

SERVICE INVOICE

Invoice To Account No: [REDACTED]	Deliver To: CITY OF MOBERLY MOBERLY CITY HALL MOBERLY MO 65270	Invoice Number: [REDACTED] Invoice Date: 04/27/2021 Location: [REDACTED] Work Order Number: [REDACTED] Payment Type: [REDACTED] Page: 1 of 4
Bus Phone: [REDACTED] Prv Phone: [REDACTED]	Bus Phone: [REDACTED] Prv Phone: [REDACTED]	
Make/Model: 2016 JOHN DEERE 544K	Meter: 4328 Serial Number: 1DW544KZLGF677312	EQ Id: [REDACTED] Fleet No: [REDACTED]

WARRANTY1 Warranty

COMPLAINT:

Check out noise in upper engine.

CAUSE:

Rings on number two cylinder caused low compression.

CORRECTION:

The noise keeps coming and going.
Perform a cylinder cutout test and could not tell that any cylinder stopped the noise.
Perform a cylinder miss fire test and could not tell anything.
Perform an electronic compression test and cylinder number two is 30 percent lower than the rest.
Also make a video of the noise.
Need to perform manual compression test.
Friday, April 9, 2021 9:31 AM - Ben
Pull machine up to shop, and find no engine noise present.
Attempt to run torque converter stall speed test, got engine noise, and only getting 1945 rpm.
Noise sounds like its coming from around rocker box.
Perform cylinder cut out test and find all injectors cutting out.
Run electronic compression test and find number two 30% lower than the rest.
Find no engine noise present during electronic compression test.
Pull machine in shop, remove doors, and pull valve cover.
Inspect valve train and find everything in good working order.
Remove engine oil filter and dump in clean pan.
Find copper/ brass looking fine material in oil.
Get oil scan and give to service manager for analysis.
Remove components off engine to get glow plugs removed for mechanical compression test.
Find JD tool 11065A would not grant access to perform test in # 1 hole due to it hitting front cover.
The test for 2- 6 is attached to case.
Get go ahead to remove engine from Jamie to tear down and inspect.
Remove hood and after treatment.
Remove coolant and CAC tubing.
Wednesday, April 14, 2021 11:48 AM - Ben
Remove coolant reservoir.
Remove air cleaner.
Remove super structure off machine.
Remove all lines, components off baffle, and remove.
Remove alternator, OCV filter canister, and starter for better access to get to harness.
Remove harness from engine and place on side of machine.

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Make/Model: 2016 JOHN DEERE 544K	Meier: 4328 Serial Number: 1DW544KZLGF677312	EQ Id: 677312 Fleet No:

Remove A/C compressor.
Remove motor mounts.
Remove u-joint straps.
Hook engine to forklift and pick up engine a bit.
Remove remaining p-clamps and oil drain tube.
Finish getting engine from machine, place on jack stands, and blocks.
Get with parts and get new engine coming.
Thursday, April 22, 2021 8:29 AM Ben
Get new engine, in crate, and throw wood in scrap bin.
Notice new engine came with new engine harness.
Remove platform on right side, cab skirt, and ECU bracket under cab.
Disconnect ECU, and p-clamps from bottom of cab.
Remove old harness from machine frame.
Swap pulleys to new engine.
Swap coolant fittings, fuel fittings, and alternator to new engine.
Assemble exhaust manifold, egr cooler, egr bracket back on old engine.
Install rest of components on old engine.
Place old engine harness back on old engine.
Prep old engine for return.
Swing new engine in machine using fork lift.
Have difficulty getting drive line installed due to lack of clearance under hydraulic tank.
Install engine mounts and torque to service advisor specs.
Run new ECU harness to ECU, and hook up.
Install fuel lines and hook in the rest of electrical to engine.
Install new serpentine belt on engine.
Install axle pumps to accessory drive with new gasket.
Install baffle, secure all electrical wires, and hoses to it.
Install CAC piping, coolant hoses, and air cleaner piping throw baffle.
Install coolant reservoir, and DEF pump module.
Install coolant in machine, and inspect oil level.
Have difficulty getting info swapped over on ECU donor procedure, After treatment info would not transfer with new engine.
Finally get right info pushed in threw lost ECU data procedure.
Run coolant pressure test on machine and inspect for leaks.
Find small leak coming from heater hose, must have got damaged during removal.
Find plenty of hose available so just nip off end and install.
No further leaks present at this time.
Go back through engine wiring, lines, and secure everything up to minimize rubbing.
Install engine hood, cooling pack hood, side panels, and engine doors.
Install ECU bracket and right platform.
Run machine, and get engine temperature to 210 degrees to burp cooling system.
Perform DEF header coolant purge test.
Top off coolant.
Inspect for leaks, or any other issues finding none at this time.

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Page:

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Bus Phone:

Prv Phone:

Bus Phone:

Prv Phone:

Meter

Serial Number:

EQ Id:

Fleet No:

Make/Model:

4328

10W544KZLGF677312

677312

2018 JOHN DEERE 544K

Failed Part Number: PE11578

Part Description: Engine

Function Area: Engine compartment

Machine Hours: 4328

Diagnostic Time: 2.65 hours X335290

.55 hours

Machine Monitoring Specialist Time:

Repair Time: 40 hours X335290

.25 hour X534087

15 D&I

DTAC Solution(if used):

DTAC Case Entered:

Failed Serial Number PE6068U044296

Installed Serial Number PE6068U090871

Part Number	Description	Quantity	Net Price	Extended Price	Taxed Ind
19H1936	Cap Screw	8.00			
19M7791	BOLT	1.00			
19M7872	Cap Screw	1.00			
24H1864	Washer	8.00			
57419	Black Releasable Cable Ties	13.00			
AT346594	FLUID ANALYSIS KIT (OIL)	1.00			
DZ10554	Clamp	1.00			
H224073	Tie Band	3.00			
HC14RD1	14 GAUGE RED	1.00			
PE11578	Diesel Engine	1.00			
PE11578-CR	CORE for Diesel Engine	-1.00			
R44302	TIE BAND	12.00			
R528112	SEAL	1.00			
RE35791	CLAMP	1.00			
T113128	SCREW	4.00			
T350654	GASKET	1.00			
T69938	HALF CLAMP	2.00			
TY26661	Break-In Plus Oil 10W30 Gal	1.00			
Miscellaneous	Description	Quantity	Net Price	Extended Price	Taxed Ind
INFREIGHT	INBOUND FREIGHT	1.00			N

Labor:

Parts: \$

OL&M: \$

Misc: \$

Sub-Total: \$39,547.17

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Meter

Serial Number:

EQ Id:

Fleet No:

2016 JOHN DEERE 544K

4328

1DW544KZLGF677312

677312

Customer PO No:

Tax Exempt No: ON FILE

Advisor: [REDACTED]

Labor: [REDACTED]

Parts: [REDACTED]

OL&M: [REDACTED]

Misc: [REDACTED]

Sales Tax: [REDACTED]

Total: \$39,547.17

TERMS AND CONDITIONS

Received by: _____

Date: _____