

**234 CORN ATTACHMENT
FOR 45, 55
AND 95 COMBINES
EFFECTIVE
SERIAL NO. 234-6301**



JOHN DEERE

OPERATORS MANUAL

234 CORN ATTACHMENT FOR 45, 55 AND 95
COMBINES EFFECTIVE SERIAL NO. 234-6301

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ENGLISH



TO THE PURCHASER

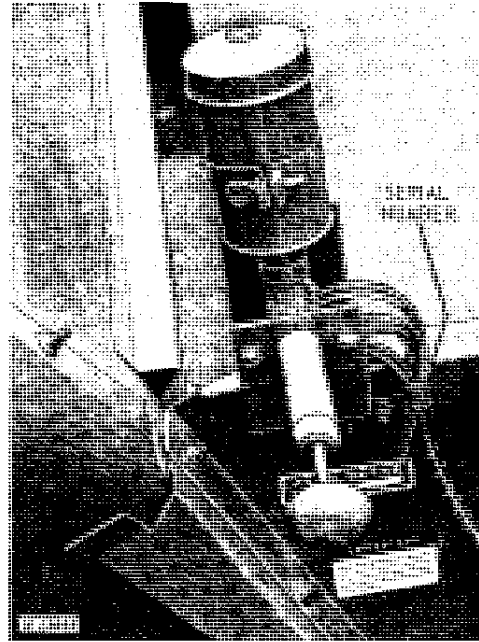
This manual contains useful information on how to operate your new John Deere 234 Corn Attachment.

A corn attachment must be built to handle a wide range of conditions. Field conditions vary from year-to-year, from day-to-day, and even from hour-to-hour. Different varieties of corn present widely different harvesting problems. A careful study of adjustments on your corn attachment and what they will accomplish under varying conditions will allow you to reap many benefits and economies that this corn attachment can provide.

Your new corn attachment will do quality work in direct proportion to the care you use in operating it. Operate, adjust and service the attachment according to 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 corn attachment 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 234 Corn Attachment. Be prepared to give him the serial number of your corn attachment and the year purchased. Record this information in the space at the right when you receive your corn attachment.



The serial number is on the left-hand side of the corn attachment, directly below the multi-luber.

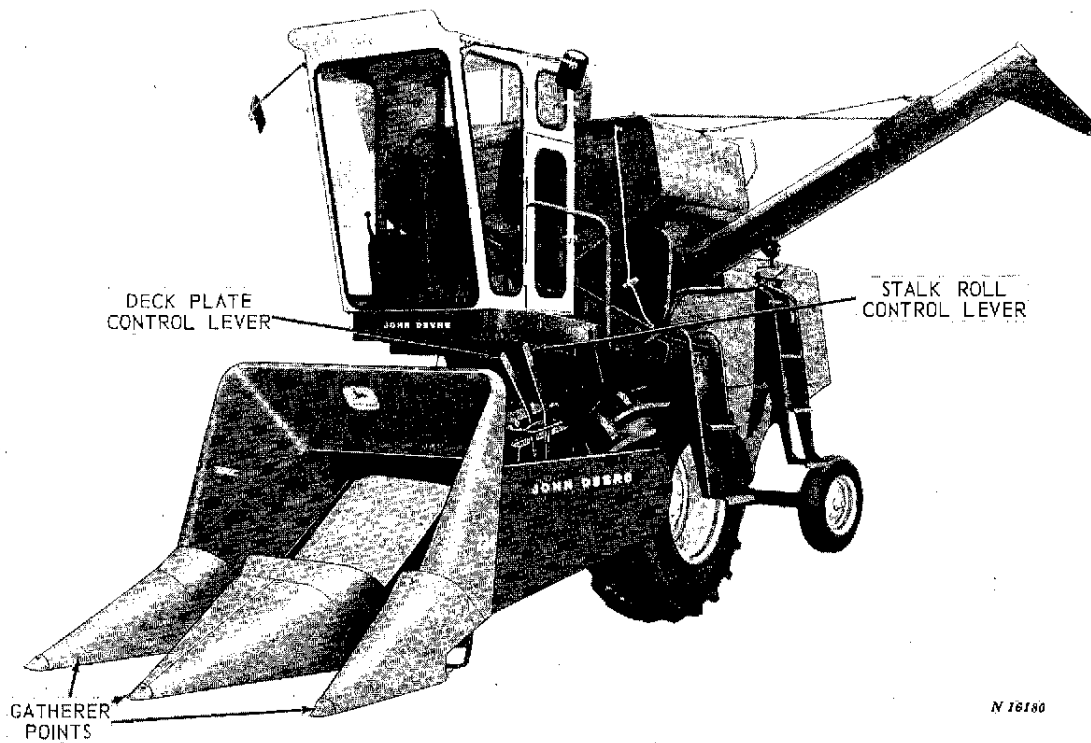
Serial Number

Date Purchased



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John Deere 234 Corn Attachment on 45 Combine

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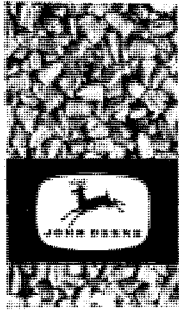
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SPECIFICATIONS

John Deere Combine model
required. 45, 55, or 95

(NOTE: It is recommended that the 45 Combine be equipped with a 60 inch rear axle. It is also recommended that the 95 Combine not be used on 38-inch rows.)

Number of rows. 2

Center-to-center distance between
snapping units. 39 inches

Row widths handled. 38 and 40 inches

Gatherer points. Hinged above gatherer
chains

Number of gatherer chains per
snapping unit. 2

Type of gatherer chain. Endless steel roller
chain (no master
connecting link)

Minimum clearance between
gatherer chains and ground. 0 inches

Distance gatherer chains ahead
of fluted stalk rolls. 10 inches

Gatherer chain speed. 326 feet per minute (fpm)
regular
279 fpm and 373 fpm-
special

Length of fluted stalk rolls
less points. 30 inches

Length of stalk rolls
with points. 38-1/2 inches

Stalk roll adjustment. By operator from
combine platform

Deck plate adjustment. By operator from
combine platform

Trash paddle. Full width of attachment

Conveyor from gatherers to
combine. Cross auger and feed paddle (s)

Approximate weight of corn attachment.
234 for 45 Combine. 1780 pounds
234 for 55 Combine. 1800 pounds
234 for 95 Combine. 1830 pounds

Approximate over-all width
for storage. 6 feet, 4 inches

Approximate over-all length
for storage. 10 feet

Approximate over-all width on
55 and 95 Combines. 8 feet, 11 inches

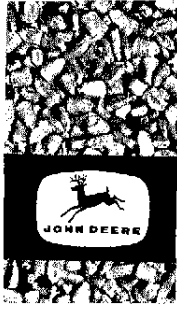
Approximate over-all width on
45 Combine. 8 feet, 5 inches

Approximate over-all length on
45, 55 and 95 Combines. 25 feet

Attachments
Down Corn. See page 7
Corn Cob Mix. See page 16

For other attachments available for the Com-
bine, see your John Deere dealer.

(Specifications and design subject to change without notice.)



OPERATION

PROPER INSTALLATION

Be sure the corn attachment is properly installed on the combine. Improper installation can cause inferior work and damage to the corn attachment and combine. After corn attachment is completely installed, check over the entire machine, being sure shields, sprockets, chains, and all other parts are properly attached, and adjustments made as illustrated. Be sure all nuts, pins, and keys are tight and cotter pins are spread.

BEFORE OPERATION

Before putting the corn attachment in the field for the first time, lubricate it thoroughly and operate at slow speed for ten minutes, making sure that all parts are working freely. If there is no binding or heating, run at fast idle speed for approximately five minutes, if this has not already been done by the dealer. Next, go over the entire machine to be sure that all bolts are tight, and that lubricant is reaching all bearings. Be sure to check the tension of all chains.

IN THE FIELD

Take pride in doing the best work possible under all conditions. Follow the rows carefully; set gatherer points and tilt machine to pick up the down and leaning stalks; set stalk rolls so corn is not mutilated; and adjust for damp or dry corn. Adjustments are provided on the machine to meet these conditions.

ADJUST MACHINE PROPERLY

Successful operation, quality of work, and length of life of the corn attachment depend greatly upon adjusting the corn attachment and combine to meet your specific field conditions, and on proper lubrication.

After several rounds, check the adjustments to be sure you are getting the best possible sample of corn in the grain tank.

HARVEST EARLY

Early harvesting, before corn gets too dry, is one way to keep field losses low. Agricultural engineers suggest that when early maturing corn reaches 26 to 27 percent moisture, farmers with dryers can start harvesting. If you're set up to store high moisture corn, harvesting can start when corn is at 30 percent moisture.

If the corn is to be sold without drying, it is best to wait until the moisture content is down slightly below 20 percent. For safe storage in anything but an air tight silo, the moisture should not exceed 12-1/2 percent.

Early harvesting will also eliminate the troubles and disagreeable features that accompany frozen ground, extremely cold weather, and dried out, frozen, and rotten cornstalks.

DRIVE CAREFULLY

The combine 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 which the gatherer points may strike.

Drive the combine carefully so the corn attachment will stay on the rows. Raise the corn attachment when crossing the end of the field.

If the unit begins to plug, do not slow down the combine engine. Keep the engine at operating speed and decrease the ground speed with the variable speed control or by disengaging the foot clutch until the unit has cleared itself.

Do not use a cornstalk or stick to clean stalk rolls of an ear or trash while corn attachment is operating. If for any reason the corn attachment should become clogged, stop the combine engine and then remove obstacle. Keep hands completely away from stalk rolls while machine is in motion.

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Never clean, lubricate, or adjust corn attachment or combine while either is in motion. Be sure to stop the combine engine. Too much care cannot be taken keeping hands and clothing away from moving parts.

CHECK GROUND SPEED

In average conditions, the corn attachment will do best work when traveling at a moderate rate of speed.

In well standing corn the forward movement of the machine should be approximately the same as the rearward movement of the gatherer chain flights, so the flights gently assist in the movement of stalks into the stalk rolls.

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

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 harvesting 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

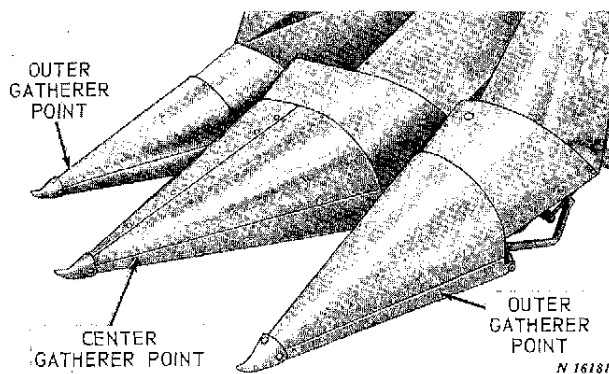
Mark off 133 feet (about 43 normal walking steps for an adult man) along one row. Each good sized ear (about 3/4 pound) represents one bushel of ear corn lost per acre.

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 corn attachment, estimate the ear corn loss before as well as during and after the field is harvested, because some ears drop off the stalks before harvest.

GATHERERS

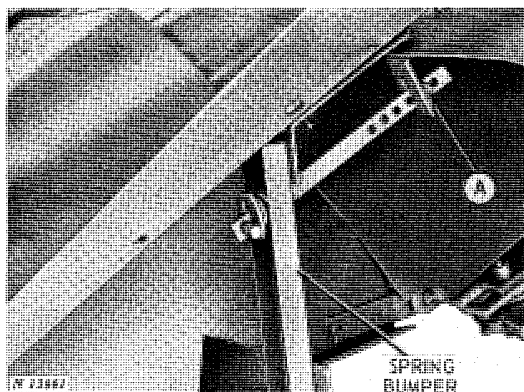
GATHERER POINTS



In normal conditions operate with the gatherer points just touching the ground.

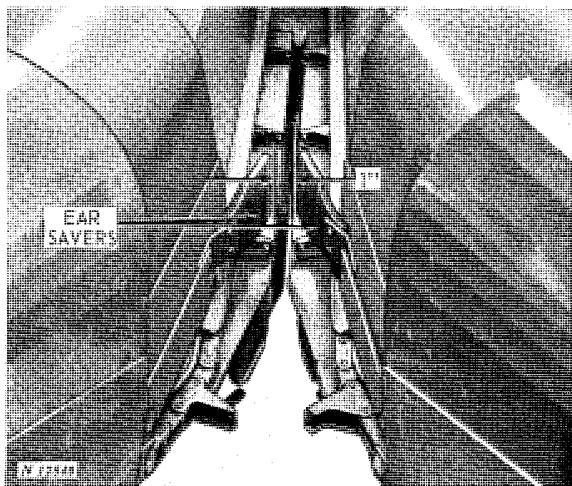
In muddy conditions or in snow, raise and lock gatherer points high enough to prevent the points from scooping material into the throat opening, thereby clogging the opening.

Make sure the spring is located on the adjusting straps just below the spring bumper. The spring helps absorb the shock loads.



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

EAR SAVERS



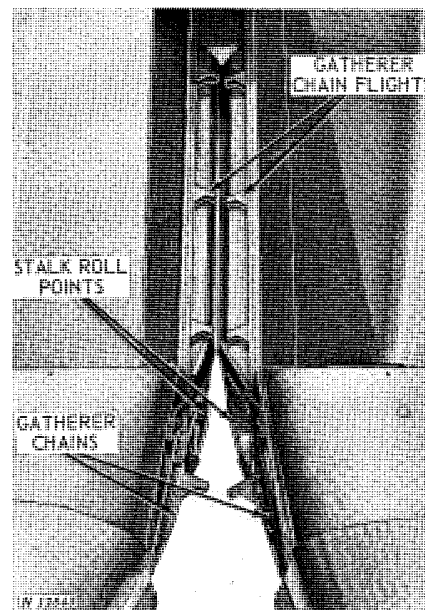
Ear savers are located above the gatherer points to prevent the loose ears from sliding over the gatherer chains to the ground.

The ear savers should always be spaced so the ends are at least one inch apart.

In extreme dry or down corn and if the stalks tend to plug up at the gatherer throat opening, remove the ear savers.

When replacing ear savers, the left- and right-hand ear savers are identical.

GATHERER CHAINS



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

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

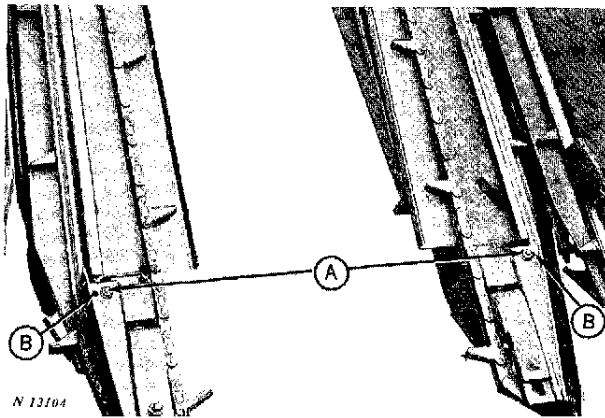
Oil the gatherer chains daily. See page 19.

The machine is designed so the gatherer chains run in the same plane. Also the chain flights are positioned so they are approximately opposite one another.

Gatherer Chain Spacing

Under certain conditions, it may be desirable to have the gatherer chains more aggressive. This is done by moving the chains closer together at the front of the machine. This should be done in fields where the yield is light, corn-stalks are smaller than usual, the corn is down or material hesitates in the throat area. Gatherer chain speed should be reduced in down corn. See page 6 for reducing gatherer chain speed.

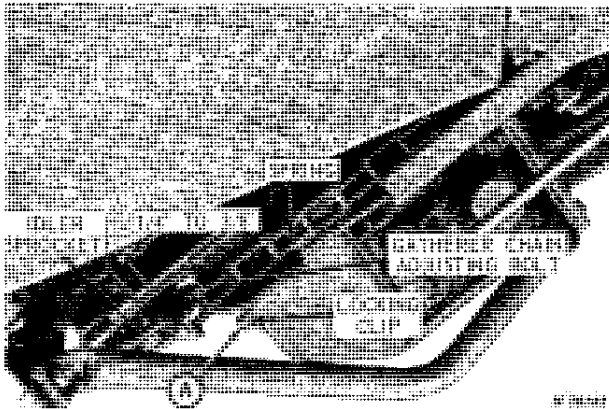
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Illustrated with Gatherer Shields Removed

To move the chains closer, remove the bolt at "A." Move the gatherer chain and guide closer to the opposite chain until the other holes at "B" in the guide bracket line up with the guide.

Gatherer Chain Tension



The gatherer chain is properly adjusted when the idler sprocket moves rearward approximately 1/4- to 3/8-inch (before it becomes solid) when the gatherer chain is pulled outward. Make sure the sliding mechanism is free from dirt and foreign material which would restrict the idler sprocket movement.

Do not allow gatherer chains to become too loose. If chains become too loose excessive wear of deck plates and chains will result. Loose gatherer chains will also get out of time and cause plugging.

To adjust the gatherer chain tension, raise the corn attachment. Lower the safety stands as shown on page 14. Loosen the bolt at "A" which holds the locking clip in place. Slide the clip down so it is free of the gatherer chain adjusting bolt. Adjust the gatherer chain adjusting bolt until the desired chain tension is obtained. Secure the adjustment by reinstalling the locking clip over the bolt.

GATHERER DRIVE CHAIN



The gatherer chain speed should closely approximate the ground travel speed of the combine.

The corn attachment is regularly equipped with a 14-tooth gatherer chain drive sprocket, which is recommended for use when traveling at approximately 3 miles per hour.

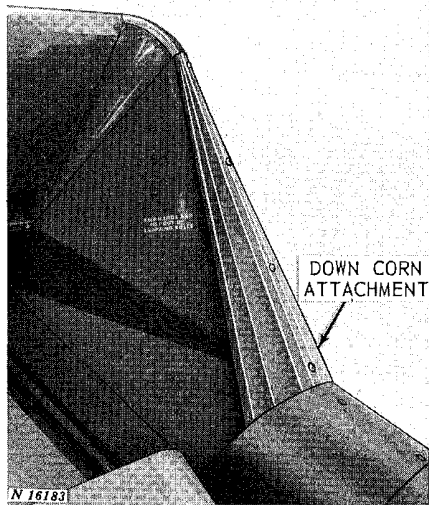
A 12-tooth sprocket and a 16-tooth sprocket are available as special equipment.

If a slower combine speed is desired, decrease the gatherer chain speed by installing the 12-tooth drive sprocket (N14273N). In down corn conditions it is recommended that the 12-tooth drive sprocket be installed and combine speed be reduced.

If a faster combine speed is desired, increase the gatherer chain speed by installing the 16-tooth drive sprocket (AN12709N).

To change the drive sprocket, disconnect the drive chain. Remove the attaching bolt and washer from the drive shaft. Remove sprocket and install the new gatherer chain drive sprocket.

DOWN CORN ATTACHMENT



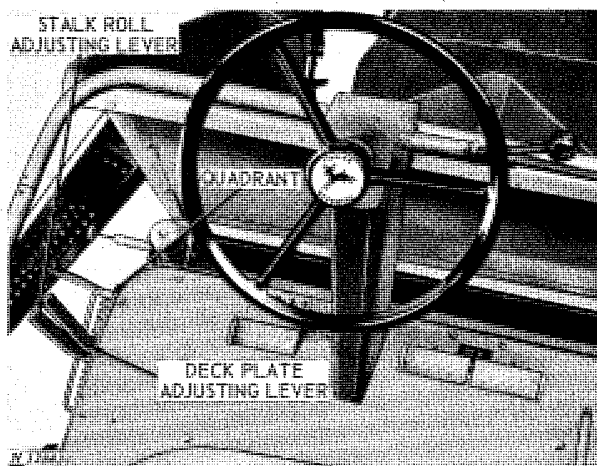
A down corn attachment (special equipment) can be installed to prevent down stalks from wrapping around and lodging on the outer gatherers. It will also help to stop plugging by directing the flow of material into the gatherers more smoothly.

STALK ROLLS

The stalk rolls pull the cornstalks down so the ears will be snapped on the deck plates.

IMPORTANT: Proper adjustment of the stalk rolls and deck plates is necessary to obtain maximum performance from the corn attachment and to hold field losses to a minimum. Deck plate adjustment is explained on pages 9 and 10.

ADJUSTING LEVER

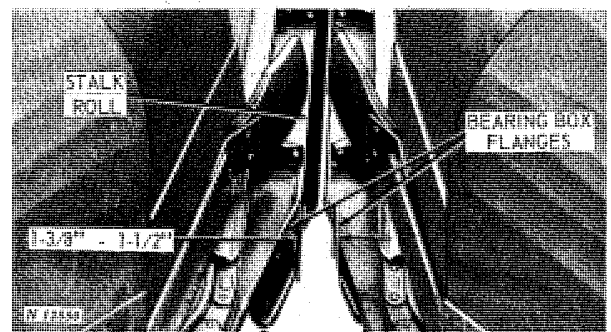


The operator can change the roll spacing from the operator's platform with the stalk roll adjusting lever. The outside lever controls the roll spacing of both row units simultaneously.

Push the lever forward to open the rolls; pull it rearward to close the rolls.

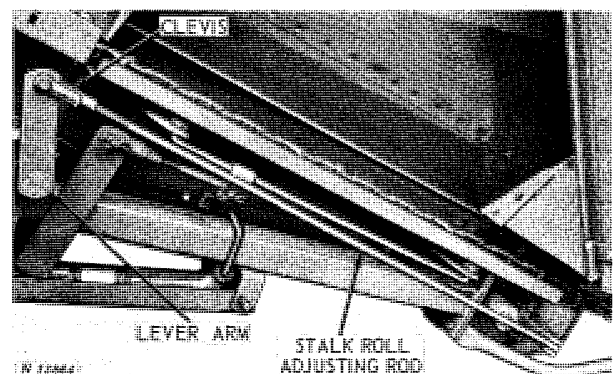
The stalk roll spacing can be changed while the machine is in operation. The stalk rolls should be open far enough so the ears are normally snapped off after they have traveled at least half-way up the deck plates.

STALK ROLL SPACING



It is very important that the spacing of all stalk rolls be set the same. With the adjusting lever at the rear of the quadrant, the rolls should be spaced so there is a space of 1-3/8 to 1-1/2 inches between the bearing box flanges at the front of the stalk rolls. The distance between stalk roll point tips should be 3-5/8 to 3-3/4 inches.

If the distance between the bearing box flanges is more or less than the 1-3/8 to 1-1/2 inches required, the stalk roll linkage must be adjusted.



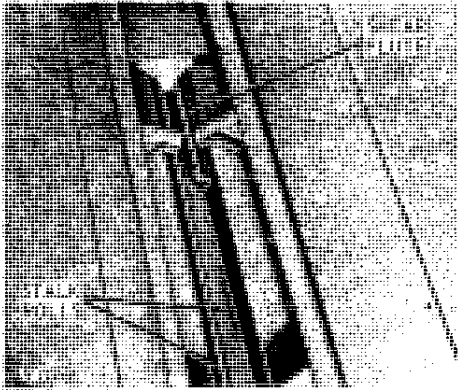
To adjust, remove the pin which holds the clevis to the lever arm. Turn the clevis on the

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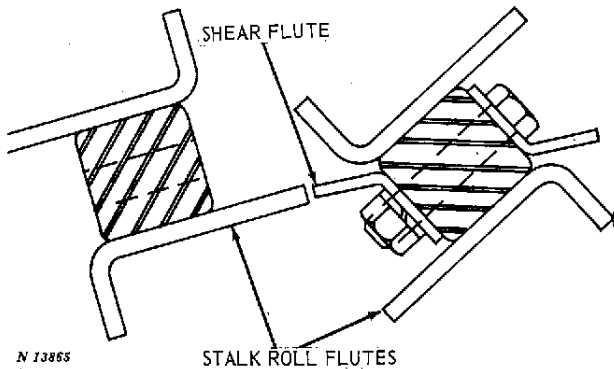
stalk roll adjusting rod to lengthen or shorten the rod as required. Lengthen the rod and clevis assembly to increase the distance between stalk rolls; shorten the assembly to decrease the distance. After adjusting, connect the clevis to the lever arm on both sides of the attachment and pull the lever to the rear of the quadrant. Measure the space between stalk roll bearing brackets to be sure the spacing is correct.

TIMING STALK ROLLS

If the stalk rolls are not in time, the flutes may break off the stalks. When timed properly, the flutes on the rolls will alternate smoothly and there will be no clashing when the rolls are turned.



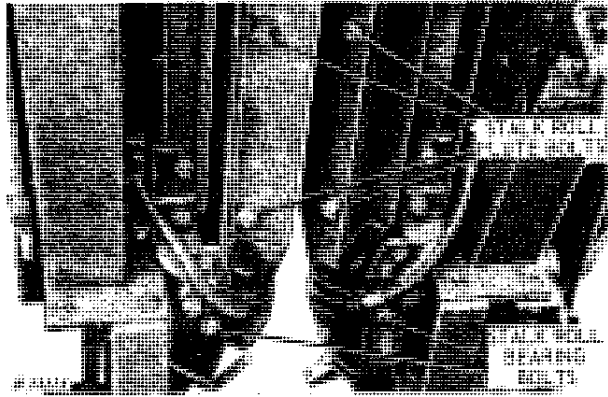
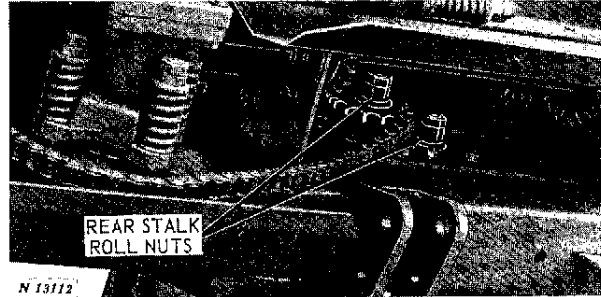
The shear flutes on the stalk rolls are designed to cut off any stalks that may reach the upper end of the stalk rolls.



The shear flute must be positioned so it is directly opposite a stalk roll flute as shown above. If not, the flutes must be timed as follows.

To time the shear flutes on the stalk rolls, remove the two nuts from the rear end of either roll, (preferably the roll without the drive sprock-

et). Remove the bearing bolt at the front of the same roll. Pull the free roll down until the gears are out of mesh. Turn the roll until the shear flute is directly opposite one of the stalk roll flutes as illustrated above.



When the rolls are timed properly, slide the roll back into place. Replace the front stalk roll bearing bolt and nut and the two nuts and lock washer at the rear of the stalk rolls. Tighten all nuts and bolts securely.

STALK ROLL BOLTS

Periodically check the nuts on the bolts through the stalk roll bearing assembly located at the front of the stalk rolls. These nuts should be tight at all times. If the bolt is not tight, tighten it to a minimum of 85 ft-lbs torque.

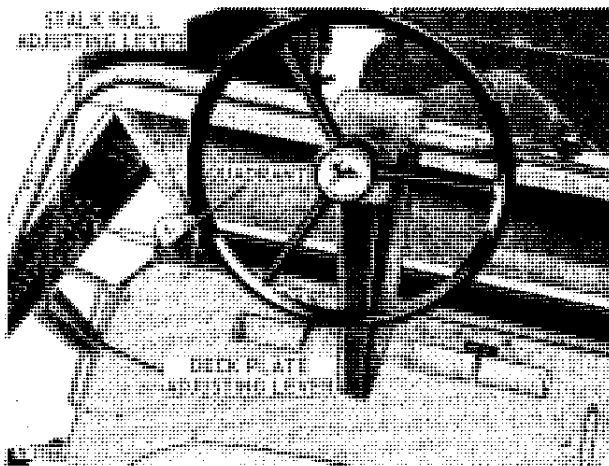
At the same time, check the nuts holding the stalk roll flutes in place. They must be tight at all times. Tighten these bolts to 85 ft-lbs torque.

IMPORTANT: Use only 1/2" x 2-1/4" high-strength bolts to hold the flutes to the rolls.

DECK PLATES

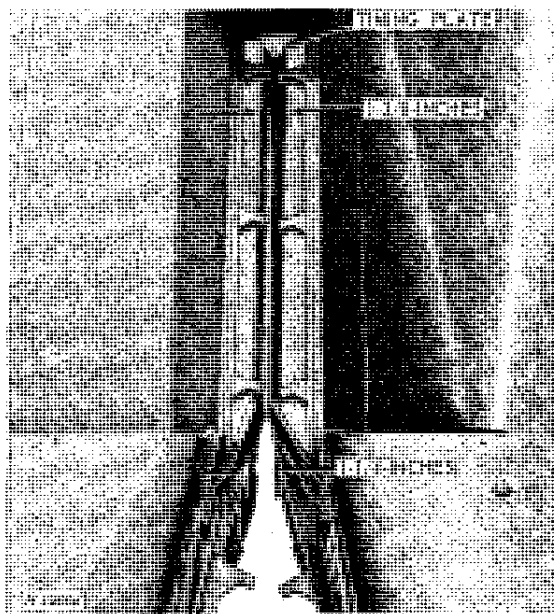
The deck plates snap ears from the stalks as the stalks are pulled down by the stalk rolls. The deck plate spacing can be adjusted to meet varying crop conditions by moving the inside lever accessible from the combine operator's platform. Deck plates should be open as far as possible without causing shelling.

ADJUSTING LEVER



The deck plate adjusting lever controls and operates the outside deck plates. Move the adjusting lever forward to open the deck plates and rearward to close the plates.

DECK PLATE SPACING



For most conditions, adjust the deck plate

lever so the spacing of all the deck plates is 1-3/8 inches at the rear, and 1-1/4 inches at the front.

Increase the deck plate spacing if the stalks and ears are larger than average. Decrease the spacing if the stalks and ears are smaller than average. Too wide of spacing for a given condition will allow the ears to come in contact with the stalk rolls causing ear butt and tip shelling.

A good method of checking to see if the plates are set too far apart is to take the tip of an average size ear of corn and see if it will fit far enough between the deck plates to come in contact with the stalk rolls. If it does, decrease the deck plate opening.

CAUTION: Shut off combine engine before placing hands near stalk rolls.

If deck plates are set too close together, stalks may tend to break off and plug the gatherer throat opening and overload the combine.

IMPORTANT: The deck plates should be set so each deck plate is the same distance from the center of the timing plate when the control lever is in the center of the quadrant. It is very important that all the deck plates are set the same.

The space between deck plates should always be 1/8-inch wider at the rear than at the front.

DECK PLATE ADJUSTMENTS

Adjustments are provided if the deck plates are not positioned as already explained.

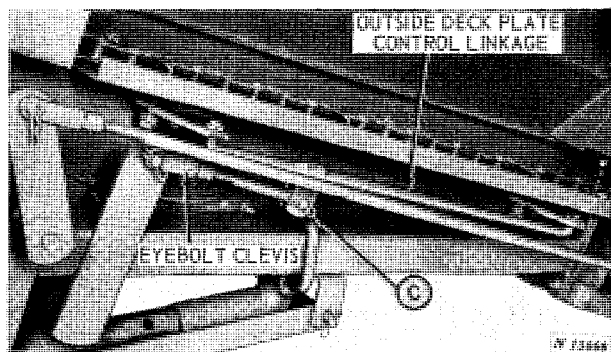
If the lever is not in the center of the quadrant when the deck plates are 1-3/8 inches apart at the rear and 1-1/4 inches apart at the front and centered over the stalk rolls, adjust the eye-bolt clevis on both sides of the machine. (See page 10.)

If the proper relationship of the deck plates cannot be obtained by moving the deck plate lever, adjust the individual deck plates.

NOTE: The center of the space between deck plates should be located over the center of space between stalk rolls.

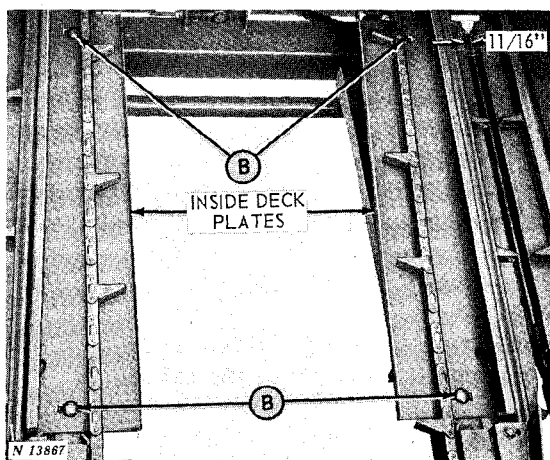
10 Operation

Deck Plate Control Lever



To adjust the deck plate control lever, remove the pin which attaches the eyebolt to the deck plate control linkage at "C." Set the deck plate adjusting lever in the middle of the quadrant without disturbing the 1-3/8- and 1-1/4-inch spacing of the plates. Adjust the length of the eyebolt by turning the eyebolt until it can be pinned to the deck plate control linkage without disturbing either the setting of the deck plates or the position of the adjusting lever in the center of the quadrant.

Inside Deck Plates

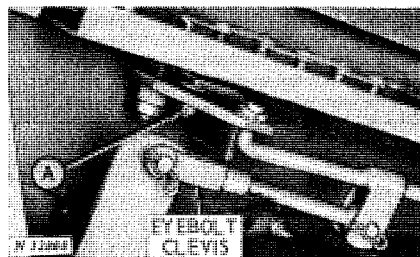


The inside deck plates are adjusted by loosening the bolts at "B" and moving the deck plates the necessary amount.

Set the rear of the inside deck plate so it is approximately 11/16 inch from the center of the timing plate. Adjust the front of the inside plate so it is parallel with the inside stalk roll.

Outside Deck Plates

The outside deck plates of each row are ad-

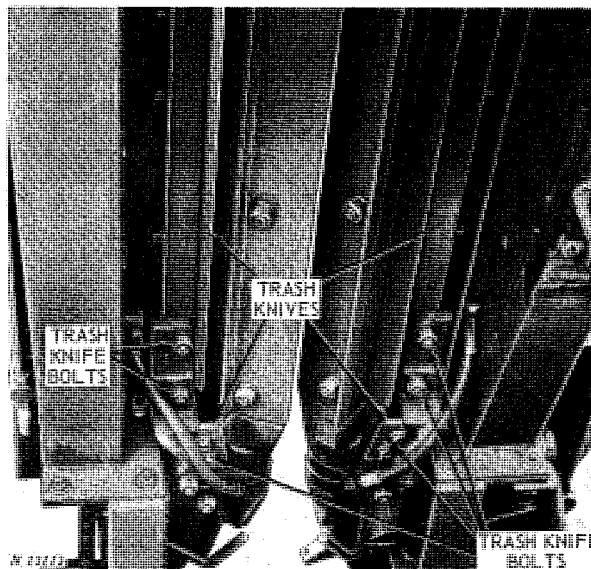


justed by an eyebolt which is located just under the deck plate. The eyebolt clevis controls the entire length of the deck plates. To close the spacing between the deck plates, turn the clevis so it shortens the length of the eyebolt. To open the spacing between the deck plates, adjust the clevis so it increases the length of the eyebolt.

If the space between the plates at the front of the unit is not 1-1/4 inches (with the deck plate adjusting lever in the center of the quadrant), adjust the eyebolt clevis until the front of the deck plate is properly adjusted.

Check the spacing at the rear of the deck plates. Make sure it is 1/8-inch larger than the front spacing. If it isn't, loosen the bolt at "A." Move the plate out to increase the spacing between deck plates. Push the plate in to decrease the deck plate spacing.

TRASH KNIVES



Trash knives prevent weeds and trash from wrapping around the stalk rolls.

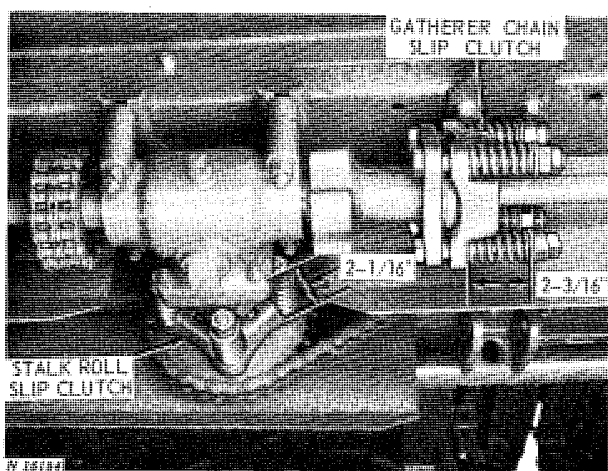
The knives should be set as close as possible

to the rolls without striking the flutes. Adjusting slots are provided in the brackets at the ends of the knife supports.

To adjust, loosen the bolts and move the brackets and knives to the desired position.

Adjust each trash knife to within 1/16-inch of the highest flute. A small trash knife is provided for the tapered section of the roll. Adjust it so it also is within 1/16-inch of the highest flute.

SLIP CLUTCHES



Slip clutches act as safety devices to protect the machine.

Should a clutch slip when the corn attachment is in operation, stop immediately, determine the cause, and correct it. Do not set the clutch under greater tension to correct the difficulty. Slip clutches are set for ordinary work without slipping. Clutches should be disassembled and cleaned at least once each season.

SLIP CLUTCH SETTINGS

The normal length of the stalk roll slip clutch spring is 2-1/16 inches. The normal length of the gatherer chain slip clutch spring is 2-3/16 inches. Measure the length of the spring only. Make sure all four springs on each slip clutch are set exactly the same.

IMPORTANT: Do not tighten nuts to the point where the clutch will not slip. Make sure the two nuts are jammed together.

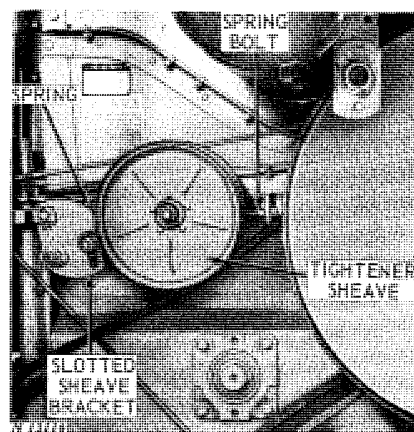
NOTE: The springs on the gatherer chain slip clutch are not interchangeable with the springs on the stalk roll slip clutch. The gatherer chain slip clutch spring is lighter than the stalk roll spring.

CORN ATTACHMENT DRIVE THROW-OUT MECHANISM

The corn attachment drive can be engaged or disengaged by the cutting platform throw-out lever on the 45 Combine and the cutting platform electric clutch throw-out switch on the 55 Combine Serial No. 55-78001 and up and the 95 Combine Serial No. 95-29001 and up. The drive on the 55 Combine Serial No. below 55-78001 cannot be disengaged, see page 36.

The drive on the 45 and 95 Combines can be disengaged at row ends if it is desired to stop the corn attachment and keep the separator operating.

ADJUSTING TIGHTENER SHEAVE ON 45 COMBINE



Adjust the throw of the tightener sheave by loosening the nut in the slotted sheave bracket and moving the sheave up or down as necessary to provide proper belt tension when the corn attachment drive is engaged.

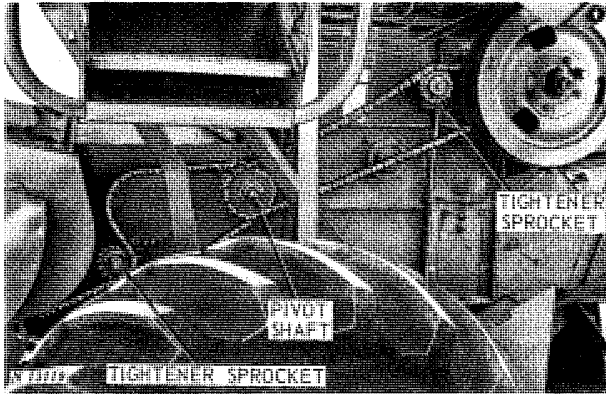
Adjust the bolt in the spring behind the sheave so the sheave is held in position when the drive is engaged.

DRIVE CHAINS

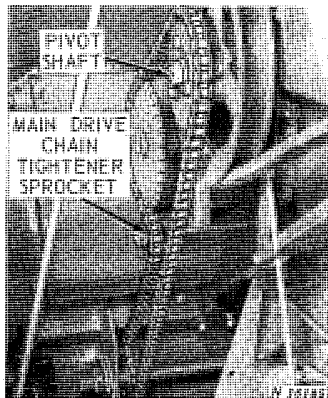
Roller drive chains should be just tight enough so they do not slap or climb sprockets.

Tightener sprockets can be adjusted to compensate for chain wear and stretch. In addition, extra offset links are provided in each chain to permit shortening as chains wear or stretch.

MAIN DRIVE CHAIN



234 Corn Attachment on 55 Combine



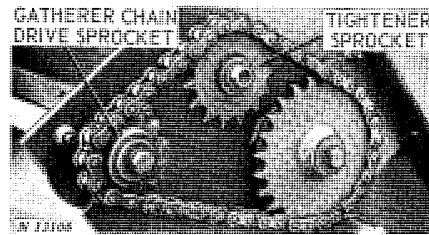
234 Corn Attachment on 45 Combine

If the corn attachment is mounted on a 55 or 95 Combine, adjust the chain between the combine beater shaft and the corn attachment pivot shaft by moving the tightener sprocket on the combine.

IMPORTANT: Raise the corn attachment before adjusting the tension of the pivot shaft drive chain.

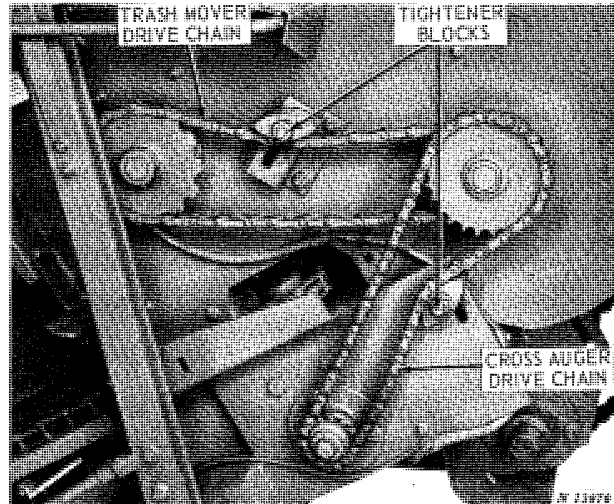
On all corn attachments, move the chain tightener sprocket in the slot to adjust tension of the chain which runs from the pivot shaft sprocket to the sprocket on the gear case shaft.

GATHERER DRIVE CHAIN



Remove the chain shield and check the tension of the gatherer drive chain. Adjust the tightener sprocket until the desired chain tension is obtained. Replace the chain shield.

TRASH MOVER AND CROSS AUGER DRIVE CHAINS



Remove the chain shield and check the tension of the trash mover drive chain. Adjust the tightener block to obtain proper chain tension. Replace the chain shield. Adjust the tightener block until the cross auger drive chain has the desired tension.



Suggest:

If the above button click is invalid.

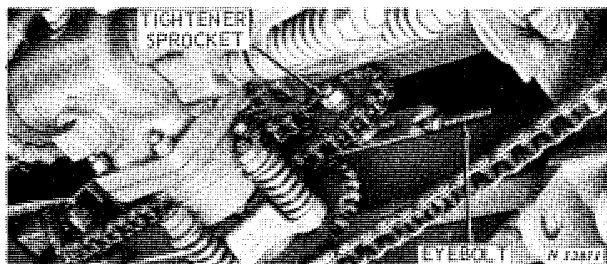
Please download this document

first, and then click the above link

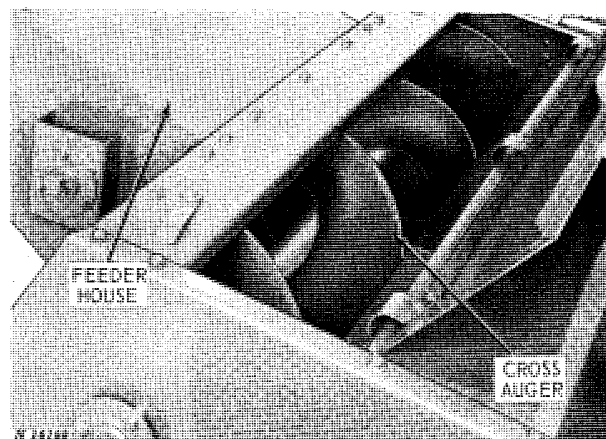
to download the complete manual.

Thank you so much for reading

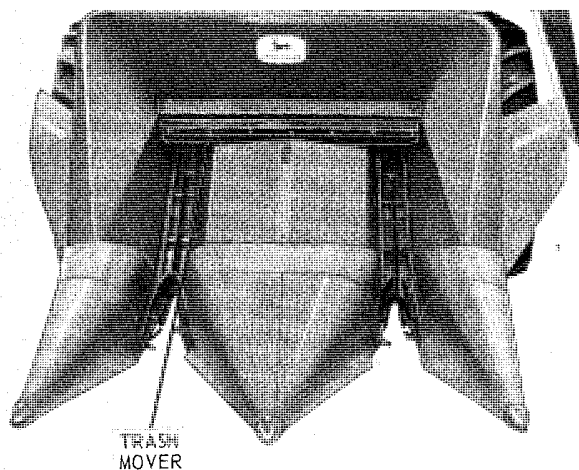
STALK ROLL DRIVE CHAIN



To adjust the stalk roll drive chain, raise the corn attachment. Lower the safety stands (page 14) into position. Loosen the tightener sprocket attaching bolt. Adjust the stalk roll drive chain tension by moving the nuts on the eyebolt which holds the tightener sprocket.



TRASH MOVER



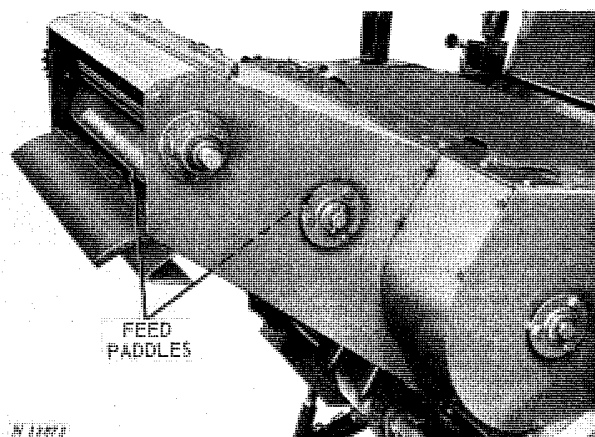
The trash mover is located directly above the gatherer chains. The trash mover starts trash and broken stalks into the cross auger housing. The rubber flaps should be replaced when worn.

When replacing, be sure the convex side of the flap comes in contact with the crop.

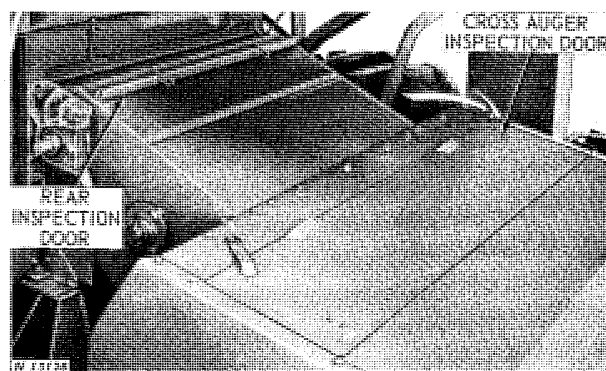
CROSS AUGER AND FEED PADDLES

A high capacity cross auger, positioned behind the trash mover, positively directs the flow of material to the feed paddles.

From the cross conveyor, feed paddles move the corn into the combine. The feeder housing is the same width as the combine cylinder.



Feeder Housing for 55 Combine



The cross auger is covered with a large inspection door. This door is held in place by two spring clips. Keep the door closed during operation for the comfort of the operator.

An inspection door is also located at the rear of the feeder housing. This door is held in place by two spring locking pins.

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