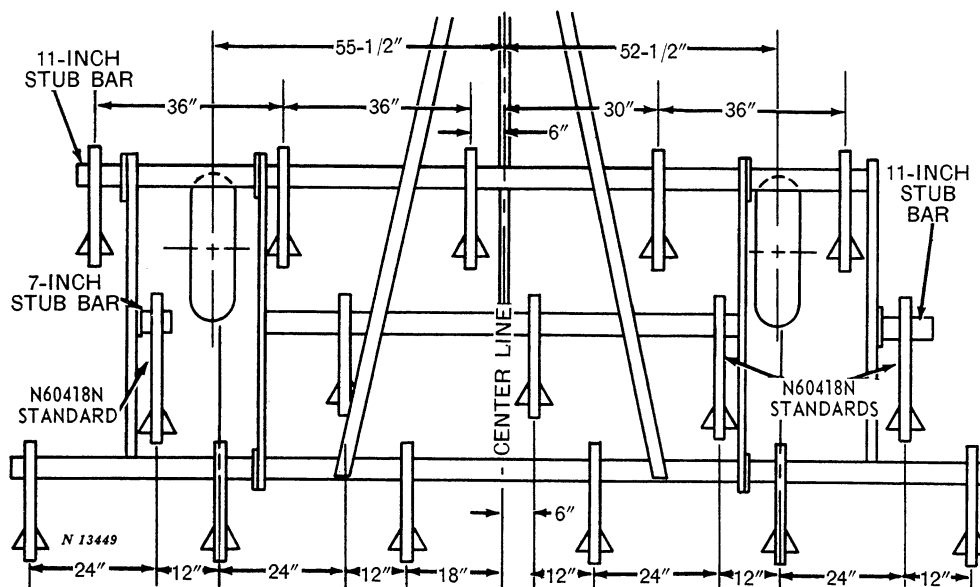
114 Chisel Plow (14-foot) with TE69 or TE73 Tool Equipment
14 Standards-12-Inch Spacing-Split Pattern

114 CHISEL PLOW WITH SUB-SURFACE STANDARDS



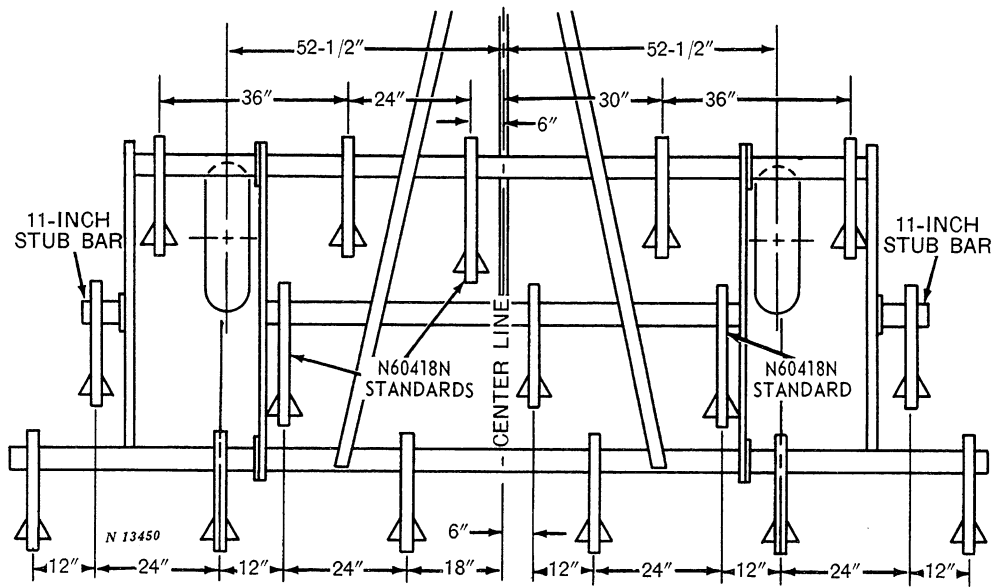
114 Chisel Plow (14-foot) with TE84 Tool Equipment
7 Standards—25-Inch Spacing

116 CHISEL PLOW WITH FLAT CUSHION-SPRING STANDARDS OR FLAT SPRING STANDARDS IN DIAGONAL PATTERN



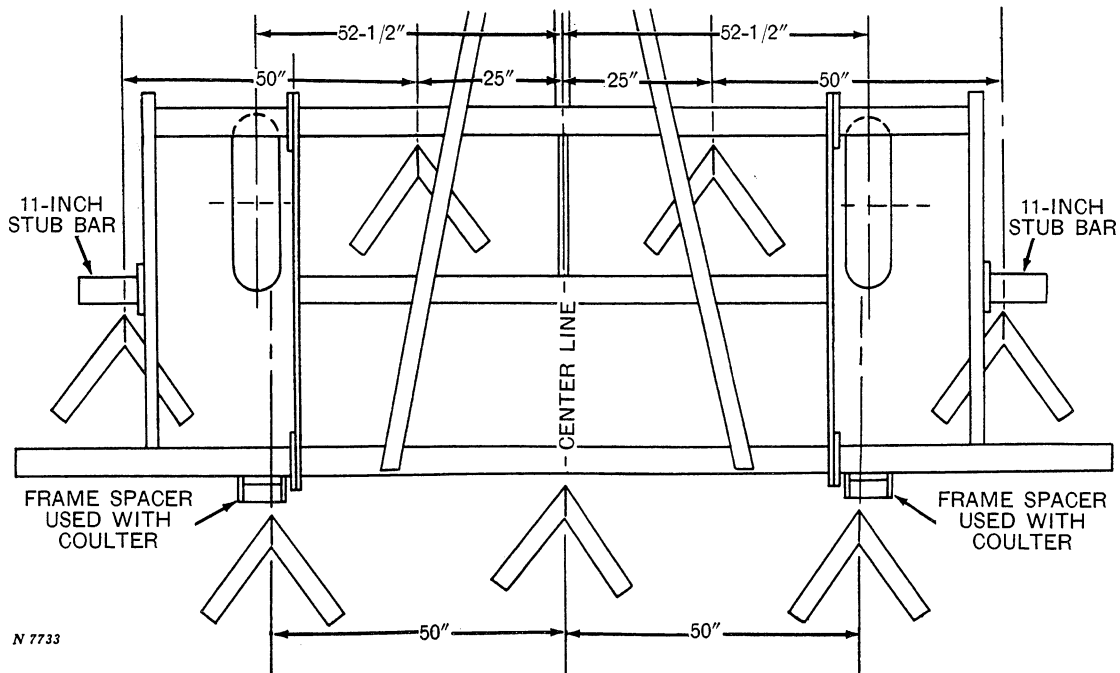
116 Chisel Plow (16-foot) with TE70 or TE74 Tool Equipment
16 Standards—12-Inch Spacing—Diagonal Pattern

116 CHISEL PLOW WITH FLAT CUSHION-SPRING STANDARDS OR FLAT SPRING STANDARDS
IN SPLIT PATTERN



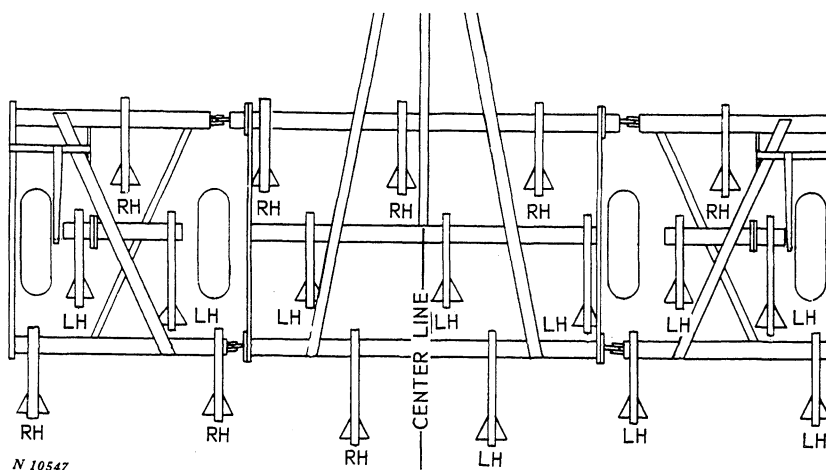
116 Chisel Plow (16-foot) with TE70 or TE74 Tool Equipment
16 Standards—12-Inch Spacing—Split Pattern

116 CHISEL PLOW WITH SUB-SURFACE STANDARDS



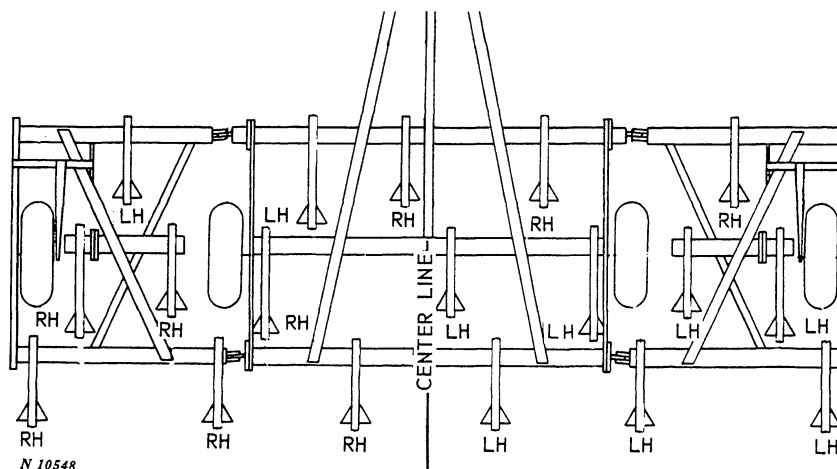
116 Chisel Plow (16-foot) with TE84 Tool Equipment
7 Standards—25-Inch Spacing

118FH CHISEL PLOW WITH STANDARDS AND TWISTED SHOVELS ARRANGED IN DIAGONAL PATTERN



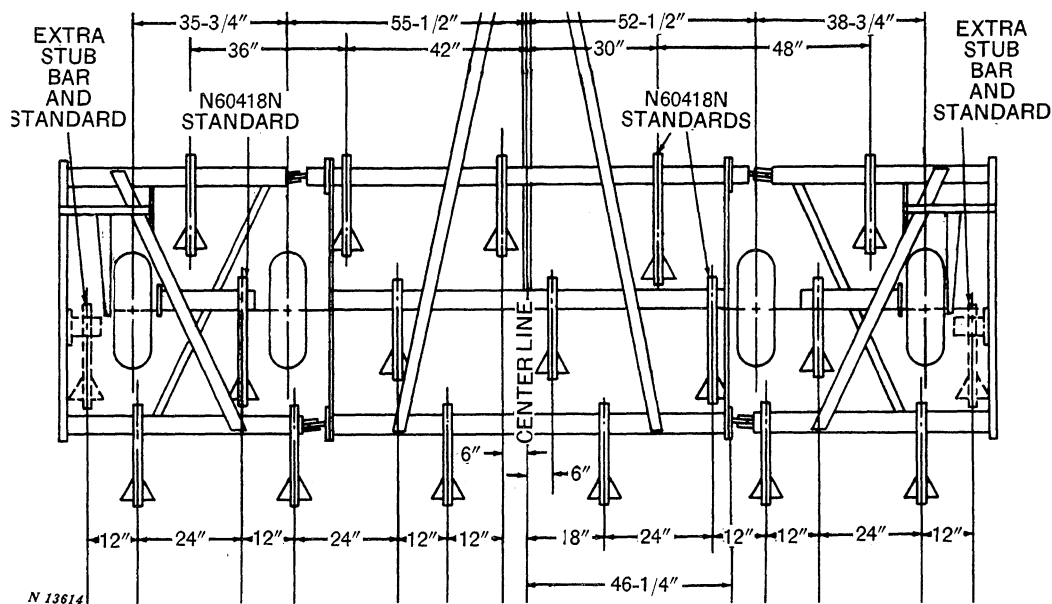
118FH Chisel Plow (18-Foot) with TE113 or TE117 Tool Equipment
Twisted Shovels - Diagonal Pattern

118FH CHISEL PLOW WITH STANDARDS AND TWISTED SHOVELS ARRANGED IN SPLIT PATTERN



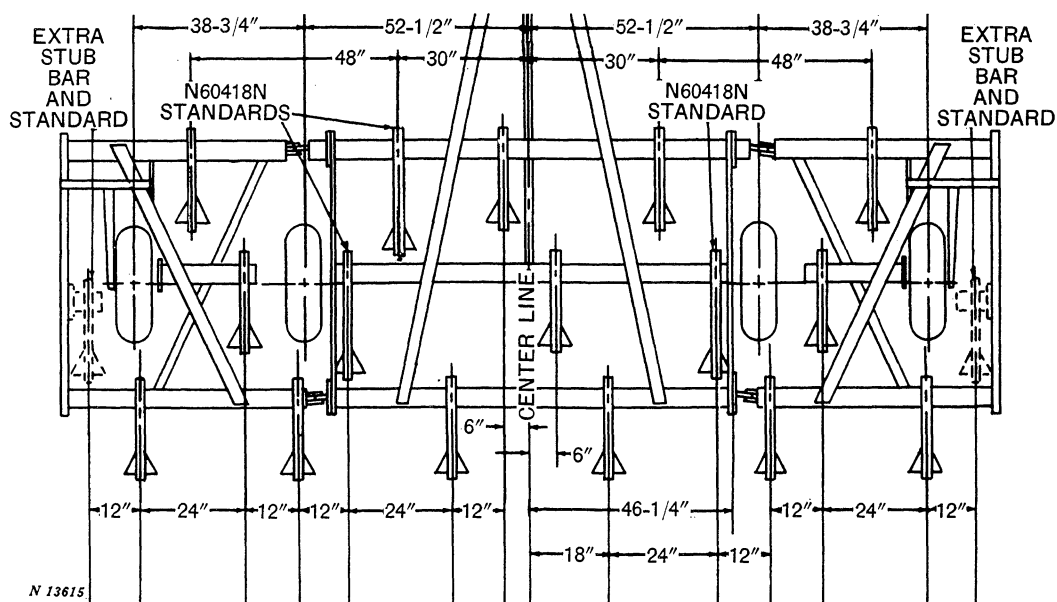
118FH Chisel Plow (18-Foot) with TE113 or TE117 Tool Equipment
Twisted Shovels - Split Pattern

116FH CHISEL PLOW WITH STANDARDS IN DIAGONAL PATTERN



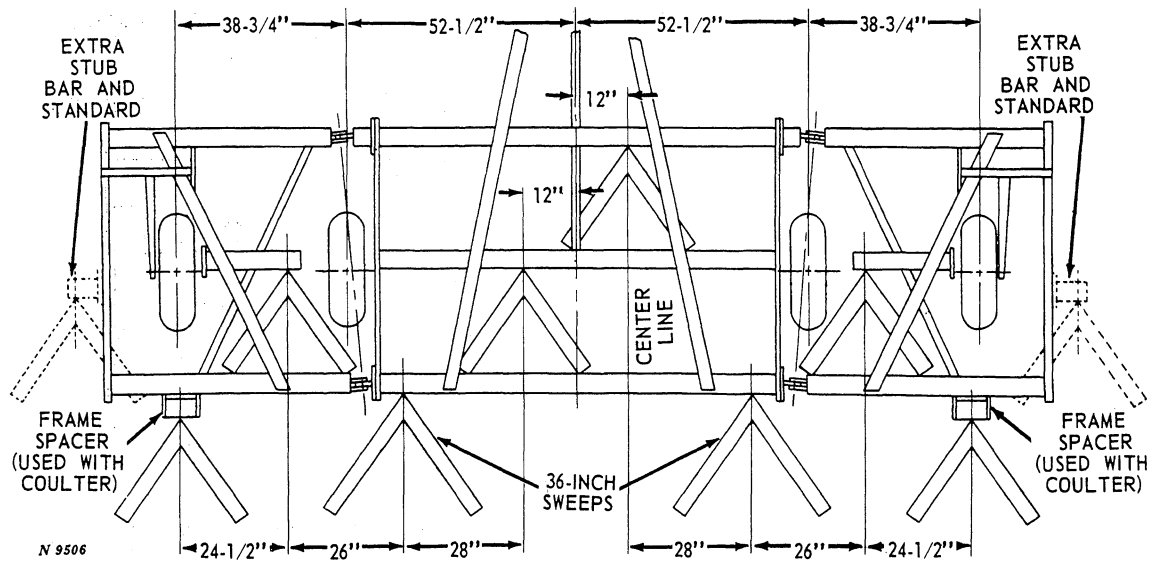
116FH Chisel Plow (16-Foot) with TE70 or TE74 Tool Equipment
16 Standards - 12-Inch Spacing - Diagonal Pattern

116FH CHISEL PLOW WITH STANDARDS IN SPLIT PATTERN



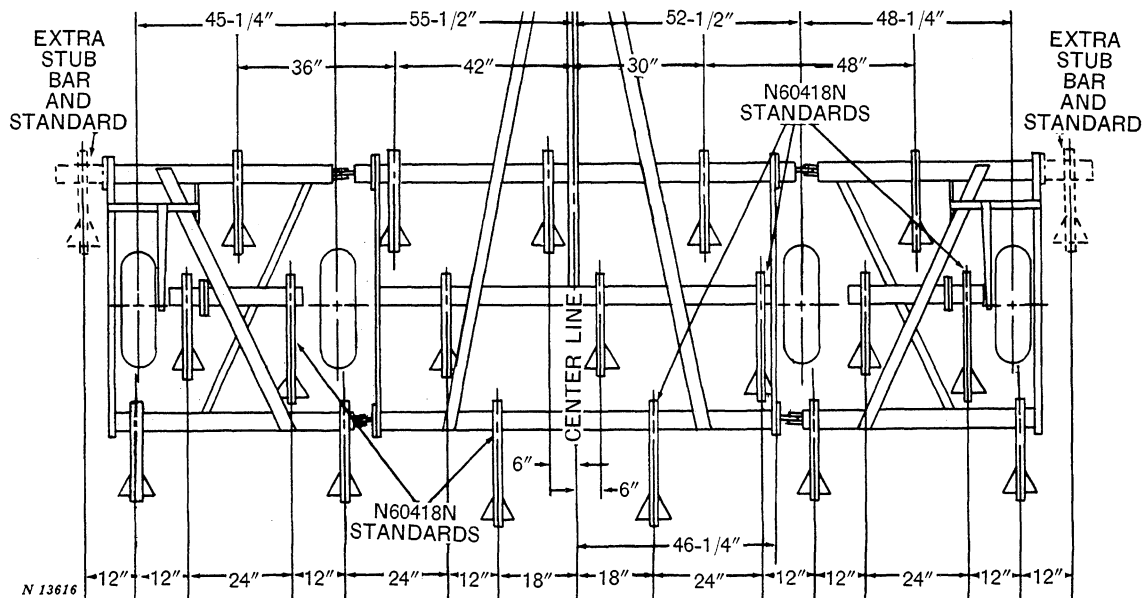
116FH Chisel Plow (16-Foot) with TE70 or TE74 Tool Equipment
16 Standards - 12-Inch Spacing - Split Pattern

116FH CHISEL PLOW WITH SUB-SURFACE STIFF STANDARDS



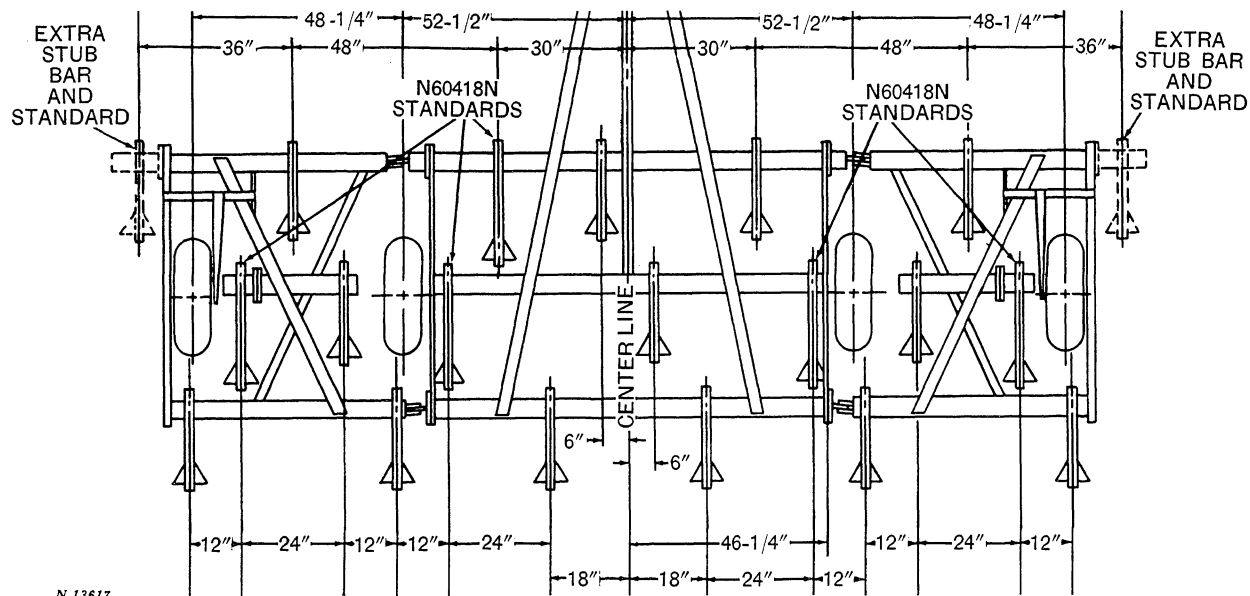
116FH Chisel Plow (16-Foot) with TE152 Tool Equipment
8 Standards

118FH CHISEL PLOW WITH STANDARDS IN DIAGONAL PATTERN



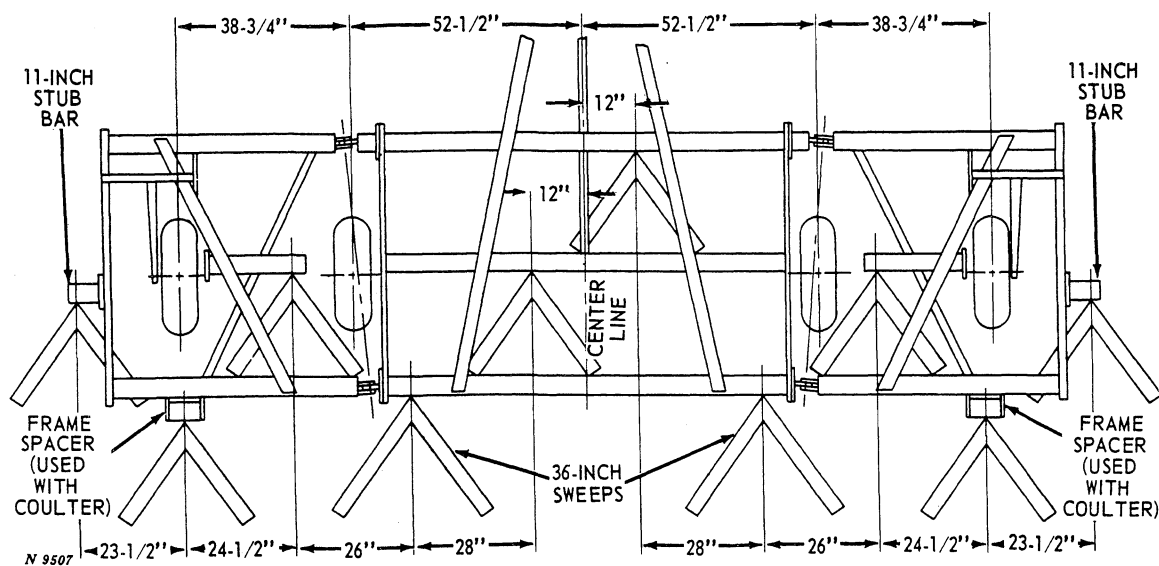
118FH Chisel Plow (18-Foot) with TE113 or TE117 Tool Equipment
18 Standards - 12-Inch Spacing - Diagonal Pattern

118FH CHISEL PLOW WITH STANDARDS IN SPLIT PATTERN



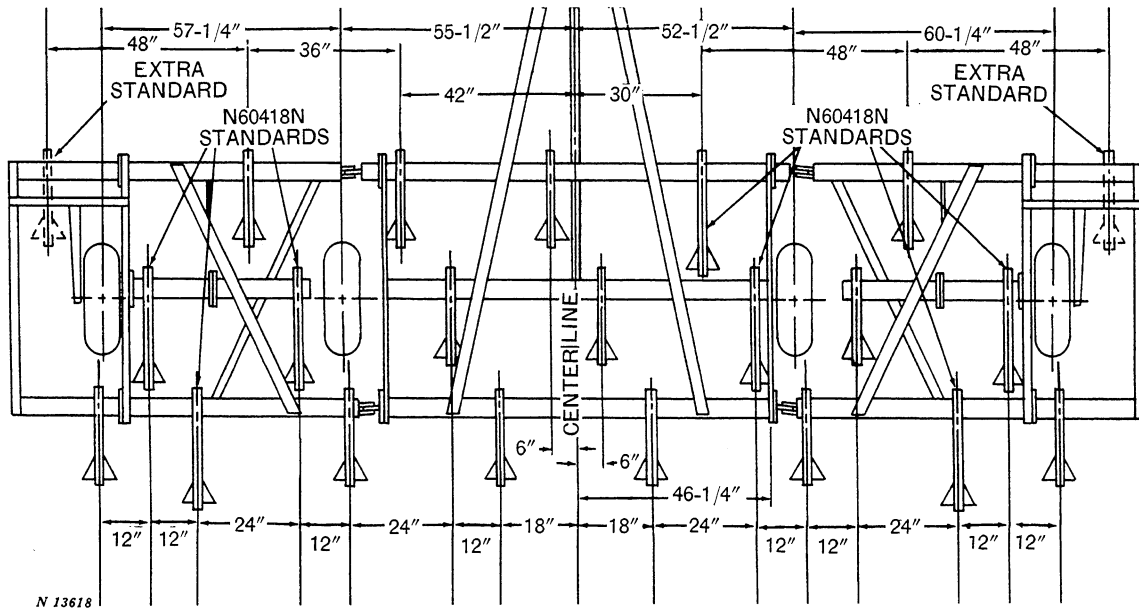
118FH Chisel Plow (18-Foot) with TE113 or TE117 Tool Equipment
18 Standards - 12-Inch Spacing - Split Pattern

118FH CHISEL PLOW WITH SUB-SURFACE STIFF STANDARDS



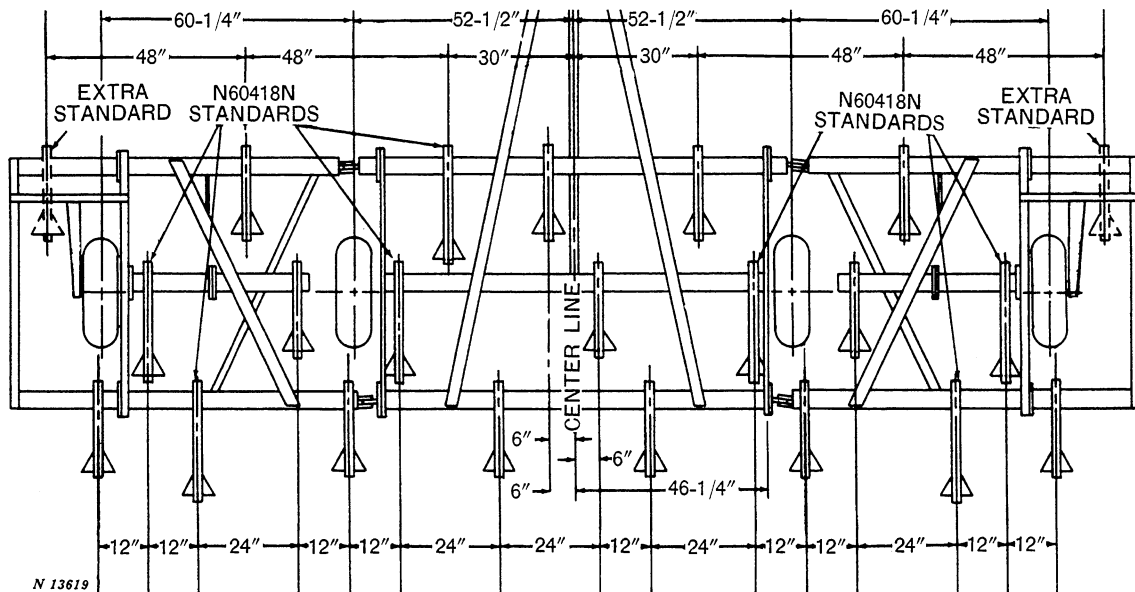
118FH Chisel Plow (18-Foot) with TE153 Tool Equipment
10 Standards

120FH CHISEL PLOW WITH STANDARDS IN DIAGONAL PATTERN



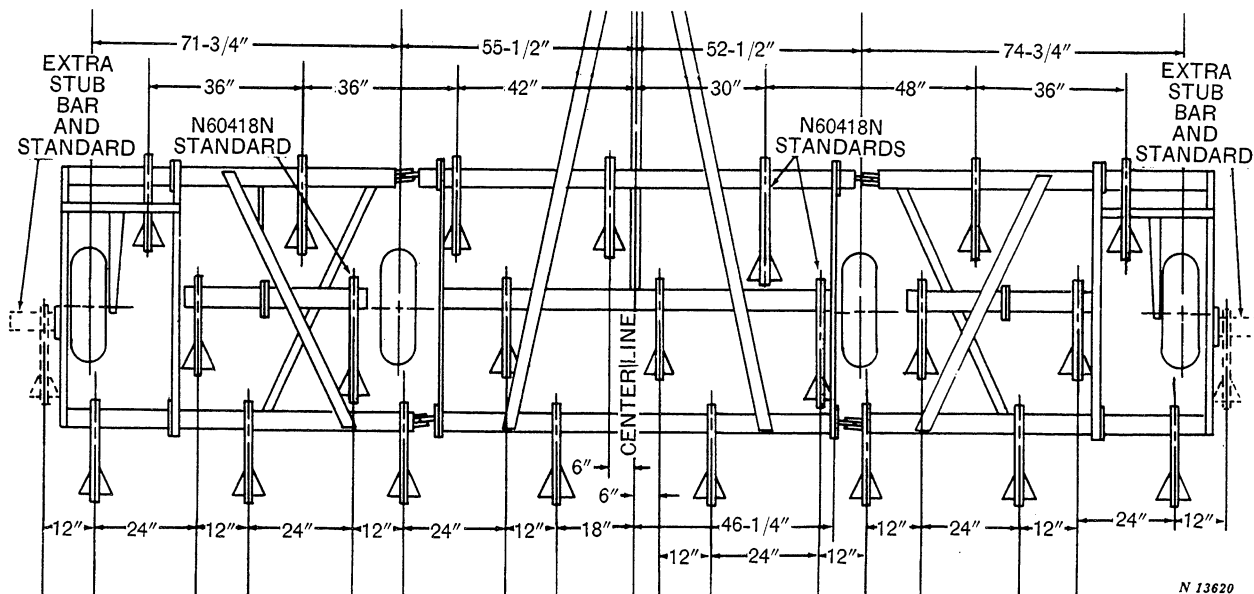
120FH Chisel Plow (20-Foot) with TE114 or TE118 Tool Equipment
20 Standards – 12-Inch Spacing – Diagonal Pattern

120FH CHISEL PLOW WITH STANDARDS IN SPLIT PATTERN



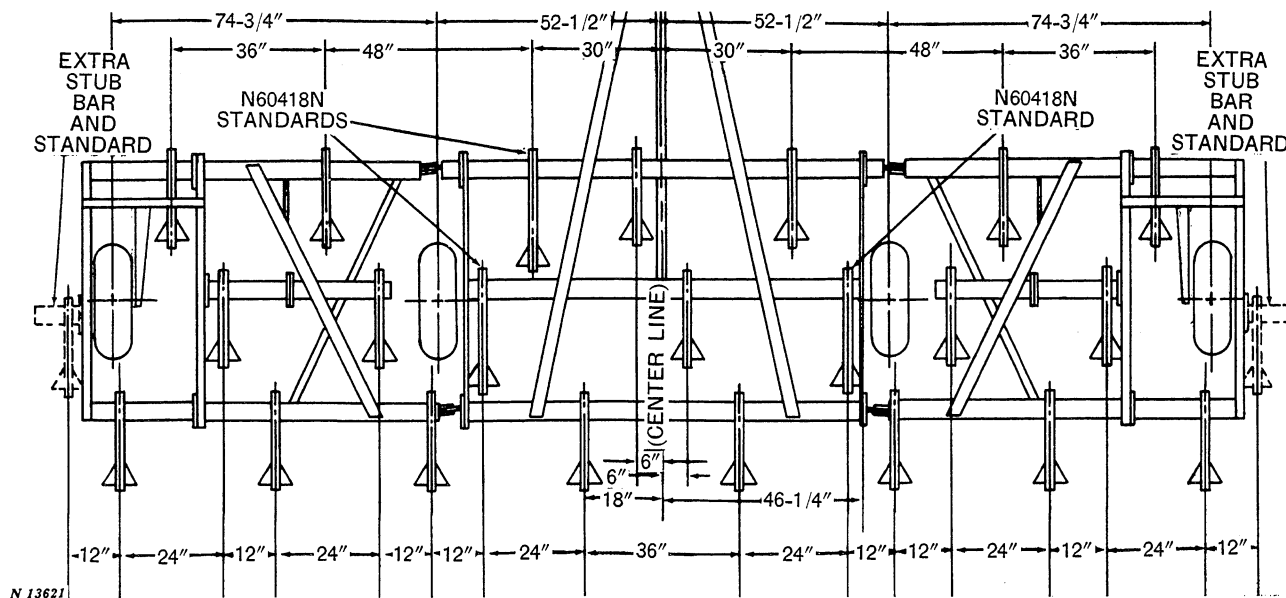
120FH Chisel Plow (20-Foot) with TE114 or TE118 Tool Equipment
20 Standards – 12-Inch Spacing – Split Pattern

122FH CHISEL PLOW WITH STANDARDS IN DIAGONAL PATTERN



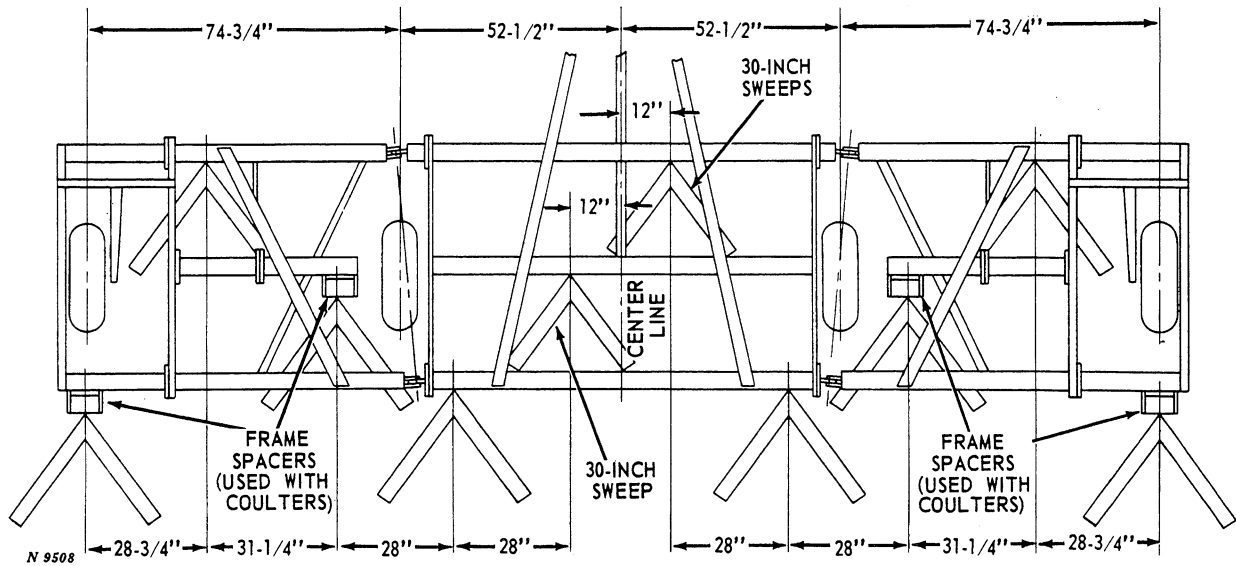
122FH Chisel Plow (22-Foot) with TE115 or TE119 Tool Equipment
22 Standards - 12-Inch Spacing - Diagonal Pattern

122FH CHISEL PLOW WITH STANDARDS IN SPLIT PATTERN



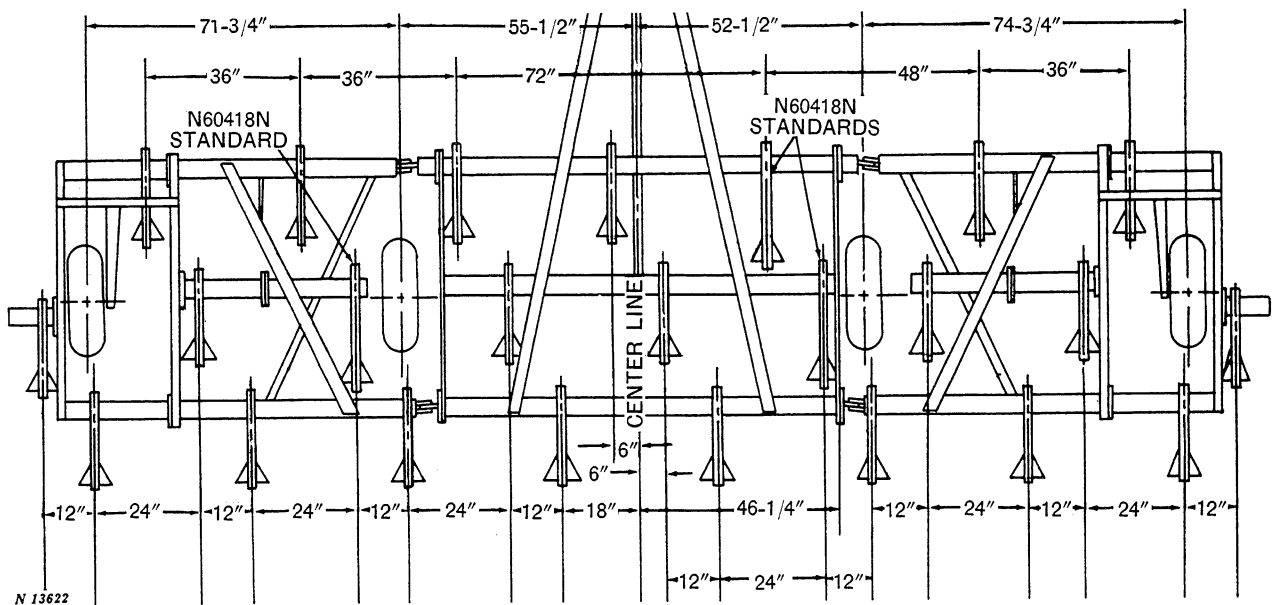
122FH Chisel Plow (22-Foot) with TE115 or TE119 Tool Equipment
22 Standards - 12-Inch Spacing - Split Pattern

122FH CHISEL PLOW WITH SUB-SURFACE STIFF STANDARDS



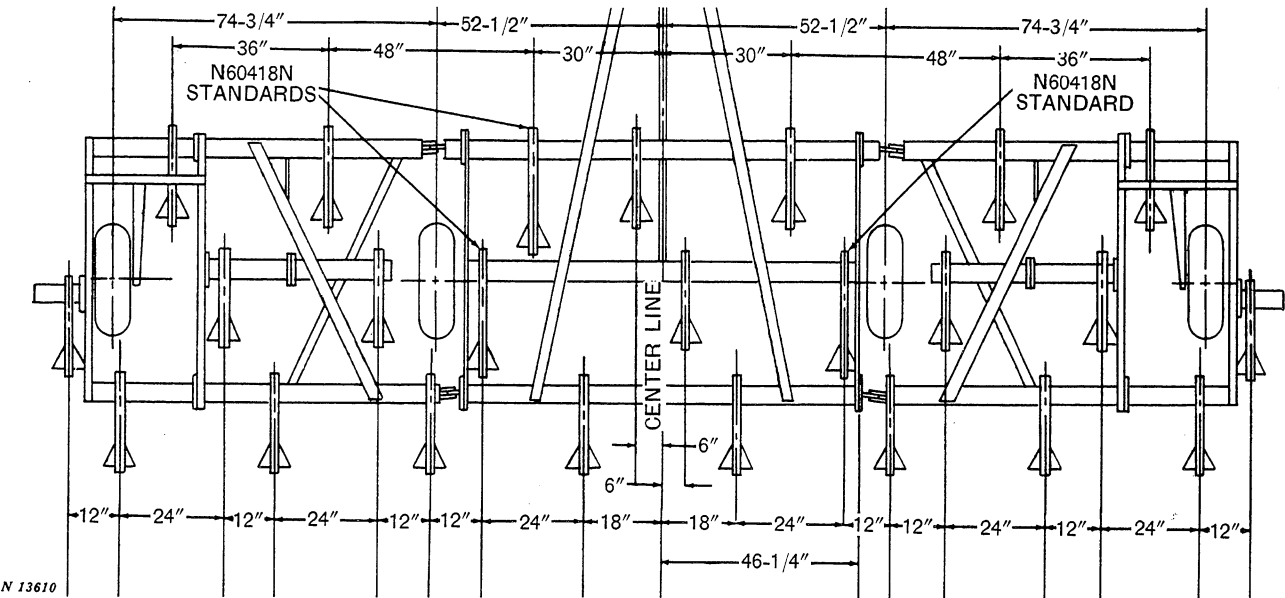
122FH Chisel Plow (20-Foot) with TE154 Tool Equipment
10 Standards

124FH CHISEL PLOW WITH STANDARDS IN DIAGONAL PATTERN



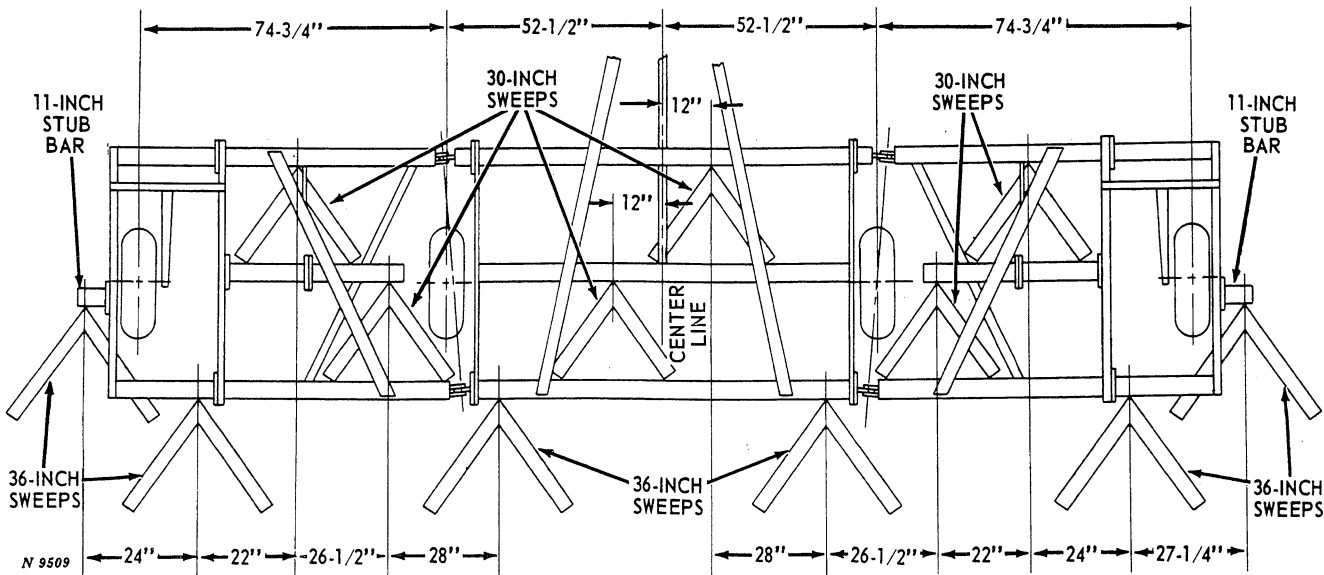
124FH Chisel Plow (24-Foot) with TE116 or TE120 Tool Equipment
24 Standards - 12-Inch Spacing - Diagonal Pattern

124FH CHISEL PLOW WITH STANDARDS IN SPLIT PATTERN



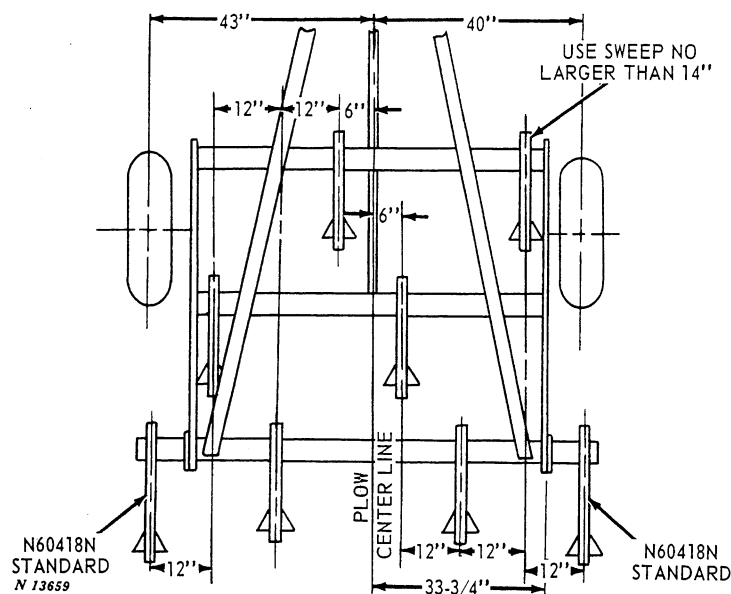
124FH Chisel Plow (24-Foot) with TE116 or TE120 Tool Equipment
24 Standards – 12-Inch Spacing – Split Pattern

124FH CHISEL PLOW WITH SUB-SURFACE STIFF STANDARDS



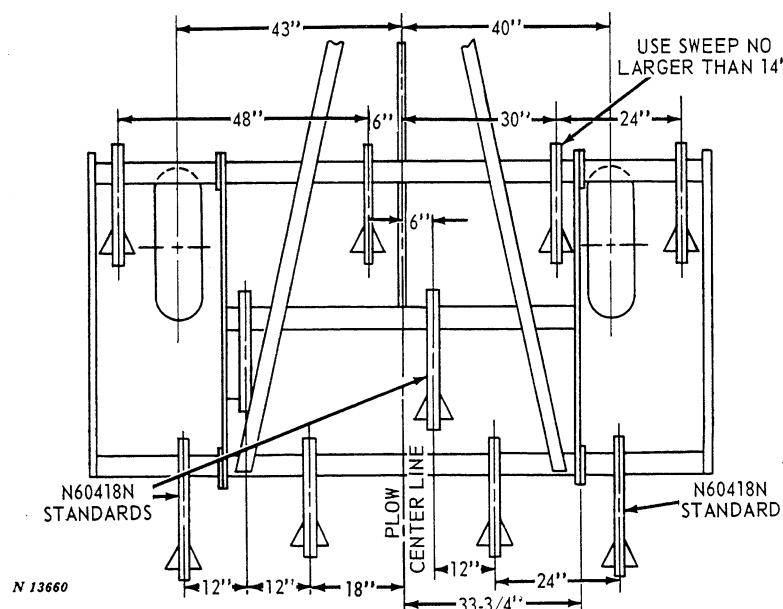
124FH Chisel Plow (24-Foot) with TE155 Tool Equipment
12 Standards

158 CHISEL PLOW WITH FLAT SPRING STANDARDS OR FLAT CUSHION-SPRING STANDARDS



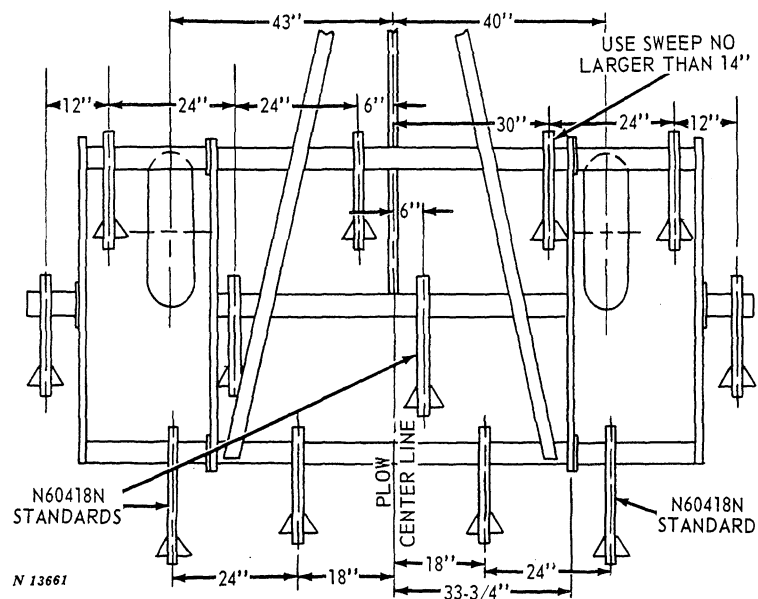
158 Chisel Plow (8-foot) with TE179 or TE180 Tool Equipment
8 Standards - 12-Inch Spacing

160 CHISEL PLOW WITH FLAT SPRING STANDARDS OR FLAT CUSHION-SPRING STANDARDS



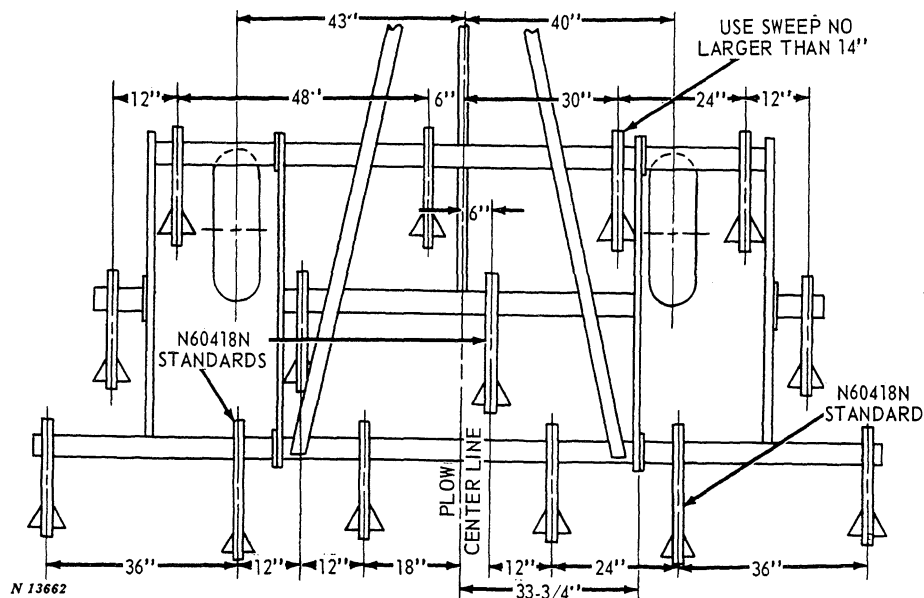
160 Chisel Plow (10-foot) with TE67 or TE71 Tool Equipment
10 Standards - 12-Inch Spacing

162 CHISEL PLOW WITH FLAT SPRING STANDARDS OR FLAT CUSHION-SPRING STANDARDS



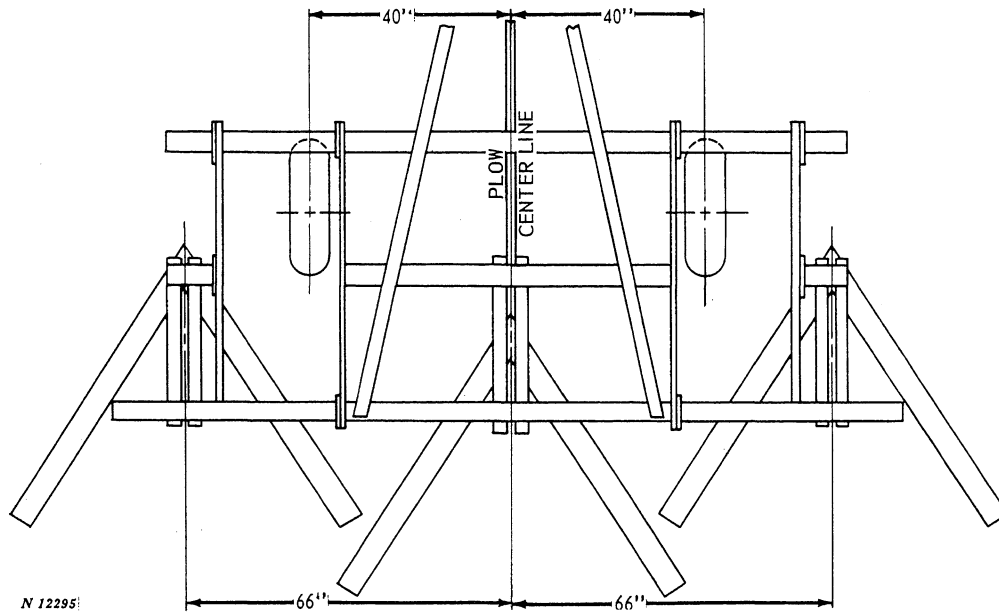
162 Chisel Plow (12-foot) with TE68 or TE72 Tool Equipment
12 Standards - 12-Inch Spacing

164 CHISEL PLOW WITH FLAT SPRING STANDARDS OR FLAT CUSHION-SPRING STANDARDS



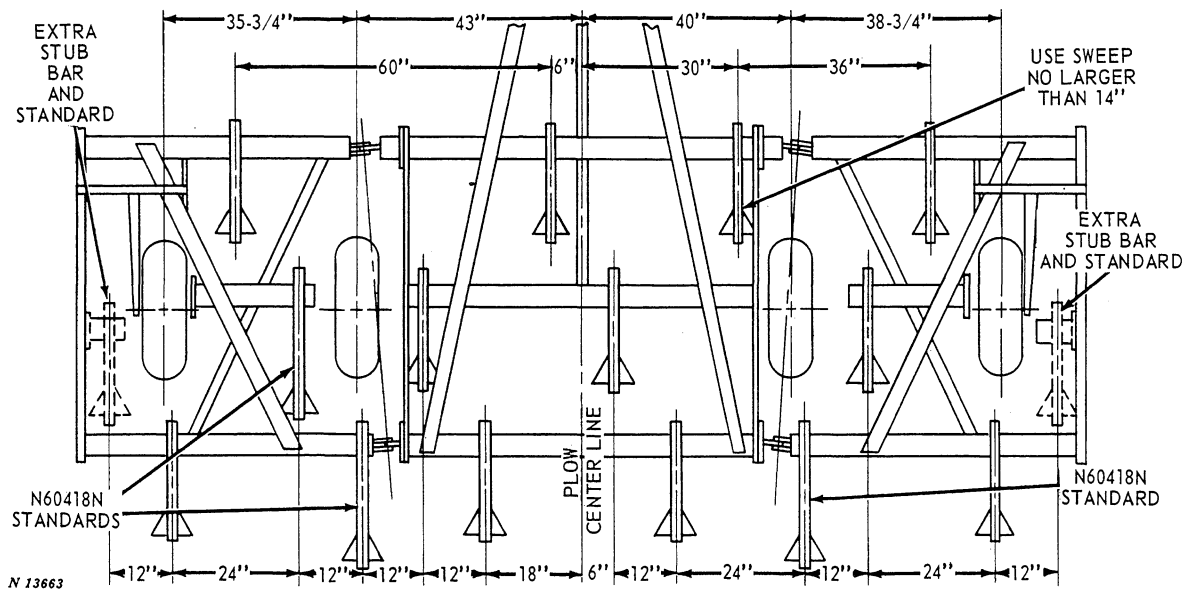
164 Chisel Plow (14-foot) with TE69 or TE73 Tool Equipment
14 Standards - 12-Inch Spacing

164 CHISEL PLOW WITH WIDE BLADE SWEEPS



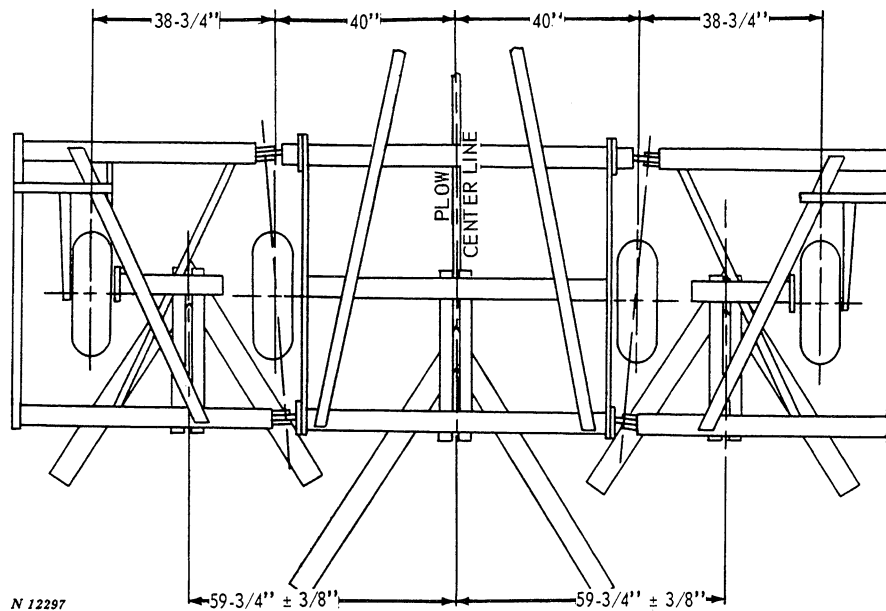
164 Chisel Plow (14-foot) with TE194 Tool Equipment
Three 6-Foot Blades - 66-Inch Spacing

164FH CHISEL PLOW WITH FLAT SPRING STANDARDS OR FLAT CUSHION-SPRING STANDARDS



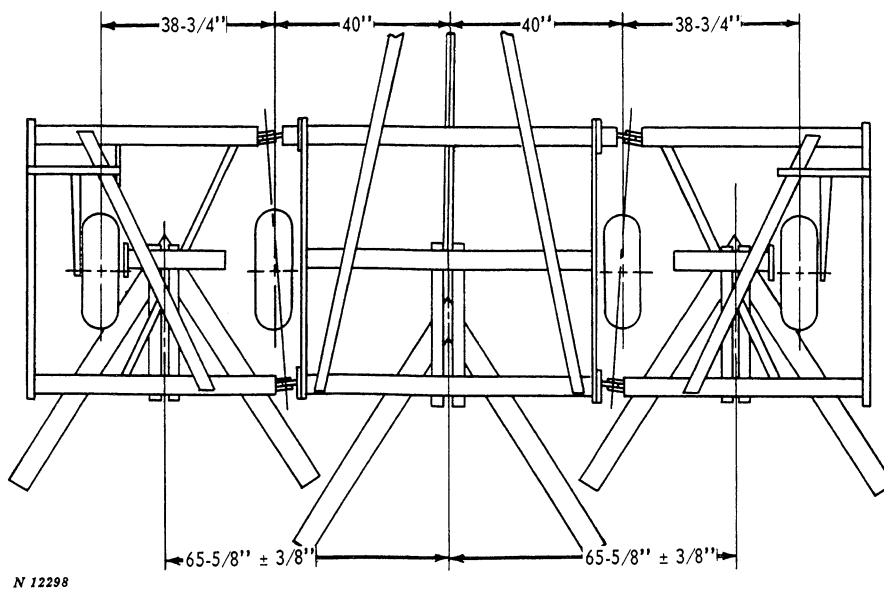
164FH Chisel Plow (14-foot) with TE69 or TE73 Tool Equipment
14 Standards - 12-Inch Spacing

164FH CHISEL PLOW WITH WIDE BLADE SWEEPS—ONE 6-FOOT AND TWO 5-FOOT BLADES



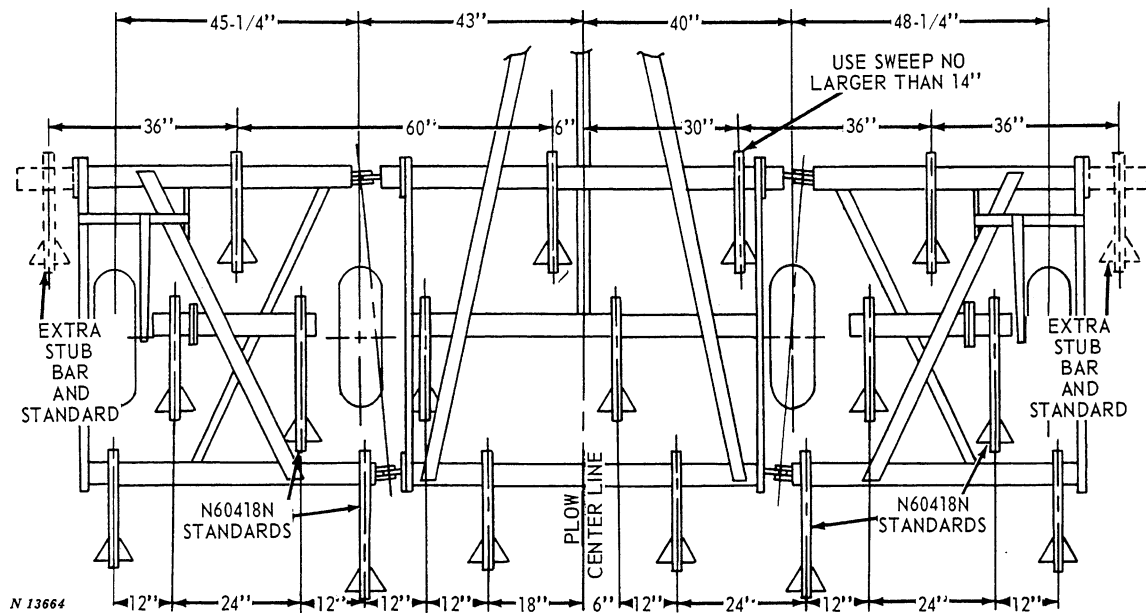
164FH Chisel Plow (14-foot) with TE193 Tool Equipment
One 6-Foot and Two 5-Foot Blades - 59-3/4-Inch Spacing

164FH CHISEL PLOW WITH WIDE BLADE SWEEPS—THREE 6-FOOT BLADES



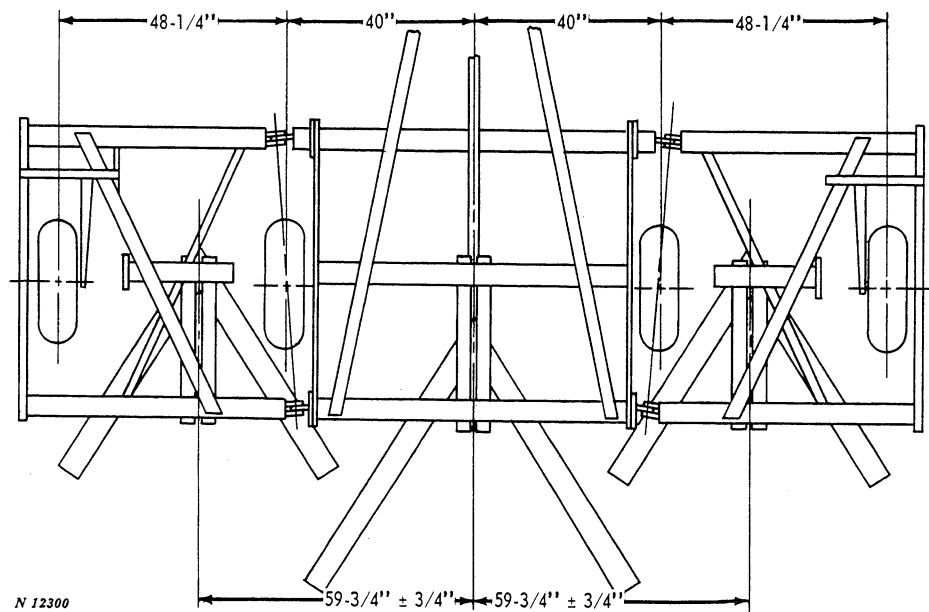
164FH Chisel Plow (14-foot) with TE194 Tool Equipment
Three 6-Foot Blades - 65-5/8-Inch Spacing

166FH CHISEL PLOW WITH FLAT SPRING STANDARDS OR FLAT CUSHION-SPRING STANDARDS



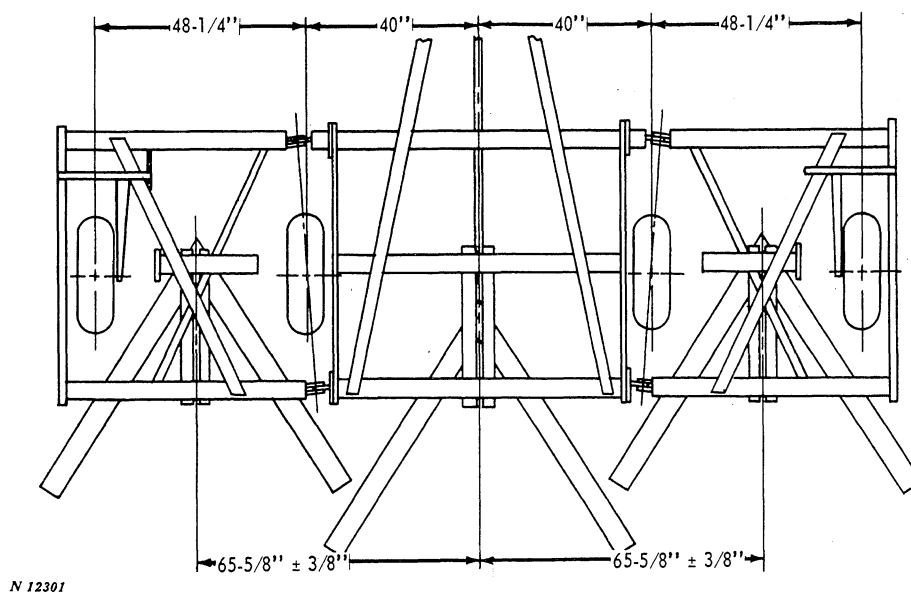
166FH Chisel Plow (16-foot) with TE181 or TE182 Tool Equipment
16 Standards - 12-Inch Spacing

166FH CHISEL PLOW WITH WIDE BLADE SWEEPS—ONE 6-FOOT AND TWO 5-FOOT BLADES



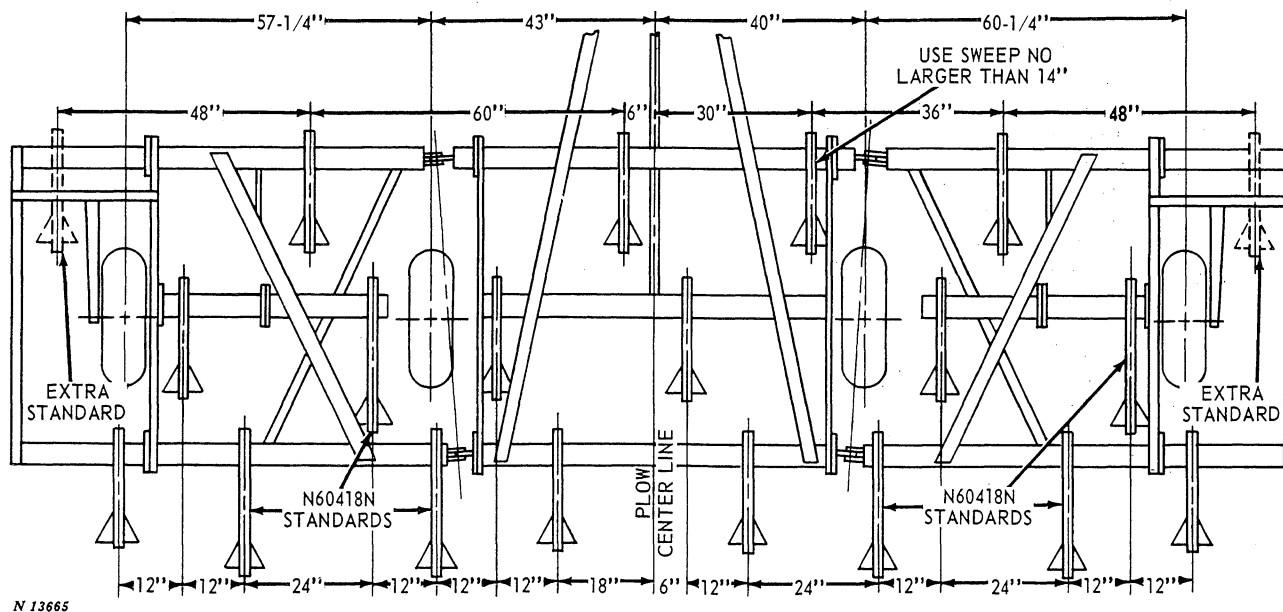
166FH Chisel Plow (16-foot) with TE193 Tool Equipment
One 6-Foot and Two 5-Foot Blades - 59-3/4-Inch Spacing

166FH CHISEL PLOW WITH WIDE BLADE SWEEPS—THREE 6-FOOT BLADES



166FH Chisel Plow (16-foot) with TE194 Tool Equipment
Three 6-Foot Blades - 66-5/8-Inch Spacing

168FH CHISEL PLOW WITH FLAT SPRING STANDARDS OR FLAT CUSHION-SPRING STANDARDS



168FH Chisel Plow (18-foot) with TE183 or TE184 Tool Equipment
18 Standards - 12-Inch Spacing

170FH CHISEL PLOW WITH FLAT STANDARDS OR FLAT CUSHION-SPRING STANDARDS

SPECIFICATIONS

MODELS

100 Series Rigid Chisel Plow*

- 110 - 10-Foot Chisel Plow
- 112 - 12-Foot Chisel Plow
- 114 - 14-Foot Chisel Plow
- 116 - 16-Foot Chisel Plow

**High Clearance Rockshaft - Optional Equipment*

150 Series Rigid Chisel Plow

- 158 - 8-Foot Chisel Plow
- 160 - 10-Foot Chisel Plow
- 162 - 12-Foot Chisel Plow
- 164 - 14-Foot Chisel Plow

100FH Series Flexible Chisel Plow

- 116FH - 16-Foot Flexible Chisel Plow
- 118FH - 18-Foot Flexible Chisel Plow
- 120FH - 20-Foot Flexible Chisel Plow
- 122FH - 22-Foot Flexible Chisel Plow
- 124FH - 24-Foot Flexible Chisel Plow

150FH Series Flexible Chisel Plow

- 164FH - 14-Foot Flexible Chisel Plow
- 166FH - 16-Foot Flexible Chisel Plow
- 168FH - 18-Foot Flexible Chisel Plow
- 170FH - 20-Foot Flexible Chisel Plow
- 172FH - 22-Foot Flexible Chisel Plow

HYDRAULIC CYLINDER REQUIREMENTS

100 and 150 Series Chisel Plows

One 8-inch stroke remote hydraulic cylinder required.

100FH and 150FH Series Chisel Plows

For tractors with high pressure (approximately 2000 psi) hydraulic systems, the 100FH or 150FH Chisel Plow is regularly equipped with three hydraulic cylinders. A 3-1/4 x 8-inch cylinder is used on the right-hand outrigger, a 3 x 8-inch cylinder is used on the left-hand outrigger, and a 3-1/2 x 8-inch cylinder with depth control stop is used on the center rockshaft. The 3-1/2 x 8-inch cylinder with depth control stop, raises, lowers, and controls depth of the entire chisel plow.

For tractors with low pressure (approximately 1000 psi) hydraulic systems, optional hydraulic cylinders are available. See the shipping bundles on pages 22 and 26.

(Specifications and design subject to change without notice).

FRAME

One basic center frame and hitch section is used for all models. On the 100 and 150 Series, Rigid Chisel Plow, frame extensions are bolted to the center section to make the various models. On the 100FH and 150FH Series, Flexible Chisel Plow, two outriggers and frame extensions make up the various models.

STANDARDS

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

Sub-surface Standards for 30- and 36-inch sweeps on 110, 112, 114, 116, 116FH, 118FH, 124FH, 164 and 166 Chisel Plows.

TOOTH PATTERNS

Diagonal or split pattern.

CENTER FRAME WHEEL TREAD

80 or 83 inches, center-to-center for 150 and 150FH Chisel Plows.

105 or 108 inches, center-to-center for 100 and 100FH Chisel Plows.

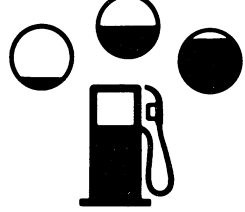
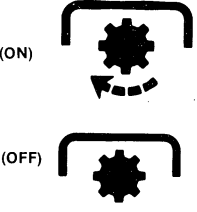
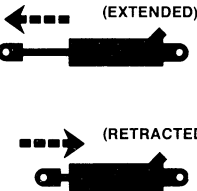
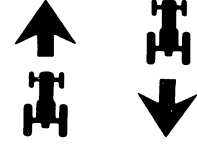
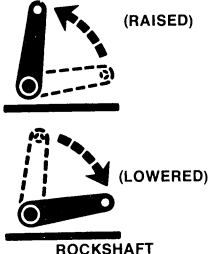
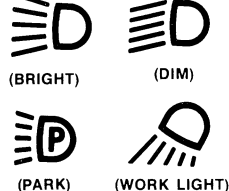
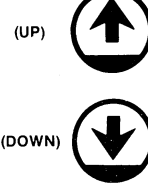
WHEELS

15-inch disk wheels (for 6.70 x 15, 7.60 x 15, or 8.00 x 15 tires).

Heavy-duty anti-friction wheel bearings are used in each wheel.

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	ROCKSHAFT
				
LIGHTS	WINDSHIELD WIPER	WINDSHIELD DEFROSTER	IMPLEMENT MOVEMENT	CIGAR LIGHTER
				
HORN	ROCKSHAFT LOAD AND DEPTH CONTROL		GREASE FREQUENCY	OIL TYPE AND FREQUENCY

