

237 Corn Picker and 237A Corn Snapper



JOHN DEERE

OPERATORS MANUAL 237 Corn Picker and 237A Corn Snapper

OMN159139 E0 English

John Deere Des Moines Works
OMN159139 E0

LITHO IN U.S.A.
ENGLISH



TO THE PURCHASER

The purpose of this book is to give you useful information on how to operate your new John Deere 237 Corn Picker or 237S Corn Snapper in the many field and crop conditions under which corn is grown.

A corn picker and 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.

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 your picker 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.

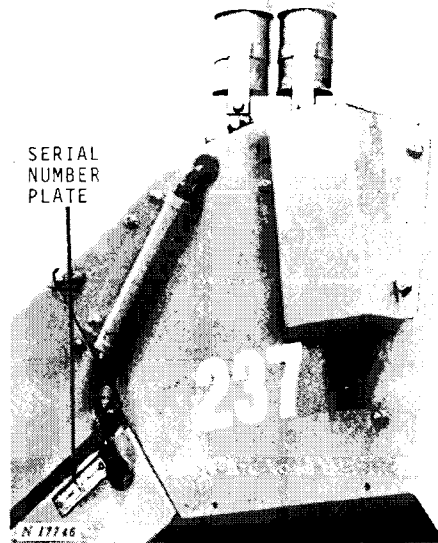
Right-hand and left-hand references are determined by standing at the rear of the corn picker and facing in the direction of travel.

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 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 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.

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

 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.



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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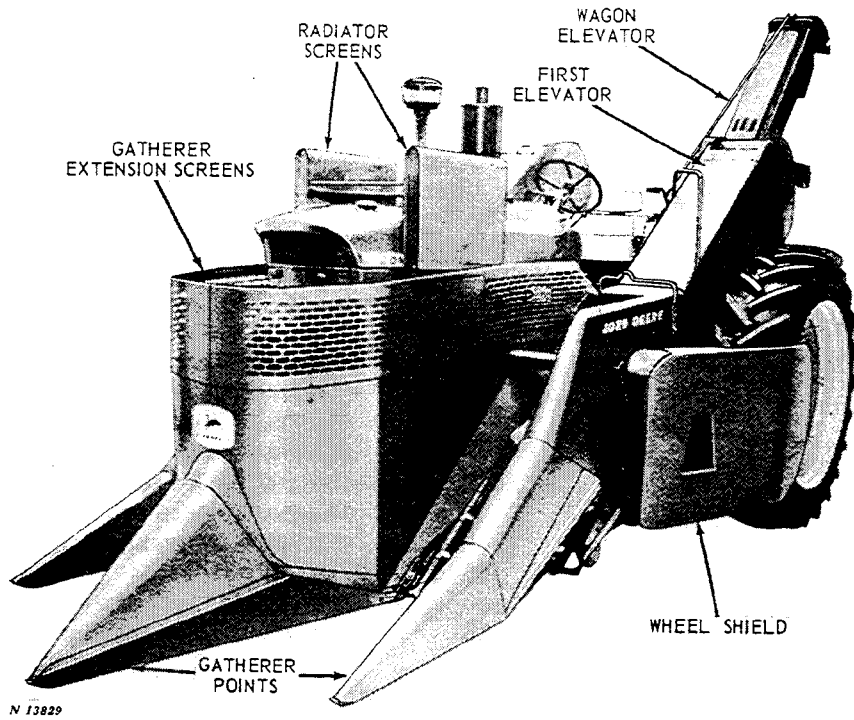
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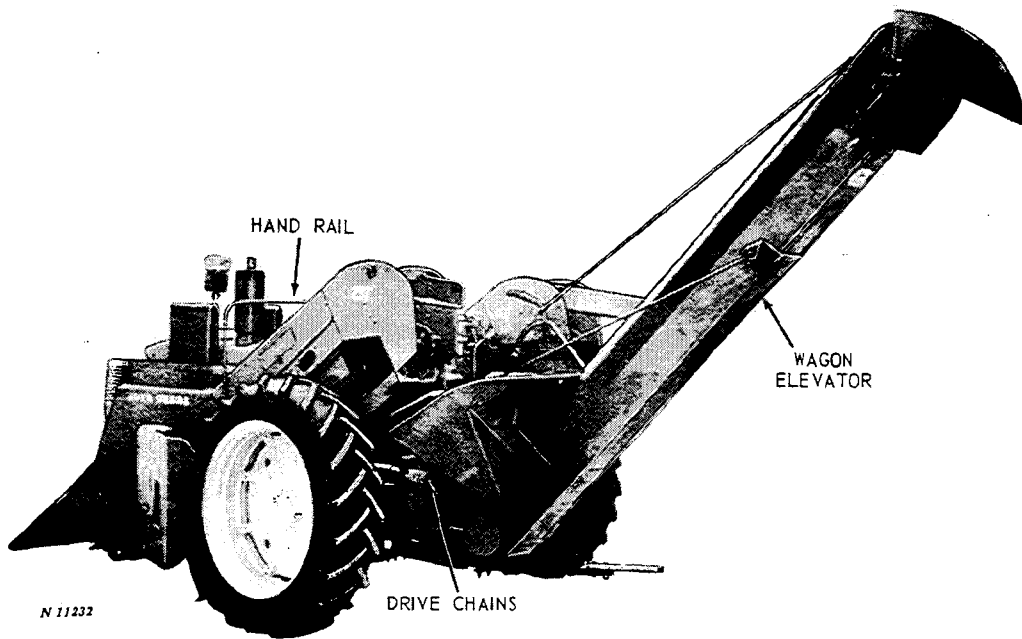
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John Deere 237 Corn Picker



Rear View of John Deere 237 Corn Picker with Wagon Elevator



SPECIFICATIONS

TRACTORS

John Deere 50, 60, 70, 520, 530, 620, 630, 720, 730, 2010, 2510, 2520, 3010, 3020, 4010, 4020 and A Tractors.

Farmall 706, 806, 656, 504, 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.

Oliver 77, 88, 770, 880, Super 77, Super 88, 1600 and 1800 Tractors.

Ford 6000 Tractor.

Case 700, 730, 800, and 830 Tractors.

Tractor must be equipped to operate a remote hydraulic cylinder.

John Deere 2010 Tractor must be equipped with fully heat-treated rear axles and 13.9 x 36 rear tires. Tractors with power adjusted rear wheels or sliding hub rear wheels must be equipped with long rear axles.

Front tires — tractors can be equipped with 7.50 width front tires with heavy-duty Roll-O-Matic. However, 7.50 tires should not be used for corn planted on the contour.

Rear tires — Tire size should not exceed 16.9 inches.

CYLINDER

An 8-inch stroke, double acting ASAE standard hydraulic cylinder is required. The cylinder must be equipped with two hoses, approximately four feet long.

DRIVE

1000 rpm PTO on John Deere 2010, 2520, 3010, 3020, 4010, and 4020 Tractors.

540 to 1000 rpm PTO on other tractors.

ROW SPACING

Handles rows spaced - 38 to 44 inches.

SNAPPING ROLLS

Length, including points;

outer roll - 41 inches

inner roll - 42 inches

Center-to-center distance between snapping rolls - 39 to 42 inches.

Opening of snap rolls adjusted by operator from tractor seat.

Speed of snapping rows - 1050 revolutions per minute.

SNAPPING ROLL POINTS

Outside point - spiralled, to guide stalks in row unit.

Inside point - smooth, for minimum agitation of entering stalks and pinching of low hanging ears.

GATHERER POINTS

Adjustable, hinged above gathering chains.

Lift at hinge point - 27 to 30 inches.

GATHERER CHAINS

Steel roller chain, 3 per snapping unit, enter gatherer throat opening 13 inches ahead of snapping roll points.

Inner gatherer chain is tilted from the horizontal so that the return path does not extend over inner frame.

Clearance between gatherer chains and ground - zero inches and up.

FIRST ELEVATOR

Flights spaced 18 inches apart. Width of elevator - 6-1/2 to 10 inches wide.

4 *Specifications*

HUSKING ROLLS

Size - 3-inch diameter - 36 inches long.
8 husking rolls (4 per row)

Two types:

Cast iron rolls with rubber "buttons"
Tire carcass type

CORN SAVER

Auger type shelled corn saver.

WAGON ELEVATOR

Size - 8 inches deep - 9 to 12-3/4 inches wide.
Semi-automatic wagon elevator throw-out.
Cleaning fan - 1500 rpm.
Ear corn deflector hood for leveling wagon.

DIMENSIONS

Over-all transport width - nine feet.
Over-all transport length - 25 feet, 8 inches.
Maximum height of wagon elevator above ground
- 10 feet, 10 inches.

SHIPPING WEIGHT

Picker with hook-up - 3670 lbs. (approximate)

ATTACHMENTS

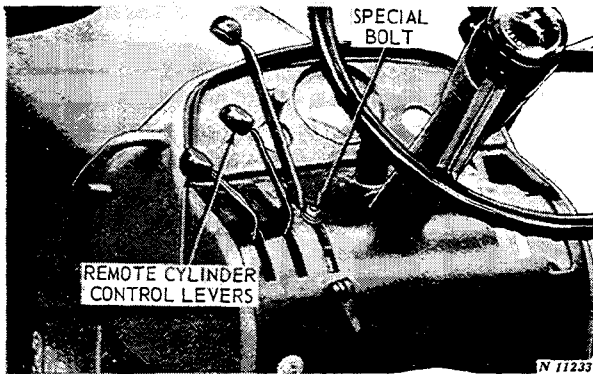
Radiator screens for tractor.
50 Sheller
Light support brackets
Stalk Ejector (if not factory installed)
Elevator extension

(Specifications and design subject to change without notice.)



OPERATION

CONTROLS ON TRACTOR



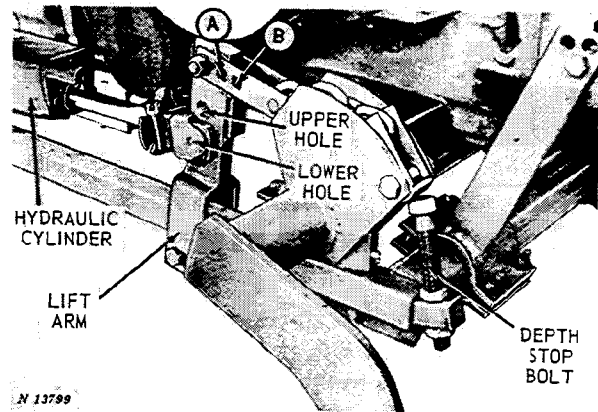
The Corn Picker and Corn Snapper are operated by the 1000 rpm PTO shaft on the John Deere 2010, 2510, 2520, 3010, 3020, 4010 and 4020 Tractors and by 540 or 1000 rpm PTO shaft on the other tractors.

Raising and lowering is controlled by the remote hydraulic cylinder control lever.

Check and make sure the rockshaft control lever on the John Deere 2010, 2510, 2520, 3010, 3020, 4010 and 4020 Tractors is in the extreme "up" position. The lever should be secured in position by a special 3/8 x 3/4-inch bolt furnished with the picker. This will prevent the lever from being moved accidentally and causing damage to the picker.

CORN PICKER AND SNAPPER LIFT

The picker or snapper is raised by the tractor hydraulic system with an 8-inch stroke, double-acting, ASAE standard hydraulic cylinder. The cylinder must be installed with the rod toward the front of the picker as shown. The cylinder hoses should not be any longer than necessary.



If the tractor has a single-acting hydraulic system, a breather must be installed in one of the ports of the hydraulic cylinders.

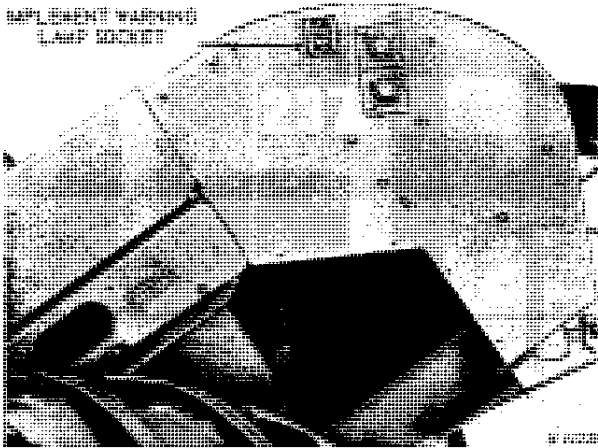
Height of lift is determined by the relationship of the piston rod to the lift arm and the chain straps to the lift arm. To increase height of lift, use holes "A" and "B" and the lower hole in the lift arm. Hole "B" must be used when picker is mounted on John Deere 2010 Tractor.

NOTE: When hole "B" is used, the hydraulic cylinder must be attached to the upper hole in the lift arm.

The depth stop bolt regulates how far the row units can be lowered. Adjust the bolt so the row units do not lower farther than desired.

On the Allis-Chalmers D17 Tractors, if the picker will not lift properly, it is necessary to change the position of the adjusting nut on the tractor booster linkage. See page 54.

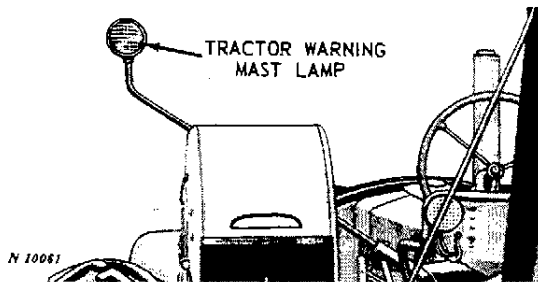
WARNING LIGHTS



When picker or snapper is mounted on John Deere 2010, 2510, 2520, 3010, 3020, 4010, or 4020 Tractors, an implement warning lamp can be installed in the socket provided on the left-hand side of the husking box delivery chute.

The warning lamp (AA6145R) can be obtained from your John Deere dealer.

This implement warning lamp can be used in addition to the regular taillights, provided with the picker (page 64). Make sure the red lens of the warning lamp faces to the rear. Plug the warning lamp cord into the electrical outlet socket on the tractor.



On other John Deere tractors, the tractor warning lamp and mast can be used to light the left-hand side of the corn picker. This warning lamp can be used in addition to the regular taillight provided with the picker.

CAUTION: When driving the picker or snapper on a road or highway at night or during the day, use accessory lights and devices for adequate warning to operators of other vehicles. In this regard check local governmental regulations. Lights and devices such as those illustrated above may be obtained from your John Deere dealer.

IN THE FIELD

Successful operation, maximum saving of corn, quality of work, and the length of life of your John Deere corn picker depends 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 recommend picking early to avoid the troubles and disagreeable features that accompany frozen ground, extremely cold weather, and dried-out, frozen, and rotten corn stalks.

Ear corn that is not going to be artificially dried, should not be cribbed if it exceeds 20 to 22 per cent moisture. If using a dryer, or high moisture storage, picking can start when the corn is 28 to 30 per cent moisture. See your local county agent for more details.

Another important reason for picking corn early is to save as much corn as possible. In corn yielding 100 bushels per acre, it is estimated that there will be losses of an additional seven bushels of corn per acre due to ear droppage if corn is picked at 16 per cent moisture instead of 20 per cent moisture. However, if the corn is above 18 per cent moisture, take special care to remove husks as completely as possible.

It is suggested that the elevator spout in the crib be moved after every load. This will help prevent a layer of shelled corn, husks, stalks, and chaff from building up. Even though this is extra work, it will mean better ventilation and help eliminate a potential "hot spot" in the cribbed corn.

The picker 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.

IMPORTANT: Always raise the corn picker or snapper units before turning the tractor front wheels. Failure to do this could cause damage to the tractor tires and to the corn picker.

Drive the tractor carefully so the gatherer points will follow the row and guide cornstalks 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.

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

STARTING THE PICKER IN THE FIELD

Before putting picker in 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 and belts.

TRACTOR ENGINE PTO SPEED

On 2010, 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, 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.

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. 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 in first or second gear (1-1/2 to 2 mph). 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 be a better job of picking if the tractor speed is increased to third or fourth gear (3-1/2 to 4-1/2 mph).

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. Adjust 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. If possible 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 disengage the PTO and stop the tractor engine. 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.

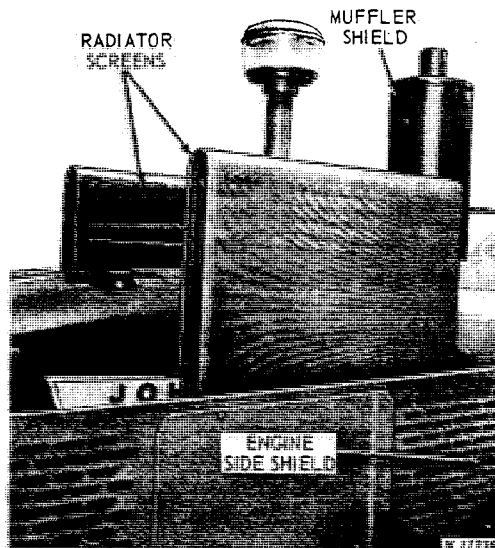
ESTIMATING EAR CORN LOSS

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 or snapper, 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

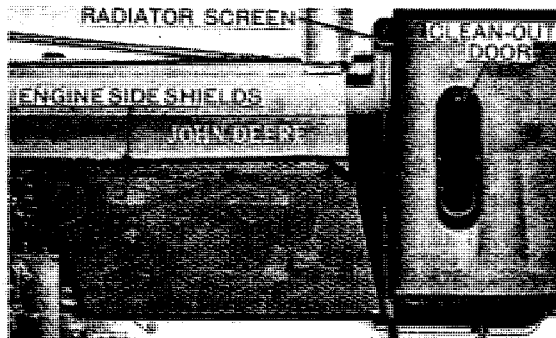


John Deere 3020 Tractor

Radiator screens are required for all John Deere 2010, 2510, 2520, 3010, 3020, 4010 and 4020 Tractors. They are recommended for other tractors when the temperature is above 80 degrees F. or in conditions where there is excessive dirt or trash. (See pages 70 to 75.)

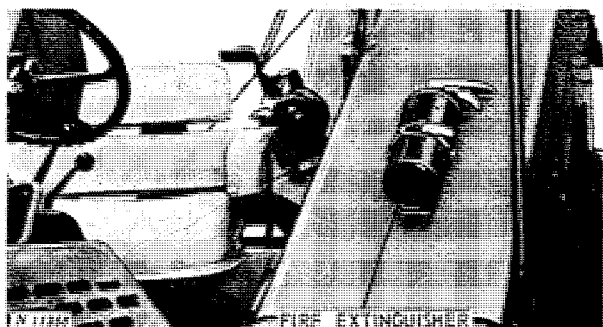
The muffler shield and engine side shields must be installed properly. An occasional check should be made to see if any fine material has accumulated on the engine.

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

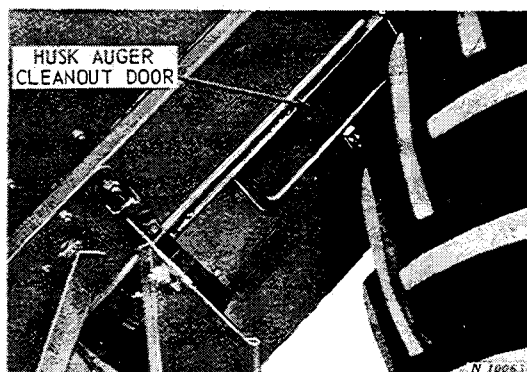
FIRE EXTINGUISHER



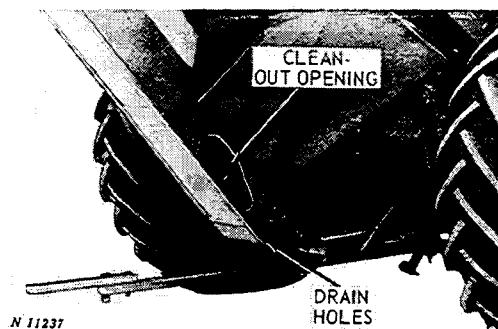
In dry corn picking seasons use extra care to prevent fires. Carry a fire extinguisher as a precautionary measure. Check and make sure it is fully loaded at all times. Make sure the fire extinguisher is readily accessible from the operator's seat.

The fire extinguisher should be of a type approved by Underwriters Laboratories or Factory Mutual Laboratories for fires of a flammable liquid nature (class B fires and at least of a 4BC capacity). Vaporizing liquid extinguishers are not adequate.

COLD WEATHER OPERATION

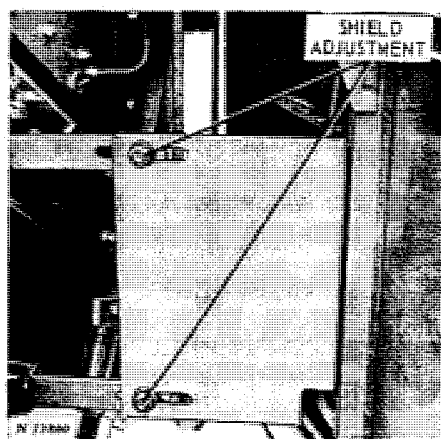


In freezing weather, run the picker slowly for a few minutes at the end of each day's operation to clean out the trash in the auger. Open the cleanout door and remove any remaining trash from the auger housing.



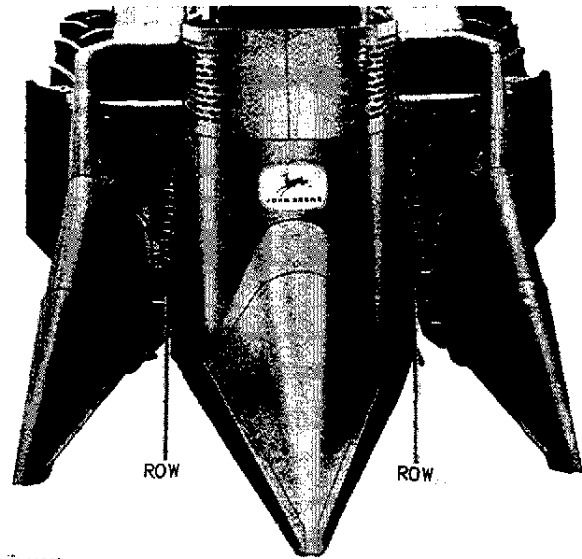
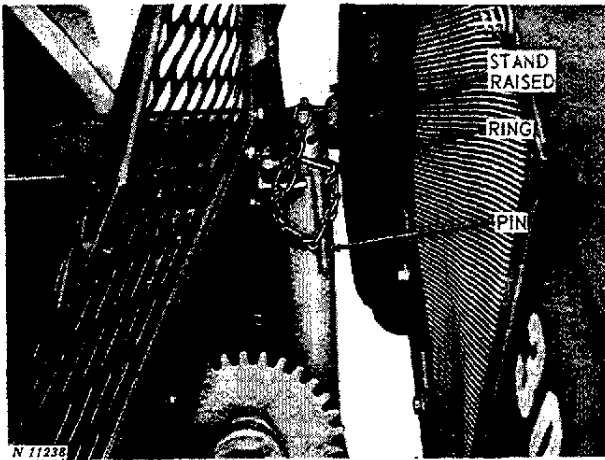
Also, be sure to clean out any trash that might be in the bottom of the wagon elevator. Check the drain holes in the bottom of the elevator to make sure they are not clogged.

WHEEL SHIELD



The main purpose of the wheel shield is to lift leaning and down corn stalks out of the path of the tractor rear tire. The shield should be set in as close to the tractor rear wheel as possible. However, there should still be enough clearance to let stalks and dirt pass between the shield and tractor wheel. Make sure the wheel shield doesn't extend so far from the tractor wheel that it knocks ears from standing corn in the next row.

STANDS



Check and make sure the corn picker stands are raised as high as possible before driving the tractor. After the inside stands are fully raised, insert the pin in the first hole exposed above the stand frame. Place the large ring on the end of the chain over the stand to prevent any possibility of the chain catching on anything. Pin the outside stands in the closest set of holes that line up after the stands are fully raised.

ROW SPACING

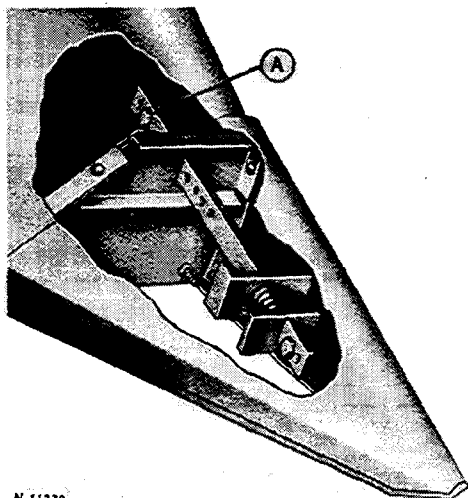
The spacing of the row units can be adjusted from 39 to 42 inches, for picking corn planted in 38 to 44-inch rows. Under dry or frozen conditions, the row unit spacing should not vary more than two inches from the row spacing. Measure the row unit spacing by measuring the distance from the outer edge of inner snap roll point to the outer edge of the other snap roll point. This distance should be 1/2 to 1-inch less than the rows to be picked. However, with large size front tires, make sure the tires do not rub against the inner frame. Also make sure there is equal spacing on each side of the front wheels.



Row spacing adjustment is made by turning adjustment nuts "A" in or out to move row unit in or out on the lift roller shaft. The inside nut "A" can be reached through access hole under unit. Lock adjusting nuts "A."

GATHERERS

GATHERER POINTS



N 11239

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

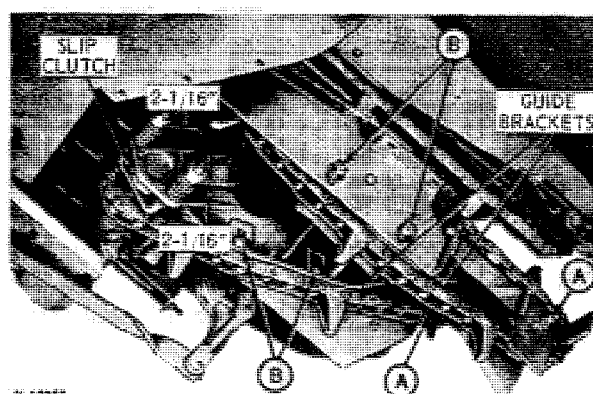
The three gatherer chains run well beyond the points of the snapping rolls. The chains can be run touching the ground if necessary to bring low hanging ears and down stalks into the snapping rolls.

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 a safe solvent. Dry the chains and oil them thoroughly before using.

Lubricate the chains as described on page 29.

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

Adjusting Outer Gatherer Chain

The outer gatherer chains should be adjusted so they can be stretched approximately 1/2-inch away from the guide brackets. To adjust chains, loosen all the guide bracket bolts "B." Adjust the gatherer chain pivot sprocket and bolt at "A." Move it as far forward as possible and secure in place. Adjust the bolts at "B" until the proper adjustment is secured. **NOTE:** Make sure both chains are adjusted the same.

The outer gatherer chains are equipped with a slip clutch. The normal length of the springs is 2-1/16 inches. Measure only the spring.

Should the slip clutch slip, stop the machine and determine the cause. Do not set the clutch under further tension. Make sure both springs are set the same length.



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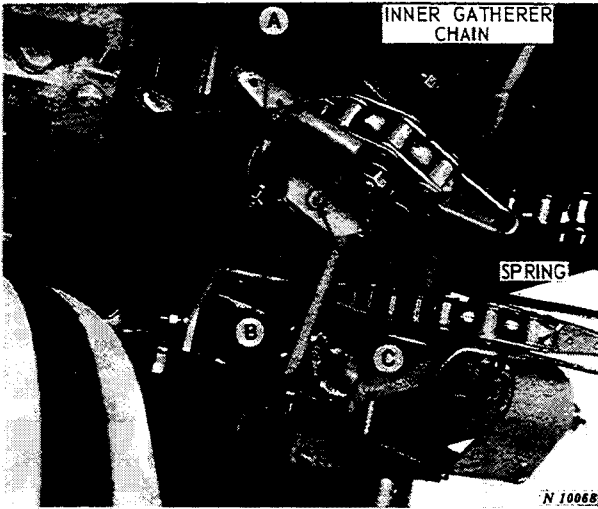
first, and then click the above link

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12 Operation

Adjusting Inner Gatherer Chain

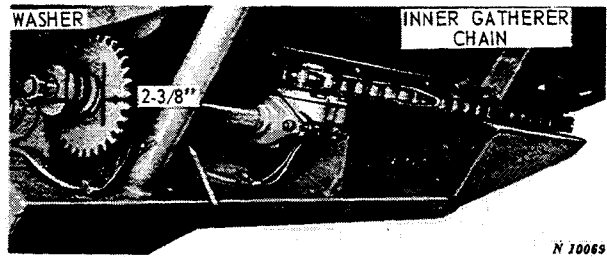


The inner gatherer chain must be adjusted properly. When the chain is in its normal position, (as shown in the illustrations on this page) the spring, located right behind the front gatherer sprocket, should be under slight compression.

The chain is too loose if the spring isn't compressed when the chain is in its normal position. The chain is too tight if the spring is completely (or almost completely) compressed when the chain is in its normal position.

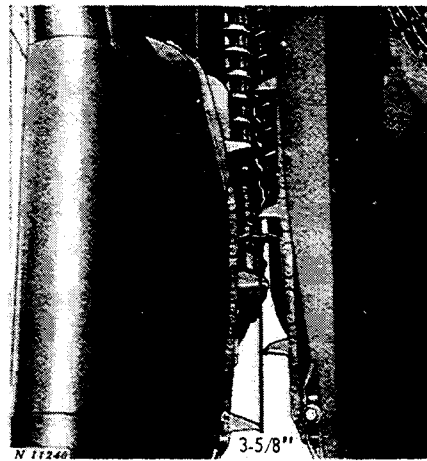
To adjust the chain tension, loosen the nut at "A" and the lock nut at "B." Adjust the spring tension by turning the bolt at "C" until the desired tension is obtained. Secure the setting by tightening the nuts at "A" and "B."

Inner Drive Chain Slip Clutch



The inner gatherer chain is equipped with a slip clutch. The normal length of the spring is 2-3/8 inches. This is measured from back of the washer to the sprocket. Should the slip clutch slip, stop the machine and determine the cause. Do not set the clutch under further tension.

GATHERER THROAT OPENING



It is important that the gatherer throat opening is set correctly. If the throat opening is too wide, control over the spacing of the snapping rolls is lost. This is liable to result in loss of ear corn and shelled corn.

The gatherer throat opening should be approximately 3-5/8-inches wide. Measure this opening at the throat's narrowest spacing as shown above. Make the measurement from the back-up plate below the inner gatherer chain to the guide between the two outer gatherer chains.

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