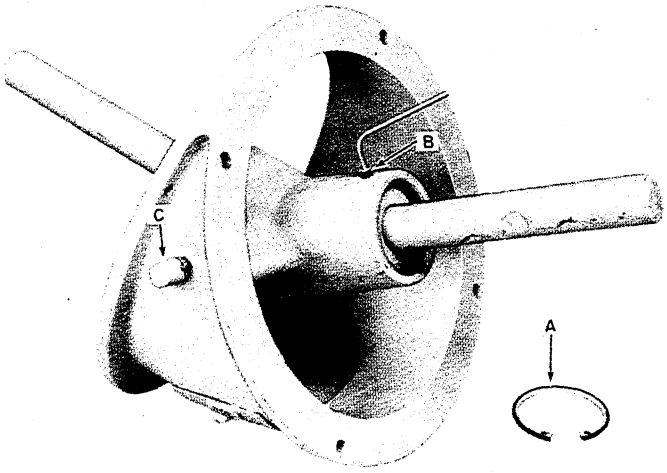


FIGURE 273

Remove the snap ring shown at Point A, Figure 273, loosen set screw B, Figure 273 and remove the shaft and bearing assembly, see Point A, Figure 274.

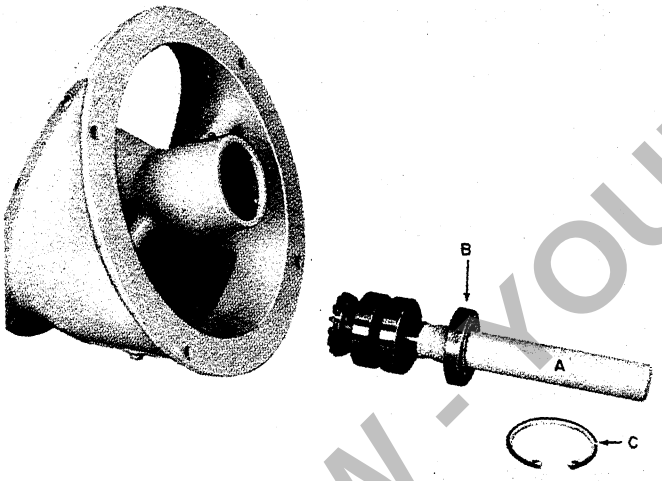


FIGURE 274

Use suitable gear puller arrangement, and remove the bevel gear from the end of the auger shaft, see Figure 275. This bevel gear is staked to the end of the shaft and has no other retainer which must be removed.

Remove the key located under the bevel gear and use suitable bearing puller to remove the bearings from the shaft, see Figure 276. Note the special spacer ring located between the bearings at Point A, Figure 276. Be sure to install it in this location during the reassembly procedure.

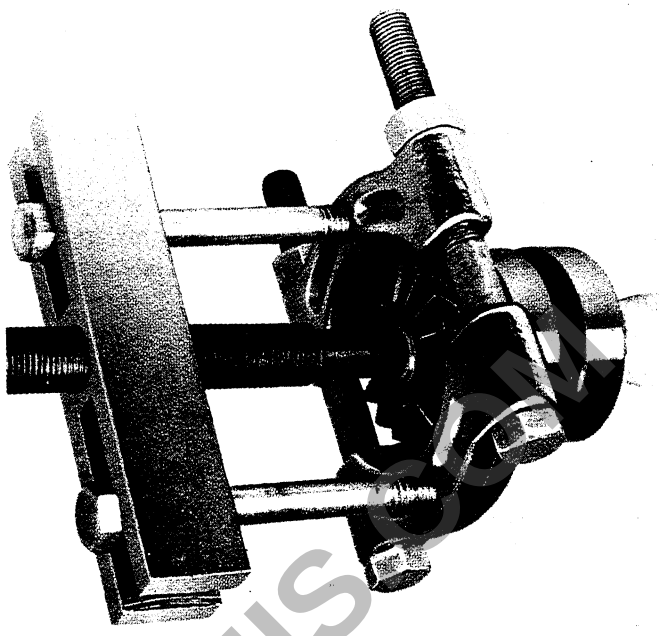


FIGURE 275

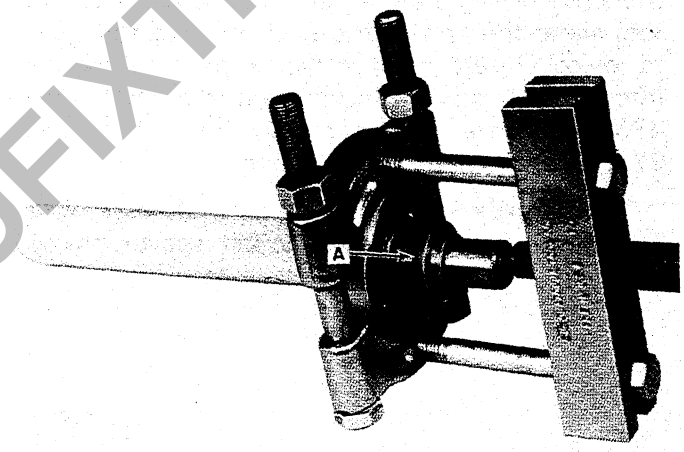


FIGURE 276

Remove the sealing ring, Point B, Figure 274, from the shaft and replace the felt ring located inside this washer as shown in Point C, Figure 272. This felt seal should be replaced whenever the gear box is disassembled. Note any spacer shims shown at Point A, Figure 272 which may be located on the shaft between seal B, Figure 274, and the snap ring or down in the gear box housing below the bearings. These spacer shims are used to adjust backlash during the reassembly process. The auger located in the opposite end of the gear box may be removed and disassembled in the same manner as described above.

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SECTION 6

CLEANING SHOE AND ECCENTRIC DRIVE AREA

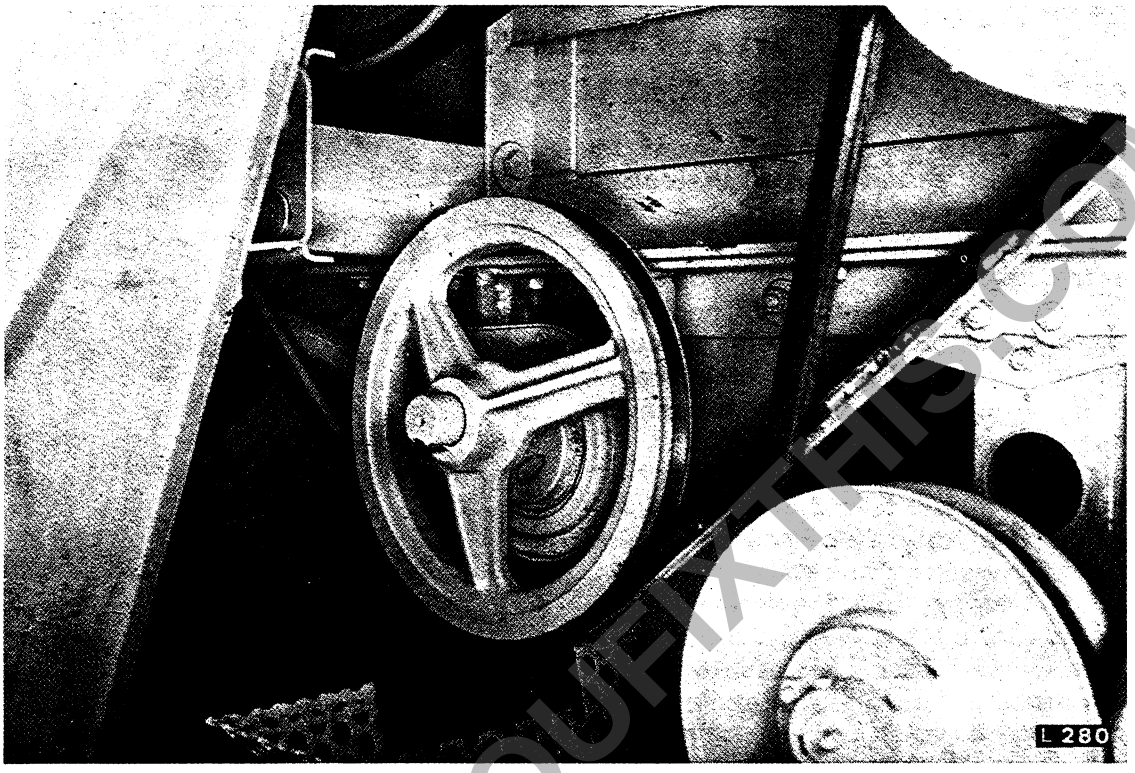


FIGURE 170

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INTRODUCTION

The eccentric shaft as well as the connecting rods for the shoe drive is mounted on sealed bearings. The eccentric shaft is mounted to the main frame. The drive belt transmits power from the fan drive sheave to the eccentric driven sheave.

SPECIFICATIONS

Drive: With hexagon belt.

Speed: 305 R.P.M.

Stroke: 40 mm (1 9/16")

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driver's platform. The cylinder is equipped with eight rasp bars, alternately four left- and four right-ribbed bars. The concave has fourteen bars. Awning plates can be installed for the threshing of crops needing more aggressive threshing, particularly barley, or other difficult-to-thresh crops. A finger grate, fitted at the rear of the concave, insures a regular flow of straw coming from the cylinder to the straw walkers. To meet different conditions in a cold or warm climate, two types of concaves have been designed, universal or small grain .

SPECIFICATIONS

		1500	1400
Cylinder:	Type:	rasp bars	rasp bars
	Number of bars:	8	8
	Diameter:	600 mm (23⅝")	600 mm (23⅝")
	Width:	1255 mm (49⅜")	1000 mm (39⅜")
	Drive:	infinitely variable V-belt drive	infinitely variable V-belt drive
	Speed range:	approx. 450-1200 r.p.m.	approx. 450-1200 r.p.m.
Concave:	Type:	bar and wire grate	bar and wire grate
	Number of bars:	14	14
	Stone trap:	standard	standard
	Awning plates:	standard	standard
	Cylinder to concave clearance:	from 1 mm (3/64") to 35 mm (1⅜")	from 1 mm (3/64") to 35 mm (1⅜")

Tightening torques: rasp bar bolts: nut 10.3 kgm (75 lb.-ft.)
lock nut 8.2 kgm (60 lb.-ft.)
Cylinder and concave spike tooth: nut 9.5 kgm (69 lb.-ft.)
lock nut 12 kgm (87 lb.-ft.)

Additional and special equipment:
- universal concave
- cylinder-cover plates
- finger grate cover plate
- cylinder speed indicator
- spike tooth cylinder and concave

REMOVAL AND INSTALLATION OF THE STONE TRAP AND CONCAVE

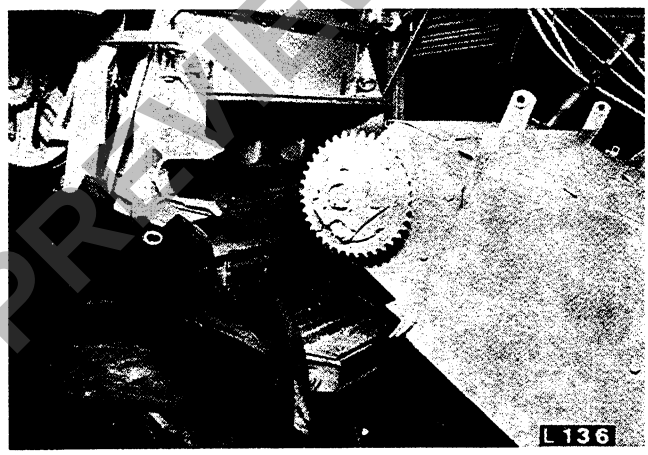


FIGURE 1

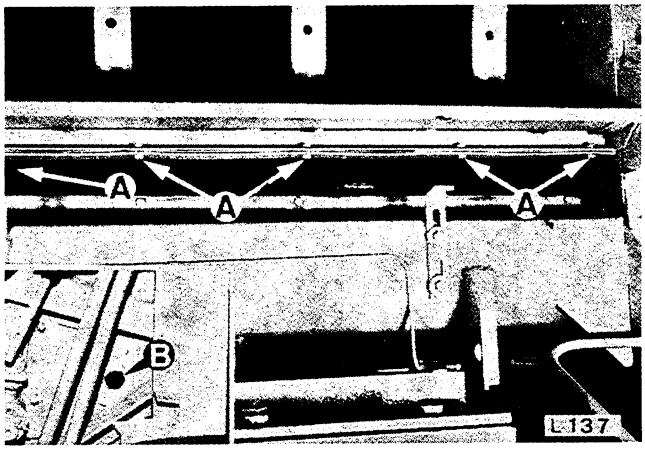


FIGURE 2

Detach the header and straw elevator from the combine, see Figure 1.

Remove bolts A and B, Figure 2, on both sides of the combine and remove the stone trap.

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REASSEMBLY OF THE FILLING AUGER GEAR BOX

Assembly of the gear box is the reverse of disassembly. Place snap ring, Point C, Figure 274, on the auger shaft. Next place spacer shims, Point A, Figure 272 on the shaft in the same order as removed during the disassembly procedure.

Install a new felt seal ring, Point C, Figure 272, into the seal washer, Point B, Figure 274, and install the seal washer on the shaft. Pack grease into the auger bearings and reassemble the bearings on the auger shaft, being sure to insert the special spacer washer, Point A, Figure 276, between the bearings.

The bearings should be positioned so the unsealed surface of each bearing faces the other bearing. Install the key, Point D, Figure 272, into the keyway and install the bevel gear on the shaft. Using a center punch or other suitable tool stake the end of the shaft to hold the gear in place. Insert one of the auger assemblies into the gear box and tighten set screw B, Figure 273. Also install the snap ring, Point A, Figure 273, into its snap ring groove.

Temporarily install the other shaft assembly in the same manner and adjust spacer shims shown at Point A, Figure 272, until the gear backlash is 0.008 maximum.

Remove the vent plug, Point C, Figure 273, and fill the area around the bevel gears with a good quality grease. Install the other auger and bearing assembly into the gear box, being sure to position the ends of the auger flighting in line, with one pointing up and the other pointing down.

Install the snap ring for this auger assembly into its groove and then tighten the screw, Point B, Figure 273. Reinstall the vent plug, Point C, Figure 273, and the assembly is ready to install back in the combine.

IMPORTANT: When the lower auger shaft is installed through the opening in the head of the clean grain elevator, it must be centered in the hole within 1/64" of perfect center. To do this move support brace G, Figure 271, and auger tube assembly E, Figure 271, in relation to one another until the auger shaft will rest freely centered in the hole of the elevator head assembly. This procedure insures that no bending is caused in the auger shaft and will prevent early failure of bearings or possible failure of the auger shaft itself.

SECTION 10

GRAIN TANK AREA

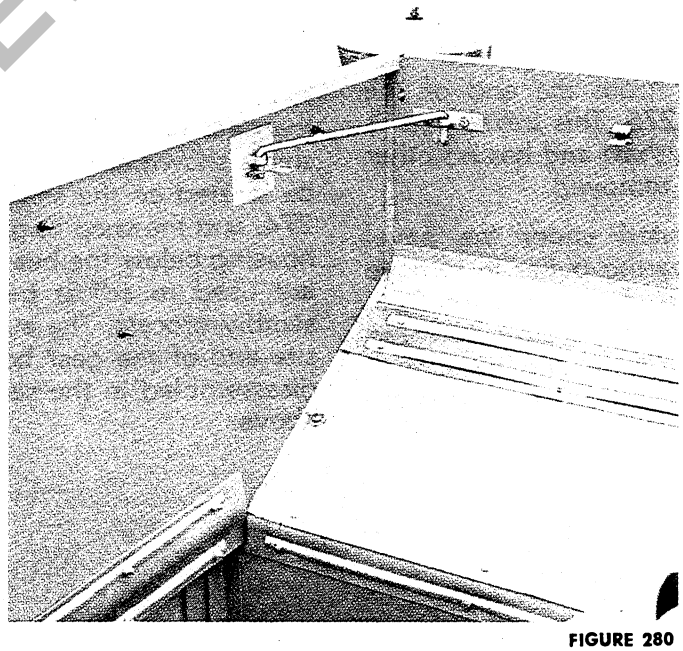


FIGURE 280

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ADJUSTMENT OF THE CLEANING FAN VARIABLE DRIVE

Adjust the nut shown at Point B, Figure 206, as well as the nut on the back side of plate F shown in Figure 206, until distance X is 164 mm (6½"). This measurement is taken from the plate to the center of the bolt as shown at Point E, Figure 206.

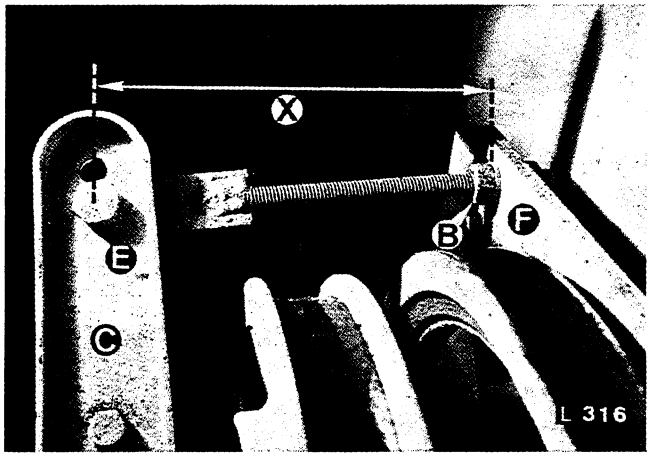


FIGURE 206

To adjust for minimum and maximum speeds proceed as follows: With the thresher running, turn the control crank until the indicator points to 2½ on the scale. In this position the pivot lever on the front end of the control crank rod should be at right angles to the control rod as shown in Figure 207A. If the pivot is not perpendicular to the control rod, remove the nuts, Point A, Figure 207 and thread the pivot block along the control rod until the pivot lever is in the proper position. Turn fan control handle with the thresher running until the indicator points to 5 on the scale as shown in Figure 207. It may be necessary to back off on lock nuts

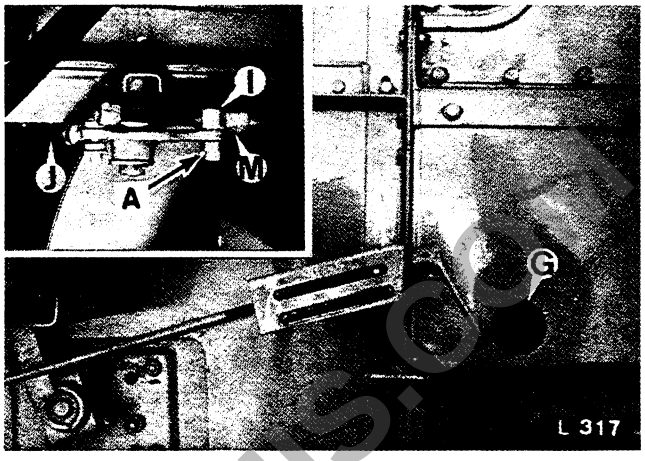


FIGURE 207

shown at Point M, Figure 207, to obtain this reading. With the indicator at 5, the drive sheave halves should be approximately 1-1/32" to 1⅜" apart. Check the cleaning fan R.P.M. at the right-hand end of the cleaning fan shaft. The fan speed should be 985 R.P.M. plus or minus 20 R.P.M. If the speed is not correct, adjust rod J shown in Figure 207, or change the distance X shown in Figure 206, until the correct R.P.M. is obtained.

With the thresher running, turn the control crank until the indicator is at zero on the scale. It may be necessary to back off on nuts shown at Point K, Figure 208. The fan speed should now be 500 R.P.M. plus or minus 20.

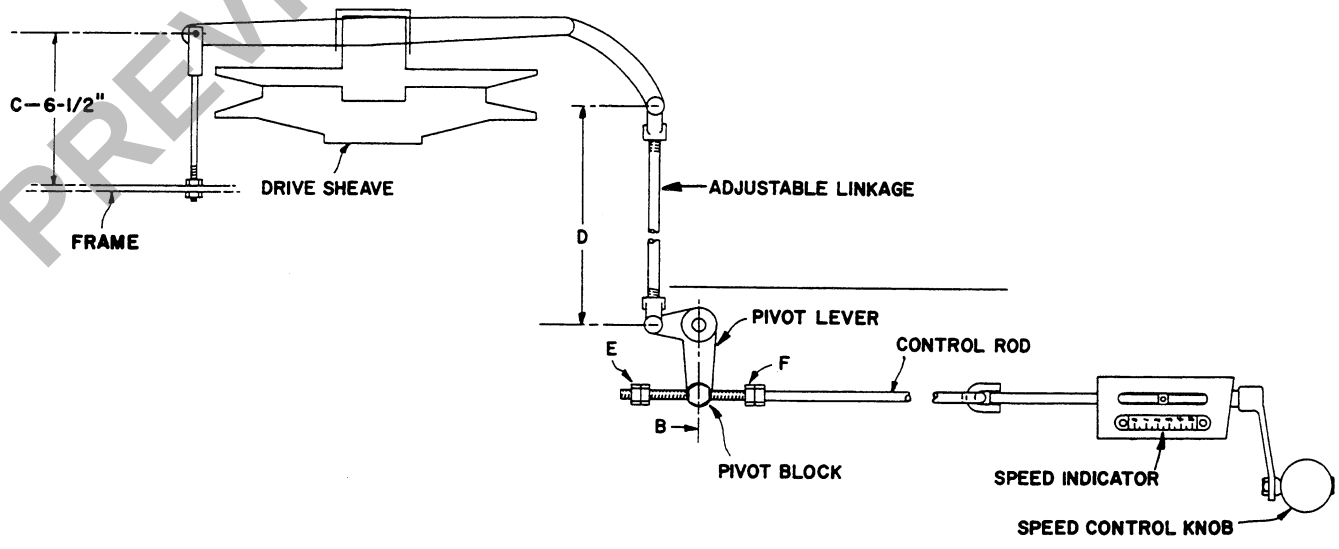


FIGURE 207A

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ADJUSTMENT OF THE CONCAVE

Place the adjustment control lever K, Figure 6, in the second position; at this stage the distance between the cylinder and the first concave bar should be 10mm (13/32"), see Figure 8. The distance between the cylinder and the tenth concave bar should also be 10mm (13/32").

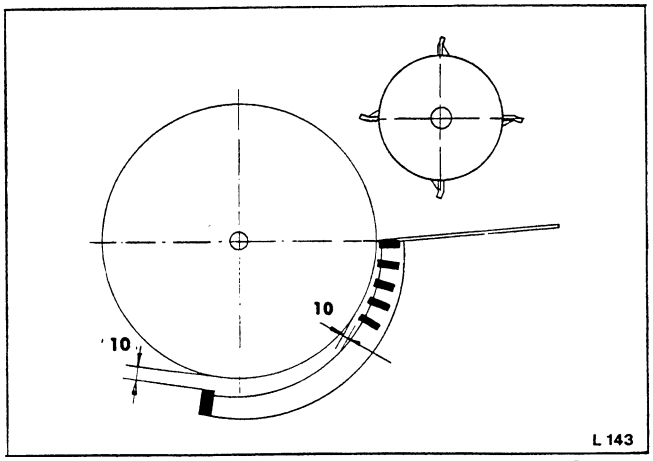


FIGURE 8

Adjust nuts L, Figure 4 to obtain this clearance. Be sure that the concave is always parallel from left to right with respect to the cylinder.

NOTE: If a front-to-rear wedge is desired for tough threshing conditions, adjust the concave as follows:

Place the control lever, located on the operator's platform, in Notch #1 (top). Adjust the clearance between the rasp bars and the second concave rub bar to 8 mm (5/16").

Adjust the clearance between the rasp and the ninth concave rub bar to 1.5 mm (1/16").

Additional minor adjustment may be necessary in specific crop conditions. Lock the concave, with the bolts D, Figure 4, when threshing corn, sorghum, beans, sunflowers, or when operating with a windrow pick-up attachment.

REMOVAL AND INSTALLATION OF THE CYLINDER

Remove the header and straw elevator from the combine.

Remove angles A, Figure 9 and the support plates B, from both sides.

Remove belt D, shown in Figure 10 and support E. Remove bolts F and pulley G, Figure 10. Also remove tachometer cable from cylinder shaft.

Disconnect rod G, Figure 11, spring H and remove snap ring I. Then remove lever J, from the cylinder shaft bearing housing.

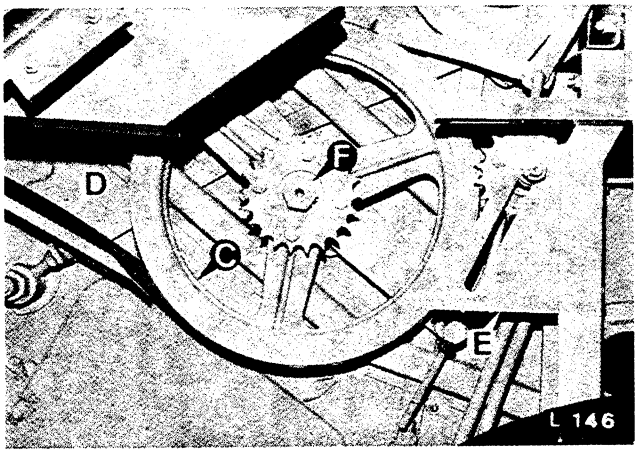


FIGURE 10

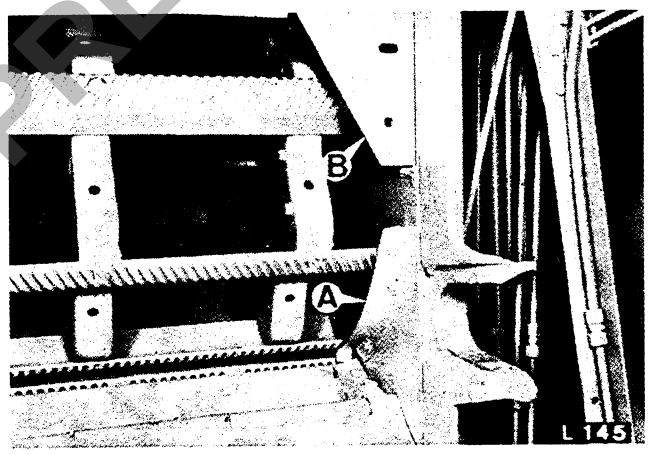


FIGURE 9

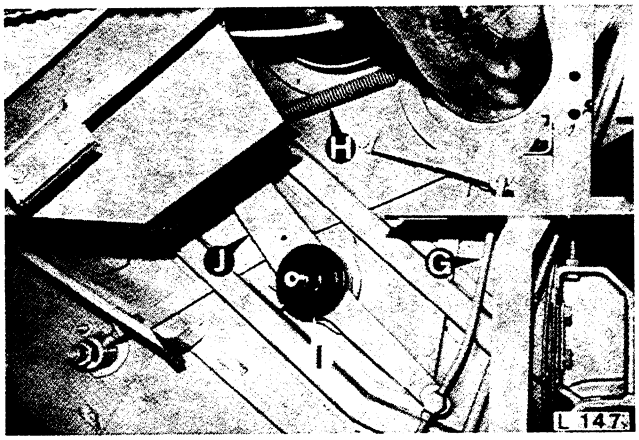


FIGURE 11

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Replacement of the Grain Tank Cross Auger 90

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INTRODUCTION

The grain tank is located on top of the machine, between the driver's platform and the engine. The unloading tube, hydraulically controlled from the driver's platform, can be shifted to different positions insuring a quick unloading of the grain tank.

A locking device, controlled from the driver's platform, locks the unloading tube in transport position.



A LOCKING PIN BLOCKS THE UNLOADING AUGER IN THE WORKING POSITION, PROVIDING SAFETY DURING MAINTENANCE FOR A MAN ON THE SERVICE PLATFORM.

The feed rate to the bottom can be controlled by using grain tank baffle plates. These plates insure a maximum unloading capacity in dry as well as in humid conditions.

An even distribution of the grain in the grain tank is insured by a bubble-up auger in the center of the grain tank.

The features of the special design of the grain tank are:

1. A large grain tank capacity.
2. Easy control of the grain tank contents.
3. A streamlined look for the machine.

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SECTION 2

BEATER AREA

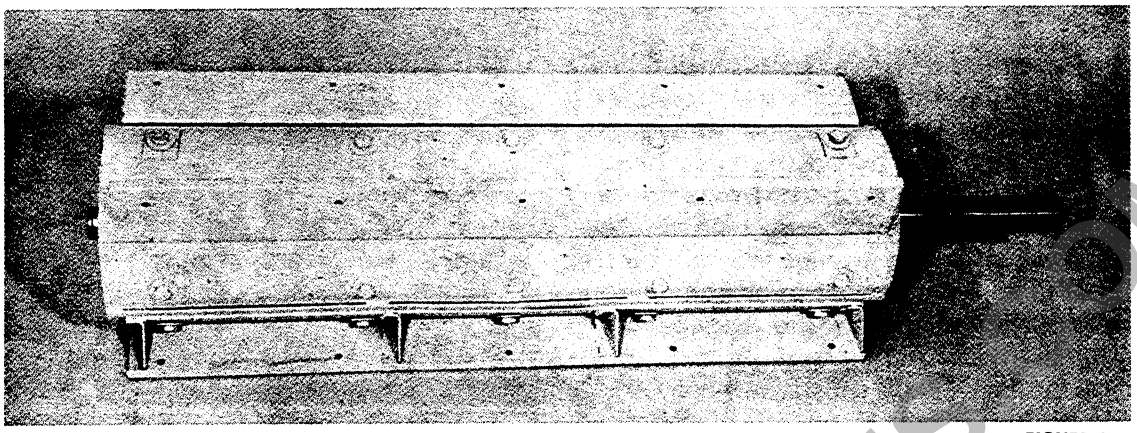


FIGURE 31

INTRODUCTION

A drum-type beater provided with four adjustable stripper plates is located just behind the cylinder. The purpose of the beater behind the cylinder is to take the straw from the cylinder and guide it over the concave rake on the straw walkers. The stripper plates throw the straw onto the straw walkers, and prevent the straw from wrapping around the cylinder. Another four additional stripper plates can be installed on the beater or, the beater can be provided with four spike bars which are very efficient for crops with long and humid straw. The inspection hole in the grain tank gives easy access to the beater.

SPECIFICATIONS

Type: drum-type provided with four adjustable stripper plates.

Drive: with a V-belt from the main shaft via a variable drive which also drives the cylinder.

Speed range: 425 to 1100 r.p.m.

Additional and special equipment: 4 spike tooth bars and 4 stripper plates.

REMOVAL OF THE BEATER AND BEATER SHAFT

Remove belt guides shown at Points A, B and C, Figure 32. Also remove belt idler, Point D, and the grain tank unloading auger drive belt.

For removal of the variator adjusting fork, refer to Section 4. Remove the cap screw, Point E, Figure 33. Thrust plate F can then be removed.

Remove the grain tank unloading auger sheave, Point G, Figure 34. Place the unloading tube in the approximate mid-position. On units below serial number 2904001 (Model 1500), the outer variator sheave half, Point H, Figure 34, will have to be removed before the grain tank unloading auger sheave can be removed. On units above this serial number, the grain

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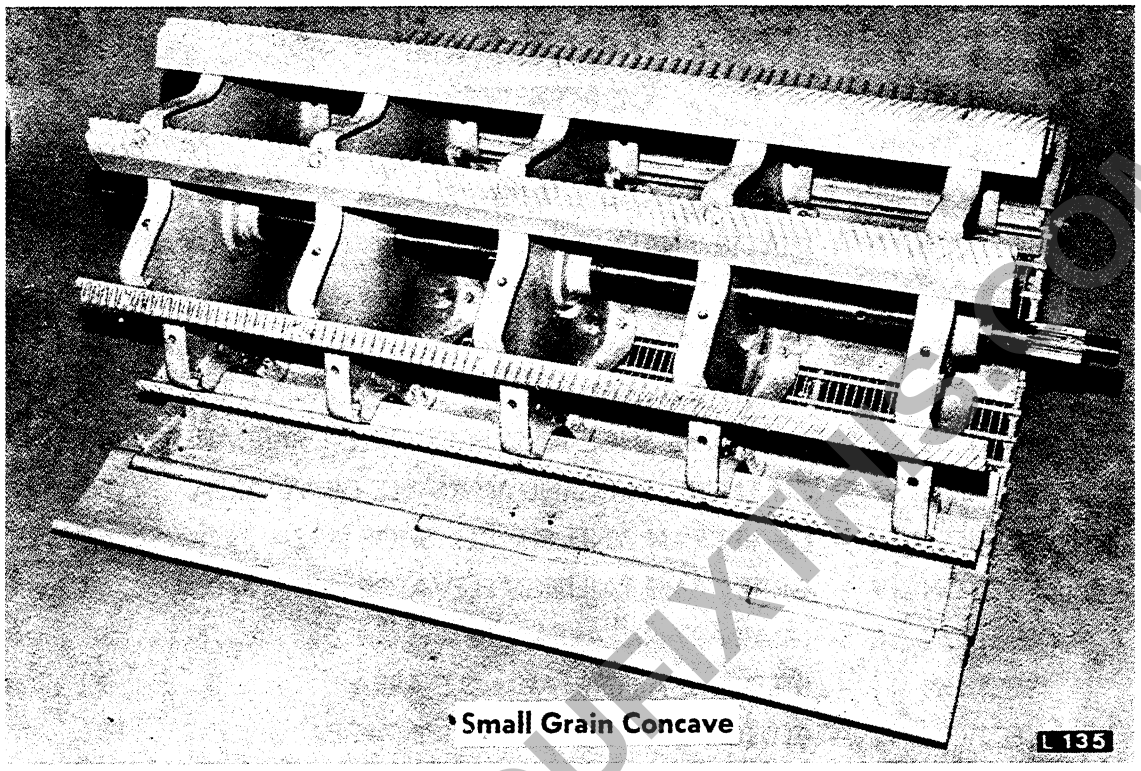
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SECTION 1
CYLINDER AND CONCAVE AREA



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INTRODUCTION

The cylinder and concave are located just behind the straw elevator, and are protected by a stone trap against stones and other foreign objects. The clearance between the concave and the cylinder is adjustable, by means of a control lever located on the driver's platform. Further fine clearance adjustment can be obtained using the adjustment rods of the concave suspension. The cylinder is driven by a variator from the main shaft. The cylinder speed is adjustable by using a control lever located on the

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bolted from the grain pan as shown in Figure 217. It is easier to remove the upper part of the cleaning shoe first.

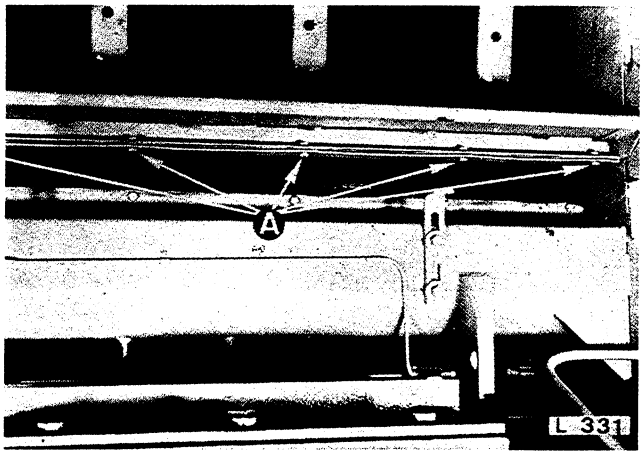


FIGURE 220

Remove bolts shown at Point A, Figure 220, at the front of the grain pan.

Remove the bearing housings shown at Point B, Figure 221, from both sides of the grain pan. Remove the grain pan from the rear of the machine as shown in Figure 223.

NOTE: If the grain pan is to be taken out the front, it will be necessary to remove the header, straw elevator assembly and the concave.

The installation of the grain pan is the reverse of the removal procedure.

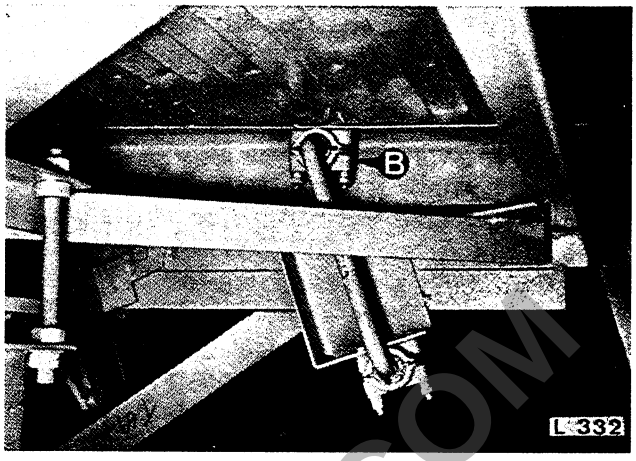


FIGURE 221



FIGURE 223

ADJUSTMENT OF THE CLEANING SHOE AND GRAIN PAN

After the assembly of the cleaning shoe and the grain pan, the following adjustments should be made:

Position the cleaning shoe and grain pan centered in the combine frame. Assemble the shoe support brackets as shown in Figure 224. Be sure that the flanges on the bearing housings are always in the direction of the suspension arm as shown at Point E, Figure 224. Tighten the bolts slightly.

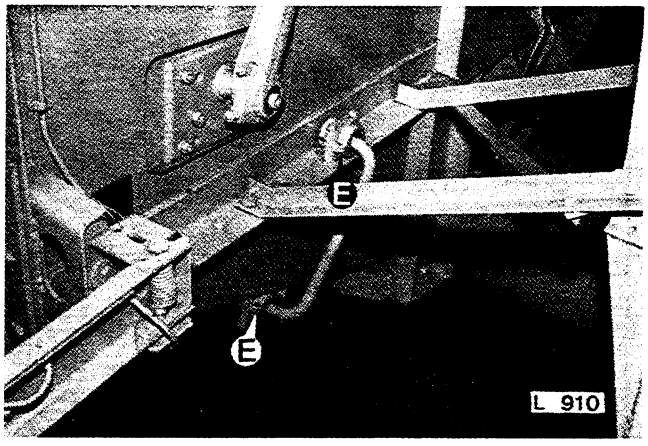


FIGURE 224

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REPLACEMENT OF THE GEAR SHIFT MECHANISM

Open the instrument panel. Remove cover plate, Point A, Figure 463, and remove bolts, Point B, Figure 463.

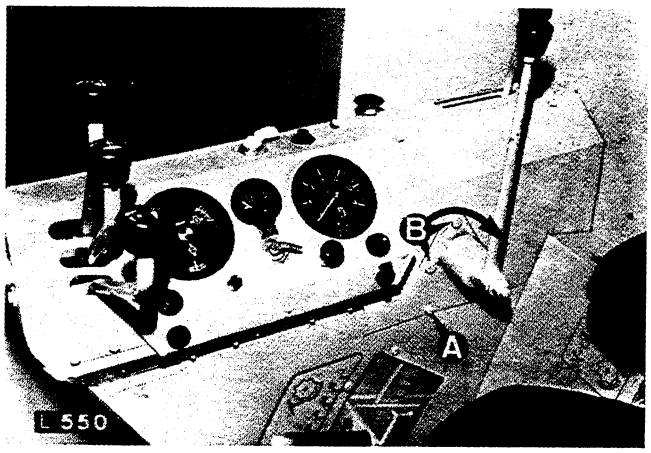


FIGURE 463

Remove nut C, Figure 464, and take all parts off the shaft.

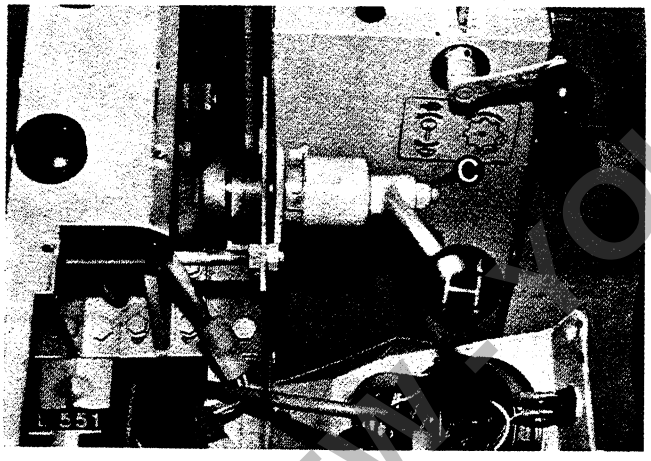


FIGURE 464

Drive the roll pin, Point D, Figure 465, out of the shaft and remove the shaft and pawl plate, Point E, Figure 465.

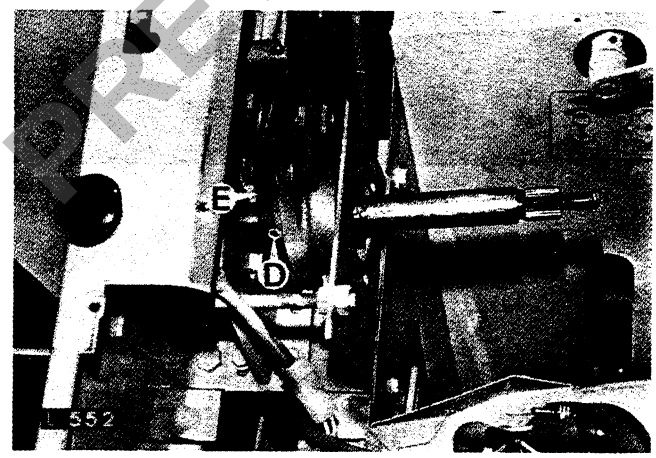


FIGURE 465

Remove the pivot pins, Point F, Figure 466, and the two bearing mounting bolts, Point G. Remove the pawl levers, Point H, Figure 466, and the bearing along the rear side.

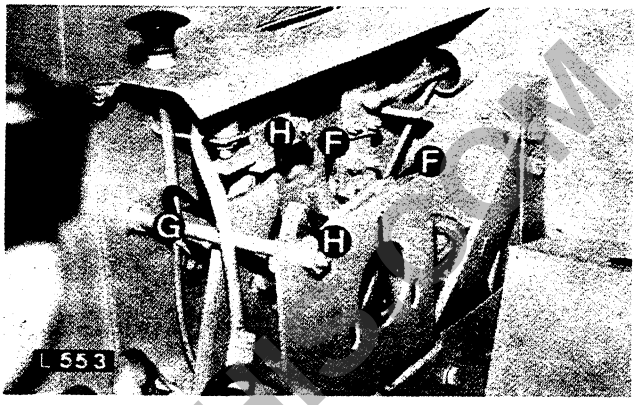


FIGURE 466

The bearing bushings can be replaced, see Figure 467.

Reassembly is in reverse of the removal sequence.

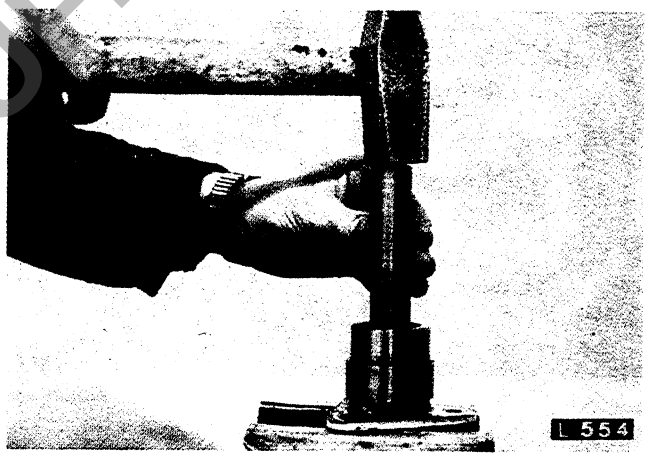


FIGURE 467

NOTE: Install a pawl plate, Point I, Figure 468, with the longest side, Point J, upwards and the

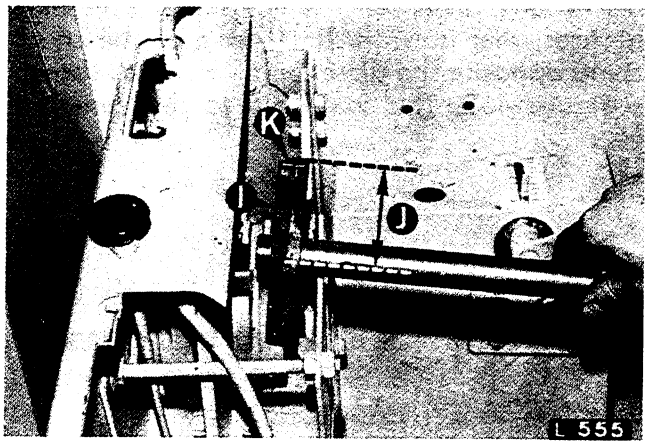


FIGURE 468

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