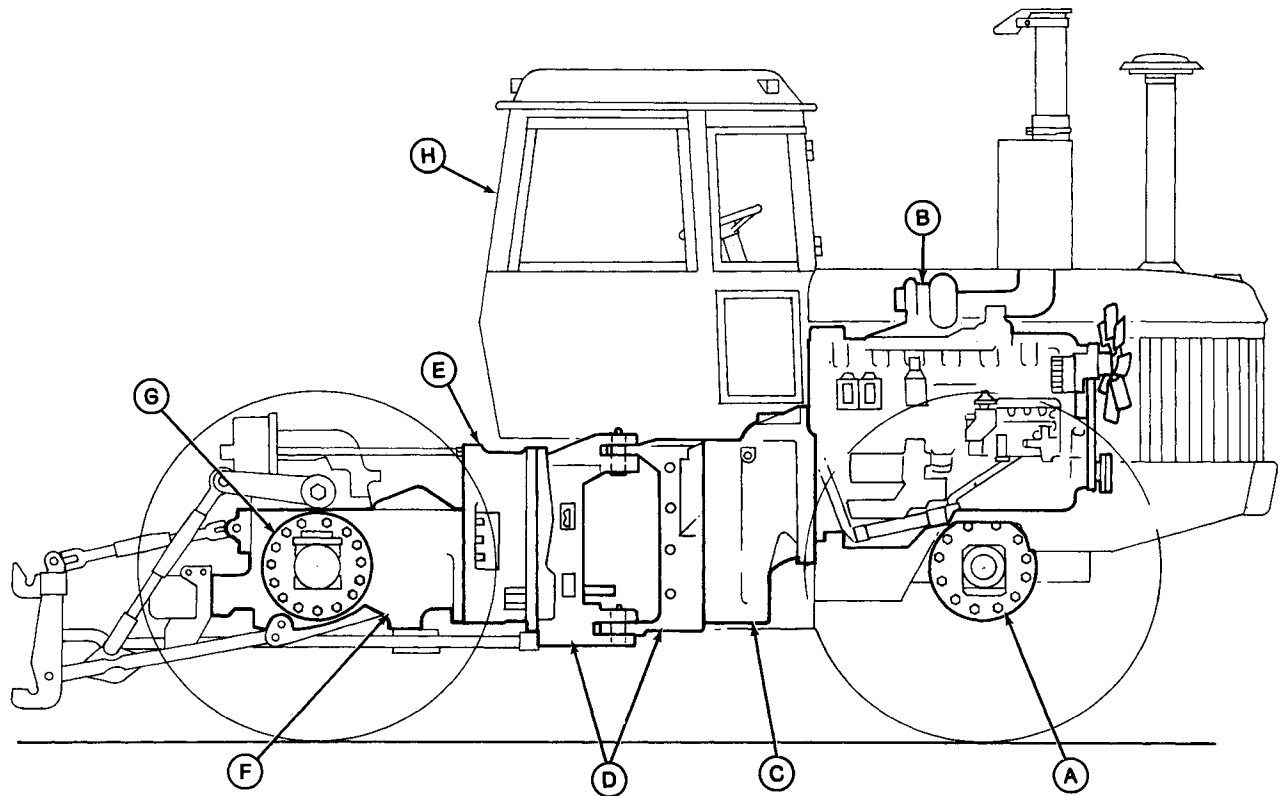


Group 25 SEPARATION



R 25270N

A—Front Drive
B—Engine
C—Clutch Housing

D—Hinge
E—Torque Divider
F—Transmission

G—Final Drive
H—Sound Gard Body

Fig. 1-Basic Separation Components

GENERAL INFORMATION

Separation of the tractor may be subdivided into the following components (Fig. 1): Front drive (A), engine (B), front end, clutch housing (C), front hinge, hinge pin, rear hinge, torque divider (E), transmission (F), final drive (G) and Sound-Gard body (H). Basic separation of these components will be explained within this group, except for the Sound-Gard body covered in Section 80, and final drive covered in Section 50.

⚠ CAUTION: Always use the hinge lock bars, provided with the tractor, whenever front or rear of tractor is raised. See operator's manual for installation of lock bars.

It is important to determine beforehand, which component has to be removed and the best method to use in removing the component, in order to perform the required service in the shortest possible time. For example, it is possible to gain access to the engine clutch two different ways: (1) Removing engine and tractor front end from clutch housing, (2) Removing tractor front end, then removing engine from clutch housing. The method selected will be determined by the total service requirements for any particular job, and on personal choice.

Once a basic component has been removed from the tractor, refer to the appropriate section of this manual for detailed service information.

FRONT DRIVE ASSEMBLY

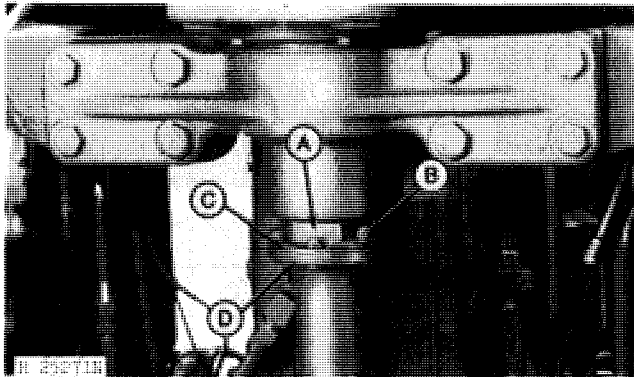
GENERAL INFORMATION

The front drive assembly may be removed with or without the drive support (C, Fig. 4). Removing the drive with support provides additional room to work on the front portion of the engine. Remove the drive assembly without the support when repair is to be made on the drive assembly only.

WITH FRONT DRIVE SUPPORT

Removal

⚠ CAUTION: Before disconnecting drive shaft, jack up one of the four wheels to relieve any torque that may have built up in the power train. Personal injury could result if drive shaft "unwinds" while it is being disconnected.



A—Lock Nut
B—Cap Screw And Nut
C—Front Retainer Half
D—Rear Retainer Half

Fig. 2-Front Drive Shaft Spline Coupling

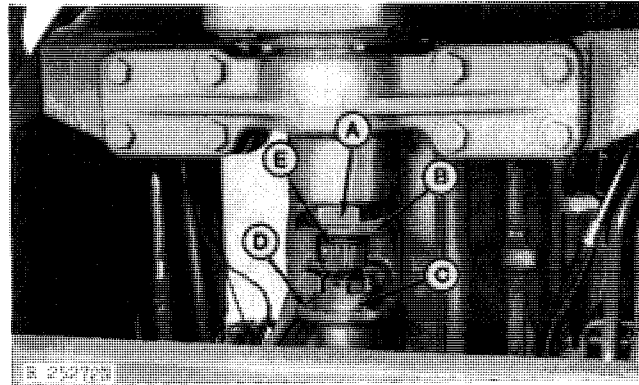
Remove the cap screws (B, Fig. 2) from the coupler retainer (D) and remove retainer. The front and rear halves of the retainer house a split washer that fits into the coupling groove.

Script a line on spline coupling and nut to ease installation.

Move the coupling rearward to disconnect splined pinion shaft from drive shaft (Fig. 3). The coupling may not move easily because of the drag exerted by two O-rings; one on the pinion shaft (E), and one on the drive shaft under coupling. These O-rings retain the gear oil from the front differential used to lubricate the splines on pinion shaft and drive shaft.

If equipped, disconnect front differential vent hose at cap.

Install Lifting Bracket (D-05153ST). See Fig. 7.

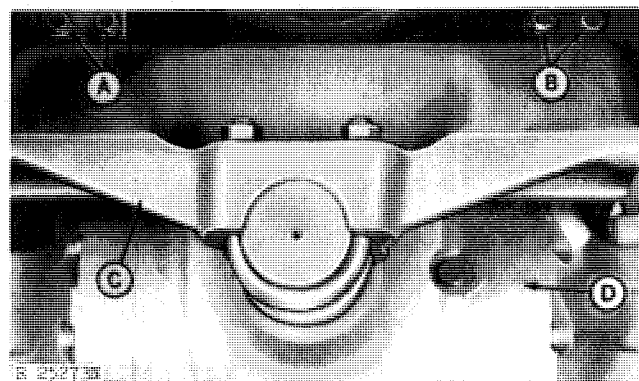


A—Lock Nut
B—Retainer Half
C—Splined Coupling
D—Rear Retainer Half
E—O-Ring

Fig. 3-Drive Shaft Disconnected

Block the rear wheels and position a floor jack under the lifting bar.

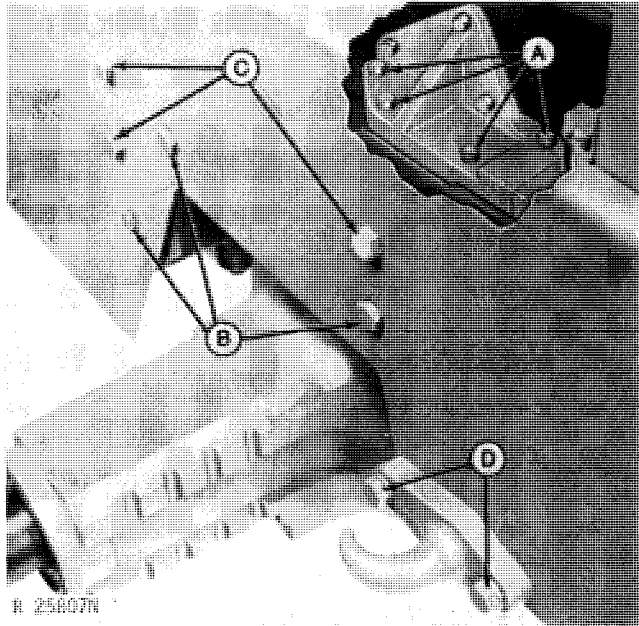
Use a jack with a 12-ton load capacity or greater to raise the front end of the tractor.



A—3/4 x 3-1/4" Cap Screws
B—3/4 x 3" Cap Screws
C—Front Support
D—Front Differential Case

Fig. 4-Front Drive Support

Remove the four front axle support-to-engine front support cap screws (A and B, Fig. 4) located just inside the side frames at top of axle support.

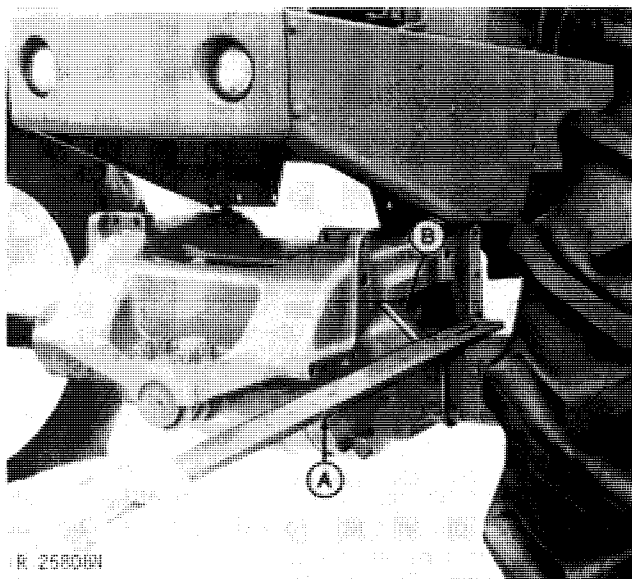


- | | |
|--|---|
| A—Support Cap Screws
(5/8" x 2-3/4") | C—Cap Screws
(3/4" x 1-3/4") |
| B—Special Hex. Bolt
(3/4" x 2-3/4") | D—Tow Hook Cap Screws
(3/4" x 2-3/4") |

Fig. 5-Side Frame-To-Support Cap Screws (8630)

Remove the engine support-to-axle support cap screws (A, Fig. 5) from the top of both engine supports. (Using the JDE-36 Adapter makes removal of cap screws easier.)

Remove the three side frame-to-support screws (C, Fig. 5), the three special hex. bolts (B), and the two tow hook cap screws (D) from both sides of tractor.

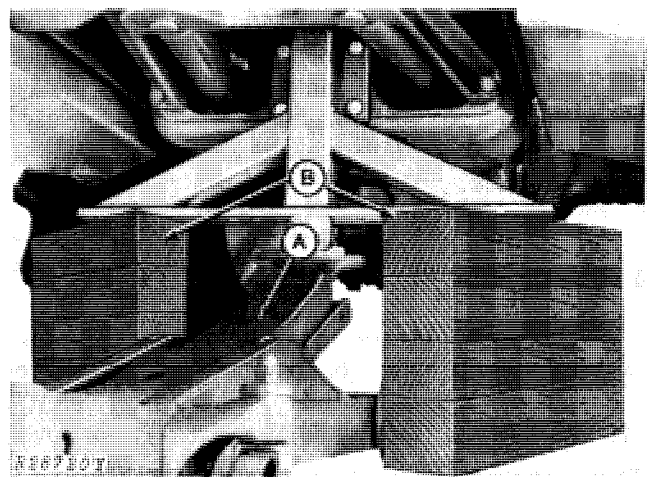


- | | |
|----------------------|----------------------------|
| A—Support Bar | B—Hinge Locking Bar |
|----------------------|----------------------------|

Fig. 6-Removing Front Drive With Support

CAUTION: When removing or installing front drive assembly with support, the differential and support may turn upside down if assembly is allowed to get out of balance. Keep differential and support balanced or supported to prevent possible injury.

Fasten a support bar or plate to the front drive housing (A, Fig. 6) to help control the assembly during removal. Insert a hinge locking bar under each side of housing (B, Fig. 6) to prevent tipping during removal. Raise the front end of tractor high enough to permit axle and support to clear side frames. Balance assembly and move out from front of tractor.



- | | |
|---------------------------------------|-------------------------------------|
| A—Floor Jack Under Lifting Bar | B—Blocking Under Lifting Bar |
|---------------------------------------|-------------------------------------|

Fig. 7-Lifting Bar and Jack

Place blocking under lifting bar (B, Fig. 7) to support tractor while repairing drive housing or support.

WITH FRONT DRIVE SUPPORT—Continued

Installation

Move the drive assembly in position and carefully lower tractor front end into position. Install screws (see Fig. 4 and 5 for sizes) and tighten the side frame-to-support screws to 300 ft-lbs (407 Nm) torque. Tighten the support-to-engine front support screws to 300 ft-lbs (407 Nm) torque.

Inspect the axle drive pinion shaft O-ring (E, Fig. 3) and replace if in poor condition. Lightly lubricate splines on pinion shaft. Move the coupler forward and engage coupler tangs into notches.

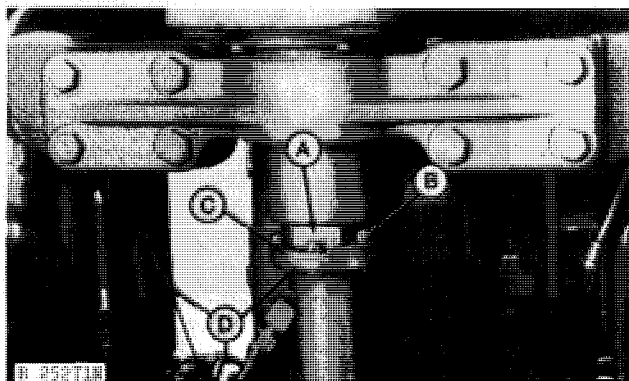
If the coupler tangs will not line up with notches in lock nut, raise one of the front final drives with jack until tire is off floor. Rotate tire until splines line up. Install two keeper halves and retainer halves. Tighten cap screws (B, Fig. 2) holding retainers together to 35 ft-lbs (47 Nm) torque.

Remove the lifting bar and floor jack. Install hood, grille screens, air stack and muffler.

Check the gear oil level in the differential housing. If low, use SAE 90 gear lubricant meeting API service designation GL-5 and military specification MIL-L-2105B. Refer to Section 50, Page 30-11 for level checking procedure.

WITHOUT FRONT DRIVE SUPPORT

Removal

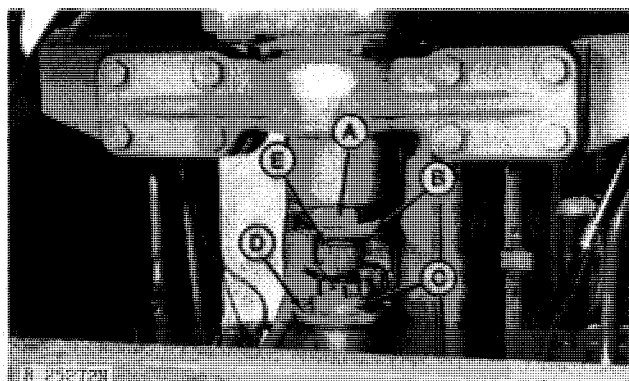


A—Lock Nut
B—Cap Screw and Nut
C—Front Retainer Half
D—Rear Retainer Half

Fig. 8—Front Drive Shaft Splined Coupling

Remove the cap screws (B, Fig. 8) from the coupler retainer and remove retainer. The front and rear halves of the retainer house two keeper halves that fit into the coupling groove.

CAUTION: Before disconnecting drive shaft, jack up one of the four wheels to relieve any torque that may have built up in the power train. Personal injury could result if drive shaft “unwinds” while it is being disconnected.



A—Lock Nut
B—Front Retainer Half
C—Splined Coupling
D—Rear Retainer Half
E—O-Ring

Fig. 9—Coupling Disconnected

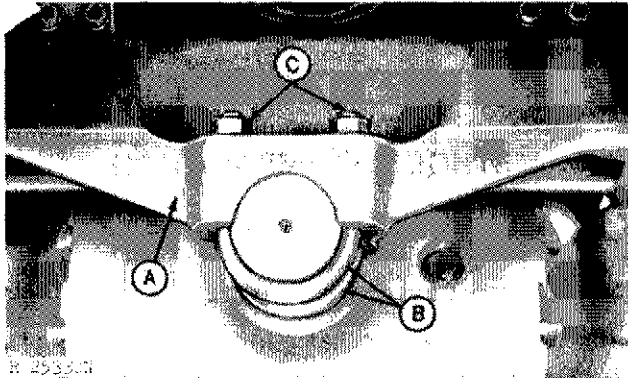
Move the coupling (C, Fig. 9) rearward to disconnect splined pinion shaft from drive shaft. The coupling may not move easily because of the drag exerted by two O-rings; one on the pinion shaft (E), and one on the drive shaft under coupling. These O-rings retain the gear oil from the front differential used to lubricate the splines on pinion shaft and drive shaft.

If equipped, disconnect front differential vent hose at cap.

Install Lifting Bar (D-05153ST) following manufacturers' instructions.

Block the rear wheels and position a floor jack under the lifting bar.

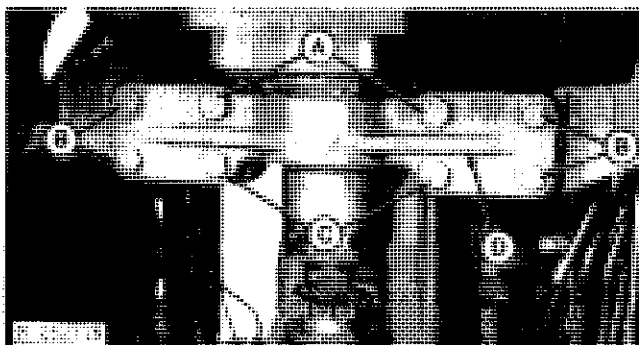
Use a jack with a 12-ton load capacity or greater to raise the front end of the tractor.



A—Drive Support
B—U-Bolts
C—U-Bolt Nuts

Fig. 10-Removing U-Bolts

Raise the floor jack enough to take weight off the front drive assembly. Place blocks under lifting bar (Fig. 7). Remove the U-bolt nuts (C, Fig. 10) and U-bolts (B) from drive support (A).

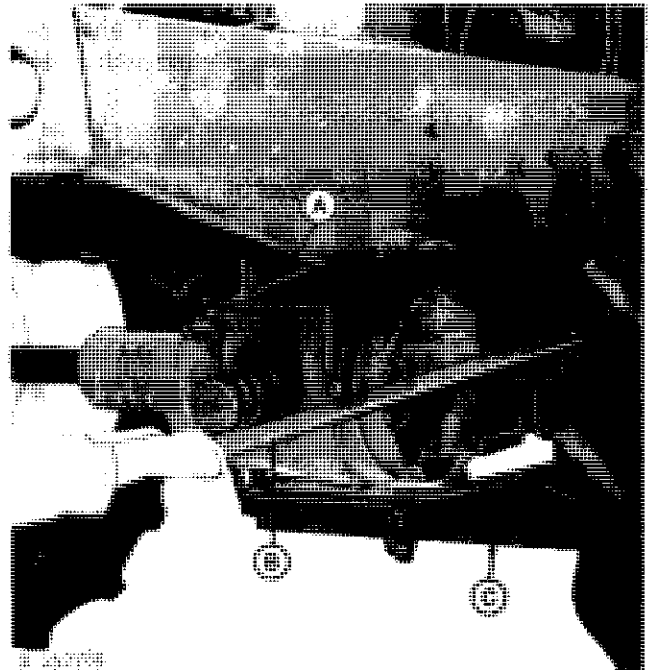


A—7/8" x 4-1/4" Cap Screws
B—3/4" x 3-1/4" Cap Screws
C—7/8" x 3-1/2" Cap Screws
D—Rear Support

Fig. 11-Removing Rear Support Cap Screws

Remove the eight front drive rear support cap screws (A, B, and C, Fig. 11).

CAUTION: Keep differential balanced or supported to prevent possible injury.



A—Axle Support
B—Support Bar
C—Floor Jack Under Lifting Bar

Fig. 12-Removing Axle Without Support

Fasten a support bar (B, Fig. 12) to the drive housing to keep assembly from rotating on axles. Raise the front of tractor high enough to allow the drive assembly to be pulled forward from under tractor.

Refer to Section 50, Group 30 and 35 for repair.

Installation

Move the drive assembly in position under tractor. Make sure that the two spacers are in place in drive rear support. Carefully lower front end onto drive assembly.

Install cap screws (see Fig. 11 for sizes) in rear support. Note that the 7/8 x 4-1/4 in. (A) screws are used in the holes having the spacers. Tighten the 3/4-in. screws to 300 ft-lbs (407 Nm) torque, and tighten the 7/8-in. screws to 445 ft-lbs (603 Nm) torque. The U-bolts should be evenly positioned in drive support and the nuts tightened to 450 ft-lbs (610 Nm) torque.



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