

3105 Eagle Avenue
 Rock Valley, IA 51247
 www.townandcountryimpl.com

Town & Country IMPLEMENT

Phone: 712-476-2731
 Fax: 712-476-5338

Aug 2023

RO: 39954R
 Warranty Invoice: 52775R
 Date: 01/10/2024

SIOUX FEED
 4195 US 75 AVE.
 SIOUX CENTER, IA 51250

Year		Make/Model		Serial Number		
2014		NH L216		NEM486228		
Stock No	PO	Hours	Tag	Customer	Telephone	
45958			KLNA	00711	712-722-0711	

Cond	OpCode	T	Description	Quantity	List	Net	Total
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Type: SKIDLOADER RO Open Date: 05/19/23 Meter In: 2258

001 UNIT DOESN'T START
 Warranty Claim 202300486467
 D HIRED MAN WAS USING IT AND IT STARTED A REGEN AND JUST DIED
 RIGHT THERE. TRIED STARTING IT BUT WOULDN'T START
 C INJECTOR FAILED, WASHING THE CYLINDER WALL AND CAUSING
 UNREPAIRABLE DAMAGE
 CP - 87298764
 F STARTED MACHINE. ENGINE RUNS BUT RUNS POORLY, LOTS OF SMOKE AND
 VIBRATION LIKE THERE'S A MISS.
 CHECKED OVER FUEL SYSTEM. ALL LOOKED OK.
 CHECKED ENGINE OIL LEVEL. OIL WAS OVER FULL AND SMELLED LIKE
 FUEL.
 DRAINED OIL AND REFILLED WITH NEW. USED WHAT CUSTOMER HAD FOR
 OIL AND ADDED 2 GALLONS OF OIL.
 RAN MACHINE AGAIN AND CHECKED BLOW BY.
 LOTS OF BLOW BY.
 HOOKED UP COMPUTER TO CHECK FOR CODES, ONLY REGEN CODES
 PRESENT.
 MACHINE NEEDS TO COME TO SHOP FOR REPAIR.
 BROUGHT MACHINE IN SHOP. IT STILL SMOKES LIKE CRAZY AND DOESN'T
 RUN SMOOTHLY.
 DID A COMPRESSION TEST. CYLINDER 1 HAS 130 PSI AND CYLINDER 3
 HAS 200 PSI. BOTH WERE WAY BELOW SPEC.
 TOOK OIL SAMPLE AND SENT OFF FOR TESTING.
 REMOVED THE ENGINE FROM THE MACHINE. REMOVED VALVE COVER AND
 HEAD. BOTH CYLINDERS WERE SCORED BEYOND REPAIR. PARTS SAID
 ENGINE WAS STILL UNDER WARRANTY.
 WHEN REMAN ENGINE SHOWED UP, TRANSFERRED ALL PARTS AND
 INSTALLED INTO MACHINE.
 PUT OIL AND FILTERS ON, AND RAN MACHINE UP TO OPERATING TEMP.
 CHANGED ENGINE OIL AND FILTER.
 MACHINE DID NOT THROTTLE UP AFTER THE ENGINE WAS INSTALLED IN
 THE MACHINE.
 CHECKED CONFIGURATIONS AND THEY ALL SEEMED GOOD.
 HOOKED UP EST AND READ HYDRAULIC AND COOLANT TEMP.
 FROM THE IC, IT READS -40.0 DEGREES.
 READING COOLANT TEMP FROM THE ECU, IT READS 87 DEGREES.
 READING HYDRAULIC OIL TEMP, READS 86 DEGREES.
 PUT IN A THD WITH THIS INFORMATION.
 REQUEST NO: 108129111
 FOUND A KNOWLEDGE ARTICLE TALKING ABOUT -40.0 TEMP WAS A
 DEFAULT DISPLAY ON THE TIER 4 MACHINES BECAUSE TEMP IS

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TRANSMITTED THROUGH THE CAN BUS SYSTEM.
 TRIED SWITCHING THE HAND THROTTLE WITH A KNOWN GOOD ONE. DIDN'T
 CHANGE ANYTHING SO REINSTALLED THE ORIGINAL.
 TRIED SWITCHING WITH A DIFFERENT IC BOARD BUT DIDN'T CHANGE
 ANYTHING SO REINSTALLED ORIGINAL.
 CHECKED THAT ALL CONNECTIONS ON THE INJECTION PUMP WERE GOOD.
 CHECKED FOR ANY FUSES OR RELAYS THAT COULD AFFECT IT.
 KA ID: KA00002217
 THD WANTED CONFIGURATIONS SENT IN, THEY SAID THEY WERE OK.
 THD ALSO WANTED STEPS FOLLOWED IN A DIFFERENT KNOWLEDGE
 ARTICLE.
 KA ID: KA000002027
 FOR VERIFYING TEMPS OF HYDRAULIC AND COOLANT AND CHECKING
 VOLTAGE ON THE BACK OF THE IC BOARD.
 CHECKED THE VOLTAGES.
 PIN 17 HAD 5 VOLTS LIKE IT SHOULD, THROTTLE SENSOR SUPPLY.
 PIN 22 HAD .5 VOLTS LIKE IT SHOULD, HAND THROTTLE SIGNAL.
 PIN 23 HAD NO VOLTAGE, FOOT THROTTLE SIGNAL.
 PIN 25 HAD .05 VOLTS, THROTTLE SENSOR GROUND.
 THE PIN 23 WITH THE FOOT THROTTLE VOLTAGE WAS 0 BECAUSE THIS
 MACHINE DID NOT HAVE A FOOT THROTTLE.
 UPDATED THD WITH THIS INFORMATION.
 DID SOME CHECKING AND FOUND A MECHANICAL LINKAGE NOT ADJUSTED.
 FOUND THE ORIGINAL ENGINE AND LOOKED AT WHERE IT WAS SET.
 TIPPED RADIATOR BACK, REMOVED ENGINE FAN, AND SET THE LINKAGE
 WHERE THE OLD ONE WAS. TESTED THROTTLE AGAIN, IT WAS WORKING
 LIKE IT SHOULD.
 CLEANED UP, PUT OUTSIDE, AND LET THE MACHINE GO THROUGH THE
 REGEN.
 IT WOULD NOT AUTOMATICALLY REGEN. HOOKED UP COMPUTER AND DID A
 FORCED REGEN.
 ASSEMBLED ENGINE AND GOT IT READY TO SHIP.

WL	L WARRANTY LABOR		6161.70
	WARRANTY LABOR		
	P 73344215 10W30 BULK	6.00	17.26 103.56
	10W30 BULK		
	P SBA133808R REMAN ENGI	1.00	11149.78 11149.78
	P CORES: Core Chrgs	1.00	1080.00 1080.00
	P SBA133808C CORE-REPLA	1.00	1080.00 -1080.00
	REMAN ENGINE		
	P 84303971 SEAL, OIL	1.00	5.15 5.15
	SEAL, OIL		
	P 9823358 O-RING(238	1.00	1.24 1.24
	O-RING(238-6126)		

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			P 86982523 FILTER,INN INNER AIR FILTER LS180B	1.00		26.62	26.62
			P 86982522 FILTER,LS1 FILTER,LS180-190.B	1.00		43.73	43.73
			P 84475542 FILTER, EN FILTER, ENGINE OIL	1.00		17.75	17.75
			P 73344243 0W40 2.5 2.5 0W40	1.00		95.10	95.10
			P 86050286 BOLT,FLANG BOLT,FLANGE M10 X 20 - 8.8	1.00		1.66	1.66
			P 86050279 NUT NUT	2.00		0.64	1.28
			P 73344304 COOLANT2.5 2.5 GAL 50/50 PREMIX ANTIFREEZE - EXTENDED LIFE OAT 10W30 BULK	2.00		42.04	84.08
			P 9617873 O-RING(237 O-RING(237-6006) P/Q	2.00		1.56	3.12
			P 165202 O-RING(237 O-RING(237-6004) P/Q	1.00		0.91	0.91
Subtotal charges this section							17695.68

THANK YOU FOR YOUR BUSINESS

I hereby authorize the above repair work to be done, along with necessary materials. You and your employees may operate above vehicle for purposes of testing, inspection, or delivery at my risk. An express mechanic's lien is acknowledged on above vehicle to secure the amount of repairs thereto. You will not be held responsible for loss or damage to vehicle or articles left in vehicle in case of fire, theft, accident, or any other cause beyond your control. "By signing, I certify that I am authorized to use this Account, to sign this receipt, and that I agree that the total amount of this invoice is repayable in accordance with the Credit Agreement applicable to the Account".

Signature: _____

DESC	TOTALS
LABOR	6161.70
PARTS	11533.98
SUBLET	
MISC	
OTHER	
SUBTOTAL	17695.68
TAX	
TOTAL	17695.68