

John Deere 336, 346, and 466 Baler Drives



TECHNICAL MANUAL John Deere 336, 346, and 466 Baler Drives

TM1114 (01MAY75) English

TM1114 (01MAY75)

LITHO IN U.S.A.
ENGLISH



336, 346 AND 466 BALER DRIVES

Technical Manual
TM-1114 (May-75)

CONTENTS

	Page
INTRODUCTION	2
GENERAL	3
Description	3
Lubrication	3
OVERRUNNING CLUTCH AND SLIP CLUTCH (336 and 346 Balers)	4
General Information	4
Removal	4
Repair	4
Installation	5
Adjustments	5
OVERRUNNING CLUTCH AND SLIP CLUTCH (466 Balers)	
General Information	6
Removal	6
Repair	6
Installation	7
Adjustments	7
GEAR CASE	8
General Information	8
Diagnosing Malfunctions	8
Removal	8
Repair	9
Installation	15
SPECIFICATIONS AND TORQUE VALUES	16

FOR YOUR CONVENIENCE

Vertical lines appear in the margins of these pages. These lines identify new material and revised information that affects specifications, procedures, and other important instructions.

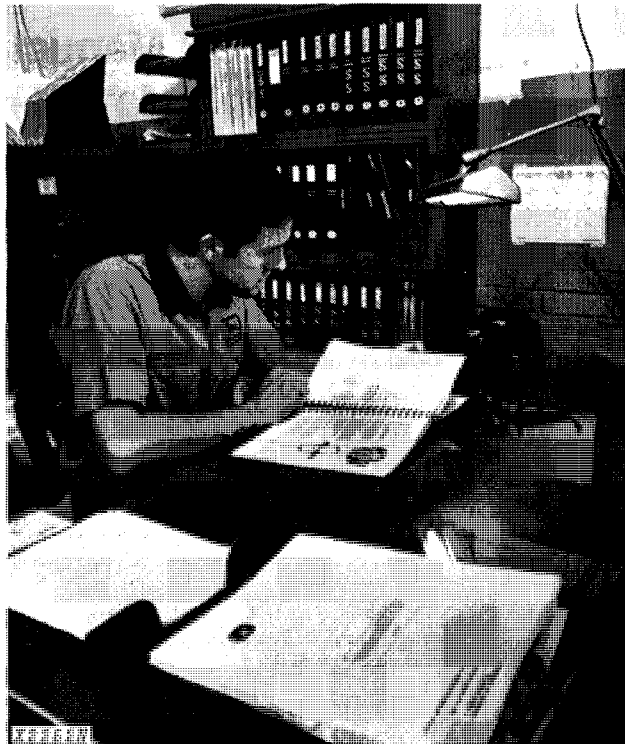
All information, illustrations and specifications contained in this technical manual are based on the latest information available at the time of publication. The right is reserved to make changes at any time without notice.

SI (International System) Units of Measure

Metric equivalents have been included, where applicable, throughout this technical manual.

Copyright 1975
DEERE & COMPANY
Moline, Illinois
All rights reserved

INTRODUCTION



Use FOS Manuals for Reference

This technical manual is part of a twin concept of service:

- **FOS Manuals — for reference**
- **Technical Manuals — for actual service**

The two kinds of manuals work as a team to give you both the general background and technical details of shop service.

Fundamentals of Service (FOS) Manuals cover basic theory of operation, *fundamentals* of trouble shooting, *general* maintenance, and *basic* types of failures and their causes. FOS Manuals are for training new people and for reference by experienced technicians.

Technical Manuals are concise service guides for a *specific* machine. Technical Manuals are on-the-job guides containing only the vital information needed by an experienced technician.



When a service technician should refer to a FOS Manual for more information, a FOS symbol like the one at the left is used in the TM to identify the reference.



Use Technical Manuals for Actual Service

Some features of this technical manual:

- *Table of contents at front of manual*
- *Exploded views showing parts relationship*
- *Photos showing service techniques*
- *Specifications grouped for easy reference*

This technical manual was planned and written for you — a service technician. Keep it in a permanent binder in the shop where it is handy. Refer to it whenever in doubt about correct service procedures or specifications.

Using the technical manual as a guide will reduce error and costly delay. It will also assure you the best in finished service work.



This safety alert symbol identifies important safety messages in this manual. When you see this symbol, be alert to the possibility of personal injury and carefully read the message that follows.

**Thanks very much for your reading,
Want to get more information,
Please click here, Then get the complete
manual**

JustClickHere 

NOTE:

**If there is no response to click on the link above,
please download the PDF document first, and then
click on it.**

**Have any questions please write to me:
admin@servicemanualperfect.com**

GENERAL

Power is transmitted from the tractor through the powerline to a gear case which drives the baler plungerhead and pickup. A roller chain from the input shaft on the front of the gear case drives the knotter and feeder finger drive shaft. The drive shaft drives a set of cluster gears which drive the knotters. On the 336 or 346 balers, a shaft off the cluster gears drives the auger through a V-belt. On the 466 Baler, a shaft off the cluster gears drives the auger through a chain, with a slip clutch for auger drive protection. A chain from the drive shaft drives the feeder fingers.

An overrunning clutch, located in the slip clutch on the input shaft of the gear case, protects the tractor PTO from damage.

When servicing baler drives, pay particular attention to the tractor-baler hookup geometry, Figs. 1, 2 and 3.

Unequal angles occur if the tractor drawbar is not set for the proper length relative to the PTO operating speed. The tractor hookup U-joints must operate at equal angles whether turning a corner or passing over uneven terrain. If the equal angles are not maintained, the following problems could occur:

1. Premature failure of the powerline components.
2. Excessive noise and vibration



For basic theory of power transmitted with a tractor PTO hookup, see FOS manual 40 — POWER TRAINS.

The proper hookup dimensions are illustrated by Figs. 1, 2 and 3. Use Fig. 1 for a 336 or 346 Baler using hitch straps, Fig. 2 for a 336 or 346 Baler with an equal angle hitch, or Fig. 3 for a 466 Baler.

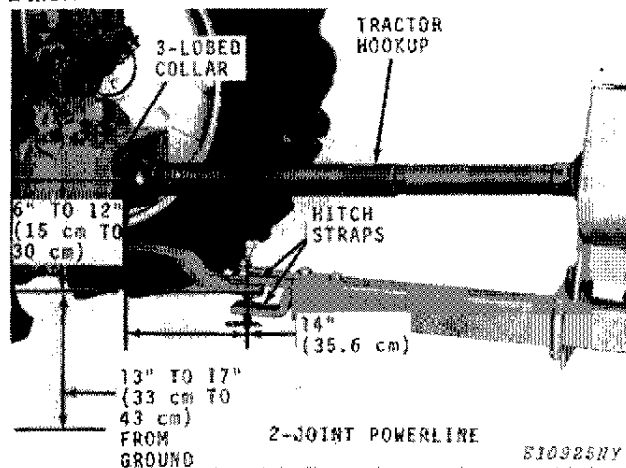


Fig. 1—Hookup Dimensions for Hitch Straps

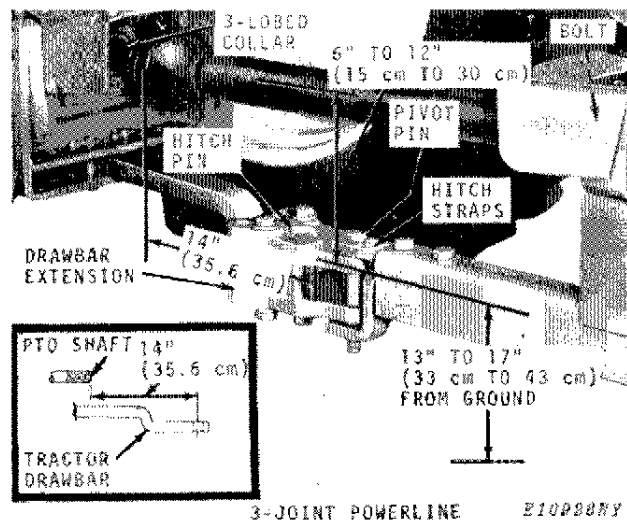
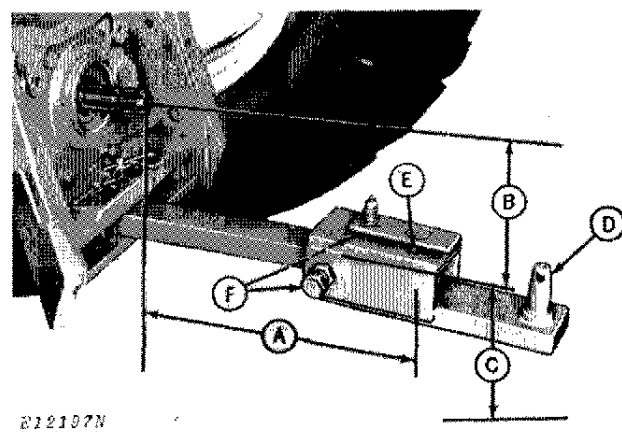


Fig. 2—Hookup Dimensions for an Equal Angle Hitch



- A—14" (35.6 cm)
- B—6-12" (15.2-30.5 cm)
- C—13-17" (33.0-43.2 cm)
- D—Equal Angle Hitch
- E—Hitch Pin
- F—Adjusting Bolts

Fig. 3—Hookup Dimensions of 466 Baler

LUBRICATION

Gear cases can operate efficiently only if clean lubricants are used. Use clean containers to handle all lubricants. Store them in an area protected from dust, moisture, and other contamination.



For more information on lubricants, refer to FOS Manual 50 — GENERAL INFORMATION.

Fill the gear case to the check plug with SAE 90-140 API-GL5 Gear Lubricant. The capacity of the gear case is 1 U.S. gallon (3.79 l).

OVERRUNNING CLUTCH AND SLIP CLUTCH (336 and 346 BALER)

GENERAL INFORMATION

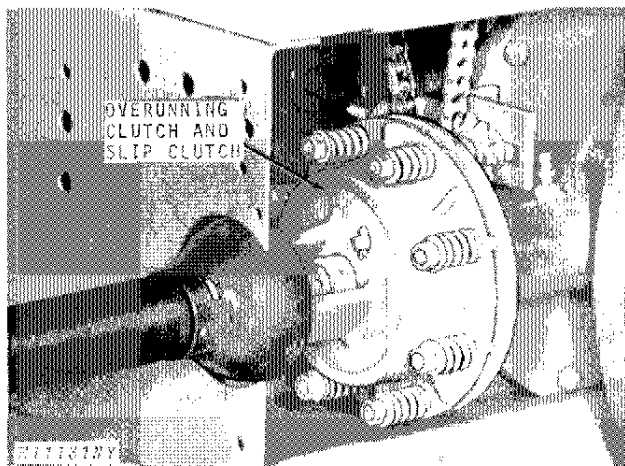


Fig. 1—Overrunning Clutch and Slip Clutch

The slip clutch in the main drive helps protect the baler from undue stress resulting from high starting torques, material too heavy, obstacles lodging between knives, etc.

REMOVAL

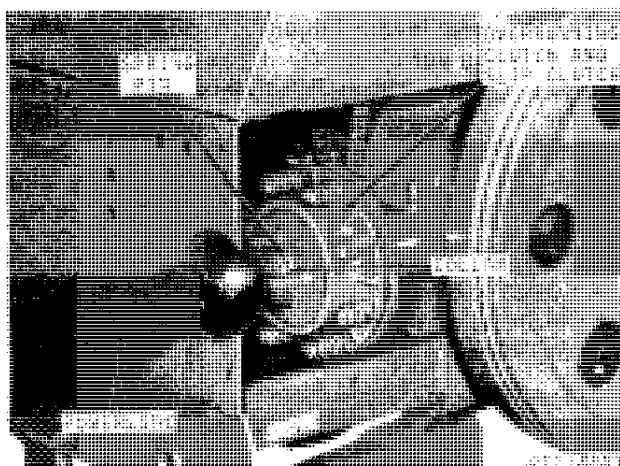
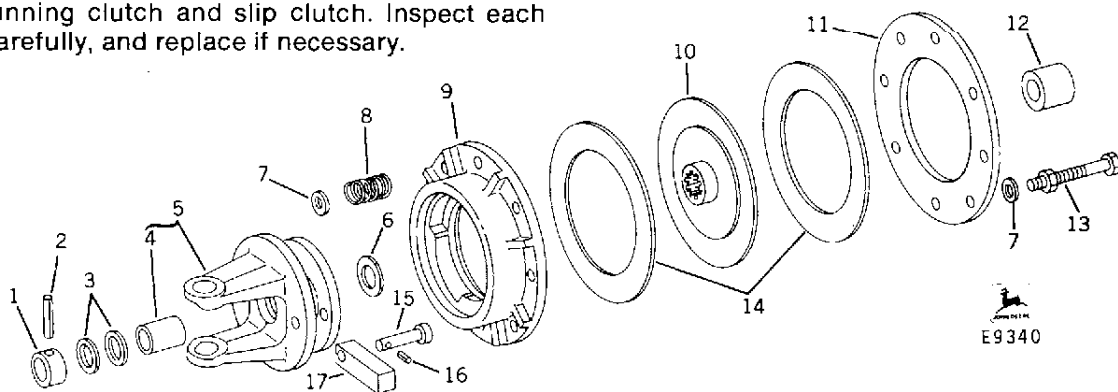


Fig. 2 — Removing Overrunning Clutch and Slip Clutch

Remove spring pin and collar from input shaft. Slide powerline forward until hub slips free of input shaft. Slide slip clutch off input shaft.

REPAIR

Refer to Fig. 3 to disassemble and assemble overrunning clutch and slip clutch. Inspect each part carefully, and replace if necessary.



- 1—Retainer collar
- 2—Spring pin
- 3—Thrust washer (2 used)
- 4—Bushing
- 5—Clutch yoke
- 6—Thrust washer (2 used)

- 7—Flat washer (16 used)
- 8—Spring (8 used)
- 9—Overrunning clutch hub
- 10—Clutch hub
- 11—Pressure plate
- 12—Spacer

- 13—Cap screw (8 used)
- 14—Clutch facing (2 used)
- 15—Drilled pin
- 16—Spring pin
- 17—Clutch pawl

Fig. 3—Exploded View of Overrunning Clutch and Slip Clutch

INSTALLATION

Refer to Fig. 4 to install slip clutch onto input shaft.

3. Place yoke (A) on shaft. Put two .025-inch hardened washers (B) with collar (C) on shaft. Stick a punch in the hole of the collar to locate the yoke. Pull slip clutch (D) forward. Check clearance (E) between spacer (G) and slip clutch hub. Remove yoke and add required number of .060-inch hardened washers (F) between rear of yoke and slip clutch to take up slack (E). Replace yoke (A), two .025-inch washers (B) and collar (C) on shaft and attach with spring pin. See Note 1.

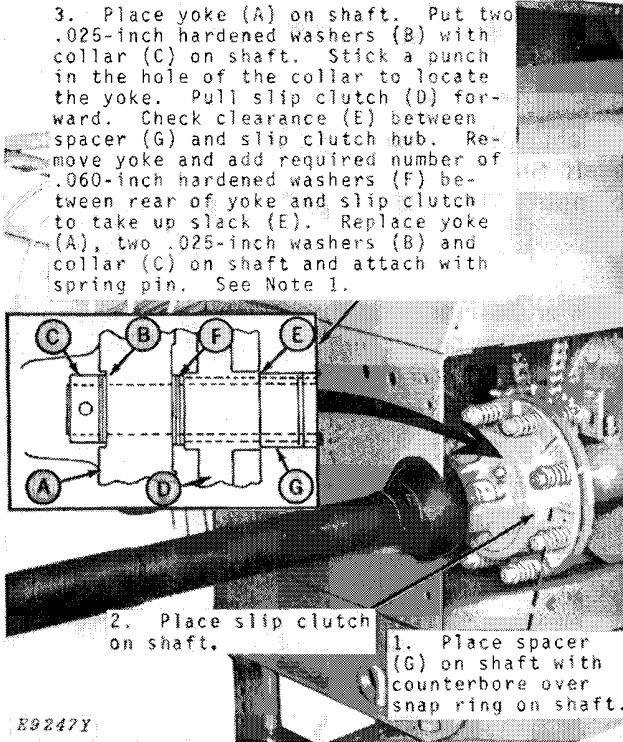


Fig. 4—Installing Overrunning Clutch and Slip Clutch on Input Shaft

NOTE 1: IMPORTANT: Washers must be placed between rear of yoke and slip clutch, not between spacer and slip clutch hub where clearance is measured.

ADJUSTMENTS

The clutch must slip at a torque of 400 to 500 ft-lbs (542 to 678 Nm) on 336 Balers or 475 to 575 ft-lbs (644 to 780 Nm) on 346 Balers.

Check the clutch by blocking the movement of the plungerhead and using a 10-foot (3.05 m) lever attached to the slip clutch. On 336 Balers, the clutch must slip when 40 to 50 lbs (178 to 222 N) of force is exerted on the lever. On 346 Balers, the clutch must slip when 47 to 58 lbs (209 to 258 N) of force is exerted on the lever. If the clutch does not slip in this range, tighten or loosen the clutch spring bolts.

NOTE: When checking torque on baler with 3-joint powerline it may be easier to use torque wrench on hex. powerline. To check, remove PTO hookup and place torque wrench on front of hex. powerline shaft.

After checking the torque, check the length of the clutch springs. The spring length must be between 1-19/32 to 1-21/32 inches (40.5 to 42.1 mm) on 336 Balers or 1-17/32 to 1-18/32 inches (38.9 to 40.5 mm) on 346 Balers.

OVERRUNNING CLUTCH AND SLIP CLUTCH (466 BALER)**GENERAL INFORMATION**

The slip clutch in the main drive helps protect the baler from undue stress resulting from high starting torques, material too heavy, obstacles lodging between knives, etc.

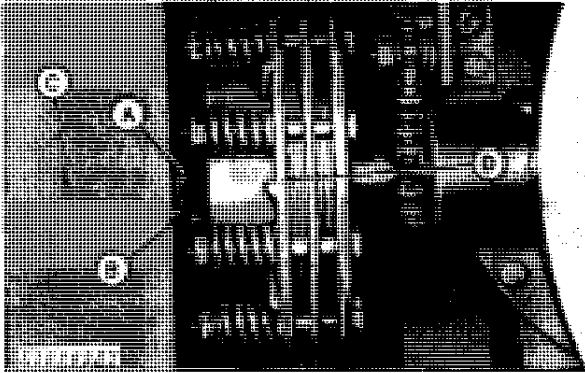
REMOVAL

Fig. 1—Overrunning Clutch and Slip Clutch Removal

A—Spring Pin
B—Collar
C—Powerline

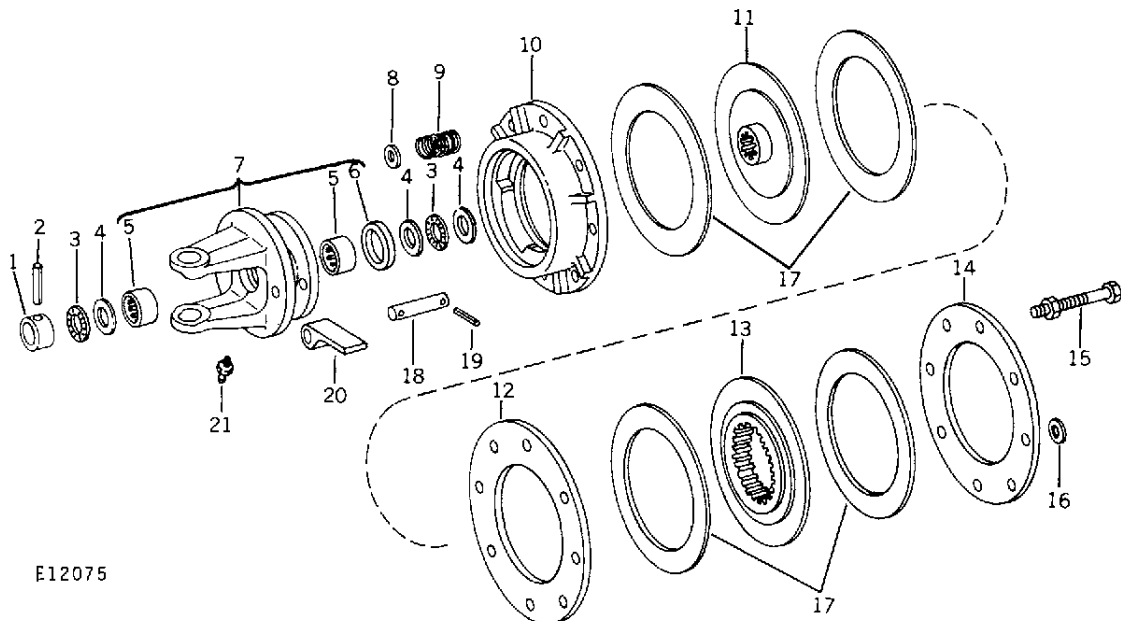
D—Overrunning Clutch
and Slip Clutch

(Legend for Fig. 1)

Remove spring pin (A) and collar (B) from input shaft. Slide powerline forward until hub slips free of input shaft. Slide slip clutch off input shaft.

REPAIR

Refer to Fig. 2 to disassemble and assemble overrunning clutch and slip clutch. Inspect each part carefully and replace if necessary.



E12075

1—Retainer Collar
2—Spring Pin
3—Thrust Bearing (2 used)
4—Thrust Washer (3 used)
5—Needle Bearing (2 used)

6—Oil Seal
7—Clutch Yoke
8—Flat Washer (8 used)
9—Spring (8 used)
10—Clutch

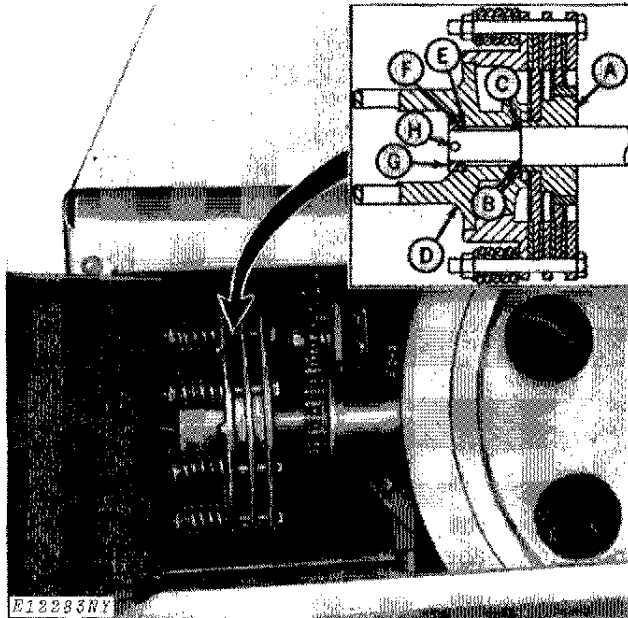
11—Inner Hub
12—Pressure Plate
13—Outer Hub
14—Pressure Plate
15—Cap Screw (8 used)
Lock Nut

16—Flat Washer (use as required)
17—Clutch Facing (4 used)
18—Drilled Pin (2 used)
19—Spring Pin (4 used)
20—Clutch Pawl (2 used)
21—Grease Fitting

Fig. 2—Exploded View of Overrunning Clutch and Slip Clutch

INSTALLATION

Refer to Fig. 3 to install slip clutch onto input shaft.



- | | |
|------------------|------------------|
| A—Slip Clutch | E—Washer |
| B—Washer | F—Thrust Bearing |
| C—Thrust Bearing | G—Collar |
| D—Yoke | H—Spring Pin |

Fig. 3—Installing Overrunning Clutch
and Slip Clutch on Input Shaft

Slide slip clutch (A) onto shaft.

Place one .090" hardened washer (B), thrust bearing (C) and another .090" washer (B) on shaft.

Slide yoke (D) onto shaft.

Place one .090" hardened washer (E) on shaft. Slide thrust bearing (F) onto shaft.

Place collar (G) on shaft and secure with spring pin (H).

ADJUSTMENTS

The slip clutch must slip at a torque of 700 to 800 ft-lbs (949 to 1085 Nm).

Check the clutch by blocking the movement of the plungerhead and using a torque wrench on the hex powerline. To check, remove PTO hookup and place torque wrench on front of hex powerline shaft. The clutch must slip at 700 to 800 ft-lbs (949 to 1085 Nm) torque.

After checking torque, check the length of the clutch springs. The spring length must be 1-23/32 inches (43.7 mm) when proper torque is obtained.

GEAR CASE

GENERAL INFORMATION

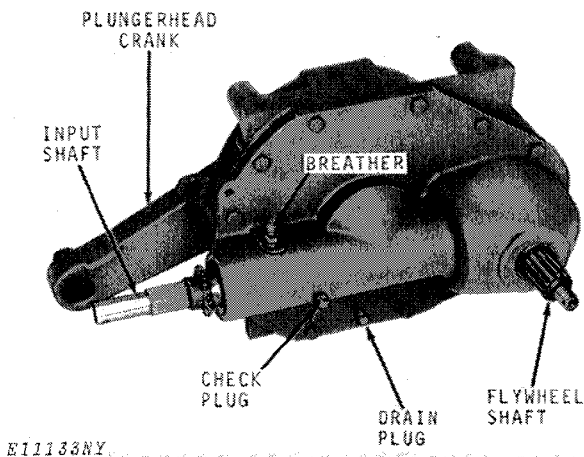


Fig. 1—Gear Case

The gear case transmits power from the powershaft around a 90-degree corner to the plungerhead and pickup. The feeder drive shaft is chaindriven from the input shaft. There are six bearings and three oil seals in the gear case.

DIAGNOSING MALFUNCTIONS



Refer to FOS Manual 40 — POWER TRAINS for more information about diagnosing malfunctions of gear cases.

Problem	Possible Cause
---------	----------------

Gear Case Noisy

- Lack of lubricant.
- Loose bearings.
- Gears not meshing properly.
- Excessive backlash.
- Gears binding.

Gear Case Excessively Hot

- Lack of lubricant.
- Gears binding.
- Defective bearings.
- Improperly installed bearing caps.

Leaking Oil

- Defective oil seals.
- Too much lubricant in gear case.
- Hardware not properly torqued.

REMOVAL

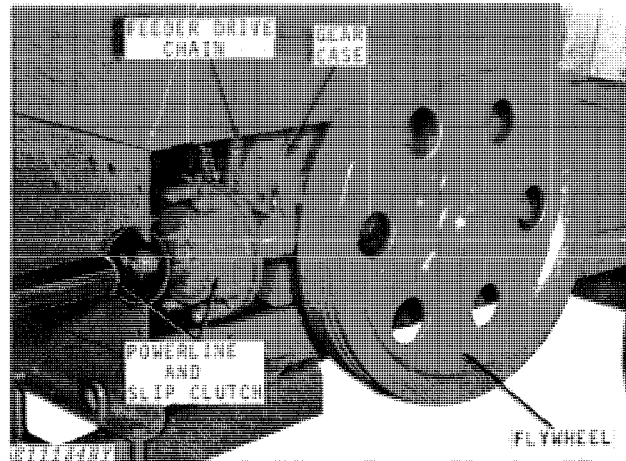


Fig. 2—Removing the Gear Case

Remove powerline and slip clutch from front input shaft, page 4 or 6.

Remove feeder drive chain.

Remove three machine screws from flywheel nut shield and remove shield (336 or 346 Balers). Remove slotted nut from flywheel shaft. Attach hoist or other lifting device to flywheel and remove flywheel from gear case.

Remove cap screws from pitman end of plungerhead crank.

Remove cap screws that hold gear case to baler and remove gear case.

REPAIR

Disassembly

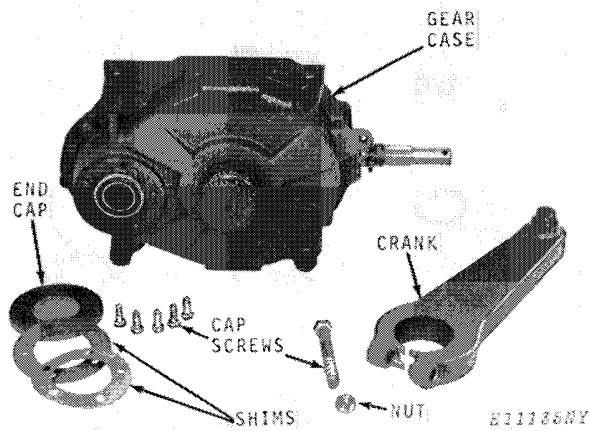
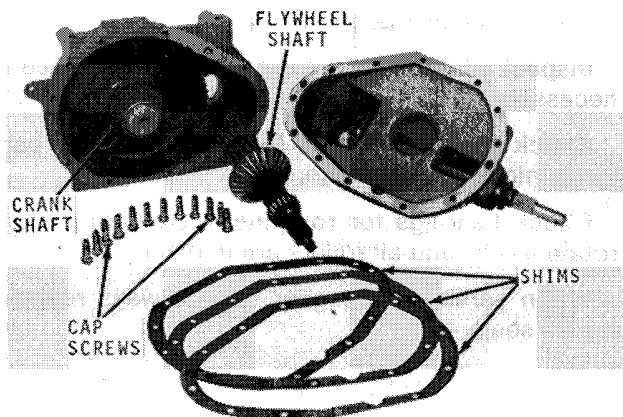


Fig. 3—Removing Flywheel Shaft End Cap and Crank

Remove cap screw and nut from plungerhead crank and remove crank from crankshaft.

Remove cap screws and end cap from gear case. Keep shims so they can be used in adjusting the rolling torque of the flywheel shaft.



E11136NY

Fig. 4—Separating Gear Halves and Removing Flywheel Shaft and Crankshaft

Remove twelve cap screws and separate the gear case halves.

IMPORTANT: Do not let shafts fall when separating gear case halves.

Remove flywheel shaft and crankshaft from gear case housing.

Keep shims so they can be used when adjusting crankshaft bearing torque.

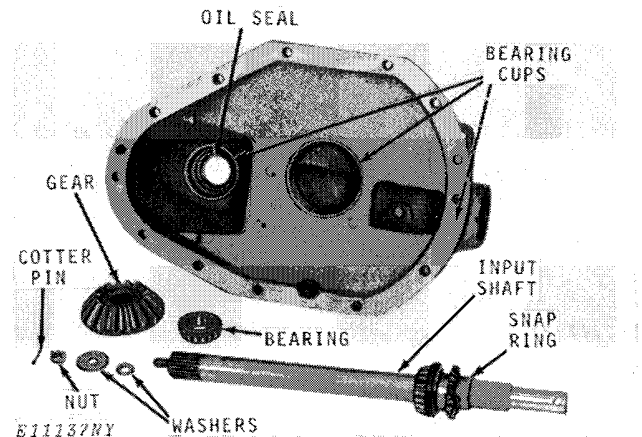


Fig. 5—Removing Input Shaft

On 336 or 346 Balers, remove cotter pin and slotted nut. On 466 Balers, remove stake nut. Slide gear and bearing off rear of shaft. Pull input shaft from front of gear case half.

With shafts out of case, check bearing cups for damage. If not damaged, do not remove bearing cups from case.

Remove flywheel shaft oil seal from gear case.

Remove snap ring from front of input shaft and slide sprocket, spacer and oil seal from shaft. Press bearing off shaft.