

VIN	1FVSA6CV25LU71870	DATE	1/17/2020
MAKE	FREIGHTLINER	UNIT	
MODEL	CL120	MILEAGE	

[illegible]

GRAND TOTAL

**\$21,733.00**

UNIT	YEAR	MAKE/MODEL	VIN	LICENSE	MILEAGE IN/ OUT	TAG	
P41	05	FREIGHTLINER CL120	1FVSA6CV25LU71870	P41	639905/639905	U71870	
DEL DATE	PROD. DATE	WARR. EXP.	PROMISED	PO NO.	RATE	PAYMENT	INV. DATE
25FEB05 DD			17:00 08FEB20		0.00	CHG	31JAN20
R.O. OPENED		READY	OPTIONS: DLR:HHMD ENG:46093300799776				
09:49 02JAN20		17:15 31JAN20	TRN:RTO-16908LL AXL:RR-20-145-3.9				
LINE OPCODE TECH TYPE HOURS				LIST	NET	TOTAL	

A REPAIR FOR OIL LEAKS AT HEAD GASKETS

0199 ENGINE REPAIRS.

99 CP

2060 CP

← 1 05-19012-002 SHROUD-FAN.1350 RAD.FL

1 01-27716-000 GASKET-CHARGE AIR

COOLR.MBE4000.AIR INTK

14 000000-001389 SUP TO: DDE N007603008103

24 DDE/A4579900501 SCREW

← 6 DDE/A4600160620 HEAD GASKET

6 DDE/A9060170860 INJ. SEAL

6 DDE/A5419970545 SEAL RING

6 DDE/A0020105351 NOZZLE HOLDER

6 DDE/A9060170524 FUEL LINE NOZZLE ADAPTER

6 DDE/A4570980180 SEAL

1 DDE/RA4600101800 BASIC OH KIT

CORE CHARGE C

6 DDE/RA4600101720 (40 ) EGR CYLINDER HEAD

(SEE NOTE)

CORE CHARGE C

6 DDE/A0020105351 NOZZLE HOLDER

3 DDE/A4570110459 SEAL RING

3 DDE/A4609970145 O-RING

6 DDE/A4570108220 HD GSK KT 04

1 DDE/A4601422880 GASKET

2 DDE/A4600980580 GASKET

4 DDE/A0001423757 SEAL RING

1 DDE/A4601420353 FITTING EGR

2 DDE/A9062030480 SEAL

1 DDE/A4601422880 GASKET

4 DDE/A0001423757 SEAL RING

1 DDE/A4601420653 SPACER TUBE

1 DDE/RA4601420419 EGR VALVE

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CORE CHARGE C

1 DDE/N917003036003 GASKET

1 DDE/A4600160720 HEAD GASKET

5 DDE/A4600160720 HEAD GASKET

40 ENGINE OIL 15W40 ENGINE OIL

1 DDE/A0001802909 OIL FILTER

1 DDE/A5411870080 GASKET

1 DDE/A4571421080 GASKET

1 LBF/LAF1849 FILTER

1 ABP/N122-R50418 PRIMARY FUEL FILTER WATER SEPARATOR

1 DDE/A5410900151 FUEL FILTER

14 DDE/N000000001068 SEAL RING

13 DDE/N000000001069 SEAL RING (20MM O.D. X 14MM I.D.)

-6 DDE/RA4600101720 CORE RETURN

-1 DDE/RA4600101800 CORE RETURN

-1 DDE/RA4601420419 CORE RETURN

MISC FREIGHT FOR SEALS

PULLED TRUCK INTO SHOP, LOOKED UP GUIDELINES AND PRINTED, DRAINED COOLANT, REMOVED INTAKE SIDE COVERS, REMOVED INTAKE MANIFOLD, REMOVED RIGHT STEER WHEEL, AND PUT ON JACK STAND, REMOVED RIGHT SIDE INNER FENDER, REMOVED, TURBO, EXHAUST MANIFOLD, EGR COOLER AND NEEDED PLUMBING, REMOVED ROCKER ARM ASM, PUSH TUBES AND CYLINDER HEADS, CLEANED BLOCK AND CYLINDER HEADS, INSPECTED BLOCK AND HEADS, LOOK OK, NEED TO CHECK LAST 3 HEADS WITH CRACK DETECTOR TO MAKE SURE NO CRACKS, CHECKED LINER PROTRUSION ON ALL 6 LINERS, ALL IN SPECS, CLEANED BAY -99 INSPECTED CYLINDER HEADS WITH STRAIGHT EDGE AND FOUND ALL OF THEM HAVE SOME WARPAGE AND SHOULD BE REPLACED, SCRAPPED TOP OF ONE LINER TO GET P/N AND VERIFY IF OLD DESIGN, NUMBER DID NOT COME UP, PROB DUE TO PART OF A KIT. CYLINDER HEADS ARE OLD DESIGN SO CHANCES ARE LINERS ARE TOO

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BUT WOULD NEED TO REMOVE LINERS TO VERIFY, PUT IN P&A, HAD TO SUCK OIL OUT DRAIN PAN AND ROLLED UNDER TRUCK, DRAINED OIL, REMOVED OIL PAN, HAD TO REMOVE FRONT LEAF SPRING SADDLE CAPS AND RAISE FRONT OF TRUCK HIGH ENOUGH TO REMOVE PAN FROM UNDER TRUCK, REMOVED SUCTION TUBE, ALL 6 PISTON COOLING NOZZLES, ALL 6 SCRAPER RINGS, ALL 6 PISTON ASM'S AND ALL SIX CYLINDER LINERS, CLEANED ALL SIX COUNTER BORES AND INSPECTED, FOUND CYLINDERS 2, 4 AND 6 COUNTER BORES NEED TO BE CUT DUE TO SOME DAMAGE, MEASURED ALL SHIMS, FOUND TO BE .15MM SO I ORDERED .30MM SHIMS FOR THE 3 COUNTER BORES THAT NEED TO BE CUT, CLEANED LOWER BORES AND CLEANED BAY -99 INSPECTED PTO FOR OIL LEAK, LOOKS LIKE GASKET BETWEEN PTO AND ADAPTER IS LEAKING, PUT IN P&A FOR GASKET AND ALSO FOR NEW PTO WITH MOUNTING GASKETS .5HR.-99 2060- WAS ADVISED PER TROY TO REPLACE THE MAIN BEARINGS. FOUND IT LOOKS LIKE ALL THE MAIN BEARINGS EXCEPT CYLINDER #6. WAS ADVISED TO LEAVE IT ALONE UNTIL TECH COMES BACK. -2060

REPLACED ALL 7 MAIN BEARINGS, INSPECTED OLD BEARINGS, LOOK OK, TORQUE ALL 7 MAIN BEARING TO PROPER SPECS PER GUIDELINES, REMOVED ALL 6 PISTONS FROM RODS AND INSTALLED ALL 6 NEW PISTON ASM TO RODS, LUBRICATED AS NEEDED AND MADE SURE LOCKS INSTALLED CORRECTLY, INSTALLED ALL 6 NEW LINERS WITH NEW SHIMS AND CHECKED PROTRUSION, CYLINDERS 1, 3 AND 5 ARE AT .010, HAD TO CUT CYLINDERS # 2,4 AND 6 TO EXCEPT NEXT SIZE LARGER SHIMS WHICH ARE .30 MM, CHECKED PROTRUSION AND THOSE CYLINDERS ARE SET TO .010 ALSO, SPECS ARE .009-.013, INSTALLED NEW O RINGS AT BOTTOM OF BORES AND TOPS OF LINERS, INSTALLED CYLINDERS 2,3,4 AND 5. I DAMAGED 1 AND 6 UPPER O-RING, ORDERED, BE HERE TUESDAY, COVERED BOCK AND PISTONS -99

INSTALLED LINER #1 AND 6, INSTALLED ALL 6 PISTON ASM'S PER GUIDELINES WITH NEW BEARINGS AND TORQUE TO SPECS, I DID CLOCK RINGS AS INSTRUCTED, INSTALLED 6 PISTON COOLING NOZZLES, AND TORQUE TO SPECS, PREPPED ALL 6 CYLINDER HEADS, FOUND WE HAVE INCORRECT HEAD GASTS, ORDERED CORRECT ONES, INSPECTED AND CLEANED ALL OTHER PARTS, ORDERED ANY NEEDED GASKETS AND SEALS, DISASSEMBLED EGR COOLER, INSTALLED NEW COOLER ON TO BRACKET, TRIED TO REMOVED FEY RINGS FROM HOT EGR VALVE, COULD NOT GET THEM OFF. ORDERED NEW VALVE AND FEY RINGS AND COLLAR,

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CLEANED UP ALL OLD PARTS. CLEANED BAY -99

INSTALLED OIL PUMP AND SUCTION TUBE PER GUIDELINES, TORQUE BOLTS TO SPECS, RAISED FRONT OF TRUCK TO INSTALL OIL PAN WITH NEW GASKET, RTV BLOCK JOINTS, TORQUE ALL BOLTS TO SPEC, LOWERED TRUCK, INSTALLED FRONT SPRING BOLTS AND TORQUE, CHECKED TO SEE IF PARTS ORDERED WERE HERE, THEY WERE, FOUND WRONG HEAD GASKETS ORDERED, ORDERED CORRECT GASKETS AGAIN, REPLACED AIR FILTER, OIL FILTER AND AIR FILTER, INSTALLED NEW HOT SIDE EGR VALVE AND FEY RINGS ONTO EGR COOLER ASM AND TORQUE BOLTS, WAITING ON CORRECT HEAD GASKETS -99

PROPER HEAD GASKETS FINALLY SHOWED. INSTALLED HEAD GASKETS AND HEADS AFTER CLEANING BOTTOM OF HEADS AND TOP OF BLOCK PROPERLY, INSTALLED ALL NEW HEAD BOLTS LUBRICATING WITH ENGINE OIL, TORQUE IN STAGES, 7, 37, 74 AND 148 LBS/FT, NEED TO COMPLETE 90 DEGREE TORQUE TWICE YET, MOPPED FLOOR -99

COMPLETED TORQUE ON ALL 6 CYLINDER HEADS, INSTALLED FUEL RETURN LINE WITH NEW SEALS AND TORQUE TO SPECS, INSTALLED COOLANT RETURN LINE WITH NEW SEALS AND TORQUE TO SPECS, INSTALLED OIL LINE WITH NEW SEALS AND TORQUE TO SPECS, INSTALL 6 NEW NOZZLES, TRANSFER TUBES, NUTS AND HIGH PRESSURE FUEL LINES ALL TO SPECS PER GUIDELINES, INSTALLED PUSH TUBES, ROCKER ARM ASM'S AND TORQUE TO SPECS, COMPLETED TUNE UP ON OVER HEAD PER GUIDELINES, INSTALLED VALVE COVERS WITH NEW GASKETS AND TORQUE, INSTALLED INTAKE MANIFOLD, TORQUE TO SPECS, INSTALLED CAC PIPE, INSTALLED EGR COOLER ASM WITH NEW GASKETS AND TORQUE TO SPECS, INSTALLED NEW EGR VALVE ON COLD SIDE WITH NEW SEALS AND GASKETS AND THEN INSTALLED ALL PLUMBING, INSTALLED EXHAUST MANIFOLD AND TORQUE TO SPECS, INSTALLED TURBO WITH NEW GASKETS AND SEALS AND TORQUE TO SPECS, REPLACE AIR FILTER, FUEL FILTERS AND OIL FILTERS, FILLED COOLANT, AND OIL, PUT BATTERY CHARGER ON, INSTALLED ESOC AND BLEED FUEL SYSTEM, CHECKED OVER ENGINE TO MAKE SURE EVERYTHING IS INSTALLED AND CORRECT, INSTALLED RIGHT INNER FENDER AND WHEEL, TORQUE TO SPECS, CLEANED BAY, PUT ALL PARTS IN BOX FOR CORES, STARTED ENGINE, ENGINE STARTED GOOD, CHECKED FOR ANY LEAKS, NO LEAKS FOUND, PULLED TRUCK OUTSIDE AND LET RUN ON HIGH IDLE AND WASHED BAY, ROAD TESTED, CHECKED FOR ANY LEAKS, ENGINE RUN GOOD, NO LEAKS FOUND, PRESSURE WASHED AND LET RUN OUTSIDE ON HIGH

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IDLE FOR 30 MIN, PULLED INTO SHOP, INSPECTED ONE MORE TIME, NO LEAKS  
 FOUND, EVERYTHING LOOKS GOOD -99

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B\*\* CUT COUNTER BORES AS NEEDED  
 0199 ENGINE REPAIRS.

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C\*\* REPAIR FOR LEAK AT PTO  
 2699 TRANSMISSION REPAIRS  
 99 CP  
 2 22-P-127-3 GASKET  
 1 2SP216 OIL SEAL - CHELSEA

CLEANED DRAIN PAN, DRAINED TRANS FLUID, REMOVE ALL HYDRAULIC PUMP  
 SUPPORT BOLTS AND SLID PUMP BACK FROM PTO USING A JACK, REMOVED REAR  
 COVER OF PTO, CLEANED AND INSPECTED, CLEANED AND INSPECTED BACK OF PTO,  
 PUT IN PARTS REQUEST, WAITING ON GASKET AND SEAL -99  
 REMOVED SEAL, INSTALLED NEW LIP SEAL, LUBRICATED LIP SEAL,  
 INSTALLED HOUSING ONTO PTO WITH NEW GASKET, TORQUE BOLTS, INSTALLED  
 PUMP ONTO PTO, INSTALLED ALL BOLTS AND TORQUE, FILLED TRANS WITH FLUID  
 THAT WAS REMOVED, INSTALLED PLUG, TORQUE FILL AND DRAIN PLUG, CLEANED  
 TOOL -99

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M.O.S./E.P.A.

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RIVER STATES VALUES YOUR BUSINESS AND YOUR  
 OPINION. PLEASE CONTACT STEVE KEMP WITH ANY  
 QUESTIONS OR CONCERNS-608-791-4692. SERVICE  
 HOURS 7AM-11PM M-F \* 7AM-5:30PM SATURDAY.  
 \*\*\*TORCUP CERTIFIED & CALIBRATED TORQUING  
 EQUIPMENT USED. ALL WHEEL NUTS REMOVED DURING  
 SERVICE MUST BE RETORQUED WITHIN 50-100 MILES

PLEASE PAY  
THIS AMOUNT

24217.39

*siress!*