

Invoice Number:

Invoice Date: 2/3/2016

Location: 12

Work Order Number: 97952

Payment Type: Account

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Make/Model:

Meter:

Serial Number:

Eq ID:

Fleet No:

JOHN DEERE 9520E

7742

RW9520E021125

021125

Gen10- Retail**COMPLAINT:**

Repalce CCU on Machine

CAUSE:

Tech found the CCU had failed.

CORRECTION:

Tech replaced CCU per diagnostic tree. Replaced CCU, but were not capable of downloading software per John Deere. Had to have the AG dealer come out and update the software.

Labor: \$240.00**Parts: \$0.00****OL&M: \$0.00****Misc: \$0.00****Sub-Total: \$240.00**

INVOICE CONTAINS \$10.84 DISCOUNT

Miscellaneous Charges:

Service Accessories

\$150.00

Labor: \$8,860.14**Parts: \$9,283.52****OL&M: \$0.00****Misc: \$931.24****Sales Tax: \$815.31****Grand Total: \$19,890.21**

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Labor: \$390.00	Parts: \$0.00	OL&M: \$0.00	Misc: \$0.00	Sub-Total: \$390.00
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/Drive to Hub Retail**COMPLAINT:**

Drive to hub time

CORRECTION:

Labor: \$0.14	Parts: \$0.00	OL&M: \$0.00	Misc: \$0.00	Sub-Total: \$0.14
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9520I1113456 Retail**COMPLAINT:**

While continually trying to crank engine over the starter failed.

CAUSE:

Normal Wear of tractor with 7742 hours. Over use while trying to start tractor.

CORRECTION:

Disconnect negative battery cable.

Replace and test starter.

Tried starting machine. It would crank but will not fire. Customer provided Starter. We just installed on machine on a Sunday. Tech had the engine trying to fire off so he took a few minutes to try and warm the fuel and get it to fire up. Starter was not the actual problem, but had to be replaced.

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9520RF1147097 Retail

FREIGHT	FREIGHT & SHIPPING	1.00	7.25	7.25	\$7.25	Y
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Labor: \$480.00	Parts: \$2,527.46	OL&M: \$0.00	Misc: \$7.25	Sub-Total: \$3,014.71
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9520RF1147165 Retail

COMPLAINT:
INSTALL NEW ECU PROGRAMMING

CAUSE:
ECU Software needed to be installed on new ECU

CORRECTION:
Downloaded software and installed on the controller

Labor: \$120.00	Parts: \$0.00	OL&M: \$0.00	Misc: \$0.00	Sub-Total: \$120.00
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/Diagn - 2 Retail

COMPLAINT:
Diagnose Fuel Related Issue. Primed Fuel system and Fired machine. Found air being forced into fuel system.

CAUSE:
Diagnose fuel related issue

CORRECTION:
After thoroughly inspecting fuel system and running system pressure test. Tech found that the injectors were pushing air into the fuel system causing it not to start. Technician decided injectors and cups need to be replaced.

Labor: \$781.50	Parts: \$0.00	OL&M: \$0.00	Misc: \$0.00	Sub-Total: \$781.50
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Gen1- Retail

CAUSE:

wiring to ECU was broke showing wires. Bare wires were exposed.

CORRECTION:

Spliced wires that were bad. Checked other wires going to ECU. Advised customer that harness needs to be replaced, but elected to patch the wiring.

Labor: \$480.00	Parts: \$0.00	OL&M: \$0.00	Misc: \$0.00	Sub-Total: \$480.00
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9520RF1147097 Retail

COMPLAINT:

ENGINE CONTROL UNIT (ECU) - R&R

CAUSE:

Not providing voltage to ECU.

CORRECTION:

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/Diagn - 1 Retail**COMPLAINT:**

DIAGNOSE MACHINE ENGINE NOT STARTING AND SEVERAL DIAGNOSTIC TROUBLE CODES.

CAUSE:

Codes in machine

CORRECTION:

Checked fuel filters, customer already changed filters. Removed valve cover wasn't getting voltage to injectors. Replaced CCU because PWM wire had high voltage to throttle.

Machine threw codes for throttle #1 high voltage. Replaced the throttle and the arm controllers. Took care of the throttle #1 voltage high, but then threw a code for the PWM wire. Which is a signal wire between the ECU and CCU controllers. Tested the wires and found wires had correct voltage and ohms. If wiring would have been above 4.9 or below .8 volts then wiring was bad. Since Voltage was 4.6 volts CCU was bad. Removed old CCU and installed new CCU. Programmed CCU. Tractor would not start. Wiring and codes were all gone, which lead us to fuel related issues next.

Labor: \$1,678.50	Parts: \$0.00	OL&M: \$0.00	Misc: \$0.00	Sub-Total: \$1,678.50
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/Travel - 1 Retail**COMPLAINT:**

Travel, to and from field service jobsite

CORRECTION:

Miscellaneous	Description	Quantity	List Price	Net Price	Extended Price	Taxed Ind
SVCTRUCK	MILEAGE CHARGE	240.00	3.05	3.05	\$732.00	Y
Labor: \$1,504.50	Parts: \$0.00	OL&M: \$0.00	Misc: \$732.00	Sub-Total: \$2,236.50		

Gen1- Retail**COMPLAINT:**

REPAIR AND TEST ECU WIRING HARNESS

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9520RF1147097 Retail

Remove cover from rear of cab.

Disconnect electrical connections.

Remove ECU.

Install new ECU

Connect electrical connections.

Install cover.

Download software for ECU.

Calibrate transmission.

<u>Part Number</u>	<u>Description</u>	<u>Quantity</u>	<u>List Price</u>	<u>Net Price</u>	<u>Extended Price</u>	<u>Taxed Ind</u>
RE231816	Central Control Unit	1.00	942.92	942.92	\$942.92	Y
RE231816-CR	CORE for:Central Control Unit	-1.00	100.00	100.00	(\$100.00)	Y
RE519144	SENSOR	1.00	32.52	32.52	\$32.52	Y
RE56400	Potentiometer	1.00	167.24	167.24	\$167.24	Y
SE502812	Engine Controller Reman	1.00	1,636.58	1,625.74	\$1,625.74	Y
SE502812-CR	CORE for:Engine Controller Reman	-1.00	200.00	200.00	(\$200.00)	Y
TY26101	BRAKE/CLUT	12.00	4.92	4.92	\$59.04	Y
<u>Miscellaneous</u>	<u>Description</u>	<u>Quantity</u>	<u>List Price</u>	<u>Net Price</u>	<u>Extended Price</u>	<u>Taxed Ind</u>

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9520I946191 Retail

COMPLAINT:

UNIT INJECTOR CUPS/SLEEVES, R&R and replace

CAUSE:

Compression is blowing back through the fuel system.

CORRECTION:

Remove and replace injector cups/sleeves per instructions and specifications in Service Advisor.

I Replaced all six injectors and cups. The engine now starts and runs correctly.

<u>Part Number</u>	<u>Description</u>	<u>Quantity</u>	<u>List Price</u>	<u>Net Price</u>	<u>Extended Price</u>	<u>Taxed Ind</u>
R136507	SCREW	12.00	6.63	6.63	\$79.56	Y
R521520	GASKET	1.00	91.79	91.79	\$91.79	Y
RE71265	ISOLATOR	3.00	59.20	59.20	\$177.60	Y
SE501957	INJECTION NO	6.00	1,155.09	1,155.09	\$6,930.54	Y
SE501957-CR	CORE for:Elect Unit Injector Reman	-6.00	200.00	200.00	(\$1,200.00)	Y
TY26576	COOL-GARD.2.5	4.00	33.54	33.54	\$134.16	Y
<u>Miscellaneous</u>	<u>Description</u>	<u>Quantity</u>	<u>List Price</u>	<u>Net Price</u>	<u>Extended Price</u>	<u>Taxed Ind</u>
FREIGHT	FREIGHT & SHIPPING	2.00	18.01	18.01	\$36.01	Y

Labor: \$2,025.50	Parts: \$6,213.65	OL&M: \$0.00	Misc: \$36.01	Sub-Total: \$8,275.16
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Gen2- Retail

COMPLAINT:

INSTALL CUSTOMERS SCRAPER PANS ON TO OUR RENTAL SCRAPER TRACTOR.

CAUSE:

Customer needed a rental tractor to start working on their job.

CORRECTION:

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9520I1113456 Retail

TY26632	CLEANING SOL	1.00	5.95	5.95	\$5.95	Y
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Labor: \$920.00	Parts: \$5.95	OL&M: \$0.00	Misc: \$0.00	Sub-Total: \$925.95
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9520RT11161847 Retail

COMPLAINT:
 R&R, FUEL TRANSFER PUMP

CAUSE:

Fuel transfer pump needed to be replace. Replaced all fuel filters at the same time to ensure that they are not causing the problem.

CORRECTION:

Fuel system was not generating enough supply pressure to injection pump. Replace fuel lift pump and fuel filters.

<u>Part Number</u>	<u>Description</u>	<u>Quantity</u>	<u>List Price</u>	<u>Net Price</u>	<u>Extended Price</u>	<u>Taxed Ind</u>
R26448	O-RING	2.00	2.31	2.31	\$4.62	Y
R501292	GROMMET	2.00	9.80	9.80	\$19.60	Y
R502027	SPIDER	1.00	13.69	13.69	\$13.69	Y
R521520	GASKET	1.00	91.79	91.79	\$91.79	Y
RE515345	FUEL FILTE	1.00	58.97	58.97	\$58.97	Y
RE533095	FUEL PUMP	1.00	344.92	344.92	\$344.92	Y
T77613	O-RING	1.00	1.97	1.97	\$1.97	Y
T77857	O-RING	1.00	0.90	0.90	\$0.90	Y
<u>Miscellaneous</u>	<u>Description</u>	<u>Quantity</u>	<u>List Price</u>	<u>Net Price</u>	<u>Extended Price</u>	<u>Taxed Ind</u>
FREIGHT	FREIGHT & SHIPPING	1.00	5.98	5.98	\$5.98	Y
Labor: \$240.00	Parts: \$536.46	OL&M: \$0.00	Misc: \$5.98	Sub-Total: \$782.44		