

Sold To:				Ship To:			
Account No.	Starting Date	Ending Date	P.O. Number	Service Tag	Tax ID	Salesperson	
	3/21/2023 12:00 AM	12/27/2023 12:00 AM			*****		
Make	Model		Year	Serial Number		Stock Number	
JCB	437			JCB437ZOP02063760, 2063760		203639	
Promised	Deliver?	Usage Type 1	Usage 1	Usage Type 2	Usage 2	Invoice Type	Store
	No	Hours	0.0000		0.0000	Final	WA
Qty	B/O	Taxable	Description		Price		Amount
Internal-LOW POWER							

Unit is low on power and has a exhaust leak.

Jason 8/26/2023

Took over from previous tech work, he troubleshot engine, installed a turbo, calibrated, machine was still low on power, hooked up to insite, troubleshot, he ordered an engine and started removing connectors from engine.

I took over machine, finished draining machine, removing hoses and connectors, removed engine mounts and used crane to pull engine. Switched over the fly wheel housing from old engine to new, torqued to spec installed new pickup tube in oil pan, installed gasket, installed oil pan and torqued to spec. Used crane to install engine, installed all hoses and electrical connectors. Removed and installed new batteries, cleaned all ground points, hooked up to insite and powered up machine, troubleshot engine fault codes. There was not a previous work file saved from previous tech, removed old ECU, installed on new engine to retrieve the engines features and parameters. Installed new ECU and wrote all features and parameters from previous engine. The majority of the engine faults cleared however it was throwing a turbocharger actuator code or an egr out of calibration code. Sent up tech webs, JCB told me to call cummins, called cummins, they remoted in to the machine, we flashed the software, still had the fault issues, cummins told me to get ahold of the OEM. Had Justin, our JCB service rep come to the shop, he spent a day also trying to figure out the issues. He advised to call cummins. We had a cummins field tech come in and he troubleshot the machine for an entire day, we flashed new software into the machine, he replaced the VGT actuator, which resolved that code, he will be coming back to reflash older software to try and clear other engine fault codes.

Troubleshooted no hydraulic functions, using the hydraulic schematic, checking pressures and solenoids. Found the hydraulic ECU was loosing a ground going to the hydraulic lockout valve. Added a auxilliary ground and gained all hydraulic functions again.

Flat rate

Remove and replace engine 26.4 hours

Remove and replace engine cover 4.5 hours

remove and replace air intake .75 hours

remove and replace turbo 4.5 hours

calibrate turbo 1 hour

recharge A/C 1.5 hours

replace batteries 1.5 hours

Qty	B/O	Taxable	Description	Price	Amount
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diagnose engine no start - 8 hours tech on his own 8 hours with JCB service rep and 9 hours with Cummins tech on site.

swap engine oil pan and pick up tube (technician placed engine and found that the oil pan needed a rear sump but the engine came with a front sump. the engine was removed and the tech worked with the parts department to find the correct oil pan and subsequent oil pick up tube.) 8 hours

diagnose turbo no calibration- tech spent 8 hours working on problem by himself 8 hours working with JCB service rep and 11 hours with Cummins tech on site.

moved core charge to 11W192651 waiting for credit

1			4899086 - M10 NUT - Bin: 31E3		
1			86625022 - #4 CLAMP - Bin: 16D1		
1			834/10589 - ONVOLUTE		
3			834/10457 - HOSE AIR		
1			32/925413 - FILTER		
1			5265046 - TUBE-SUP		
1			4352379RX - TURBO		
1			4034128RX - TURBO AC		
1			86625033 - #56CLAMP - Bin: 16D4		
1			9706924 - #72CLAMP - Bin: 16D4		
5.00			73344229 - 10W40 BU - Bin: 9BULK LUBE		
2			ZRG017CRBC - CRB CLEA		
1			DR7684RX - 6.7 ENG		
1			DR6349D - 6.7 CORE		
1			333/F6645 - Belt V r		
1			333/C9388 - Kit seal		
1			MC37479 - ADHESIVE - Bin: 4CHEM		
2			4899063 - M8X40 - Bin: 31C7		
1			MC37464 - GSKT MAK - Bin: 4CHEM		
1			NWD 05089 - BRK CLEA - Bin: 4PAINT		
1			3977666 - OIL SUCT		
1			3949562 - GASKET		
1			4337596 - GASKET		

Qty	B/O	Taxable	Description	Price		Amount
1			86637741 - O-RING - Bin: 13K2			
1			86979253 - UNION			
10			2401/0210 - O RING			
1			87016471 - SCREW - Bin: 31C3			
5			244358 - #6 CLAMP - Bin: 16D1			
1			85807859 - 516X612 - Bin: 34J2			
9			4006/1911U - ANTIFREE			
1			4001/4005U - 15W40ENG			
2			F770DSW - BATTERY - Bin: 8BATTERY			
2			331/52904 - GAS SPRI			
1			86625031 - #40CLAMP - Bin: 16D2			
1			P2008218 - M12X35 - Bin: 13E1			
1			P2008278 - M12 FW - Bin: 13E1			
1			P2006029 - M12 LW - Bin: 13E1			
2			86050197 - #44CLAMP - Bin: 16D3			
2			P2008218 - M12X35 - Bin: 13E1			
2			P2007970 - M12N - Bin: 13E1			
2			P2006029 - M12 LW - Bin: 13E1			
4			P2008278 - M12 FW - Bin: 13E1			
1			87040758 - #52CLAMP - Bin: 16D3			
2			336/F3759 - 432ZX &			
1			ZQC426320005N - 2/0 LH N - Bin: 2C3C			
1			ZQC141138005 - 2/0 LUG - Bin: 2C3C			
1			ZQC200207025 - 2/0 RED - Bin: 2C4			
1			P1380055 - 38N - Bin: 34J3			
1			P1511040 - 38L - Bin: 34J3			
14			P1492090 - M10X35 - Bin: 13F4			

Qty	B/O	Taxable	Description	Price		Amount
14			P2008277 - M10F - Bin: 13F3			
14			P2008272 - M10L - Bin: 13E3			
1			P1380015 - 14N - Bin: 34K1			
1			333/E3685 - AIR FILT			
1			333/E3686 - AIR FILT			
1			265/01882 - LATCH TO			
4			P1492102 - M10X30 - Bin: 13E3			
4			86637594 - WASHER - Bin: 26J3			
1			DEI 01029 - WRAP			
1			A170807 - CLAMP - Bin: 45E4			
1			ZQC502211100 - 11" TIE - Bin: 12K1			
1			A176450 - CLAMP - Bin: 45E1			
4			ZQC502211100 - 11" TIE - Bin: 12K1			
-1			DR6349D - 6.7 CORE			
			Total Labor			
1			Freight IN 4/27			
1			FreightOVERNIGHT TUBE			
1			Freight FRT OVER NIGHT CUMMINS			
1			CUMMINS E3-31807			
1			Freight 6.7 ENGINE			
1			FREIGHT IN 10/12			
1			FREIGHT IN 10/16			
1			FREIGHT CUMMINS			
1			FREIGHT IN 11/2			
1			FREIGHT IN 11/6			
1			FREIGHT IN 12/27			
Payment Type		Deposit	Check No.	Date	Amount	

Payment Type	Deposit	Check No.	Date	Amount
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SIGNATURE

INTERNAL
INVOICE
11W187962

Equipment	
Labor	
Parts	
Freight	
Mileage	
Other	
Shop Supplies	
Total Charges	
Total Tax	
Total	\$0.00
Total Payments	\$0.00
Balance	\$0.00

Sold To:				Ship To:			
Account No.	Starting Date	Ending Date	P.O. Number	Service Tag	Tax ID	Salesperson	
	12/26/2023 12:00 AM	4/3/2024 2:19 PM			*****		
Make	Model		Year	Serial Number		Stock Number	
JCB	437			JCB437ZOP02063760, 2063760		203639	
Promised	Deliver?	Usage Type 1	Usage 1	Usage Type 2	Usage 2	Invoice Type	Store
	No	Hours	0.0000		0.0000	Final	WA
Qty	B/O	Taxable	Description			Price	Amount
Internal-WINDOW INSTALL							

core charge from 11W187962, waiting for credit

Tech also reassembled right side window and got engine software updated as well as fixing reversing fan leak.

1	DR6349D - 6.7 CORE
1	827/80319 - GLASS FR
1	333/A3122 - ABI WIND
2	335/E2399 - NUT CAP - Bin: V1201E
1	1315/3212D - BOLT M6x
10	813/10281 - HINGE GA
1	331/45087 - RETAININ
4	335/E1356 - NUT CAP
1	02/910747 - CLAMP
1	1315/3212D - BOLT M6x
2	335/E2399 - NUT CAP - Bin: V1201E
1	331/35450 - LH LEVER
2	331/35756 - WINDOW M - Bin: AD8
4	813/10233 - WINDOW G - Bin: AD8
1	331/45087 - RETAININ
1	331/46389 - GAS STRU

Qty	B/O	Taxable	Description	Price		Amount
10			813/10244 - WINDOW G - Bin: AD8			
10			813/10239 - WINDOW G - Bin: AD8			
1			333/C5571 - Ring . s			
1			04/600247 - SEAL			
5			B134A12 - FREON - Bin: 11A			
1			332/U6945 - CABLE -			
1			257/44700 - NIPPLE &			
2			140040 - WASHER - Bin: 26J2			
2			P2008199 - M6X20 - Bin: 13F1			
2			NWD 1026 - 26OZANTI - Bin: 4LINK			
2			P1493124 - M12X50 - Bin: 13E1			
4			P1492090 - M10X35 - Bin: 13F4			
			Total Labor			
1			FREIGHT IN 12/27			
1			FREIGHT IN 1/8			
1			CUMMINS INVOICE 98083			
1			FREIGHT IN 1/11			
1			FREIGHT IN 1/16			
1			CR TIRE REPAIR INV 1000272			
1			POMPS TIRE INV 1160071530			
1			CREDIT FOR 1160071530 ON INV: 160071860			
1			CORRECTED POMPS INV 1160071861			
Payment Type		Deposit	Check No.	Date	Amount	

SIGNATURE

INTERNAL
INVOICE
11W192651



Equipment	
Labor	
Parts	
Freight	
Mileage	
Other	
Shop Supplies	
Total Charges	
Total Tax	
Total	\$0.00
Total Payments	\$0.00
Balance	\$0.00