

Service Invoice

Invoice SI000162866
Date 4/20/2022
Call Number SC00138821
Location North Metro
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Sold to:

Invoice Account
7870300

Payment
AR - Net 10th of the
Following Month

Due Date
5/10/2022

| Customer PO | Customer EQ | Model | Serial Number | Equipment ID | Segment SMU |
|-------------|-------------|-------|---------------|--------------|-------------|
| | G01A | 140H | 2ZK06837 | N3110 | 8,878 |

SC00138821-003 Clean - Machine

Customer complaint: Machine needs to be cleaned.

Resultant damage: None.

Cause of failure: None.

Repair process comments: Washed machine prior to bringing into shop, after repairs, and when machine was finished.

| Quantity | Type | Part Number | Description | Unit Price | Amount |
|----------|-------|-------------|-------------|------------|--------|
| | Labor | | Labor | | |

Labor: 900.00

MAY 03 2022
96621

Segment Subtotal: 900.00

Credit card payments are only accepted at Point of Sale
A service charge of 1 1/2% per month will be assessed on all past due accounts.

| | |
|---------|-------------|
| Invoice | SI000162866 |
| Date | 4/20/2022 |
| Account | 7870300 |

Please Remit to:

Amount Due:

\$54,465.36

Amount Enclosed:

| | | | | |
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| | G01A | 140H | 2ZK06837 | N3110 | 8,878 |

SC00138821-002 Perform - Technical Analysis 1

Customer complaint: Perform TA 1 inspection on machine.

Resultant damage: None.

Cause of failure: None.

Repair process comments: Performed TA 1 inspection on machine. Took samples from all compartments. Made notes and took photos.

| Quantity | Type | Part Number | Description | Unit Price | Amount |
|----------|-------|-------------|------------------|------------|--------|
| | Labor | | Labor | | |
| 1.00 | Misc | COL | Coolant Sample | | |
| 8.00 | Misc | SAM | SOS - Oil Sample | | |

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| | G01A | 140H | 2ZK06837 | N3110 | 8,878 |

**SC00138821-005 Perform Maintenance On - Level-1,2,3&4 Pm(2000 Hr) - Ziegler's Site 2ZK00001
2ZK99999 PM 4**

Customer complaint: Machine is due for a 2000 hour PM 1,2,3 &4 service.

Resultant damage: None.

Cause of failure: None.

Repair process comments: Performed 2000 hour non synthetic service on machine. Updated decal inside machine.

| Quantity | Type | Part Number | Description | Unit Price | Amount |
|----------|-------|---------------|--------------------|------------|--------|
| 1.00 | Parts | 4526001 - 504 | GREASE-ULT MOLY #2 | | |
| 1.00 | Parts | 9G5127 | Breather | | |
| 1.00 | Parts | 3F1547 | Seal | | |
| 1.00 | Parts | 6I0273 | Element As | | |
| 1.00 | Parts | 8H2778 | Gasket | | |
| 1.00 | Parts | 6D9157 | Seal | | |
| 1.00 | Parts | 6I0274 | Element As | | |
| 2.00 | Parts | 5P3863 | Seal O Ring | | |
| 1.00 | Parts | 2S8439 | Seal O Ring | | |
| 1.00 | Parts | 1R0719 | Element A | | |
| 1.00 | Parts | 1R0774 | Element As | | |
| 1.00 | Parts | 1R1807 | Lube Filter | | |
| 2.00 | Parts | 4H6112 | Breather | | |
| 1.00 | Parts | 1R0750 | Filter As | | |
| 4.00 | Parts | 5D0353 | Bolt | | |
| 2.00 | Parts | 2J8163 | Seal | | |
| 1.00 | Parts | 5T0906 | Cover | | |
| 1.00 | Parts | 8V9258 | Refill Kit | | |
| 1.00 | Parts | 7T7358 | Filter-A/C | | |
| 2.00 | Parts | 2314487 | Filter As | | |
| 1.00 | Parts | 2H3429 | Ring | | |
| 1.00 | Parts | 7H9678 | Retainer | | |
| | Parts | 1R0773 | Element As | | |
| 1.00 | Parts | 2A3398 | Gasket | | |
| | Labor | | Labor | | |
| 4.00 | Misc | SAM | SOS - Oil Sample | | |
| 1.00 | Misc | CT3 | CAT TDTO 50W GAL | | |
| 8.00 | Misc | CD8 | CAT DE OIL 10W30 | | |
| 1.00 | Misc | COL | Coolant Sample | | |
| 2.00 | Misc | CG1 | GEAR OIL 80W90 GAL | | |
| 34.00 | Misc | CT2 | CAT TDTO 30W GAL | | |
| 1.00 | Misc | SAM | SOS - Oil Sample | | |

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13.00 Misc CT2 CAT TDTO 30W GAL

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SC00138821-006 Drain/Refill - Hydraulic Oil 2ZK00001 2ZK99999 HYD OIL CHANGE

Customer complaint: Drain and refill hydraulic system.

Resultant damage: None.

Cause of failure: None.

Repair process comments: Attached hose to drain valve on hydraulic tank. Removed cap. Drained tank. Closed drain.

Refilled tank to correct level. Installed cap. After running machine, verified correct fluid level.

| Quantity | Type | Part Number | Description | Unit Price | Amount |
|----------|------|-------------|------------------|------------|--------|
| | | Labor | Labor | | |
| 1.00 | Misc | SAM | SOS - Oil Sample | | |
| 11.00 | Misc | CH1 | CAT HYDO ADV 10W | | |

| Customer PO | Customer EQ | Model | Serial Number | Equipment ID | Segment SMU |
|-------------|-------------|-------|---------------|--------------|-------------|
| | G01A | 140H | 2ZK06837 | N3110 | 8,878 |

SC00138821-007 Drain/Refill - Engine Coolant - With Longlife 2ZK00001 2ZK99999 COOLANT

Customer complaint: Drain and refill cooling system with extended life coolant.

Resultant damage: None.

Cause of failure: None.

Repair process comments: Drained cooling system. Made other repairs to machine. Replaced petcock valve due to stiff operation and possible leaks. Refilled cooling system with ELC extended life coolant. Ran machine and verified correct level.

| Quantity | Type | Part Number | Description | Unit Price | Amount |
|----------|------|-------------|----------------|------------|--------|
| | | Labor | Labor | | |
| 1.00 | Misc | COL | Coolant Sample | | |
| 12.00 | Misc | ELC | CAT ELC GAL | | |

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| | G01A | 140H | 2ZK06837 | N3110 | 8,878 |

SC00138821-008 Replace - Hydraulic Hoses/Lines

Customer complaint: Replace hydraulic hoses.

Resultant damage: None.

Cause of failure: None.

Repair process comments: Inspected hoses on machine. Found that hoses to side shift cylinder, wheel lean and valve banks were in need of replacement. De energized and locked out machine. With hydraulic system drained, disconnected hoses and removed. Replaced seals in fittings. Installed new hoses. After other repairs were completed, filled hydraulic system and tested for leaks. No leaks found. Verified correct fluid levels.

| Quantity | Type | Part Number | Description | Unit Price | Amount |
|----------|-------|-------------|-------------|------------|--------|
| 1.00 | Parts | 1078146 | Hose As | | |
| 1.00 | Parts | 1078148 | Hose As | | |
| 1.00 | Parts | 1078147 | Hose As | | |
| 1.00 | Parts | 8X7973 | Hose As | | |
| 1.00 | Parts | 8X7974 | Hose As | | |
| | Labor | | Labor | | |

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Customer PO

Customer EQ
G01A

Model
140H

Serial Number
2ZK06837

Equipment ID
N3110

Segment SMU
8,878

SC00138821-009 Replace Gasket/Reseal - Hydraulic Control Valve - Both Ends

Customer complaint: Control valve banks need to be resealed.

Resultant damage: None.

Cause of failure: Old hard seals no longer sealing.

Repair process comments: De energized and locked out machine. Disconnected all hoses to valve banks. Removed floor plates in cab. Removed control rods. Removed valves. Cleaned cab area where valves mount. Cleaned valves off.

Disassembled valves and replaced all seals. Reassembled valves. Washed and installed in reverse order of removal. Tested for leaks after assembly. Made any needed repairs. Cleaned area.

| Quantity | Type | Part Number | Description | Unit Price | Amount |
|----------|-------|-------------|--------------|------------|--------|
| 14.00 | Parts | 1010509 | Plate | | |
| 7.00 | Parts | 3405472 | Lever As. (l | | |
| 26.00 | Parts | 2K8199 | Seal O Ring | | |
| 26.00 | Parts | 3613549 | Seal-O-Ring | | |
| 20.00 | Parts | 4D2297 | Seal O Ring | | |
| 26.00 | Parts | 8M4437 | Seal O Rin | | |
| 13.00 | Parts | 4D9986 | Seal | | |
| 13.00 | Parts | 4J7533 | Seal O Ring | | |
| 51.00 | Parts | 3K0360 | Seal | | |
| 15.00 | Parts | 3J1907 | Seal | | |
| 5.00 | Parts | 3405470 | Lever As. (r | | |
| 12.00 | Parts | 6V8397 | Seal | | |
| 2.00 | Parts | 5P2424 | Bolt | | |
| 1.00 | Parts | 1047419 | Plate Rh | | |
| | Labor | | Labor | | |

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| | G01A | 140H | 2ZK06837 | N3110 | 8,878 |

SC00138821-010 Replace - Engine Mount

Customer complaint: Engine and transmission mounts weathered and cracking.

Resultant damage: None.

Cause of failure: None.

Repair process comments: With paneling removed from machine. Loosened and removed mounting hardware for engine and trans. Lifted engine up and replaced mounts. Lifted trans up and replaced mounts. Installed and tightened new hardware.

| Quantity | Type | Part Number | Description | Unit Price | Amount |
|----------|-------|-------------|-------------|------------|--------|
| 2.00 | Parts | 1J5929 | Bolt | | |
| 2.00 | Parts | 7X0375 | Bolt | | |
| 2.00 | Parts | 6Y9960 | Mount As | | |
| 2.00 | Parts | 9W9920 | Mount Assy | | |
| 2.00 | Parts | 9W6582 | Sleeve | | |
| 2.00 | Parts | 9W7385 | Sleeve | | |
| | Labor | | Labor | | |

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| Customer PO | Customer EQ | Model | Serial Number | Equipment ID | Segment SMU |
| | G01A | 140H | 2ZK06837 | N3110 | 8,878 |

SC00138821-011 Replace - V-Belt(S)

Customer complaint: Engine belts are in need of replacement.

Resultant damage: None.

Cause of failure: None.

Repair process comments: Loosened and removed belts from engine. Inspected pulleys. Alternator pulley worn. Removed and replaced. Installed new belts and tensioned.

| Quantity | Type | Part Number | Description | Unit Price | Amount |
|----------|-------|-------------|-------------|------------|--------|
| | Parts | 1663361 | V-Belt Set | | |
| 1.00 | Parts | 8X1805 | Pulley | | |
| | Parts | 1663360 | V-Belt Set | | |
| 1.00 | Parts | 1663359 | V- Belt Set | | |
| | Labor | | Labor | | |

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| | G01A | 140H | 2ZK06837 | N3110 | 8,878 |

SC00138821-044 Replace - Fan

Customer complaint: One of the fan blades is loose in the mount.

Resultant damage: NA.

Cause of failure: Failing fan assembly.

Repair process comments: Found that one of the fan blades was loose after the cooling package was removed. Found that the fan updated to a new fan and spider assembly. Ordered and installed the updated parts before the cooling package was reinstalled.

| Quantity | Type | Part Number | Description | Unit Price | Amount |
|----------|-------|-------------|--------------|------------|--------|
| 6.00 | Parts | 0993649 | Bolt | | |
| 6.00 | Parts | 8T4224 | Washer | | |
| 8.00 | Parts | 8T4186 | Bolt | | |
| 8.00 | Parts | 8T4121 | Washer-Hard | | |
| 1.00 | Parts | 1947049 | Spider As-Fn | | |
| 1.00 | Parts | 1940639 | Adapter-Fan | | |
| | Labor | | Labor | | |

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|-------------|-------------|-------|---------------|--------------|-------------|
| Customer PO | Customer EQ | Model | Serial Number | Equipment ID | Segment SMU |
| | G01A | 140H | 2ZK06837 | N3110 | 8,878 |

SC00138821-013 Replace - Hoses & Lines - Engine

Customer complaint: Replace hoses on engine.

Resultant damage: None.

Cause of failure: None.

Repair process comments: Braided hoses on engine rubbing and wearing through. Removed and replaced hoses to remote oil filter housing, turbo feed line and air compressor on engine.

| Quantity | Type | Part Number | Description | Unit Price | Amount |
|----------|-------|-------------|-------------|------------|--------|
| 1.00 | Parts | 1470383 | Hose As | | |
| 1.00 | Parts | 1470384 | Hose As | | |
| 1.00 | Parts | 4P5970 | Hose As | | |
| | Parts | 1472069 | Hose As | | |
| 1.00 | Parts | 1467639 | Hose As | | |
| 1.00 | Parts | 1358287 | Hose As | | |
| | Labor | | Labor | | |

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| Customer PO | Customer EQ | Model | Serial Number | Equipment ID | Segment SMU |
| | G01A | 140H | 2ZK06837 | N3110 | 8,878 |

SC00138821-062 Remove & Install - Articulation Cylinder 2ZK00001 2ZK99999 *

Customer complaint: Remove and install left articulation cylinder.

Resultant damage: None.

Cause of failure: None.

Repair process comments: With panels, hydraulic tank and battery removed; Disconnected hoses to cylinder. Removed retaining bolts from pins. Snapped off bolt in one pin. Used press to remove pins. Pushed cylinder out of position while supported with crane. weld block by cylinder snapped off in process of removing cylinder. Cleaned up and welded back into place. After cylinder was repaired, reinstalled in reverse order of removal with new pin and retaining bolt. Installed hoses with new seals and tested. No leaks. Working correctly.

| Quantity | Type | Part Number | Description | Unit Price | Amount |
|----------|-------|-------------|-------------|------------|--------|
| | Parts | 7K9202 | Seal | | |
| 1.00 | Parts | 8T6871 | Bolt | | |
| 1.00 | Parts | 8D4766 | Pin | | |
| | Labor | | Labor | | |

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|-------------|-------------|-------|---------------|--------------|-------------|
| Customer PO | Customer EQ | Model | Serial Number | Equipment ID | Segment SMU |
| | G01A | 140H | 2ZK06837 | N3110 | 8,878 |

SC00138821-045 Hone & Reseal - Articulation Cylinder

Customer complaint: RESEAL ARTICULATION CYLINDER

Resultant damage: LEAKS

Cause of failure: LEAKS BEARINGS WORN

Repair process comments: REPLACED SEALS, POWER POLISHED ROD, HONED BARREL, REPLACED FIBER BEARINGS AND PIN SEALS.

| Quantity | Type | Part Number | Description | Unit Price | Amount |
|----------|-------|-------------|---------------|------------|--------|
| 1.00 | Parts | 2465926 | Kit-Seal-H.C | | |
| 2.00 | Parts | 8D7086 | Bearing | | |
| 4.00 | Parts | 7K9202 | Seal | | |
| | Labor | | Labor | | |
| 1.00 | Misc | RAG | SHOP SUPPLIES | 0.00 | 0.00 |

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| | G01A | 140H | 2ZK06837 | N3110 | 8,878 |

SC00138821-016 Replace - Eng Oil Level Gaug/Dipstk

Customer complaint: Dipstick gauge leaks oil out around the tube.

Resultant damage: None.

Cause of failure: None.

Repair process comments: Cleaned area. Removed dipstick. Installed new dipstick.

| Quantity | Type | Part Number | Description | Unit Price | Amount |
|---------------------|-------|-------------|-------------|------------|--------|
| 1.00 | Parts | 8S3995 | Gage A | | |
| Parts: 51.14 | | | | | |

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| Customer PO | Customer EQ | Model | Serial Number | Equipment ID | Segment SMU |
| | G01A | 140H | 2ZK06837 | N3110 | 8,878 |

SC00138821-017 Troubleshoot - Air Conditioner

Customer complaint: A/c system not blowing cold.

Resultant damage: None.

Cause of failure: Plugged condenser.

Repair process comments: Tested a/c operation. Lacked low temperature output. Recovered system. Low charge. Inspected condenser, very plugged. Removed and installed cooling pack under segment 33. With cooling pack removed, removed condenser and thoroughly cleaned until light could easily be seen through all fins. Re-installed condenser. Installed cooling pack under segment 33. Replaced a/c line, accumulator, and drier under segment 50. Replaced cab filters under segment 5. Tested repairs. A/c system now working correctly and blowing cold air.

| Quantity | Type | Part Number | Description | Unit Price | Amount |
|----------|-------|-------------|-------------|------------|--------|
| | Labor | | Labor | | |

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| | G01A | 140H | 2ZK06837 | N3110 | 8,878 |

SC00138821-050 Repair - Air Conditioner

Customer complaint: A/C hose is in poor condition.

Resultant damage: None.

Cause of failure: None.

Repair process comments: Disconnected hose from a/c compressor and dryer. Removed clamps. Removed hose. Ran new hose through pivot and clamps. Installed new o ring seals. Connected hose. Replaced the accumulator and drier when the system was open. Recharged system with 4.5 lbs of R134. Tested AC, it is now working properly.

| Quantity | Type | Part Number | Description | Unit Price | Amount |
|----------|-------|-------------|-------------|------------|--------|
| 1.00 | Parts | 3E3535 | Dryer | | |
| 4.00 | Parts | 9X7383 | Seal O Ring | | |
| 1.00 | Parts | 1976218 | Accumulator | | |
| 2.00 | Parts | 9X7381 | Seal O Ring | | |
| 3.00 | Parts | 9X7380 | Seal O Ring | | |
| 1.00 | Parts | 9X7382 | Seal O Ring | | |
| 1.00 | Parts | 9X7378 | Seal | | |
| 2.00 | Parts | 9X7385 | Seal O Ring | | |
| 1.00 | Parts | 8X7154 | Hose As | | |
| | Labor | | Labor | | |
| 72.00 | Misc | R34 | R134A FREON | | |

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|-------------|-------------|-------|---------------|--------------|-------------|
| Customer PO | Customer EQ | Model | Serial Number | Equipment ID | Segment SMU |
| | G01A | 140H | 2ZK06837 | N3110 | 8,878 |

SC00138821-018 Repair - Battery Box/Support

Customer complaint: Battery box is missing rubber isolators for covers.

Resultant damage: None.

Cause of failure: None.

Repair process comments: Removed battery box cover. Removed remaining weathered battery cover isolators. Installed new isolators. Installed battery cover/lids.

| Quantity | Type | Part Number | Description | Unit Price | Amount |
|----------|-------|-------------|-------------|------------|--------|
| 8.00 | Parts | 1434792 | Bumper | | |
| | Labor | | Labor | | |

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| | G01A | 140H | 2ZK06837 | N3110 | 8,878 |

SC00138821-059 Replace - Coolant Hose/Lines

Customer complaint: Heater hoses are leaking.
 Resultant damage: .
 Cause of failure: Hoses are dry rotted.
 Repair process comments: Drained the coolant.
 Loosened all clamps.
 Removed the old hoses and ran the new hoses connected to the old hoses.
 Installed clamps.
 Filled with coolant.
 Ran machine to get warm and checked for leaks.
 No leaks.

| Quantity | Type | Part Number | Description | Unit Price | Amount |
|----------|-------|----------------|--------------------|------------|--------|
| | Parts | P171367F - 111 | 5/8" SILICONE HOSE | | |
| | Labor | | Labor | | |
| 1.00 | Misc | OWM - PARTS | 5/8 heater hose | | |

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| | G01A | 140H | 2ZK06837 | N3110 | 8,878 |

SC00138821-019 Repair - Window Wiper Motor - Rear

Customer complaint: Rear window wiper does not function.

Resultant damage: None.

Cause of failure: Poor connections at switch.

Missing fuse.

Plugged washer tank outlets.

Repair process comments: Tested all cab window wipers. Lower front wipers are unused according to customer and will not be repaired. Front upper window spray does not work. Rear window wiper does not spray or wipe. No power to rear wiper motor or spray motor from switch. Checked fuses. Fuse for rear window switch missing. Replaced fuse. Got partial power to motor. Disassembled cab to access back of wiper switch. Contacts corroded and dirty. Cleaned contacts and assembled. Wiper motor and spray motor working. No washer fluid spraying on front or back window. No fluid to pumps from tank. Disassembled and removed tank. Tank had debris in bottom clogging outlet ports. Removed outlet ports and grommets. Cleaned tank. Installed new fittings and grommets. Reinstalled tank. Fill with fluid. Tested repairs. Front and rear wipers working and spraying. Replaced wiper blades due to poor condition and operation of old blades.

| Quantity | Type | Part Number | Description | Unit Price | Amount |
|----------|-------|-------------|-------------|------------|--------|
| 2.00 | Parts | 8E8293 | Grommet | | |
| 2.00 | Parts | 2613345 | Connector | | |
| 2.00 | Parts | 6W5698 | Grommet | | |
| 1.00 | Parts | 6V5849 | Blade A | | |
| | Parts | 1234355 | Blade As | | |
| 1.00 | Parts | 6V5853 | Blade A | | |
| 1.00 | Parts | 1234618 | Cover | | |
| | Labor | | Labor | | |

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SC00138821-020 Repair - Light(S)

Customer complaint: Check and repair lighting.

Resultant damage: None.

Cause of failure: Burnt out bulbs in flashers.

Repair process comments: Checked operation of all exterior lighting. Right cab marker and left rear directional lights not working. Removed lens covers and inspected bulbs. Open circuits / broken filaments in bulbs. Replaced bulbs and retested. All lights working. Found open wire going to front right roading lamp. Disconnected wire. Installed heat shrink over exposed area. Reconnected.

| Quantity | Type | Part Number | Description | Unit Price | Amount |
|----------|-------|-------------|-------------|------------|--------|
| 2.00 | Parts | 8U2622 | Lamp | | |
| | Labor | | Labor | | |

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SC00138821-021 Replace Gasket/Reseal - Charge Pump

Customer complaint: Charge pump has wet build up around it.

Resultant damage: None.

Cause of failure: None.

Repair process comments: Cleaned area to better assess. Ran machine. Found oil leaking past internal seals. Disconnected hoses and removed charge pump. Separated segments of pump. Seals all very hard and brittle. Replaced all seals and reassembled. Installed back into place and connected hoses with new seals. Ran machine. No leaks found.

| Quantity | Type | Part Number | Description | Unit Price | Amount |
|----------|-------|-------------|-------------|------------|--------|
| 3.00 | Parts | 2D8009 | Seal O Ring | | |
| 3.00 | Parts | 4J0520 | Seal-O-Ring | | |
| 2.00 | Parts | 8T4983 | Clamp | | |
| 1.00 | Parts | 7F8268 | Seal O Ring | | |
| 1.00 | Parts | 4F7952 | Seal | | |
| 1.00 | Parts | 5F8000 | Ring | | |
| | Labor | | Labor | | |

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| Customer PO | Customer EQ | Model | Serial Number | Equipment ID | Segment SMU |
| | G01A | 140H | 2ZK06837 | N3110 | 8,878 |

SC00138821-022 Replace - Moldboard Rail Wearstrip

Customer complaint: Moldboard has excessive play.

Resultant damage: None.

Cause of failure: Worn out wear strips, bearings and shafts.

Repair process comments: Checked free pay in TA. Removed moldboard and wear strips and shims. Cut pin to blade tilt cylinder and extracted pin as it was seized. Removed both shafts from circle. Replaced bearings in moldboard brackets. Installed new shafts. Installed moldboard with new wear plates and shims. Replaced blade extension cylinder bracket on blade and installed new pins. Installed new tilt cylinder pin and bearing.

| Quantity | Type | Part Number | Description | Unit Price | Amount |
|----------|-------|-------------|-------------|------------|--------|
| 4.00 | Parts | 2K0419 | Washer | | |
| 2.00 | Parts | 3B5320 | Cotter Pin | | |
| 4.00 | Parts | 4461524 | Strip-Wear | | |
| 4.00 | Parts | 2G3219 | Shim | | |
| 4.00 | Parts | 2G3221 | Shim | | |
| 2.00 | Parts | 1636074 | Shim | | |
| 1.00 | Parts | 4461527 | Strip-Wear | | |
| 10.00 | Parts | 8W1749 | Plate | | |
| 30.00 | Parts | 6H1717 | Capscrew | | |
| 30.00 | Parts | 5P8245 | Washer-Hard | | |
| 2.00 | Parts | 8S9092 | Bolt | | |
| 4.00 | Parts | 5P8247 | Washer | | |
| 2.00 | Parts | 1A8537 | Capscrew | | |
| 1.00 | Parts | 1781686 | Shim | | |
| 1.00 | Parts | 1781688 | Shim | | |
| 1.00 | Parts | 1788455 | Shim | | |
| 1.00 | Parts | 2D8652 | Bearing | | |
| 1.00 | Parts | 8D6687 | Pin | | |
| 1.00 | Parts | 5K5552 | Bolt | | |
| 1.00 | Parts | 1533580 | Shaft | | |
| 2.00 | Parts | 1D0503 | Washer | | |
| 2.00 | Parts | 2B2673 | Nut | | |
| 2.00 | Parts | 1048655 | Brg Slv | | |
| 4.00 | Parts | 7X0452 | Nut | | |
| 1.00 | Parts | 8D5949 | Bar | | |
| | Labor | | Labor | | |

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| Customer PO | Customer EQ | Model | Serial Number | Equipment ID | Segment SMU |
| | G01A | 140H | 2ZK06837 | N3110 | 8,878 |

SC00138821-001 Replace - Circle Drive - Wear Strip

Customer complaint: Inspect and tighten circle.

Resultant damage: Shims

Cause of failure: Worn wear strips.

Repair process comments: Inspected circle adjustment under TA segment. Removed shoes holding circle in place one at a time. Cleaned and inspected components. Found that all the bottom wear strips had intrusions and wear. Upper wear strips in good condition and were not changed out at this time. Installed new lower wear strips and shimmed the circle shoes. Adjusted shoes to keep circle in correct positioning. Ran circle around and checked for binding. No binding and fit up of circle improved.

| Quantity | Type | Part Number | Description | Unit Price | Amount |
|----------|-------|-------------|--------------|------------|--------|
| 6.00 | Parts | 3330960 | Strip-Wear | | |
| 18.00 | Parts | 5P6652 | Washer | | |
| 18.00 | Parts | 3B6753 | Cap Screw | | |
| 36.00 | Parts | 6G1915 | Shim | | |
| 54.00 | Parts | 6G1914 | Shim | | |
| | Parts | 1289654 | Strip | | |
| | Parts | 4570799 | Lock-Nut | | |
| | Parts | 2618553 | Pinion-Circl | | |
| | Labor | | Labor | | |

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| Customer PO | Customer EQ | Model | Serial Number | Equipment ID | Segment SMU |
| | G01A | 140H | 2ZK06837 | N3110 | 8,878 |

SC00138821-024 Replace - Cab Air Fan

Customer complaint: Cab defrost fan very noisy in operation.

Resultant damage: None.

Cause of failure: Worn out fan motor.

Repair process comments: Tested both cab defrost fans. Front fan is very noisy and no longer smooth running. Blew fan motor out. No change. Removed fan and disconnected plug. Installed new fan in place. Verified operation.

| Quantity | Type | Part Number | Description | Unit Price | Amount |
|----------|-------|-------------|-------------|------------|--------|
| 1.00 | Parts | 1351978 | Fan Gp | | |
| | Labor | | Labor | | |

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| Customer PO | Customer EQ | Model | Serial Number | Equipment ID | Segment SMU |
| | G01A | 140H | 2ZK06837 | N3110 | 8,878 |

SC00138821-025 Adjust - Lift/Hoist Cylinder

Customer complaint: Drawbar cylinders have play.

Resultant damage: None.

Cause of failure: Worn inserts.

Repair process comments: Removed cylinder end caps. Inspected inserts and mounts. Inserts are worn into the base metal.

Replaced all inserts and re-shimmed. Checked fit up. Correct operation.

| Quantity | Type | Part Number | Description | Unit Price | Amount |
|----------|-------|-------------|-------------|------------|--------|
| 8.00 | Parts | 2795267 | Insert | | |
| 4.00 | Parts | 2993436 | Bolt | | |
| 4.00 | Parts | 2993439 | Washer | | |
| 2.00 | Parts | 2G9103 | Shim | | |
| | Labor | | Labor | | |

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| Customer PO | Customer EQ | Model | Serial Number | Equipment ID | Segment SMU |
| | G01A | 140H | 2ZK06837 | N3110 | 8,878 |

SC00138821-063 Adjust - Circle Drawbar Ball Sckt

Customer complaint: The drawbar ball socket has excessive play.

Resultant damage: NA

Cause of failure: Excess shims.

Repair process comments: Found that the drawbar ball socket had excessive play. Removed the bolts and removed enough shims to get the correct fitment. Reinstalled the bolts and retested, found that the socket now had the proper amount of play.

Torqued the bolts to CAT specs.

| Quantity | Type | Part Number | Description | Unit Price | Amount |
|----------|-------|-------------|-------------|------------|--------|
| | Labor | | Labor | | |

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| Customer PO | Customer EQ | Model | Serial Number | Equipment ID | Segment SMU |
| | G01A | 140H | 2ZK06837 | N3110 | 8,878 |

SC00138821-026 Adjust - Blade Sideshift Cylinder

Customer complaint: Blade side shift is sloppy.

Resultant damage: None.

Cause of failure: Worn pins and bracket.

Repair process comments: Verified locations of excess play. Disconnected blade extension cylinder. Removed bracket from blade. Installed new bracket and pins. Connected up cylinder to blade. Fit up now corrected.

| Quantity | Type | Part Number | Description | Unit Price | Amount |
|----------|-------|-------------|--------------|------------|--------|
| 1.00 | Parts | 1K6872 | Nut | | |
| 2.00 | Parts | 3B4647 | Cotter Pin | | |
| 1.00 | Parts | 5T8417 | Pin | | |
| 4.00 | Parts | 6H0211 | Washer | | |
| 1.00 | Parts | 5T5295 | Pin | | |
| 2.00 | Parts | 8T9391 | Bolt | | |
| 4.00 | Parts | 2012184 | Bolt-Hex Hea | | |
| 4.00 | Parts | 2993427 | Washer | | |
| 1.00 | Parts | 1127462 | Bracket | | |
| | Labor | | Labor | | |

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| Customer PO | Customer EQ | Model | Serial Number | Equipment ID | Segment SMU |
| | G01A | 140H | 2ZK06837 | N3110 | 8,878 |

SC00138821-027 Replace - Steering Valve

Customer complaint: HMU leaking below steering wheel.

Resultant damage: None.

Cause of failure: Shaft seal on HMU.

Repair process comments: Disassembled dash, verified origin of leak from HMU. Disconnected and removed HMU.

Disassembled cleaned and inspected. Allowable tolerances surpassed inside HMU. Installed replacement HMU. Replaced seals and connected hoses. Cleaned oil out of dash. Tested new HMU. Working correctly. No leaks. Horn button wiring had rubbed wire. Replaced wire. Reassembled dash.

| Quantity | Type | Part Number | Description | Unit Price | Amount |
|----------|-------|-------------|--------------|------------|--------|
| 1.00 | Parts | 1184660 | Seal Kit | | |
| 1.00 | Parts | 8W1979 | Wire A | | |
| 4.00 | Parts | 1189573 | Bolt | | |
| 1.00 | Parts | 2223769 | Pump Gp-Mtrg | | |
| 10.00 | Parts | 8X2893 | Nut Well | | |
| | Labor | | Labor | | |

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| | G01A | 140H | 2ZK06837 | N3110 | 8,878 |

SC00138821-028 Replace Gasket/Reseal - Air Compressor - Line(s)

Customer complaint: Wetness around air compressor lines.

Resultant damage: None.

Cause of failure: None.

Repair process comments: Disconnected outlet line. Cleaned old gasket material off. Installed new gasket and bolts. Ran machine. No further leaks found.

| Quantity | Type | Part Number | Description | Unit Price | Amount |
|----------|-------|-------------|-------------|------------|--------|
| 1.00 | Parts | 8M7065 | Gasket | | |
| 2.00 | Parts | 9M1974 | Washer | | |
| 2.00 | Parts | 2B2695 | Cap Screw | | |
| | Labor | | Labor | | |

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| Customer PO | Customer EQ | Model | Serial Number | Equipment ID | Segment SMU |
| | G01A | 140H | 2ZK06837 | N3110 | 8,878 |

SC00138821-029 Replace - Oil Filler Pipe/Cap - Hydraulic

Customer complaint: Hydraulic fill cap corroded.

Resultant damage: None.

Cause of failure: None.

Repair process comments: Removed hydraulic fill cap. Disassembled cap assembly. Cleaned 7H-1447 cap. Installed new seals and plate into cap. Re installed onto tank.

| Quantity | Type | Part Number | Description | Unit Price | Amount |
|----------|-------|-------------|-------------|------------|--------|
| 1.00 | Parts | 7H1447 | Cap | ---- | ---- |
| 1.00 | Parts | 2J7761 | Ring | | |
| 1.00 | Parts | 3G0361 | Gasket | | |
| 1.00 | Parts | 9H6454 | Gasket | | |
| | Labor | | Labor | | |

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| Customer PO | Customer EQ | Model | Serial Number | Equipment ID | Segment SMU |
| | G01A | 140H | 2ZK06837 | N3110 | 8,878 |

SC00138821-030 Replace - Scarifier Cylinder - Hose(s)

Customer complaint: Hoses for scarifier worn.

Resultant damage: None.

Cause of failure: Improper routing.

Repair process comments: Inspected hoses. Both hoses had worn through out side coating of hose. Removed hoses from machine. Installed new hoses and arranged to avoid future issues from contact. Ran cylinder. No leaks.

| Quantity | Type | Part Number | Description | Unit Price | Amount |
|----------|-------|-------------|------------------|------------|--------|
| 2.00 | Parts | 1241956 | Coupling | | |
| 57.00 | Parts | 4568434 | Hose Bk | | |
| | Labor | | Labor | | |
| 1.00 | Misc | HBU | HOSE BUILD LABOR | | |
| | | | | \$ | |

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| Customer PO | Customer EQ | Model | Serial Number | Equipment ID | Segment SMU |
| | G01A | 140H | 2ZK06837 | N3110 | 8,878 |

SC00138821-031 Replace - Seat Belt

Customer complaint: Seat belt is original to machine and past its service life.

Resultant damage: None.

Cause of failure: None.

Repair process comments: Removed seat belt. Installed new seat belt and hardware. Marked and installed seat belt decals.

| Quantity | Type | Part Number | Description | Unit Price | Amount |
|----------|-------|-------------|--------------|------------|--------|
| 1.00 | Parts | 1561148 | Belt Gp-Seat | | |
| | Labor | | Labor | | |

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| Customer PO | Customer EQ | Model | Serial Number | Equipment ID | Segment SMU |
| | G01A | 140H | 2ZK06837 | N3110 | 8,878 |

SC00138821-032 Replace - Control Switch

Customer complaint: Switch for center shift missing control face.

Resultant damage: None.

Cause of failure: None.

Repair process comments: Installed new faceplate for center shift switch.

| Quantity | Type | Part Number | Description | Unit Price | Amount |
|----------|-------|-------------|--------------|------------|--------|
| | Parts | 3E9327 | Switch A Bsc | | |
| 1.00 | Parts | 3E8817 | Actuator | | |

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| Customer PO | Customer EQ | Model | Serial Number | Equipment ID | Segment SMU |
| | G01A | 140H | 2ZK06837 | N3110 | 8,878 |

SC00138821-033 Remove & Install - Cooling Package

Customer complaint: Cooling pack needs to be removed for repairs.

Resultant damage: None.

Cause of failure: None.

Repair process comments: Locked out machine. Drained coolant. Removed panels. Evacuated a/c system. Disconnected lines and removed hoses. Supported cooling pack. Removed mounting hardware. Removed cooling pack. Washed cooling fins out thoroughly. Installed cooling pack in reverse order. Replaced the radiator hoses and drain valve. Refilled ELC. Ran machine. Topped off coolant and verified operation.

| Quantity | Type | Part Number | Description | Unit Price | Amount |
|----------|-------|-------------|--------------|------------|--------|
| 32.00 | Parts | 3718946 | Cm Hose Bulk | | |
| 1.00 | Parts | 1440367 | Clamp | | |
| 9.00 | Parts | 8T4984 | Clamp | | |
| 1.00 | Parts | 4N7431 | Hose | | |
| 1.00 | Parts | 8X4176 | Hose | | |
| 1.00 | Parts | 2A6941 | Hose | | |
| 1.00 | Parts | 1P7297 | Valve | | |
| | Labor | | Labor | | |

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| Customer PO | Customer EQ | Model | Serial Number | Equipment ID | Segment SMU |
| | G01A | 140H | 2ZK06837 | N3110 | 8,878 |

SC00138821-034 Replace - Transmission - Seal

Customer complaint: Transmission output shaft seal leaking.

Resultant damage: None.

Cause of failure: None.

Repair process comments: With cooling pack and belts removed; pressed pulley off output shaft. Removed seal. Cleaned and polished sealing area. Installed new seal. Installed pulley and torqued hardware to spec. After all repairs were made, checked for leaks. No leaks found.

| Quantity | Type | Part Number | Description | Unit Price | Amount |
|----------|-------|-------------|--------------|------------|--------|
| 1.00 | Parts | 2780642 | Seal-Lip Typ | | |
| | Labor | | Labor | | |

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| Customer PO | Customer EQ | Model | Serial Number | Equipment ID | Segment SMU |
| | G01A | 140H | 2ZK06837 | N3110 | 8,878 |

SC00138821-035 Repair - Grease Lines

Customer complaint: Nearly all grease zerks on machine missing grease check ball.

Resultant damage: None.

Cause of failure: None.

Repair process comments: Nearly all grease zerks missing check ball allowing grease out and debris in. Went through machine and replaced all grease zerks. Greased all points and made sure all pins took grease.

| Quantity | Type | Part Number | Description | Unit Price | Amount |
|----------|-------|-------------|-------------|------------|--------|
| 18.00 | Parts | 3B8489 | Adapter Str | | |
| | Labor | | Labor | | |

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|--------------------|--------------------|--------------|----------------------|---------------------|--------------------|
| Customer PO | Customer EQ | Model | Serial Number | Equipment ID | Segment SMU |
| | G01A | 140H | 2ZK06837 | N3110 | 8,878 |

SC00138821-036 Repair - Scarifier - Mounting

Customer complaint: Mounting for scarifier missing spacer and has bent retaining bolts.

Resultant damage: None.

Cause of failure: None.

Repair process comments: Cut bent retaining bolts out. Replaced missing spacer. Installed new bolts.

| Quantity | Type | Part Number | Description | Unit Price | Amount |
|----------|-------|-------------|-------------|------------|--------|
| 1.00 | Parts | 1F7958 | Nut | | |
| 1.00 | Parts | 5P8245 | Washer-Hard | | |
| 1.00 | Parts | 1D4566 | Bolt | | |
| 1.00 | Parts | 5B0577 | Collar | | |
| | Labor | | Labor | | |

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|--------------------|--------------------|--------------|----------------------|---------------------|--------------------|
| Customer PO | Customer EQ | Model | Serial Number | Equipment ID | Segment SMU |
| | G01A | 140H | 2ZK06837 | N3110 | 8,878 |

SC00138821-038 Replace - Air Conditioner - V Belt

Customer complaint: A/c belt needs replacement.

Resultant damage: None.

Cause of failure: None.

Repair process comments: With hood paneling removed. Removed pump shaft cover and shaft. Loosened mounting to a/c pump. Slacked belt and removed. Installed new belt in reverse order and set tension.

| Quantity | Type | Part Number | Description | Unit Price | Amount |
|----------|-------|-------------|-------------|------------|--------|
| 1.00 | Parts | 4N7335 | V-Belt | | |
| | Labor | | Labor | | |

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| Customer PO | Customer EQ | Model | Serial Number | Equipment ID | Segment SMU |
| | G01A | 140H | 2ZK06837 | N3110 | 8,878 |

SC00138821-039 Remove & Install - Engine 2ZK00001 2ZK99999 *

Customer complaint: Engine needs to be removed for repairs.

Resultant damage: None.

Cause of failure: None.

Repair process comments: Washed machine. Lowered implements. Locked out machine. Removed hood and paneling. Removed cooling pack under segment 33. Drained engine oil. Disconnected all hoses and electrical to engine. Removed batteries and battery boxes. Drained and removed hydraulic tank. Removed shaft to implement pump. Supported engine and transmission. Unbolted transmission from engine. Removed engine mounts. Removed engine from machine. Made repairs. Reinstalled engine in reverse order of removal. Replaced hose holders and miscellaneous items as needed when installing. Filled with new oil and replaced filters. After all repairs were completed, washed engine and machine.

| Quantity | Type | Part Number | Description | Unit Price | Amount |
|----------|-------|-------------|-------------|------------|--------|
| 10.00 | Parts | 5417171 | Hose Bk | | |
| 2.00 | Parts | 5P4868 | Clamp | | |
| 1.00 | Parts | 5M6200 | Seal O Ring | | |
| 10.00 | Parts | 8W8528 | Sleeve | | |
| 2.00 | Parts | 8W8909 | Sleeve | | |
| 1.00 | Parts | 8B1615 | Gasket | | |
| 4.00 | Parts | 9M0164 | Clamp | | |
| 2.00 | Parts | 9S1102 | Hose | | |
| 1.00 | Parts | 8N7837 | Plate A | | |
| | Labor | | Labor | | |

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| Customer PO | Customer EQ | Model | Serial Number | Equipment ID | Segment SMU |
|-------------|-------------|-------|---------------|--------------|-------------|
| | G01A | 140H | 2ZK06837 | N3110 | 8,878 |

**SC00138821-040 Remove & Install - Crankshaft Rear Seal - Transmission Removed 2ZK00001
2ZK99999 2P-6224**

Customer complaint: Replace rear main seal while engine is removed.

Resultant damage: None.

Cause of failure: None.

Repair process comments: With engine out and on stands. Marked locating marks on parts. Removed starter, coupling and flywheel. Removed seal. Cleaned surfaces. Installed new seal. installed flywheel and coupling. Torqued all fasteners. Found that wrong bolts had been installed in coupling. Installed correct hardware when reinstalling coupling.

| Quantity | Type | Part Number | Description | Unit Price | Amount |
|----------|-------|-------------|--------------|------------|--------|
| 1.00 | Parts | 4W0452 | Seal G | | |
| 1.00 | Parts | 4B4281 | Washer | | |
| 12.00 | Parts | 5M2894 | Washer | | |
| 12.00 | Parts | 1653928 | Bolt-Hex Hea | | |
| | Labor | | Labor | | |
| | Misc | | | | |

| Customer PO | Customer EQ | Model | Serial Number | Equipment ID | Segment SMU |
|-------------|-------------|-------|---------------|--------------|-------------|
| | G01A | 140H | 2ZK06837 | N3110 | 8,878 |

SC00138821-041 Replace - Crankshaft Front Seal

Customer complaint: Front crankshaft seal oily.

Resultant damage: Adapter 1W4506.

Cause of failure: Seal 9y9895.

Repair process comments: With engine removed from machine and on stands. Pressed front damper off crankshaft snout. Removed bolts from adapter. Adapter cracked while removing. Cleaned up shaft and adapter mounting. Installed new adapter, adapter seal and crankshaft seal. Assembled in reverse order. Torqued hardware to specification. After repairs completed; ran machine and checked for leaks. No leaks found.

| Quantity | Type | Part Number | Description | Unit Price | Amount |
|----------|-------|-------------|--------------|------------|--------|
| 1.00 | Parts | 9Y9895 | Seal Gp Cran | | |
| | Parts | 3628853 | Seal-Cshaft | | |
| 2.00 | Parts | 2P1692 | Seal-O-Ring | | |
| 1.00 | Parts | 1W4506 | Adapter | | |
| | Labor | | Labor | | |

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|-------------|-------------|-------|---------------|--------------|-------------|
| | G01A | 140H | 2ZK06837 | N3110 | 8,878 |

SC00138821-053 Tune-Up - Engine

Customer complaint: Machine needs engine tune up performed.

Resultant damage: None.

Cause of failure: None.

Repair process comments: Performed valve lash procedure and set all valves to correct clearance. Replaced valve cover gasket. Ran engine, checked low and high idle. Within Specification.

| Quantity | Type | Part Number | Description | Unit Price | Amount |
|----------|-------|-------------|-------------|------------|--------|
| 1.00 | Parts | 1331247 | Seal | | |
| 1.00 | Parts | 8H2046 | Seal-O-Ring | | |
| 1.00 | Parts | 9S7083 | Gasket | | |
| | Parts | 9X4824 | Cover | | |
| | Labor | | Labor | | |

| Customer PO | Customer EQ | Model | Serial Number | Equipment ID | Segment SMU |
|-------------|-------------|-------|---------------|--------------|-------------|
| | G01A | 140H | 2ZK06837 | N3110 | 8,878 |

SC00138821-048 Replace Gasket/Reseal - A E Electric Starter

Customer complaint: Oily build up around starting mounting.

Resultant damage: None.

Cause of failure: Hardened seal 4H7869.

Repair process comments: Disconnected wiring to starter. Removed the three mounting bolts. Removed starter. Cleaned surfaces and hardware. Installed new seal and assembled in reverse order. Torqued fasteners.

| Quantity | Type | Part Number | Description | Unit Price | Amount |
|----------|-------|-------------|-------------|------------|--------|
| 1.00 | Parts | 4H7869 | Gasket | | |
| | Parts | 3E0125 | Cover A | | |
| | Labor | | Labor | | |

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Customer PO

Customer EQ
G01A

Model
140H

Serial Number
2ZK06837

Equipment ID
N3110

Segment SMU
8,878

SC00138821-049 Replace Gasket/Reseal - Front Cover/Housing

Customer complaint: Front cover for injection pump is leaking oil.

Resultant damage: None.

Cause of failure: Old gasket hardened, no longer sealing.

Repair process comments: Removed the retaining hardware. Removed cover. Blocked hole into front of case. Cleaned all gasket material off surfaces. Installed new gasket. Installed cover and torqued hardware to specification.

| Quantity | Type | Part Number | Description | Unit Price | Amount |
|----------|-------|-------------|-------------|------------|--------|
| 1.00 | Parts | 6N7887 | Gasket | | |
| | Labor | | Labor | | |

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SC00138821-051 Replace Gasket/Reseal - Exhaust Manifold

Customer complaint: Exhaust manifold not sealing to block. Exhaust leaking past seal.

Resultant damage: Manifold hardware.

Cause of failure: Gasket 9Y1979.

Repair process comments: Removed injection pump lines. Removed exhaust manifold hardware. Removed manifold.

Extracted broken studs. Cleaned mating surfaces. Installed new studs and gasket. Installed manifold and hardware. Torqued hardware to specification. Installed fuel injection lines. After repairs, ran machine and checked for leaks. No leaks found.

| Quantity | Type | Part Number | Description | Unit Price | Amount |
|----------|-------|-------------|-------------|------------|--------|
| 3.00 | Parts | 9Y1979 | Gasket | | |
| 9.00 | Parts | 6V1426 | Stud | | |
| 2.00 | Parts | 6V1427 | Stud | | |
| 1.00 | Parts | 6B7469 | Spacer | | |
| 2.00 | Parts | 5M2894 | Washer | | |
| 1.00 | Parts | 1340641 | Washer | | |
| 12.00 | Parts | 2N2766 | Lock Nut | | |
| 11.00 | Parts | 2S6160 | Washer | | |
| 1.00 | Parts | 9L1658 | Stud | | |
| 1.00 | Parts | 1M7643 | Spacer | | |
| 2.00 | Parts | 1061792 | Stud Taper | | |
| | Labor | | Labor | | |

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| | G01A | 140H | 2ZK06837 | N3110 | 8,878 |

SC00138821-052 Replace Gasket/Reseal - Tc/Trans Oil Cooler

Customer complaint: Oil cooler has wet build up around it.

Resultant damage: None.

Cause of failure: Hardened seals no longer sealing.

Repair process comments: With coolant and oil drained from system; removed cooler from side of engine. DIs assembled and cleaned cooler. Reassembled with new seals and installed back into place. Also replaced seal for implement pump. Removed yoke from pump. Removed shield and seal. Cleaned surfaces. Installed new seal and shield. Installed yoke. Ran machine after repairs. No leaks found.

| Quantity | Type | Part Number | Description | Unit Price | Amount |
|----------|-------|-------------|-------------|------------|--------|
| 2.00 | Parts | 5M4741 | Gasket | | |
| 2.00 | Parts | 4J0520 | Seal-O-Ring | | |
| 2.00 | Parts | 3J7354 | Seal O Ring | | |
| 1.00 | Parts | 8H7521 | Seal-O-Ring | | |
| 1.00 | Parts | 9Y6860 | Gasket | | |
| 1.00 | Parts | 7M8485 | Seal | | |
| 1.00 | Parts | 2955609 | Seal-O-Ring | | |
| 1.00 | Parts | 8T4750 | Seal | | |
| 1.00 | Parts | 8C3445 | Cap Dust | | |
| 1.00 | Parts | 1043124 | Shield | | |
| | Labor | | Labor | | |

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SC00138821-047 Remove & Install - Fuel Injection Pump

Customer complaint: Injection pump starting to leak externally.

Resultant damage: None.

Cause of failure: Old seals inside pump hardening and no longer sealing.

Repair process comments: Pinned engine. Removed injection lines. Removed manifold under pump. Removed front cover. Supported pump. Removed mounting bolts and pump. Shipped pump to rebuild center. Pump resealed and tested. Installed in reverse order using new seals and setting specified torque on fasteners.

| Quantity | Type | Part Number | Description | Unit Price | Amount |
|----------|-------|-------------|--------------|------------|--------|
| 1.00 | Parts | 1503728 | Gasket | --- | --- |
| 1.00 | Parts | 6I2004 | Gasket | | |
| 1.00 | Parts | 4M8303 | Seal O Ring | | |
| 1.00 | Parts | 7W4272 | Nut Self Sel | | |
| 2.00 | Parts | 8M5248 | Seal O Rin | | |
| 1.00 | Parts | 3J7354 | Seal O Ring | | |
| 2.00 | Parts | 3K0360 | Seal | | |
| 1.00 | Parts | 8M5253 | Seal O Rin | | |
| 1.00 | Parts | 6V6921 | Seal O Ring | | |
| 1.00 | Parts | 1757900 | Seal O Ring | | |
| 1.00 | Parts | 5P6718 | Seal-O-Ring | | |
| 1.00 | Parts | 0619458 | Seal | | |
| 1.00 | Parts | 1886126 | Gasket | | |
| 1.00 | Parts | 4M6480 | Gasket | | |
| | Labor | | Labor | | |

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| Customer PO | Customer EQ | Model | Serial Number | Equipment ID | Segment SMU |
| | G01A | 140H | 2ZK06837 | N3110 | 8,878 |

SC00138821-054 Repair - Fuel Injection Pump

Customer complaint: TA inspection; the governor has several external leaks but the engine was running well. The entire pump had to come off to reseal the exhaust manifold so the customer wants the injection pump/governor resealed and tested since it was going to be off and had leaks.

Resultant damage: N/A

Cause of failure: N/A

Repair process comments: Disassembled injection pump. Cleaned and refaced all reusable parts. The following parts were replaced, throttle shaft, throttle shaft bearing, cam bearings, thrust bearing, riser dowel, riser bearing, riser races, flyweights and dowels, servo sleeve, transfer pump tappet, governor spring, all check valves and all gaskets and seals. Assembled pump and set to test spec #0k1100. Made pump ready for test bench. Tested pump and verified fuel delivery, set low idle, set balance point and verified governor function. Set VHP. Took pump off test bench. Made ready to install on engine.

| Quantity | Type | Part Number | Description | Unit Price | Amount |
|----------|-------|-------------|--------------|------------|--------|
| 1.00 | Parts | 8N3945 | Bushing | | |
| 1.00 | Parts | 1R0750 | Filter As | | |
| 1.00 | Parts | 1158244 | Gasket Kit | | |
| 1.00 | Parts | 2S7905 | Plug | | |
| 1.00 | Parts | 7E5346 | Valve A | | |
| 4.00 | Parts | 1S5440 | Dowel | | |
| 1.00 | Parts | 4N9019 | Dowel | | |
| 1.00 | Parts | 7L3326 | Bearing | | |
| 2.00 | Parts | 2M7819 | Ring | | |
| 1.00 | Parts | 7W0250 | Sleeve | | |
| 3.00 | Parts | 7N8821 | Ring | | |
| 1.00 | Parts | 4N0432 | Bearing | | |
| 1.00 | Parts | 7N8421 | Ring | | |
| 1.00 | Parts | 2S8398 | Spring | | |
| 1.00 | Parts | 1W5912 | Tappet A | | |
| 3.00 | Parts | 7E2464 | Valve As | | |
| 1.00 | Parts | 7E3667 | Spacer | | |
| | Parts | 1W1669 | Piston | | |
| 1.00 | Parts | 7W4272 | Nut Self Sel | | |
| 1.00 | Parts | 7M7219 | Bearing | | |
| 2.00 | Parts | 1338890 | Race | | |
| 1.00 | Parts | 8N3088 | Shaft A | | |
| 1.00 | Parts | 6V5894 | Bolt | | |
| 1.00 | Parts | 7N7970 | Bearing | | |
| 1.00 | Parts | 4P9828 | Bearing | | |
| | Parts | 3E6424 | Solenoid A | | |
| 4.00 | Parts | 1198699 | Weight | | |
| 1.00 | Parts | 8L9790 | Spring | | |
| 1.00 | Parts | 3716684 | Setscrew | | |
| | Labor | | Labor | | |

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| | G01A | 140H | 2ZK06837 | N3110 | 8,878 |

SC00138821-056 Replace - Cshft Main & Rod Bearings

Customer complaint: When resealing the oil pan, found that two main bearing cap bolts were laying in the oil pan.

Resultant damage: None.

Cause of failure: None.

Repair process comments: Removed engine. Drained oil. Removed oil pan. Replaced all main and rod bearings while inspecting crankshaft journals. Used new hardware on main caps and rod caps. Torqued all fasteners. Cleaned surfaced, installed new oil pan seal. Resealed oil pan drain. Filled engine with oil and ran machine. Took oil sample.

| Quantity | Type | Part Number | Description | Unit Price | Amount |
|----------|-------|-------------|--------------|------------|--------|
| 1.00 | Parts | 1694200 | Gasket | | |
| 1.00 | Parts | 1694199 | Gasket-Oil | | |
| 1.00 | Parts | 8N6854 | Gasket | | |
| | Parts | 1135335 | Plug | | |
| 6.00 | Parts | 3285572 | Bearing-Rod | | |
| 7.00 | Parts | 2323233 | Bearing-Main | | |
| 2.00 | Parts | 1003652 | Thrust-Plate | | |
| 14.00 | Parts | 2S5658 | Washer | | |
| 3.00 | Parts | 1142687 | Seal-O-Ring | | |
| 1.00 | Parts | 4N0699 | Gasket | | |
| 14.00 | Parts | 2018898 | Bolt-Hex Hea | | |
| 12.00 | Parts | 5S6348 | Nut | | |
| 1.00 | Parts | 8S8874 | Lock-Nut | | |
| 1.00 | Parts | 0L0364 | Lock | | |
| | Labor | | Labor | | |

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| Customer PO | Customer EQ | Model | Serial Number | Equipment ID | Segment SMU |
| | G01A | 140H | 2ZK06837 | N3110 | 8,878 |

SC00138821-057 Replace - End Bit

Customer complaint: End bits on blade cracked.

Resultant damage: None.

Cause of failure: None.

Repair process comments: End bit on each side of moldboard cracked. Removed hardware and bit. Cleaned surface. Installed new bit. Charged bits out under segment 58 under ground engaging tools warranty.

| Quantity | Type | Part Number | Description | Unit Price | Amount |
|----------|-------|-------------|-------------|------------|--------|
| 10.00 | Parts | 4K0367 | Nut | | |
| 10.00 | Parts | 4F3657 | Bolt | | |
| | Labor | | Labor | | |

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| Customer PO | Customer EQ | Model | Serial Number | Equipment ID | Segment SMU |
| | G01A | 140H | 2ZK06837 | N3110 | 8,878 |

SC00138821-060 Replace - Control Switch

Customer complaint: Parking brake light will not turn off all the time when the parking brake is released.

Resultant damage:

Cause of failure: Parking brake pressure switch is failing.

Repair process comments: Noticed mechanically the parking brake is releasing.

Unplugged the pressure switch and jumped the harness.

The light went out as soon as the harness was jumped.

Ordered a new switch and installed it.

Released the parking brake and the light turns off like it should.

| Quantity | Type | Part Number | Description | Unit Price | Amount |
|----------|-------|-------------|-------------|------------|--------|
| 1.00 | Parts | 3E2033 | Switch A | 100.00 | 100.00 |
| | Labor | | Labor | | |

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| Customer PO | Customer EQ | Model | Serial Number | Equipment ID | Segment SMU |
| | G01A | 140H | 2ZK06837 | N3110 | 8,878 |

SC00138821-066 Repair - Transmission Control

Customer complaint: Transmission will not shift.

Repair - Transmission Control

Resultant damage: Code on the dash and machine would not shift.

Cause of failure: Shift lever contacts were open and would not send a signal to the to shift solenoid. Jumper harness from shifter to machine harness was damaged. Main machine harness was broke in the articulation where it was fixed once before.

Repair process comments: There were codes for "668- 3 Transmission Shift Lever : Voltage Above Normal" and "668- 2 Transmission Shift Lever : Erratic, Intermittent, or Incorrect". Diagnosed the machine and found there was and open on 4th, 5th gear shift lever. The jumper harness from the shift lever to the main machine harness was cut and causing the voltage above normal code. There was also a brake in the main machines in the articulation where the harness was fixed once before. First I pulled the PSR and ECM download. Next checked the transmission ECM software was out of date by 4 flashes. Updated the software in sequential order. Ordered and installed shift lever and jumper harness. Repaired the harness in the articulation. Ran the machine and tested the shifting operations. The machine now shifts normally.

| Quantity | Type | Part Number | Description | Unit Price | Amount |
|----------|-------|-------------|--------------|------------|--------|
| 1.00 | Parts | 1389089 | Harness As | | |
| 1.00 | Parts | 4529831 | Cont Gp-Xmsn | | |
| 1.00 | Parts | 9G3667 | Housing | | |
| 8.00 | Parts | 7N7779 | Socket | | |
| 8.00 | Parts | 7N7780 | Pin | | |
| 1.00 | Parts | 9G3673 | Housing | | |
| | Labor | | Labor | | |

| | | | | | |
|-------------|-------------|-------|---------------|--------------|-------------|
| Customer PO | Customer EQ | Model | Serial Number | Equipment ID | Segment SMU |
| | G01A | 140H | 2ZK06837 | N3110 | 8,878 |

SC00138821-043 Machine/Grind/Mill - Bracket - Heavy Duty Moldboard

Customer complaint: Send bracket for moldboard tilt to machine shop to tighten up the hole the rod goes thru.

Resultant damage: NA

Cause of failure: NA

Repair process comments: The machine shop got the print from CAT and found that the hole for the moldboard rod is supposed to be larger than the rod. They measured the new rod and found that the rod is actually machined smaller in the middle to prevent seizing. Sent the bracket and new rod back without repair.

| Quantity | Type | Part Number | Description | Unit Price | Amount |
|----------|-------|-------------|-------------|------------|--------|
| | Labor | | Labor | | |

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| | G01A | 140H | 2ZK06837 | N3110 | 8,878 |

SC00138821-064 Apply - Promotion

10% parts discount for doing a TA inspection, up to \$1500.

| Quantity | Type | Part Number | Description | Unit Price | Amount |
|----------|------|-------------|-------------------------------|------------|--------|
| -1.00 | Misc | TAR | TA REPAIRS 10% parts discount | | |

| Customer PO | Customer EQ | Model | Serial Number | Equipment ID | Segment SMU |
|-------------|-------------|-------|---------------|--------------|-------------|
| | G01A | 140H | 2ZK06837 | N3110 | 8,878 |

SC00138821-065 Apply - Promotion

UWR applied using NAT-HYD-3488 credit per Mike Leathers

| Quantity | Type | Part Number | Description | Unit Price | Amount |
|----------|------|-------------|-----------------|------------|--------|
| -1.00 | Misc | UWR | NAT-HYD-3488-18 | | |

STATE SALES TAX 6.875%
COUNTY SALES TAX 0.250%

Sales Tax Subtotal

| | |
|---|---------------------|
| Subtotal | |
| Shop Supplies and Environmental Fees | |
| Sales Tax | |
| Total | \$ 54,465.36 |