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MANUAL PREVIEW

# *Allis Chalmers*

## Service Manual

E

### Gleaner Combine

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AC-S-GL E

Service Manual

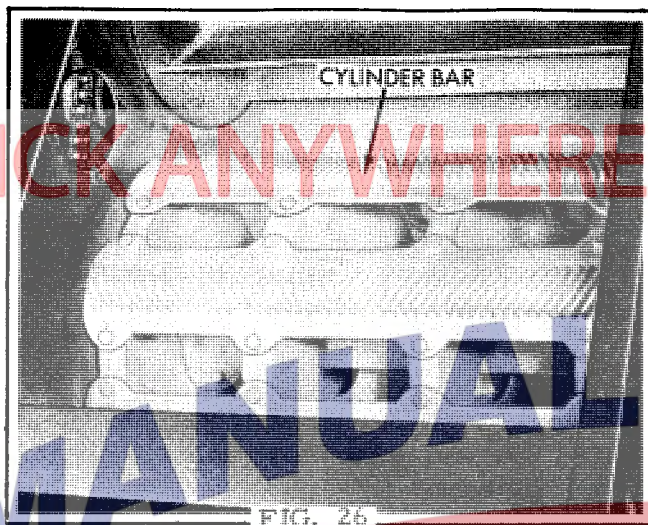
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## CYLINDER BARS



### REMOVAL

Fig. 26 - Lower header and remove thresher housing cover from thresher housing.

Remove cylinder bar attaching bolts and lift cylinder bar from cylinder.

Rotate cylinder to remove bars.

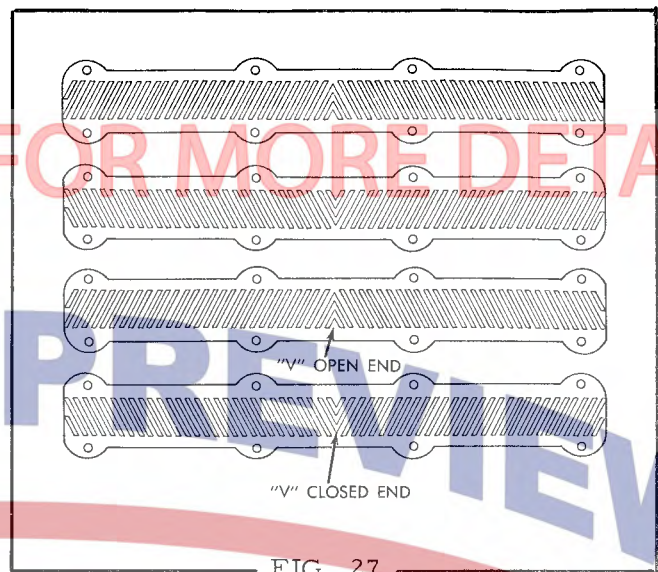
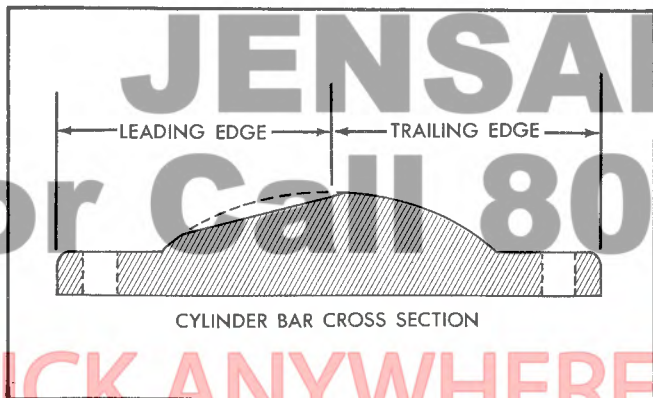
### INSPECTION

Check bars for excess wear on leading edge.

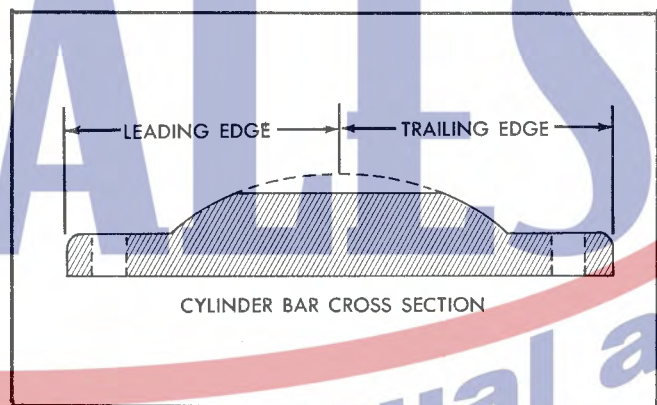
Excessive wear of cylinder bars may be indicated by improper feeding of material at cylinder or incomplete threshing of grain when combine is in operation.

If combine has been operated with the cylinder set at the correct height, a wear pattern similar to that illustrated below may be evident.

In this instance, one can turn the cylinder bar 180° and obtain use from the less worn trailing edge.



If combine has been operated extensively with the cylinder set too high, a wear pattern similar to that illustrated below may be evident.



When a cylinder bar becomes worn excessively in a pattern similar to one illustrated above, the bar should be replaced with a new one.

### REPLACEMENT

Cylinder bars are purchased in pairs and should be replaced in balanced pairs. When any one cylinder bar is replaced, the one directly on the opposite side of cylinder should be replaced. This helps to maintain proper balance of cylinder.

Bars are installed so that "V" formed by ribs on cylinder bar has its open end leading on one bar and trailing on the next one. When all cylinder bars are installed according to this pattern, every other cylinder bar will have the open end of "V" at the leading edge. (Fig. 27).

Always use new cylinder bolts when rotating or installing new cylinder bars.

## SPIKE TEETH



### SPIKE TEETH (Fig. 28) (SUBSTITUTE EQUIPMENT OR FIELD INSTALLATION)

#### REMOVAL

Lower header and remove thresher housing cover from top of thresher housing.

Remove spike from cylinder.

#### INSPECTION

Check spikes for excessive wear.

Replace broken, bent, or excessively worn spikes.

#### INSTALLATION

Bolt spikes to cylinder. Leading edge is the thin edge of spike.

#### ADJUSTMENT

Adjust spike teeth concave bars on concave, so

that cylinder spikes pass directly in the center between concave spikes.

Rotate cylinder and check clearance of all spikes.

When spikes are not centered the decreased clearance on one side of cylinder spike can cause crackage of grain and excess straw breakage.

The opposite side of a non-centered spike will have greater clearance than normal and will allow grain to pass through unthreshed.

To adjust clearance between end of spike teeth and concave bars, loosen chain tension on the cylinder drive chain and thresher beater drive chain. Move adjusting nuts at cylinder supports up or down to lower or raise cylinder. Re-adjust chain tension and install thresher housing cover.

Fig. 29 illustrates spring teeth which are sometimes used in real rocky conditions when spike teeth are installed on cylinder. Springs should also be centered between cylinder spikes.

Remove nut and washer from L.H. end of cleaner fan. Pull sheave and sprocket assembly from shaft and remove woodruff key.

Loosen setscrews in fan spider assemblies. (Fig. 71).

Remove bearing locking collars by loosening setscrews and turning collar in the opposite direction of shaft rotation.

Remove bearing flanges and pull bearings.

Pull shaft from L.H. end of fan housing and remove fan spiders from within the fan housing.

### INSPECTION AND REPAIR

Inspect bearings.

Replace worn fan blades.

Inspect belt and chain for excessive wear.

### INSTALLATION

#### SEPARATOR FAN

Place fan spiders into fan housing so that the flat surface of the spider arm is the leading side when fan is rotated in the proper direction.

Install separator fan shaft. The separator fan shaft has no threaded end as does the cleaning fan shaft.

Bolt fan blades to spiders and position spiders on shaft. The separator fan shaft has two machined flats on it to receive setscrews in hubs of spider assembly. Be sure spider assembly is directly over flats so that setscrew will seat properly in shaft when tightened.

Install the L.H. and R.H. bearing and bearing flanges. Place locking collars on shaft. Center fan in fan housing and tighten bearing locking collars in the direction of shaft rotation.

Install woodruff key (1/4" x 1") in L.H. end of shaft and install fan drive sheave. Long hub of sheave is toward end of shaft.

#### CLEANING FAN

Place fan spiders into fan housing so that the flat surface of spider arm is the leading side when fan is rotated in the proper direction.

Note that the L.H. end of cleaning fan shaft is threaded and install shaft.

Bolt fan blades to leading edge of spiders and position spiders on fan shaft. The cleaning fan shaft has two machined flats on it to receive setscrews in hubs of spider assemblies. Be sure that spider assembly is directly over flats, so



FIG. 72 (L.H. SIDE)

that setscrew will seat properly in shaft when tightened.

Install the L.H. and R.H. bearing flanges and bearings. Place locking collars on shaft. Center fan in fan housing and tighten bearing locking collars in the direction of fan shaft rotation.

Install woodruff key and press the sheave and sprocket assembly on L.H. end of fan shaft.

Install flat washer and nut. Tighten nut and continue pressing sprocket hub on tapered end of shaft.

Install the eccentric drive chain and separator drive belt.

#### SEPARATOR DRIVE BELT ADJUSTMENT (Figs. 70 and 72)

The separator drive belt is adjusted by moving the countershaft assembly forward.

Loosen countershaft bearing flange bolts and bearing support plate attaching bolts on both the L.H. and R.H. ends of countershaft.

Tap bearing flanges with hammer to make sure the bearing is free and can move in flanges.

Tighten draw bolt nuts and move countershaft forward until belt is under the proper tension.

The R.H. end of countershaft should be moved forward an amount equal to that of L.H. end of shaft if possible.

Retighten all mounting bolts.

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## REMOVAL AND DISASSEMBLY

Fig. 114 - Remove drive wheel. Drain oil from housing. Remove eight capscrews attaching final drive to axle tube and remove capscrews attaching final drive to adapter.

Remove cap from inner end of axle shaft. Remove cotter pin and take nut and washer from shaft.

Fig. 113 - Drive axle shaft from bearings and remove bearings from cups.

Remove pan and lift out final drive gear. Drive bearing cups from housing and remove snap rings.

Pull bearing and oil seal from axle shaft.

## INSPECTION AND REPAIR

Clean and inspect bearings and bearing cups for excessive wear.

Check oil seals for nicks or stiffness.

Check gear teeth and splines of axle shaft.

## REASSEMBLY AND INSTALLATION (Fig. 113)

Install snap rings in housing and seat bearing cups down against snap rings.

Place final drive gear in housing. The long side of gear hub should be toward outer side of housing.

Install spacer. The flange on spacer should be toward inner bearing and away from gear.

Slide oil seal onto axle shaft followed by the outer bearing.

Place axle shaft into housing. Install inner bearing washer and nut. Tighten castellated nut until axle shaft rotates freely but no end play exists. Install cotter pin and cap.

Bolt pan to final drive housing.

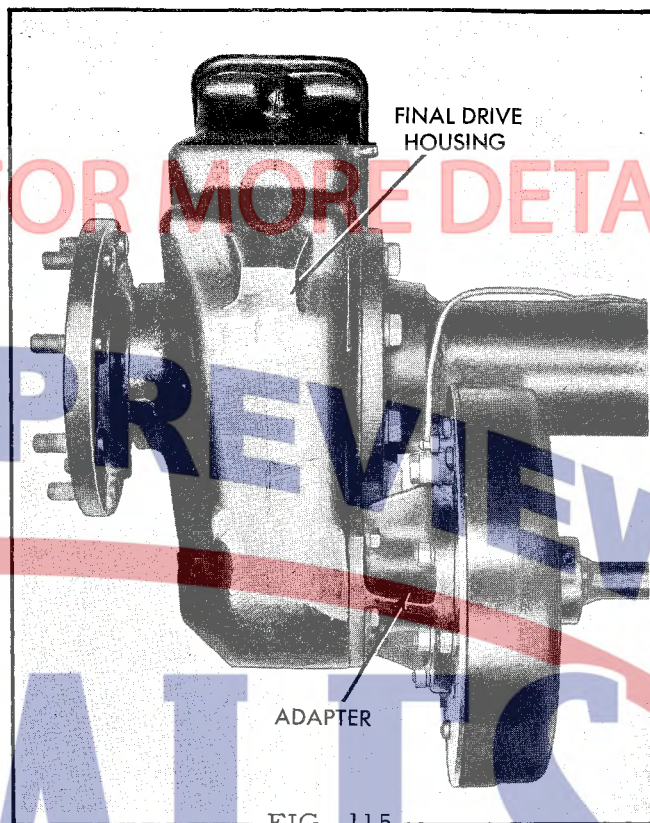


FIG. 115

Fig. 115 - Bolt final drive housing to axle tube and to adapter. Tighten the eight capscrews attaching final drive to axle tube to 150 ft. lbs.<sup>®</sup> torque.

Place the exact number of shims removed back between the final drive housing and adapter. These shims are used to obtain adjustment of axle drive shaft bearings. Shims are added or removed as needed to obtain a free rolling fit without end play.

Fill final drive housing to filler plug level with S.A.E. 90 E.P. lubricant.

Bolt drive wheels to hub of axle shaft.