John Deere

MODEL:

40 Combine

SERVICE MANUAL

JD-S-SM2061

SERVICE MANUAL

JOHN DEERE

40

COMBINE

CONTENTS

SM-2061 (6-64)

Section 10
DESCRIPTION AND SPECIFICATIONS

Group 5
DESCRIPTION

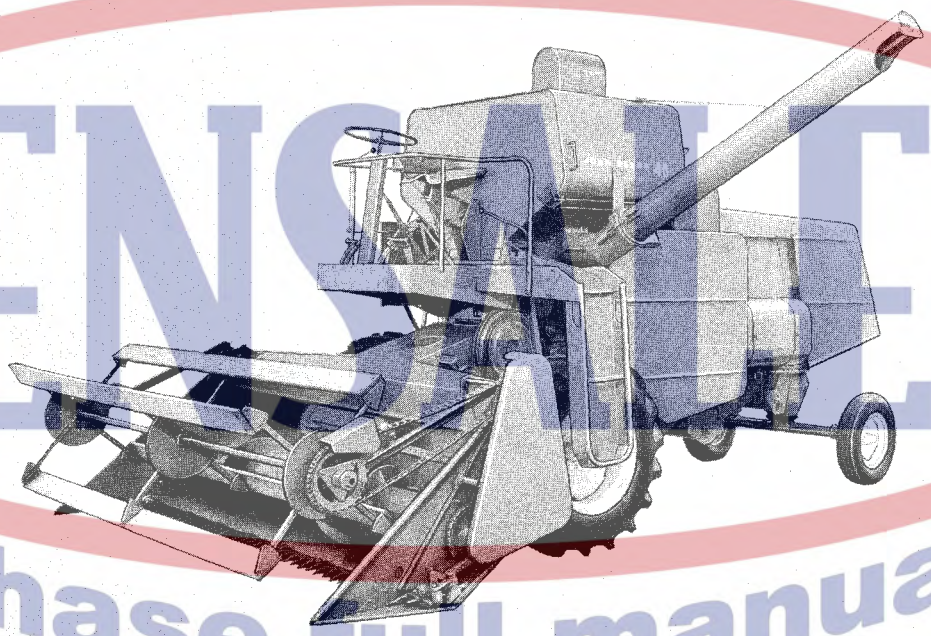

Fig. 10-5-1—Left-Hand Front View—John Deere 40 Combine

The 40 Combine has a 24-5/8-inch separator and may be equipped with an 8-foot or 10-foot cutting platform or a two-row corn attachment.

A John Deere gasoline engine is used to power the combine. Manual steering and manual selective ground speed control are provided.

The combine is equipped with an automotive-type transmission with three speeds forward and one speed reverse. Also the combine may be equipped with either a transmission (shoe) brake or individual wheel brakes.

STEERING MECHANISM

End play, camshaft	No end play, but shaft must turn freely.
Shim pack	0.024 in. approx.
Shim thicknesses	0.002, 0.003, and 0.010 in.

SELECTIVE GROUND SPEED CONTROL

Clearance between floating sheave and outer sheave halves	1/32 to 1/16 in.
End play of shaft	0.002-0.005 in.
Shim thicknesses	0.002, 0.005, and 0.010 in.

HYDRAULIC SYSTEM

Torque, fitting in reservoir	25-35 ft-lbs
Torque, control valve tie bolts	12 ft-lbs

ELECTRICAL SYSTEM

For specifications, see Section 90 and SM-2029 — John Deere Electrical Systems

ENGINE

For specifications, see Section 100 and SM-2053 — John Deere 115, 165, and 248 Power Units.

CAPACITIES (U.S. Measurements)

Fuel tank	25 gal.
Cooling system (Radiator)	3 gal.
Engine crankcase (Including oil filter)	7 qt.
Hydraulic Unit (Including oil lines and cylinder)	1-1/2 qt.
Transmission	12 pt.

Section 20
CLUTCH AND INPUT SHAFT

Group 5
DESCRIPTION, OPERATION, AND TROUBLE SHOOTING

DESCRIPTION

Fig. 20-5-1–Clutch Housing Assembly

An automotive-type dry-disk clutch with friction linings on either side of the driven disk is used. Because the clutch is belt-driven from the engine, a drive plate is used in place of an engine flywheel. The clutch disk is positioned on the transmission input shaft between the drive plate and the clutch pressure plate. The clutch pressure plate is bolted to the drive plate.

OPERATION

The clutch assembly is controlled by a pedal on the operator's platform. Movement of the pedal is transmitted through the linkage on the left-hand side of the combine, through a throw-out bearing, to the clutch pressure plate.

When the clutch pedal is depressed, the clamping action of the pressure plate is released. This is the disengaged position.

When the clutch pedal is released, coil springs within the pressure plate assembly act against the pressure plate disk and clamp the friction linings of the driven disk between the pressure plate and the drive plate. This causes the driven disk to rotate with the pressure plate and the drive plate, transmitting power to the transmission. This is the engaged position.

During normal combine operation, the only adjustment that must be maintained is the clutch pedal free travel adjustment.

Group 10
SERVICE

REMOVAL

Disconnect clutch rod from clutch throw-out. (Fig. 20-5-1).

Remove mud guard if it is installed.

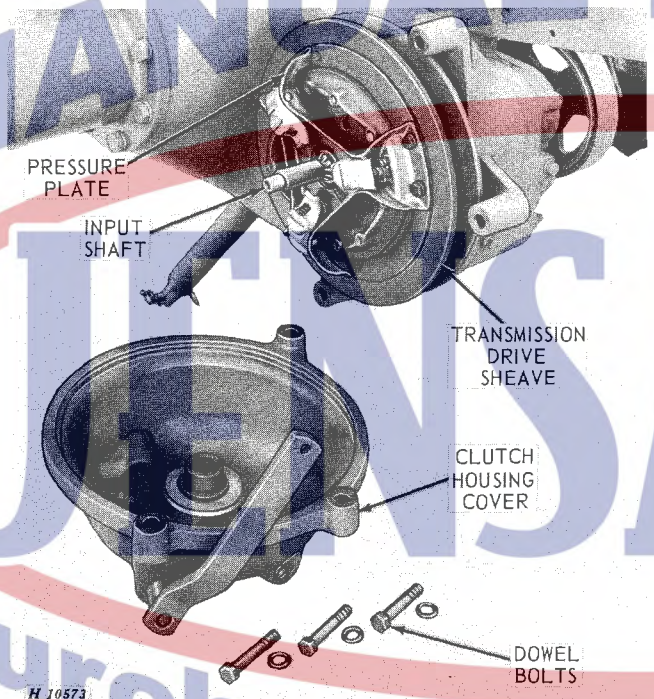

Fig. 20-10-1—Clutch Housing Cover Removed

Remove clutch housing cover which is held in place by three dowel bolts (Fig. 20-10-1).

Remove transmission drive belt.

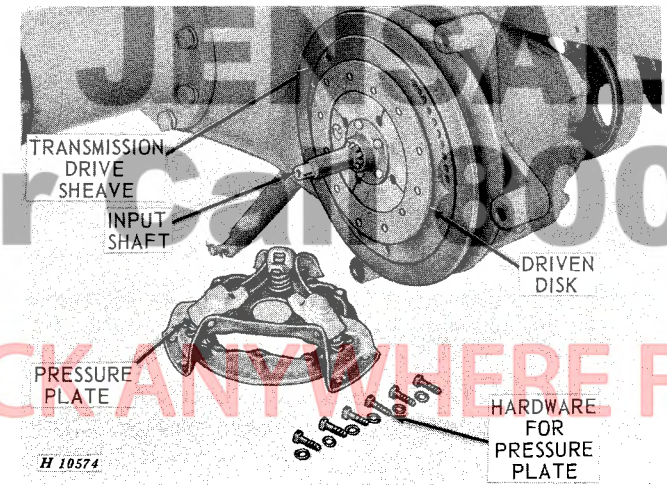

Fig. 20-10-2—Pressure Plate Removed

Remove clutch pressure plate by removing six cap screws that hold plate to transmission drive sheave (Fig. 20-10-2).

Slide driven disk off input shaft (Fig. 20-10-2).

Remove drive sheave and bearing assembly.

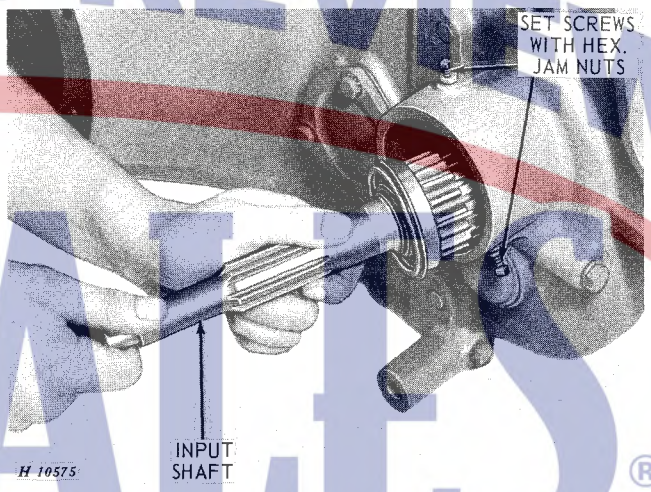

Fig. 20-10-3—Removing Input Shaft

Loosen two hex. jam nuts and set screws and remove input shaft with bearing (Fig. 20-10-3).

INSPECTION AND REPAIR

Wash all parts in a clean solvent and dry thoroughly.

Check linings on driven plate. Replace linings if they are glazed, greasy, or worn.

CAUTION: Do not wash clutch linings in any type of cleaning solution, as this will tend to glaze them.

Be certain driven disk slides freely in splines on input shaft. Replace disk if there is excessive play in disk hub on spline of shaft.

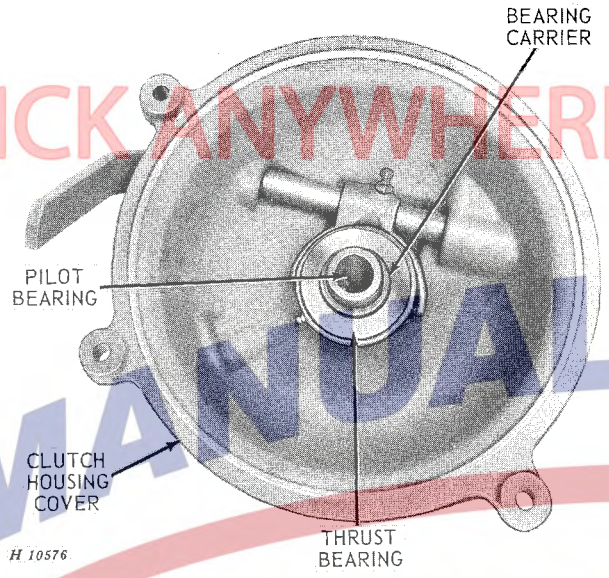

Fig. 20-10-4–Clutch Housing Cover with Bearing and Carrier

Inspect pilot bearing in clutch housing cover for roughness (Fig. 20-10-4). Replace bearing if necessary.

Check bearing carrier for signs of "hanging up" (Fig. 20-10-4). Replace carrier if worn or damaged.

Inspect clutch throw-out thrust bearing for roughness (Fig. 20-10-4). Replace bearing if necessary.

Inspect clutch shaft seals and bearings. Replace any parts that are worn or damaged.

Inspect pressure plate assembly. If damaged or worn, replacement of complete assembly is recommended.

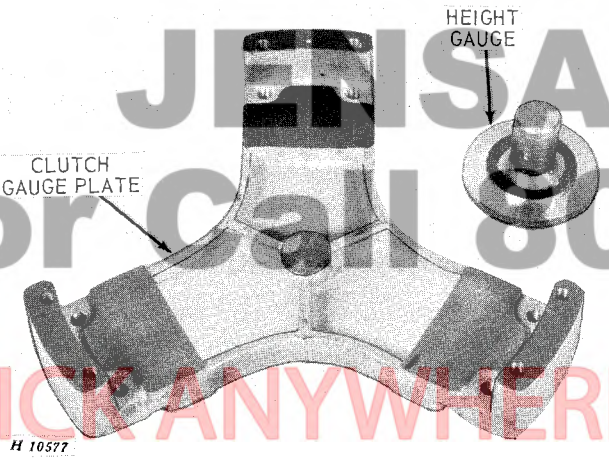

Fig. 20-10-5–Clutch Finger Gauge

The pressure plate assembly can be repaired if desired. After repairing pressure plate, adjust fingers with clutch finger gauge AH19450H (Fig. 20-10-5).

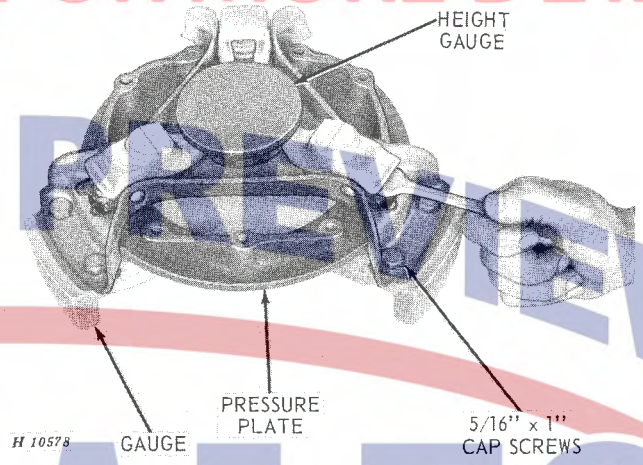

Fig. 20-10-6–Using Clutch Finger Gauge

Secure clutch plate to gauge with six 5/16 x 1-inch cap screws. Set height gauge on fingers. Loosen lock nuts and turn cap screws counterclockwise to lower fingers until there is approximately 1/8-inch clearance between height gauge and fingers. Turn cap screws clockwise until fingers just touch height gauge. Tighten lock nuts. Remove clutch assembly from gauge.

ASSEMBLY

Install input shaft with bearing (Fig. 20-10-3). Tighten two set screws and hex. jam nuts so bearing is against shoulder in housing.

Install transmission drive sheave. *NOTE: Maintain a 0.030-inch spacing between the inner face of the sheave (H10482H) and the bearing seal (AH14079H).*

Slide clutch driven plate onto input shaft (Fig. 20-10-2).

Install clutch pressure plate, using six cap screws previously removed (Fig. 20-10-2).

Install transmission drive belt (Fig. 20-10-1).

Install clutch housing cover, using three dowel bolts previously removed (Fig. 20-10-1). Torque clutch dowel bolts to 50-55 ft-lbs.

NOTE: Pack pilot bearing cavity 85 per cent full of SAE multipurpose grease.

Adjust bearing carrier and check clutch linkage to be certain linkage operates freely.

Section 30
TRANSMISSION

Group 5
GENERAL INFORMATION

DESCRIPTION AND OPERATION

The all-spur-gear transmission is controlled by a gearshift lever on the operator's platform. The transmission has three speeds forward and one speed reverse.

Power from the selective ground speed control and clutch and input shaft assembly is transmitted by the transmission to the differential. The settings of the selective ground speed mechanism and the gearshift lever determine the combine ground speed.

The following illustrations show the power flow through the transmission at the various gear settings.

Fig. 30-5-1—Transmission in Neutral

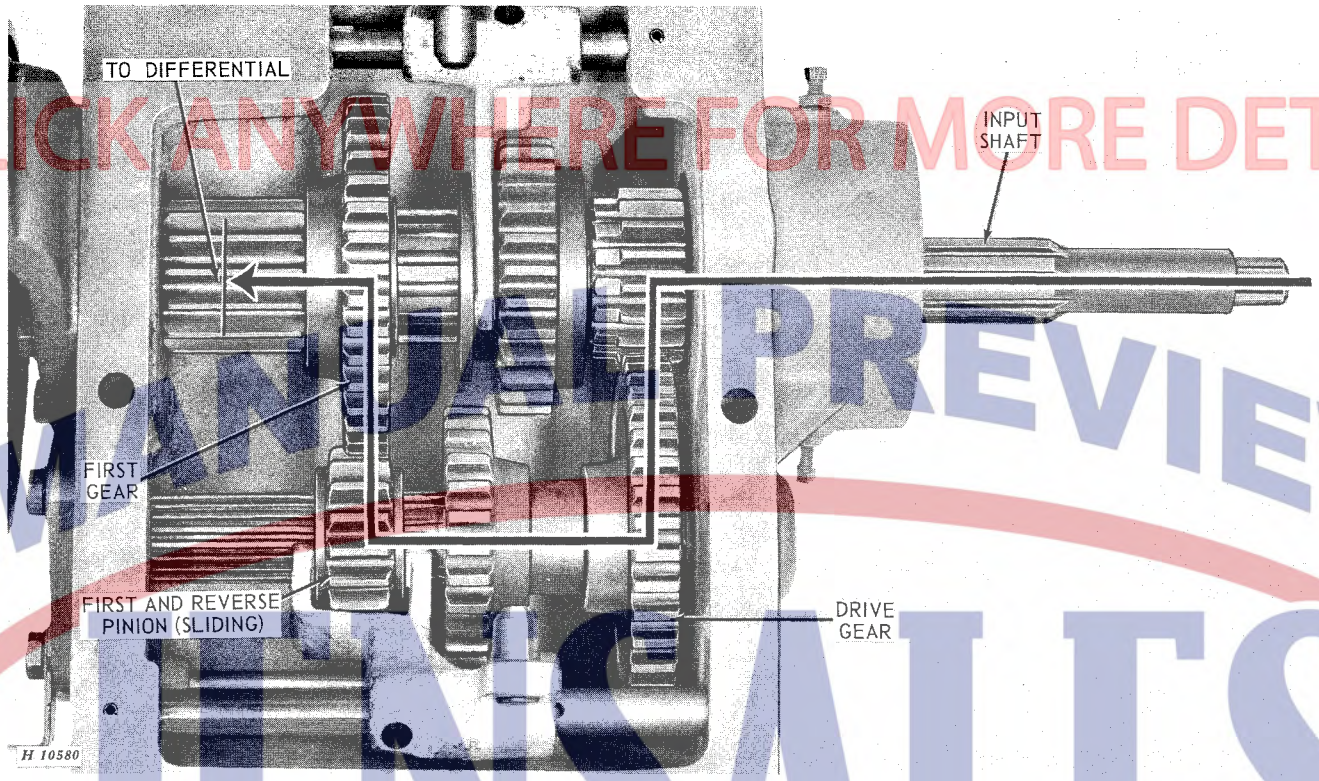

Fig. 30-5-2—Transmission in 1st Gear

Fig. 30-5-3—Transmission in 2nd Gear

Fig. 30-10-4—Transmission in 3rd Gear

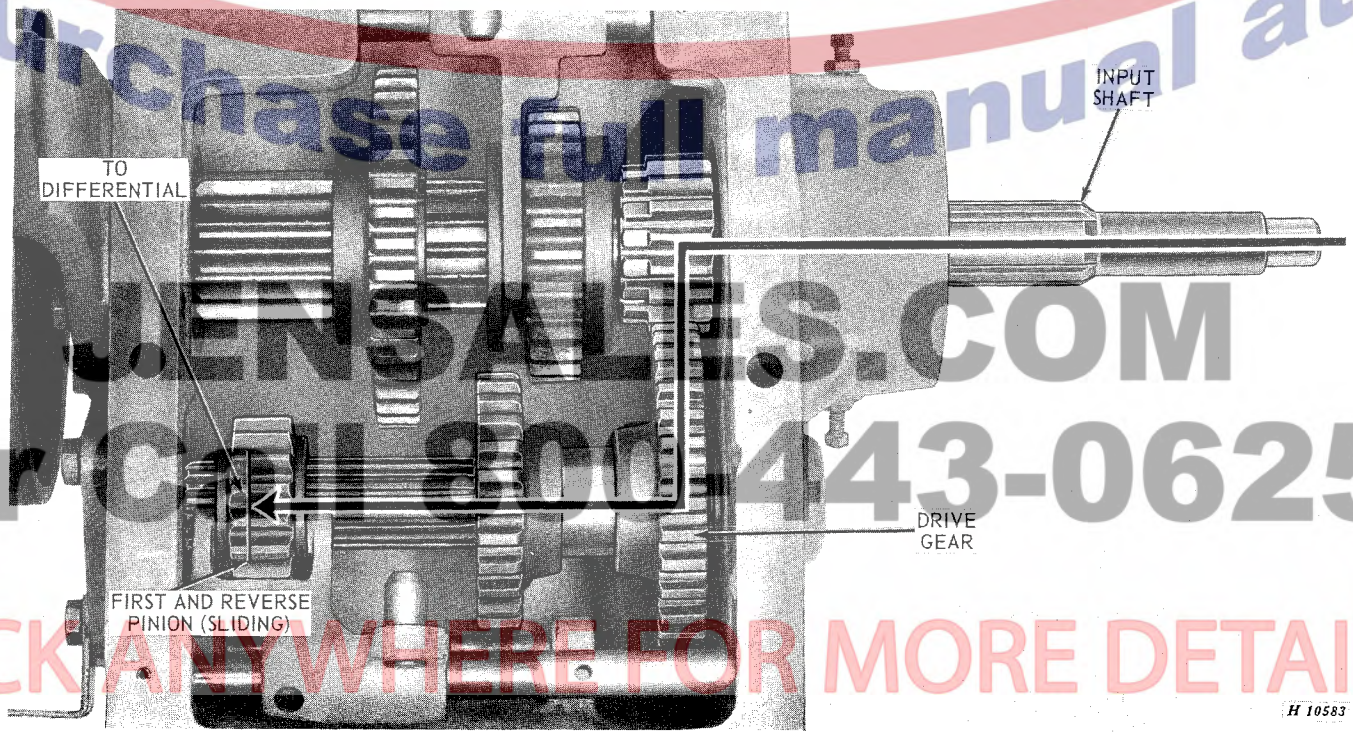

Fig. 30-10-5—Transmission in Reverse