ICE

Invoice Number:	**422338**
Invoice Date:	4/15/2019
Location:	07
Work Order Number:	69070
Payment Type:	Finance
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JD 950j	6628	LU950JX009390	009390	

/RTR Inspection Retail
COMPLAINT:
01 Complete RTR (Ready to Run) inspection report at beginning of repair.

CORRECTION:
perform rtr inspection

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/RTR-1 Retail
COMPLAINT:
03 full serves , miss track, check heater, repair leaks, heater not working

CAUSE:
The customer requests that the machine get a full service, change all fluids and filters. One hose coming off the case drain on the front right drive motor is worn out and leaking through the wire breading. heater control motor wiring broken or chewed through to the point that it can not be repaired.

CORRECTION:

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Machine engine had worked all the time, never had an issue with not idling up. Placed stands under the blade, drained the engine oil, removed the center section of the lower guards and there was a lot of dirt and water in that location as well as oil mixed in. While checking in that location a hose was found that had 3 rub spots down to the metal webbing. The inner finals were drained, they will be flushed and refilled in accordance with the maintenance procedures. The hydraulic/transmission tank was drained The engine oil filters were changed, one had to be worked over to get it loose in order to remove it. The right hand inner final drive oil was drained. The fuel filters were removed and the new ones primes prior to being put on the filter head assembly. Received the other engine oil filter and installed it, Coolant was drained and new coolant put in. The engine belly pan was cleaned out do to the amount of dirt build up around the oil pan. The rest of the inside of the machine will need to be cleaned out do to the amount of dirt build up in the machine.

Raised the engine lower guard with a come-alone up high enough to move the machine out of the shop and onto the wash bay. Removed the cab hold down bolts, moved machine out on to the wash bay and washed out the inside of the machine as best as possible in order to help aide in finding any hoses leaking. Once washed down it was pulled back into the shop, looked for any other hoses that were bad or leaking, only one found was hose that had three rub markings on it, traced out hose and found that is was one of the test port hoses on the left side of the engine compartment. Removed hose, started checking fuses pertaining to the heater and A/C system. Customer had stated that the heater was not working. While moving the machine to the wash bay heater operation was checked, blower motor was moving air, but not a lot, filters will be checked and the seat will have to be removed in order to check the heater core and the condenser core for the condition of the fins, if there plugged up and need cleaning. Fuses were checked, found that the set of fuses located in the top right side of the cab were missing a couple, those were replaced. Once the new line is installed the machine will be started and run in order to check for any further leaks.

Drained and refilled both the outside final drives. Installed hose, started up machine and move out of shop. There was an oil trail left behind the machine from under it. Shut down machine and looked under machine for leak, a lot of oil coming from under the splitter box drive down onto the hoses. Had another tech up in the cab and start the machine while I was under the machine watching for the location of the leak. Found leak coming from the bell housing of the engine. I moved to the top of the machine and looked at the left side of the bell housing, stated the machine again and found exactly were the oil was coming from. The oil was coming out of two bolt holes on the left side of the bell housing, which indicates that the hydrostatic pumps are leaking oil past the input shaft seals which is pushing oil into the splitter box and past the seal of the splitter box input shaft filling up the location of the dampner dive that is mounted on to the engine flywheel. Parts list was made up for the repairs that will need to be made and turned into the parts department for an estimate to be made up.

Machine is putting up a code E0250 which is related to the park brake not seeing 24v at the ECU/TCU. This could be caused by the alternator is not putting out enough voltage and the controllers are not seeing the correct amount of voltage that is required. Removed the park brake assembly from the machine, and checked over the lever assembly and the Park Brake switch. Readjusted the lever stops and reinstalled the park brake.

Checked out why the heater is not working, run machine in order to warm it up and see if the cab heats up, after 20 min of running the heater was only pushing outside temp air, no hot air. Moved machine from other techs bay over to mine. Noticed that the machine was not putting up the code for the park brakes not seeing voltage.

Removed the seat and the top cover to the heater/ A/C assembly, and checked the wiring, found that the wiring for the heater valve motor had a couple wires that appeared to be broken/ chewed through. The wires were broken close to the motor housing, unable to repair the wires being that close to the motor housing. Cleaned up the valve assembly do to lint and dust build up around the actuator arm, valve loosened up and worked a lot better then it was. New actuator motor ordered and valve. Connected the motor valve to verify that the motor worked as it should, motor worked as it should.

Installed the new valve motor and valve, one new section of hose was installed with four new hose clamps. Reinstalled that seat plate and the seat. Reinstalled the heater hoses and opened the heater valves on the engine. Reinstalled the lower guards under the machine and reinstalled the cab hold down bolts. Started and run the machine in order to check the operation of the cab

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the machine and reinstalled the cab hold down bolts. Started and run the machine in order to check the operation of the park brake lever.
Reassembled the park brake lever, sent in DTAC case, got a return call from DTAC. Double checked the fuses and relays. When back and rechecked the wiring to the alternator and the connections to the ECU, no bent pins or pins pushed back that could be found. Consulted Service Adviser further and found that there is a wire that is tied into the wiring to the TCU, the fuse panel that is located on the right hand side of top of the cab was missing a fuse I installed and fuse and powered up the machine and it Popped the fuse, installed another and it popped as well. Found what is controlled by this fuse, the left hand door wiper motor is controlled by this fuse. I checked the wiring and found that the wires were rubbed and one of them had welded itself to the door frame. Popped that wire loose and tried to power up again however this time there was no power at all to the lights, wiper motors or the temp control that is under the seat. Found the issue with no power to the cab lights and heater temp control, the master 30 amp fuse was blown, replaced the fuse and had power to all the functions that were lost. The shop supervisor had a 950J TCU in his office, this TCU was connected to the TCU connection from the old TCU, started the machine and let it run for about 15 min in order to see if the alarm would go off during that time, the Park Brake lever was cycled several times in order to see it the alarm would return, it did not return, a TCU was ordered. The wiper motor wiring that was bad in the left door was repaired.
Removed the old TCU from the machine and installed the new TCU, and test run the machine. Once the test is completed the TCU will have to be calibrated to the machine. I hooked up to the machine and was able to talk to it and found why the alarm is going off when the Park Brake lever is in the down position. The machine is setting a code for E8014 which is left seal cavity sensor. The wires were looked at there appears to be a bad spot in the wires right next to the connector. The remainder of the harness will have to be looked at to ensure there is no other wires that are damaged. Removed the bolts that hold the cab down and checked the Seal cavity tank sensors, they checked bad, it also appears that someone had switch the sensor connection around. Removed the oil from the seal cavity oil tank, and found that there was leaves in the bottom of the tank. Which in turn means that the first flush and re-fill did probably work as it should have. Disconnected the two bottom hoses and the two top hoses that go into the back of the machine. Fished out what leaves could be gotten and flushed out the tank with compressed air and break clean, Refilled the seal cavity's as per Service Adviser guide

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/RTR-1 Retail

lines. According to the wiring schematic the connectors are hooked up wrong, swapped connections, but the code stayed at the same place, it did not move, meaning there is a wiring issue some where in the harness and/or sensors. The wiring was checked over for any deficiency's, it was found that one of the white wire's looked as though it had been slightly cut at some time. The sensor connections were reconnected in accordance with the wiring schematic in Service Advisor. Removed the TCU that was installed and re-installed the original TCU back on to the machine.
Attempted to calibrate the machine, how ever the alarm went off with the park brake in the up position.
Dug out dirt from around the harness best as possible, still no spot that could be found that had an issue. DTAC returned call, wanted us to put in a jumper wire and see if the code went away, it stayed.
Machine is putting up a 8011 code, which means that it's not seeing the supply oil (charge pressure), checked wiring and hooked up test gauge to check charge pressure, ok. Tested charge pressure switch, it tested bad. installed a new charge pressure oil sensor, connected the laptop and checked to see it the code went away, LinDiag did not indicate that there was an active code pertaining to the charge pressure of the Trans/Hydraulic oil.
Reopened DTAC case, was instructed to removed the F65 main power fuse and attempted to start the machine, I had power but the digital indicator in the monitor stated that CAN OFF the machine would not attempt to start. Reinstalled the fuse and started the machine up. Still having an issue with the warning buzzer at start up and the E0250 code. Got in to the wiring harness to inspect the harness for any abnormalities, none found. Re-opened the DTAC case with findings, heard back from Liebarr about the Park Brake buzzer going off at start-up, Liebarr stated that the buzzer was normal on all 950J and 1050J machines built by them.
Supervisor contacted the custom about the final findings with the machine and what Liebarr said, customer ok, button up machine and turn in paper work and any parts. Taped up the area on the harness that was gotten into and secured to the tie down points. Lowered down the cab and secured into place, moved machine out to the yard and cleaned off the excess dirt from the machine. Turned in parts and paper work.

Part Number	Description	Quantity	List Price	Net Price	Extended Price	Taxed Ind
AT265123	Strainer	1.00				
AT274991	Cap	1.00				
AT275694	Pressure Switch	1.00				
AT316519	FILTER ELE	1.00				
LW10032835	FILTER ELEME	1.00				
LW10044302	FUEL FILTER	1.00				
LW10279773	FILTER	1.00				
LW10279775	FILTER	1.00				
LW10297295	OIL FILTER	2.00				
LW10300466	HYDRAULIC HOSE	1.00				

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LW10428561	HYDROSTATIC CHARGE OIL FILTER	1.00
LW10429946	FUEL FILTER	1.00
LW10430289	Filter	1.00
LW6003313	Wiring Harness	2.00
LW7025601	VALVE	1.00
LW7029892	MOTOR	1.00
TY26576	COOL-GARD II, 2.5 GALLON	7.00
TY26675	PLUS-50 II 15W-40, 2.5 GALLON	8.00
TY26682	PLUS-50 II, 1 QUART BULK	200.00
TY26815	GL-5 80W90 LUBRICANT	7.00
X1C643-8-4	Hose Fitting	1.00
X1CF43-8-4	Fitting	1.00

Miscellaneous	Description	Quantity	List Price	Net Price	Extended Price	Taxed Ind
FREIGHT	FREIGHT	1.00				

/RTR-2 Retail
COMPLAINT:
04 SPLITTER BOX OVERFILLING

CAUSE:
Found leak under center section of machine, run machine and found that there was oil coming out of the bell housing of the engine. The oil was coming from the splitter drive box. Input shaft seal bad.

CORRECTION:

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Unbolted the hood, exhaust pip going into the muffler as well as the rubber boot going into the air filter housing and removed hood assembly. Unbolted the individual filter block from under the rear hood support as well as the filter housing. Removed the six bolts that hood support, removed support. Disconnected the wiring for the engine, removed the "V" belt and removed the A/C compressor and lay aside, loosened the clamps to the charge air cooler the tubes will be removed prior to the engine being pull from the machine. Fuel in-let and return valves were shut off as well as the hydraulic valve going to the tank.

Had to clean out around the starter to get to the wire's that still needed to be disconnected. Removed the charge air cooler hoses, the front radiator hose. The wiring that runs along the side of the engine frame on the left side was unbolted and put aside. Hoses from the return filter block that needed to be disconnected were disconnected. The under side nuts that hold the hydrostatic pump's were removed that could be removed. There was one that could not be reached, there was a block on the right side of the frame that the hoses were removed and the block removed in order to get to the nut in question. The top one's will be removed once the engine mounting bolts are broken loose to remove the engine.

Removed the remaining nut holding the hydrostatic pumps to the splitter box drive. Removed the front two motor mount bolts, removed the eight bolts that go into the splitter box, and the right side splitter box mount. Attached two lifting devices to the "A" frame stand that is used to hold the two hydrostatic pumps in there place. Installed engine lifting sling to the over head hoist, and attached to the lifting points on the engine. The hydro pumps were then slightly pushed back from the splitter dive box and the engine slightly raised and moved towards the radiator, once the hydro pumps were free from the splitter drive the engine was raised to a point that it could be turned and away from the machine. The engine was then placed on three jack stand to support it. Any openings to the engine was then covered and the rear of the engine/splitter box drive cleaned up prior to removal from the engine. Removed the splitter box and the plastic parts that go to the dampner drive fell out in pieces. The splitter box was placed on a work bench and the main input shaft seal will be replaced. The inside of the dozer was cleaned out of all the dirt build up.

Disassembled the splitter box drive, found that the main input shaft seal had blown out. Removed the main shaft cover that the seal seats in, in order to check the input shaft were the seal runs, checked out ok. The splitter box was turned over and the secondary gear covers that run the hydro pumps were removed, one bearing fell apart once the gear was removed. Checked over the gears for any improper wear, checked out ok.

The return flow manifold was removed from the rest of the hoses that connect to it, placed in a vis and the inner screens were checked for any metal, none found.

Bearings for the gears in the splitter box drive were removed, three of the bearing races had to be cut via cutting torch to remove them. The two housings for the hydro pump gears were cleaned as well the bearings were removed. The main input shaft and the two gears were cleaned up where the new bearing races will go on the gears and main gear shaft. Received splitter box drive parts, cleaned up the locations of the bearing races on the smaller gears with emory cloth. Cleaned up the location for the bearing races in the main housing and the housing's that were removed in order to remove the two smaller gears. Two bearing races had to be heated up in order to remove them from the main housing, once removed the races location was cleaned up and the new races installed. The bearing races that go on the gears were installed, the bearings were sent into the splitter box housing then the gears set into the bearings. The gears covers were installed and torqued to spec, as well at the main input shaft cover. Once the cover was in place a new seal was installed. All the allen head bolts were put in with Blue Lock Tight and torqued. The mating surfaces of the covers and the surfaces that they merrie up to were cleaned up and sealant applied to the surfaces. The covers were then put into place and secured.

Installed the dampner drive wheel to the input shaft of the splitter box after cleaning up the wheel. Installed the buffers of the dampner dive. Placed splitter drive gear box on to the engine, installed washers and nuts, torqued to 50 ft lbs.

Received back ordered seal, removed and installed Hydro pump seals, installed new O' rings on hydro pumps that seal up to the splitter box drive. Removed engine from stands and installed back into machine, help was needed in order to aline the input shafts of the hydro pumps to the splines of the splitter box drive gears, once lined up the engine slid back into place on the pumps.

Retaining nut to the pumps were installed and tightened up up against the splitter box. The engine mounts were aligned and re-

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Retaining nut to the pumps were installed and tightened up, up against the splitter box. The engine mounts were aligned and as well as the support brackets that mount up to the splitter box. The bolts were all secured that hold the engine and splitter box drive and tightened. The two red coolant tubes were connected, the charge air cooler hoses were reconnected to the engine and the charge air cooler.
Reassembled all hoses and mid-section, individual hoses filter assembly on the left side of the mid-section. The filter housing on the right side under the mid-section. The junction block on the right side of the frame. Heater hoses, radiator hoses, filled with coolant, Connected a portion of the wiring harness, the inlet and return fuel lines, ECU connections. Splitter box dip stick and fill tube were installed.
Installed the A/C compressor, the hood, the mid-frame sections had to be adjusted in order to get the hood lined up properly. Filled hydraulic tank with oil, extra oil had to be added in order to get it to the proper level. Tightened down the mid-frame one the hood was in place, bolted the filter housing to its location. Reconnected wiring to the hold down brackets, reconnected the air inlet and clamped into place.
Tightened up the four bottom bolts that hold the hydro pumps to the splitter box, found a drip coming from up high, checked over hoses and fitting and found one of the hoses that come from the individual filter manifold was dripping from the hose itself. The hose is old and rotting, the wire bradding was showing and the oil was dripping from that point. Looked up the hose in question in Parts Adviser got one ordered. The new hose will be put in place one it is here. Cleaned up from under the machine, bolted the

Part Number	Description	Quantity	List Price	Net Price	Extended Price	Taxed Ind
AT274732	O-RING	2.00				
AT277102	O-RING	1.00				
AT310752	Coupling	1.00				
LW10101388	HYDRAULIC HOSE	1.00				
LW10119801	SEAL KIT	1.00				
LW10340336	CYLINDRICAL	2.00				
LW4980228	CYLINDRICAL	2.00				
LW7410879	SEAL	2.00				
LW9074593	REPAIR KIT	1.00				
TY22465	HOSE CLAMP	2.00				
TY22466	CLAMP	2.00				
TY22556	HOSE	36.00				
TY26675	PLUS-50 II 15W-40, 2.5 GALLON	1.00				
TY26815	GL-5 80W90 LUBRICANT	2.00				
TY6296	80W-90 GL5, QUART	1.00				

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/RTR-2 Retail

X601-16	BULK HOSE	26.00	
XHP-B-18-RFL	HOSE GUARD	1.00	

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Environmental Fees $150.00

Please remit payments to PowerPlan at the address shown on your statement

Finance Information

Type: PowerPlan **Auth. No:** 263046
Merchant No: 88000675
Card No: xxxxxxxxxxxx1107
Bill Code: - N/A
Credit Plan: 249 - PURCHASE

Labor:	
Parts:	
OL&M:	
Misc:	
Sales Tax:	
Grand Total:	$31,378.95

TERMS AND CONDITIONS
Repayment Terms:

This purchase is subject to the terms of the issuer's credit agreement. I grant the issuer a purchase money security interest, except as limited in that agreement, in the goods described. Please remit payments to PowerPlan at the address shown on your PowerPlan statement.

Received by: ..... Date: .....