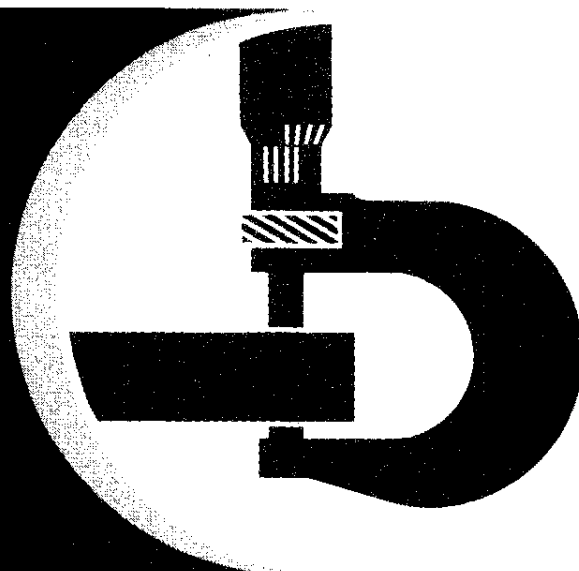


810, 812, 812 SH, 814, 814 SH,
816, 816 SH, 818 and 820

Cutting Platforms

483, 583, 683

Corn Heads



John Deere Werke Zweibrücken
TM-4468

Printed in Germany (English)

**810, 812, 812 SH, 814, 814 SH, 816, 816 SH,
818 AND 820 CUTTING PLATFORMS
483, 583, 683 CORN HEADS
TM-4468 (Feb-89)**

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Group 05 – Corn head

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INHA-ZI61AE-011288

Section 100

800 SERIES CUTTING PLATFORMS

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Upper unit	x	x	x	x	x	x	x	x	x
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Special tools			x		x		x		
Removing half guard			x		x		x		
Installing half guard			x		x		x		
Disassembling powerline			x		x		x		
Assembling powerline			x		x		x		

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manual**

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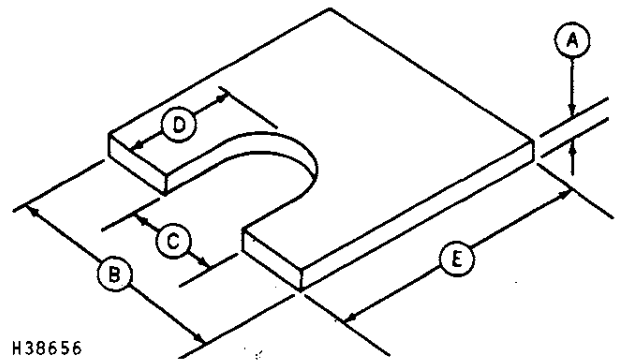
Group 05 CUTTING PLATFORM AND KNIFE DRIVE

MAKING SPECIAL TOOLS

Make this shim to prevent "over-pressing" spindles into wobble shaft bearings.

A - 3.8 mm (0.150 in.)
B - 51 mm (2 in.)
C - 25 mm (1 in.)

D - 38 mm (1-1/2 in.)
E - 102 mm (4 in.)



H38656

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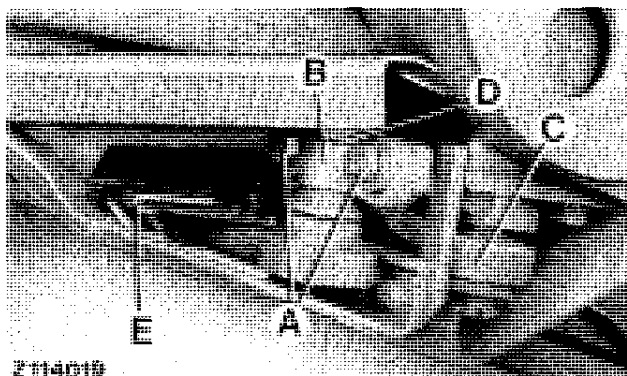
TORQUES FOR HARDWARE

Self locking nut at knife head	225 Nm (166 ft-lb)
Knife head attaching screws	120 Nm (89 ft-lb)
Bellcrank to cam drive - slotted nut	240 Nm (177 ft-lb)
Cam drive attaching screws	240 Nm (177 ft-lb)
Housing cover attaching screws	34 Nm (25 ft-lb)
Cover to transmission housing - attaching screws	68 Nm (50 ft-lb)
Sheave attaching nut	163 Nm (120 ft-lb)

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REMOVING AND INSTALLING KNIFE

1. Remove the two cap screws (A) securing the knife head holder (B) to drive arm (C). Remove knife. When replacing individual knife sections tighten attaching screws to 13 to 14 Nm (9.6 to 10.3 ft-lb).
2. If a new knife is to be installed, remove the knife head from the old knife by loosening self locking nut (D).
3. To install the knife, reinstall but do not tighten cap screws (A). Tighten self-locking nut (D) to 225 Nm (166 ft-lb) torque.
4. Set vertical position of knife head holder (B) so each section is centered between fingers (E).
5. Tighten cap screws (A) to 120 Nm (89 ft-lb) torque.



- A – Cap Screws
- B – Knife head holder
- C – Drive Arm
- D – Self locking nut
- E – Finger

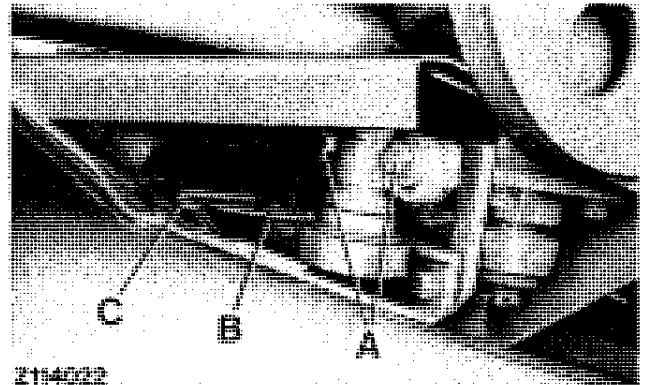
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ADJUSTING KNIFE DRIVE ARM CLAMP

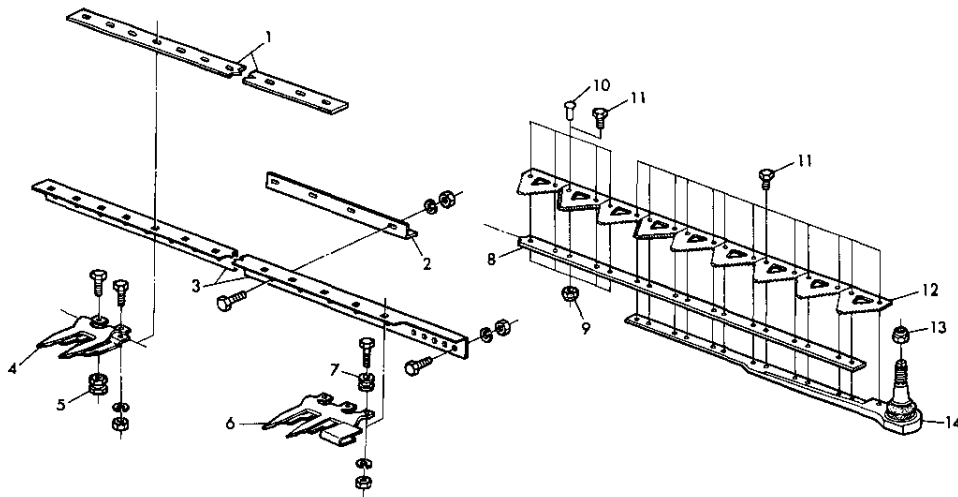
If the drive arm clamp is incorrectly adjusted, the outer left-hand knife half section will rub on the upper or lower lip of the left-hand outer finger. Adjust this clamp as follows:

1. Loosen cap screws (A).
2. Slide knife head up or down until the outer left-hand section (B) is centered between the fingers (C).
3. Tighten cap screws to 120 Nm (89 ft-lb).
4. If binding cannot be eliminated by this adjustment, replace the knife drive case mounting frame.



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FINGERS AND KNIVES-EXPLODED VIEW



Z114023

- 1-Knife bar
- 2-Cutterbar support
- 3-Cutterbar
- 4-Finger (two tine)

- 5-Special nut
- 6-Finger (three tine)
- 7-Special nut (l.h.side)
- 8-Back side of cutterbar

- 9-Self-locking nut
- 10-Rivet
- 11-Cap screw

- 12-Knife
- 13-Self-locking nut
- 14-Knife head

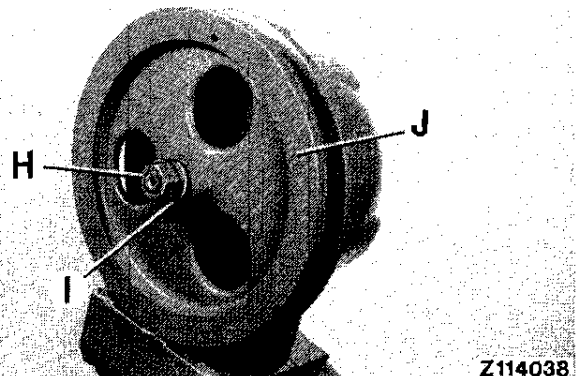
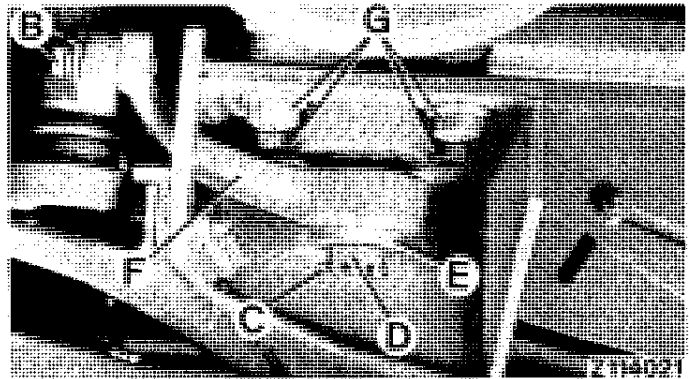
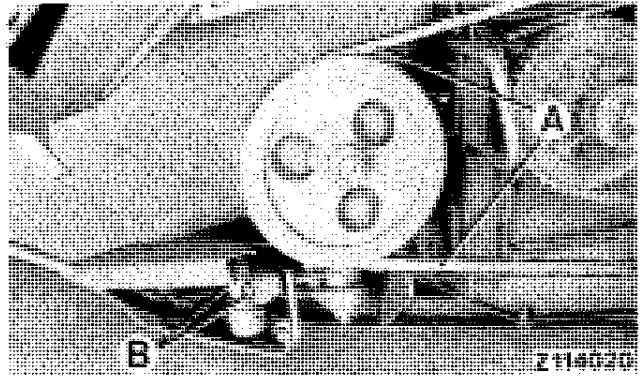
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REMOVING CUTTERBAR DRIVE CASE

The knife is driven by an enclosed "wobble joint" drive. All moving parts in the drive are enclosed and operate in 0.95 L (1 U.S. qt.) of John Deere SAE HD 85-140 Gear Lubricant.

1. Loosen belt (A) and slip it off drive case sheave.
2. Remove two cap screws (B) attaching knife head to drive arm.
3. Remove cotter pin (C), slotted nut (D) and washer (E) and use a puller to pull drive arm (F) from shaft.
4. Remove four cap screws (G) and remove drive case from mounting.
5. Remove locking nut (H) and washer (I) and use a puller to pull sheave (J) from wobble shaft.

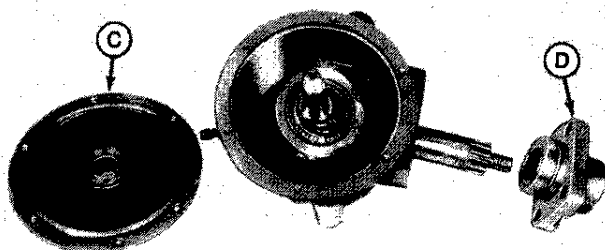
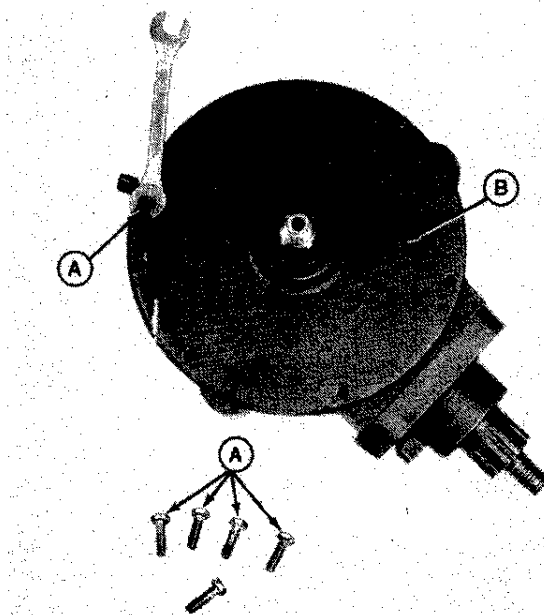
A—Belt
B—Cap screws
C—Cotter pin
D—Slotted nut
E—Washer
F—Drive arm
G—Cap screws
H—Locking nut
I—Washer
J—Sheave



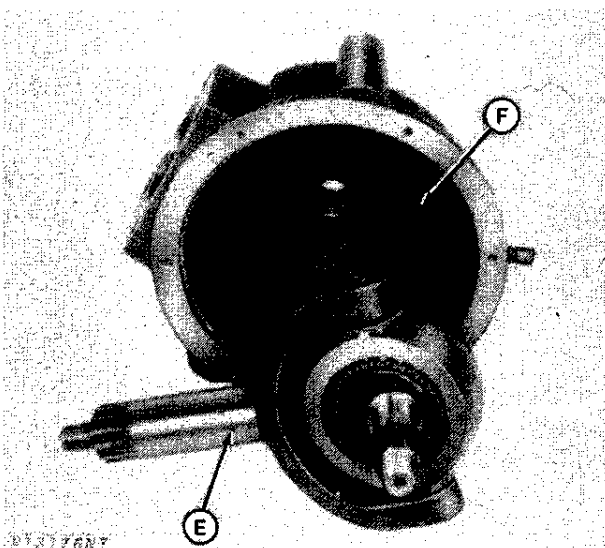
DISASSEMBLING DRIVE CASE

1. Remove six cap screws (A) from housing cover (B).
2. Remove housing cover (C) and yoke cap (D).
3. Remove yoke and wobble shaft assembly (E), by tilting yoke and sliding from housing (F).

A-Cap screw
B-Cover
C-Housing cover
D-Yoke cap
E-Shaft assembly
F-Housing



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E13174NY, E14301N, E13176NY-Z1110011AE-010286

**DISASSEMBLING DRIVE CASE
- Continued**

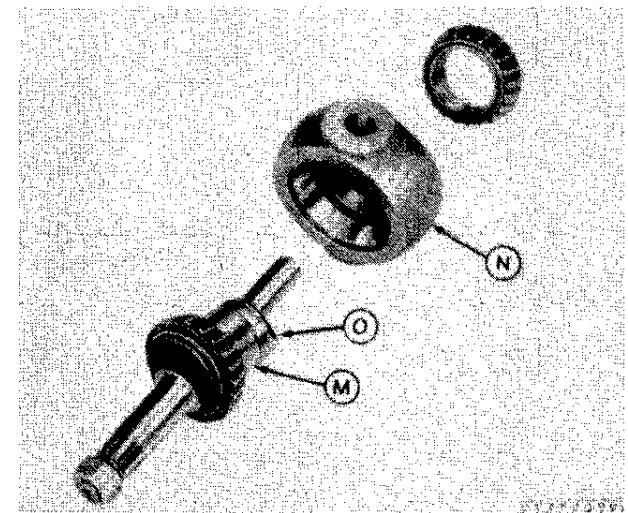
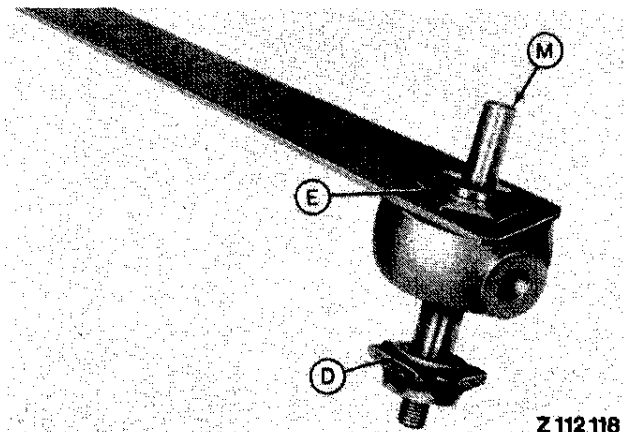
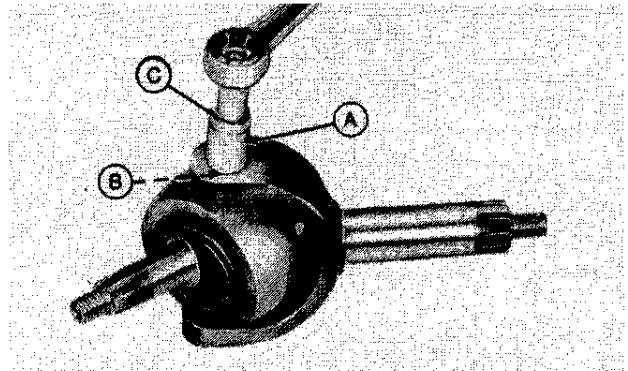
4. To remove spindle, place 7/8 in. socket (A) over spindle (B) and install 3/8 in. "F" quality cap screw with flat washers (C) into spindle. Turn out spindle with cap screw. It will be necessary to add extra flat washers as the cap screw bottoms out in spindle.

5. Place wobble shaft (M) in vise. Do not clamp vise onto shaft. Place drive sheave onto shaft or make a special holding tool (D). To make holding tool, use old drive sheave and remove the center of the sheave.

6. Loosen old stake and remove nut (E) from the wobble shaft.

7. Press wobble shaft (M) from housing (N). Be certain to press on unfinished surface (O) of shaft.

- A-7/8 in. socket
- B-Spindle
- C-Flat washers
- D-Special holding tool
- E-Nut
- M-Wobble shaft
- N-Housing
- O-Unfinished surface

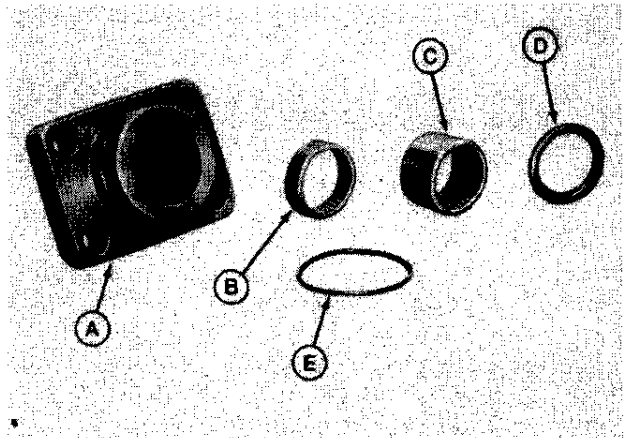


INSPECTING DRIVE CASE COMPONENTS

Cap Assembly

1. Wash all parts thoroughly in a clean solvent and dry. Clean all oil out of knife drive case.
2. Inspect all parts for wear or damage. Replace if necessary.
3. Check for irregular wear patterns, nicks, etc.
4. Check bearings for roughness. Be certain bearings rotate freely and all rollers are in place.
5. Inspect housing cover and yoke cap for wear. Inspect all bearings and threads on wobble shaft. Inspect splines on yoke shaft.
6. Check bearings (B) and (C) in cap assembly (A). Press out and replace if necessary.

A - Cap
B - Inner bearing
C - Outer bearing
D - Oil seal
E - O-Ring

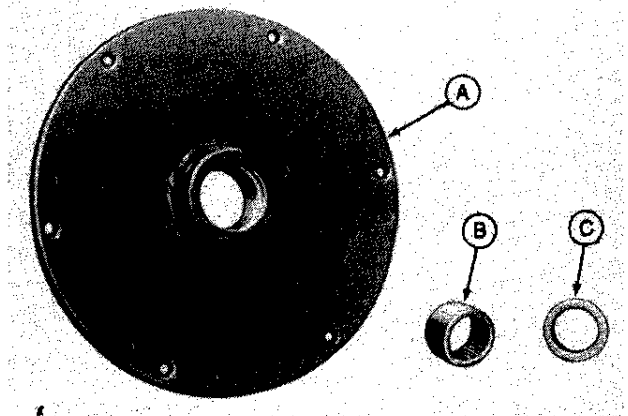


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Cover Assembly

Check cover assembly (A) including bearing (B) and seal (C). Replace if necessary.

A - Cover
B - Bearing
C - Oil seal



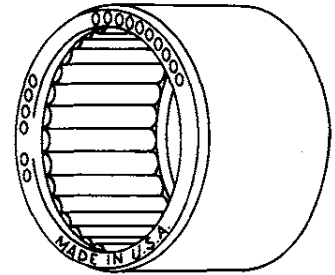
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INSTALLING BEARINGS

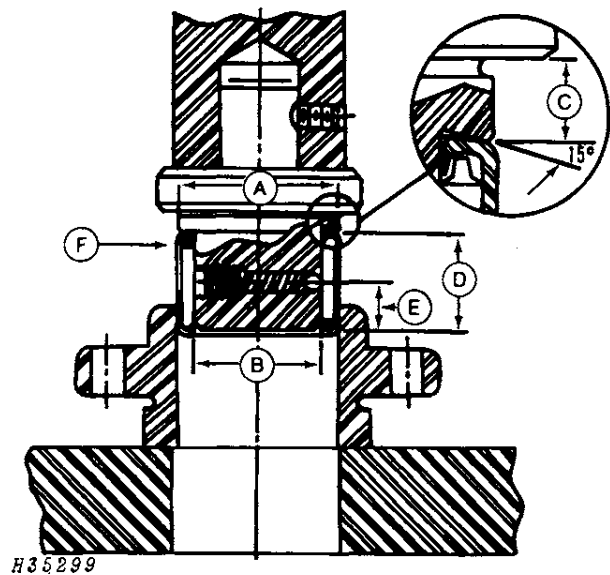
1. Since a drawn cup (DC) bearing must be press-fitted into a housing, an installation tool similar to the one illustrated must be used.
2. A standard arbor press, used with the correct tool, makes an adequate assembly machine. The press fit eliminates the need for snap rings or shoulders to hold the bearings in place axially.
3. Always assemble bearing with stamped end (the end with identification markings) against angled shoulder of pressing tool.
4. Never pound bearing into its housing with a hammer or other impact tool, even in conjunction with proper assembly mandrel.
5. Never press bearing tightly against a shoulder in housing. If it is necessary to use a shouldered housing, the depth of housing bore must be sufficient to make certain that housing shoulder fillet, as well as shoulder face, clears the bearing.
6. Use a positive stop on press tool to locate bearing properly in housing. The assembly tool should have a leader or pilot to aid in starting bearing true in housing, as shown.
7. The ball detent on the drawing is used to assist in aligning rollers during installation and to hold bearing on the installation tool.
8. If it is necessary to remove a type DC bearing from a through-bored housing, a tool similar to the installation tool shown, without the stop, may be used.
9. The outside shell of a drawn cup (DC) bearing is accurately drawn from strip steel. In heat-treating operation, the shell may go out of round. When DC bearing is pressed into a true round housing of proper size and wall thickness, it becomes round and is sized properly for satisfactory bearing performance. For this reason, it is impossible to inspect an unmounted drawn cup bearing by measuring outside diameter.

A – 0.38 mm (1/64 in.) less than housing bore
 B – 0.08 mm (0.003 in.) less than shaft diameter
 C – Distance bearing will be inset into housing 0.25 mm (0.010 in. min.)

D – Pilot length should be bearing width plus 8 mm. (11/32 in.)
 E – Approximately 1/2 of dimension D
 F – Stamped end of bearing

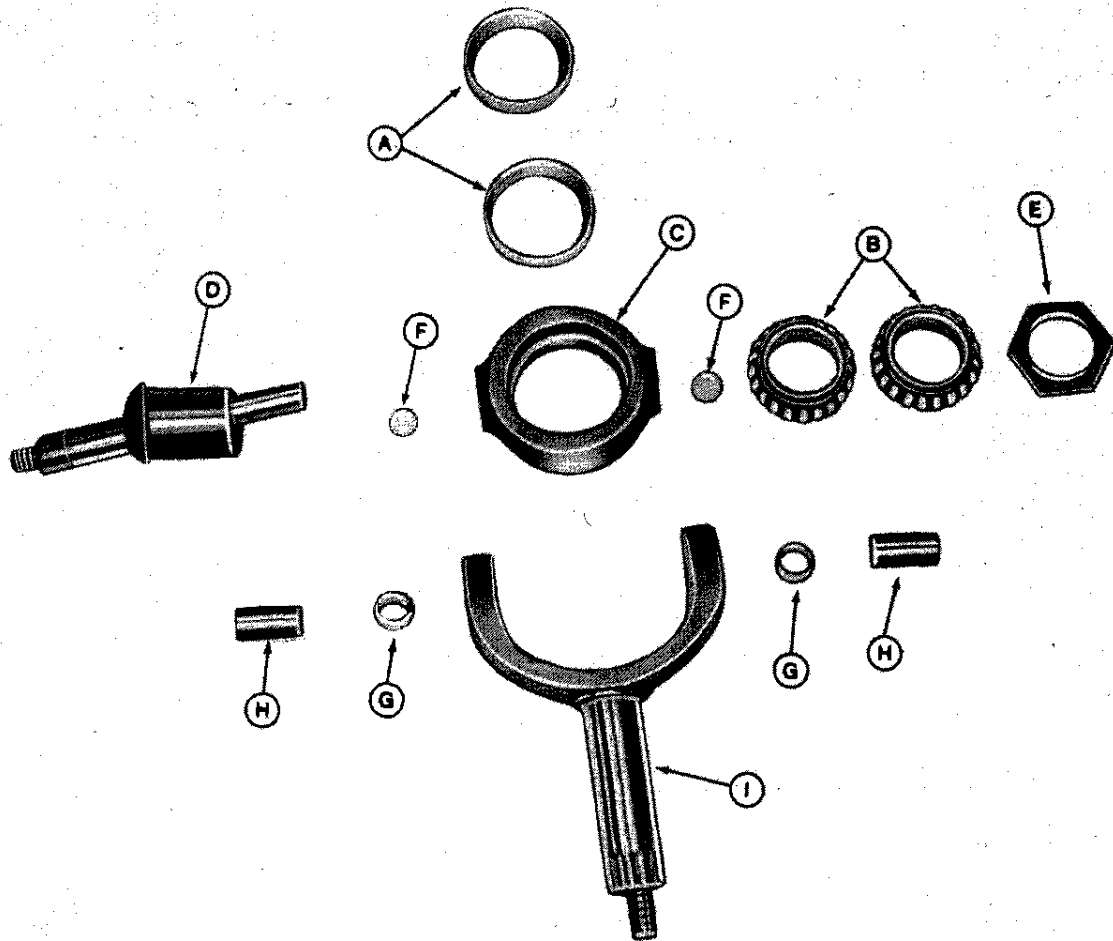


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DRIVE CASE PARTS



A - Bearing cups
 B - Bearing cones
 C - Housing

D - Wobble shaft
 E - Stake nut
 F - Plugs

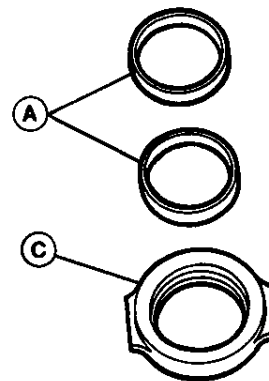
G - Bushings
 H - Spindles
 I - Yoke

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ASSEMBLING DRIVE CASE

Bearing Cups

Press bearing cups (A) into housing (C).

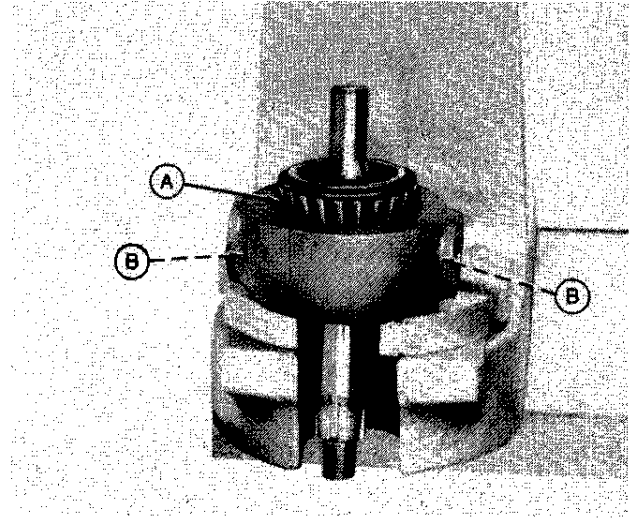


Z 112 105

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Bearing Cones

1. Press cones (A) in housing.
2. Insert both plugs (B) in housing.



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Wobble Shaft Assembly

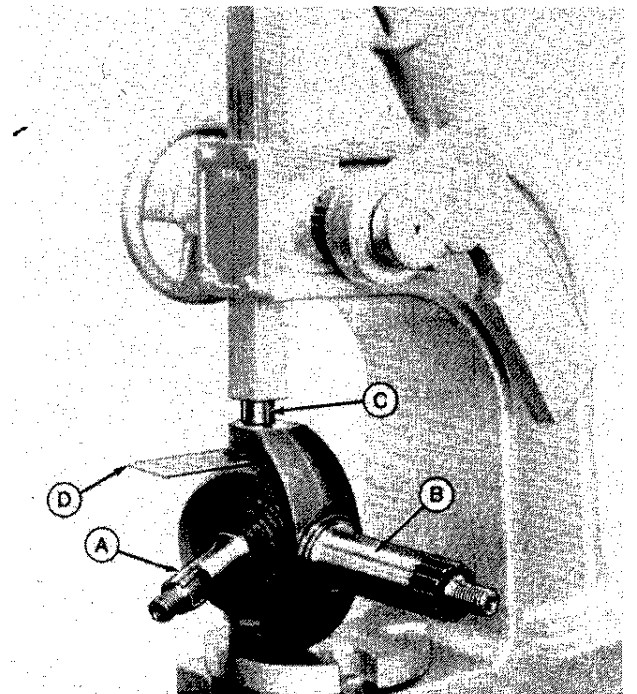
1. For easier pressing in spindles in housing, make shim, as shown in "Making Special Tools" on page 100-05-1.
2. Assemble wobble shaft assembly (A) to yoke (B) with spindles (C).

NOTE: The use of shim (D) prevents "over-pressing" spindle (C) into bearing cups.

IMPORTANT: The spindles cannot be retained tightly, when reusing the housing. This is a one-time press-fit. Do not reuse individual parts. Order and install AE46307 repair assembly.

A - Wobble shaft assembly
B - Yoke

C - Spindle
D - Shim

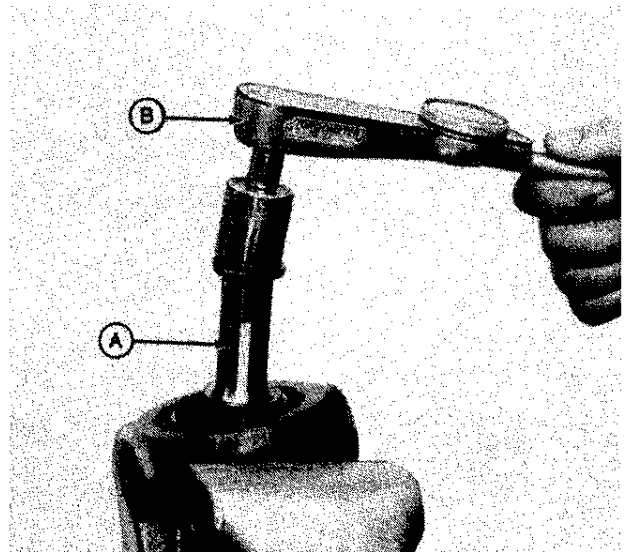


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Checking Bearing Torque

1. Tighten stake nut until the bearings have a rolling torque of 0.34 to 0.56 Nm (3 to 5 in-lb).
2. To check, place a 3/4 inch nut on wobble shaft and check as shown.
3. Stake nut to wobble shaft using punch.

A-Wobble Shaft
B-Torque Wrench

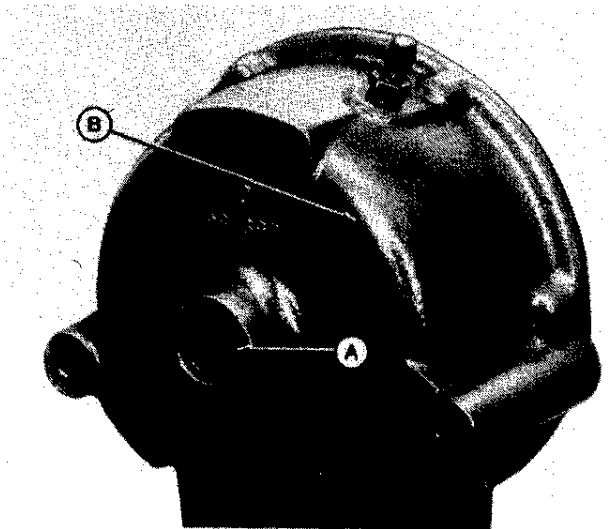


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Oil Seal and Bearing

Check oil seal and bearing (A). Press and replace, if necessary.

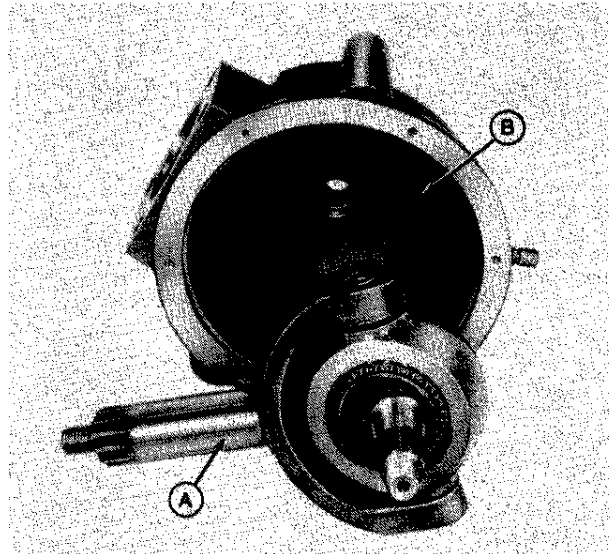
A-Bearing
B-Housing



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Yoke and Shaft Assembly

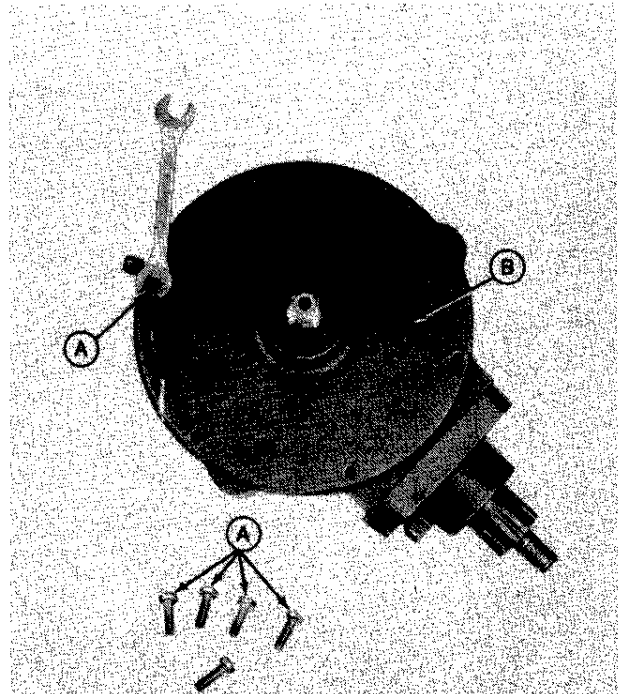
1. Replace yoke and shaft assembly (A) by tilting and sliding yoke into housing (B).
2. Install cap assembly on housing. Torque bolts to 68 Nm (50 ft-lb).



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Housing Cover

1. Place bead of PT94 Form-in-Place Gasket around housing and attach housing cover (B) using six 5/16 x 1 in. cap screws (A). Torque cap screws to 34 Nm (25 ft-lb).
2. Install sheave and torque lock nut and flat washer to 163 Nm (120 ft-lb). Rap sheave with hammer and retighten to 163 Nm (120 ft-lb) torque.



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INSTALLING DRIVE CASE

1. Attach drive case to mounting with four cap screws (G). Tighten cap screws to 240 Nm (177 ft-lb) torque.

2. Attach drive arm to yoke shaft with washer (E) and slotted nut (D). Tighten slotted nut to 240 Nm (177 ft-lb) torque. Tap end of shaft with hammer and re-tighten to one slot past 240 Nm (177 ft-lb) torque. Insert and spread cotter pin.

IMPORTANT: Be certain mounting bolts, tapped holes of knife drive case and base along with the mounting surface of the platform, are free of oil and dirt.

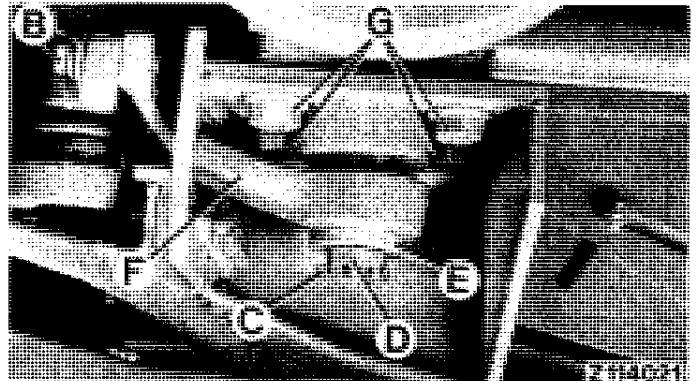
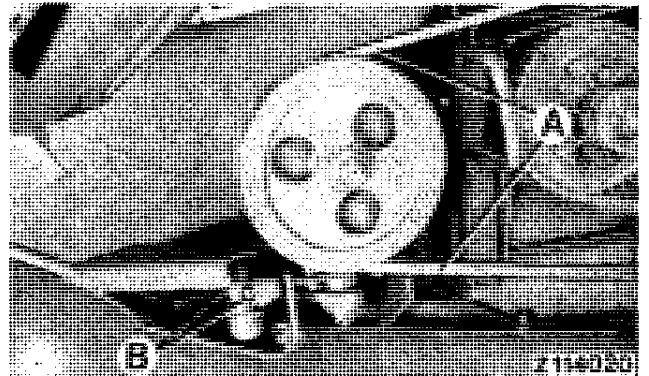
3. Attach knife head to drive arm (F) with two cap screws (B). Tighten cap screws to 120 Nm (89 ft-lb) torque.

4. Fill drive case with approximately 0.95 L (1 U.S. quart) of John Deere SAE HD 85-140 Gear Lubricant, to 89 mm (3-1/2 in.) below breather hole.

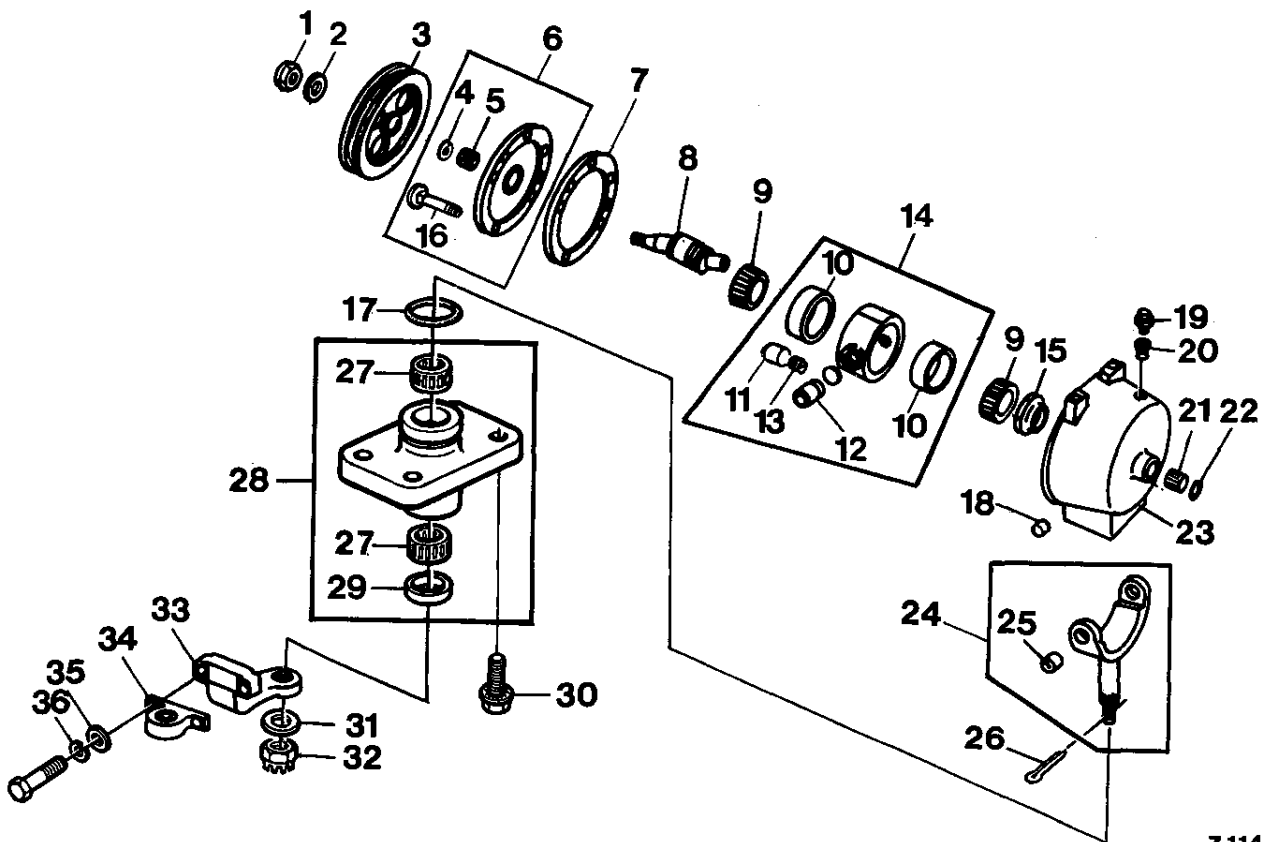
IMPORTANT: Overfilling can cause leakage, overheating and internal damage.

5. Install drive belt (A) on sheaves.

- A-Drive belt
- B-Cap screws
- C-Cotter pin
- D-Slotted nut
- E-Washer
- F-Drive arm
- G-Cap screws



CAM DRIVE - EXPLODED VIEW

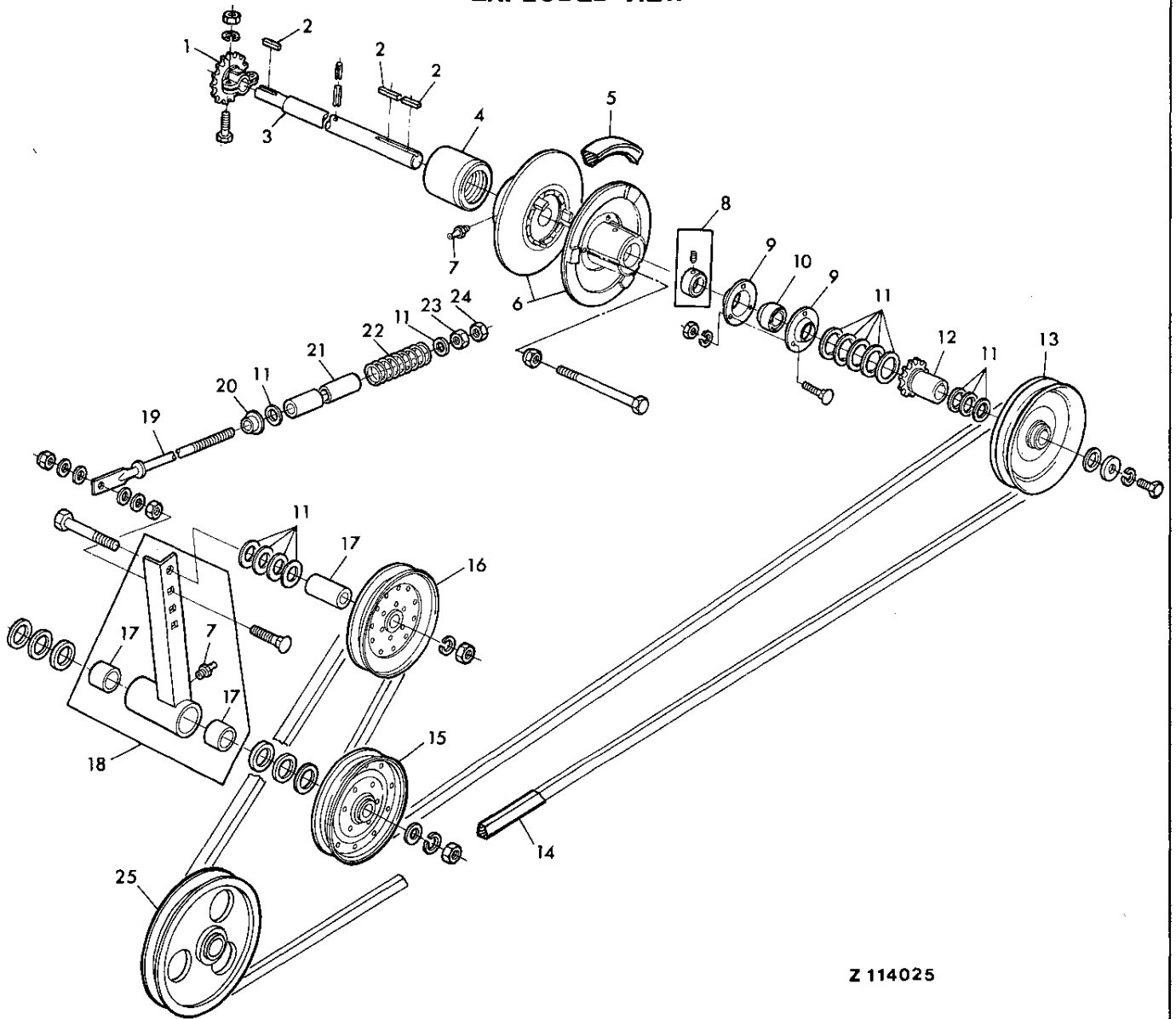


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- | | | |
|---------------------------|-----------------------------|--|
| 1 - Lock nut | 13 - Set screw (2 used) | 25 - Bearing |
| 2 - Washer | 14 - Wobble housing | 26 - Cotter pin |
| 3 - Driver sheave | 15 - Stake nut | 27 - Needle bearing |
| 4 - Seal | 16 - Cap screw 5/16 x 1 in. | 28 - Bearing housing |
| 5 - Needle bearing | 17 - O-ring | 29 - Seal |
| 6 - Cover | 18 - Pipe plug (2 used) | 30 - Cap screw 5/8 x 2 in.
(4 used) |
| 7 - Form-in-Place gasket | 19 - Relief valve | 31 - Thrust washer |
| 8 - Shaft | 20 - Bushing | 32 - Slotted nut |
| 9 - Bearing cone (2 used) | 21 - Needle bearing | 33 - Drive arm |
| 10 - Bearing cup (2 used) | 22 - Seal | 34 - Clamp |
| 11 - Set screw (2 used) | 23 - Housing | 35 - Washer |
| 12 - Spindle (2 used) | 24 - Yoke | 36 - Spring washer |

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**CUTTERBAR DRIVE COUNTERSHAFT-
EXPLODED VIEW**



Z 114025

- 1 - Drive sprocket
- 2 - Key
- 3 - Drive shaft
- 4 - Spring pack
- 5 - V-belt, variable reel drive
- 6 - Sheave halves of lower variable reel drive
- 7 - Grease fitting
- 8 - Clamping ring
- 9 - Bearing flange

- 10 - Ball bearing
- 11 - Washers
- 12 - Drive sprocket, feeding auger
- 13 - Sheave, knife drive
- 14 - V-belt, knife drive
- 15 - Lower sheave, belt tensioner
- 16 - Upper sheave, belt tensioner
- 17 - Bushing

- 18 - Swivel arm
- 19 - Rod
- 20 - Bushing
- 21 - Sleeve
- 22 - Spring
- 23 - Adjusting nut
- 24 - Lock nut
- 25 - Sheave, cam drive

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