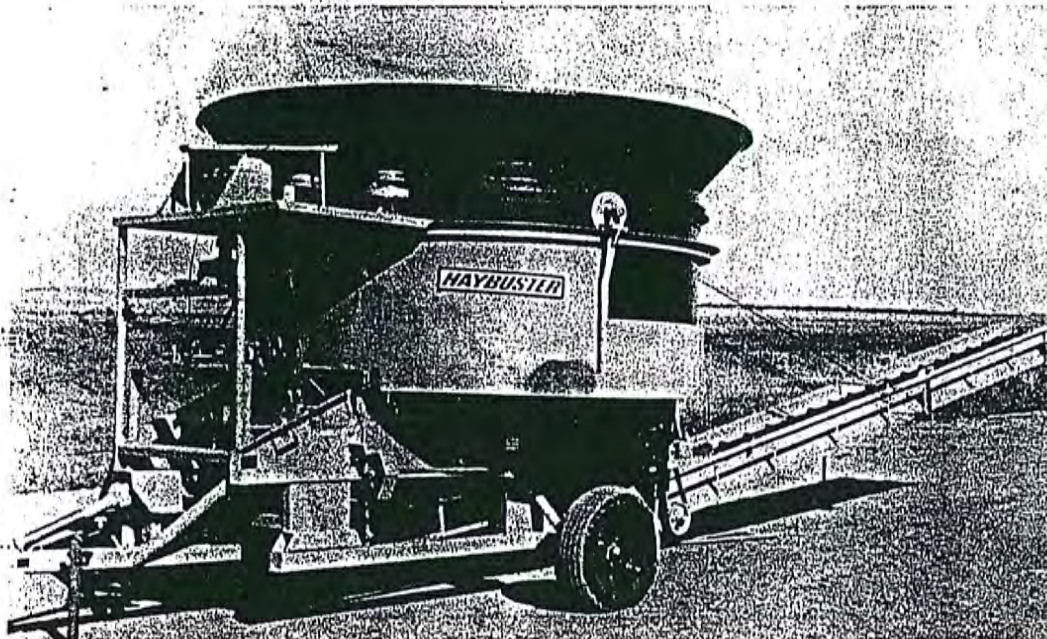


No. 74

HAYBUSTER

C11A TUB GRINDER



COMMERCIAL MODEL

OPERATORS MANUAL MAINTENANCE - PARTS

— — — — —

HAYBUSTER MFG., INC.

BOX 1008 - JAMESTOWN, N. D. 58401

0500007

HAYBUSTER GRINDER WARRANTY

For one year from purchase date, HAYBUSTER DISTRIBUTING will replace for the original purchaser, free of charge, any part or parts found upon examination at our factory in Jamestown, North Dakota, to be defective upon normal use and service, on account of defects in material or workmanship. HAMMERS, SCREENS, BELTS, BEARINGS and TIRES ARE NOT INCLUDED IN THIS WARRANTY.

This warranty shall not be effective if the machine has been subject to misuse, negligence, or accident, nor if the machine has been altered outside of our factory, which in our judgement effects its condition or operation.

WARRANTY REGISTRATION FORM MUST BE FILLED OUT AND SIGNED TO VALIDATE YOUR WARRANTY PROTECTION

HAYBUSTER WARRANTY REGISTRATION (PLEASE PRINT IN INK)

OWNERS NAME _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

DEALERS NAME _____

DEALERS ADDRESS _____

MACHINE INFORMATION

MODEL _____

SERIAL NUMBER _____

DATE PURCHASED _____

**VALID ONLY IF FILLED IN AND RETURNED
WITHIN 30 DAYS OF PURCHASE TO:**

HAYBUSTER MFG.
BOX 1008
JAMESTOWN, NORTH DAKOTA 58401

REPLACEMENT PARTS ARE AVAILABLE ONLY THROUGH YOUR HAYBUSTER DEALER.

To obtain the fastest service, always remember to:

1. Order by part number
2. Give the machine year and model.
3. Include the serial number.

SPECIFICATIONS

Weight 6230#
Width 11'
Height 9'
Length 15' 6"
Wheels Drop center rims, Timken Bearings
Bearings All standard size, grease sealed
Recommended tire size 9.00 - 9.50 x 15, 8 ply
Recommended power 80 to 250 H.P.
Main Drive PTO, 1000 RPM
Capacity varies with type of hay, HP & screen size

HAMMERMILL

Standard number of hammers 56
Hammer Size 2-1/2" x 7-3/4" x 5/16 or 3/8"
Cylinder Shaft Diameter 3" stress proof
Cylinder Size 34" long, 26" diameter with hammers extended
Screen Area 1836 Sq. In.
Hammer Pins 8, each 15/16"

FEED DELIVERY

Conveyor 22', with rubber belt conveyor with rubber slats

TUB

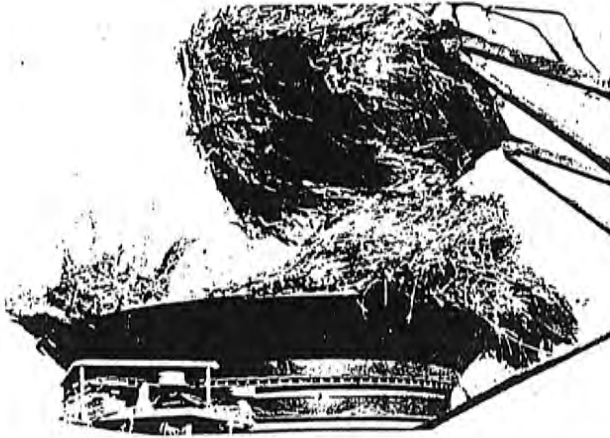
Width 11'
Depth 58"
Tub Drive Variable speed, chain driven

OPERATING YOUR TUB GRINDER

FEEDING THE TUB

Remove wire from wire tie bales. String does not have to be removed from string tie bales, but smoother operation will result if you do.

A grapple fork works best for feeding loose hay. Take small enough bites so that hay does not hang over the edge of the tub, for better feeding.



ROCKS IN THE TUB

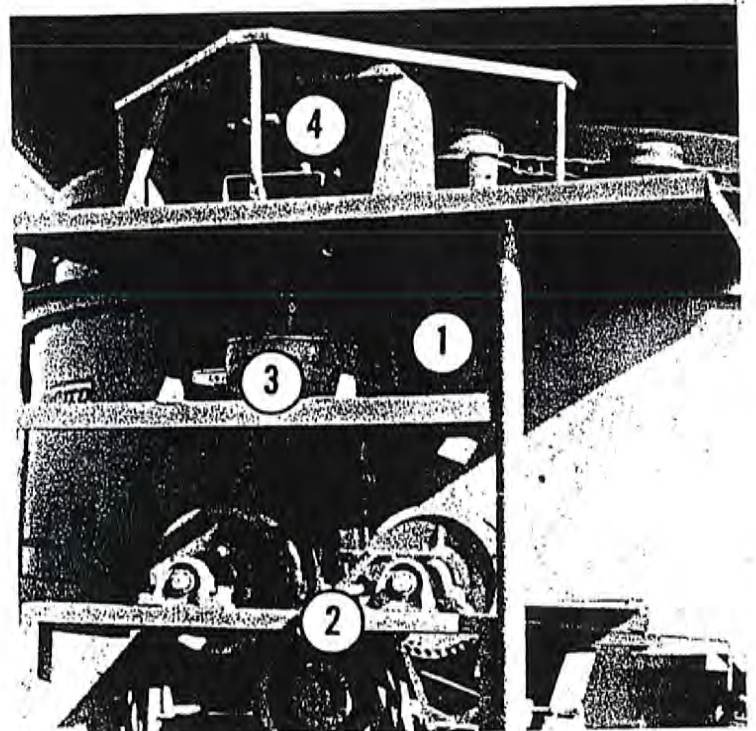
Stop the tub and cylinder and remove. CAUTION: be sure the machine is shut off.

TUB SPEED

The tub carries the hay across the hammers and the tub speed determines the rate of grinding. Set the tub speed according to your hay conditions and available horse power.

The tub speed is infinitely variable from 2 to 11 turns per minute by means of two pulley changes on the gear box (number 1 in the picture) plus a variable drive assembly (number 2 in the picture).

A 12 to 1 reduction gear box (number 3 in the picture) drives the tub through a 14 tooth cast sprocket (number 4 in the picture).



THE TUB MUST BE RUN FASTER FOR LOOSE HAY THAN FOR BALES

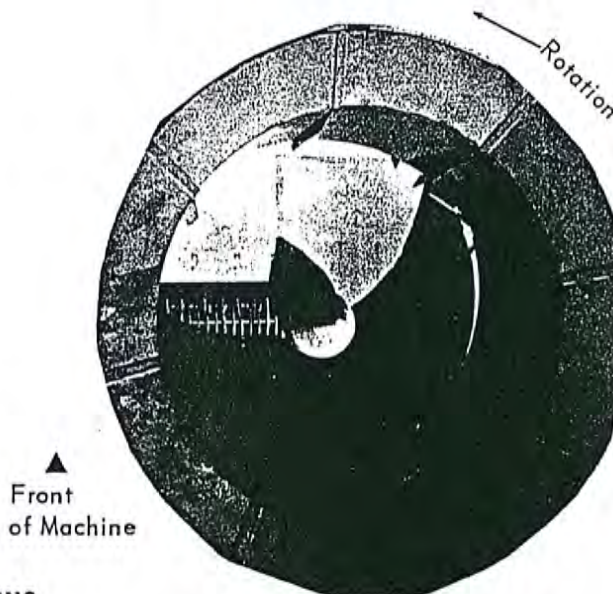
OPERATING YOUR TUB GRINDER

CYLINDER

Because the Haybuster cylinder operates at a high RPM, it is carefully test run before being installed. If hammers become worn at a different rate a slight vibration may be felt. This is acceptable. Vibration of a higher magnitude indicates that hammers may be broken and should be relocated or replaced.

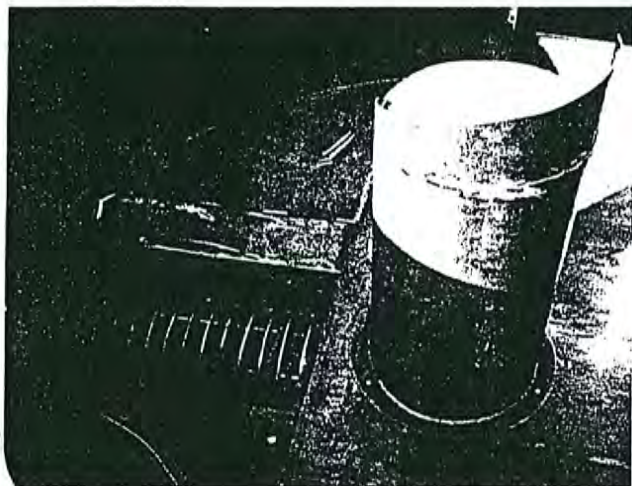
HAMMERS

For top performance it is very important to keep sharp hammers in the Haybuster, especially in tough conditions and with grass hay. The hammers have four cutting edges and may be easily turned when they become worn. Hammers are removed from inside the tub. Loosen the two $\frac{1}{2}$ " locking bolts that hold the $\frac{3}{16}$ " plate on the front of the cylinder. Rotating this plate will expose aligning holes in the front $\frac{1}{2}$ " plate and allow hammer pins to be drawn out forward. Note: check hammer location first.

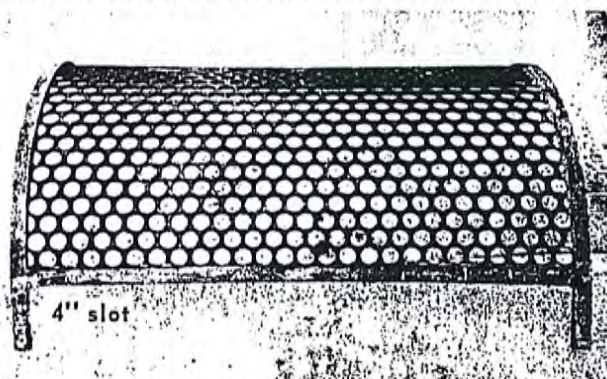


SCREENS

There are two screens beneath the cylinder of the Haybuster. This allows two different size perforations to be used at one time. By changing perforation size the desired length cut may be made. Normally a 2" and 3" screen is supplied with the machine. The 2" screen is usually installed in the entry side of the cylinder. (Left side when viewed from the front) By reversing the screens, a coarser cut can be made. Screens are also available with $\frac{1}{4}$ ", $\frac{3}{8}$ ", $\frac{1}{2}$ ", $\frac{5}{8}$ ", $\frac{3}{4}$ ", and 1" perforations. When screens become worn or rounded excessively, they should be replaced. Worn screens and worn hammers cut down grinding capacity and waste power. NOTE: When installing a new screen, hammers may hit the screen, because of close hammer to screen spacing. DO NOT SHIM UP CYLINDER BEARINGS. Remove the screen and reshape slightly or turn over and reinstall.



For damp, tough hay, a slotted one-inch screen on the entry side as shown below helps tremendously.



This side meets other screen at bottom of cylinder compartment.

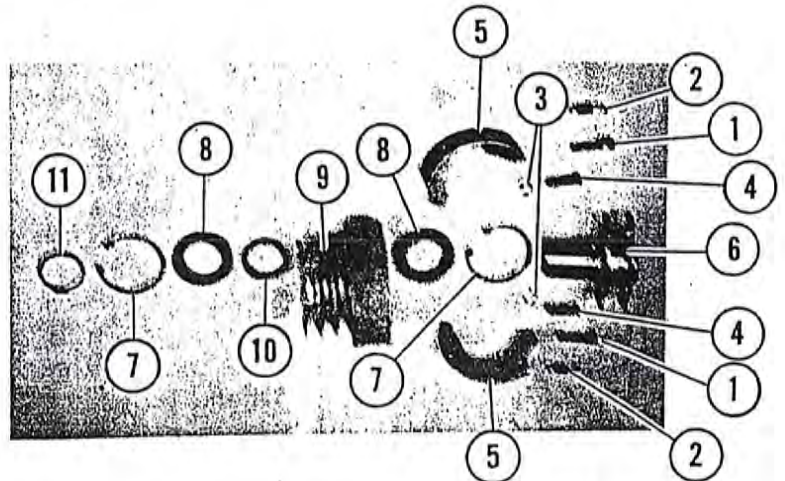
OPERATING YOUR TUB GRINDER

FEEDER TUB SPEED

The feeder tub carries hay across the hammers and the tub speed determines the rate of grinding. The tub speed must be set to hay conditions and available H.P. of the power unit. IF CLUTCH IS OPERATING QUITE OFTEN, THE TUB SPEED IS TOO FAST.

CENTRIFUGAL CLUTCH

As the cylinder speed gets up to 1700 RPM, the clutch will engage and start the tub turning. The cylinder should run at least 1800 RPM to insure that the clutch is pulled in solid and is not slipping. Excessive clutch slipping will overheat the linings and cause them to glaze. If a slug of hay pulls the tractor RPM down, the clutch will release and the tub will stop. CAUTION: Adjustment of eccentric bolts at rear of clutch is quite critical. Refer to drawing page 7. If it is necessary to clean the linings or inspect the clutch springs, remove the inside lock ring on the pulley end of the clutch and pull the drum and pulleys off.



<u>Description</u>		<u>Part No.</u>
1 2- adjusting bolts	2.50 ea	80-CB-102
2 2- springs	6100030	80-20-106
3 2- E rings	2500059	80-29-52
4 2- Pivot pins	2500058	80-25-60
5 2- Shoes	2500060 set	80-117-30
6 1- Hub	2500061	80-110-395
7 2- Snap rings, drum	2500057	80-29-65
8 2- Bearings	2000029	80-30-21
9 1- Drum.	2500056	80-159-49
10 1- Spacer		80-27-91
11 1- Snap ring, hub		80-29-63
Not Shown		
4- Spacers		80-41-15
Complete clutch number		80-60-U-17
Hub complete with shoes, bolts, springs, snap rings		80-166-11
Drum assembly with bearings, spacers, snap rings		80-159-50

OPERATING YOUR TUB GRINDER

TROUBLE SHOOTING - CENTRIFUGAL CLUTCH

Problem - Tractor pulls down too far -
Clutch kicks out too late.

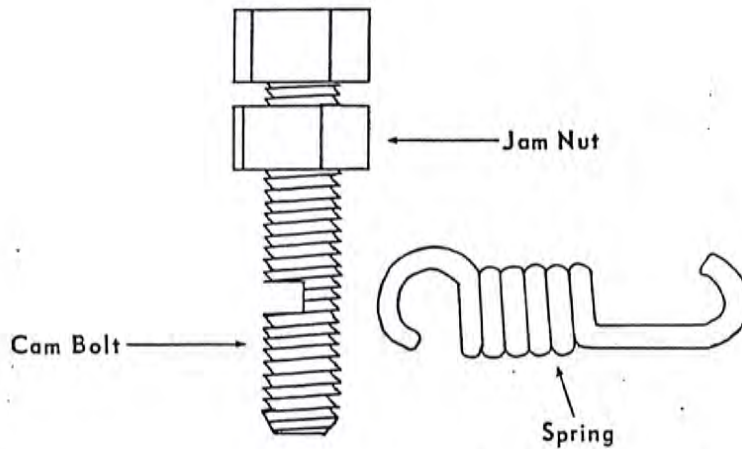
Correction - Facebolthead (Direction of Ar-
row) Use 2 wrenches - loosen Jam Nut -
Turn bolt C.W. 1/8 turn to tighten spring-
Lock Jam Nut - Adjust both bolts the same.

Problem - Too little adjustment on spring.
Still kicks out too late.

Correction - Break off one weight from each
shoe. This has same effect as stronger
spring.

Problem - Clutch does not lock in solid.
Slips and heats.

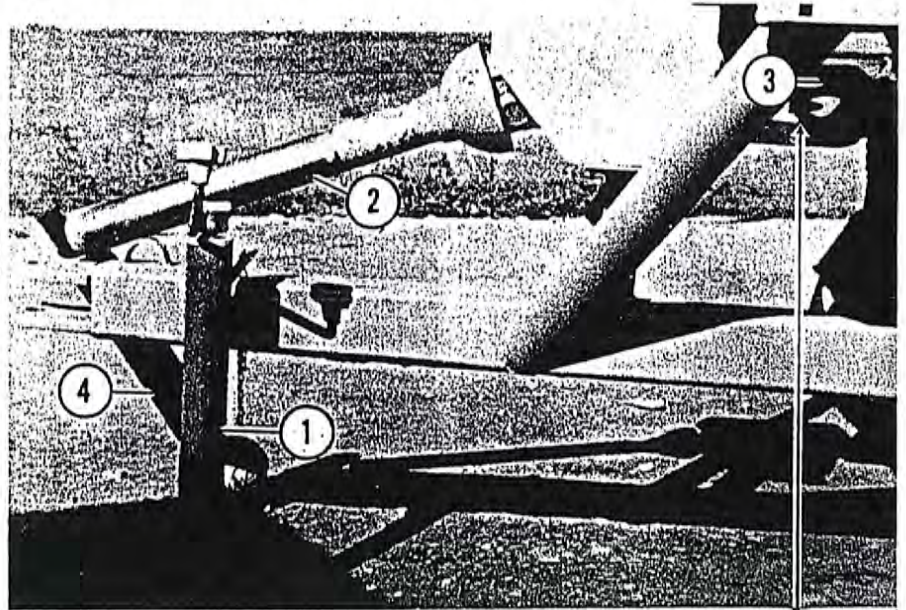
Correction - Check Cylinder RPM. Must be
1800 or higher. Turn Cam bolts CCW to
loosen spring. Remove Drum and wire
brush shoe lining.



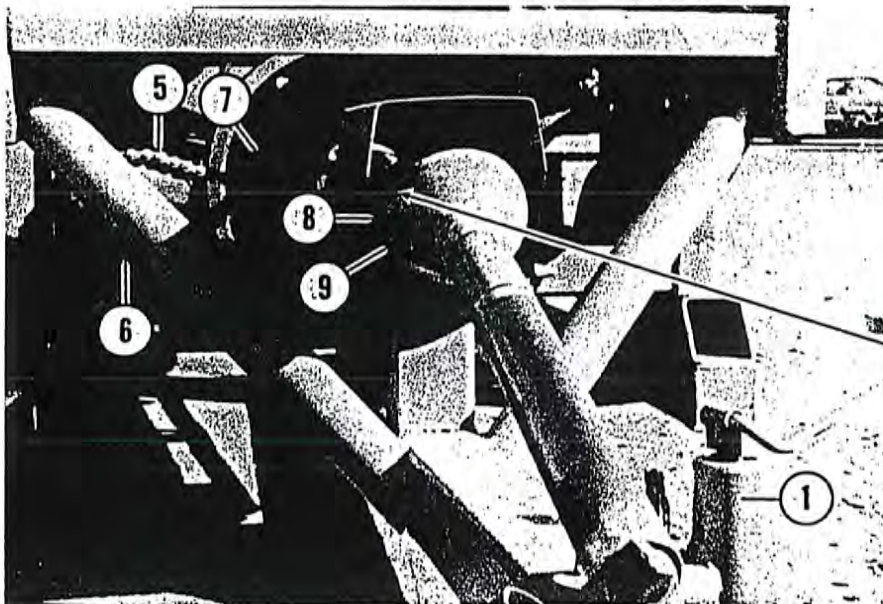
MAINTENANCE, LUBRICATION & PARTS

AVAILABLE WITH 1000 RPM ONLY.

On special order only, the C11A is available to be powered with an electric motor or a diesel power unit. Haybuster does not furnish electric motors.



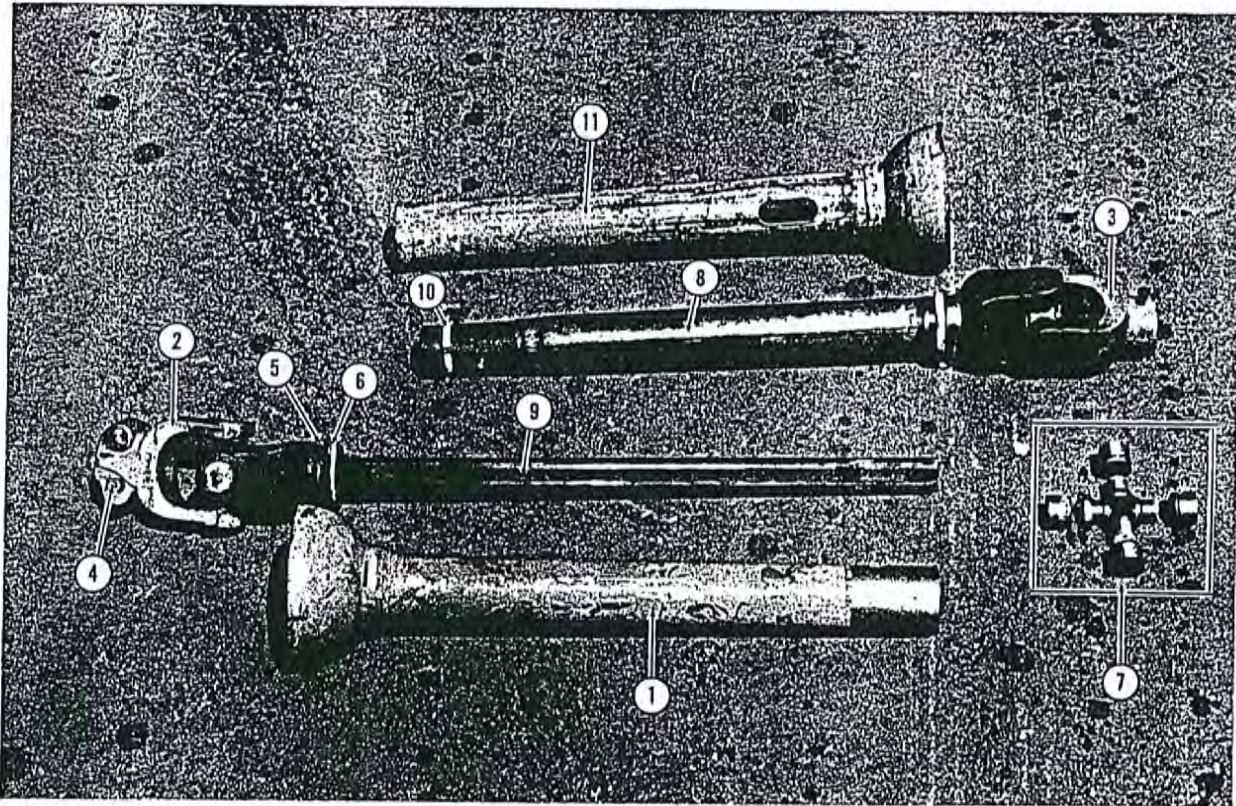
GREASE UJ EVERY 10 HOURS



GREASE UJ EVERY 10 HOURS

<u>Description</u>	<u>Part No.</u>
1 1- Jack	12-88TS
2 1- PTO shaft, Machine half	80-MH-100
3 1- 1 3/4" round x 1 3/4" round U Joint	80-UJ-134
4 1- PTO shaft, tractor half.	80-TH-100
5 1- 60 pitch chain	11-60-57-OL-CL
6 1- 60 pitch sprocket	10-60-30-100
7 1- 60 pitch sprocket idler.	10-60-15-58-I
8 1- 1-3/4" pillow block bearing	50-PB-134
9 1- Shaft (not shown)	S-10-134-Z2

MAINTENANCE, LUBRICATION & PARTS

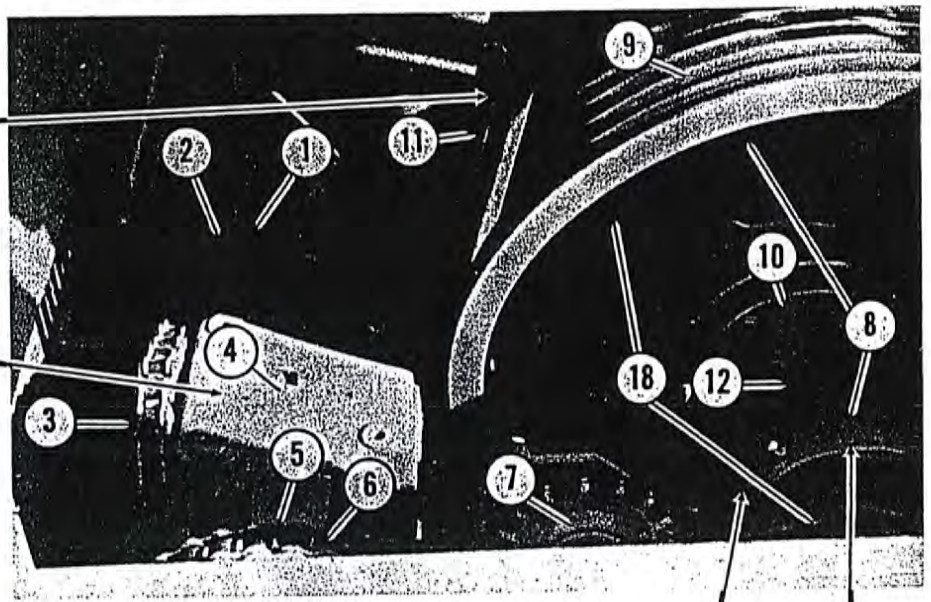


	<u>Description</u>	<u>Part No.</u>
1	1- Inside shield	PTOIS-100
2	1- Tractor Yoke with spline - 1000	PTY-440-21
	Tractor Yoke with spline - 540	PTY-440-6
3	1- Machine yoke	PMY-440
4	1- Lockpin & Spring	PLPS-440
5	1- Lock ring & washer	PLRW-440
6	2- Nylon bushings	PNB-442
7	1- Cross & bearing assembly	PCBA-440
8	1- Female tube with yoke	PFT-440
9	1- Male shaft with yoke	PMS-440
10	1- Nylon bushing	PNB-441
11	1- Outside shield	PTOOS-100

MAINTENANCE, LUBRICATION & PARTS

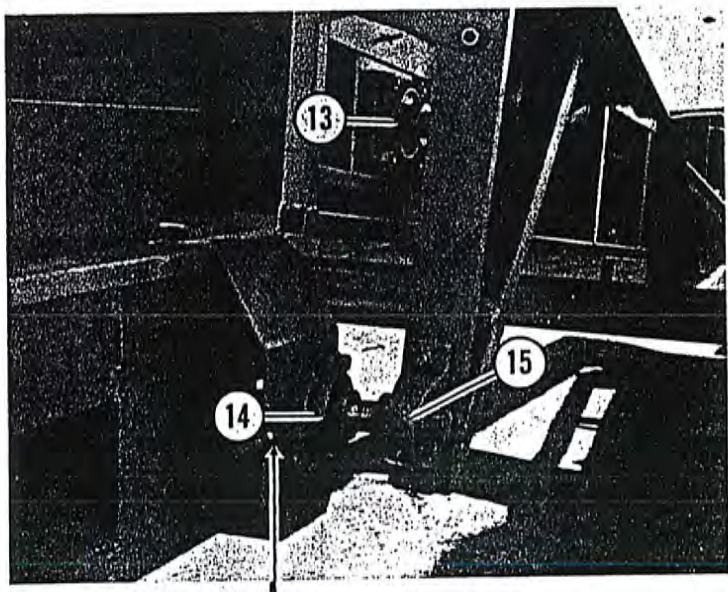
Keep drive belts drum tight.

Use 90 grease and STP



Remove shims from below bearings to tighten drive belts.

Grease input bearings front and rear sparingly every 10 hours.



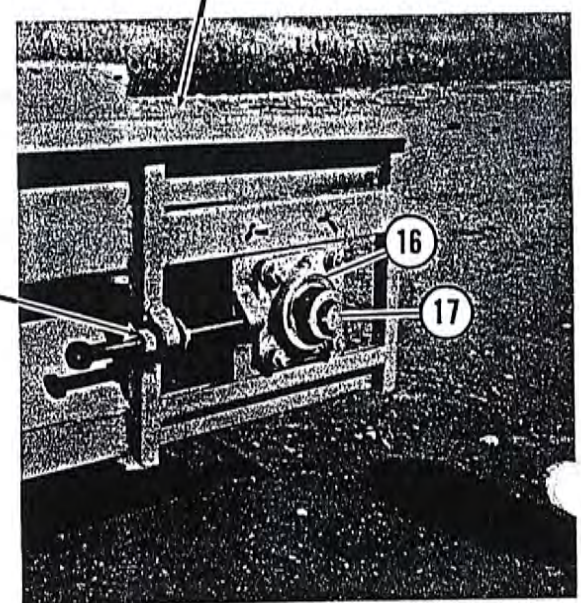
Adjusting screw to center belt on roller. KEEP THE BELT CENTERED.

The rear conveyor belt has a removable 3" section to allow for normal belt stretch.

Adjust conveyor belt tension, both sides.

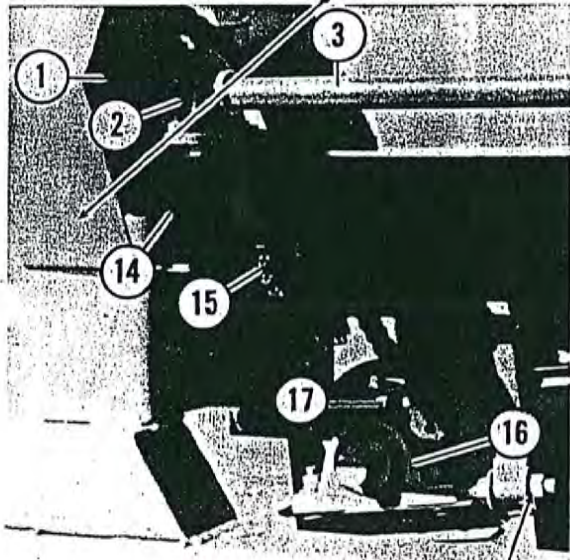
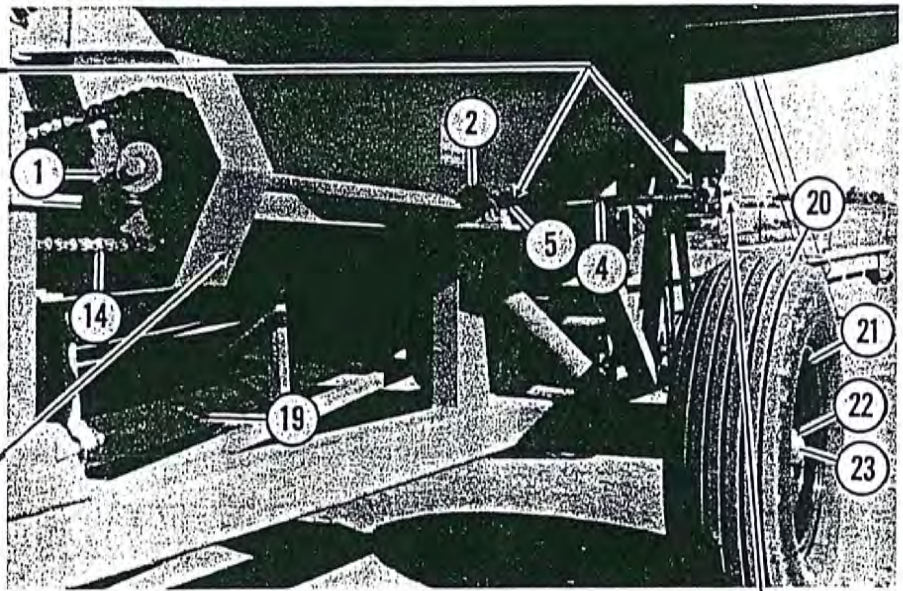
The rear conveyor is 22' long. When folding into transport position, rod must be installed across lower section to prevent the belt from dragging on the ground.

To find the Haybuster part number for the numbered parts on the pictures see PAGE 15.

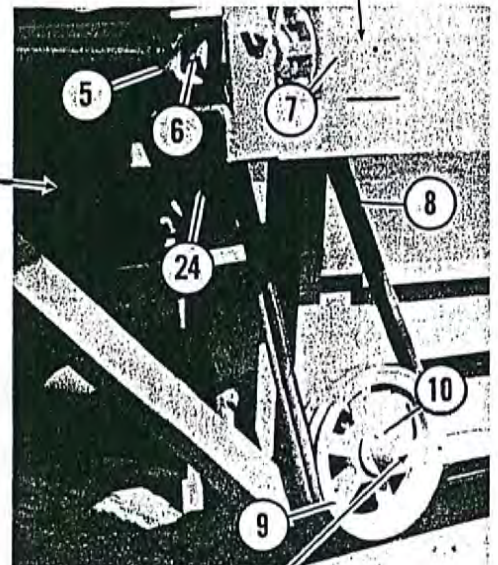


MAINTENANCE, LUBRICATION & PARTS

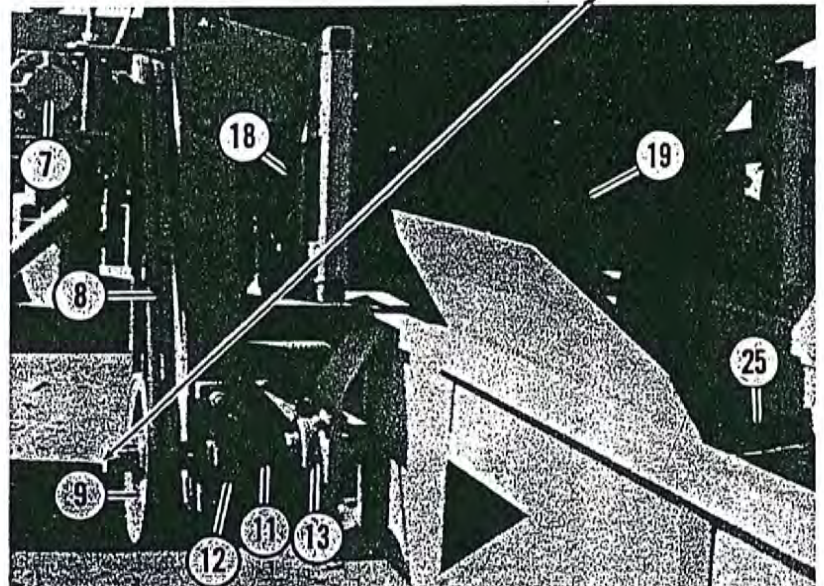
Grease UJ
every 10 hours.



Adjust belt
tension both
sides.

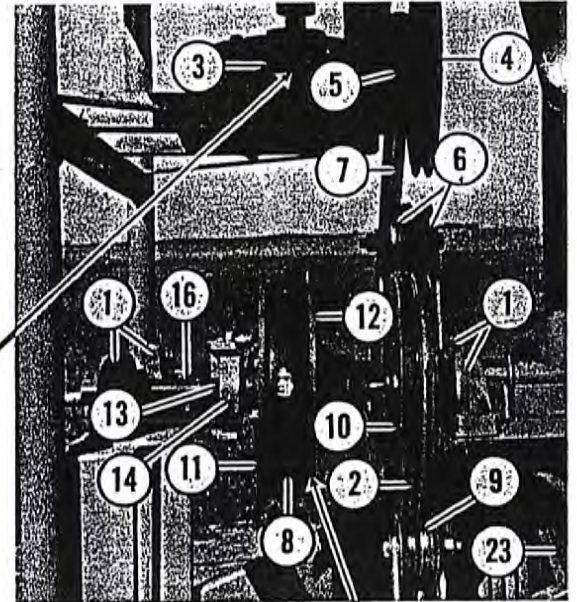
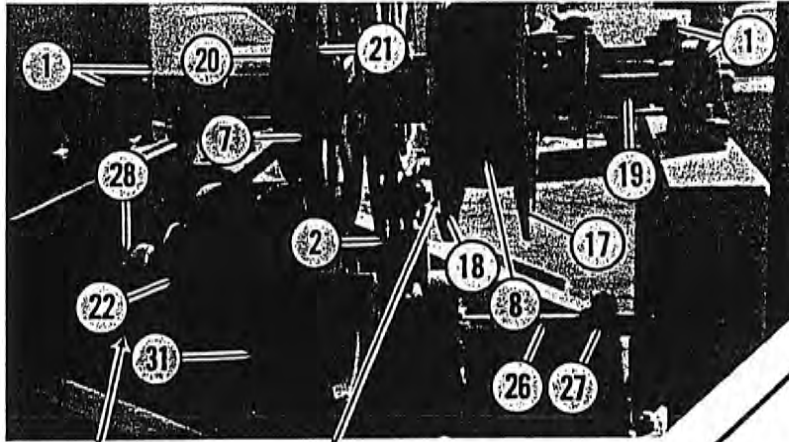


Adjusting screw to center belt on the
roller. KEEP THE BELT CENTERED.



To find the Haybuster part num-
ber for the numbered parts on
the pictures, see PAGE 15.

MAINTENANCE, LUBRICATION & PARTS



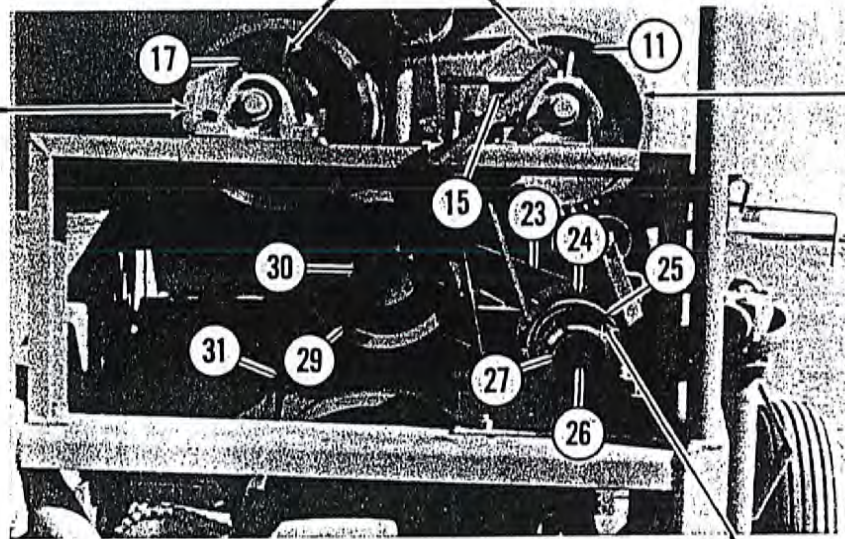
Grease cylinder bearing front and rear sparingly every 10 hours.

Use 90 grease and STP

Do not operate variable at extreme limits as it will overload thrust bearings.

Variable drive assembly center to center distance is factory set at 17-5/8". DO NOT ALTER for best belt life.

Service grease zerks daily.



Centrifugal clutch. See pages 6 and 7.

To find the Haybuster part number for the parts on the pictures, see PAGE 15.

Haybuster parts numbers for the numbered parts on pictures

PAGE 10

Description	Part No.
1 1- 60 pitch sprocket	10-60-30-114
2 1- 60 Pitch chain	11-60-67-CL
3 1- 60 pitch sprocket	10-60-18-100
4 1- Gear box, 1:1 ratio.	80-GB-35-type C-1:1
5 1- 60 pitch sprocket	10-60-30-100
6 1- 60 pitch chain	11-60-57-OL-CL
7 1- 60 pitch sprocket idler	10-60-15-58-I
8 1- 2" pillow block bearings	50-PB-200
9 1- 18.4" cast pulley, 8 groove	35-18.4-8B
10 1- 2" hub for pulley	35-R2-200
11 8- B-81 drive belts	40-B-81
12 1- Input shaft	S-24-200-Z1
13 1- 1 1/4" 4 hole flange bearing	50-4F-114
14 1- 1 1/2" 4 hole flange bearing	50-4F-112
15 2- 1 1/2" pillow block bearings	50-PB-112
16 2- 1 1/4" 4 hole flange bearings	50-4F-114
17 1- Discharge conveyor top roller	S-26-114-Z10-18
18 2- 60 pitch sprocket (not shown) Input	10-60-15-134

PAGE 11

Description	Part No.
1 1- 60 pitch sprocket	10-60-30-100
2 2- 1" pillow block bearings	50-PB-100
3 1- 1" shaft, conveyor drive counter shaft.	S-44-100-Z7
4 1- 1" shaft, conveyor drive counter shaft.	S-46.5-100-Z8
5 2- 1" round to 1" round U Joints	80-UJ-100
6 2- cross & bearings for 1" round U Joint	80-CB-G6N
7 1- Gear Box, 1:1 ratio	80-GB-35-Type C-1:1
8 2- B-58 belts	40-B-58
9 1- 9" cast pulley, 2 groove	35-9-2B
10 1- 1 1/2" hub for cast pulley	35-H-112
11 1- Discharge conveyor drive roller	S-43-112-Z12-18
12 1- 1 1/2" pillow block bearing	50-PB-112
13 1- 1 1/2" 4 hole flange bearing	50-4F-112
14 1- 60 pitch chain	11-60-91-OL-CL
15 1- 60 pitch sprocket idler	11-60-15-58-I
16 1- 1 1/4" pillow block bearing	50-PB-114
17 1- Bellypan conveyor drive roller <i>4509677</i>	S-35-114-Z13-24
18 1- 1 1/4" 4 hole flange bearing	50-4F-114
1- Bellypan conveyor belt	40-C-24-18
2- Tires	70-9.5L-15
2- Tubes	70-T-15
21 2- Wheels	70-105389
22 2- Hubs	70-106752

23 2- spindles	70-106753A
24 1- Bellypan conveyor idler roller	S-33-114-Z14-24
25 1- Discharge conveyor belt	40-C-18-43'6"

PAGE 12

Description	Part No.
1 4- 1 1/4" pillow block bearings	50-PB-114
2 2- B-55 belts	40-B-55
3 1- Gear box, 12:1 ratio	80-GB-A26-12-1
4 1- 12" cast pulley, 1 groove	35-12B
1- hub for above pulley, 1" bore	35-H-100
5 1- 7" cast pulley, 1 groove	35-7B
1- hub for above pulley, 1" bore	35-H-100
6 2- 4" flat idlers.	30-4FI-58
7 1- B-68 belt	40-B-68
8 1- Variable speed beld	40-VS-31
9 1- 3 1/2" Idler, roller bearings, 2 groove	30-312-2B-12-RBI
10 2- 12" cast pulleys	35-12B
2- hubs for above pulleys, 1 1/4" bore	35-H-114
11 1- front half bearing, loaded movable plate	80-D-210
12 1- rear half stationary plate	80-D-211
13 1- variable thrust bearing	80-9110PP
14 1- variable thrust bearing collar	
15 1- variable thrust brg. assbly less collar	80-VA-213
16 1- left variable shaft	S-21-114-Z4
17 1- frong half, spring loaded variable plate stat.	80-RV-3166
18 1- rear half, movable plate	80-RV-3108
19 1- right variable shaft	S-260114-Z3
20 1- 7" cast pulley, 1 groove	35-7B
1- hub for above pulley, 1 1/2" bore	35-H-114
21 1- 12" cast pulley, 1 groove	35-12B
1- hub for above cast pulley, 1 1/4" bore	35-H-114
22 1- 7.4 cast pulley, 2 groove, 2 3/4" bore	35-7.4-2B-234
23 2- B-49 belts	40-B-49
24 1- 7.4 cast pulley, 2 groove	35-7.4-2B
1- hub for above cast pulley, 1 1/4" bore	35-Q1-114
25 1- clutch, color code green	80-60-U-17-R
26 1- clutch shaft	S-23-114-Z9
27 2- 1 1/4" pillow block bearings	50-PB-114
28 2- Cylinder bearings, front: 2 3/4" PB	50-PB-234-E
rear: 2 7/16" PB	50-PB-2716
29 1- 11" cast pulley, 8 groove	35-11-8B
30 1- hub for above cast pulley, 2 3/4" bore	35-R2-234
31 8- B-81 belts	40-B-81

