

2011 John Deere 310J
EK4148

Transmission Repair



JOHN DEERE

New transmission for JD 310 backhoe

CONCERN:

Customer states machine has transmission issues, no codes

transmission only has 1st gear in reverse and 1st and 3rd in forward

customer has checked solenoids and found no issues

diagnose and advise

CAUSE:

CORRECTION:

6/1/2023 JN

Drove to machine location to check transmission issue. I verified only 1 and 3 gear are working. I found that y4 shift solenoid control f2, f4, r2, r3, and r4.

I ohmed out the solenoid and it was 11 ohms spec. is 10.5 ohms. I replaced the solenoid and it was shifting into each gear. I would pull very little but when you hit the throttle it would start slipping in that gear. So I started looking to see if those gears shared a clutch pack and they share clutch k2. I suspect there is a issue in that clutch need to remove and disassemble the transmission to inspect k2 clutch.

CE 6-8-23 bring machine in raise and support drain hyd tank into clean buckets, drain trans. remove drive lines and mounts everything is salt seized, trans never removed before

CE 6-9-23 remove trans and disassemble for inspection of failure

6/9/2023 DW

-Hooked up the transmission jack up to the transmission

-Took all the transmission bolts out

-Got transmission out from underneath machine

-Put trans on work bench

-Separated the transmission housing

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-Found broken metal off the k2 gear pack housing

6-20-23

BB- Had to disassemble the housing again because the torque converter wouldn't turn after trans was reassembled. Found the gear in the transmission pump was put in the wrong direction and didn't sit down all the way where it should which caused the torque converter shaft not to spin. Reassembled transmission again. Got transmission mounted back on transmission jack.

6-21-23

BB- Rolled transmission back under machine and got it lifted into place and sitting correctly against the bell housing and started installing bell housing bolts. Once all bell housing bolts were installed tightened them all down. Hooked up hoses on right side of transmission. Installed new oring on dipstick tube and installed dipstick tube to transmission. Routed harnesses to solenoids. Installed transmission mounts on each side to transmission and tightened them then installed bolts to frame through mounts and tightened. Removed brackets from transmission from trans jack and lowered trans jack and pulled out from under machine. Installed bolts back into transmission case where jack brackets were mounted. Installed oil cooler hoses to front of transmission.

6-22-23

BB- Removed engine holding bracket from frame. Installed flex plate to flywheel bolts. Installed hoses on back of transmission. Put strap around hydraulic pump and installed new oring. Had another tech help lift pump up into place on back of transmission and got it splined up and started in transmission. Tightened bolts for pump and installed hoses to pump. Connected all solenoid connectors on back and top of transmission. Installed bracket for dipstick tube. Installed new transmission filter. Opened new hardware for rear drive shaft and installed driveshaft from transmission to rear axle. Installed front drive shaft from transmission to front axle with new hardware as well. Filled hydraulic reservoir with the drained oil from the clean buckets. Filled transmission with 4 gallons of new hygard oil. Checked for any leaks under machine and then started machine. Operated transmission through all the gears and everything seemed to be working like it should. Lifted machine up off jack stands and removed jack stands. Lowered machine to ground.

6-23-23

BB- Backed machine out of the shop and drove around the lot to check everything worked as it should and no leaks.

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Pulled back into shop and went under machine and checked for leaks and didnt see any.
Installed cover to flex plate opening.
Marked hours on trans filter.
Checked trans fluid level and it was good.
Noticed the hydraulic oil level was up past the sight gauge and overfull.
Removed hydraulic reservoir cap and screen and used the hydraulic transfer pump and sucked some of the oil out until was at the correct range on the sight gauge.
Installed floor plates in cab.
Had another tech go out and operate machine to make sure everything was working like it should and he said it was good also.
Updated work order notes.

<u>Miscellaneous</u>	<u>Description</u>
S1	Travel Mileage

Gen2 Retail

CORRECTION:

<u>PartNumber</u>	<u>Description</u>	<u>Quantity</u>	<u>Net Price</u>	<u>Extended Price</u>	<u>Taxed Ind</u>
AT310587	Solenoid Hydraulic Valve	1.00			
AT401765	Modular Clutch	1.00			
AT444943	Seal	1.00			
AT466863	OIL FILTER	1.00			
AT467975	Seal	1.00			
AT501974	TORQUE CON	1.00			
AT524231	Seal	1.00			
F37030242	O-RING	1.00			
H84318	O-RING	2.00			
P0010	Inbound Freight Nontax	1.00			
P0010	Inbound Freight Nontax	1.00			
	6/19/23 MD LANTER 2PKGS AT401765 T218504 50LBS \$123.29 - 6/20/23 MD LANTER T347733 \$8.75 -				
PM38657	SEALANT	2.00			
R29463	O-Ring	1.00			
T113128	SCREW	8.00			
T159566	O-Ring	1.00			
T161181	O-Ring	1.00			

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T229393	O-Ring	1.00
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T240264	Screw	4.00
T242467	O-Ring	2.00
T347733	Sealing Washer	8.00
T69938	Half Clamp	4.00
TY27452	LUBRICANT	16.00
TY6354	HY-GARD	4.00
WE-22R	22GA R WIRE	6.00

Miscellaneous Charges:

Shop Supplies

Environmental Fees

Total: \$17,195.80

Received by:

Date: