



Yellowhouse Machinery Company
1100 W Wekiwa Rd
Sand Springs, OK 74063
(918) 245-5926

**Bill To: 226408**

CITY OF BROKEN ARROW
ATTN: ACCTS PAYABLE/PO. BOX 610
BROKEN ARROW, OK 74013 US
Email: rstubbs@brokenarrowok.gov
Phone: 9182322011
Fax: 9182598376
Tax Exempt #: GOVT

Deliver To: 226408

CITY OF BROKEN ARROW
1700 WEST DETROIT
BROKEN ARROW, OK 74012 US
Email: rstubbs@brokenarrowok.gov
Phone: 9182322011
Fax: 9182598376

Service Invoice Details:

Invoice #: 1117930
Invoice Date: 28 Apr 2026
Work Order: 221428
Advisor: Devin Williams
Location: 08 - SAND SPRINGS
YELLOWHOUSE
Jobsite: Sand Springs Yellowhouse
Tech(s): JASON CLATT
Customer PO #: 22601546

Make/Model	Serial Number	Meter	Equipment ID	Fleet Number
ELGIN WHIRLWIND	PE4045U064366	4689	5T172771	1860

Complaints:

Metal in the oil

Diagnostics:

Inspection found a hole worn through the air cleaner tube leading to the turbocharger. Due to this damage, dirt and debris were able to enter the intake system and engine. This contamination has caused accelerated internal engine wear and resulting damage. Engine repair or complete engine replacement will be required.

Repair:

Engine replacement was determined to be the most financially practical option. A complete engine was not available, so an engine short block was ordered as the only replacement option. A new cylinder head and balance shafts were also ordered. All required oiling, cooling, and fueling system components that were not included with the short block were ordered as well.

The engine was assembled in accordance with manufacturer specifications as outlined in the service manual.

While the engine was removed, several additional non-engine-related issues were identified on the sweeper truck. These issues included worn bearings in the pump drive, coupler, and impeller shaft. The necessary parts were ordered to complete these additional repairs.

After engine assembly, the engine was installed. Initial testing was performed to verify proper assembly and to check for leaks.

The engine would not start. An attempt was made to connect the EDL to check for diagnostic trouble codes and to monitor parameters; however, connection could not be established. CAN-BUS diagnostics were performed at the EDL connector. Voltage was present but showed insufficient variance. Resistance measured across CAN high and CAN low was 40 ohms, whereas specification is 59-61 ohms. A triggered isolation or safety switch was suspected.

The customer was contacted, and their technician was sent to assist with diagnosis on the Elgin side. Testing determined the issue was isolated to the Elgin harness and/or Elgin control system. The customer was updated, and arrangements were made for Elgin to perform further inspection.

Elgin technicians responded and completed repairs necessary to restore engine operation. The root cause was confirmed to be an Elgin-side issue where the controller was not being powered.

With the engine running, calibrations and programming were verified, and operational tests were completed. Engine fluids were topped off. No further issues were noted at this time.

Part Number	Description	Quantity	Unit Price	Extended Price
0710224	Whirlwind-MV coupler kit	1	\$9,120.00	\$9120.00

Part Number	Description	Quantity	Unit Price	Extended Price
1120163	TUBE-TURBO OUTLET	1	\$1,293.96	\$1293.96
7279331SPD	BELLOWS GASKET	1	\$182.92	\$182.92
DZ128619	Rail	1	\$1,234.63	\$1234.63
R63548	O-RING	1	\$1.08	\$1.08
19M8998	Screw	4	\$1.29	\$5.16
19M8882	SCREW	8	\$2.60	\$20.80
14M7066	NUT	1	\$1.80	\$1.80
DZ109722-CR	CORE for:Short Block Assembly	-1	\$550.00	(\$550.00)
DZ104989	FUEL LINE	1	\$75.01	\$75.01
57M11231	Clip Kit	2	\$1.45	\$2.90
DZ110013	Bolt Kit	1	\$140.46	\$140.46
DZ109769	Gasket Kit	1	\$1,081.79	\$1081.79
19M10876	SCREW	2	\$5.58	\$11.16
DZ105796	FILTER ELEMENT	1	\$58.55	\$58.55
19M8999	SCREW	2	\$1.65	\$3.30
RE532328	Cylinder Head	1	\$2,207.53	\$2207.53
R502725	PLUG	1	\$10.74	\$10.74
R523372	HOSE	2	\$15.38	\$30.76
DZ120069	FUEL PUMP	2	\$99.76	\$199.52
RE569914	Fuel Injection Pump	1	\$1,929.09	\$1929.09
R134518	Stud	2	\$14.39	\$28.78
DZ126323-CR	CORE for:Exhaust Valve	-1	\$200.00	(\$200.00)
1074079	AIR CLEANER	1	\$580.49	\$580.49
DZ104988	FUEL LINE	1	\$75.23	\$75.23
RE528096	SCREW WITH W	4	\$3.68	\$14.72
DZ109955	Rocker Arm Shaft	1	\$384.43	\$384.43
R107731	PUSH ROD	8	\$11.50	\$92.00
RE505501	BLEED VALV	1	\$25.80	\$25.80
DZ115041	Fuel Line	2	\$28.11	\$56.22
R136475	Screw	5	\$1.93	\$9.65
R131283	Thrust Washer	1	\$18.11	\$18.11
RE500449	Balancer Shaft	1	\$562.88	\$562.88
R550774	Stud	4	\$13.44	\$53.76
RE532328-CR	CORE for:Cylinder Head	-1	\$300.00	(\$300.00)

Part Number	Description	Quantity	Unit Price	Extended Price
51M7042	O-RING	1	\$2.81	\$2.81
19M7802	SCREW	2	\$3.73	\$7.46
5007760	HOSE CLAMP	1	\$9.11	\$9.11
1136026	HEAT SHIELD-DOC/DPF	1	\$388.71	\$388.71
1120197	IDLER BUSHING	1	\$895.29	\$895.29
1127111	IMPELLER BEARING	2	\$579.82	\$1159.64
T77613	O-RING FLAT FACE # 6	1	\$1.79	\$1.79
R123273	O-RING	1	\$3.23	\$3.23
T122075	O-RING	2	\$1.64	\$3.28
R500650	WEIGHT	4	\$41.28	\$165.12
14M7296	FLANGE NUT	4	\$1.66	\$6.64
19M7799	SCREW	2	\$2.64	\$5.28
DZ126323	EXHAUST VA	1	\$1,416.15	\$1416.15
DZ111910	Pressure Sensor	2	\$99.13	\$198.26
TY25627	NEW CONSTRUCTION YELLOW SPRAY PAINT	2	\$17.20	\$34.40
DZ121863	Hose	1	\$26.10	\$26.10
RE558870	Nozzle Kit	4	\$780.73	\$3122.92
R530341	STUD	8	\$19.23	\$153.84
RE500448	Balancer Shaft	1	\$610.04	\$610.04
RE560753	OIL COOLER	1	\$298.02	\$298.02
DZ126674	CLAMP	1	\$50.54	\$50.54
DZ128543	FILTER ELE	1	\$61.17	\$61.17
SE503035	Engine Controller Reman	1	\$2,235.55	\$2235.55
14M7298	FLANGE NUT	6	\$1.43	\$8.58
85447	12-10 YELLOW FEMALE SPADE	1	\$6.61	\$6.61
RE544337	Line	1	\$47.45	\$47.45
R27346	FITTING	1	\$8.63	\$8.63
RE65978	CLAMP	4	\$4.63	\$18.52
R531381	Plug	1	\$8.95	\$8.95
TY27366	HYDRAU 2.5 GALLON	1	\$72.50	\$72.50
1068048	Turnbuckle	1	\$145.00	\$145.00
1120193	BELT-AX PROFILE 49"	2	\$47.29	\$94.58
R516125	O-RING	2	\$4.03	\$8.06

Part Number	Description	Quantity	Unit Price	Extended Price
19M7970	SCREW	2	\$5.36	\$10.72
R531540	Adapter Fitting	1	\$41.74	\$41.74
RE52722	SENSOR	1	\$47.93	\$47.93
DZ109722	Short Block Assembly	1	\$10,329.21	\$10329.21
RE67208	CLAMP	2	\$23.18	\$46.36
1119751	CLAMP-V-BAND EXHAUST	1	\$272.05	\$272.05
1086183	CLAMP	1	\$51.56	\$51.56
1120166	ELBOW	1	\$115.81	\$115.81
1122388	SHIM ROUND	1	\$10.49	\$10.49
R123226	SEAL	1	\$14.03	\$14.03
19M8062	SCREW	2	\$1.51	\$3.02
RE67238	SCREW	1	\$1.51	\$1.51
RE46686	FITTING	1	\$8.18	\$8.18
R520139	STUD	7	\$18.85	\$131.95
SE501609	WATER PUMP	1	\$346.36	\$346.36
R120638	GEAR	1	\$364.10	\$364.10
R97185	O-RING	1	\$3.10	\$3.10
R544198	Gasket	1	\$3.99	\$3.99
RE575415	PRESSURE S	1	\$109.75	\$109.75
TY26661	BREAK-IN ENG OIL 10w30 1 gallon	4	\$31.95	\$127.80
RE558870-CR	CORE for:Nozzle Kit	-4	\$75.00	(\$300.00)
DZ109309-CR	CORE for:Turbocharger	-1	\$125.00	(\$125.00)
DZ115390	FILTER ELE	1	\$52.08	\$52.08
SE503035-CR	CORE for:Engine Controller Reman	-1	\$200.00	(\$200.00)
1119752	CLAMP-V-BAND EXHAUST	1	\$388.71	\$388.71
1030036	EXHAUST CLAMP	2	\$29.05	\$58.10
1120198	TENSIONER	1	\$834.86	\$834.86
RE526693	FUEL LINE	2	\$72.18	\$144.36
RE528590	WIRING HAR	1	\$390.74	\$390.74
19M8966	Screw	1	\$3.04	\$3.04
TY26101	BRAKE CLEANER	11	\$8.74	\$96.14
SE501609-CR	CORE for:Water Pump Reman	-1	\$100.00	(\$100.00)

Part Number	Description	Quantity	Unit Price	Extended Price
19M7866	SCREW	6	\$1.39	\$8.34
DZ100057	Oil Pump	1	\$782.99	\$782.99
DZ109309	Turbocharger	1	\$1,057.12	\$1057.12
R504067	WASHER	2	\$2.74	\$5.48
51M7041	O-RING	1	\$2.34	\$2.34
DZ115042	Fuel Line	2	\$26.10	\$52.20
DZ120918	THERMOSTAT	1	\$38.66	\$38.66
R539762	FLANGE NUT	8	\$4.15	\$33.20
RE500826	HOUSING	1	\$1,981.22	\$1981.22
DZ100057-CR	CORE for:Oil Pump	-1	\$100.00	(\$100.00)
1120161	TUBE-AIR CLEANER OUTLET	1	\$1,666.32	\$1666.32
1135816	HEAT INSULATION FLEX	1	\$208.98	\$208.98
1086529	CLAMP	1	\$55.57	\$55.57
1073494	PILOT BEARING CUP	1	\$27.78	\$27.78
R123471	Housing	1	\$230.38	\$230.38
R111137	Spring	1	\$7.04	\$7.04
R534798	Exhaust Manifold	1	\$328.10	\$328.10
R522899	SEALING WASH	4	\$1.39	\$5.56
1126730	BELT-5 BAND EPDM 5VX70"	1	\$481.26	\$481.26
1108708	SEAL-DOC IN PIPE	1	\$302.61	\$302.61
5009121	FLAT WASHER	1	\$1.48	\$1.48
RE504836	ENG OIL FILTER	1	\$23.48	\$23.48
RE223627	Hose Fitting	1	\$35.27	\$35.27
DZ111916	PRESSURE SENDER	1	\$84.72	\$84.72
19M7404	CAP SCREW	1	\$4.79	\$4.79
PM38655	SEALANT	1	\$28.24	\$28.24
1113653	LOCK NUT	1	\$2.86	\$2.86
1078878	REDUCING ELBOW	1	\$141.13	\$141.13
1120196	GROOVED IDLER PULLEY	1	\$536.36	\$536.36

Part Number	Description	Quantity	Unit Price	Extended Price
FREIGHT	FREIGHT	4	\$75.00	\$425.00

Misc Charges	Description	Quantity	Unit Price	Extended Price
Environmental Fee	Environmental Fee	1	\$125.00	\$125.00

Segment Summary:

Labor	OL&M	Misc	Parts	Subtotal
\$14987.65	\$0.00	\$125.00	\$51478.63	\$66591.28

Order Summary:

Parts:	\$51478.63
OL&M:	\$0.00
Misc:	\$125.00
Labor:	\$14987.65
Subtotal:	\$66,591.28
Tax:	\$0.00
Total:	\$66,591.28

Payment Details:

Payment	Check#/Auth#/Override#	Credit card type	Credit card #	Signature	Amount
Account					\$66,591.28

EMV Invoice Details:

Received By: _____

Date: _____

Terms & Conditions:

Terms Net 10th. All invoices are due and payable by the 10th of the following month from the invoice date unless otherwise stated in writing. An interest charge of 18% APR (1.5% per month) will be applied to the previous months balance without deducting current payments/credits. Payments must be remitted to the following address: Yellowhouse Machinery PO Box 31388 Amarillo, TX 79120. Yellowhouse Machinery also offers a credit plan through PowerPlan. PowerPlan credit is subject to the approval of PowerPlan's credit terms. By applying for and using this credit option, you are bound by PowerPlan's separate terms and conditions, including their payment schedules, interest rates, and applicable fees. The interest rate and late payment penalties for PowerPlan credit accounts will be as outlined by PowerPlan's terms and may differ from Yellowhouse Machinery's terms. Please remit payments to PowerPlan to the address shown on your PowerPlan statement. **WE ARE OPEN 7:00-5:00 M-F & 8-12 SAT / WE ARE ON CALL 24 HRS A DAY / NO RETURNS ON ELECTRICAL PARTS / 25% RESTOCK ON SPECIAL ORDER AND NON STOCK ITEMS / A FEE OF \$80 WILL BE ASSESSED ON CALL-OUTS BETWEEN 10PM AND 5AM**