

PARTS & SERVICE NEWS

REF NO. AA04025A

DATE February 10, 2004

(C)

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SUBJECT: AWD GEARBOX ASSEMBLY

PURPOSE: To provide proper assembly instructions for AWD assembly rework.

APPLICATION: 830B Motor Grader Serial Number 100477 and UP
 830C Motor Grader Serial Number 100477 and UP
 850B Motor Grader Serial Number 100477 and UP
 850C Motor Grader Serial Number 100477 and UP
 870B Motor Grader Serial Number 100477 and UP
 870C Motor Grader Serial Number 100477 and UP
 GD530AW-2BY Motor Grader Serial Number 202001 and UP
 GD530AW-2CY Motor Grader Serial Number 202001 and UP
 GD650AW-2BY Motor Grader Serial Number 202001 and UP
 GD650AW-2CY Motor Grader Serial Number 202001 and UP
 GD670AW-2BY Motor Grader Serial Number 202001 and UP
 GD670AW-2CY Motor Grader Serial Number 202001 and UP

FAILURE CODE: 2A10ZC

DESCRIPTION:

The replacement AWD gearbox is assembled as a right hand assembly. If your application is for a left hand gearbox, it is necessary to rework it into a left hand configuration. Please use the following instructions.

PARTS

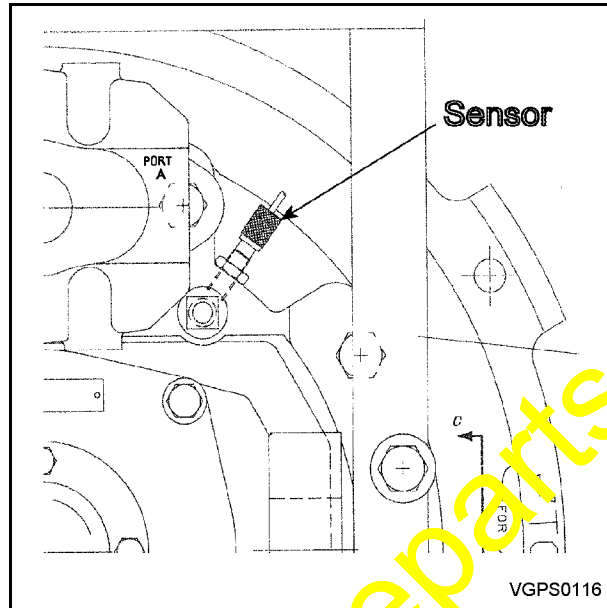
Part Number	Description	Qty	Remarks
163 259	Gearbox Assembly	1	
125 003 HI	Seal, Fastener	1	Interchange for P/N 67120
119 855	Seal, O-ring	1	

INSTRUCTIONS

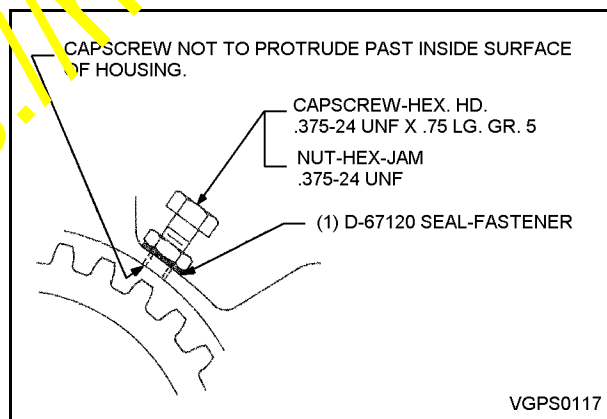
1. Thoroughly clean the grader's front axle surrounding area. This step will help prevent contamination from entering the hoses and drive motor. Follow the Shop Manual instructions for removal of front gearbox assembly.

WARNING! The moldboard must be placed on the ground and front axle blocked up in a safe manner. Failure to follow these instructions may result in serious bodily injury or death.

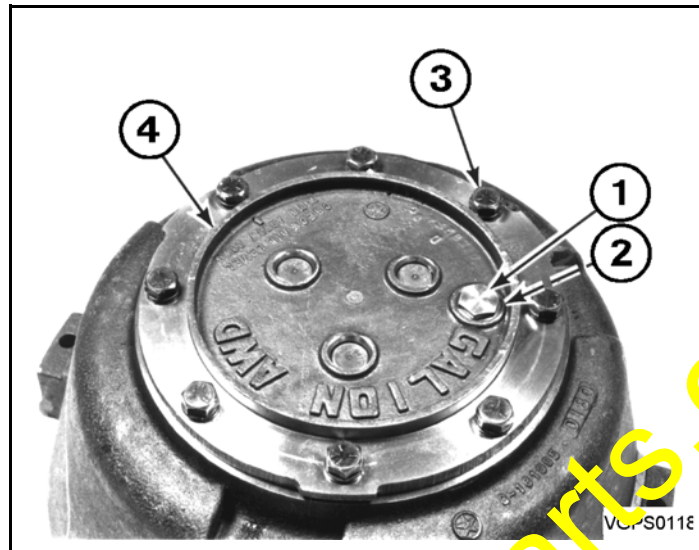
2. Set replacement gearbox in a clean area. Care must be taken to prevent foreign material from entering the gearbox. This gearbox assembly was assembled for right hand use. If replacement is for a right hand gearbox skip steps 3 through 9.
3. From the failed gearbox assembly, transfer the 3/8-24 UNF x.75 capscrew and jam nut from the position where the magnetic pickup sensor is located on the right hand side.



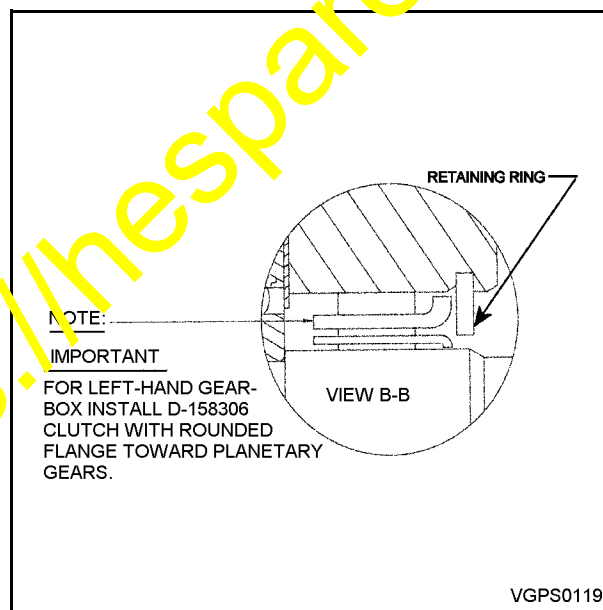
4. Remove sensor assembly from gearbox and install 3/8-24 UNF x.75 capscrew and jam nut with a new seal washer part number 125 003 H1 (Ref. 67120) in threaded hole that sensor assembly was removed from. **Do not** turn capscrew all the way in. The tip of the capscrew may touch gear teeth if turned all the way in.



5. Steps 5 through 10 can be done before or after gearbox has been installed on machine. Do not allow foreign material to enter gearbox. Remove the plug ① with the O-ring ② from the planetary carrier and drain one U.S. gallon (3.78 L) of oil from the assembly. Remove the eight bolts ③ and planetary housing 4 from the gearbox.

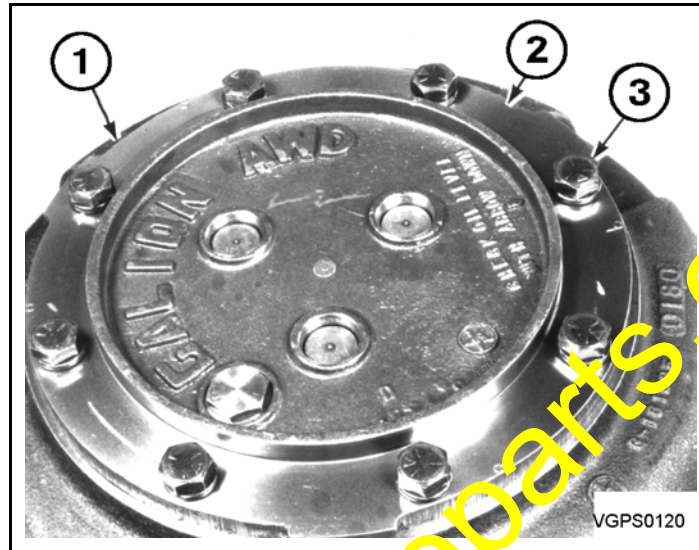


6. Remove the retaining ring in bull gear that holds over-running clutch in place (see view B-B).



7. With a suitable device (needle-nose pliers or with hook on end) pull over-running clutch out of bull gear and off of sun shaft. (Rotating the wheel clockwise slowly by hand while pulling on the over-running clutch may help to remove it.) Turn over-running clutch around and reinstall over sun shaft and into bull gear as shown in view B-B for left hand gearbox. (Rotating the wheel slowly by hand while pushing into place may help installation.)

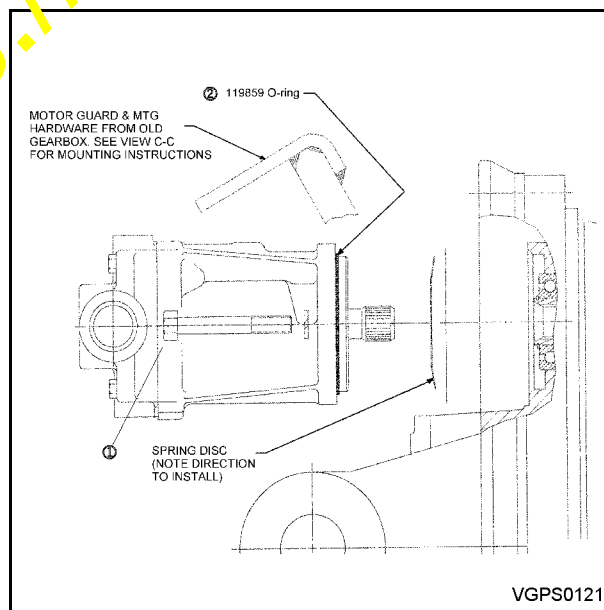
8. Install the retaining ring into bull gear to hold over-running clutch in place. Turn wheel by hand and observe sun shaft. Wheel should turn counterclockwise without turning sun shaft. Wheel should lock if rotated clockwise. (It may not be possible to turn wheel clockwise; however, if wheel does turn clockwise the sun shaft should also turn clockwise.)
9. Check the O-ring ① on the planet carrier ② to ensure that it has not been cut.
10. Install the carrier assembly into the gearbox. Do not damage O-ring seal. Install the lock washers and eight bolts ③. Tighten the bolts. Torque to: 115 lbf ft (155 Nm).



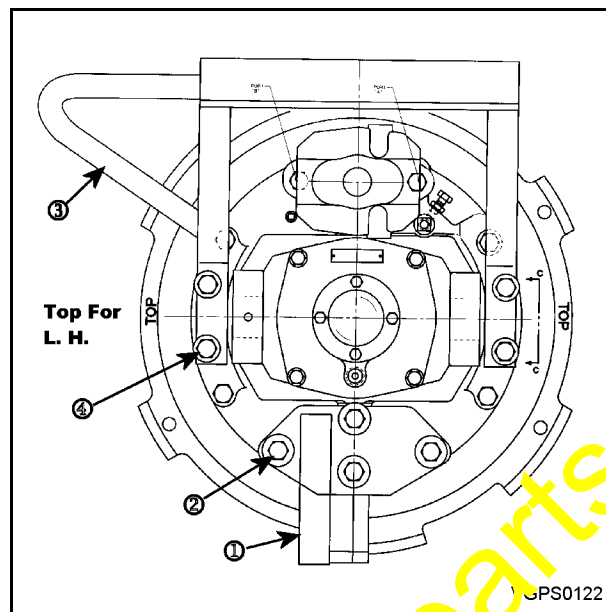
11. Remove the cover plate and gaskets from hydraulic motor mounting flange on gearbox.
12. Remove hydraulic motor and spring disc from old gear case. Clean motor thoroughly. Replace O-ring ② on motor pilot.
13. Make sure the motor disc spring is over the pinion bearing. Install the pinion bearing and motor with the O-ring using two bolts and ① lock washers. Tighten the bolts. Torque to: 58 lbf ft (78.6 Nm).

Remark

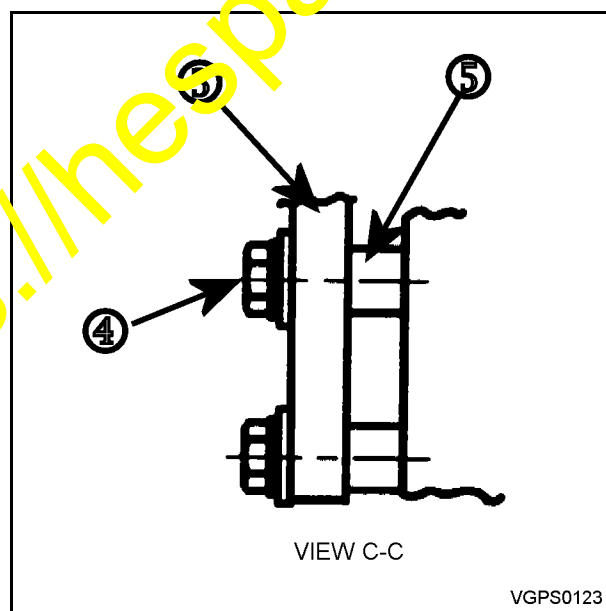
Make sure the motors are properly positioned. Install "Port B" to the topside for left gearbox.



14. Remove the steering arm ① from the old gearbox and reinstall with the same hardware. After applying Loctite #242 to the bolt threads (use only one drop per bolt) to the three 5/8-11 x 4-1/2 grade eight bolts, one 5/8-11 x 1-1/2 grade eight bolts ② secure the weldment in place with the bolts. Tighten the bolts. Torque to: 165 lbf ft (223.7 Nm).



15. Remove the motor guard weldment ③ from the old gearbox and reinstall the motor guard weldment ③ over the spacers ⑤ using four bolts and lock washers ④. Tighten the bolts. Torque to 115 lbf ft (115.9 Nm).



16. Install the gearbox assembly on the machine following the Shop Manual instructions.

Remark

Fill the gearbox with one U.S. gallon of oil. Refer to the Operation and Maintenance Manual for the specified oil.