## Martin's Peterbilt of West Virginia

Hurricane, WV 25526



Toll Free: (855)898-8333 (304)562-7999 Local: (304)849-7470 Fax:

Remit to: PO Box 98

London, KY 40743-0098

Toll Free: (800) 255-2746 (606)878-6410 Local: Fax: (606)878-2800 \*\* Reprint \*\*

Invoice: 040415265

Date / Hour: 4/13/2022 2:45:14PM

Repair Order: 15265 Customer: 90004 Branch: HUR

Total Invoice: \$25,773.36 \*\*\*Peterbilt Warranty\*\*\*

Page 1 of 4

Bill To: PETERBILT WARRANTY

1700 Woodbrook Street DENTON, TX 76201

Ship To: Cordial Trucking PO BOX 98

LONDON, WV 40741

Office Phone: (855) 487-7898

Department:

Work: (855) 487-7898

Customer P/O: CU-538001

Orig R/O: 15115

Open Date: 03/25/2022

Completion Date: 04/12/2022

Service

Add User: jcollett Salesperson: House

Unit Number: 460677 Model Year: 2018

Meter: 552047 Miles

Make/Model: PETERBILT 389

Type: Class 8 VIN: 1XPXDP9X5JD460677

2 Task: 43-000000 **Exhaust System** 

Complaint: customer states engine has fuel coming out of egr valve

Correction: Pulled unit into shop and performed visual inspection. Verified fuel was leaking at exhaust manifold. Noticed that CEL was illuminated and unit had a bad engine misfire. Hooked up with Davie and printed DTCs. Had multipled DTCs for misfires and torque contribution as well as faults for every sensor down stream in exhaust system that fuel has come in contact with. Started diag in P0278. Checked for other faults for bank 2 injectors. None logged. Performed "assess MX engine brake" test. Passed text. Removed valve cover for valve train inspection. No damage found under valve cover. Checked for fuel codes causing misfire. None logged. Verified P0278 was active in the last 25 hours. Got unit up to operating temp and attempted to run cylinder performance test automatically. Failed everytime #2 started to test. Unit will need #2 and #6 injector. Also due to fuel damage EGR valve has internal error and needs replaced. NOX sensor before catalyst needs replaced due to fuel damage, and the DOC/DPF temp sensors will need replaced. DOC and DPF may not clean up depending on how much fuel has passed through them. Need to perform a regen in slow increments to slowly burn out aftertreatment. Got with part dept and quoted parts. Found that exhaust manifold is busted. Drained coolant, removed EGR valve, EGR cooler, exhaust manifold. Found that exhaust valve seals are severely leaking in #6. Since having so many problems with this injector, removed valve cover and checked valve lash again. Valve lash is good and within spec. But decided to remove injector and run compression test on that cyclinder. Will not hold compression. Removed rocker assy and removed pushtubes. Found that #6 intake pushtube was slightly bent. Also found exhaust bridge was damaged. Started TCS case with findings. Removed oil filter and cut open to check for metal. Very smll amount found. Sent pics of lal findings. Awaiting reply from TCS 04975564.Removed injectors and ran leakdown test as requested by TCS. Failed miserably. Vut open oil filter. Found no metal. Updated TCS case. Instructed to pull cyclinder head and inspect. Removed cylinder head and all remaining bracketry/wiring. Found that #6 piston has hit the valve. Updated TCS case. Was instructed to replace piston, bearings, liner, rings and cap bolts on #6. Drained oil and removed oil pan. Removed #6 piston assy. Removed liner. Cleaned deck surface. Awaiting parts. Transferred all parts from old head to new head. Parts came in but liner was damaged during shipping as well as bearing shells. Had to reorder. Cleaned up bay area. Cleaned deck surface. Installed liner and piston assy into #6 hole. Torqued to spec. Installed cylinder head. Torqued to spec. Started installing all bracketry and wiring. Installed injectors with new orings and hold down bolts. Installed fuel lines. Valvetrain needs installed and valve lash needs adjusted. Also oil pan needs installed and filled with oil. Washed oil pan and installed new gasket. Installed oil pan. Filled unit with oil. Replaced valve cover and rocker box gaskets. Installed pushtubes and rocker assemblies. Adjusted valve lash. Installed injectors. Torqued rockers and injectors to spec as well as fuel lines. Installed rocker box and valve cover. Installed EGR cooler. Installed return fuel line on backof head and fuel return manifold on driver side. Primed fuel system and started engine. Fired right off. Fuel system still needs bled a bit. Bled fuel system. Installed coolant elbow on side of block. Swapped over flex pipe from EGR valve. Insta; lled EGR valve. Filled unit with coolant. Secured up wiring with zip ties. Cleared faults and bled fuel system. Filled with coolant. Stared unit and let run up to operating temp. CEL illumintaed with a VTG fault code. Too slow to respond. Will need to diag this fault in the am. P2563. Reiassmbled aftertreatment from inspection of oil. Did not see anything out of the ordinary. Started diag on P2563. Checked software. All up to date. Visually inspected turbo, actuator and wiring. Nothing out of the ordinary. Measured supply voltage at actuator. 12.4VDC. All good. Checked E-CAN resistance. Was 120ohms. All good. Backed unit out of shop and performed turbo actuator funcionality test. Failed 3 times. Drained coolant, removed VTG actuator. Sector gear is stuck. Updating TCS case with findings.Updated TCS case. Was instructed to replace turbo. Removed EGR cooler,removed turbo, cleaned mating surfaces. Installed new turbo, torqued to spec. Installed EGR cooler and valve, Filled with coolant. Ran unit up to operating temp and cleared faults. Put unit through stationary regen. Topped coolant off. checked for faults. None found. Took unit on extended road test to seat rings and break in new bearings. No issues to report at this time. Task complete.

Supp.	Part	Description / Ref Number	U/M	Quantity	Price	Price
MXR	2301180PEX-C	TURBOCHARGER-MX13, W/ ACTUATOR, EPA17	7-Core EA	-1.0	\$730.00	\$(730.00)

## Martin's Peterbilt of West Virginia 715 Orchard Park Rd. Hurricane, WV 25526



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1700 Woodbrook Street DENTON, TX 76201 **Ship To:** Cordial Trucking PO BOX 98

LONDON, WV 40741

Office Phone: (855) 487-7898

Work: (855) 487-7898

Customer P/O: CU-538001		Orig R/O: 15115	Open Date: 03/	25/2022	Completion Date: 04	/12/2022
Add Us	ser: jcollett		Salesperson: Hou	se		
<b>Original In</b> MXR	<b>voice</b> : 040415115 2047600PEX-C	CORE	EA	-2.0	\$190.00	\$(380.00
-	voice: 040415115040415115					, (
MXR	2188417PEX-C	CYLINDER HEAD, MX13 EPA17, HHP-Core	EA	-1.0	\$1,400.00	\$(1,400.00
<b>Original In</b> MXE	voice: 040415115 1603977PE	O-RING	EA	1.0	\$16.65	040.00
MXE	1603978PE	O-RING	EA	2.0	\$16.65	\$16.65
MXE	1655712PE	BEARING SHELL CON-ROD STANDA	EA	1.0	\$32.79	\$33.30
MXE	1858819PE	BEARING SHELL CON-ROD STANDA	EA	1.0	\$32.79	\$32.79 \$32.79
MXE	1858819PE	BEARING SHELL CON-ROD STANDA	EA	1.0	\$32.79	
MXE	1878508PE	BOLT-CONNECTING ROD	EA	2.0	\$2.12	\$32.79
MXE	1935136PE	CYLINDER LINER - W/ ANTIPOLI	EA	1.0	\$222.56	\$4.24
MXE	1935136PE	CYLINDER LINER - W/ ANTIPOLI	EA	1.0	\$222.56	\$222.56
ИХЕ	2124730PE	EXHAUST MANIFOLD ASSEMBLY	EA	1.0	\$773.50	\$222.56
MXE	2131567PE	OIL NOZZLE	EA	1.0	\$19.50	\$773.50
MXE	2132582PE	PISTON, W/ RINGS, CLIPS, PIN	EA	1.0	\$627.64	\$19.50
//XR	2301180PEX	TURBOCHARGER-MX13, W/ ACTUATOR, EPA		1.0	\$5,958.99	\$627.64
ихк	2301180PEX-C	TURBOCHARGER-MX13, W/ ACTUATOR, EPA		1.0	\$730.00	\$5,958.99 \$730.00
MXE	2312234PE	GASKET-CYLINDER HEAD, SERVICE	EA	1.0	\$922.04	\$922.04
MXE	1922496PE	ELEMENT-FILTER OIL CENTRIFUG	EA	1.0	\$42.52	\$42.52
ИXE	2234788PE	OIL FILTER ELEMENT	EA	1.0	\$34.06	\$34.00
MXE	2138143PE	GASKET-EXHAUST MANIFOLD	EA	6.0	\$17.13	\$102.78
ихE	1858035PE	RING-SEAL	EA	2.0	\$1.31	\$102.76
ихE	1858036PE	SEAL RING	EA	1.0	\$1.33	\$1.33
MXE	1638270PE	O-RING INJECTOR	EA	6.0	\$5.60	\$33.60
ихE	1865847PE	INJECTOR O-RING	EA	6.0	\$5.88	\$35.28
ихE	1917870PE	EXHAUST GASKET	EA	1.0	\$9.19	\$9.19
ихЕ	2127551PE	RING SEAL, INJECTOR	EA	6.0	\$7.87	\$47.22
ΛΧΕ	2127357PE	SENSOR-PRESSURE, PRE TURBO	EA	1.0	\$91.94	\$91.94
ИXE	1923003PE	GASKET	EA	1.0	\$10.36	\$10.36
//XR	2188417PEX	CYLINDER HEAD, MX13 EPA17, HHP	EA	1.0	\$5,793.26	
//XR	2188417PEX-C	CYLINDER HEAD, MX13 EPA17, HHP-Core	EA	1.0	\$1,400.00	\$1,400.00
10	15W40BULK	BULK-15W40 CHEVRON URSA PLUS	EA	11.0	\$14.98	\$164.78
ΛXE	2240650PE	VALVE BRIDGE, EXHAUST	EA	2.0	\$20.88	\$41.70
ΛΧΕ	2240650PE	VALVE BRIDGE, EXHAUST	EA	1.0	\$20.88	\$20.88
Р	6754	MOLYKOTE 111 COMP SEALANT	EA	1.0	\$53.63	\$53.63

<sup>\*\*</sup> See Last Page for Invoice Total \*\*

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P/O: CU-538001	Orig R/O: 15115	Open Date: 03/2	25/2022	Completion Date: 04/	/12/2022		
ser: jcollett		Salesperson: House					
74HV-A	HIGH VISCOSITY BRAKE CLEANER	EA	5.0	\$5.40	\$27.00		
1313120PE	BOLT-FLANGE M8X55	EA	6.0	\$1.35	\$8.10		
1822941PE	BOLT-FLANGE M12X155X80	EA	7.0	\$4.23	\$29.61		
1863266PE	RING-SEALING	EA	2.0	\$29.95	\$59.90		
1893478PE	SENSOR-TEMPERATURE CHARGE AI	EA	1.0	\$141.88	\$141.88		
1895972PE	TURBO FLANGE BOLT	EA	8.0	\$16.17	\$129.36		
1907399PE	MX13 AIR INTAKE GASKET	EA	1.0	\$19.34	\$19.34		
1930520PE	PIPE-FUEL INJECTION	EA	2.0	\$169.57	\$339.14		
2014634PE	ROD-TAPPET, INLET VALVE	EA	1.0	\$17.76	\$17.76		
2035973PE	GASKET-EXHAUST, EGR	EA	1.0	\$23.95	\$23.95		
2161004PE	Bolt, Cylinder Head, M18x200	EA	26.0	\$24.69	\$641.94		
2047600PEX	INJECTOR	EA	2.0	\$1,048.48	\$2,096.96		
2047600PEX-C	CORE	EA	2.0	\$190.00	\$380.00		
2105834PE	GASKET, VALVE COVER	EA	1.0	\$88.37	\$88.37		
2105835PE	VALVE TRAIN CASING GASKET	EA	1.0	\$88.37	\$88.37		
2106210PE	GASKET- TURBOCHARGER EXHAUST	EA	2.0	\$18.08	\$36.16		
2106218PE	GASKET-COOLANT PIPE	EA	1.0	\$9.28	\$9.28		
2111441PE	GASKET, OIL PAN	EA	1.0	\$153.65	\$153.65		
2120190PE	GASKET-EGR	EA	1.0	\$8.23	\$8.23		
2127358PE	EPA/SENSOR-POST BPV PRESSURE	EA	1.0	\$91.94	\$91.94		
2149748PE	PUSH ROD, EXHAUST VALVE	EA	1.0	\$13.79	\$13.79		
2256370PE	EGR CONTROL VALVE	EA	1.0	\$2,219.07	\$2,219.07		
Freight In	Freight In		1.0	\$85.00	\$85.00		
	Ser: jcollett 74HV-A 1313120PE 1822941PE 1863266PE 1893478PE 1895972PE 1907399PE 1930520PE 2014634PE 2035973PE 2161004PE 2047600PEX 2047600PEX 2047600PEX 2105834PE 2105835PE 2106210PE 2106218PE 2111441PE 2120190PE 2127358PE 2149748PE 2256370PE	Ser: joillett	Salesperson: Hour	ser: jcollett         Salesperson: House           74HV-A         HIGH VISCOSITY BRAKE CLEANER         EA         5.0           1313120PE         BOLT-FLANGE M8X55         EA         6.0           1822941PE         BOLT-FLANGE M12X155X80         EA         7.0           1863266PE         RING-SEALING         EA         2.0           1893478PE         SENSOR-TEMPERATURE CHARGE AI         EA         1.0           1895972PE         TURBO FLANGE BOLT         EA         8.0           1907399PE         MX13 AIR INTAKE GASKET         EA         1.0           1930520PE         PIPE-FUEL INJECTION         EA         2.0           2014634PE         ROD-TAPPET, INLET VALVE         EA         1.0           2035973PE         GASKET-EXHAUST, EGR         EA         1.0           2161004PE         Bolt, Cylinder Head, M18x200         EA         26.0           2047600PEX         INJECTOR         EA         2.0           2047600PEX-C         CORE         EA         2.0           2105834PE         GASKET, VALVE COVER         EA         1.0           2106210PE         GASKET- TURBOCHARGER EXHAUST         EA         1.0           2106218PE         GASKET, OIL PAN	Salesperson: House   TAHV-A		

1935136PE

Detail Tax Info:

WEST VIRGINIA EXEMPT TAX \$0.00

\$0.00

**Total Parts:** \$21,628.36 **Total Core Charge:** \$2,510.00 **Total Core Ret:** \$(2,510.00) 29.00 **Total Labor:** \$4,060.00 **Total Miscellaneous:** \$85.00 **Invoice Subtotal:** \$25,773.36 **Total Tax:** \$0.00 **Total Invoice:** \$25,773.36

Payment Method \*\*\*Peterbilt Warranty\*\*\* <u>Terms</u> 00 Net 10th

Due Date 5/10/2022





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Add User: jcollett Salesperson: House



Signature:	Date <sup>.</sup>

I hereby authorize the repair work hereinafter set forth to be done along with the necessary material and agree that you are not responsible for loss or damage to vehicle or articles left in vehicle in case of fire, theft, or any other cause beyond your control or for any delays caused by unavailability of parts or delays in parts shipments by the supplier or transporter. I hereby grant you and/or your employees permission to operate the vehicle herein described on streets, highways, or elsewhere for the purpose of testing and/or inspection. An express mechanic's lien is hereby acknowledged on above vehicle to secure the amount of repair thereto. Martins Peterbilt is not responsible should the owner select to request their vehicle to be left unattended or after hours for pickup.