

DATE INVOICE
10/21/2021

TERMS
NET 30 DAYS
EMAILED: YES



BILL TO

101362

SHIP TO

101362

CONDITION: EXPRESS ASSESSMENT ** CHECK AND ADVISE FOR UNIT A/ C NOT BLOWING COLS

CAUSE:

CORRECTION:

QTY	ITEM	TECH NO.	DESCRIPTION	BIN 1	NET PRICE	EXTD PRICE
	LABOR					0

Job# 2

JOB #3 EA SRET EXPRESS ASSESSMENT

CONDITION: EXPRESS ASSESSMENT ** CHECK AND ADVISE FOR ABS LIGHT ON

CAUSE:

CORRECTION:

QTY	ITEM	TECH NO.	DESCRIPTION	BIN 1	NET PRICE	EXTD PRICE
	LABOR					0

Job# 3

JOB #4 EA SRET EXPRESS ASSESSMENT

CONDITION: EXPRESS ASSESSMENT ** CHECK AND ADVISE CUSTOMER STATES UNIT OVERHEATING GETTING TO 225-230

CAUSE:

CORRECTION:

QTY	ITEM	TECH NO.	DESCRIPTION	BIN 1	NET PRICE	EXTD PRICE
	LABOR					0

Job# 4

JOB #5 ^9900030 SRET PERFORM COMPLIMENTARY VEHICLE INSPECTION

CONDITION: STORY CONTINUED FROM OPERATION 1

CAUSE:

CORRECTION: CLEANED INJECTOR BORES, LUBED NEW INJECTOR O-RINGS. INSTALLED NEW INJECTORS WITH NEW HOLD DOWN BOLTS. CLEANED INJECTOR FUEL LINES. INSTALLED NEW INJECTOR PASS THROUGH SEALS. INSTALLED ALL 6 INJECTOR FUEL LINES AND TORQUED TO SPEC. TORQUED INJECTORS TO SPEC. INSTALLED INJECTOR HARNESS. INSTALLED VALVE COVER. INSTALLED AIR BOX BRACKETS AND INSTALLED AIR BOX. CONNECT LAPTOP AND PROGRAM NEW INJECTOR CALIBRATION CODES IN MCM. PRIME FUEL SYSTEM AND RAN ENGINE. TOOK UNIT TO STEAM BAY AND STEAM ENGINE OFF.

QTY	ITEM	TECH NO.	DESCRIPTION	BIN 1	NET PRICE	EXTD PRICE
	LABOR					0

Job# 5

JOB #6 4500000 SRET ENGINE POWER PLANT

CONDITION: REPLACE EGR COOLER TO CONT. TROUBLESHOOTING.

CAUSE:

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1	170F/DDE A4731800909	TS OIL FILTER	201
2	170F/SP 5 676X	U - JOINT KIT	6001
1	170F/DDE A4711400814	E/MFLD PARTS	405
1	170F/DDE A4711402614	EXH MFLD	NOLOC
1	170F/DDE A4711420680	GASKET	DR1
1	170F/DDE A5411870080	GASKET	VM8E
1	170F/DDE A0029903950	HEX NUT	VM7H
1	170F/DDE A0189973145	O-RING	VM8A
1	170F/05-27979-000	PIPE/HOSE-HEATER PLUMBING-HOSE	NOLOC
1	170F/A05-31255-000	PIPE-HEATER,3/4,STRAIGHT,122MM	NOLOC
1	170F/DDE A0019903917	SCREW PLUG	VM7H
4	170F/DDE N000000001067	SEAL RING	VM8G
4	170F/DDE N000000001069	SEAL RING (20mm O.D. x 14mm I	VM8G
6	170F/DDE A0019904605	STUD	VM7H
1	170F/DDE RA4710967899	TURBO DD13 EPA10 12L WG TRUCK	NOLOC
6	170F/DDE A0009903150	TURBO NUT	VM7H
1	170F/PH V500P8 04	VALVE-TEE HANDLE,1/2 FEMALE X	VM3D
3	170X/CRC5312	#12 53 SERIES HOSE CLAMP	CRS3H
1	170F/DDE A4712031180	SEAL	VM8C
1	170F/BRZ 9210H	CLAMP-HOSE,9/16-1 1/16IN, 1/2	2005
1	170F/TCX AMS012	GASKET-4 INCH SPHERICAL W/TABS	6003
2	170X/CRM10M-1816	8-1.25X16MM FT 10.9 HEX CAP ZC	CRS7C
2	170X/CRM10M-1108	8MM 10.9 FLAT WASHER ZC	CRS7C
1	170F/BRZ B9224 0411FRU	CLAMP-98IN LB-CT,4IN. CONVOLUT	2006
1	170F/A 025 997 43 48	SEAL RING	VM6G
-1	170F/DDE RA4710967899-CORE	TURBO DD13 EPA10 12L WG TRUCK	CORE
44	170D/MBL 105816	DELVAC1300 15W40 CK4-BULK TANK	SHOP
1	170F/TDA M676X	CENTER PARTS KIT, 18N, U-JOINT	6004
1	170F/DDE RA4710967899-CORE	TURBO DD13 EPA10 12L WG TRUCK	CORE
1	*FRT	FREIGHT IN	
1	*fit	FREIGHT IN	

Job# 6

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CORRECTION: 2637

DRAINED COOLANT. REMOVED AIR BOX. REMOVED TURBO HEAT SHIELDS. REMOVED CAC PIPE. REMOVED EXHAUST PIPE CLAMP. REMOVED HOT PIPE. REMOVED TURBO SUPPLY AND RETURN LINES. WENT TO REMOVE THE TURBO MOUNTING BOLTS AND ONCE I BROKE THEM LOOSE THEY GOT TIGHT. ENGINE IS VERY RUSTY AND BOLTS WILL LIKELY BREAK. WENT AND ADVISED SERVICE MANAGER. GOT CUSTOMER OK TO GO FORWARD. HEAT UP TURBO FLANGE TO TRY AND GET BOLTS TO COME OUT. THEY ALL BROKE. UNIT WILL NEED NEW TURBO AND MANIFOLD CENTER SECTION. REMOVED TURBO. REMOVED EXHAUST MANIFOLD. REMOVED COOLANT HOSES OFF EGR COOLER. REMOVED EGR COOLER. MADE A NEW NEEDED PARTS LIST FOR BROKEN ITEMS AND RUSTED ITEMS THAT WILL NOT RESEAL WHEN PUT BACK TOGETHER. CLEANED ALL GASKET SURFACES. INSTALLED NEW EGR COOLER / WATER MANIFOLD WITH NEW GASKETS AND TORQUED TO SPEC. INSTALLED NEW COOLANT FITTINGS ON WATER MANIFOLD. INSTALLED NEW CAB HEAT SHUT OFF VALVE, PIPE, AND HOSE WITH NEW HOSE CLAMPS. INSTALLED ALL THE COOLANT HOSES BACK ON WATER MANIFOLD. INSTALLED NEW EXHAUST MANIFOLD CENTER SECTION ON THE 2 OLD END MANIFOLDS WITH NEW BELLOW CLAMPS. INSTALLED NEW EXHAUST MANIFOLD GASKETS AND INSTALLED EXHAUST MANIFOLD WITH NEW BOLTS AND TORQUED TO SPEC. REMOVED TURBO OUTLET PIPE OFF OLD TURBO. INSTALLED ON NEW TURBO. INSTALLED TURBO WITH NEW GASKET AND MOUNTING HARDWARE AND TORQUED TO SPEC. PRE LUBED TURBO. INSTALLED TURBO OIL SUPPLY AND RETURN WITH NEW GASKETS. INSTALLED NEW EXHAUST PIPE GASKET. INSTALLED HEAT SHIELDS. INSTALLED AIR BOX. FILLED COOLING SYSTEM WITH COOLANT. BOXED UP TURBO CORE AND RETURNED TO PARTS. ONLY THING LEFT IS IT NEEDS AN OIL CHANGE. DRAINED OIL. REMOVED OIL FILTER. INSTALLED NEW OIL FILTER. INSTALLED DRAIN PLUG WITH NEW SEAL. FILLED WITH OIL. RAN ENGINE. TOPPED OIL AND COOLANT OFF. LETTING ENGINE RUN TO GET ALL AIR OUT OF COOLING SYSTEM. STEAMED ENGINE OFF. SET UNIT UP FOR LOADED TEST DRIVE WITH LAPTOP FOR THE LOW POWER CONCERN.

QTY	ITEM	TECH NO.	DESCRIPTION	BIN 1	NET PRICE	EXTD PRICE
	LABOR					
2	170D/OWI AMAB53		ALLIANCE OAT ELC 50/50 6/1 GAL	PR508		
1	170F/DDE A4721400548		CONN PIPE	4006		
1	170F/DDE A4722000154		CONN PIPE	VM8D		
1	170F/23-12515-000		ELB-90,M27 0/R- 10 HOS	VM5D		
1	170F/DDE A4711405675		EXH GAS CLR	NOLOC		
3	170F/DDE A0219901101		HEX HD BOLT	VM8A		
1	170F/DDE A0029905054		HEX NUT	VM7I		
1	170F/DDE A4710960380		METAL SEAL	DR1		
2	170F/DDE A0019950502		PIPE CLAMP	4003		
1	170F/DDE A4712030780		SEAL	4005		
1	170F/DDE A4712030680		SEAL	4005		
2	170F/DDE N000000001067		SEAL RING	VM8G		
1	170F/DDE A0029906714		STUD	VM7I		
1	170F/23-13633-278		TEE-PIPE/TUBING,ELBOW-45 DEG,B	VM6A		

See last page for total

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CUST PO #	FLEET NUMBER	VIN	SERVICE ADVISOR	PAYMENT CODE	
unit# 130251	130251	1FUJGEDV8CSBK3424		SRET	
YEAR	MAKE	MODEL	ODOMETER	START DATE	COMPLETION DATE
2012	FTL	CASCADIA	434580	9/2/2021 11:10:50AM	10/19/2021 10:26:54AM

JOB #1 EA SRET EXPRESS ASSESSMENT

CONDITION: EXPRESS ASSESSMENT ** CUSTOMER STATES UNIT HAS LOSS OF POWER , NO CEL . CHECK AND ADVISE

CAUSE:

CORRECTION: 2637

PULLED UNIT IN SHOP. CONNECT LAPTOP AND CHECKED FOR FAULTS. NO FAULTS. PRINT OFF LOW WHEEL H/P TROUBLESHOOTING. STEP 1, CHECK FOR FAULTS. NO FAULTS PRESENT. STEP 2, CHECK PARAMETERS PROGRESSIVE SHIFT AND LOW GEAR TORQUE REDUCTION. BOTH PARAMETERS ARE ENABLED. STEP 3, CHECK DYNO MEASURED READINGS AND COMPARE TO DETROIT SPECS. DO NOT HAVE A DYNO. CHECKED TURBO, ITS OK. CHECKED TURBO ACTUATOR AND IT MOVES FREELY AND DOES NOT BIND. CHECKED EGR ACTUATOR AND EGR VALVE. BOTH MOVE FREELY AND DO NOT BIND. RAN ENGINE AND CHECKED DOC INLET PRESSURE AND IT IS BELOW .5 PSI. RAN RELATIVE COMPRESSION TEST AND LOWEST CYLINDER WAS 88%. CHECKED DELTA P PORTS AND THEY ARE NOT PLUGGED. PULLED EGR DELIVERY PIPE OFF AND THERE IS COOLANT IN THE EGR PIPE. EGR COOLER IS LEAKING AND WILL NEED TO BE REPLACED. CHECKED AIR FILTER AND IT IS NEW. DAVCO FILTER LOOKS NEW, BUT NEED TO SEE WHEN FUEL FILTERS WERE LAST CHANGED. ALSO NOTICED ALL 3 U-JOINTS ON THE DRIVESHAFT HAVE EXCESSIVE PLAY AND NEED REPLACED. ADVISED. NEED TO TAKE ON LOADED TEST DRIVE WITH LAPTOP TO GET LOG FILE. MADE QUOTE FOR EGR COOLER AND U-JOINTS. PRESSURE TESTED CAC. DID NOT FIND ANY LEAKS. CLARK SAID IT SOUNDS LIKE UNIT HAS INJECTOR PING WHEN THEY HAD IT ON THE DYNO. TRIED TO GET INJECTORS TO PING AND NEVER COULD.... WENT BACK TO LOW POWER TROUBLESHOOTING. STEP 3, DOES VEHICLE MAKE CORRECT HP FOR ITS SPEC? NO, CLARK SAID ITS ABOUT 25% LESS. STEP 4, ACQUIRE A FUEL SAMPLE. DOES FUEL SAMPLE MEET SPEC? HAVE TO SEND IT IN TO BE TESTED. SKIP TO NEXT STEP. STEP 6, CHECK BARO TO ALTITUDE CHART AND INTAKE MANIFOLD PRESSURE. ARE THEY WITHIN 4 PSI OF EACH OTHER? YES. STEP 7, IS AIR FILTER RESTRICTED? NO. STEP 8, PERFORM CRANKCASE PRESURE TEST. DOES CRANKCASE PRESSURE TEST PASS? YES. STEP 9 - 15, PRESSURE TEST INTAKE SYSTEM. ARE THERE ANY LEAKS? NO. STEP 16, CHECK EXHAUST SYSTEM COMPONENTS, ARE THERE ANY LEAKS? NO. STEP 17, START AND RUN ENIGNE AT IDLE WITH NO LOAD WHILE ENGINE COOLANT REACHES 190 - 205. STEP 18, ON DYNO IS BACK PRESS

QTY	ITEM	TECH NO	DESCRIPTION	BIN 1	NET PRICE	EXTD PRICE
1	LABOR					
1	170F/DDE RA4600701187S		INJ 6PK HDEP EPA07/EPA10/GHG14	407		
2	170F/DDE N000000001069		SEAL RING (20mm O.D. x 14mm I	VM8G		
-1	170F/DDE RA4600701187S-CORE		INJ 6PK HDEP EPA07/EPA10/GHG14	CORE		
1	170F/DDE RA4600701187S-CORE		INJ 6PK HDEP EPA07/EPA10/GHG14	CORE		
1	CLARKT		CLARKE POWER (LABOR)			

Job# 1

JOB #2 EA SRET EXPRESS ASSESSMENT

See last page for total

SERVICE INVOICE REPRINT
R170032788:01

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IMPORTANT: If service work has been performed on wheel nuts or axle u-bolts, they must be re-torqued to specs 25 to 100 miles after the service work has been completed.

SERVICE INVOICE REPRINT

MISC CHARGES	
PARTS	
LABOR	
SUBLET	
SHOP SUPP / DIAG	
TAX	
TOTAL	16,039.10