

		09		FREIGHTLINER CASCADI		VIN		LICENSE		MILEAGE IN / OUT		TAG			
DEL. DATE		PROD. DATE		WARR. EXP.		PROMISED		PO NO.		RATE		PAYMENT			
30MAY08 DD						17:00 10JUL17				115.00		CHG			
R.O. OPENED				READY		OPTIONS:		ENG:472901S0002146		TRN:FM-15D310B-LST		07JUL17			
18:58 26JUN17		16:21 07JUL17				AXL:ART400-4		1)ENGINE: DDE.		S/N: 472901S0002146					
LINE OPCODE TECH TYPE HOURS															
A EXPRESS ASSESSMENT, UNIT DOES NOT RUN, CHECK AND ADVISE										LIST		NET		TOTAL	
EA EXPRESS ASSESSMENT															
197 CP															
1740 CP															
1716 CP															

1 DDE/RA0064463240 REMAN MCM
CORE CHARGE C
1 OWI/AMAB51BULK SHOP 50/50 OAT
1 BRZ/B9224-0411FRU CLAMP-HD SPRING T
BOLT.HOSE.4.11-4.42
1 DDE/A4721530759 VALVE
1 PEX/82191 SUPER GLUE GEL
3 DDE/N000000001071 SEAL RING
1 DDE/A4721506233 HARNESS
1 03-35804-000 ISOLATOR-AIR CLEANER.FRONT
-1 DDE/RA0064463240 CORE RETURN
PARTS: 1700.63 LABOR: 1380.00 OTHER: 0.00 TOTAL LINE A: 3080.63
139706 197 HOOK UP AIR TO AIR DRYER AND BUILD AIR IN TANKS. UNLOAD
FROM FLATBED TRAILER AND PARK IN LOT. 1740 018456 WENT OUT WITH LAPTOP
AND CONNECTED TO UNIT. FOUND MCM WAS NOT COMMUNICATING. AIRED UP AND
PUSHED IN SHOP. CHECKED MCM AND CPC FUSES, BOTH OK. WIRING ALL OVER
UNIT HAS BEEN HACKED AND SPICED INTO. FOUND BOTH POSITIVE CABLES ON
ALTERNATOR LOOSE. CLEANED AND TIGHTEN CABLES AND RECHECKED, STILL NO
COMMUNICATION. LOOKED UP DIAGRAM FOR MCM POWER. DISCONNECTED MCM AND
CHECKED ALL BATTERY POWER, IGNITION POWER AND GROUNDS WERE OK. FOUND A
CABLE HAS BEEN ADDED FROM CHASSIS GROUND AND BOLTED ON TO SIDE OF MCM,
GROUNDED OUT MCM. ALSO FOUND CORROSION ON PINS FOR MCM 1939 RESISTORS.
OHMED INTERNAL RESISTANCE OF 1939 TERMINATING RESISTOR IN MCM. SHOULD
BE 120 OHMS, HAD OVER 300KOHMS. CONNECTED EXTENSION HARNESS TO CHASSIS
HARNESS AND CONNECTED TEST MCM. CONNECTED LAPTOP, MCM NOW
COMMUNICATING. HAS ACTIVE FAULTS FOR SOOT LEVEL HIGH, ENGINE BRAKE
CIRCUIT FAILED LOW, TRANS START CIRCUIT, AND SUB BUS SWITCHES MISSING.
NEED NEW MCM. CONNECTED NEW MCM TO EXTENSION HARNESS AND PROGRAMMED TO

DESCRIPTION	TOTALS
LABOR AMOUNT	
PARTS AMOUNT	
FUEL/OIL/GREASE	
SUBLET AMOUNT	
SHOP/MISC FEES	
TOTAL CHARGES	
LESS INSURANCE	
SALES TAX	
PLEASE PAY THIS AMOUNT	

COLOR	YEAR	MAKE/MODEL		VIN		LICENSE	MILEAGE IN / OUT		TAG
	09	FREIGHTLINER CASCADI		1FUJGLDR99LAD2894			139706/139706		T2894
DEL. DATE	PROD. DATE	WARR. EXP.	PROMISED		PO NO.	RATE	PAYMENT	INV. DATE	
30MAY08 DD			17:00 10JUL17			115.00	CHG	07JUL17	
R.O. OPENED		READY		OPTIONS: ENG:472901S0002146 TRN:FM-15D310B-LST AXL:ART400-4 1)ENGINE: DDE. S/N: 472901S0002146					
18:58 26JUN17		16:21 07JUL17							
LINE OPCODE TECH TYPE HOURS						LIST	NET	TOTAL	

UNIT S/N. HAVE COMMUNICATION WITH MCM NOW. WILL NOT CRANK DUE TO TRANS START CIRCUIT FAULT. TRACED OUT POWER IN WIRE DIAGRAM AND CHECKED START PARAMETER IS SET TO HARD WIRE LIKE IT SHOULD. THEN CHECKED POWER TO START ENABLE RELAY IN AUX PDM. FOUND THE ORIGINAL TERMINAL HAS BEEN REMOVED. LOOKS LIKE SOMEONE SOLDERED ON A SPADE TERMINAL AND TRIED STUFFING IT IN PLACE. IT FELL OUT AND LOST CONTACT WITH START RELAY. SECURED TERMINAL IN PLACE AND TRIED TO START, STILL NO CRANK. JUMPED OVERCRANK PROTECTION SWITCH AND TRIED AGAIN, UNIT WOULD CRANK AND START. FOUND OVERCRANK CONNECTOR PINS SPREAD OUT. PINCHED PINS AND RECONNECTED. CHECKED STARTER OPERATION, NOW STARTS. TRANS START CIRCUIT FAULT INACTIVE. ENGINE WILL SHUT DOWN DUE TO SOOT LEVEL FAULT. UNIT WILL NOT REGEN BECAUSE OF JAKE CIRCUIT FAULT. ADVISED. OHMED ENGINE HARNESS FROM MCM 120 PIN TO FRONT INJ HARNESS. ALL WIRES TEST GOOD. NO SHORTS TO GROUND. OHMED JAKE SOLENOID THROUGH VALVE COVER SIDE OF INJ HARNESS. FOUND 40OHMS RESISTANCE IN SOLENOID, SHOULD BE AROUND 10 OHMS. ADVISED. REMOVED AIR CLEANER. ONE ISOLATOR BROKE. INSTALLED NEW ISOLATOR. REMOVED BRACKETS AND VALVE COVER. TRIED TO LOOSEN FRONT INJ HARNESS TERMINALS BUT PLASTIC CLIPS FOR TERMINAL NUTS BROKE OFF. ADVISED, NEEDS NEW FRONT INJ HARNESS. REMOVED AND REPLACED FRONT JAKE SOLENOID AND FRONT INJ HARNESS. INSTALLED VALVE COVER, BRACKETS, AIR CLEANER. REMOVED FUEL LINES FROM OLD MCM AND REMOVED MCM. SWAPPED ISOLATORS AND INSTALLED NEW MCM. STARTED UP, JAKE CIRCUIT FAULT WAS INACTIVE. RAN PARKED REGEN TO CLEAR SOOT LEVEL FAULT. TEST DROVE UNIT. MIL AND CEL CAME ON AND WENT OFF. CHECKED FAULTS, FOUND INTAKE MANIFOLD TEMP OPEN CIRCUIT. CHECKED WIRING AT INTAKE MANIFOLD TEMP SENSOR, FOUND CONNECTOR HAD BEEN PREVIOUSLY REPLACED, DEFECTIVE CRIMP AT BUTT CONNECTOR. REPLACED BUTT CONNECTOR. RECHECKED OPERATION OF FLOOR. WORKING NORMAL. ADVISED.

B** CAC HAS A ZIP TIE NEED A CLAMP
00 MAINTENANCE

1740 CP

57.50 57.50

PARTS: 0.00 LABOR: 57.50 OTHER: 0.00 TOTAL LINE B: 57.50

139706 1740 018456 REMOVED ZIP TIE. INSTALLED A CHARGE AIR COOLER

DESCRIPTION	TOTALS
LABOR AMOUNT	
PARTS AMOUNT	
FUEL/OIL/GREASE	
SUBLET AMOUNT	
SHOP/MISC FEES	
TOTAL CHARGES	
LESS INSURANCE	
SALES TAX	
PLEASE PAY THIS AMOUNT	

COLOR	YEAR	MAKE/MODEL		VIN		LICENSE	MILEAGE IN / OUT		TAG
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LINE OPCODE TECH TYPE HOURS						LIST	NET	TOTAL	

CLAMP.

C** REAR DIFF INPUT YOKE NUT IS LOOSE

00 MAINTENANCE

1740 CP

1 TDA/KT17SB STRAP & BOLT KIT FOR EASY SERVICE

YOKE

1 OTC/BC BRAKE CLEANER

1 MBA/6819900252 NUT SLD

PARTS: 28.35 LABOR: 201.25 OTHER: 0.00 TOTAL LINE C: 229.60

139706 1740 018456 REMOVED REAR DRIVE INPUT U-JOINT STRAPS AND LOWERED DRIVESHAFT. NUT WAS PINCHED OVER KEY WAY IN SHAFT TO LOCK IN PLACE. HAMMERED OUT LOCK TAB AND REMOVED NUT. CLEANED THREADS AND INSTALLED NEW NUT TORQUED TO SPEC. INSTALLED SHAFT WITH NEW STRAP KIT

D** ADVISE HAS CODES FOR SUBBUS. TROUBLE SHOOT 1 HR AUTH AND STOP

00 MAINTENANCE

1740 CP

1716 CP

1 A06-60973-000 MODULE-ECU.SWITCH EXPANSION

PARTS: 23.62 LABOR: 230.00 OTHER: 0.00 TOTAL LINE D: 253.62

139706 1740 TRIED DISCONNECTING POWER VIA CUT OFF SWITCH. FAULTS STILL ACTIVE. TRIED REPROGRAMMING MSF, FAULTS STILL ACTIVE. STOPPED

1716 TROUBLE SHOT FOR SUB BUS SWITCHES NOT COMMUNICATING. FOUND ONE SECONDARY SLAVE ASSEMBLY DEFECTIVE. INSTALLED NEW SLAVE. RECHECKED OPERATION. ALL SUB SWITCHES NOW COMMUNICATING.

E** BLOWER MOTOR KEEPS RUNNING WITH IGNITION SHUT OFF. YOU CAN MANUALLY SHUT IT OFF

700 A/C & HEATING

1716 CP

153 CP

517.50 517.50

DESCRIPTION	TOTALS
LABOR AMOUNT	
PARTS AMOUNT	
FUEL/OIL/GREASE	
SUBLET AMOUNT	
SHOP/MISC FEES	
TOTAL CHARGES	
LESS INSURANCE	
SALES TAX	
PLEASE PAY THIS AMOUNT	

COLOR	YEAR	MAKE/MODEL	VIN	LICENSE	MILEAGE IN / OUT	TAG	
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LINE OPCODE TECH TYPE HOURS				LIST	NET	TOTAL	

1 A06-75981-003 ELEC MODULE-SAM
CAB.HIGHLN.12V.P3

CORE CHARGE C

PART IS ON MANUAL ALLOCATION

1 FRT FREIGHT

8 23-12981-707 SCREW-TORX.10-16 PHIT.ZN FE

BLK.7/8

-1 A06-75981-003 CORE RETURN

PARTS: 1349.17 LABOR: 517.50 OTHER: 0.00 TOTAL LINE E: 1866.67

139706 1716 CHECKED FOR CAB HVAC BLOWER MOTOR FOR WORKING WITH
IGNITION KEY OFF. FOUND FCU GETTING 8 VOLTS WITH KEY OFF. CHECKED ALL
RELAYS, FUSES, AND CONNECTIONS. CHECKED FOR UNIT GETTING BACK FED
VOLTAGE. ALL CHECKS OK. PREQ FOR SAM CABIN MODULE. REMOVED AND REPLACED
SAM CABIN MODULE. PROGRAMMED MODULE TO TRUCK. THIS FIXED BLOWER MOTOR
ISSUE. UNIT THEN HAD ACTIVE FAULT FOR LOW VOLTAGE DISCONNECT BATTERY
VOLTAGE. TROUBLE SHOT, FOUND STARTER HAD BEEN RECENTLY REPLACED, LVD
WIRE WAS ON GROUND STUD INSTEAD OF VOLTAGE STUD. UNIT ALSO NOW HAS A
BUZZING SOUND FROM BEHIND THE SLEEPER LOWER BUNK COVER. ADVISED. 153
CONNECTED REMOTE SENSOR WIRE TO THE POSITIVE STUB ON THE BATTERY.
SECURED ALL WIRES THAT WERE HANGING WITH ZIP TIES. RAN TRUCK AND FOUND
14.1 VOLTS COMING OUT OF ALTERNATOR. RE-INSTALLED DASH PANELS. 1780
DISCONNECTED WIRE GOING TO THE COMPONENT BEHIND BUNK PANEL THAT WOULD
NOT STOP BUZZING AND IT STOPPED.

DESCRIPTION	TOTALS
LABOR AMOUNT	2386.25
PARTS AMOUNT	3101.77
FUEL/OIL/GREASE	0.00
SUBLET AMOUNT	0.00
SHOP/MISC FEES	250.00
TOTAL CHARGES	5738.02
LESS INSURANCE	0.00
SALES TAX	208.80
PLEASE PAY THIS AMOUNT	5946.82