



Yellowhouse Machinery Co.

3405 E. Slaton Road
Lubbock, TX 79404
Phone: 806-763-0473
Fax: 806-763-0331
invoices@yhmc.com

Amarillo, TX
(806) 335-1681

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(918) 245-5926

Enid, OK
(580) 233-5000

McAlester, OK
(918) 423-2555

Broken Bow, OK
(580) 584-3222



JOHN DEERE

Invoice To Account No: 4

Deliver To:

SERVICE INVOICE

JD WARRANTY-LUBBOCK
LUBBOCK

Bus Phone:
Prv Phone:

BEDROCK CRUSHING, LLC
5001 W LOOP 289
LUBBOCK TX 79414

Bus Phone: (806)797-3162
Prv Phone:

Invoice Number: **779793**

Invoice Date: 01/06/2023

Location: 01

Work Order Number: 134566

Payment Type: Account

Page: 1 of 4

Make/Model:

Meter

Serial Number:

EQ Id:

Fleet No:

2015 JOHN DEERE 824K

8331

1DW824KXCFF672521

FF672521

Service Reminders:

/RTR-3 Warranty

COMPLAINT:

Diagnose low compression and what is failing on the engine

LIMITED BASIC: 13.5L Assurance Program exp 12/15/2022
Fail Date 09/06/2022

Diag 1.0

CAUSE:

On #1 it appears a ring broke, or something got in between the piston and liner due to the deep wear in one spot of that cylinder. Got the head removed from the engine and the cylinder walls of #1 & #2 have a lot of vertical gouges/scratches running down them as can be seen in the attached pictures.

Our failed part will be RE570135 Piston and Liner kit.

*NOTE*TIME CONSTRAINT ISSUES: Oil Pump was back ordered.
Reman SE502682 was ordered October 28th still is showing backordered.
New DZ110644 was ordered November 29th and came in November 30th.

CORRECTION:

Performed compression test.

#1 cylinder 200 psi

#2 cylinder 325 psi

#3 cylinder 350 psi

#4 cylinder 350 psi

#5 cylinder 370 psi

#6 cylinder 350 psi

Began getting engine ready for removal to inspect head.

Drained coolant.

Removed top engine exhaust mounting bracket.

Removed all lines, brackets, and filters from right side of engine to get to motor mounts.

Removed all lines and hoses from left side of engine.

Removed motor mounts.

Removed drive line from transmission, and hooked up sling to engine.

Removed engine and set on jack stands.

Began removing turbos and necessary parts to remove the cylinder head.

Removed cylinder head and set head on bench.

Did not find any visible cracks in the combustion chamber.



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Service Reminders:

The head gasket looked good and I could not find and signs of blown head gasket.

Started checking the cylinder walls for scaring or damage.

Rotated engine 180 degrees and found cylinder #1 had damage on the cylinder wall.

Possible ring and piston damage has occurred.

On #1 it appears a ring broke, or something got in between the piston and liner due to the deep wear in one spot of that cylinder.

The cylinder walls of #1 & #2 have a lot of vertical gouges/scratches running down them as can be seen in the attached pictures.

Had Foreman come and look at the findings.

Had Service Manager inspect and contact Warranty for repair approvals.

Had head shipped to machine shop.

Ordered short block and parts required to reassemble the engine.

Received short block and began moving parts from old engine, cleaning and inspecting the parts.

Began installing them on the new engine.

Received the head back from the machine shop.

Installed head and torqued to spec.

Began assembly of all top end parts and wiring harness.

We did not receive an oil pump.

Emergency ordered the pump 10/28.

The oil pump was back ordered.

Cleaned the oil pan and set aside until pump arrives,

Checked again on oil pump and it was still back ordered.

Notified 11/29 a new oil pump was available.

Ordered and finally received the pump.

Installed onto engine.

Timed and set backlash on front gears.

Installed oil pick up tubes.

Installed flywheel and rear covers.

Set engine on TDC and pinned on #1 cylinder

Adjusted valve lash and injector pre-load on all rocker arms and injectors.

Torqued all lock nuts to spec.

Installed engine and got everything put back together

Found 4 bolts in the top mounting brackets for exhaust package.

Spent half a day drilling the 4 bolts out.

Installed exhaust package and hooked it up.

Filled engine with break in oil and filled radiator with coolant.

Tried to start machine.

The engine fired and ran good.

Began programming the new engine and the programming went good.

Started machine again and let it run.

No codes were active.

Backed machine outside and performed a engine break in.

Verified there were no leaks and no codes.

Boxed up old engine and took it to the parts line outside.

The machine is complete and ready to go home.

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|--------------------------------|--|--------------------------------------|
| JD WARRANTY-LUBBOCK LUBBOCK | BEDROCK CRUSHING, LLC 5001 W LOOP 289 LUBBOCK TX 79414 | Invoice Number: 779793 |
| Bus Phone: | Bus Phone: (806)797-3162 | Invoice Date: 01/06/2023 |
| Prv Phone: | Prv Phone: | Location: 01 |
| | | Work Order Number: 134566 |
| | | Payment Type: Account |
| | | Page: 3 of 4 |

| | | | | |
|----------------------|-------|-------------------|----------|-----------|
| Make/Model: | Meter | Serial Number: | EQ Id: | Fleet No: |
| 2015 JOHN DEERE 824K | 8331 | 1DW824KXCFF672521 | FF672521 | |

Service Reminders:

*NOTE*TIME CONSTRAINT ISSUES: Oil Pump was back ordered.
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OLD ENG SER # RG6135U005961
NEW ENG SER # RG6135Z042947

| PartNumber | Description | Quantity | Net Price | Extended Price | Taxed Ind |
|-------------|-------------------------------|----------|-----------|----------------|-----------|
| DZ10229 | STUD | 12.00 | 37.38 | \$448.56 | N |
| DZ105787 | Spacer | 12.00 | 21.10 | \$253.20 | N |
| DZ110644 | Oil Pump | 1.00 | 1,992.24 | \$1,992.24 | N |
| DZ110644-CR | CORE for:Oil Pump | -1.00 | 150.00 | -\$150.00 | N |
| DZ112019 | Gasket Kit | 1.00 | 2,771.58 | \$2,771.58 | N |
| DZ112023 | SHORT BLOC | 1.00 | 30,268.73 | \$30,268.73 | N |
| DZ112023-CR | CORE for:Short Block Assembly | -1.00 | 1,250.00 | -\$1,250.00 | N |
| DZ121726 | Bolt Kit | 1.00 | 519.99 | \$519.99 | N |
| GC00110 | Bolt | 2.00 | 1.03 | \$2.06 | N |
| R116911 | CAP SCREW | 12.00 | 4.59 | \$55.08 | N |
| R526831 | GASKET | 3.00 | 10.93 | \$32.79 | N |
| R528578 | CAP SCREW | 12.00 | 7.71 | \$92.52 | N |
| R528587 | Washer | 6.00 | 3.73 | \$22.38 | N |
| R528589 | SCREW | 12.00 | 4.81 | \$57.72 | N |
| R529640 | GASKET | 4.00 | 37.58 | \$150.32 | N |
| R531582 | GASKET | 1.00 | 56.64 | \$56.64 | N |
| R533599 | O-Ring | 12.00 | 5.88 | \$70.56 | N |
| R535377 | Screw | 5.00 | 4.11 | \$20.55 | N |
| R539762 | FLANGE NUT | 12.00 | 3.22 | \$38.64 | N |
| R542509 | CAP SCREW | 6.00 | 2.33 | \$13.98 | N |
| RE554015 | THERMOSTAT | 3.00 | 37.43 | \$112.29 | N |
| TY26661 | ENGINE BRE | 11.00 | 22.61 | \$248.71 | N |

Miscellaneous Charges:

Environmental Fees

\$75.00

Labor: \$12,439.50 Parts: \$35,828.54 OL&M: \$0.00 Misc: \$75.00 Sub-Total: \$48,343.04



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Service Reminders:

Customer PO No:

Tax Exempt No: INTERNAL

Advisor: TIFFANY WILSON

Labor: \$12,439.50

Parts: \$35,828.54

OL&M: \$0.00

Misc: \$75.00

Sales Tax: \$0.00

Total: \$48,343.04

TERMS AND CONDITIONS

Received by:

Date: