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**REPAIR**  
IDFRC  
Dealer C

Terms: Net

Date: 04/13/2022

Open Date:

W. O. #:

P.O. #:

Acct #: IDF2008

Page #: 1 of 8

Written By:

Released By:

Department:

Account:

1XK1DP9X9LJ389256

Y200471

Ordered By:

Phone:

Year: 2020

Make: Kenworth

Serial #:

Mileage: 345987

Model: W990

Eng Serial #:

**Operation:** 1      **Complaint:** \*\*\*UNIT TOWED IN\*\*\*POSSIBLE WARRANTY\*\*\* CHECK AND ADVISE  
UNIT LOST WATER PUMP AND MAY BE WORSE THEN JUST THE  
PUMP PROBABLY EGR COOLER

**Note:**

**Correction:**

**Labor Amount**

7,068.00

PERFORM COMBUSTION LEAK CHECK, CHECKED OVER ENGINE, FOUND THERE IS NO COOLANT IN THE EXPANSION TANK, DO NOT SEE ANY COOLANT ON THE GROUND, INSPECTED THE WATER PUMP, FOUND THE WATER PUMP DAMAGED, PULLED TRUCK INTO SHOP, HOOKED UP DAVIE AND GOT SESSION REPORT, DRAIN WHAT WAS LEFT OF THE COOLANT, REMOVED THE R/S CAC PIPE, COOLANT FILTER AND BELT, PINNED THE TENSIONER, UNPLUGGED WATER PUMP ELECTRICAL CONNECTORS, REMOVED WATER PUMP, INSPECTED THE COOLING MODULE FOR DAMAGE DUE TO WATER PUMP, LOOKS OK, STARTED TO SORT THROUGH 4 PAGES OF FAULT CODES. CLEANED OUT THE REST OF THE COOLING MODULE, INSTALLED NEW O-RING ON NEW WATER PUMP, INSTALLED THE WATER PUMP, TORQUED BOLTS RE-INSTALLED THE BELT, RE-INSTALLED THE COOLANT FILTER FOR NOW, REPLACED THE AIR TRANSFER CONNECTION GASKET AND RE-INSTALLED THE R/S CAC PIPE. RE-INSTALLED COOLANT DRAIN PLUG AND FILLED COOLING SYSTEM, LOOKED UP T/S STEPS FOR COMBUSTION GASES IN THE COOLING SYSTEM. REMOVED COOLANT LINES FROM THE AIR COMPRESSOR, FOUND BOTH LINES BROKE IN THE FITTINGS, ORDERED NEW, REMOVED THE FITTINGS FROM THE AIR COMPRESSOR, REMOVED INTAKE AND DISCHARGE HOSES FROM COMPRESSOR, INSTALLED PLASTIC PLUGS IN THE INTAKE AND DISCHARGE PORTS, INSTALLED TEST FITTINGS, PRESSURED UP THE COOLANT SIDE OF THE COMPRESSOR HEAD TO SPECIFIED 140 PSI, CHECKED FOR BUBBLES, FOUND NO BUBBLES, REMOVED TEST PLUGS AND FITTINGS, RE-INSTALLED INTAKE AND DISCHARGE PIPES, REMOVED THE AIR FILTER HOUSING, R/S CAC PIPE, INTAKE HORN, STARTED TO UNPLUG AND LAY THE ELECTRICAL ASIDE. TO TEST EGR COOLER. FINISHED REMOVING THE EGR COOLER, INSTALLED TEST FITTINGS AND VALVE, PRESSURE TEST THE COOLER. FOUND HELD PRESSURE FOR 20 MIN WITH 0 PSI DECAY. REMOVED BROKEN PIECES OF LINES FROM FITTINGS, INSTALLED NEW SEALING WASHERS ON AIR COMPRESSOR COOLANT LINE FITTINGS IN THE AIR COMPRESSOR, INSTALLED THE NEW LINES. HOOKED UP AIR COMPRESSOR SIGNAL LINE. REMOVED THE TEST EQUIPMENT FROM THE EGR COOLER, REMOVED THE VALVE COVER, UNPLUGGED INJECTOR HARNESS, INJECTORS AND ENGINE BRAKE SOLENOIDS, REMOVED THE ROCKER FENCE, REMOVED FUEL LINES FROM THE RAIL AND THE HEAD, REMOVED INJECTORS, PLUGGED OFF OPEN COOLANT PORTS, RE-INSTALLED THE WATER/COOLANT,



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PRESSURED UP THE COOLING SYSTEM. CHECKED THE INJECTOR CUPS FOR LEAKING, USED BORESCOPE TO LOOK AT THE TOPS OF PISTONS, REMOVED FLUID FROM TOPS OF PISTONS, LETTING SIT WITH PRESSURE ON THE COOLING SYSTEM. CHECKED TOPS OF PISTONS AGAIN. CANNOT SEE ANY WATER ON TOP OF THE PISTONS, DECIDED TO PULL CYLINDER HEAD, REMOVED FUEL LINES AND BRACKETRY FROM THE CYLINDER HEAD, REMOVED THE ROCKER ASSEMBLIES, PUSH TUBES, HEAD BOLTS IN SEQUENCE, REMOVED THE CYLINDER HEAD, CHECKED THE GASKET- OK, CHECKED THE LINERS- OK, LOOKED OVER THE CYLINDER HEAD AND FOUND A CRACK IN BETWEEN VALVE ON #3. TOOK PICTURES OF CYLINDER HEAD, HEAD GASKET AND LINERS. OPENED UP TCS CASE, HAD TO ATTACH MULTIPLE PICTURES, ATTACHED A WORD DOCUMENT OF ALL THE PICTURES. VERIFIED THAT THE TCS WAS FILLED OUT CORRECTLY, TCS CASE # 220315-04951099, DRAINED ENGINE OIL, REMOVED OIL PAN, PICKUP PIPE, STIFFENER PLATE AND TUBE, OIL PUMP, ANTI-POLISH RINGS FROM LINERS, REMOVED THE PISTONS, REMOVED THE LINERS, INSPECTED THE LINERS AND PISTONS FOR OBVIOUS DAMAGE, DO NOT SEE ANY AT THIS TIME, WIPED DOWN THE BLOCK AND CHECKED THE LINER SEATS, SEE THAT ALL SEAT THAT THE MACHINING MARKS ARE STILL THERE BUT FAINT IN SPOTS. TOOK PICTURES AND PUT INTO A WORD DOCUMENT. USED WHITE BRISTLE WHEEL AND THE INDIA STONE TO CLEAN THE BLOCK DECK. SENT PICTURES TAKEN TO TCS. TCS REPLIED BACK ON THE CASE, ASKED FOR MORE PICTURES, TOOK PICTURES OF THE RUST IN THE BLOCK, ON THE LINERS AND THE COOLANT SAMPLE, ATTACHED PICTURES TO WORD DOCUMENT AND ATTACHED TO TCS. SET UP THE CUTTING TOOL. CUT THE FIRST LANDING. CLEANED UP THE BLOCK AND INSTALLED LINER WITHOUT O-RINGS AND CHECKED LINER PROTRUSION, RE INSTALLED THE LINER AGAIN, FOUND THE LINER FLATTER AND PROTRUSION WITHIN SPEC. SET TOOL UP TO CUT #2. CUT #2 AND CHECKED PROTRUSION- OK, CUT 3 AND CHECKED PROTRUSION- OK, CUT #4 AND WENT TO CHECK PROTRUSION AND FOUND THE LINER AND THE APR DAMAGED. ORDERED NEW LINER, MEASURED PROTRUSION ON #4 AND HAD TO CUT MORE, MEASURED PROTRUSION AGAIN- OK. CUT #5 AND 6. MEASURED PROTRUSION- OK, CLEANED UP THE LINER O-RING GROOVES IN THE BLOCK, GATHERED O-RINGS AND FOUND HAD 12 OF THE VIOLET O-RINGS AND 6 OF THE BLACK O-RINGS, NEEDED 12 OF THE BLACK AND 6 OF THE VIOLET O-RINGS, INSTALLED 1-3 O-RINGS AND LINERS. REMOVED FUEL LINES, BRACKETS, PLUGS AND SENSOR FROM HEAD, REMOVED EXHAUST MANIFOLD, CLEANED AND INSPECTED MANIFOLD, INSTALLED MANIFOLD WITH NEW GASKETS ON NEW HEAD, TORQUED MANIFOLD BOLTS, CLEANED OUT THE INJECTOR BORES, CLEANED UP INJECTORS AND REPLACED THE SEAL RING AND BOTH O-RINGS, INSTALLED INJECTORS WITH NEW HOLD DOWN BOLTS, TORQUED BOLTS, INSTALLED FUEL RAIL, INSTALLED NEW 1-6 FUEL LINES, TORQUED

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THE RAIL MOUNTING BOLTS, TORQUED ALL FUEL LINE NUTS, CLEANED AND  
INSTALLED INTAKE/MIXER WITH NEW GASKET, TORQUED BOLTS, INSTALLED FRONT  
LIFTING BRACKET. TRANSFERRED THE PUSH TUBE GUIDES, CLEANED/INSPECTED/  
INSTALLED ALL VALVE BRIDGES, GOT LAST LINER AND O-RINGS, LUBED THE O-  
RINGS, INSTALLED LINERS 4,5,6, PREPPED THE #1 PISTON TO BE INSTALLED.  
CLEANED UP 2 THROUGH 6 PISTONS AND RODS, CLEANED CARBON OUT OF THE  
RING LANDS, CLEANED UP ROD CAPS, INSTALLED NEW RINGS, BEARINGS IN RODS  
AND CAPS, WIPED DOWN THE LINERS AND OILED, ORIENTATED THE RING GAPS,  
INSTALLED #1, #6 AND #2 PISTONS. APPLIED OIL TO ROD CAP BOLT THREADS AND  
UNDER THE HEADS, TORQUED THE CAP BOLTS, ORIENTATED THE PISTON RINGS,  
INSTALLED #3, 4, 5 PISTONS AND TORQUED THE ROD CAPS, INSTALLED THE ANTI  
POLISH RINGS, RAN TAP IN ALL HEAD BOLT HOLES, CLEANED OUT ALL BOLT HOLES,  
VERIFIED THAT ALL OIL PORTS IN BLOCK ARE CLEAR- OK. WIPED DOWN THE TOP OF  
THE BLOCK AND THE BOTTOM OF THE HEAD, LAYED HEAD GASKET IN POSITION, SET  
HEAD IN PLACE. INSTALLED ALL HEAD BOLTS, TORQUED ALL BOLTS TO SPEC  
ACCORDING TO RMI, CLEANED PUSH TUBES, ROCKER ASSEMBLY BOLTS, ROCKER  
ASSEMBLIES, INSTALLED PUSH TUBES AND ROCKER ASSEMBLIES AND TORQUED  
BOLTS, PERFORMED OVERHEAD ADJUSTMENT, HOOKED UP THE AFTERTREATMENT  
FUEL INJECTOR LINE AT THE FUEL MODULE AND HC DOSER, INSTALLED BRACKETS,  
REPLACED THE VALVE TRAIN CASING GASKET AND INSTALLED THE CASING,  
TORQUED BOLTS AND HOOKED UP INJECTORS AND ENGINE BRAKE SOLENOIDS,  
HOOKED UP FUEL HEAD RETURN LINE WITH NEW SEALING WASHERS. INSTALLED  
TURBO MOUNT GASKET AND NEW TURBO MOUNTING BOLTS AND TORQUED.  
NOTICED THAT THE VALVE TRAIN CASING AND THE #1 EXHAUST ROCKER TOUCHING  
ADJUSTED THE CASING SO WOULD NOT BE TOUCHING, INSTALLED HEAT SHIELD,  
INSTALLED EGR VENTURI, EGR COOLER WITH NEW SEALS, TORQUED THE HOLD  
DOWN STRAPS, INSTALLED BRACKET OVER THE COOLER, INSTALLED EGR VALVE  
WITH NEW GASKETS AND CLAMPS, REPLACED O-RINGS ON COOLANT LINES AND  
HOOKED UP, BOLTED HARNESS DOWN, INSTALLED COOLANT PIPE ON HEAD AND  
HOOKED UP EGR COOLER BLEED LINE WITH NEW SEALING WASHERS, CONNECTED  
ALL ELECTRICAL. INSTALLED EXHAUST GAS PRESSURE LINES, FAN SHROUD UPPER  
BRACKET, INTAKE HORN. ZIP TIED UP WIRING ON HOT SIDE AND FRONT STARTED TO  
PUT THE L/S TOGETHER. CLEANED UP BLOCK, CLEANED UP OIL PICKUP PIPE,  
TUBES, FIXING PLATE, OIL PAN, OIL PUMP, REPLACED OIL TUBE O-RINGS, INSTALLED  
OIL PUMP, TORQUED BOLTS, INSTALLED FIXING PLATE AND TORQUED BOLTS AS PER  
SPEC, INSTALLED THE PICKUP PIPE AND TORQUED BOLTS, REPLACED OIL PAN  
GASKET, SILICONED THE BLOCK JOINTS, INSTALLED OIL PAN AND TORQUED ALL  
BOLTS, INSTALLED WIRING BRACKETS, REPLACED BOTH FUEL FILTERS, PRIMED  
FUEL SYSTEM, FILLED COOLING SYSTEM WITH WATER. CLEANED OUT AND

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Dealer C

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**Bill To:**

**Date:** 04/13/2022

**Open Date:**

**W. O. #:**

**P.O. #:**

**Acct #:** IDF2008

**Page #:** 4 of 8

**Ordered By:**

**Written By:**

**Released By:** I

**Phone:**

**Department:**

**Account:**

**Year:** 2020  
**Mileage:** 345987

**Make:** Kenworth  
**Model:** W990

**Serial #:**  
**Eng Serial #:**

1XK1DP9X9LJ389256  
Y200471

INSTALLED THE CAC PIPES WITH NEW GASKETS, INSTALLED AIR FILTER HOUSING,  
FILLED OIL PAN WITH 48 QTS 10-W30 DELVAC OIL. STARTED AND LET RUN AND BUILD  
AIR, CHECKED OIL PRESSURE- OK.

<u>Item</u>	<u>Description</u>	<u>Quantity</u>	<u>Price</u>	<u>Credit</u>	<u>Amount</u>
2287065PE	COOLANT PUMP CARTRIDGE, VARIABLE SPEED	1		\$0.00	\$990.22
2130588PE	O-RING, 130X4	1		\$0.00	\$6.13
1923003PE	GASKET	1		\$0.00	\$11.62
1858039PE	SEAL-13.4X24.0X1.5MM	2		\$0.00	\$2.70
2134899PE	PIPE-COOLANT, COMPRESSOR	1		\$0.00	\$27.15
2102335PE	COOLANT PIPE	1		\$0.00	\$14.60
1822941PE	BOLT-FLANGE M1	7		\$0.00	\$32.48
2161004PE	Bolt, Cylinder Head, M18x200	26		\$0.00	\$104.78
1313120PE	BOLT-FLANGE M8	6		\$0.00	\$8.88
1865847PE	O-RING INJECTOR	6		\$0.00	\$39.48
1638270PE	O-RING INJECTO	6		\$0.00	\$37.56
2138143PE	GASKET-EXHAUST MANIFOLD	6		\$0.00	\$115.20
2106210PE	GASKET- TURBOCHARGER EXHAUST	1		\$0.00	\$20.25
1895972PE	BOLT-FLANGE TURBOCHARGER	4		\$0.00	\$71.00
2047593PE	PIPE-FUEL INJECTION, 1-4	4		\$0.00	\$791.40
2047594PE	PIPE-FUEL INJECTION, 5-6	2		\$0.00	\$395.70
1930520PE	PIPE-INJECTION FUEL	2		\$0.00	\$379.88
1907399PE	GASKET-AIR INTAKE	1		\$0.00	\$21.67
2035973PE	GASKET-EXHAUST, EGR	1		\$0.00	\$26.82
1979191PE	V-CLAMP, D=75.2MM	1		\$0.00	\$46.04
1917870PE	GASKET,EXHAUST	1		\$0.00	\$10.30
1979190PE	V-CLAMP, 82MM	1		\$0.00	\$46.07
2116602PE	O-RING, 7.4X2	2		\$0.00	\$8.98
2116602PE	O-RING, 7.4X2	1		\$0.00	\$4.49
1898204PE	RING SEAL	2		\$0.00	\$2.94
1858037PE	RING-USIT 11.4X22X1.5	1		\$0.00	\$3.33

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2585 North Boulevard  
Idaho Falls, ID 83401  
(208) 526-8334  
(800) 893-8334  
Fax (208) 528-6832

Remit To:  
Kenworth Sales Company  
Dept.# 001  
PO Box 27086  
Salt Lake City, UT 84127-0086

**REPAIR**  
IDFRO  
Dealer C

Terms: Net:

**Bill To:** Paccar Warranty  
2585 N BLVD  
IDAHO FALLS, ID 83401

**Date:** 04/13/2022

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THE RAIL MOUNTING BOLTS, TORQUED ALL FUEL LINE NUTS, CLEANED AND  
INSTALLED INTAKE/MIXER WITH NEW GASKET, TORQUED BOLTS, INSTALLED FRONT  
LIFTING BRACKET. TRANSFERRED THE PUSH TUBE GUIDES, CLEANED/INSPECTED/  
INSTALLED ALL VALVE BRIDGES, GOT LAST LINER AND O-RINGS, LUBED THE O-  
RINGS, INSTALLED LINERS 4,5,6, PREPPED THE #1 PISTON TO BE INSTALLED.  
CLEANED UP 2 THROUGH 6 PISTONS AND RODS, CLEANED CARBON OUT OF THE  
RING LANDS, CLEANED UP ROD CAPS, INSTALLED NEW RINGS, BEARINGS IN RODS  
AND CAPS, WIPED DOWN THE LINERS AND OILED, ORIENTATED THE RING GAPS,  
INSTALLED #1, #6 AND #2 PISTONS. APPLIED OIL TO ROD CAP BOLT THREADS AND  
UNDER THE HEADS, TORQUED THE CAP BOLTS. ORIENTATED THE PISTON RINGS,  
INSTALLED #3, 4, 5 PISTONS AND TORQUED THE ROD CAPS, INSTALLED THE ANTI  
POLISH RINGS, RAN TAP IN ALL HEAD BOLT HOLES, CLEANED OUT ALL BOLT HOLES,  
VERIFIED THAT ALL OIL PORTS IN BLOCK ARE CLEAR- OK. WIPED DOWN THE TOP OF  
THE BLOCK AND THE BOTTOM OF THE HEAD, LAYED HEAD GASKET IN POSITION, SET  
HEAD IN PLACE, INSTALLED ALL HEAD BOLTS, TORQUED ALL BOLTS TO SPEC  
ACCORDING TO RMI, CLEANED PUSH TUBES, ROCKER ASSEMBLY BOLTS, ROCKER  
ASSEMBLIES, INSTALLED PUSH TUBES AND ROCKER ASSEMBLIES AND TORQUED  
BOLTS, PERFORMED OVERHEAD ADJUSTMENT, HOOKED UP THE AFTERTREATMENT  
FUEL INJECTOR LINE AT THE FUEL MODULE AND HC DOSER, INSTALLED BRACKETS,  
REPLACED THE VALVE TRAIN CASING GASKET AND INSTALLED THE CASING,  
TORQUED BOLTS AND HOOKED UP INJECTORS AND ENGINE BRAKE SOLENOIDS,  
HOOKED UP FUEL HEAD RETURN LINE WITH NEW SEALING WASHERS. INSTALLED  
TURBO MOUNT GASKET AND NEW TURBO MOUNTING BOLTS AND TORQUED.  
NOTICED THAT THE VALVE TRAIN CASING AND THE #1 EXHAUST ROCKER TOUCHING  
ADJUSTED THE CASING SO WOULD NOT BE TOUCHING, INSTALLED HEAT SHIELD,  
INSTALLED EGR VENTURI, EGR COOLER WITH NEW SEALS, TORQUED THE HOLD  
DOWN STRAPS, INSTALLED BRACKET OVER THE COOLER, INSTALLED EGR VALVE  
WITH NEW GASKETS AND CLAMPS, REPLACED O-RINGS ON COOLANT LINES AND  
HOOKED UP, BOLTED HARNESS DOWN, INSTALLED COOLANT PIPE ON HEAD AND  
HOOKED UP EGR COOLER BLEED LINE WITH NEW SEALING WASHERS, CONNECTED  
ALL ELECTRICAL. INSTALLED EXHAUST GAS PRESSURE LINES, FAN SHROUD UPPER  
BRACKET, INTAKE HORN. ZIP TIED UP WIRING ON HOT SIDE AND FRONT STARTED TO  
PUT THE U/S TOGETHER. CLEANED UP BLOCK, CLEANED UP OIL PICKUP PIPE,  
TUBES, FIXING PLATE, OIL PAN, OIL PUMP, REPLACED OIL TUBE O-RINGS, INSTALLED  
OIL PUMP, TORQUED BOLTS, INSTALLED FIXING PLATE AND TORQUED BOLTS AS PEF  
SPEC, INSTALLED THE PICKUP PIPE AND TORQUED BOLTS, REPLACED OIL PAN  
GASKET, SILICONED THE BLOCK JOINTS, INSTALLED OIL PAN AND TORQUED ALL  
BOLTS, INSTALLED WIRING BRACKETS, REPLACED BOTH FUEL FILTERS, PRIMED  
FUEL SYSTEM, FILLED COOLING SYSTEM WITH WATER. CLEANED OUT AND

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1935753PE	O-RING	2	\$0.00	\$6.36
1858035PE	RING-SEAL 15X24X1.5	2	\$0.00	\$2.94
2234788PE	OIL FILTER ELEMENT	1	\$0.00	\$35.34
K37-1022	FILTER-FUEL	1	\$0.00	\$45.62
2277129PE	FUEL FILTER	1	\$0.00	\$55.58
1863266PE	RING-SEALING	2	\$0.00	\$67.12
2302341PE	KIT - VALVE COVER/CASING GASKET	1	\$0.00	\$41.09
1603977PE	O-RING	5	\$0.00	\$93.25
1982746PE	CYLINDER LINER SET, H=+0.25MM	6	\$0.00	\$1,794.90
2146311PE	PISTON RING SET	6	\$0.00	\$960.18
2111441PE	GASKET-PAN	1	\$0.00	\$172.11
1608394PE	RING-SEALING	2	\$0.00	\$20.06
1608393PE	RING-SEALING	2	\$0.00	\$18.00
1858819PE	BEARING SHELL CON-ROD STANDARD UPPER	6	\$0.00	\$220.32
1655712PE	BEARING SHELL	6	\$0.00	\$220.32
1843659PE	FILTER-COOLANT	1	\$0.00	\$49.93
CC2610FLG	FLUSH-COOLANT	1	\$0.00	\$22.53
2188417PEX	CYLINDER HEAD, MX13 EPA17, HHP	1	\$	\$6,331.09
2188417PEXC	CORE CYL HEAD	1	\$	(\$1,802.50) \$1,802.50
2312234PE	GASKET-CYLINDER HEAD, SERVICE	1	\$0.00	\$905.86
2127551PE	RING SEAL, INJECTOR	6	\$0.00	\$52.92
1922496PE	ELEMENT-OIL, CENTRIFUGAL	1	\$0.00	\$44.11
1982821PE	PLUG	1	\$0.00	\$10.38
EC3501	COOLANT-TRP EL RED	12	\$0.00	\$124.08
1982746PE	CYLINDER LINER SET, H=+0.25MM	1	\$0.00	\$299.15
1603978PE	O-RING	12	\$0.00	\$223.80
D42-1003	GASKET-CHARGE AIR PIPING	1	\$0.00	\$4.79
OIL	10W/30	48	\$0.00	\$205.44

Operation 1 Total 22,314.94

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Operation: 2  
Note:

Complaint: \*\*\*POSSIBLE WARRANTY\*\*\* CHECK AND ADVISE PM SENSOR CODES

Correction:

Labor Amount

1,790.25

SORT THROUGH FAULT CODES, CHECKED SOFTWARE LEVEL, FOUND IT IS BEHIND, TRYING TO ACCESS SOFTWARE CHANGES TO SEE WHAT SOFTWARE ADDRESSES. FIGURED OUT THE SOFTWARE, FOUND PCI IS 3 SOFTWARE NUMBERS BEHIND, FOUND NO FAULT CODES RELATED TO SOFTWARE, TEST DRIVE, NOTICED WHEN PULLING OUT THERE WAS BLACK SMOKE FROM THE STACK, SENT FOR P/A ON DPF AND HC DOSER MOUNTING PARTS. DUMPED THE FLUSH OUT OF THE COOLING SYSTEM AND RAN WATER THROUGH TILL WATER CAME OUT CLEAN, REPLACED THE COOLANT FILTER, FILLED COOLING SYSTEM WITH NEW ELC. PRESSURE WASHED OFF BOTH SIDES OF ENGINE. REMOVED PASSENGER STEP, STEP MOUNTING BRACKET, REMOVED DOC INLET CLAMP, REMOVED TEMP SENSORS, DPF DIFFERENTIAL PRESSURE TUBE, REMOVED DOC AND DPF, VERIFIED THAT DPF IS BREACHED. CLEANED UP GASKET SURFACES, INSTALLED NEW DPF WITH NEW GASKET AND CLAMP, CLEANED THE DOC, INSTALLED WITH NEW GASKET AND CLAMP, HOOKED UP DOC INLET WITH GASKET AND CLAMP, REPLACED THE PM SENSOR, ZIP TIED UP WIRING, RE-INSTALLED STEP BRACKET, REMOVED THE HC DOSER COOLANT LINES AND BLOCKED, CLEANED THE HC DOSER, WENT TO FLOW TEST THE HC DOSER, DAVIE KEPT COMING UP WITH COMMUNICATION ISSUE, T/S U1073 FOR HUMIDITY SENSOR COMMUNICATION, CHECKED THE BATTERY CABLES FOR CORRECT ROUTING AND TERMINAL CONNECTIONS- OK, CHECKED VOLTAGE TO THE HUMIDITY SENSOR, FOUND ONLY GETTING 2.13 VOLTS TO SENSOR, FOUND FUSE LOCATION G9 FOR ENGINE POWER 2 15 A FUSE, FOUND BLOWN, REPLACED FUSE AND CHECKED HUMIDITY SENSOR VOLTAGE, FOUND NOW GETTING BATTERY VOLTAGE, TRIED TO FLOW TEST AGAIN AND FOUND WOULD PERFORM TEST NOW, FLOW TESTED THE HC DOSER, FOUND FLOWS 8 FL OZ EACH TIME- OK, CLEANED UP THE PIPE AND INSTALLED NEW ISOLATER, GASKET AND BOTH BOLTS AND MOUNTED THE HC DOSER, TORQUED BOLTS, HOOKED UP COOLANT LINES TO DOSER, PULLED OUTSIDE AND LETTING WARM UP FOR REGEN. TOOK WARRANTY PARTS. STARTED UNIT IN REGEN.

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Dealer C

Terms: Net

Bill To:

Date: 04/13/2022

Open Date:

W. O. #:

P.O. #:

Acct #: IDF2008

Page #: 7 of 8

Ordered By:

Written By:

Released By: Brandi Zahn

Department:

Account:

1XK1DP9X9LJ389256

Y200471

Phone:

Year: 2020

Make: Kenworth

Serial #:

Mileage: 345987

Model: W990

Eng Serial #:

<u>Item</u>	<u>Description</u>	<u>Quantity</u>	<u>Price</u>	<u>Credit</u>	<u>Amount</u>
2274612PEX	DPF KIT, W/ CLAMPS, GASKETS, EPA17	1			\$2,611.83
2131533PEXC	CORE DPF	1			\$772.50
1827320PE	GASKET	1			\$15.55
LP34216	CLAMP-V, 5 INCH SPHERICAL,	1			\$36.32
1816833PE	GASKET-INJECTO	1			\$14.44
1899870PE	ISOLATOR-THERMAL	1			\$3.74
2158132PE	FLANGE BOLT, M6 X 60	2			\$27.16
2160125PRX	SENSOR, PARTICULATE	1			\$396.21
546155000 D	PARTICULATE SENSOR CORE	1			\$128.75
1976039PE	WASHER	4			\$18.36
PARTS REVIEW	COMPLETE	1			\$0.00
Operation 2 Total					4,913.86

An error has occurred while processing PictureBox 'pbLogo':  
Invalid image data.  
----- InnerException -----  
Object is currently in use elsewhere.

**REPAIR**  
IDFRO  
Dealer C

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Phone:

Parts:

Core Credit:

Freight:

Labor:

Sublet:

Towing:

Mileage:

Shop

Supplies:

Tax:

Environment

al Fee:

Coupon

Credit:

Return

Credit:

**Total: \$29,932.55**

Year: 2020

Make: Kenworth

Serial #:

Mileage: 345987

Model: W990

Eng Serial #:

**WTNY**  
**Repair Invoice**  
**Terms and Conditions**

The customer identified herein ("Customer") acknowledges that (s)he has inspected the repairs performed by Kenworth Sales Company ("Seller") on Customer's Equipment ("the Equipment") as detailed herein, accepts the same, and agrees to pay the total amount due. Customer agrees to pay a service charge of 1-3/4% per month (21% per annum) on all amounts remaining unpaid after the 10th of the month following receipt, with a minimum charge of \$15.00, together with a daily storage fee of \$30.00 for each piece of Equipment remaining with the Seller 30 days after 1) completion of authorized repairs or 2) cessation of repairs/service for any reason. Customer agrees to pay all collection costs including a reasonable attorney's fee, and hereby waives all claims or rights to claim exemptions under applicable state laws. Customer grants Seller an express Repairman's Lien on the Equipment for the value of the parts and any services provided, and warrants that no third party holds a superior lien on the Equipment except as disclosed by Customer. Any warranties on the product(s) sold hereby are those of the manufacturer. Any claim for warranty coverage resulting from the use of aftermarket, non-OEM parts will not be honored by the OEM. Warranty claims must be submitted within 30 days of discovery of defect. Seller disclaims all warranties, either express or implied, including any implied warranty of merchantability or fitness for a particular purpose. Seller neither assumes nor authorizes any other person to assume for it any liability in connection with the sale of the merchandise or services hereunder. Claims for adjustments or credits must be made within ten (10) days of the date of this document and must be accompanied by a complete copy of this document. Claims concerning Seller's workmanship must be submitted within 90 days of the date of this document. Customer acknowledges that in the course of performing diagnostic and repair services detailed herein, Seller may have connected Customer's Equipment to Original Equipment Manufacturer ("OEM") approved electronic equipment, and that such tool may reset the operating parameters of the Equipment to OEM required settings. Customer accepts any and all risks that may occur in the event of a conflict between such original OEM settings and any post-production modifications made by Customer to the Equipment. Customer releases Seller from liability for any damages to the Equipment or its contents due to loss, theft, destruction, or causes other than gross negligence, and further releases Seller from liability for down time, damage to cargo, or other damage related to delays in completing the requested repairs and/or delay in obtaining parts. Interpretation and enforcement of this document shall be governed by the laws of the State in which it is issued. The purchase and use of non-OEM (original equipment manufacturer) aftermarket parts may void OEM warranty coverage on your equipment, including warranties of fitness for particular purpose and use.

**CUSTOMER**  
**SIGNATURE** 