



OVERHAUL PROTECTION ON-HIGHWAY VEHICLE ENGINES

Overhaul Protection For Cat® On-Highway Vehicle Engines
Registration Certificate For Overhauls Performed Worldwide (Excludes Colombia and Venezuela)

Effective Date: November 1, 2014

CUSTOMER NAME: Phillip Strait PHONE: 319-520-7476

ADDRESS: 18043 205th St CITY: Keosauqua

STATE / PROVINCE: IA POSTAL CODE: 52565 COUNTRY: USA

CAT® DEALER: Ziegler Cat DEALER CODE: E517

ADDRESS: 1500 Ziegler Dr N.W. CITY: Altoona

STATE / PROVINCE: IA POSTAL CODE: 50009 COUNTRY: USA

TEPS DEALER: _____ DEALER CODE: _____

ADDRESS: _____ CITY: _____

STATE / PROVINCE: _____ POSTAL CODE: _____ COUNTRY: _____

PROVIDER: See Section XIV.

REGISTRATION DETAIL

- New Registration
- Delayed Coverage Start
- Transfer of Ownership
- Replacement Engine
- Upgrade of Coverage

Engine Serial No.: BXS19417 Engine Sales Model: C15 Horsepower: 500
 Application: On Highway Truck Engine Overhaul/OPT Start Date: July 2016
 Start ECM Mi/Kms: 1105411 Start Odometer Mi/Kms: 269342
 Replacement Date: _____ ECM Mi/Kms: _____ Odometer Mi/Kms: _____
 Transfer Date: _____ ECM Mi/Kms: _____ Odometer Mi/Kms: _____
 Veh. OEM: Kenworth Veh. Model: W900 VIN: 1XKWDB9X35J052917

COVERAGE OPTIONS AND TERMS

Heavy Duty Coverage	Months	Miles/Kms	Price	Medium Duty Coverage	Months	Miles/Kms	Price
OPT	48	Unlimited	\$4590.00	OPT			
Towing (U.S.A. & Canada Only)	48	Unlimited	\$600.00	Towing (U.S.A. & Canada Only)			

IMPORTANT: Overhaul Worksheet must be completed prior to enrollment and attached to this Registration Certificate!!

Deductible (Per Visit) : U.S.A. \$ _____ \$0

EXTENDED COVERAGE FEES

IMPORTANT!!

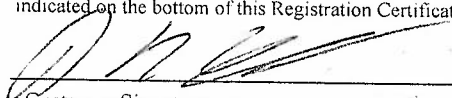
This contract provides only those coverages checked above and as specified within the additional number of pages indicated on the bottom of this Registration Certificate. Dealer - Refer to published price lists for currently available coverage options and applications.

Coverage Fee (from above): U.S.D. \$ 5,190
 Late Fee: U.S.D. \$ _____
 Tax: U.S.D. \$ _____
Total Coverage Fee: U.S.D. \$ 5,190

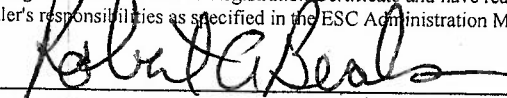
Limit of Liability:

The maximum amount we will pay for any single claim will be the reasonable cost to repair or replace the covered vehicle engine, not to exceed Caterpillar's list price for equivalent replacement engine.

I hereby certify that I have read and understand the terms and conditions checked above and as specified within the additional number of pages indicated on the bottom of this Registration Certificate.


 Customer Signature _____ Date 6 July 2016

I hereby certify that the engine serial number indicated above is eligible for the extended coverage as specified on this Registration Certificate and have read and understand the Dealer's responsibilities as specified in the ESC Administration Manual.


 Authorized Dealer Representative _____ Date 6 July 2016



OVERHAUL PROTECTION ON-HIGHWAY VEHICLE ENGINES OPERATING WORLDWIDE (Excludes Colombia and Venezuela)

Overhaul Certification Worksheet - This is NOT The Registration Form
Program Effective Date: January 1, 2014

Overhaul Date: 6 July 2016 Overhauling Dealer: Ziegler Cat Overhauling Dealer Code: E517
Owner Name: Phillip Strait Owner Address: 18043 205th St, Keosauqua IA 52565

Vehicle Year / Make / Model: 2005 Kenworth W9VIN # : 1XKWDB9X35J052917 Engine Sales Model: C15 Engine S/N: BXS19417
HP: 500 ECM Start Miles/Kms: 1,105,411 Odometer Start Miles/Kms: 269,342 Total Fuel (Gallons/Liters): 200,403

REQUIRED ACTIONS	COMPLETED
Download ECM and Record Active Faults and Lifetime Totals	<input checked="" type="checkbox"/> Yes
Check SIMS and perform any applicable PIP / PSP's	<input checked="" type="checkbox"/> Yes
Engines must complete and pass test after overhaul	<input checked="" type="checkbox"/> Yes
REQUIRED REPLACEMENT COMPONENTS	
Thermostat	<input checked="" type="checkbox"/> Yes
Spacer Plate Gasket	<input checked="" type="checkbox"/> Yes
Rod, Main & Thrust Bearings	<input checked="" type="checkbox"/> Yes
Valve Cover Gasket	<input checked="" type="checkbox"/> Yes
Oil Filter, Fuel Filters, and Cooling System Conditioner	<input checked="" type="checkbox"/> Yes
Cylinder Packs (Required If Available)	<input checked="" type="checkbox"/> Yes
Piston Group Wrist Pin, Retainer Clip & Rings (Where Applicable)	<input type="checkbox"/> Yes
Piston Body Assembly (Where Applicable)	<input type="checkbox"/> Yes
Exhaust Manifold Studs / Gasket / Sleeves	<input checked="" type="checkbox"/> Yes
Cylinder Head Assembly / Head Gasket / Injector Sleeves /	<input checked="" type="checkbox"/> Yes
Injector Sleeve Seal O-rings	<input checked="" type="checkbox"/> Yes
Connecting Rod Assembly (Where Applicable)	<input type="checkbox"/> Yes
Fuel Nozzles (Where Applicable)	<input type="checkbox"/> Yes
Cam Follower Spring Guides (Where Applicable)	<input type="checkbox"/> Yes
O Ring Seals (between spacer block & cylinder head) (3176 Only)	<input type="checkbox"/> Yes
Cylinder Head Bolts on (C-10, C11, C-12, & C13)	<input type="checkbox"/> Yes
Variable Valve Actuators (VVAs) Mounting Studs (where applicable and NOT the latest design)	<input checked="" type="checkbox"/> Yes

OPTIONAL REPLACEMENT COMPONENTS *	Replaced	Exception
Front Cover Gasket	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Turbocharger(s)** / Seals / Gaskets	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Water Pump / Seals / Gaskets	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Unit Injectors***	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Air Compressor	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Variable Valve Actuators (VVAs) Assembly***	<input type="checkbox"/>	<input checked="" type="checkbox"/>

ADDITIONAL COMPONENTS	INSPECTED Yes	Replaced	Exception
Pre-Cooler (turbocharger) +	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pre-Cooler Mounting Bracket (turbocharger) ++	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Coolant Diverter Valve or Assembly	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Engine Oil Rail (EOR) Valve	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

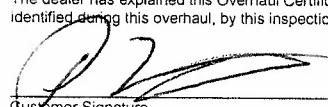
NOTE:
 *Optional Replacement Components are covered only if replaced with new or Caterpillar Remanufactured components at time of the overhaul.
 ** If the engine has two turbocharger(s), both must be replaced to qualify for optional coverage.
 *** Electronic Unit Injectors and Variable Valve Actuators (VVAs) must be replaced as a set to qualify for optional coverage.
 + Pre-Cooler is covered only if inspected or replaced, and the Pre-Cooler Mounting Bracket is of the latest design at the time of the overhaul.
 ++ This component must be of the latest design to qualify for coverage. Dealers must confirm the latest design or replace this component at the time of the overhaul to receive coverage under the program.

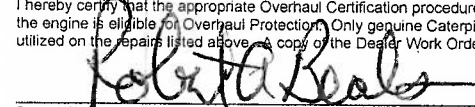
INSPECTED COMPONENTS

Components listed in this section are covered only if they pass inspection, are repaired or replaced during the overhaul. Parts not replaced must be within the specifications set forth in the Service Manual or applicable Guideline for Reusable Parts. If a component fails the inspection and is not repaired or replaced it will not be covered under this program. In this case the Exception box should be marked. One time use components as identified by applicable service guide must be replaced.

	INSPECTED				INSPECTED			
	Yes	Replaced	Exceptions		Yes	Repaired	Replaced	Exceptions
Thermostat Housing	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Cylinder Head Bolts	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Spacer Plate / Spacer Block	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Exhaust Manifold	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Camshaft	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Valve Cover & Base	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
*Camshaft Follower / Lifter	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Water Pump Housing	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vibration Damper	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Flywheel Housing	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Crankshaft	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Front Housing	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Oil Pump	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	**Cylinder Block / Deck / Counter Bore	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Front Covers and Plate	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Piston Cooling Spray Jets	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Oil Cooler Housing	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Oil Pan	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rocker Arm Assembly	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Freeze Plugs	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Intake Manifold	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Main Bearing Cap Bolts	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

* If the camshaft is replaced, any lifters/rollers/followers that are in direct contact with the camshaft must also be replaced.
** At the time of the overhaul if the cylinder block is cracked or is or has been welded / repaired, the block must be replaced or checked as a exception and is not covered under the program.

The dealer has explained this Overhaul Certification Worksheet to me. All problems, as identified during this overhaul, by this inspection, have been corrected.

 Customer Signature _____ Date 6 July 2016

I hereby certify that the appropriate Overhaul Certification procedure as specified above has been completed and the engine is eligible for Overhaul Protection. Only genuine Caterpillar new or remanufactured components were utilized on the repairs listed above. A copy of the Dealer Work Order is attached.

 Dealer Service Manager Signature _____ Date 6 July 2016

Overhaul Protection For On-Highway Vehicle Engines Extended Service Coverage Matrix

Effective November 1, 2014

ITEM	Covered Components	ITEM	Covered Components
AIR INDUCTION & EXHAUST GROUP		FRONT AND REAR COVER GROUP	
Exhaust Manifold Studs	YES	Front Housing / Covers / Plate	YES 1
Exhaust Manifold Gaskets / Sleeves	YES	Front Cover Gasket	YES 3
Exhaust Manifold / Intake Manifold	YES 1	Flywheel Housing	YES 1
Pre-Cooler (Turbocharger) *	YES 1	Vibration Damper	YES 1
Pre-Cooler Mounting Bracket /Support (Turbocharger)	YES 2	SHORT BLOCK GROUP	
Coolant Diverter Valve or Assembly	YES 1	Cylinder Block Casting	YES 1
Turbocharger(s)/Turbocharger Seals and Gaskets	YES 3	Spacer Deck (3176 only)	YES 1
CYLINDER HEAD GROUP		O-Ring Seals Between Spacer Block and Cyl Head (3176)	YES
Cylinder Head Casting	YES	Freeze Plug	YES 1
Cylinder Head Bolts	YES 1	Crankshaft Casting	YES 1
Cylinder Head Gasket	YES	Bearings (crankshaft, rod, main and thrust)	YES
Freeze Plug	YES 1	Connecting Rod Assembly and Bushing	YES
Cylinder Head Injector Sleeves and Injector Sleeve Seal O-Rings	YES	Piston Assembly (includes wrist pin, retainer clips, rings)	YES
Spacer Plate (block and head)	YES 1	Cylinder Block Counterbore	YES 1
Spacer Plate Gasket	YES	Cylinder Liner, Seals, Filler Band	YES
Intake / Exhaust Valves (Includes spring, insert, guide, rotocoil, retainer)	YES	Main Bearing Cap Bolt	YES 1
Valve Mechanism (includes rocker arm, brackets, bridges, dowels, adjusting screws, nuts, shaft & push tubes)	YES 1	FUEL SYSTEM	
Valve Cover & Base	YES 1	Unit Injectors	YES 3
Valve Cover Gasket	YES	Mechanical Fuel Nozzles	YES
Camshaft	YES 1	Mechanical Fuel Nozzle Seals and Fasteners	YES
Camshaft Lifter Assembly (followers) Clips	YES 1	IMPORTANT NOTICE:	
Variable Valve Actuator (VVAs) Assembly *	YES 3	All "Covered Components" must pass inspection or be replaced at the proper intervals as prescribed by the Operation and Maintenance Manual by an "Authorized Dealer" to qualify for continued coverage under this Service Contract. "Your" failure to follow the Operation and Maintenance Manual may result in denial of coverage.	
Variable Valve Actuator (VVAs) Mounting Studs	YES 2	NOTE: Items marked "YES" are covered components that are required to be replaced during the overhaul.	
LUBRICATION SYSTEM		NOTE: Items marked "YES 1" are covered if they pass inspection or are repaired / replaced during the overhaul except applicable exclusions as given in the Service Contract.	
Oil Pan	YES 1	NOTE: Items marked "YES 2" must be of the latest design in order for the VVA assemblies and studs and the pre-cooler mounting bracket to qualify for coverage. Dealers must confirm the latest design or replace these components at the time of inspection to received coverage under the program.	
Oil Pump	YES 1	NOTE: Items marked "YES 3" are covered if replaced as optional components during the overhaul except applicable exclusions as given in the Service Contract. "Seals and gaskets are only covered if replaced at the time of the overhaul in conjunction with a new or REMAN Cat turbo (s), water pump, injector(s), and/or air compressor".	
Oil Cooler Housing	YES 1	* Coverage applies only if the Pre-Cooler Mounting Bracket and Variable Valve Actuator (VVAs) Mounting Studs are of the latest design at the time of the overhaul.	
Piston Cooling Spray Jets	YES 1	U.S.A. and Canada Only: Towing, if selected on the registration page: This Service Contract provides reasonable or customary towing to the nearest "repairer" for a "mechanical breakdown" or reasonable travel expenses from the nearest "repairer" for a "mechanical breakdown" under normal use during the "coverage period" due to a defect in material or factory workmanship.	
COOLING SYSTEM		NOTE: Injectors must be replaced as a set.	
Thermostat Housing	YES 1	NOTE: If the engine has more than 1 turbocharger, both must be replaced.	
Thermostat	YES	NOTE: If the camshaft is replaced, any lifters/rollers/followers that are in direct contact with the camshaft must also be replaced.	
Water Pump, Seals and Gaskets	YES 3	NOTE: If the component is replaced, all parts of the component must be replaced	
Water Pump Housing	YES 1		
ELECTRONIC SYSTEM			
Engine Oil Rail (EOR) Valve	YES 1		
MISCELLANEOUS			
Air Compressor	YES 3		

Overhaul Protection For On-Highway Vehicle Engines Extended Service Coverage Matrix

Effective January 1, 2019

ITEM	Covered Components	ITEM	Covered Components
AIR INDUCTION & EXHAUST GROUP		FRONT AND REAR COVER GROUP	
Exhaust Manifold Studs	YES	Front Housing / Covers / Plate	YES 1
Exhaust Manifold Gaskets / Sleeves	YES	Front Cover Gasket	YES 3
Exhaust Manifold / Intake Manifold	YES 1	Flywheel Housing	YES 1
Pre-Cooler (Turbocharger) *	YES 1	Vibration Damper	YES 1
Pre-Cooler Mounting Bracket /Support (Turbocharger)	YES 2	SHORT BLOCK GROUP	
Coolant Diverter Valve or Assembly	YES 1	Cylinder Block Casting	YES 1
Turbocharger(s)/Turbocharger, Seals and Gaskets	YES 3	Spacer Deck (3176 only)	YES 1
CYLINDER HEAD GROUP		O-Ring Seals Between Spacer Block and Cyl Head (3176)	YES
Cylinder Head Casting	YES	Freeze Plug	YES 1
Cylinder Head Bolts	YES 1	Crankshaft Casting	YES 1
Cylinder Head Gasket	YES	Bearings (camshaft, crankshaft, rod, main and thrust)	YES
Freeze Plug	YES 1	Connecting Rod Assembly and Bushing	YES
Cylinder Head Injector Sleeves and Injector Sleeve Seal O-Rings	YES	Piston Assembly (includes wrist pin, retainer clips, rings)	YES
Spacer Plate (block and head)	YES 1	Cylinder Block Counterbore	YES 1
Spacer Plate Gasket	YES	Cylinder Liner, Seals, Filler Band	YES
Intake / Exhaust Valves (Includes spring, insert, guide, rotocoil, retainer)	YES	Main Bearing Cap Bolt	YES 1
Valve Mechanism (includes rocker arm, brackets, bridges, dowels, adjusting screws, nuts, shaft & push tubes)	YES 1	FUEL SYSTEM	
Valve Cover & Base	YES 1	Unit Injectors, Seals and Gaskets	YES 3
Valve Cover Gasket	YES	Mechanical Fuel Nozzles	YES
Camshaft	YES 1	Mechanical Fuel Nozzle Seals and Fasteners	YES
Camshaft Lifter Assembly (followers) Clips	YES 1	<p style="text-align: center;">IMPORTANT NOTICE:</p> <p>All "Covered Components" must pass inspection or be replaced at the proper intervals as prescribed by the Operation and Maintenance Manual by an "Authorized Dealer" to qualify for continued coverage under this Service Contract. "Your" failure to follow the Operation and Maintenance Manual may result in denial of coverage.</p> <p>NOTE: Items marked "YES" are covered components that are required to be replaced during the overhaul.</p> <p>NOTE: Items marked "YES 1" are covered if they pass inspection or are repaired / replaced during the overhaul except applicable exclusions as given in the Service Contract.</p> <p>NOTE: Items marked "YES 2" must be of the latest design in order for the VVA assemblies and studs and the pre-cooler mounting bracket to qualify for coverage. Dealers must confirm the latest design or replace these components at the time of inspection to received coverage under the program.</p> <p>NOTE: Items marked "YES 3" are covered if replaced as optional components during the overhaul except applicable exclusions as given in the Service Contract. "Seals and gaskets are only covered if replaced at the time of the overhaul in conjunction with a new or REMAN Cat turbo (s), water pump, oil cooler, injector(s), and/or air compressor".</p> <p>* Coverage applies only if the Pre-Cooler Mounting Bracket and Variable Valve Actuator (VVAs) Mounting Studs are of the latest design at the time of the overhaul.</p> <p>U.S.A. and Canada Only: Towing, if selected on the registration page: This Service Contract provides reasonable or customary towing to the nearest "repairer" for a "mechanical breakdown" or reasonable travel expenses from the nearest "repairer" for a "mechanical breakdown" under normal use during the "coverage period" due to a defect in material or factory workmanship.</p> <p>During Overhaul, the following rules apply:</p> <p>A. Injectors must be replaced as a set.</p> <p>B. If the engine has more than 1 turbocharger, both must be replaced.</p> <p>C. If the camshaft is replaced, any lifters/rollers/followers that are in direct contact with the camshaft must also be replaced.</p> <p>D. If the component is replaced, all parts of the component must be replaced.</p>	
Variable Valve Actuator (VVAs) Assembly *	YES 3		
Variable Valve Actuator (VVAs) Mounting Studs	YES 2		
LUBRICATION SYSTEM			
Oil Pan	YES 1		
Oil Pump	YES 1		
Oil Cooler, Seals and Gaskets	YES 3		
Piston Cooling Spray Jets	YES 1		
COOLING SYSTEM			
Thermostat Housing	YES 1		
Thermostat	YES		
Water Pump, Seals and Gaskets	YES 3		
Water Pump Housing	YES 1		
ELECTRONIC SYSTEM			
Engine Oil Rail (EOR) Valve	YES 1		
MISCELLANEOUS			
Air Compressor, Seals and Gaskets	YES 3		



901 West 94th Street
 Minneapolis MN 55420-4236



MINNESOTA	952-888-4121	800-352-2812
IOWA	515-957-3800	800-342-7002
MISSOURI	515-957-3800	800-342-7002
WISCONSIN	515-957-3800	800-342-7002

Sold To: STRAIT TRUCKING
 18043 205TH STREET
 KEOSAUQUA IA 52565

Invoice Number: WX69280

Date: 2/25/19

Account No.: 0513710

Ship To:

Invoice Information			
WO Number:	WX69280	Make:	CATERPILLAR
WO Date:	2/19/19	Model:	C15
Store:	DESM MOINES TRUCK SH	Serial:	0BXS19417
Payment Terms:	COD	PIN:	
P/O Number:		Id No:	
Ship Via:		Cust Unit:	
Invoice Type:	1H1H1H	Meter:	1364778.0

Invoice Summary			
Parts:	4,316.91		
Labor:	4,027.00		
Misc:	1,024.59		
Taxes:	562.11	Amount Due:	\$9,930.61
Invoice Total:	9,930.61		

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.

To ensure proper credit, please detach this portion, at the perforation, and return with remittance.



901 West 94th Street
 Minneapolis MN 55420-4236



MINNESOTA 952-888-4121 800-352-2812
 IOWA 515-957-3800 800-342-7002
 MISSOURI 515-957-3800 800-342-7002
 WISCONSIN 515-957-3800 800-342-7002

Invoice Number: WX69280 Date: 2/25/19 Account No.: 0513710 Page: 2

Quantity	Item	N/R	Description	Unit Price	Extended
* * * PROFORMA INVOICE * * *					
TROUBLESHOOT ENGINE OIL COOLER					
CUSTOMER COMPLAINT:					
THE TRUCK WAS BROUGHT IN FOR OIL IN THE COOLANT.					
CAUSE OF FAILURE:					
THE OIL COMING OUT OF THE RADIATOR WAS EXTREMELY DARK AND APPEARED TO BE ENGINE OIL, SO WE STARTED TO TEAR IT APART FOR THE ENGINE COOLER. WE FIGURED OUT LATER THAT THE TRANSMISSION COOLER HAD FAILED.					
REPAIR PROCESS COMMENTS:					
WE DRAINED THE COOLANT AND OIL MIXTURE OUT OF THE COOLING SYSTEM AND DISASSEMBLED THE RIGHT SIDE AND REMOVED THE OIL COOLER. WE STARTED WASHING THE THERMOSTAT HOUSING AND THE FRONT AND REAR BONNETS OFF OF THE OIL COOLER AND IT SMELLED LIKE SYNTHETIC TRANSMISSION OIL. WE CLEANED OUT THE OIL COOLER AND PRESSURIZED IT AND IT HELD PRESSURE, ALTHOUGH IT WASN'T IN GREAT SHAPE. WE REMOVED THE FILL PLUG ON THE TRANSMISSION AND FOUND IT WAS FULL OF COOLANT. WE REMOVED THE TRANSMISSION COOLER AND PRESSURIZED IT AND IT WAS LEAKING.					
			TOTAL LABOR	SEG. 01	126.00 *
			SEGMENT 01 TOTAL		126.00 T

REPAIR ENGINE OIL COOLER					
CUSTOMER COMPLAINT:					
WE HAD REMOVED THE ENGINE OIL COOLER AND PRESSURIZED IT AND IT HELD PRESSURE, ALTHOUGH IT WASN'T IN VERY GOOD SHAPE.					
CAUSE OF FAILURE:					
THE CUSTOMER DID NOT WANT TO REPLACE THE OIL COOLER.					
REPAIR PROCESS COMMENTS:					
THE PARTS WERE ALL FULL OF OILY PUDDING FROM THE TRANSMISSION OIL, SO THE PARTS WERE CLEANED OUT AND THE OIL COOLER WAS CLEANED WITH A ROD TO TRY AND REMOVED THE DEBRIS. THE OIL COOLER, BONNETS, TURBO DRAIN LINE, ETC WERE ALL REINSTALLED WITH NEW SEALS AND TORQUED.					
2	3S-9643		SEAL	S 12.59	25.18
2	4N-1156		GASKET	S 1.80	3.60
1			CORE CHARGE	S 394.62	394.62
1-			CORE CREDIT	S 394.62	394.62-
2	109-0077		SEAL O RING	S 10.98	21.96
1	125-0434		SEAL	S 16.59	16.59
1	126-4935		SEAL	S 6.13	6.13
2	139-3550		GASKET-REGUL	S 4.49	8.98
1	235-5678		SEAL-O-RING	S .81	.81
2	247-7133		REGULATOR-TE	S 47.85	95.70
			TOTAL PARTS	SEG. 02	178.95 *
				F/R LBR	850.00 *
			SEGMENT 02 TOTAL		1028.95 T

REPLACE TRANSMISSION					
CUSTOMER COMPLAINT:					



901 West 94th Street
 Minneapolis MN 55420-4236



MINNESOTA
 IOWA
 MISSOURI
 WISCONSIN

952-888-4121 800-352-2812
 515-957-3800 800-342-7002
 515-957-3800 800-342-7002
 515-957-3800 800-342-7002

Invoice Number: WX69280

Date: 2/25/19

Account No.: 0513710

Page: 3

Quantity	Item	N/R	Description	Unit Price	Extended
* * * PROFORMA INVOICE * * *					
THERE WAS OIL IN THE TRANSMISSION.					
CAUSE OF FAILURE:					
THE TRANSMISSION OIL COOLER WAS LEAKING.					
REPAIR PROCESS COMMENTS:					
THE OLD OIL COOLER AND LINES WERE REMOVED AND THE					
TRANSMISSION OIL COOLER WAS PRESSURIZED AND IT					
LEAKED. A NEW TRANSMISSION COOLER WAS INSTALLED					
AND NEW OIL LINES WERE MADE UP AND INSTALLED. THE					
OLD COOLANT HOSES WERE REATTACHED.					
4	124-1965		COUPLING S	13.40	53.60
150	456-8454		HOSE BK S	.23	34.50
1	K3955		COOLER N	845.93	845.93
	TOTAL PARTS		SEG. 03		934.03 *
			F/R LBR		495.00 *
2.00	HOSE ASSEMBLY				50.00
	TOTAL MISC CHGS		SEG. 03		50.00 *
	SEGMENT 03 TOTAL				1479.03 T

RESEAL OIL FILTER					
BASE					
CUSTOMER COMPLAINT:					
THERE WERE OIL LEAKS ON THE RIGHT SIDE OF THE					
ENGINE.					
CAUSE OF FAILURE:					
THE OIL FILTER BASE WAS LEAKING AND WE ALREADY HAD					
THE OIL COOLER OFF.					
REPAIR PROCESS COMMENTS:					
THE OIL FILTER AND OIL FILTER BASE WERE REMOVED.					
THE BASE WAS DISASSEMBLED, CLEANED, AND					
REINSTALLED WITH NEW SEALS. A NEW OIL FILTER AND					
OIL WERE INSTALLED AND THE ENGINE WAS RAN AND					
CHECKED FOR LEAKS.					
1	1R-1808		FILTER AS-LU S	33.43	33.43
1	8C-5230		SEAL O RING S	14.83	14.83
2	061-7540		SEAL O RING S	9.54	19.08
2	113-5304		SEAL S	17.41	34.82
1	167-4407		SEAL-O-RING S	3.40	3.40
1	197-8418		GASKET S	2.62	2.62
1	197-8419		GASKET S	2.79	2.79
1	210-9246		SEAL-O-RING S	8.14	8.14
2	214-7568		SEAL-O RING S	3.96	7.92
2	238-5084		SEAL-O-RING S	7.55	15.10
	TOTAL PARTS		SEG. 04		142.13 *
			F/R LBR		126.00 *
10.00	CAT DEO OIL CJ4				153.70
	TOTAL MISC CHGS		SEG. 04		153.70 *
	SEGMENT 04 TOTAL				421.83 T

FLUSH ENGINE COOLING SYSTEM					
CUSTOMER COMPLAINT:					
THE COOLING SYSTEM WAS FULL OF OIL.					
CAUSE OF FAILURE:					
THE TRANSMISSION COOLER HAD FAILED FILLING THE					
COOLING SYSTEM WITH OIL.					



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Quantity	Item	N/R	Description	Unit Price	Extended
* * * PROFORMA INVOICE * * *					
REPAIR PROCESS COMMENTS: THE THERMOSTAT HOUSING WAS REMOVED AND THE HOUSING WAS DISASSEMBLED, CLEANED, AND THE THERMOSTATS WERE REMOVED. THE HOUSING WAS REASSEMBLED, WITHOUT THERMOSTATS, AND REINSTALLED. THE COOLANT DIVERTER VALVE WAS REMOVED, THE INTERNAL PARTS WERE REMOVED, LEAVING JUST THE HOUSING, AND THE HOUSING WAS REINSTALLED. THE SYSTEM WAS FILLED WITH HOT, SOAPY WATER. THE RADIATOR WAS SO PLUGGED THAT IT DIDN'T HARDLY TAKE THE WATER AND IT HAD TO BE ADDED VERY SLOWLY. THE ENGINE WAS RAN AND THE TRUCK WAS TAKEN TO THE WASHBAY AND THE POWER WASHER WAS PUT IN THE TOP OF THE RADIATOR AND LEFT ON TO TRY AND BOIL OUT THE OIL FROM THE RADIATOR. THEN THE COOLANT WAS DUMPED AND WHEN THE LOWER HOSE WAS REMOVED AND LARGE GLOBS OF OIL CAME OUT OF THE HOSE AND WENT EVERYWHERE. THE ENGINE AND FLOOR WERE WASHED OFF AND THE PROCESS WAS REPEATED. WE SPENT OVER 12 HOURS JUST FLUSHING THE SYSTEM OVER AND OVER TRYING TO GET THE OIL OUT OF IT. IN THE END, WE GOT THE SYSTEM AS CLEAN AS WE COULD, BUT WITHOUT REMOVING THE RADIATOR AND HAVING IT DISASSEMBLED AND CLEANED, THIS IS AS GOOD AS IT WILL GET FOR AWHILE. MORE OIL WILL FLOAT TO THE TOP OF THE COOLANT AND COULD BE SUCKED OUT, BUT THERE SHOULD NOT BE ANY OIL PUKING OUT OF THE OVERFLOW. THE COOLANT DIVERTER VALVE WAS REMOVED AND A REBUILD KIT WAS INSTALLED AND THE VALVE WAS REINSTALLED. THE THERMOSTAT HOUSING WAS REMOVED AND NEW THERMOSTATS AND SEALS WERE INSTALLED AND THE HOUSING WAS INSTALLED. NEW ELC COOLANT WAS INSTALLED IN THE SYSTEM.					
1	4C-4610		CLEANER	S 17.06	17.06
1	7X-3317		SCREW	S 2.04	2.04
2	8T-5917		SEAL-O-RING	S 1.72	3.44
1	319-6059		KIT-DIAPHRAG	S 152.99	152.99
			TOTAL PARTS	SEG. 05	175.53 *
11.00			CAT ELC GAL	F/R LBR	1320.00 *
					147.95
			TOTAL MISC CHGS	SEG. 05	147.95 *
			SEGMENT 05 TOTAL		1643.48 T

FLUSH TRANSMISSION CUSTOMER COMPLAINT: THE TRANSMISSION WAS FULL OF COOLANT. CAUSE OF FAILURE: THE TRANSMISSION COOLER HAD FAILED. REPAIR PROCESS COMMENTS: THE TRANSMISSION NEEDED FLUSHED. THE TRANSMISSION WAS DRAINED AND FILLED WITH NEW SYNTHETIC 50W AND DRIVEN TO CIRCULATE THE OIL. THE OIL WAS DUMPED AND NEW OIL WAS INSTALLED AGAIN, WHICH IS HOW EATON RECOMMENDS DOING IT.					
			TOTAL LABOR	SEG. 06	165.00 *
14.00-			50W TRANS OIL		111.44-
42.00			50W TRANS OIL		334.32
14.00			PTS 50W TRANS OI		111.44



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* * * PROFORMA INVOICE * * *					
			TOTAL MISC CHGS	SEG. 06	334.32 *
			SEGMENT 06 TOTAL		499.32 T

REPLACE WITH CAT REMAN VALVE ACTUATOR					
CUSTOMER COMPLAINT:					
THE ENGINE HAD A NUMBER OF IVA FAULTS FOR #1, #2, #5, AND #6.					
CAUSE OF FAILURE:					
THE ECM WAS THE CAUSE OF MOST OF THE FAULTS.					
REPAIR PROCESS COMMENTS:					
WE INSTALLED A REMAN ECM AND MOST OF THE FAULTS WENT AWAY, ALTHOUGH THERE WAS STILL A FAULT FOR #6. WE STARTED CHECKING IN TO IT AND FOUND A RUBBED SPOT IN THE LOOM AND AFTER IT WAS REPAIRED, THERE WERE NO FAULTS FOR THE IVAS.					
			SEGMENT 07 TOTAL		.00 T

TROUBLESHOOT ROLLER CAMSHAFT					
CUSTOMER COMPLAINT:					
WE REMOVED THE VALVE COVERS TO CHECK OUT AN ENGINE MISS.					
CAUSE OF FAILURE:					
SURFACE FAILURE					
RESULTANT DAMAGE:					
WE FOUND THE #5 EXHAUST ROCKER ROLLER WAS PITTING AND CHUNKS WERE COMING OUT.					
REPAIR PROCESS COMMENTS:					
THE ROCKER ARM NEEDS REPLACED.					
			TOTAL LABOR	SEG. 08	63.00 *
			LESS 100%-LABOR		63.00-*
			SEGMENT 08 TOTAL		.00 T

REPLACE WITH EXCHANGE ROLLER CAMSHAFT					
CHUKED OUT					
CUSTOMER COMPLAINT:					
THE #5 EXHAUST ROCKER ARM NEEDED REPLACED.					
CAUSE OF FAILURE:					
SURFACE FAILURE					
RESULTANT DAMAGE:					
THE ROLLER WAS PITTED AND CHUNKS WERE COMING OUT.					
THE CAM STILL LOOKS OK.					
REPAIR PROCESS COMMENTS:					
THE IVA HOUSING, JAKE HOUSING, AND ROCKER ASSEMBLIES WERE REMOVED AND THE #5 EXHAUST ARM WAS REPLACED. THE ARMS WERE REINSTALLED WITH THE JAKE AND TORQUED TO SPEC AND THE VALVES AND INJECTORS ON #5 AND #6 WERE ADJUSTED. THE IVA HOUSING WAS REINSTALLED, TORQUED, AND ADJUSTED. THE VALVE COVERS AND INLET TUBING WERE INSTALLED.					
1	6V-3348		SEAL	S 7.72	7.72
1	20R-3320		ARM A V ROCK	S 146.40	146.40
1			CORE CHARGE	S 61.52	61.52
1-			CORE CREDIT	S 61.52	61.52-
			TOTAL PARTS	SEG. 09	154.12 *



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Quantity	Item	N/R	Description	Unit Price	Extended
* * * PROFORMA INVOICE * * *					
			LESS 100%-PARTS		154.12 - *
			TOTAL LABOR	SEG. 09	472.50 *
			LESS 100%-LABOR		472.50 - *
			SEGMENT 09 TOTAL		.00 T

TROUBLESHOOT ENGINE					
MISS					
CUSTOMER COMPLAINT:					
EVERY TIME THE ENGINE WAS STARTED, IT MISSED AND HAD A CHECK ENGINE LIGHT.					
CAUSE OF FAILURE:					
THE MISS WOULD COME AND GO AND THERE WERE FAULTS FOR #1, #2, #5, AND #6 INJECTORS. THE ECM ENDED UP BEING THE CAUSE OF FAILURE.					
REPAIR PROCESS COMMENTS:					
WE CHECKED THE WIRE NUTS AT THE INJECTORS AND THEY WERE ALL TIGHT AND THE INTERNAL LOOMS BOTH LOOKED GOOD. WE FOUND A RUB SPOT IN THE EXTERNAL LOOM, BUT EVEN AFTER IT WAS REPAIRED, THE MISS WAS STILL THERE. THE ECM HAS AN INTERNAL PROBLEM.					
				F/R LBR	315.00 *
			SEGMENT 10 TOTAL		315.00 T

REPAIR ENGINE					
MISS					
CUSTOMER COMPLAINT:					
THE ENGINE HAD A CHECK ENGINE LIGHT AND A MISS EVERY TIME WE STARTED THE ENGINE.					
CAUSE OF FAILURE:					
THE ECM IS BAD.					
REPAIR PROCESS COMMENTS:					
WE PROGRAMMED A REMAN ECM AND INSTALLED IT AND THE MISS AND THE CHECK ENGINE LIGHT WENT AWAY.					
			TOTAL LABOR	SEG. 11	252.00 *
			SEGMENT 11 TOTAL		252.00 T

REPAIR WIRING HARNESS					
CUSTOMER COMPLAINT:					
THE ENGINE HARNESS HAD A RUB SPOT WHERE ONE WIRE WAS RUBBED CLEAR THROUGH AND A COUPLE OF OTHERS WERE RUBBED.					
REPAIR PROCESS COMMENTS:					
WE REPAIRED ALL OF THE WIRES AND WRAPPED THE LOOM IN A PIECE OF HEATER HOSE TO KEEP IT FROM HAPPENING AGAIN.					
			TOTAL LABOR	SEG. 12	126.00 *
			SEGMENT 12 TOTAL		126.00 T

REPLACE SENSOR					
CUSTOMER COMPLAINT:					



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Quantity	Item	N/R	Description	Unit Price	Extended
* * * PROFORMA INVOICE * * *					
ONE PART OF THE CHECK ENGINE LIGHT WAS THE IVA OIL PRESSURE SENSOR. CAUSE OF FAILURE: THE SENSOR WAS BAD. THE SENSOR WAS ALSO THE OLD STYLE. REPAIR PROCESS COMMENTS: WE REPLACED THE OLD SENSOR WITH THE NEWEST SENSOR AND A JUMPER LOOM AND THE ENGINE FAULT WENT AWAY.					
1	214-7567		SEAL-O-RING S	3.73	3.73
1	249-5293		HARNESS AS S	37.61	37.61
1	284-2728		SENSOR GP-PR S	158.93	158.93
			TOTAL PARTS	SEG. 13	200.27 *
			TOTAL LABOR	SEG. 13	63.00 *
			SEGMENT 13 TOTAL		263.27 T

REPLACE WITH EXCHANGE ENG ELECTRONIC CONT MOD CUSTOMER COMPLAINT: THE ECM WAS PRODUCING A NUMBER OF FAULTS, INCLUDING INJECTOR AND IVA FAULTS. CAUSE OF FAILURE: THE ECM IS SHORTING OUT AT TIMES. REPAIR PROCESS COMMENTS: WE PROGRAMMED AND INSTALLED A REMAN ECM AND THE FAULTS AND THE MISS WENT AWAY.					
1	10R-4094		CONTROL GP E S	2686.00	2686.00
1			CORE CHARGE S	877.78	877.78
1-			CORE CREDIT S	877.78	877.78-
			TOTAL PARTS	SEG. 14	2686.00 *
			TOTAL LABOR	SEG. 14	189.00 *
			SEGMENT 14 TOTAL		2875.00 T

			SERVICE SUPPLIES AND ENVIRONMENTAL CHARGES		338.62 T
			OPT COVERAGE - \$0 DEDUCT COVERED REPAIRS	689.62	
			IA SALES TAX-6%		562.11 T
			* * * C O D * * *		
			INVOICE TOTAL		9,930.61