

120 CORN SNAPPER



OPERATORS MANUAL

120
CORN SNAPPER

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ENGLISH



To the purchaser

This manual contains useful information on how to operate your new John Deere 120 Corn Snapper.

A corn snapper must be built to handle a wide range of conditions. Average conditions can be handled by the 120 Snapper with regular equipment. Unusual conditions can be handled by installing special equipment.

Field conditions vary from year to year, from day to day, and even from hour to hour. Different varieties of corn present widely different snapping problems. A careful study of the adjustments on your corn snapper and what they accomplish will allow you to do a good job under varied operating conditions.

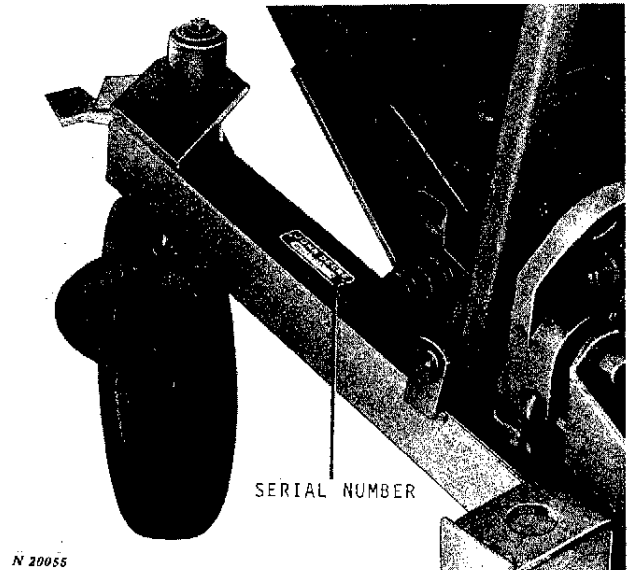
Your new snapper will do quality work in direct proportion to the care you use in operating and servicing it. Follow the instructions in this manual.

If you need information not covered in this manual, see your John Deere dealer. He has the latest information on how to get the best service from your machine and can give you prompt service in the field or in his shop.

When in need of parts, go to your John Deere dealer. He carries genuine John Deere parts for your 120 Corn Snapper.

Be prepared to give him the serial number of your machine and the year purchased. This information should be recorded below as soon as you have received your new corn snapper.

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



Serial Number

Date Purchased



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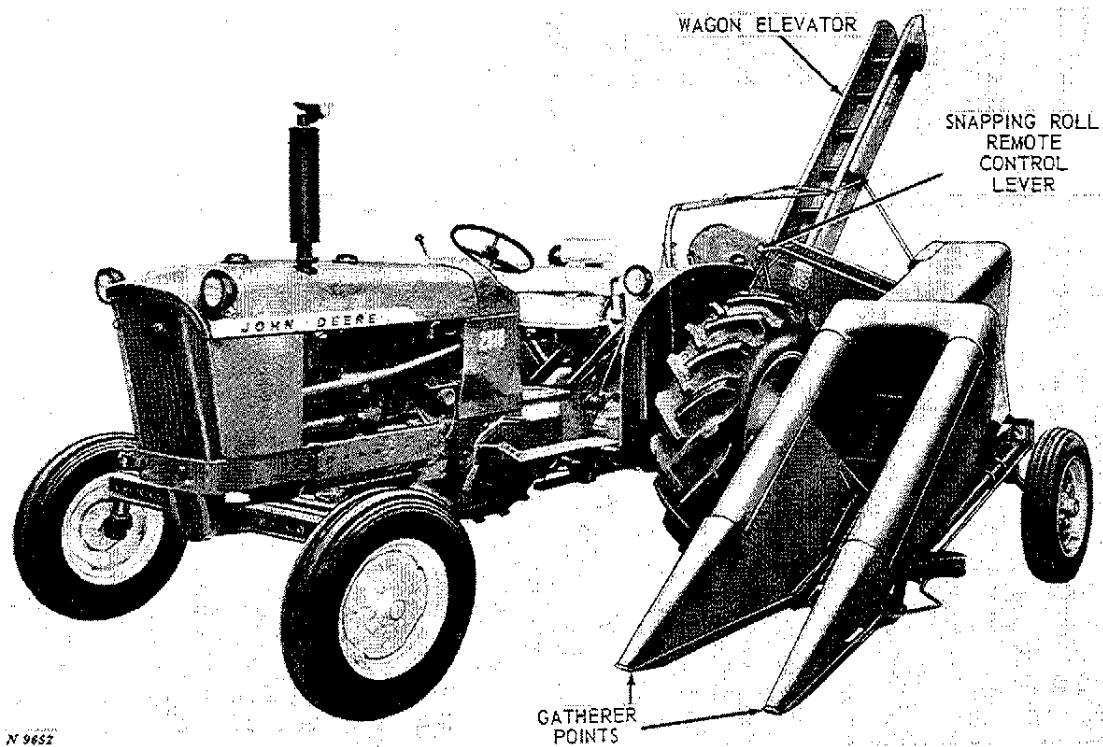
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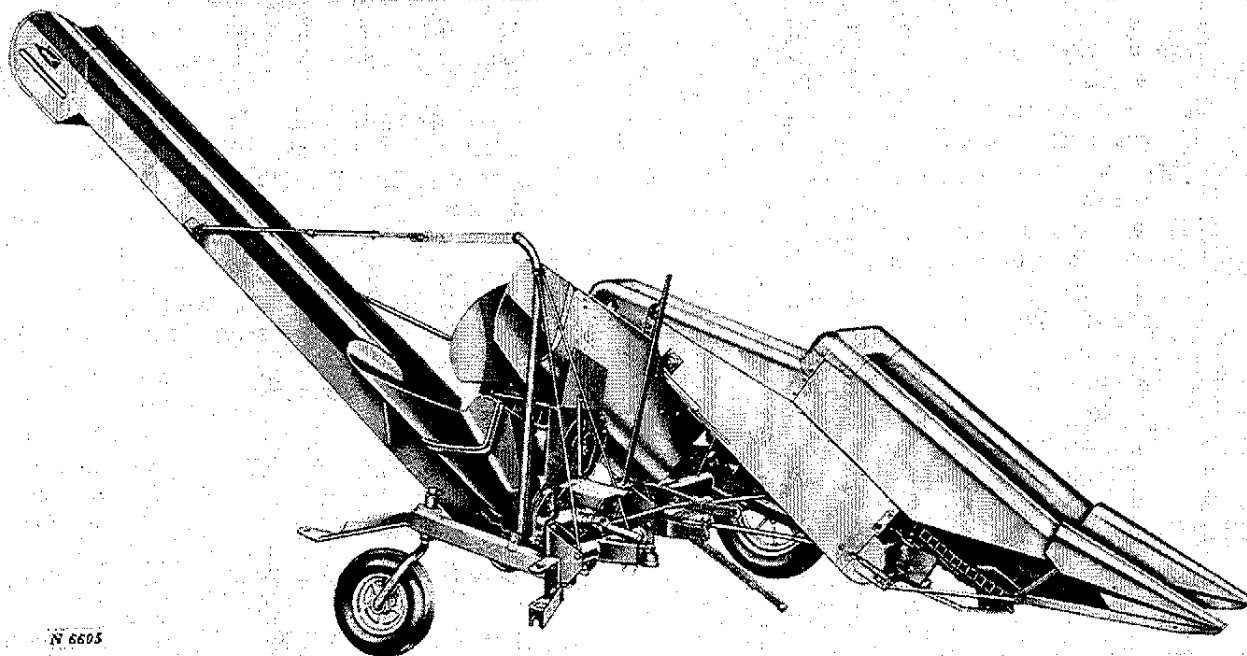
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John Deere 120 Corn Snapper and 2010 Row-Crop Utility Tractor



John Deere 120 Corn Snapper



specifications

Type

One-row, left-hand machine.

Tractors used

John Deere 1010, 1020, 1520, 2010, 2020, 2510, 2520, 3010, 3020, 4010, 4020 and older tractors. Most models of Allis Chalmers, Farmall, Ford and Ferguson Tractors.

Drive

540 or 1000 rpm PTO

Snapping rolls

Spiral type with aggressive cams at rear, 41 inches long.

Gatherer points

Adjustable, hinged above gathering chains.

Gatherer chains

Two steel link chains, enter gatherer throat opening 12 inches ahead of snapping roll points.

Tire size

5.50 x 16 Carrier wheel, 4.00 x 8 Caster wheel.

Dimensions

Minimum clearance between gatherer chains and ground—0 inch.

First elevator—8-1/2 inches wide.

Wagon elevator—7-1/2 inches deep,
8-1/4 to 10-1/4 inches wide,
17 feet 9 inches long.

Over-all transport width—10 feet 6 inches.

Over-all snapper width—8 feet 8 inches.

Wagon elevator height—About 9 feet.

Special equipment

Gatherer fender sticks

Flareboards for wagon

Gatherer extensions

1000 RPM conversion parts

Remote adjustment for snapping rolls

(Specifications and design subject to change without notice.)



operation

Instructions for operating your corn snapper are included in this operator's manual. Follow these instructions to obtain maximum efficiency and long life from your machine.

Breaking in the new snapper

1. Attach snapper to tractor as instructed on pages 33-55.
2. Go over the entire machine and check for loose bolts. A loose bolt may cause undue wear and result in replacement of parts.
3. Inspect all chains for proper tension (see pages 13 and 14).
4. Make sure slip clutches will slip. See page 13 for recommended spring compression.
5. Lubricate entire machine. See pages 16 to 19.
6. Run a new snapper at a slow speed for 10 minutes. After the 10 minute period go over the entire machine, and check for loose bolts and heating bearings. Increase the tractor engine speed to the recommended operating speed for 30 minutes. Check the snapper frequently during this breaking in period.

In the field

Successful operation, maximum saving of corn, quality work, and the length of life of your corn snapper depend largely on thorough lubrication, proper adjustment of all chains and slip clutches, and making the best use of the adjustments that are provided to meet varying crop conditions.

We recommend snapping early to avoid the troubles and disagreeable features that accompany dried out, rotten cornstalks and fallen ears.

The snapper should travel in the same direction as the field was last cultivated. Listen for slipping clutches and watch for deep furrows, rocks, or other obstructions that might damage the machine.

Drive the tractor carefully so the gatherer points will follow the row and guide the cornstalks gently into the gatherer throat opening. Most of the ear corn loss in the field is caused by an operator who doesn't stay on the row. Raise the gatherers when making sharp turns and crossing the end of the field.

Never use a cornstalk or stick to clean the snapping rolls of an obstruction while the picker is running. If the snapper becomes clogged, stop the tractor engine before removing the stalks or other obstructions from the machine.

Tractor engine-PTO speed

The 120 Corn Snapper may be equipped to operate by either a 540 or 1000 rpm tractor PTO shaft. Be sure powershaft speed of tractor and snapper are the same (tractor 540 rpm and snapper 540 rpm). Serious damage may result to the machines if the rpm ratings are not the same.

On 1010, 1020, 1520, 2010, 2020, 2510, 2520, 3010, 3020, 4010, and 4020 Tractors, the engine speed must be 1900 rpm to obtain the proper PTO speed. See your tractor operator's manual for instructions.

On 530, 630, 730, 320, 420, 520, 620, 720, A, B, and G Tractors, push the throttle to the extreme forward position. See your tractor operator's manual for instructions on setting the tractor governor for proper PTO speed.

Ground speed

The maximum ground speed should be governed so the stalks pass through the snapping rolls at about the same rate as the forward travel of the machine.

Determine whether ground speed is too fast by examining the snapped rows. If the stalks are all bent forward and some have been partially pulled out of the ground, the ground speed is too fast and you should shift your tractor into a lower gear.

Generally the snapper will do a better job of snapping ears off the stalk when the machine is driven slowly (1st or 2nd gear). It is also easier to keep on the row and reduce ear loss when driving at a slow ground speed.

However, when corn is dryer than usual (or yield is light) the snapper will do a better job if the tractor speed is increased to third or fourth gear.

Making adjustments

Take pride in doing the best work possible under all conditions. Set the gatherers and snapping rolls to meet field conditions.

If trouble is experienced, determine where it exists before making adjustments.

Never leave the tractor seat while the machine is running. Be sure to disengage PTO and stop the tractor engine. Keep hands and clothing away from moving parts.

Fire safety

In dry corn picking seasons use extra care to prevent fires. Carry a fire extinguisher, at all times, as a precautionary measure, and keep it in a place that is handy to the tractor seat.

Keep the tractor radiator core free from fine corn husks and silks. When the core becomes filled with fine material it causes overheating of the engine.

Field losses

As the season progresses, field losses will increase. The corn dries out causing more shelling, and stalks become brittle causing more ear drop.

However, these losses can be reduced to a minimum by keeping your machine in proper adjustment, following the row carefully, and operating at the proper speed to meet crop and field conditions.

Estimating shelled corn loss

Count the number of kernels around a hill in a square 40 by 40 inches. Make a count several places in the field and average the count.

If you find an average of 20 kernels per square you are losing one bushel per acre; 80 kernels per square would mean a loss of four bushels per acre.

Be sure to clear away all husks and leaves and shake any remaining kernels from husks.

Estimating ear corn loss

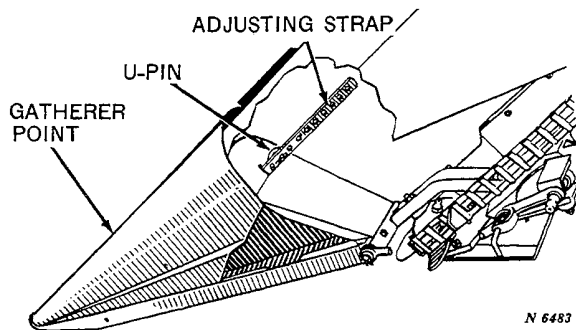
Mark off 133 feet (about 43 normal walking steps for a man) along one row. Each good sized ear (about 3/4 pound) represents one bushel of ear corn lost per acre.

Make the test several places throughout the field for a more accurate check. Be sure to kick the husks and stalks to avoid missing ears that are hidden.

To get the most accurate check on the efficiency of your snapper, estimate the ear corn loss before as well as during and after the field has been snapped. Some ears of corn drop off the stalks before harvest.

Gatherers

Gatherer points



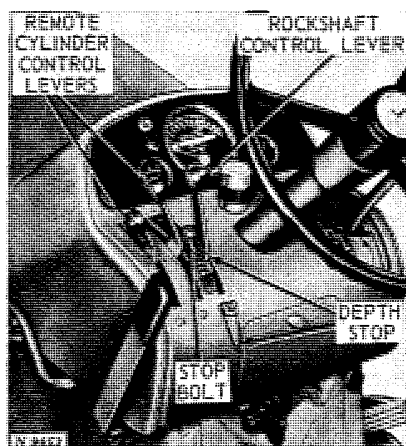
The gatherer points are hinged to follow the contour of the ground. They also can be raised, and locked in any of a number of positions with the adjusting strap.

When operating, have the gatherer points just touching the ground so they can pick up down stalks.

In muddy conditions, raise the gatherer points and lock them high enough to prevent the points from scooping material into the throat opening.

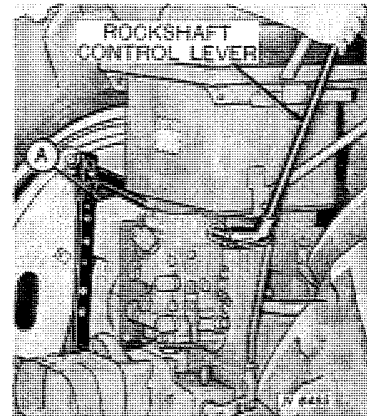
Tilting gatherers

The range of tilt is regulated by the rockshaft control lever on the tractor and a series of holes in the lift linkage.



The gathering points should never be raised more than 14 inches above the ground, or the lifting mechanism of the snapper will be damaged.

When the gatherer points are at the maximum 14-inch height and all adjustment holes in the linkage strap have been used there will still be room left, on most tractors, for forward movement of the rockshaft control lever in the quadrant. A stop bolt should be installed within the quadrant to insure that the maximum gathering point height will not exceed the 14-inch ground clearance.



On tractors where the control lever is beside the seat the rockshaft should be fully engaged when the gatherer points are 14 inches above the ground, if they are not, adjust the lift linkage by changing holes "A."

Hand tilt

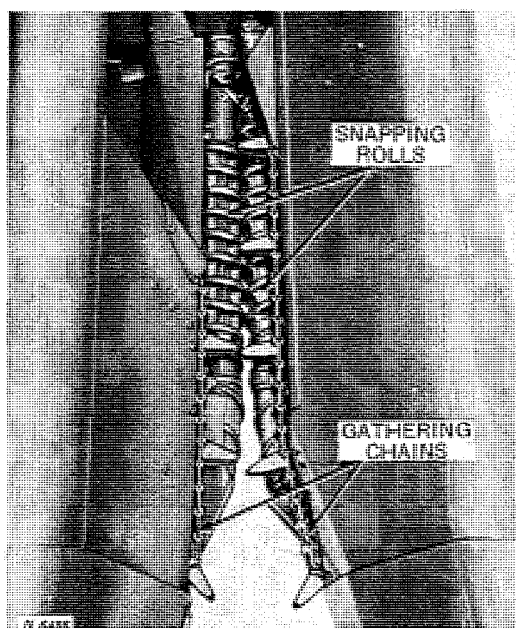
Set the range of the tilting lever for the convenience of the operator by moving the lift linkage on the lift arm to the desired hole.

Gatherer chains

The gatherer chains run well beyond the points of the snapping rolls. The chains can be run touching the ground, if necessary, to bring low hanging ears and down stalks into the gatherers.

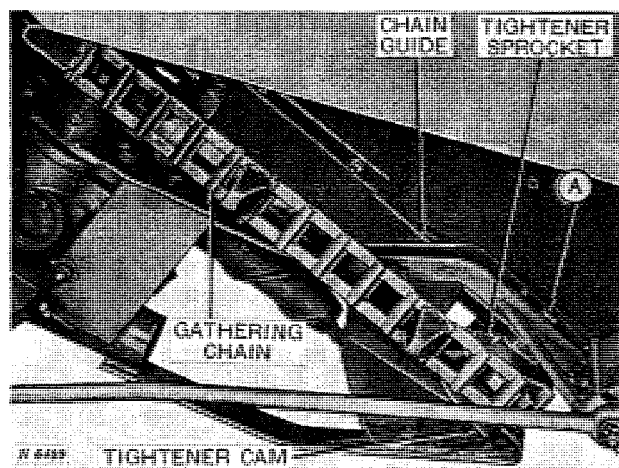
CAUTION: Be careful to avoid rocks and other obstructions in the row when running gatherers close to the ground.

The gatherer chains should be cleaned regularly with kerosene. Dry the chains and oil them thoroughly before using. Lubricate the chains as described on page 16.



It is important that the tension of the gatherer chains is adjusted properly. Check tension of the chains at least twice a day. After the corn snapper is thoroughly broken in, check the tension of the chains daily.

Adjusting gatherer chains



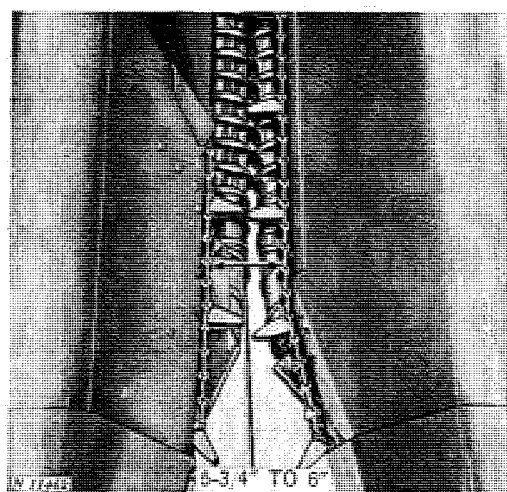
The gatherer chains should be adjusted so they will have a 1-inch deflection when pulled away from the guide plates. Chains that are too tight or too loose will cause excessive wear on the guide plates and sprockets.

To adjust the tension on the chains, loosen nut "A" on the tightener sprocket bolt. Tap on the flat edge of the tightener cam to tighten the chain. Tap on the rounded edge to loosen the chain.

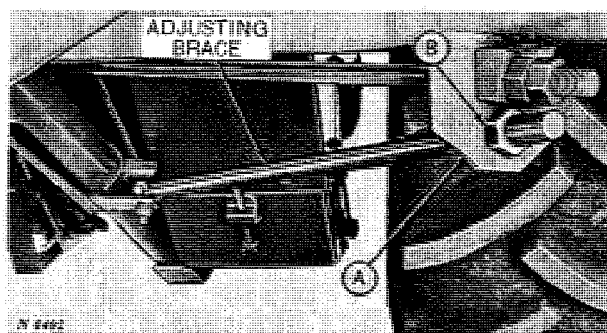
Chain guide

The chain guides can be adjusted to push the gatherer chains farther out into the row, for more aggressive gathering, or pull them back for less aggressive action.

Gatherer throat opening



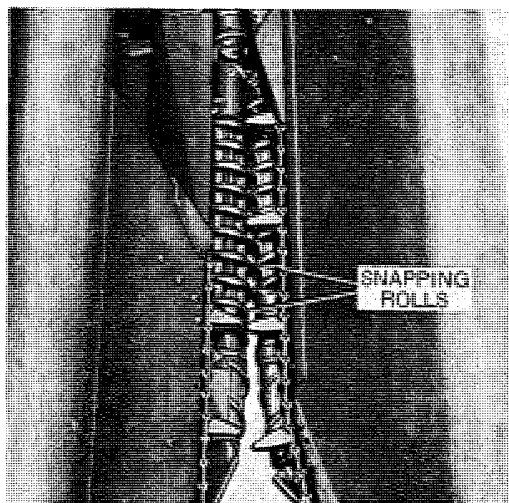
The gatherer throat opening should be 5-3/4 to 6 inches. The distance is measured between the gathering chain guides as shown above.



To increase the gatherer throat opening, loosen nut "A" and thread nut "B" farther onto the adjusting brace rod. To decrease the opening, loosen nut "B" and thread nut "A" farther off the adjusting brace rod.

Be sure both nuts are locked tightly to maintain the adjustment.

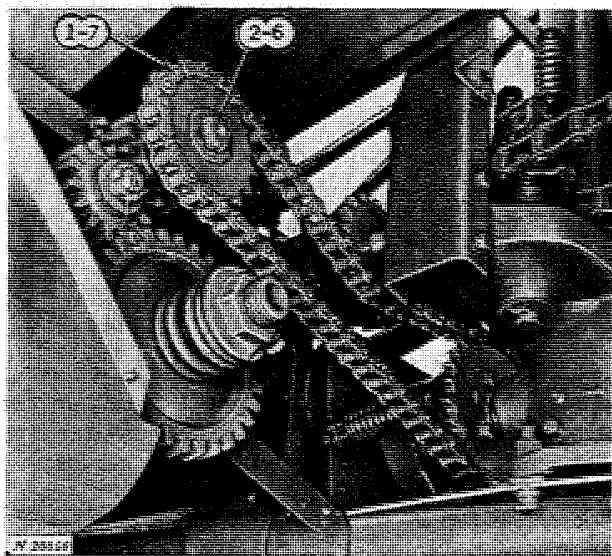
Snapping rolls



The snapping rolls snap the ears of corn off the stalk eliminating the stalks and trash. Snapping roll spirals auger the corn up the rolls. Flutes between the spirals pull the stalks through the snapping rolls and snap off the ears.

Keeping the snapping rolls as close together as possible reduces field-shelled corn loss to a minimum and maintains the aggressive action of the rolls. If excessive stalk breakage occurs the rolls may require a wider roll relationship. Field losses increase as the picking season progresses and the corn and stalks become brittle, and sensitive to the aggressive action of the rolls. Losses can be reduced to a minimum if snapping rolls are properly adjusted and timed and checked frequently.

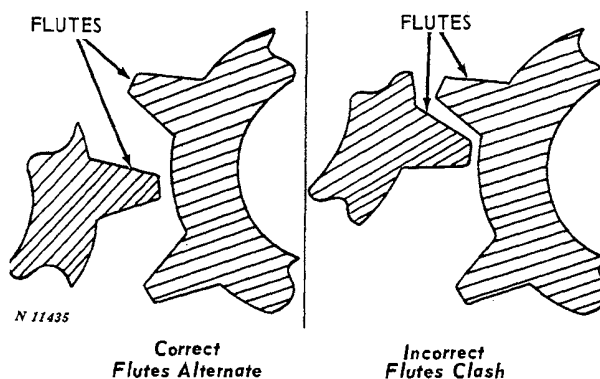
Timing snapping rolls



1. Disconnect drive chain.

2. Remove snapping roll spur gear.

3. Time cam barrel (upper roll section) by rotating rolls so there is no lug interference; each rotates freely without striking the opposite one.



4. At the midway point of the two rolls, time the flutes so the flute of one roll is centered between the flutes of the other roll.

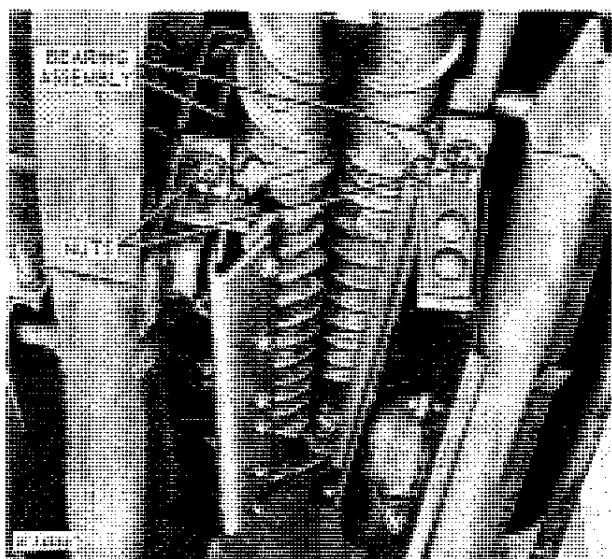
CAUTION: Never time rolls so the flutes cross each other.

5. Time spirals by sliding the spiral of one roll to the approximate midpoint (+ or - 1/8 inch) between the two spirals on the opposite snapping roll. Do not disturb the first two timing relationships. This adjustment may require moving the bearing bracket at the lower end of the inner snapping roll, utilizing the slots provided. There must be clearance, however, between the bearing bracket and the snap roll and snap roll point. Washers may be added or removed between the spur gear and thrust bearing to maintain the timed relationship.

6. Replace snapping roll spur gear.

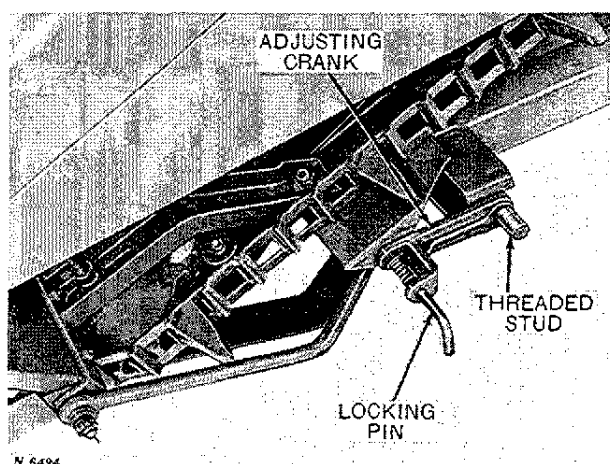
7. Assemble drive chain.

Snapping roll bearings



Periodically, check the nuts on the bolts through the snap roll bearing assembly. These nuts should be tight at all times. If necessary, remove the cotter pin and tighten each nut to 50 ft-lbs torque. Reinstall the cotter pin.

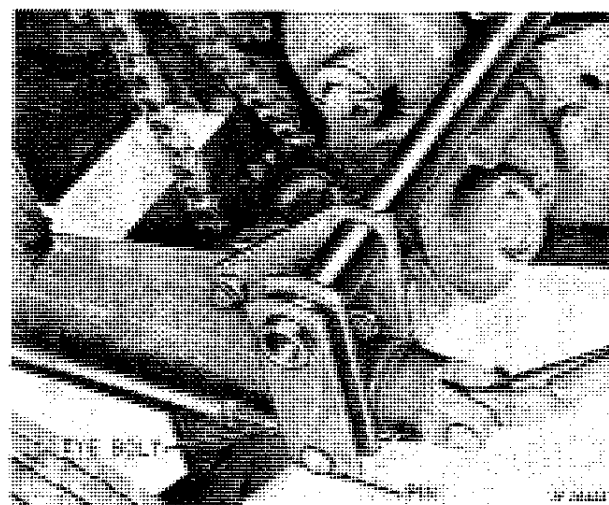
Adjusting snapping roll spacing



To adjust the snapping roll spacing, release the locking pin and turn the crank clockwise to increase the distance between the rolls or counter-clockwise to decrease the distance.

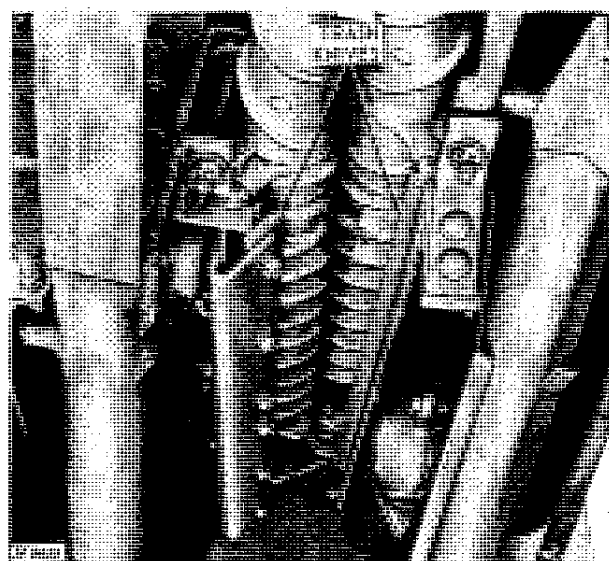
After the adjustment is made, make sure the locking pin is secured in the hole in the bracket. Keep the threaded stud well oiled.

Adjusting snapping roll remote control lever



Adjust the lever so it is convenient to operate from the tractor seat. To change the position of the lever in the quadrant, pull the pin in the cross shaft arms and adjust the eyebolt until the lever is set in the desired position.

Trash knives

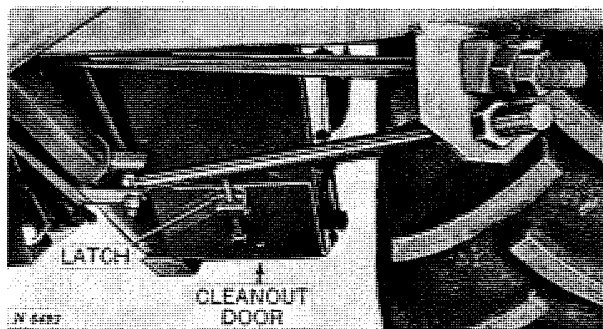


Trash knives are located beneath the snapping rolls to keep weeds and trash from wrapping around the rolls.

The knives should be adjusted as close as possible to the snapping rolls, however the rolls should not strike the knives. For adjustment utilize the slots located in each knife support.

First elevator

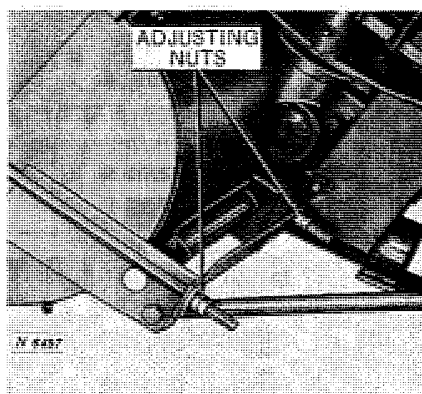
Clean-out door



A clean-out door for removing trash is located at the lower end of the first elevator. In freezing or rainy weather, the elevator should be cleaned at the end of each day, and this door left open when the snapper is not in use.

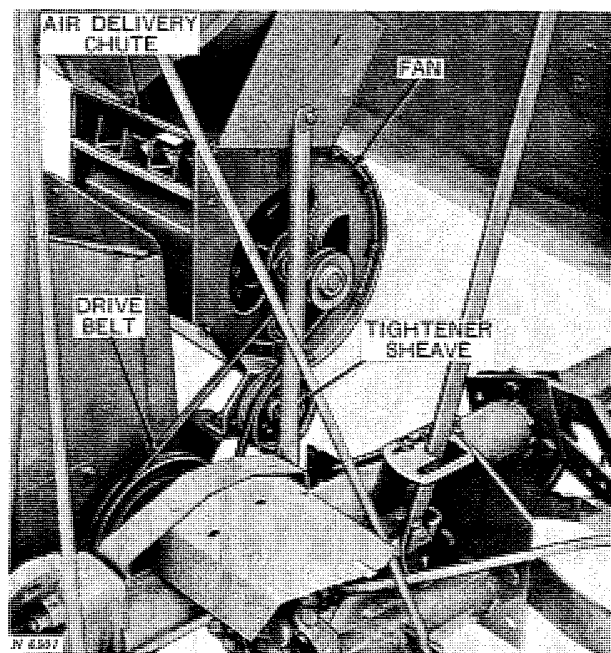
Elevator chain

The first elevator carries the corn from the snapping rolls to the ear conveyor auger. The tension on the conveyor chain should be kept adjusted so the middle of the chain can be raised approximately 1-3/4 inches from the bottom of the elevator.



Turn the adjusting nuts farther on the bolts to tighten the chain. Back the nuts off to loosen the chain.

Cleaning fan

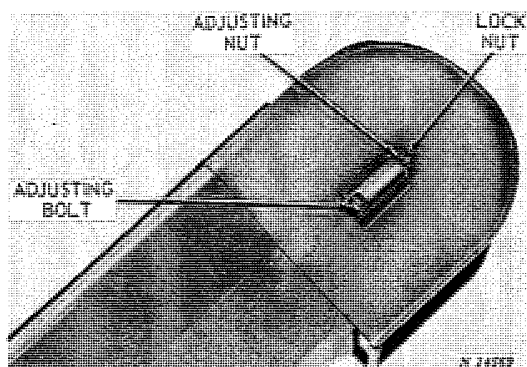


The blast of air from the cleaning fan removes silk and loose husks or trash from the corn as it falls from the conveyor auger into the wagon elevator hopper.

Be sure to keep the drive belt tight enough so it does not slip. Adjust the belt tension with the tightener sheave.

Wagon elevator

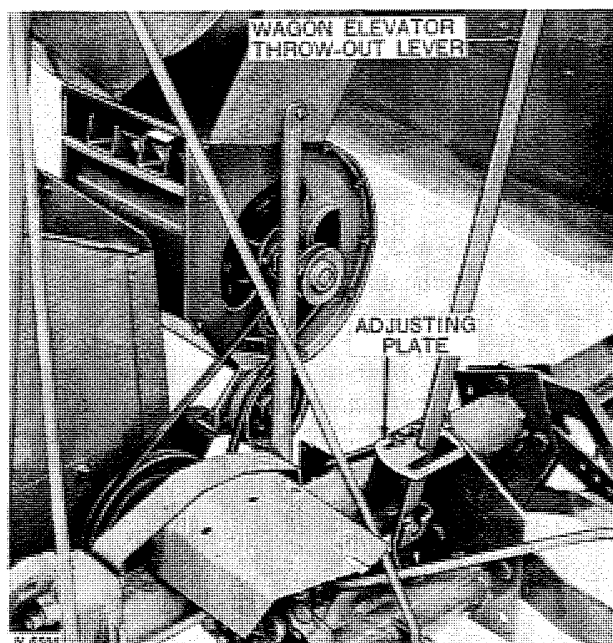
Adjusting conveyor chain



Keep the wagon elevator conveyor chain just tight enough to elevate corn. Chain has proper tension when the center of the chain can be raised about 3 inches from the bottom of the elevator.

To adjust the chain, loosen the lock nut. Turn the adjusting nut on both sides of the elevator until chain has proper tension. Tighten the lock nut.

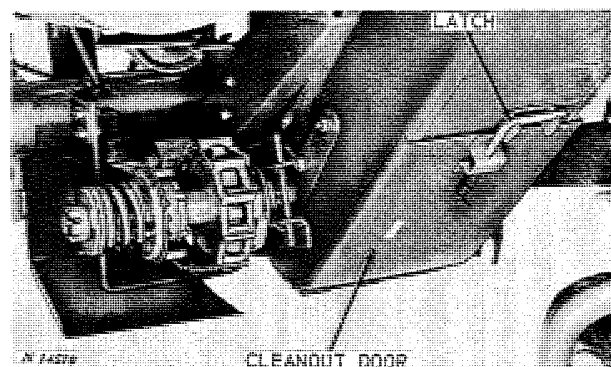
Elevator throw-out clutch



The wagon elevator is equipped with a throw-out clutch so the elevator conveyor chain can be disengaged when turning at row ends.

Position the adjusting plate so the clutch jaws are completely disengaged when the lever is in the position shown. However, the jaws must be completely engaged when the lever is in the engaged position.

Clean-out door



The wagon elevator has a clean-out door at the lower end. In freezing or rainy weather, the elevator should be cleaned and the door left open when the snapper is not in use.



Suggest:

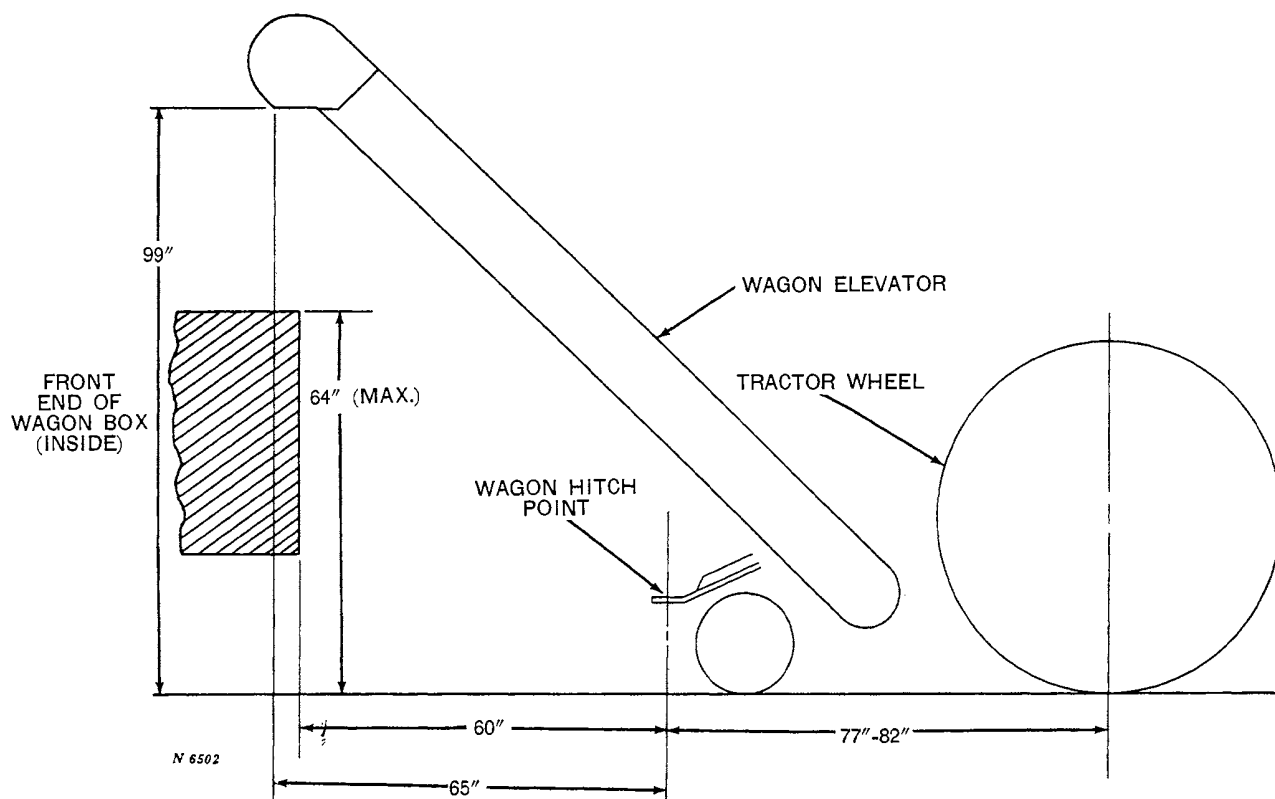
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12 operation

Height of elevator



It is important that the elevator have the correct angle of elevation to elevate the corn properly.

Use the above illustration as a guide to adjusting the elevator to the proper height.

Rubber tires

One 5.50 x 16—14 ply—rib implement tire is used on the left-hand side of the snapper. Correct inflation pressure is 28 psi.

One 4.00 x 8—4 ply—tire is used on the caster wheel of the snapper carriage. Correct inflation pressure is 28 psi.

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

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