

277 Corn Picker and 227-S Corn Snapper (Serial No. 277-55000)



OPERATORS MANUAL

**277 Corn Picker and 227-S Corn
Snapper (Serial No. 277-55000)**

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ENGLISH



TO THE PURCHASER

The purpose of this book is to give you useful information on how to operate your new John Deere 227 Corn Picker or 227-S Corn Snapper in the many field and crop conditions under which corn is grown.

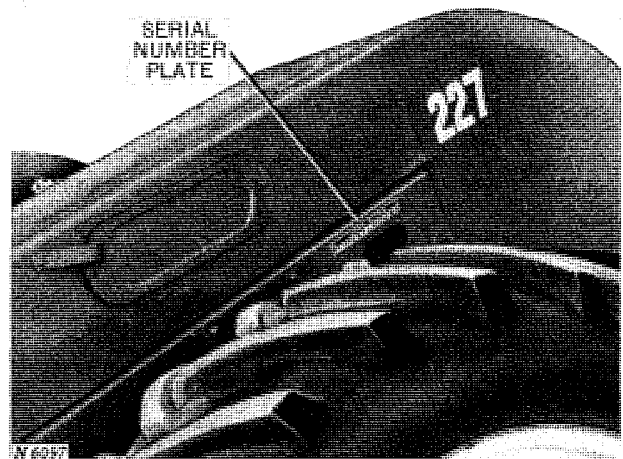
A corn picker or corn snapper must be built to handle a wide range of conditions. Average conditions can be handled by the standard equipment with which the machine is shipped. However, unusual conditions may require some special equipment. Your new machine will do a type of work directly proportional to the amount of care you use in operating it.

Field conditions vary from year to year, from day to day and even from hour to hour. Different varieties of corn present widely different picking problems. A careful study of adjustments on your picker or snapper and what they accomplish under different conditions will allow you to reap the many benefits and economies that a picker or snapper can provide. This manual contains operational information for the corn picker as well as the corn snapper. If you have purchased a corn snapper, disregard any reference to the husking rolls, husk auger, etc.

Right-hand and left-hand references are determined by standing at the rear of the corn picker and facing in the direction of travel.

If you find 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 picker or snapper and can give you prompt "know-how" service in the field or in his shop.

When in need of parts, go to your John Deere dealer who carries genuine John Deere parts for your corn picker or corn snapper. Be sure to give him the serial number of your machine and the year purchased. This information should be recorded in the space provided on this page as soon as you have received your picker or snapper.



Model Number
Serial Number
Date Purchased

The Serial Number Plate is on the outside of the left-hand row unit as illustrated above.



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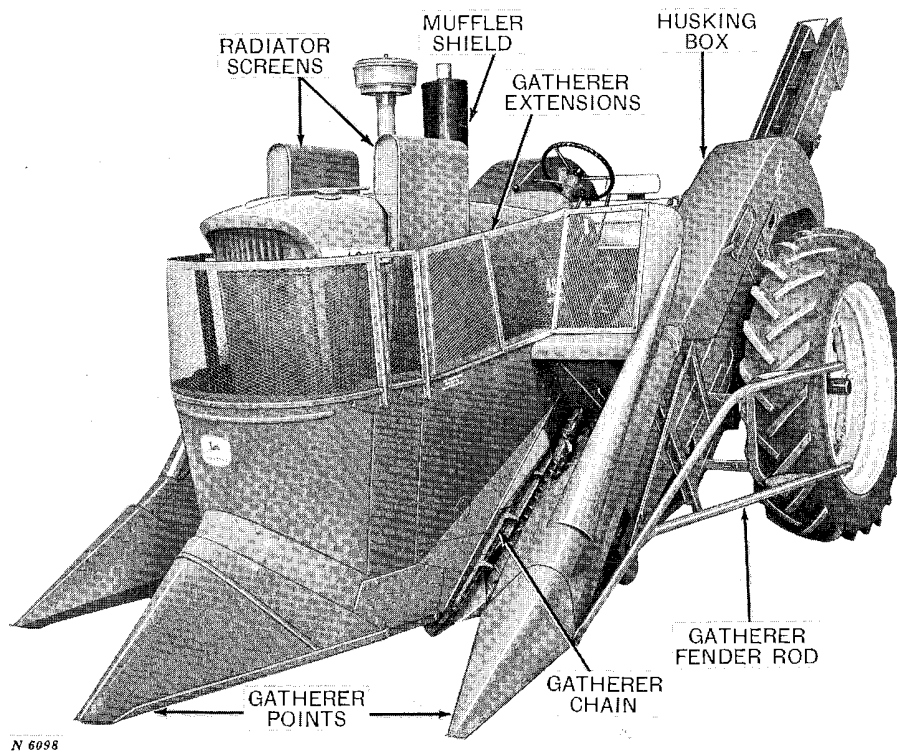
Hello dear friend!

Thank you very much for reading.

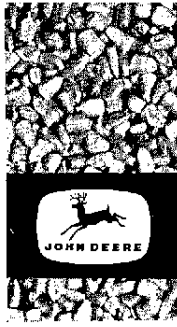
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John Deere 227 Corn Picker and 4010 Tractor



SPECIFICATIONS

TRACTORS

John Deere 2010, 3010, 4010, 530, 630, 730, 520, 620, 720, 50, 60, 70, and A Tractors.
Farmall 460, 560, 450, 400, 350, 300, Super M-TA, Super M and M Tractors.
Allis-Chalmers WD, WD45, D17 and D17 Diesel Tractors.
Massey-Harris 44 and 444 Tractors.
Tractor must be equipped to operate remote hydraulic cylinder.

CYLINDER

An 8-inch stroke, double acting ASAE standard hydraulic cylinder is required.

DRIVE

1000 rpm PTO on John Deere 2010, 3010, and 4010 Tractors.
540 or 1000 rpm PTO on other tractors.

SNAPPING ROLLS

Length, including points - 41 inches.
Center-to-center distance between snapping rolls - 39 to 41 inches.
Adjusted by operator from tractor seat.

GATHERER POINTS

Adjustable, hinged above gathering chains.
Lift at hinge point - 27 to 30 inches.

GATHERER CHAINS

Steel roller chain, 2 per snapping unit, enter gatherer throat opening 16 inches ahead of snapping roll points.
Clearance between gatherer chains and ground - zero inches and up.

ROW SPACING

Handle rows spaced - 38 to 44 inches.

WAGON ELEVATOR

Size - 8 inches deep - 9 to 12-3/4 inches wide.
Semi-automatic wagon elevator throw-out.
Two cleaning fans.

DIMENSIONS

Overall transport width - 8 feet, 4 inches.
First elevator - 6-1/2 to 10 inches wide.

SHIPPING WEIGHT

Picker with hook-up - 2950 lbs. (approximate).
Snapper with hook-up - 2725 lbs. (approximate).

CORN PICKER ONLY

HUSKING ROLLS

Size - 8 inches diameter - 36 inches long.
8 husking rolls (4 per row)
Type - spiral--grooved and notched rubber rolls.
Mating roll - smooth rubber.

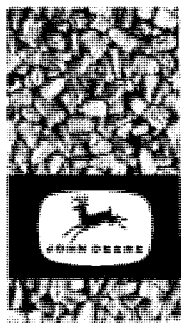
CORN SAVER

Auger type shelled corn saver.

ATTACHMENTS

Radiator screens for tractor.
Wagon elevator drive sprocket (19-tooth).
Gatherer fender rods.
Steel wagon box flare boards.
No. 1 trash mover.
Wood husking rolls.
Tire carcass type husking rolls.
Husking roll covers.
Gatherer extensions.
Wagon elevator extensions.
Wagon elevator cover.
Stalk lifter rods.
Square steel flights for first elevator.
Light support brackets.

(Specifications and design subject to change without notice.)



OPERATION

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

TRACTOR ENGINE PTO SPEED

The 227 Corn Picker or 227-S Corn Snapper is operated by the 1000 rpm PTO shaft on the John Deere 2010, 3010, and 4010 Tractors. The picker is operated by 540 or 1000 rpm PTO shaft on the other tractors.

On 2010, 3010, and 4010 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, 520, 620, 720, 50, 60, 70 and A Series 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.

IN THE FIELD

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

We recommended picking early to avoid the troubles and disagreeable features that accompany frozen ground, extremely cold weather, and dried-out, frozen, and rotten corn stalks.

The machine should travel in the same direction that 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 corn stalks gently into the gatherer throat opening. Most of

the ear loss in the field is caused by not staying on the row. Raise the units when making sharp turns and crossing the end of the field.

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

STARTING THE PICKER IN THE FIELD

Before putting your picker or snapper into the field for the first time, lubricate thoroughly and operate slowly for a time making sure all parts are working freely.

If there is no binding or heating, run the machine at full speed for a few minutes. Go over the entire machine to be sure all bolts are tight and lubricant is reaching all bearings. Check the tension on all chains.

GROUND SPEED

The maximum ground speed should be regulated 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 checking the rows that have been picked. 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 tractor into a lower gear.

Generally, the picker will do a better job of snapping ears off the stalk and removing husks when the picker is driven slowly (1st or 2nd gear). It is also easier to keep on the row and reduce ear loss when picking at a slow ground speed. However, when corn is dryer than usual (or yield is light) the picker will do a better job of picking 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 tilt the machine to pick up the down and leaning stalks. Set the snapping rolls so the corn is not mutilated or shelled excessively and to meet damp or dry conditions of corn.

Make sure the units are centered on the tractor.

If trouble is experienced, determine where it exists before making adjustments. Make no adjustments until the paint is worn off the slip clutches and working parts are smooth.

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

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 rows carefully, and picking at the proper speed according to yield 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.

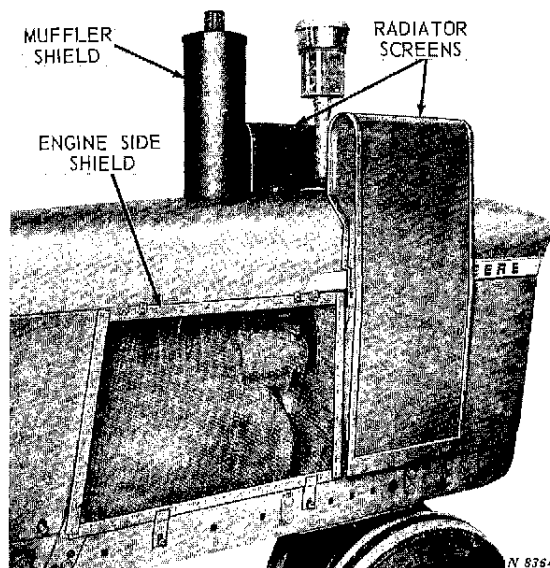
ESTIMATING EAR CORN LOSS

Mark off 133 feet (about 43 normal walking steps for an adult 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 picker, estimate the ear corn loss before as well as during and after the field is picked, because some ears drop off the stalks before harvest.

FIRE PREVENTION



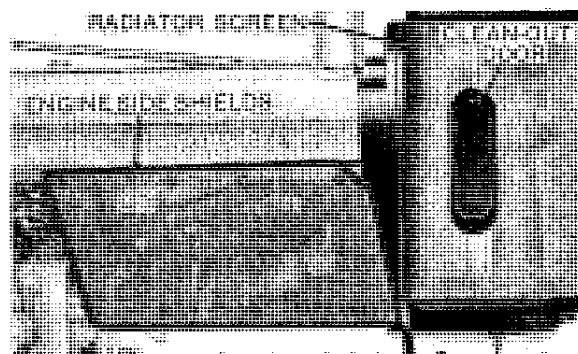
John Deere 4010 Tractor

In dry corn picking seasons use extra care to prevent fires. Carry a fire extinguisher as a precautionary measure, and keep it in a place that is handy from the operator's platform.

Radiator screens are required for all John Deere 2010, 3010, and 4010 Tractors. They are recommended for other tractors when the temperature is above 80 degrees or in conditions where there is excessive dirt or trash.

The muffler shield and engine side shields must be installed properly. An occasional check should be made to see if any fine material has accumulated on the engine.

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

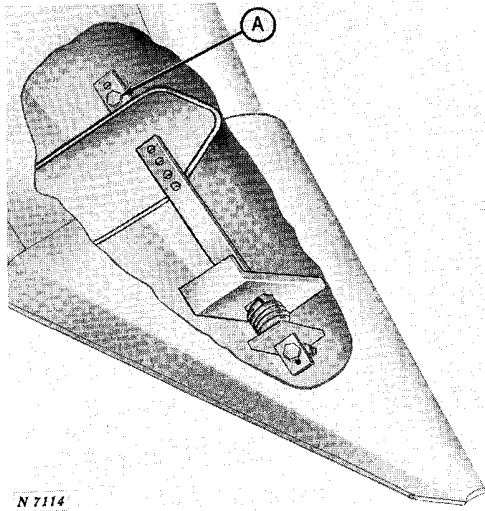


John Deere A Tractor

6 Operation

GATHERERS

GATHERER POINTS



The gatherer points are hinged to follow the contour of the ground. They can also be raised and locked at "A" in any of a number of positions.

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

Generally in fields where the corn is down, place the cap screw in the rear hole of the adjusting strap gatherer points.

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

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 being low hanging ears and down stalks into the snapping rolls.

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.

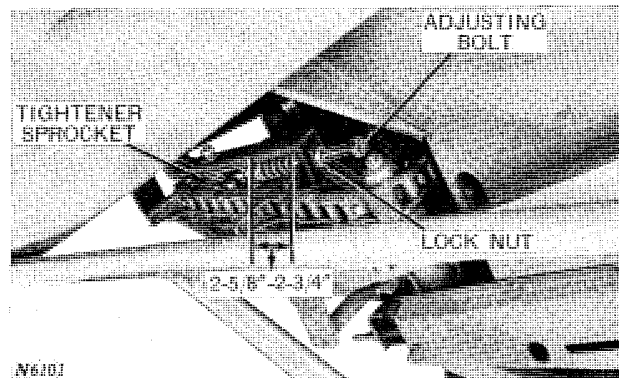
Lubricate the chains as described on page 19.

In well standing corn, the rearward movement of the gatherer chain flights should be a little faster than the forward movement of the

machine so the flights can help pull the stalks into the snapping rolls.

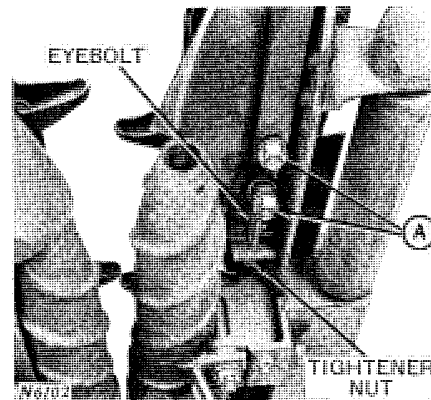
If ground speed is too fast, the chains push stalks forward and knock off the ears. If ground speed is too slow, the chains jerk the stalks back into the unit possibly breaking the stalks or knocking off the ears.

Adjusting Outer Gatherer Chain

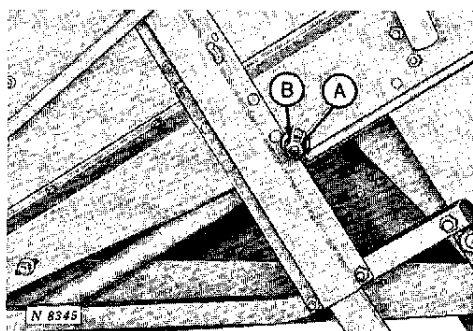
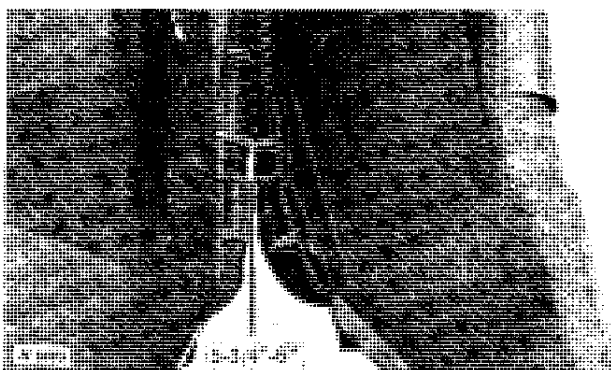


Loosen the lock nut, and turn the adjusting bolt until the spring length is 2-5/8 to 2-3/4 inches. Tighten the lock nut to maintain the proper tension. Check this setting daily.

Adjusting Inner Gatherer Chain

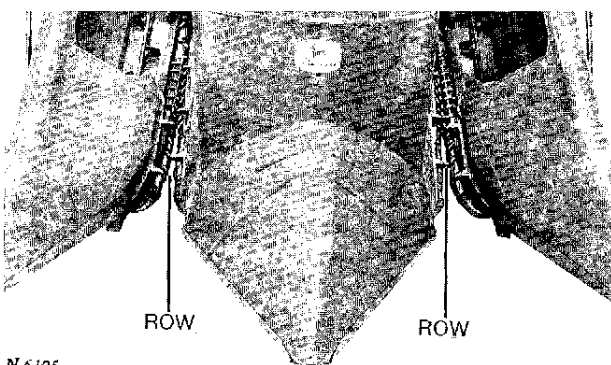


Loosen nuts "A." Tighten the nut on the eyebolt until there is slight tension on the chain and the tightener sprocket can move about 3/8-inch in the slot when the spring is put under greater compression. Be sure to tighten nuts "A" after chain is adjusted.

Gatherer Throat Opening

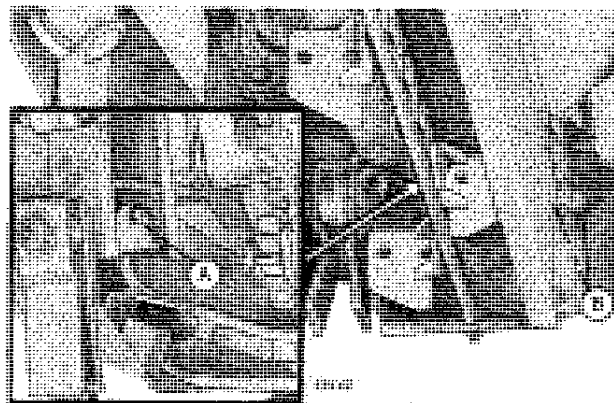
The gatherer throat opening should be between 5-3/4 and 6 inches wide. Measure from the edge of the gathering sheets as shown above.

To adjust opening, loosen lock nut "A." Tighten lock nut "B" to decrease the throat opening; loosen it to increase the opening. Tighten lock nut "A" after the adjustment is made.

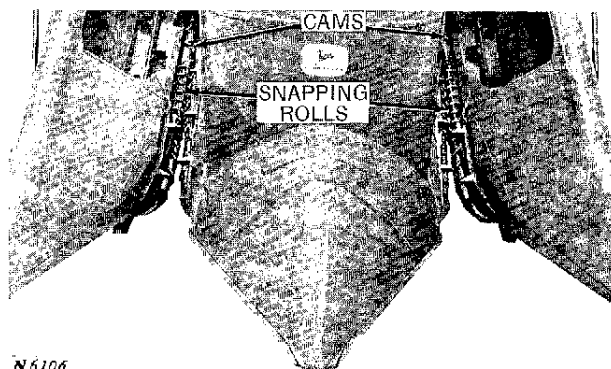
ROW SPACING

The spacing of the row units can be adjusted to harvest various row spacings. Under dry or frozen conditions, the row unit spacing should not vary more than two inches from the row spacing. Measure the row unit spacing between the inner snapping roll bearings.

Normally adjust the row units as close together as possible. However, make sure the inner gatherer chain does not strike the front wheels of the tractor when the row units are lowered. Also make sure the inner gatherer sheets do not strike the air intake screens when the row units are raised.



Row spacing adjustment is made by loosening bolt "A" and turning adjustment nuts "B" in or out to move row unit in or out on the lift roller shaft. Lock adjusting nuts "B" and tighten bolt "A."

SNAPPING ROLLS

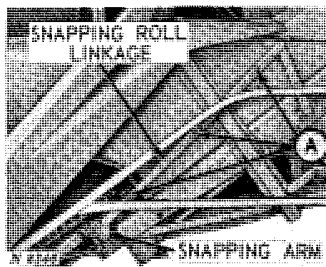
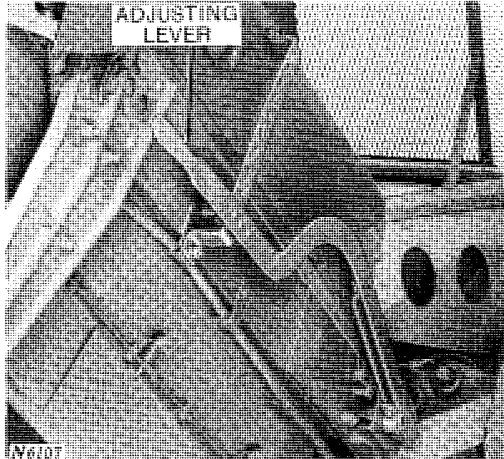
The snapping rolls snap off ears and dispose of stalks and trash. Spiral ribs auger the stalks and corn up the rolls. Flutes between the spiral ribs pull stalks and trash through the rolls.

Tangled or delayed stalks are forced through the upper end of the rolls by a pair of cams. The points of both rolls are carried close to the ground and are spiral ribbed. They assist in augering the corn safely into the rolls.

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ADJUSTING SNAPPING ROLLS

The operator can operate the snapping roll adjusting lever from the tractor seat, to change the roll spacing. Each row unit has an individual lever.



Move the lever down to open the rolls; move it up to close the rolls.

The snapping rolls can be adjusted while the machine is in operation. They should be run as close together as possible without breaking off stalks. However, as the stalks dry out, more efficient operation may be obtained by operating the snapping rolls in a more open position.

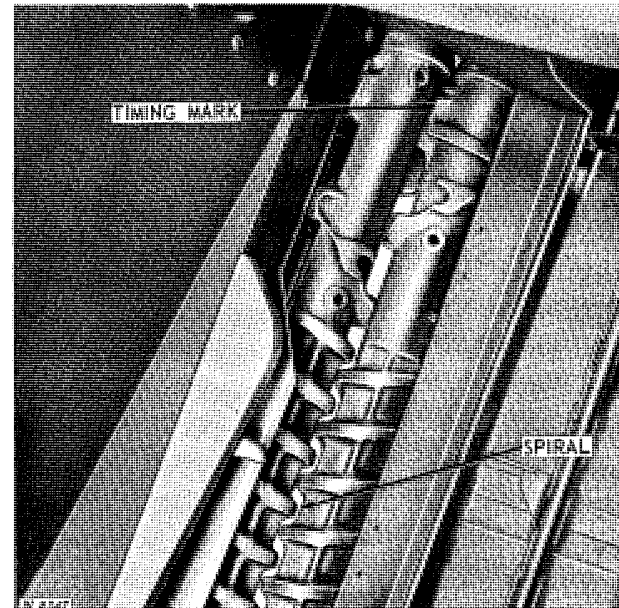
In general, the snapping rolls should run closer together when the stalks are damp and farther apart when the stalks are brittle. However, excessive shelling and plugging results when the rolls are set too far apart.

The snapping roll adjusting linkage should be adjusted so there is still one notch of adjustment remaining in the quadrant sector when the rolls are completely closed and touching.

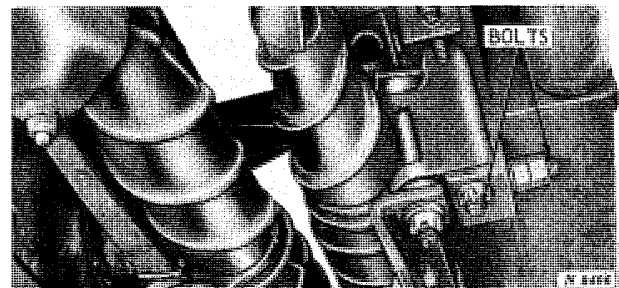
If there isn't, loosen the bolts at "A." Place the adjusting lever in the second notch from the top. Close the snapping rolls by adjusting the snapping roll arm. Retighten the bolts at "A."

Regular lug-type snapping rolls are available to use in place of the spiral type rolls if desired.

TIMING SNAPPING ROLLS



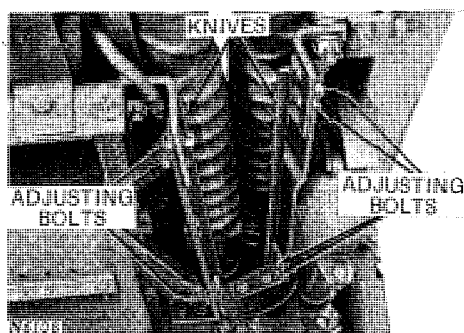
It is important that the spiral fluted snapping rolls are properly timed. If they are not timed properly, stalks will be broken off as they pass through the rolls. The spiral sections on one roll should be as close as possible midway between the spiral sections of the other roll as shown above.



If the rolls are not in time, remove the inside gatherer point. Remove two bolts at lower end of snapping roll. Pull the inside snapping roll forward far enough and rotate roll until the two timing marks line up with each other and the snapping roll will mesh with the other snapping roll gear.

Slide the snapping roll back into place. Replace the inside gatherer point.

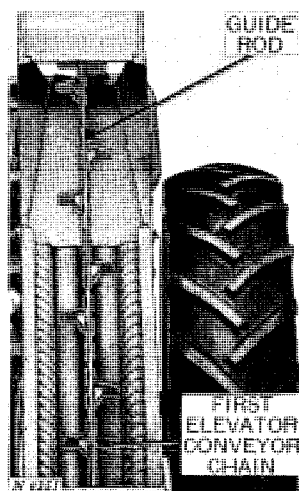
TRASH KNIVES



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

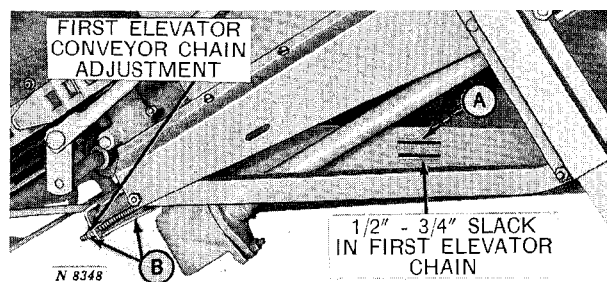
The knives should be adjusted as close as possible to the snapping rolls, however the rolls should not strike the knives. To adjust the knives, loosen the adjusting nuts in the knife supports and move the knives closer to or farther from the rolls as desired.

FIRST ELEVATOR CONVEYOR CHAIN



The first elevator conveyor chain moves the corn from the snapping rolls over the husking rolls and into the wagon elevator hopper. The chain is guided along its entire length at the top and supported on its return under the husking box by a guide rod.

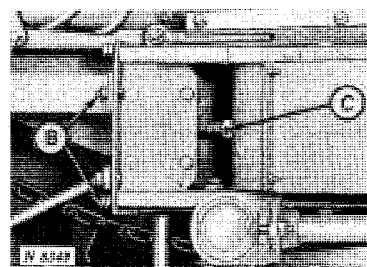
ADJUSTING CHAIN



It is important that only a small amount of slack be allowed in the first elevator conveyor chain. Proper adjustment is from 1/2" to 3/4" slack, checked on the lower return side as shown at "A."

Turn nuts "B" (see above and below) onto adjusting bolts to tighten chain. When proper tension is obtained, lock jam nuts.

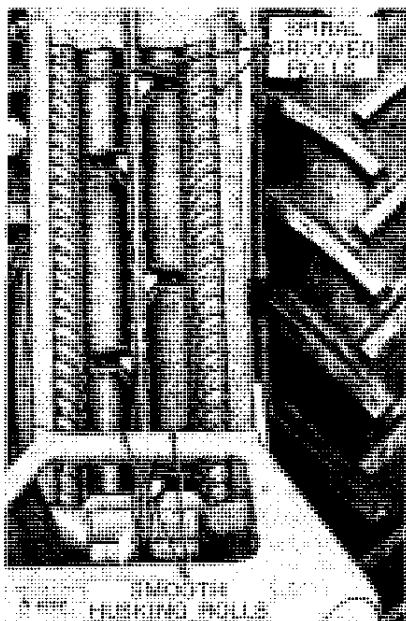
ADJUSTING GUIDE ROD



Adjust nut "C" until the guide rod clears the upper sprocket by approximately 1/16 inch.

The guide rod should also be adjusted so it just clears the first elevator chain at the lower end, where the ears drop off the stalks into the first elevator.

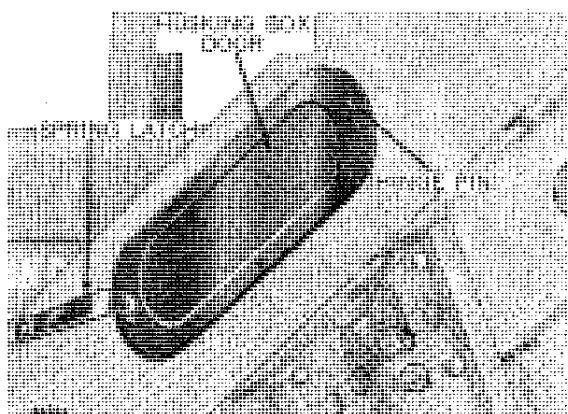
HUSKING ROLLS



There are four long rubber husking rolls in each row unit. Two rolls are smooth hard rubber and two have a spiral-grooved profile. The ears are conveyed over the husking rolls by a conveyor chain.

Wood husking rolls can be used as the inner two rolls on the husking bed when picking corn with small ears or when less aggressive husking is desired. Serrated tire carcass type rolls can be used when more aggressive husking is desired.

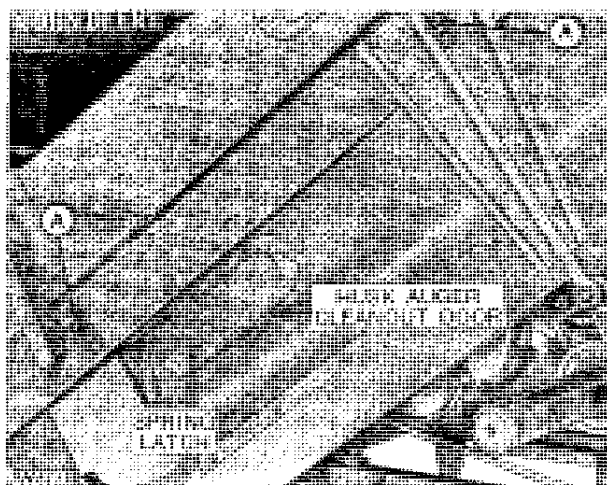
INSPECTION DOOR



An access door on each side of the husking box cover is used to check the condition and adjustment of the husking rolls.

To open the door, turn the spring latch and pivot the door on the hinge pin.

ADJUSTING HUSKING ROLLS



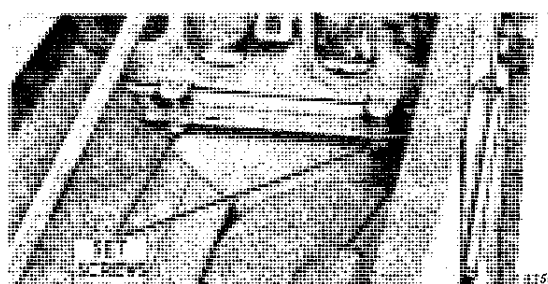
If the rubber rolls do not contact each other throughout their entire length, they will not grasp husks and pull them from the ears.

Make sure the smooth husking rolls are as close to the center of the husking box as possible. If necessary, place a screwdriver between the smooth roll and the groove of the grooved roll to force the smooth roll in towards the middle.

Adjust the spiral grooved rolls until they just touch the smooth rolls. The grooved rolls are adjusted closer together by raising the lock spring and tightening the adjusting bolt "A."

Each outside and each inside husking roll is adjusted at both upper and lower ends in the same manner.

HUSKING BOX GEARS



If the husking rolls are not turning properly, check the mesh of the husking roll gears and main drive gears. If the gears are not properly meshed, adjust the set screws below the husking box support bracket.

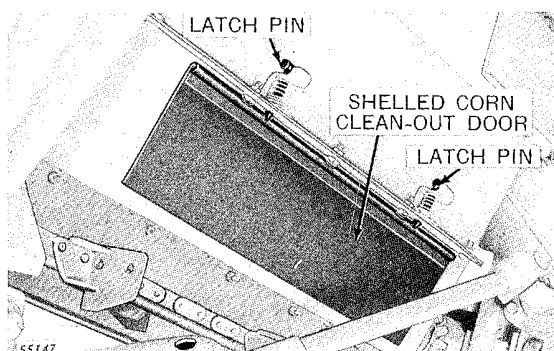
NOTE: In the illustration above, the husking rolls were removed for illustrative purposes only. The set screws can be adjusted by reaching through the husk auger cleanout door.

HUSK AUGER

An auger located beneath the husking rolls conveys the husks to the rear and empties them on the ground in front of the wagon elevator hopper. The lower portion of the husk auger housing is perforated, permitting the shelled corn to drop into a smaller auger which conveys any shelled corn into the wagon elevator hopper.

In freezing weather, run the picker slowly for a few minutes at the end of each day's operation to clean out the trash in the auger. Open the cleanout door and remove any remaining trash from the auger housing.

SHELLED CORN AUGER



A larger removable cleanout door is provided along the inner side of the shelled corn auger housing.

To remove the shelled corn door, raise the latch pins, and hook them over the bracket. Raise the door and pull it out at the top.

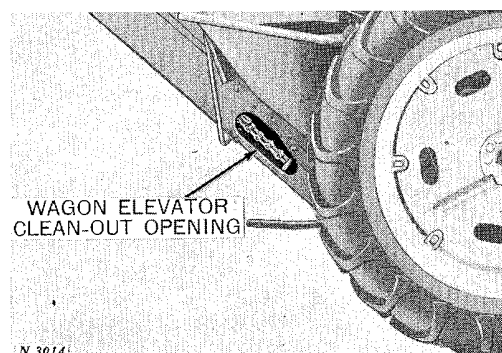
WAGON ELEVATOR

The wagon elevator, hopper and fan are constructed as one unit.

CLEANING FAN

The cleaning fan is located centrally in the wagon elevator hopper. The blast from the fan is directed across the delivery from each row unit.

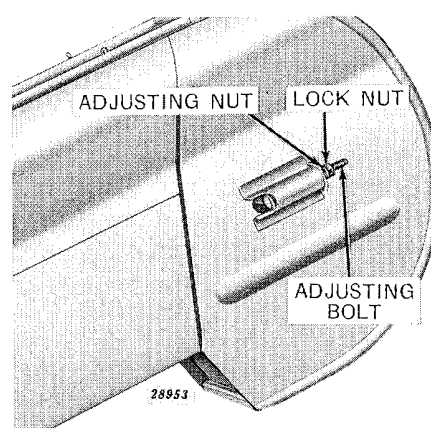
CLEANOUT OPENING



The wagon elevator has a cleanout opening at the lower end on the right-hand side.

In freezing weather the wagon elevator should be cleaned out at the end of each day.

ADJUSTING CONVEYOR CHAIN

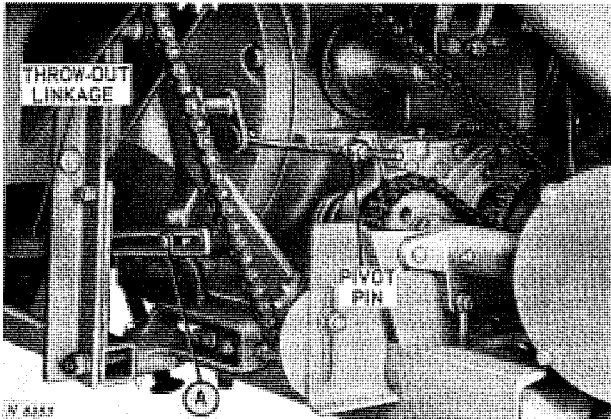


Keep the wagon elevator chain just tight enough to elevate corn. The chain has proper tension when the center of the chain can be raised approximately 3" from the elevator bottom. Lubricate the chain as described on page 19.

To adjust the chain, loosen the lock nut on the adjusting bolt at the upper end of the wagon elevator (both sides). Tighten the adjusting nut and the lock nut.

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WAGON ELEVATOR THROW-OUT

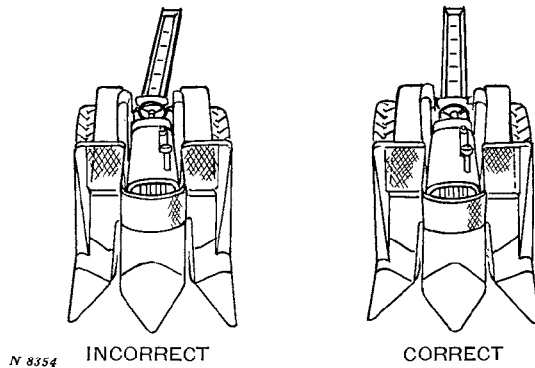


To check to see if the throw-out is working properly, first make sure the row units are down. Engage the wagon elevator throw-out lever by placing the lever in the up position. Raise the row units. The elevator clutch should disengage itself as the row units are raised and the throw-out lever should lock the clutch in the disengaged position.

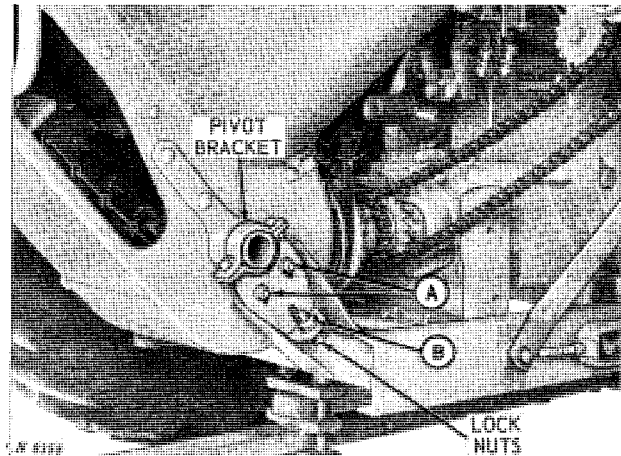
If the throw-out lever does not function as described, loosen the bolt at "A." Place the wagon elevator handle in the down position. Adjust the nuts and the pivot pin on the throw-out eyebolt until the elevator sprocket can be turned by hand.

Raise the picker row units all the way up and then lower them a very slight amount. Pull the automatic elevator throw-out linkage to the rear as far as possible. Tighten the pivot bracket bolt to the linkage.

ELEVATOR ALIGNMENT



It is important that the elevator is positioned so it does not lean to the right or left. Stand in front of the tractor and picker and sight over the tractor to see if the elevator is straight.



If the elevator isn't in line with the center line of the tractor, adjust the elevator pivot bracket. Loosen the bolts at "A" and adjust the bolt at "B" until the elevator is straight and not leaning to one side or the other.

Secure the pivot bracket in place with the lock nuts.

ELEVATOR HANGER RODS

The elevator hanger rods must be adjusted so there is equal tension on both rods.



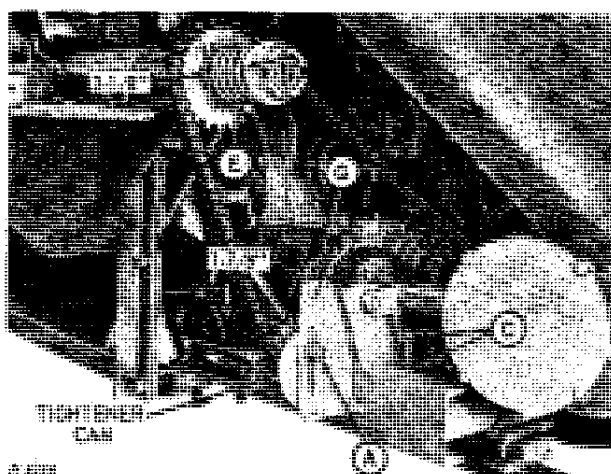
Suggest:

If the above button click is invalid.

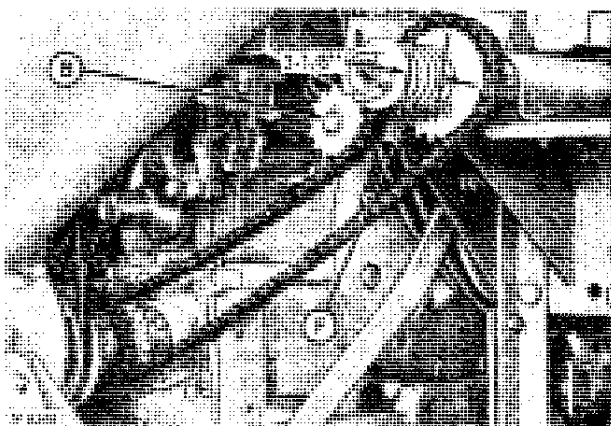
Please download this document first, and then click the above link to download the complete manual.

Thank you so much for reading

DRIVE CHAINS AND SLIP CLUTCHES



Left-Hand Side



Right-Hand Side

Do not run the drive chains too tight; however, they must not be loose enough to slap. Extra offset or half links are furnished in each chain to obtain the correct chain length.

When removing links from roller chains, be sure to reassemble the chain with the closed end of the spring clip in the direction the chain is traveling.

Make sure all sprockets are aligned so the chain will run in a straight line.

Drive chains should be cleaned regularly. Take the chain off and clean it thoroughly by soaking in a safe solvent. Dry well and oil it thoroughly before starting again.

Lubricate roller chains as described on page 19.

ADJUSTING DRIVE CHAINS

To adjust the left-hand main drive chain, loosen nut "A" and rotate cam to adjust the tightener sprocket. Tighten nut "A."

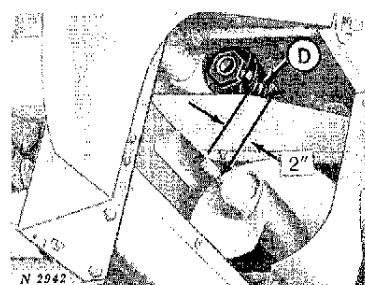
To adjust the right-hand main drive chain, loosen nut "B" and adjust by moving the tightener sprocket. Tighten nut "B."

NOTE: The wagon elevator gear case must be level with the wagon elevator frame. If necessary, adjust the eyebolt at "C" until the gear case is level with the wagon elevator frame.

ADJUSTING SLIP CLUTCHES

Slip clutches act as safety devices to reduce breakage. The spring controlling the clutch should have just enough tension to hold the clutch to its normal work.

Should the clutch slip when the picker or snapper is in operation, stop immediately, determine the cause and correct. Do not set the clutch under further tension to correct. If slip clutches do not slip easily, take them apart and clean. This should be done once each season.



Slip clutches are provided on the following drives:

First Elevator Conveyor Drive (2) "D."

Main Drive (2) "E" and "F."

Wagon Elevator Drive (1) "G."

Adjust slip clutches by screwing the adjusting nut on or off one turn at a time to tighten or loosen clutch spring compression. The normal operating spring length for each slip clutch is shown above. The minimum spring length for each clutch is 1/8-inch shorter than the dimension shown. To check spring compression measure the over-all length of the spring only.

NOTE: If the slip clutches slip too frequently, the drive chains will become stiff and eventually break.

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