

**CITY OF LA VISTA
MAYOR AND CITY COUNCIL REPORT
JUNE 18, 2024 AGENDA**

Subject:	Type:	Submitted By:
REPAIRS TO FRONT-END LOADER	◆ RESOLUTION ORDINANCE RECEIVE/FILE	JOE SOUCIE DIRECTOR OF PUBLIC WORKS

SYNOPSIS

A resolution has been prepared authorizing emergency repairs to the 2010 Cat 938H Front-End Loader from NMC Cat Omaha, Nebraska in an amount not to exceed \$32,500.

FISCAL IMPACT

The FY23/FY24 Street Operating Budget provides funding for the proposed repairs.

RECOMMENDATION

Approval.

BACKGROUND

The front-end loader is used extensively in snow removal operations and general maintenance operations for Public Works. This machine is 14 years old but is in good condition both structurally and mechanically. The loader originally went into NMC to rebuild the hydraulic lift cylinders, when the technician went to pull it into the shop it would not move. Upon further inspection it was discovered that there were metal shavings in the transmission filters and the transmission needed to be rebuilt. This work requires the removal of the entire cab using high-capacity overhead lifts to access the transmission and cannot be performed in-house.

RESOLUTION NO. _____

A RESOLUTION OF THE MAYOR AND CITY COUNCIL OF THE CITY OF LA VISTA, NEBRASKA AUTHORIZING NMC CAT, OMAHA, NEBRASKA TO REPAIR THE 2010 CAT 938H FRONT-END LOADER IN AN AMOUNT NOT TO EXCEED \$32,500.00.

WHEREAS, the City Council of the City of La Vista has determined that repair of the 2010 CAT 938H front-end loader is necessary; and

WHEREAS, the FY23/FY24 Street Operating Budget provides funding for the proposed repairs; and

WHEREAS Subsection (C) (9) of Section 31.23 of the La Vista Municipal Code requires that the City Administrator secures Council approval prior to authorizing any purchase over \$5,000.00.

NOW, THEREFORE, BE IT RESOLVED, that the Mayor and City Council of La Vista, Nebraska authorize NMC CAT, Omaha, Nebraska to repair the 2010 CAT 938H front-end loader in an amount not to exceed \$32,500.00.

PASSED AND APPROVED THIS 18TH DAY OF JUNE 2024.

CITY OF LA VISTA

Douglas Kindig, Mayor

ATTEST:

Pamela A. Buethe, MMC
City Clerk



Service Invoice

Invoice Date

5/8/2024

Page 1 of 3

Store Location

11002 Sapp Bros. Dr.
Omaha, NE 68138
(800) 628-6025

Bill To:

City of La Vista
8116 Park View Blvd
La Vista, NE 68128-2132
USA

Jobsite:

City of La Vista
11002 Sapp Brothers Dr
Omaha, NE 68138-4812
USA

Account Number		Invoice Number	Customer PO	Division	
3767500		INV641532		CM	
Document Number		Payment Terms	Service Call Date	Service Writer	
SC657289		CHARGE- 15th Day of Following Month	03/04/2024	Michael P Bailen	
Make	Model	Serial Number	Customer Equipment Number	Equipment Number	Last Meter
AA	938H	MJC00850		HN09_213	3,764.00

Workscope	Extended Price
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Remove & Install - Both - Lift/Hoist Cylinder

Customer complaint:

leaking lift cylinders need resealed

Resultant damage:

oil weeping from gland seals

Cause of failure:

old gland seals

Repair process comments:

used hydraulic puller to remove seized pins and replaced lower (barrel side) pins due to excessive wear. removed cylinders and reinstalled once rebuilt.
replaced all o-rings and cycled loader frame to remove all air from system.

Parts

2.00	2750120	PIN AS	277.81	555.62
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replaced all o-rings and cycled loader frame to remove all air from system.

Labor

Flat Rate Labor	1,755.00
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Miscellaneous

1.00	FRT	36.24	36.24
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Total Segment Parts	555.62
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Total Segment Labor	1,755.00
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Total Segment Miscellaneous	36.24
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Segment Total	2,346.86
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Replace Gasket/Seal - Both - Lift/Hoist Cylinder

Customer complaint:

Replace Gasket/Seal - Both - Lift/Hoist Cylinder

Continued on back



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Workscope

Extended Price

Resultant damage:

none

Cause of failure:

worn seals

Repair process comments:

took both cylinders to wash bay and washed both cylinder. unable get cylinders apart; had to use torch and two air hammers to get both cylinders apart. one of the gland broke coming a part. ordered new gland and seal kits for cylinders. disassembled both cylinders and inspected all parts for damage. No damage was found; replaced all seals, honed both barrels, polished both rods then reassembled both cylinders.

Parts

4.00	7K9209	SEAL	16.82	47.10
2.00	2976845	KIT-SEAL-H.C	166.84	233.58
1.00	2633391	HEAD	614.60	430.22

Labor

Flat Rate Labor 1,690.00

Total Segment Parts	710.90
Total Segment Labor	1,690.00
Total Segment Miscellaneous	0.00

Segment Total 2,400.90

Troubleshoot - Coupler Cylinder

Customer complaint:

coupler will not disengage

Resultant damage:

stuck cylinder causing inoperable decoupler

Cause of failure:

faulty load lock valve preventing pressure from being released through return line during decouple operation

Repair process comments:

verified pressure is properly switching/draining when switch is engaged. coupler cylinder will not move with change in pressure. removed load lock valve to relieve pressure, decoupled bucket, and removed cylinder to check for proper movement. no signs of internal damage to cylinder indicating problem with load lock valve not allowing pressure release. replaced load lock valve and reinstalled cylinder. cycled to verify proper action of quick coupler.

Parts

1.00	2370947	V AS-CHK PLT	127.98	127.98
4.00	3B4629	COTTER PIN	0.34	1.36
13.00	CTO3145168	BULK 10W HYD ADV	5.25	68.25
1.00	2254118	FILTER HYD	114.79	114.79

Labor

Flat Rate Labor 780.00

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Workscope

Extended Price

Total Segment Parts	312.38
Total Segment Labor	780.00
Total Segment Miscellaneous	0.00
Segment Total	1,092.38

Total Invoice Parts	1,578.90
Total Invoice Labor	4,225.00
Total Invoice Miscellaneous	36.24
Total Tax	0.00

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Account Number	Invoice Number	Invoice Date
3767500	INV641532	05/08/2024

Please Pay This Amount:

\$5,840.14

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Approved returns subject to restock/handling charges.

No service adjustment unless NMC, Inc. is notified, in writing, within 30 days.

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Remit To:

NMC, Inc.

PO Box 911784

Denver, CO 80291-1784



Service Invoice

Invoice Date

6/4/2024

Page 1 of 5

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3767500		INV646555		CM	
Document Number		Payment Terms	Service Call Date	Service Writer	
SC664631		CHARGE- 15th Day of Following Month	04/11/2024	Michael P Bailen	
Make	Model	Serial Number	Customer Equipment Number	Equipment Number	Last Meter
AA	938H	MJC00850		HN09_213	3,804.00

Workscope	Extended Price
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Remove & Install - Transmission

Customer complaint:

machine not moving after unrelated repair to lift cylinders. machine was moving before repair, but required engine be ran at high idle before transmission would grab.

Resultant damage:

transmission pump failure/loss of travel function

Cause of failure:

Trans pump failed appears to have been ran dry.

Repair process comments:

inspected transmission and found proper fluid level, loose oil filter, and transmission pump not pumping at all (measured Ops). filter and strainer were completely full of metal debris. removed transmission/pump and found failed pump with adhesive wear and signs of running without lubrication. contamination was able to bypass filter and contaminate transmission and transmission cooler pack. replaced previously damaged transmission hoses, cleaned reusable hoses, rebuilt filter housing and replaced transmission pump. sent transmission to be rebuilt in spec room. transmission had no internal damage or excessive wear, only contaminated by failed pump. installed transmission and reassembled machine, filled with new transmission and hydraulic oil, and new coolant, charged ac system with 3.3lbs refrigerant (same as recovered). during initial test drive, found speeds 3 and 4 to intermittently slip leading to a loss of travel function. found clutch #5 to be intermittently be failing to pressurize causing transmission slip. replaced solenoid #6 (responsible for clutch #5) and could not replicate issue again. performed clutch pressure/fill calibrations again and verified machine functions properly.

measured transmission pressure values before sending out

main pump pressure relief 340psi

torque converter inlet 120psi w/o neutralizer 80 w/neutralizer

torque converter outlet 80psi w/o neutralizer 50psi w/neutralizer

lubrication pressure 30psi

clutch #1 240psi

clutch #2 340psi

clutch #3 240psi

clutch #4 340psi

clutch #5 340psi

clutch #6 340psi

Parts

1.00 7D9014

SEAL O RING

6.62

6.62

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Repair process comments:

Continued on back



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Workscope

Extended Price

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clutch #2 340psi

clutch #3 240psi

clutch #4 340psi

clutch #5 340psi

clutch #6 340psi

12.00	4E5985	BOLT	5.18	62.16
2.00	9X7381	SEAL O RING	2.19	4.38
1.00	9X7382	SEAL O RING	2.31	2.31
2.00	6V8467	O RING	5.18	10.36
1.00	3085333	VALVE AS.-WA	103.07	103.07
2.00	5P9806	SEAL-O-RING	15.13	30.26
6.00	8T4122	WASHER	1.55	9.30
2.00	4852850	Bolt-Hex Hea	4.00	8.00
2.00	0961043	BOLT	1.51	3.02
12.00	8T4195	BOLT	0.87	10.44
1.00	8T3298	SEAL	4.08	4.08
1.00	1683504	SEAL-SQ SECT	10.87	10.87
2.00	2388649	CAT ELC	85.73	171.46
1.00	9G5127	BREATHER	13.20	13.20
2.00	2H6338	SEAL	5.35	10.70
1.00	1552270	PLUG KIT	5.32	5.32
6.00	9X3401	PIN	1.64	9.84
1.00	2640597	TUBE AS.	370.69	370.69
2.00	9W9920	MOUNT ASSY	60.16	120.32
1.00	2660248	TUBE AS.	504.14	504.14
10.00	3J7354	SEAL O RING	1.15	11.50
16.00	5417167	Hose Bk	1.14	18.24
1.00	2648234	HOSE AS.	116.52	116.52
2.00	5K9090	SEAL O RING	1.64	3.28
2.00	4E3273	STRAP	26.14	52.28
4.00	4E5984	STRAP	17.66	70.64
2.00	8C3206	FLANGE	11.03	22.06
4.00	1837121	BOLT	1.19	4.76
40.00	CTO1556213	BULK 30W TDTO	4.35	174.00
101.00	CTO3145168	BULK 10W HYD ADV	5.25	530.25

Remove & Install - Transmission

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machine not moving after unrelated repair to lift cylinders. machine was moving before repair, but required engine be ran at high idle before transmission would grab.

Resultant damage:

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Cause of failure:

Trans pump failed appears to have been ran dry.

Repair process comments:

Continued on next page



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Workscope

Extended Price

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torque converter inlet 120psi w/o neutralizer 80 w/neutralizer
torque converter outlet 80psi w/o neutralizer 50psi w/neutralizer
lubrication pressure 30psi
clutch #1 240psi
clutch #2 340psi
clutch #3 240psi
clutch #4 340psi
clutch #5 340psi
clutch #6 340psi

1.00	3416643	FILTER-XSMN	81.23	81.23
1.00	2443114	VALVE GP-MDL	321.46	321.46

Labor

Flat Rate Labor	9,360.00
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Miscellaneous

1.00	FRT	11.95	11.95
1.00	FRT	11.95	11.95
1.00	FRT	19.00	19.00
1.00	FRT	11.95	11.95
1.00	FRT	21.37	21.37
1.00	FRT	11.95	11.95

Total Segment Parts	2,876.76
Total Segment Labor	9,360.00
Total Segment Miscellaneous	88.17

Segment Total	12,324.93
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Recondition - Transmission

Customer complaint:

machine will not drive after completing repair on hydraulic cylinders.

Resultant damage:

Metal through out the transmission.

Cause of failure:

Pump appeared to have been ran dry.

Repair process comments:

Cleaned transmission and began disassembly. Removed control valve, separated torque converter housing from transmission. Disassembled torque converter and torque converter housing. Removed all clutch assemblies and disassembled. Inspected and cleaned all components. Found no damage to internal components, but did find metal debris from transmission pump. Cleaned all debris from transmission and other components. Reassembled with new seals and gaskets. Reassembled torque converter. Reattached torque converter to transmission. Attached new transmission pump to transmission. Installed transmission on transmission dyno. Tested transmission and found all pressures to be correct and transmission operating correctly. Completed repairs. removed transmission pump and transmission, found complete pump failure due to pump running dry and spinning bearings, pump gears worn into side of pump housing.

Parts

5.00	CTO4627708	30W TDTO JUG	55.79	278.95
1.00	3416643	FILTER-XSMN	81.23	81.23
5.00	8E8654	DISC	19.80	99.00
1.00	7T4897	DISC-THRUST	27.77	27.77

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Workscope	Extended Price
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2.00	4S8541	DOWEL	10.71	21.42
1.00	1T1621	RING-SEAL	15.78	15.78
2.00	2P8986	CUP BEARING	38.99	77.98
1.00	9M2008	RING	6.16	6.16
1.00	2D5658	BEARING	29.53	29.53
1.00	3405600	KIT-DT GASKE	1,296.45	1,296.45
1.00	2504242	PUMP GP	1,839.09	1,839.09
1.00	1292380	BEARING	265.56	265.56
5.00	8E5380	BEARING	60.89	304.45
2.00	7J8209	CUP	29.87	59.74
5.00	8E3416	BEARING	19.19	95.95
2.00	7J8210	CONE	40.54	81.08
1.00	1408010	BEARING	157.99	157.99
2.00	2P8987	CONE BEARING	56.27	112.54
1.00	8E5247	BEARING	219.53	219.53
1.00	8E3435	BRG SLEEVE	43.02	43.02
2.00	8E8321	DISC	35.52	71.04
1.00	8E3433	BEARING	26.02	26.02
1.00	8E8652	DISC	19.38	19.38
1.00	8E8653	DISC	26.84	26.84
5.00	8E8317	DISC	26.39	131.95
1.00	1701807	BEARING-SPL	122.16	122.16

Labor

Flat Rate Labor	6,240.00
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Miscellaneous

1.00	FRT	162.43	162.43
1.00	FRT	14.74	14.74

Total Segment Parts	5,510.61
Total Segment Labor	6,240.00
Total Segment Miscellaneous	177.17

Segment Total 11,927.78

Test - Transmission

Customer complaint:

Transmission lost all function

Resultant damage:

Metal throughout transmission case and loss of all transmission function.

Cause of failure:

Transmission pump failure.

Repair process comments:

After transmission was rebuilt installed it on the test bench and tested transmission. Transmission now operating correctly. Completed repairs.

Labor

Flat Rate Labor	1,950.00
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Workscope

Extended Price

Total Segment Parts	0.00
Total Segment Labor	1,950.00
Total Segment Miscellaneous	0.00
Segment Total	1,950.00

Total Invoice Parts	8,387.37
Total Invoice Labor	17,550.00
Total Invoice Miscellaneous	265.34
Total Tax	0.00

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Account Number	Invoice Number	Invoice Date
3767500	INV646555	06/04/2024

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\$26,202.71

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