

Sold To: ROCHESTER ASPHALT INC
2904 COUNTY ROAD 15 SW
BYRON MN 55920-6319

Date: 5/31/17

Account No.: 0217360

Ship To:

Invoice Information

WO Number: WR76877
WO Date: 5/08/17

Store: ROCHESTER
Payment Terms: CHARGE
P/O Number:
Ship Via:
Invoice Type: 101010

Make: CATERPILLAR
Model: 980GII
Serial: 0AWH01803

PIN:
Id No:
Cust Unit:

Meter: 17113.0

Invoice Summary

Parts:
Labor:
Misc:
Taxes:

Amount Due: \$3,488.30

Invoice Total: 3,488.30

Amount Due:

\$3,488.30

Amount Enclosed:

WR74
10/0
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1010

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7

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Quantity	Item	N/R	Description	Unit Price	Extended
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REPAIR HYDRAULIC SYSTEM

CUSTOMER COMPLAINT:

-JOBSITE- SALEM CORNERS, MN

THE OPERATOR SAID BOOM DOWN FUNCTION WAS SLOW AND
BUCKET FLOAT DIDN'T WORK.

REPAIR PROCESS COMMENTS:

I FOUND CODES 352-3 AND 353-3 HIGH VOLTAGE LOGGED
FOR THE LEVER POSITION SENSORS. I REPLACED BOTH
SENSORS AND CALIBRATED. NO BUCKET FLOAT YET. NEXT
I CHECKED PILOT SUPPLY PRESSURE AND IT WAS AT 530
PSI. THAT IS SPEC. I THEN UPDATED THE IMPLEMENT
ECM SOFTWARE. FROM 2466582 TO 2982090. STILL NO
FLOAT. I THEN INSTALLED THE BOOM DOWN SOLENOID
VALVE. WENT THREW ALL THE HYDRAULIC CALIBRATIONS.
FLOAT WORK THEN AND THE BOOM DOWN FUNCTION WAS
RIGHT. BUT THE LIFT POSITION SENSOR WAS FAULTING.
I THEN REPLACED THE LIFT LINKAGE POSITION SENSOR.
AT THIS POINT THE HYDRAULICS WORKED RIGHT NO
FAULTS.

1	6I-2505	ELEMENT AS	S5
4	8T-4988	CLAMP	S5
1	174-4913	VALVE GP-SOL	N5
2	266-1477	SENSOR GP-PO	S5
1	266-2337	SENSOR GP-PO	N5

TOTAL PARTS SEG. 01

TOTAL LABOR SEG. 01

SEGMENT 01 TOTAL

REPLACE TORQ CONV/TRANS TEMP IND

CUSTOMER COMPLAINT:

THE TORQUE CONVERTER TEMP GAUGE WAS PEGGING
INTERMITTENT

REPAIR PROCESS COMMENTS:

REPLACED THE TORQUE CONVERTER TEMP SENDER.

1	3J-1907	SEAL	S5
1	118-7226	SENSOR GP	S5

TOTAL PARTS SEG. 02

TOTAL LABOR SEG. 02

SEGMENT 02 TOTAL

TRAVEL TO/FROM MACHINE

60.00

TOTAL LABOR SEG. 99
TRAVEL MILEAGE

TOTAL MISC CHGS SEG. 99

SEGMENT 99 TOTAL

SERVICE SUPPLIES AND
ENVIRONMENTAL CHARGES

MN SALES TAX-6.875%

Invoice Information

WO Number: WR74182
WO Date: 10/03/16
Store: ROCHESTER
Payment Terms: CHARGE
P/O Number:
Ship Via:
Invoice Type: 101010

Make: CATERPILLAR
Model: 980GII
Serial: 0AWH01803
PIN:
Id No:
Cust Unit:
Meter: 16779.0

Invoice Summary

Parts:
Labor:
Misc:
Taxes:



Amount Due: \$17,300.83

Invoice Total: 17,300.83

DUE BY 10TH OF THE NEXT MONTH

A service charge of 1 1/2 % per month will be assessed on all past due accounts.

Amount Due:

\$17,300.83

Amount Enclosed:

Extended

REPAIR LOADER FRAME BORE

CUSTOMER COMPLAINT:

-JOBSITE- ZIEGLER ROCHESTER
RIGHT SIDE Z BAR MOUNTING PIN IS NOT TAKING GREASE
AND SQUEALING. CHECK FOR OTHER LOOSE PINS AND
BUSHINGS

REPAIR PROCESS COMMENTS:

FOUND THAT BOTH Z BARS, ROD END CYLINDER, DOG
BONES, AND LOWER BUCKET MOUNTING PINS AND BUSHING
WERE SLOPPY. CUSTOMER DECIDED TO BRING MACHINE
INTO SHOP. REMOVED ZBARS AND DOG BONES. FOUND
THAT UPPER AND LOWER Z BARS PIN BORES WERE
DAMAGED. SEND Z BARS TO CITIES FOR BORE REPAIR
AND TO PRESS NEW BUSHINGS IN CENTER OF BARS.
REMOVED THE BUSHINGS IN THE DOG BONES AND PRESSED
IN THE NEW BUSHINGS. REMOVED BUCKET FROM MACHINE
AND REPLACED LOWER PINS AND BUSHINGS. MACHINIST
REPAIRED BORES IN Z BAR EARS ON BOOM FRAME AND
DOG BONE MOUNTS ON BUCKET. LOWER MOUNTS WERE OK.
INSTALLED NEW BUSHINGS IN TILT CYLINDER ROD ENDS.
INSTALLED Z BARS AND DOG BONES WITH NEW PINS.
ATTACHED BUCKET AND GREASED MACHINE.

4	1V-8242	BEARING	N
2	1V-8242	BEARING	N
2	1V-8439	PIN AS	N
2	1V-9143	BEARING SLV	N
4	1V-9148	BEARING SLV	N
10	3B-8489	ADAPTER STR	S
2	3V-9705	WASHER	N
2	4V-7099	PIN A	N
8	7K-9209	SEAL	N
4	7K-9211	SEAL	S
4	7K-9212	SEAL	S
4	7K-9220	SEAL	N
8	9K-9731	SPACER	S
2	130-2621	PIN AS	N
2	185-7219	PIN AS	N
2	185-7220	BEARING-SLEE	N
4	186-6319	WASHER	N
2	186-6320	WASHER	N
1	222-2367	VALVE GP	N
2	312-1067	PIN AS	N

TOTAL PARTS SEG. 01

1.00	LIQ NITROGEN	F/R LBR
1.00	LIQ NITROGEN	
1.00	HAZMAT	

TOTAL MISC CHGS SEG. 01

SEGMENT 01 TOTAL

7554.63 T

REPAIR POSITION SENSOR LINKAGE

CUSTOMER COMPLAINT:

RETURN TO DO NOT FUNCTIONING

CAUSE OF FAILURE:

TILT POSITION SENSOR MISSING

REPAIR PROCESS COMMENTS:

ORDERED COMPLETE GROUP AND INSTALLED ON MACHINE.
 PERFORMED CALIBRATION BUT WOULD NOT COMPLETE DUE
 TO BAD WIRE IN MACHINE HARNESS. ORDERED HARNESS
 AND REPLACED. CALIBRATED TILT POSITION SENSOR.
 ALSO CUSTOMER ASKED IF WE COULD CALIBRATE LIFT
 AND TILT JOYSTICKS. COMPLETED CALIBRATIONS.
 CHECKED FOR PROPER OPERATIONS. GOOD.

5	SC-7261	NUT	S
5	7A-0818	BOLT	S
5	7A-7662	ROD END	S
4	7A-7729	WASHER	S
4	8T-4121	WASHER-HARD	S
4	8T-4136	BOLT	S
2	8T-4137	BOLT	S
2	8T-4138	BOLT	S
4	8T-4195	BOLT	S
12	8T-4224	WASHER	S
2	8T-4970	BOLT	S
2	8T-4971	BOLT	S
2	8K-2480	BOLT	N
2	8K-8256	WASHER	S
8	8K-8256	WASHER	S
1	110-5300	CLIP	N
1	116-4192	BOLT	S
1	160-8500	NUT-HEX	S
1	166-0599	ROD	N
1	206-5591	ARM AS. - BA	N
1	206-5595	COVER - TILT	N
1	211-8810	BRACKET AS.	N
1	214-3616	PLATE	N
1	214-3617	PLATE	S
1	216-8508	COVER AS.	N
1	266-2337	SENSOR GP-PO	N
1	278-7074	HARNESS	N
1	278-7075	BRACKET	N
1	278-7076	BRACKET	N

TOTAL PARTS SEG. 03

TOTAL LABOR SEG. 03

SEGMENT 03 TOTAL

2007.30 T

MANUAL OR AUTO, CHECKED NITROGEN CHARGE FOUND IT WAS EMPTY, CHARGED SYSTEM CHECK OPERATION IT WORKED, CHECKED FOR LEAKS FOUND SCHROEDER VALVE WAS LEAKING, ORDERED VALVE WENT BACK AND REPLACED VALVE ASSY., CHARGED TO 517 PSI AT 40 DEG., CHECKED OPERATION, IT WORKED, DEMONSTRATED TO OPERATOR HOW SYSTEM FUNCTIONED, AS HE WAS NEW TO THIS MACHINE, RETURNED MACHINE TO SVC

SEGMENT 04 TOTAL

.00 T

MACHINE/GRIND/MILL 2 BUCKET CONTROL
REPAIR PROCESS COMMENTS:
[MPLS] PRESS IN THE CENTER BEARING ON (1) Z BAR BUCKET LINKAGE. THEN SET-UP THE (1) Z BAR LINKAGE IN THE HORIZONTAL MILL LOCATING IN (2) SEPARATE OPERATIONS ON THE (2) PIN BORES. MACHINE THE LARGER PIN BORE TO 3.503" AND THE SMALLER TO 3.003". CHAMFER AND DE-BUR. INSTALL THE (2) CENTER DIRT SEALS AND (1) ZERK. GREASE THE BEARING. INSTALL THE (2) PINS AND SNUG THE RETAINING BOLTS. THE OTHER Z BAR SET-UP AND MACHINED BY DAN BUCHANAN.

F/R LBR

SEGMENT 70 TOTAL

MACHINE/GRIND/MILL LOADER FRAME BORE
REPAIR LOADER FRAME WELD AND MACHINE Z BAR BORES ON THE THE LOADER FRAME
REPAIR PROCESS COMMENTS:
Z BARS AND DOGBONES HAD BEEN REMOVED FOR REPAIRS, RAISE UP LOADER ARMS AND BLOCK. GRIND 4 BORES AND WELD 1 PASS
EACH, MACHINE TO SIZE PIN 4.998 BORES 5.002. CLEAN UP AND INSTALL PIN. USED 8 LBS SOLID WIRE.

F/R LBR

SEGMENT 71 TOTAL

MACHINE/GRIND/MILL BUCKET
REPAIR PROCESS COMMENTS:
GRIND 4 BORES AND WELD 1 PASS EACH, MACHINE TO SIZE PIN 2.498 BORES 2.501. CLEAN UP 4 FACES AND INSTALL PINS. USED 3 LBS SOLID WIRE. INSTALL PINS.

F/R LBR

SEGMENT 72 TOTAL

TRAVEL TO/FROM MACHINE
FLAT RATED TRAVEL AT 100.00

F/R LBR

SEGMENT 98 TOTAL

REPAIR HYDRAULIC HOSES/LINES

CUSTOMER COMPLAINT:

-JOBSITE- SALEM CORNERS, MN

HOSE LEAKING UNDER CAB

REPAIR PROCESS COMMENTS:

INSPECTED , FOUND LEAK , ADVISED CUSTOMER CAB
WOULD HAVE TO COME OFF TO ACCESS HOSE. TOPPED OFF
HYD TANK SO MACHINE COULD BE RAN ENOUGH TO RAISE
LOADER FRAME, REMOVED FRONT COVER FOUND A OIL
LAKE UNDER COVER , ADVISED CUSTOMER THAT 2 STEEL
LINES WERE ALSO LEAKING, CUSTOMER AUTHORIZED
REPLACEMENT OF STEEL LINES, ORDERED PARTS, WENT
BACK NEXT DAY AND LIFTED CAB UP, HAD TO EVACUATE
A/C SYSTEM AS QUICK COUPLERS WERE FROZE, HAD TO
CUT/ RESPLICE, BY PASS WIRES ON BACK OF CAB,
BLOCKED CAB UP REMOVED BLOWN HOSE , ALSO FOUND
ADDITIONAL HOSE THAT WIRE BRAIDS WERE CUT ON ,
AUSTIN WANTED THAT HOSE ALSO REPLACED, TOOK HOSES
BACK TO SHOP AND HAD FABRICATED, INSTALLED HOSES
, REPLACED MISSING CLAMPS SO HOSE WOULD NOT RUB
THROUGH AGAIN, INSTALLED NEW HYD TUBES/ FITTINGS
UP FRONT, ALSO REPLACED BROKEN INSPECTION COVER
ON RADIATOR FRAME THAT WAS ALLOWING AIR TO BY
PASS RADIATOR PER AUSTIN, RECHARGED A/C SYSTEM ,
SYSTEM COOLED TO 55 DEG ON 90 DEG DAY, TOPPED OFF
HYD OIL , TQD CAB MOUNTS, CHECKED MACHINE
OPERATION, CLEARED FAULT CODES, MACHINE IS
SHOWING ACTIVE CODE FOR AIR FILTER RESTRICTION ,
ADVISED AUSTIN, AUSTIN IS GOING TO ADDRESS.

2	3J-1907	SEAL	S5
1	5H-8853	SEAL-O-RING	S5
5	6V-8397	SEAL	S5
3	6V-8398	SEAL O RING	S5
1	6V-8636	CONNECTOR	S5
1	6V-8724	ELBOW	S5
1	6V-9850	ELBOW	S5
15	7K-1181	STRAP CABLE	S5
2	8M-2773	CLIP	S5
2	9X-3265	SEAL	S5
6	9X-3490	SEAL	S5
1	138-8063	TUBE AS	N5
1	187-6257	TUBE AS	N5
1	189-5594	COVER AS.	N5
1	197-1305	HOSE AS	N5
1	226-0291	LOCK AS	N5
1	226-0321	CAM-LOCK	N5
1	295-4738	HOSE AS.	N5

TOTAL PARTS SEG. 01

12.00

TOTAL LABOR SEG. 01
R134A FREON (OZ)

TOTAL MISC CHGS SEG. 01

SEGMENT 01 TOTAL

3890.22 T

RAVEL TO/FROM MACHINE

0.00

TRAVEL MILEAGE F/R LBR

TOTAL MISC CHGS SEG. 99