John Deere

MODEL:

410 & 510 Round Balers
410 and 510 Round Balers
Section 10
GENERAL

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Bale
Diameter:
410 .......................................................... 5 ft. (1.5 m)
510 .......................................................... 6 ft. (1.8 m)
Width:
410 .......................................................... 4 ft. (1.2 m)
510 .......................................................... 5 ft. 3 in. (1.6 m)
Weight:
410 .......................................................... Approx. 850 lbs. (386 kg)
510 .......................................................... Approx. 1700 lbs. (771 kg)

Pickup
Width:
410 .......................................................... 5 ft. (1.5 m)
510 .......................................................... 6 ft. (1.8 m)
Cylinder Diameter:
410 and 510 .................................................. 10 in. (254 mm)
Teeth:
410 .......................................................... 32 double teeth and 4 single teeth
510 .......................................................... 48 double teeth
Speed:
410 and 510 .................................................. 118 rpm

Weight:
410 .......................................................... 2950 lbs. (1338 kg)
510 .......................................................... 3895 lbs. (1767 kg)

TM-1194 (Apr-79) Litho in U.S.A.
Drive Train

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DRIVE TRAIN

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Group 5
GENERAL INFORMATION

All operating power for the 410 and 510 round balers is supplied from a tractor hydraulic system and power take-off. The balers are shipped from the factory equipped for 540 rpm PTO operation only. The 510 can be converted to 1000 rpm use.
DISASSEMBLY—Continued

Position a small screwdriver in slot in exposed head of locking bearing (C); then lift locking bearing up and out of assembly (Fig. 4). Drive locking bearing out. Remove closure shield (A) from push-button yoke (D).

Remove bearings (B) from front shield (A) in the same manner then remove yoke and shaft assembly (C) from front shield.

Hold the push-button yoke as shown in Fig. 7; then use a rubber hammer to drive the spider and assembly (A) from the supported yoke.

Repeat procedures to remove the other two bearings.

Disassemble the rear section of the powershaft in the same manner as the front section.
Starter Roll

Remove cap screw (25, Fig. 10) from shaft and slide the double (14 and 33-tooth) sprocket (32) from the starter roll (31). Remove cap screw (25) from right-hand end of shaft and remove 22-tooth drive gear (28).

Remove locking collar and loosen flangettes on left end of roll.

Remove cap screw (25) and 51-tooth gear (26) from compression roll (33).

Remove locking collars, cap screws, bearing flanges, and bearings from right-hand end of starter roll and compression roll.

Remove spring (C, Fig. 6) from right-hand pivot arm (D) and remove pivot arm.

Remove five cap screws from plate (E) and remove plate from right-hand baler side.

Slide starter roll from right-hand side of the baler.

Starter Roll

Remove cap screw (25, Fig. 10) from shaft and slide the double (14 and 33-tooth) sprocket (32) from the starter roll (31). Remove cap screw (25) from right-hand end of shaft and remove 22-tooth drive gear (28).

Remove locking collar and loosen flangettes on left end of roll.

Remove cap screw (25) and 51-tooth gear (26) from compression roll (33).

Remove locking collars, cap screws, bearing flanges, and bearings from right-hand end of starter roll and compression roll.

Remove spring (C, Fig. 6) from right-hand pivot arm (D) and remove pivot arm.

Remove five cap screws from plate (E) and remove plate from right-hand baler side.

Remove locking collar and loosen flangettes on left end of roll.

Remove cap screw (25) and 51-tooth gear (26) from compression roll (33).

Remove locking collars, cap screws, bearing flanges, and bearings from right-hand end of starter roll and compression roll.

Remove spring (C, Fig. 6) from right-hand pivot arm (D) and remove pivot arm.
John Deere 410 and 510 Round Baler hydraulic systems are tractor-powered and supplied. The tractor used can be equipped with either closed-center or open-center hydraulic system. The systems consist of hydraulic hoses connected to hydraulic cylinders and tractor.

The round balers are set for use on tractors with two hydraulic outlets. However, a selector control valve is available for tractors with only one hydraulic outlet. (See page 30-20-1.)


### General Information

**Always use two wrenches when attaching a hose to a fitting to avoid excessive twisting.** Check the entire length of hoses to be certain they are not rubbing on moving parts or vibrating because of loose parts.

**IMPORTANT:** When disconnecting a hose from a hydraulic component, always mark the hose and port from which it was removed so it can be reconnected to the proper port when reassembling. If hoses are not connected to the proper ports, serious damage can result to the component or entire hydraulic system.
Belts

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BELTS

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Group 5
GENERAL INFORMATION

The upper (A) and lower belts (B) form the bale as hay is moved through the compression and starter rolls. The upper set, operates at 406 ft/min (124 m/min) for both balers. This consists of nine repairable, rubber-coated forming belts for the 510 and six for the 410. These belts can be repaired or replaced individually or as a set.

The upper belts are tensioned by the large springs on the sides of the baler. See page 10-3 for adjustment.

The five (410), seven (510) continuous lower belts, operating at 373 ft/min (113.7 m/min) minimizes leaf loss while the bale is being formed. Lower belt tension is controlled by a spring adjustment on the rear roll. See page 15-3 or 15-4 for adjustment.

Fig. 1-View of Belts on 510 Round Baler
The purpose of the rear gate (A, Fig. 1), on the 410 and 510 round balers, is to hold the bale in place as it is being formed. As the bale is being formed, the gate remains securely latched.

After the bale is formed, the rear gate is raised and the bale is moved out of the baler (page 10-15-4).