



Service Invoice

1

Benco Machinery, LLC
7600 N Bryant Ave.
Oklahoma City, OK 73121
P.405.486.7789

Customer Number:
10019
Customer PO #:

Work Order #:	18000273
Date Opened:	3/20/2018
Date Closed:	5/9/2018
Tech:	AD/JC/MH/CS

Customer Info:
Benco Machinery, LLC
7600 N. Bryant Ave
Oklahoma City, OK 73121

Location of Repair:
Benco Machinery
7600 N Bryant Ave
Oklahoma City, OK 73121

Make	Model	Serial Number	Hours In	Hours Out
CAT	D8T	MLN1656	5182	5183

Service requested:
Make sale ready. Hard to start.

Work Order Summary per segment:	Travel Labor	Parts	Repair Labor	Mileage	Segment Total
01] Replaced batteries and disconnect switch.	\$0.00	\$347.05	\$261.80	\$0.00	\$608.85
02] Install GPS	\$0.00	\$117.59	\$0.00	\$0.00	\$117.59
03] Replace EGR cooler.	\$195.00	\$4,220.77	\$4,645.25	\$0.00	\$9,061.02
04] Perform 250 hour service.	\$0.00	\$470.23	\$329.80	\$0.00	\$800.03
Tax					\$0.00
Freight & Misc.					\$24.74
Total					\$10,612.23

Work Performed 1]	Part #	Description	Quantity	Price
Replace batteries and master disconnect switch.	369-4098	SWITCH AS	1	\$124.53
	115-2422	BATTERY	1	\$222.52
Hours/Mileage	Rate	Total	Parts Total	\$347.05
Travel Labor		\$0.00	Travel Labor	\$0.00
Mileage		\$0.00	Mileage	\$0.00
Repair Labor	3.08	\$85.00	Repair Labor	\$261.80

Work Performed 2]	Part #	Description	Quantity	Price
Install GPS.	USFT-ATV3	GPS UNIT	1	\$117.59
Hours/Mileage	Rate	Total	Parts Total	\$117.59
Travel Labor		\$0.00	Travel Labor	\$0.00
Mileage		\$0.00	Mileage	\$0.00
Repair Labor		\$0.00	Repair Labor	\$0.00

Thank you for your business!

Please remit payment to: 1125 40th St., Ste. D, Woodward, OK 73801

Work Performed 3] Replace EGR cooler.		Part #	Description	Quantity	Price
		346-0335	CLAMP-BAND	1	\$20.81
		5P-1471	CM - HOSE STK	65	\$45.88
		510-3002	CLAMP AS	4	\$149.12
		0L-2070	CAP SCREW	1	\$0.96
		0L-1352	CAP SCREW	6	\$7.74
		5M-2894	WASHER	7	\$2.31
		449-3065	COOLER AS-NR	1	\$3,047.25
		118-7214	SEAL	2	\$9.78
		445-6881	HOSE	1	\$13.99
		450-2351	CLAMP- BAND	2	\$10.82
		444-3516	TUBE- COOLANT	1	\$130.88
		4F-7391	RING	1	\$2.21
		0S-1615	CAP SCREW	2	\$0.40
		8T-9588	SEAL	2	\$5.36
		324-9290	BELLOWS AS	1	\$170.12
		9N-5085	CLAMP	3	\$145.35
		509-7456	BRACKET-MOUN	1	\$242.45
		444-3517	TUBE AS- COOL	1	\$63.47
		462-2232	ELBOW	1	\$151.87
	Hours/Mileage	Rate	Total		Parts Total \$4,220.77
Travel Labor	3	\$65.00	\$195.00		Travel Labor \$195.00
Mileage			\$0.00		Mileage \$0.00
Repair Labor	54.65	\$85.00	\$4,645.25		Repair labor \$0.00

Work Performed 4] Perform 250 hour service.		Part #	Description	Quantity	Price
		15W40	ROTELLA 15W40 GAL	8	\$127.92
		331-8111	ELEMENT SEC	1	\$52.78
		396-2122	ELEMENT PRI	1	\$126.32
		1R-0749	FILTER 2 MIC	2	\$47.16
		326-1643	FILTER AS	1	\$48.04
		1R-1808	FILTER AS-LUB	1	\$37.61
		231-0167	ELEMENT AS	1	\$30.40
	Hours/Mileage	Rate	Total		Parts Total \$470.23
Travel Labor			\$0.00		Travel Labor \$0.00
Mileage			\$0.00		Mileage \$0.00
Repair Labor	3.88	\$85.00	\$329.80		Repair Labor \$329.80

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Explanation of work performed:**Seg 01:**

Found machine on yard. Checked fluids and prepared too start. Machine was completely dead. Hooked up jumper cables and let machine charge. Tried to start and the machine cranked slowly. Checked voltage on batteries and all checked good except one. Replaced bad battery. While checking voltage, saw that disconnect switch had excessive corrosion on terminals. This is causing the batteries to drain while not in use. Replaced master disconnect and cleaned connections going to it. Machine starts as it should now.

Seg 02:

Installed GPS on battery side of master disconnect. Zip tied unit inside of battery box. Activated GPS and checked that it was reporting correctly. GPS working as it should at this time.

Seg 03:

Machine has active codes. Plugged in CAT ET and tried to start machine to check codes. Machine would not start and seemed to be locked up. Pulled tube going to EGR and it found that there was coolant in the EGR. Determined that EGR had failed and flooded cylinders with coolant. This caused engine to hydro-lock. Ordered parts needed to replace EGR cooler and update it to the new style. Began repair by removing all interference like hood, side panels, DPF, air filter, etc. Removed EGR cooler and bracket. Removed injectors and sucked out all coolant in cylinders. Reinstalled injectors. Removed hose from intercooler and drained coolant from piping. Installed new EGR cooler utilizing new bracket, clamps, and piping. Reinstalled all interference. Refilled engine with coolant. Started and ran machine. Checked for leaks. No leaks found. Connected CAT ET and found that code is still active for regen status. Cleared code and ran machine and it did not return.

Seg 04:

Started by removing bolts to belly pans. Dropped pans and cleaned area to begin draining oil. Drained engine oil. Replaced drain plug. Replaced engine oil filter and refilled engine with 8 gallons of 15W40 Rotella. Replaced fuel and air filters. Started and ran machine and checked for leaks. No leaks found. Checked all other machine fluid levels and all is good at this time. Sampled all fluids adn sent to SOS lab. Reinstalled belly pans. Parked machine on ready line.

Due Date	NA
Please Pay This Amount	\$10,612.23

Thank you for your business!

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Work Performed 2]		Part #	Description	Quantity	Price
Diagnose and repair EGR cooler issue.		291-8208	Seal O-Ring	2	\$9.14
		324-9290	Bellows	1	\$174.37
		449-3065	Cooler	1	\$3,123.42
		344-2636	Clamp	4	\$173.64
		7L-6580	Seal O-Ring	2	\$5.76
		510-3002	Clamp	4	\$152.84
		8T-9588	Seal	1	\$2.75
		445-6881	Hose	1	\$14.33
	Hours/Mileage	Rate	Total	Parts Total	\$3,656.25
Travel Labor			\$0.00	Travel Labor	\$0.00
Mileage			\$0.00	Mileage	\$0.00
Repair Labor	18.59	\$97.00	\$1,803.23	Repair Labor	\$1,803.23

Explanation of work performed:

While the machine was on the job site, the operator noticed a leak from the final drive. The machine was hauled to the Merkel yard for repair. It was decided that the final drive would be removed and sent to the Benco OKC shop for resealing. I secured the machine and removed the hardware to release the track. I removed the final drive assembly from the machine. I cleaned the final drive and set it in the service truck for transport to the OKC yard. New seals, O-rings, cups and cones were ordered from CAT for the reseal. Les will perform the reseal of the final drive while I work on other machines. We began with breaking down the final drive case. I removed and cleaned all of the components before assembly. I took inventory of all the parts before installing the parts. I replaced the seals, O-rings, cups and cones. I torqued all of the fasteners. I double checked the hardware for tightness. Fluid will be added once installed on the machine. I returned to the Merkel yard to install the final drive. I set the final drive in place and tightened the mounting hardware. I reinstalled the track assembly and adjusted the track. I filled the machine with ten gallons of 80W90 oil. I started the machine and tested it in the yard. No leaks were found at this time.

Next was the EGR issue. I removed the panel to gain access to the EGR cooler. I ran the machine and found that the EGR cooler was cracked. I ordered a new cooler, clamps, seals, bellows and hose. I removed the hardware that held the cooler. Then I removed the hose, bellows, clamps and seals. I installed the new cooler and components. I started the machine and checked the repair. No issues were found at this time. I installed the access panel and cleaned the work area. I informed the foreman that the machine is ready to return to the job site.

Due Date	NA
Please Pay This Amount	\$16,549.64

Thank you for your business!

Please remit payment to: 7600 N. Bryant Ave Oklahoma City, OK 73121



Service Invoice

1

Benco Machinery, LLC
7600 N Bryant Ave.
Oklahoma City, OK 73121
P.405.486.7789

Customer Number:
10019
Customer PO #:

Work Order #:	18000673
Date Opened:	12/7/2018
Date Closed:	1/21/2019
Tech:	AD

Customer Info: Benco Machinery, LLC 7600 N. Bryant Ave Oklahoma City, OK 73121
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Location of Repair: Benco Yard
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Make	Model	Serial Number	Hours In	Hours Out
CAT	D8T	MLN01656	6320	6330

Service requested: Undercarriage work, electrical issues, oil leaks and miscellaneous repairs

Work Order Summary per segment:	Outside Labor	Parts	Repair Labor	Mileage	Segment Total
01] Undercarriage work	\$0.00	\$16,562.86	\$4,250.00	\$0.00	\$20,812.86
02] Electrical issues	\$1,446.24	\$712.31	\$2,550.00	\$0.00	\$4,708.55
03] Oil leaks	\$0.00	\$2,411.01	\$2,550.00	\$0.00	\$4,961.01
04] Miscellaneous repairs	\$0.00	\$451.01	\$2,732.75	\$0.00	\$3,183.76
Freight & Misc.					\$116.03
Total					\$33,782.21

Work Performed 1]		Part #	Description	Quantity	Price
Replaced rails, segments, and carrier rollers		7H-3608	Nut	70	\$149.10
		5P-7665	Bolt	70	\$165.20
		6V-5841	Washer-Hard	70	\$111.30
		6V-1723	Bolt	344	\$1,654.64
		7G-6442	Nut	344	\$605.44
		UL215C7D44	Track Chain	2	\$12,200.00
		CR4528	S/F Roller Group	2	\$1,003.84
		CR7160	Segment Group	2	\$652.82
		360-2308	Ring - Thrust	2	\$10.02
		6V-1724	Bolt	2	\$10.50
	Hours/Mileage	Rate	Total	Parts Total	\$16,562.86
Travel Labor			\$0.00	Travel Labor	\$0.00
Mileage			\$0.00	Mileage	\$0.00
Repair Labor	50	\$85.00	\$4,250.00	Repair Labor	\$4,250.00

Thank you for your business!

Please remit payment to: 7600 N. Bryant Ave Oklahoma City, OK 73121

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Work Performed 2]		Part #	Description	Quantity	Price
Repaired electrical issues		281-8803	Plug As	1	\$7.21
		227-5978	Lamp GP - Flood	1	\$109.80
		5C-7261	Nut	1	\$0.26
		8T-4224	Washer	2	\$0.66
		8T-6869	Bolt	1	\$1.00
		155-2270	Plug Kit	1	\$4.69
		9X-3402	Socket	2	\$3.74
		164-8101	Bracket	1	\$24.19
		330-6719	Sensor GP - Pressure	1	\$183.31
		336-9883	Sensor AS - Level	1	\$377.45
	Hours/ Units	Rate	Total		Parts Total
Outside Labor	1	\$1,446.24	\$1,446.24		Outside Labor
Mileage			\$0.00		Mileage
Repair Labor	30	\$85.00	\$2,550.00		Repair Labor
					\$712.31
					\$1,446.24
					\$0.00
					\$2,550.00

Work Performed 3]		Part #	Description	Quantity	Price
Repaired oil leaks		319-3557	Kit-Seal-H.C.	1	\$141.78
		0R-8922	Rod (Lift) D8R	1	\$1,439.25
		163-6474	Head	1	\$694.42
		106-1017	Washer	1	\$9.81
		173-9682	Bolt-Hex Head	1	\$25.21
		4J-0520	Seal-O-Ring	1	\$2.21
		4J-0522	Seal-O-Ring	1	\$2.46
		142-5867	Seal GP-CSHF	1	\$95.87
	Hours/Mileage	Rate	Total		Parts Total
Travel Labor			\$0.00		Travel Labor
Mileage			\$0.00		Mileage
Repair Labor	30	\$85.00	\$2,550.00		Repair labor
					\$2,411.01
					\$0.00
					\$0.00
					\$2,550.00

Work Performed 4]		Part #	Description	Quantity	Price
Miscellaneous repairs		7X-2532	Bolt	5	\$61.65
		217-3655	Retainer	5	\$128.70
		6C-9149	Washer	5	\$43.60
		8T-4131	Nut	5	\$13.10
		6V-5849	Blade A	1	\$22.34
		6W-3924	Blade A	1	\$34.76
		128-5040	Blade A	4	\$84.32
		222-5374	Arm GP- Wiper	1	\$29.80
		6F-0711	Ring	1	\$2.66
		106-8187	Plug	1	\$25.12
		3K-0360	Seal	1	\$1.32
		7X-0366	Bolt	1	\$3.84
		8T-4994	Washer	1	\$1.40
		9S-4185	Plug	1	\$5.85
		090-9555	Clip	4	\$4.16
		317-3836	Damper As	2	\$191.20
		186-2002	Hose - Hump	1	\$88.27
		336-5577	Plate AS	1	\$75.79
		282-4082	Stud - Ball	4	\$51.40
	Hours/Mileage	Rate	Total		Parts Total
Travel Labor			\$0.00		Travel Labor
Mileage			\$0.00		Mileage
Repair Labor	32.15	\$85.00	\$2,732.75		Repair Labor
					\$451.01
					\$0.00
					\$0.00
					\$2,732.75

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Explanation of work performed:

Seg. 01: I raised the machine into the air and supported it with stands. I loosened and removed the track. Then I moved the tracks to the track shop and removed the pads. When the new rails arrived, the paint was removed from the rails and the pads were cleaned. Then the pads were installed on to the new rails with new hardware. I removed the segments from the final drives, and buffed the mounting area on the final for the segments. I installed the new segments to the finals with new hardware. Then I removed the worn carrier rollers and replaced them with new rollers. I cleaned the dirt from around the boogies. Then I installed the tracks to the machine and connected. I tightened all of the hardware to spec. Then I lowered the machine to the ground, and adjusted the track tension.

Seg. 02: There were active codes for the fuel level sensor and an active event for the high air filter differential pressure even with new filters. The ripper light was missing and the connector was gone from the harness. I troubleshot the fuel level code and found that the sensor had failed. I ordered and installed the new fuel level sensor and the code did not come back active. Then I looked up and ordered the ripper light, bracket, connector and sockets for the harness. I removed the bent bracket from the ripper manifold, and installed the new bracket and the new light to the bracket. I installed the new socket ends to the harness and installed the connector to the harness, then I connected the light. While troubleshooting the active event for the air filter, the connector for the turbo inlet pressure sensor was broke. I ordered and replaced the connector. I followed the troubleshooting for the event code, I replaced the sensors since they were not reading correctly. There was no change with the code. Warren CAT was brought out to finish the repair for the active event.

Seg. 03: The right blade lift cylinder was leaking oil. The rod and head were damaged. I looked up the parts and ordered a reman rod, a new head and seal kit. I removed the rod from the barrel. I was not able to get the piston bolt broke loose so it had to be heated up. I ordered a new bolt and washer, and cleaned all of the parts. I installed the new seals to the head and piston. Installed the head and piston to the new reman rod. Installed the bolt to the rod for the piston and tightened to spec. Installed the rod back to the barrel and tightened the head to spec. The front main crankshaft seal was also leaking. Removed the belt and pulley. Removed the leaking seal from the front housing. Cleaned the area and installed the new seal. The discharge hose of the implement pump was leaking where it connects to the pump. A vacuum was pulled on the hydraulic tank, the hose was removed and the seal was replaced. I ran the machine after all repairs were made to check for leaks, found no further leaks at this time.

Seg. 04: The lower wipper arm on the right door ws broke. I replaced the arm and all of the wiper blades. The gas shocks for the engine doors were both broken. I ordered and replaced both shocks with new balls and retainer clips. I replaced the left final drive and transmission drain plugs. The right final drive had a broken bolt for the planetary. I removed and replaced the bolt. Replaced part of the belly pan hardware. I also replaced the hump hose on the outlet of the turbo. Then I replaced the plate that holds the cab air filter

Due Date	NA
Please Pay This Amount	\$33,782.21

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