Loco #886

METROLINK

Southern California Regional Rail Authority
Equipment Condition Report

SMP 100

B227318

LOCOMOTIVE NUMBER: S.C.A.X. – 886 POSITION IN CONSIST: Lead

USE SEPARATE REPORT FOR EACH UNIT IN CONSIST.

Each locomotive unit shall be inspected in accordance with CFR title 49 parts 229.21, and 236.587.
Cab Card SMP 101 must be signed.

NAME OF EMPLOYEE MAKING DAILY INSPECTION	EMPLOYEE #	OCCUPATION	PLACE	DATE	TIME
C.N. Harmon		Mech Tech	MPK	1-26-05	4PM

SEAL NUMBERS

ATS	0167041	SPEEDOMETER OVERSPEED	0126821
ALERTOR	0153842	DOOR OVERRIDE	0164779
ZERO SPEED	0126803	EVENT RECORDER	0126836
HORN	0173279		

ATS DEPARTURE TEST

NAME OF EMPLOYEE MAKING ATS TEST	EMPLOYEE #	OCCUPATION	PLACE	DATE	TIME

CONDITION OF EQUIPMENT

SPEED INDICATOR	CROSSING BELL
H.E.P.	HORN
DYNAMIC BRAKES	ATS
BRAKES & RIGGING	ALERTOR
RADIO	WIPERS
SANDERS	MAIN RESERVOIR PRESSURE PSI
BRAKE PIPE PRESSURE PSI	

FAILURES EN ROUTE	ENGR. INIT.	REPAIRED BY

THE ABOVE WORK HAS BEEN PERFORMED, EXCEPT AS NOTED, THE REPORT IS APPROVED, AND THIS UNIT IS AVAILABLE FOR SERVICE.

SIGNATURE OF EMPLOYEE APPROVING UNIT FOR SERVICE	OCCUPATION	PLACE	DATE	TIME

SIGNATURE OF LOCOMOTIVE ENGINEER	LOCATION	DATE	TIME

USE REVERSE SIDE FOR ADDITIONAL COMMENTS OR DETAILS

METROLINK

Southern California Regional Rail Authority
Class 1 Brake Test and Inspection Certificate

SMP 1173

Initial Terminal Air Brake Test has been satisfactorily performed per CFR49 Part 232.12 for freight/work trains.

TO BE COMPLETED AND SIGNED BY PERSON(S) PERFORMING AIR BRAKE TEST AND INSPECTION

Class 1 Brake Test has been satisfactorily performed as required by CFR 49 Part 238.313

Loco #	Loco #	Loco #	Cab Car #	Number of Cars
886	—	—	625	3

Date	Time	Location	Name	Employee No.
1-26-05	1957	MMK	C.M. Harmon	

Following equipment has received an Exterior and Interior Calendar Day Mechanical Inspection as required by CFR 49 Part 238.303 and 238.305.

Car #	Car #	Car #	Car #	Car #	Car #	Car #	Car #	Car #	Car #
197	133	625							

Exterior Inspection performed by:

Name	Employee No.	Date	Time	Location
C.M. Harmon		1-26-05	2119	MMK

Interior Inspection performed by:

Name	Employee No.	Date	Time	Location
C.M. Harmon		1-26-05	2119	MMK

Communications System: ☑ Operative ☐ Inoperative **Train Set for:** ☑ **Graduated Release** ☐ **Direct Release**

TO BE COMPLETED AND SIGNED BY INBOUND ENGINEER (AMT-3, 14.4):

Locomotive #(s) or Cab Car #	Date	Time	Number of Cars	Condition of Brakes	Engineer's Signature
				☐ Acceptable ☐ Unacceptable	
				☐ Acceptable ☐ Unacceptable	
				☐ Acceptable ☐ Unacceptable	

BOMBARDIER
TRANSPORTATION

CENTRAL MAINTENANCE FACILITY

1/19/05 2:59 PM

EQUIPMENT OUT OF SERVICE

Equip #	In Date	W. O. #	REASON	Projected Out Date
[illegible]	12/29/04	370	3 Year Inspection	[illegible]
868	01/17/05	393	Shut Down - Low Water Button / Wheel True - Rollover	01/20/05
878	01/06/05	386	3 Year Inspection / Cam Shaft Stub	01/28/05
887	01/19/05	395	3 Year Inspection	02/11/05

Capitals & Mods:	1. Traction Mtrs	2. HEP Fl Plates	3. HEP Hr Meter	4. Belly Pan / Transom	5. Pilot Hnd Hld	6. Yaw Damper	7. Cooling Fan

2232	01/18/05	2109	12 Month Inspection / Rotors	01/20/05
103	01/18/05	2107	3 Month Inspection / Wheel True - [illegible]	01/20/05
202	01/19/05	2111	3 Month Inspection	01/20/05
623	01/19/05	2117	3 Month Inspection	01/21/05
632	01/19/05	2116	3 Month Inspection	01/21/05
117	01/19/05	2112	12 Month Inspection / Wheel True - Profile	01/21/05
138	01/19/05	2115	3 Month Inspection	01/24/05
109	01/19/05	2116	3 Month Inspection	01/24/05
129	01/19/05	2118	3 Month Inspection	01/24/05
621	01/11/05	2089	3 Month Inspection / Accident Damage - Train #607	TBD

Capitals & Mods:	1. Strobe Lt Brkt	3. Comm Remvl	4. Roof Cut Away	5. Bio Counters		7. Duct Clean
8. Toilet Tank	9. HVAC	10. Dr Motors	11. Carpet	12. Toilet Shrd	13. LLEPM	14. Cndctrs Window	15. Dr Lf Gds	21. Trucks	22. Seat Mod
23. Window Gaskets	24. Aux Lights							Recurring Mods	

EQUIPMENT SERVICEABLE

LOCOMOTIVES	856	881	855	873				
COACHES	201	124	160	180	197	127		
COACHES								
CAB CARS	601	614						
ON HOLD	801	802	803					
SPECIAL								
DISPOSITION	113	608	174					

	"B"	"B" BO's	"BTR"	"BTR" BO's	Car
WHEEL SETS	6	15	2	2	OK - 13
Total TM's / TM's Built	6 - 1	5	1 - 0	4	BO - 35

METROLINK/1104 DAY INSPECTION LOCOMOTIVE

Location: 379 8886 Date Shopped _____

sk ID	Description	Completed By:
	Cleaning	
L-L 1001	**Wash exterior of locomotive.**	[redacted]
	Completely wash locomotive using high pressure washer and hand brush including: car body, fuel tank, trucks, and walkways. Clean "eye brow" area of F59PHI.	
L-L 1002	**Clean cab.**	[redacted]
	Completely clean inside of cab by washing walls, ceiling, control stand, observers side desk and seats by hand. Remove graffiti. Sweep and mop cab floor. Clean windshield, side windows and mirrors. Clean dirt and debris from door tracks.	[redacted]
L-L 1003	**Clean engine, including vee.**	[redacted]
	Using high pressure washer, clean main engine including vee and exhaust manifold, walkway areas, accessory rack, air compressor and HEP area.	[redacted]
L-L 1004	**Drain retention tank.**	[redacted]
	Drain contents into an approved waste container.	[redacted]
L-L 1005	**Drain & clean main engine, alternator, and HEP sumps.**	[redacted]
	Clean main generator pit aspirator. With retention tank open, clean all sumps, removing rags and other debris. Close drain when completed and apply cap.	[redacted]
L-L 10[redacted]	**Clean nose compartment.**	[redacted]
	Wash walls and ceiling area. Sweep and mop floor. Clean dirt and debris from door tracks.	[redacted]
L-L 2001	**Inspect and clean HVAC condenser coil.**	[redacted]
	Clean the condenser coil using a low pressure spray of water, or a water and detergent mixture.	
	Running Items	
Exterior		
L-C 1001	**Inspect MU, communication, HEP cables & receptacles.**	[redacted]
	Inspect condition of MU, Communication, and HEP cabling. Inspect condition of insulation and for signs of a stretched cable. Inspect receptacle cover, spring, rubber seal, pins, and mica insulating plate. All three mounting screws must be in place and tight. Remove dirt and debris from receptacle using air pressure and an electrical cleaner if needed.	
L-C 1002*	**Inspect & gauge knuckle & coupler & check slack.**	[redacted]
	Gauge coupler, checking, Guard Arm Distortion, Contour Wear, Knuckle Nose and Knuckle Stretch. Draft gear components, pocket and coupler pin must be inspected for slack or wear. Using a long bar between the coupler horn and striker face and prying outward, measure the distance between the coupler horn and the striker face. Then move the coupler in as far as possible towards the draft gear and again measure the distance between the coupler horn and the striker face. The distance between the two is the amount of free slack in the draft gear and coupler arrangement. Total slack must not exceed 1/2".	
	Total slack Front 0 Rear 0	

Finished 1/20/05 N. Cummins

Task ID	Description	Completed By:

L-C 1003 **Check rod eye & lock lift lever clearance.** [redacted]

Inspect all operating lever mechanisms for loose mounting or bracket bolts bent or damaged and damage to the operating lever. On F59PHI locomotives, center the coupler, close and lock the knuckle. A minimum of 1-3/4" should exist between the operating rod eye and the link that is connected to the lock lift of the coupler. This slack is necessary to prevent unintentional uncoupling of the lever during operating conditions. The front of the rod eye should be no more than 3-3/4" forward of the coupler horn face.

L-C 1004* **Check & record coupler and front pilot height.** [redacted]

Check and record the following measurements:

	Front	Rear	Clearance Limits
Coupler Height Above Top of Rail	33"	33"	31-1/2" Min. 34-1/2" Max.
	Left	Right	
Front Pilot/Plow Height	4"	4"	3" Min. 6" Max.

L-C 1005 **Visually inspect trucks & running gear.** [redacted]

1) Inspect truck frame for cracks in stress areas that may effect structural integrity.

2) Check for minimum 3/8" clearance between spring plank and safety hanger.

3) Max. wear of swing hanger pin/bushing is 1/8".

4) Check for a bent, cracked or broken swing hanger.

5) Clearance between upper and lower halves of the bearing block is minimum 1/8".

6) Check for broken or weak elliptical springs. A gap of 1/8" or greater underneath the ends of the second largest leaf indicates weak elliptical springs.

7) Inspect for broken or compressed truck coil springs.

8) Inspect shock absorber, yaw damper and mounting for the following defects:

- Broken or missing mounting bolts.
- Cracked or broken mounting bracket.
- Damaged rubber bushing.
- Damaged or dented casing.
- Leaking clearly formed droplets of oil.

9) Inspect running gear for the following conditions:

- Levers, rods, brake beams, and hangers must not be worn more than 20% of its cross-sectional area, cracked, broken or missing.

10) Replace phenolic wear plate on brake shoe guide if worn to 1/8" or less.

11) Inspect slack adjuster assembly. Ensure locking pins are in place and properly secured.

12) Visually inspect journal bearing for overheating, excessive lubricant leakage or defective seals, cracked or broken cups, end caps, or adapters.

13) Ensure end cap retainer clips are in proper condition.

14) Inspect for loose or broken pedestal liners. Total clearance between journal bearing adaptor and pedestal liner is 1/4" max. (Both sides added together).

15) Inspect and ensure proper securement of journal box binder.

16) On F59PH, inspect axle generator and cabling for proper securement.

Task ID	Description	Completed By:
L-C 1006	**Check side bearing clearance.** Minimum side bearing clearance is 1/32" not to exceed 1/4" on each side or a total of 1/2" on both sides.	[redacted]
C 1007	**Inspect fuel tank.** Inspect fuel tank bolts and ensure tank is not in contact with safety support. Inspect fuel fill and hoses. Inspect condition of sight gauge, dial gauge and dust cap. Compare gauges for consistency.	[redacted]
L-C 1008	**Ensure proper operation of all exterior lights** 1) Front & rear headlight (all positions). 2) Auxiliary lights (steady state and flashing). 3) Marker Light(s) 4) Emergency Red Light. 5) Front and rear walkway light (F59PH). 6) Step lights and ground lights.	[redacted]
L-C 1009	**Inspect vertical & horizontal handrails and steps.** Inspect condition and ensure proper clearance of all vertical handholds and horizontal handholds. Inspect condition of steps. 1) Vertical handholds must provide 2-1/2" of clearance, painted a contrasting color, securely fastened using 1/2" or larger bolts and cannot be cracked or broken. 2) Horizontal handholds must provide 2" of clearance. 3) Steps must be securely fastened using 1/2" or larger bolts, cannot be broken or cracked, with the outer edge having a contrasting color.	[redacted]
L-C 1010	**Inspect car body for damage & loose components.** Report severe rusting and corrosion to your supervisor. Inspect hinges and pins.	[redacted]
L-C 1011	**Inspect decals & reflectorized tape.** Replace decals that are faded or discolored. Replace reflectorized tape if deteriorated or pulled away from car body.	[redacted]
L-C 1012	**Check condition of all air hoses & valves.** Check brake pipe, main reservoir, actuating hoses, and end valves at front and rear of locomotive. Check condition of gladhands and gaskets. Ensure air valves lock into position when open. Check condition of spring assembly.	[redacted]
L-C 1013	**Test operation of horn & bell.** Using a sound level meter, within 1 yr. of calibration, position meter 100 ft. forward of locomotive with microphone 4 ft. above ground at centerline of track. Minimum sound level of 96db(A) must be registered. Sign and attach sound level printout to locomotive maintenance file.	[redacted] LOWER TIME 15:22:30 DB 106.2 UPPER TIME 15:24:48
L-C 1014	**Check operation of sanders.** Check operation of front and rear sanders in manual and emergency operation.	[redacted]
L-C 3001	**Perform an air compressor orifice test.** Using a 23/64" orifice attached to the main reservoir glad hand with the end valve open, self load locomotive at full RPM (904) and verify at main reservoir gauge in cab that main reservoir pressure is maintained between 120 and 135 lbs.	[redacted]
L-C 1016	**Inspect main reservoirs.** Inspect the air reservoirs for physical damage. Ensure the reservoir mounting bolts are tight and inspect the mounting brackets for cracks.	[redacted]

Task ID	Description	Completed By:
L-C 1017	**Check operation of main reservoir automatic drain valves.** Turn the drain valves to manual and drain condensate from #1 and #2 main reservoirs. Return the drain valves to the automatic position and ensure it is cycling properly.	[redacted]
L-C 1018	**Check operation of emergency fuel shut off buttons.** Operate emergency fuel shut off button on each side of locomotive and ensure locomotive and HEP engines are shutting down.	[redacted]
L-C 1019	**Check operation of ground relay.** Induce a ground by using a jumper wire from HV cabling to the car body. Verify operation of audible and visual alarms.	[redacted]
L-C 1020	**Check inertial filter motor.** Verify inertial filter motor is operating and listen for abnormal noise and vibration.	[redacted]
L-C 1021	**Check brake shoes & adjust piston travel.** Shoes have minimum 3/8" friction material remaining. When applied, brake shoes make full contact with wheel thread and are not overriding. Inspect brake levers, hangers, pins & bushing for loose, missing or worn out components. Adjust piston travel allowing for sufficient brake shoe clearance when brakes are released. With brakes applied, piston travel may not exceed 1 1/2" less than total possible piston travel.	[redacted]
L-C 1022	**Check Sanders** Inspect for missing, broken, loose or misaligned sander nozzles, sander pipes or brackets. Turn on sanders and verify sand is delivered at front and rear of locomotive. Remove clean out pipe plug from sand trap and check if plugged. —SANDERS EMPTY	[redacted]
Cab		
L-C 1023	**Power test in forward & reverse. Check controller operation.** Ensure locomotive loads in forward and reverse verifying load meter indicates loading. Ensure controller and reverser interlock as intended.	[redacted]
L-C 1024	**Check operation of dynamic & blended brakes.** To test dynamic brake on F59PH locomotives, using the computer, select the "Meter/IOL" option on the main menu then Dynamic Brake. On F59PHI locomotives, select the "Data Meter" option and then Dynamic Brake on the default screen. Place the dynamic brake handle in #8 or maximum braking and the display panel should indicate: 24T pin - 74V and 875 field amps. Test dynamic brake interlock by making an automatic application with the independent in the release position and going into dynamic brake. Brakes applied by the automatic application should release and brake cylinder pressure reduce to zero pounds. To test blended brake, select "Self Test" on the display panel and select blended brake. Follow the prompts to perform the test.	[redacted] 875 713
L-C 1025	**Perform brake pipe leakage test.** Brake pipe leakage must not exceed 3 lbs. per minute.	[redacted]
L-C 1026	**Test air brake, safety controls and warning devices.** Ensure 30 CDW Automatic Brake Valve functions as intended in all positions. Test actuating (bail-off), graduated release, TMS and emergency with PC function. ONLY	[redacted]

Task ID	Description	Completed By:
L-C 1027	**Test independent brake.** Apply independent brake in 10 lb. increments and ensure brake cylinder pressure increases and stabilizes. Fully apply independent brake obtaining 72 lbs. brake cylinder pressure. Fully release independent and brake cylinder pressures should reduce to 0 lbs. pressure.	[redacted]
L-C 1028	**Check instrument panel, cab, and indicator lights.** Inspect all gauge and panel lights including speed indicator and gauge lights dimmer. Operate push to test feature to verify lamps are working properly.	[redacted]
L-C 1029	**Check operation of HVAC.** Using HTR-A/C switch, ensure heat and air conditioner function in all settings.	[redacted]
L-C 1030	**Check operation of defrosters.**	[redacted]
L-C 1031	**Check computer display for faults.** Check computer for logged faults and report to supervisor faults occurring with last 30 days and uncleared faults.	[redacted]
L-C 1032	**Check output using ~~Watt meter~~ and voice test radio.**	[redacted]
L-C 1033	**Check for low voltage grounds** Using a test light at battery knife switch when closed, place one lead on the + side of the knife switch and one lead to the electrical cabinet frame. If test light illuminates, a negative ground exists. If test light illuminates when lead is placed on the - side of the knife switch, a positive ground exists. Investigate and clear low voltage grounds.	[redacted]
L-C 1034	**Perform module test of wheel slip system.**	[redacted]
1035*	**Check & record aux. generator output at VR15 module.** Aux. Gen. output at VR15 module must be 72 - 78 volts. Record AC voltage readings at: TP4 60.1 TP6 60.1 TP10 60.1 VAC Make sure phases are balance.	[redacted]
L-C 1036*	**Measure computer power supply output voltage.** Measure Output Voltage PH1 A. PSM 300 +15.6 B. PSM 310 +12.0 +11.99 C. PSM 320 +5.1 PH A. PSH 5 Volts B. PSH 15 Volts C. PHS 15V. VRDC	[redacted]
L-C 1037	**Inspect cab seats & mounting.** Ensure cab seats are securely mounted and adjustable.	[redacted]
L-C 1038	**Inspect cab windows, windshields & sun visors.** Ensure cab windows and windshields are not cracked or broken and provide a clear unobstructed view.	[redacted]
L-C 1039	**Test windshield wipers.** Ensure windshield wiper blades are in good condition and windshield wipers are operating properly.	[redacted]

Task ID	Description	Completed By:
L-C 1040	**Check engine speeds.** Ensure engine speeds respond to changes in throttle settings.	[redacted]
C 1041*	**Measure & record manometer readings of air filters.**	[redacted]

Reading in Inches of Water		Minimum	Maximum
A = Air Filters (Eng. + Inertial)	5	5 inches	14.5 inches
I = Inertial	2	3 inches	7 inches
E = Engine Filters A - I	3	2 inches	8.5 inches
Electrical Cabinet	4	0.5 inch	
HEP Cabinet		1.0 inch	

	Idle	Full
oil	41	89
RK%	100	88
Temps	141/141	189/189
FC1/FC2	OFF/OFF	ON/OFF

MGA 1530 MGV 1375
H.P. 3010

L-C 1042	**Ensure decals and stenciling are in place and legible.** Ensure "DANGER - High Voltage" decals are in place and legible on high voltage cabinet. Ensure stencil on interior wall reading "Fully Equipped FRA Part 223 Glazing" is in place and legible.	[redacted]
L-C 1043	**Check Emergency Fuel Shut Off & MU Stop** Main engine and HEP engine must shut down when Emergency Fuel shut Off button is depressed. Main engine should shut down when MU stop switch is depressed. Place MU switch to RUN when completed.	[redacted]
Main Engine		
1044	**With engine running, listen for unusual main engine noise.** Listen for unusual noise from rotating equipment such as the gear train, pumps and accessories, noise in the area of the crankshaft, the auxiliary generator and drive assembly, and the engine stub shaft. Listen for usual noise from fans: Cooling fans, HEP fan, dynamic brake grid blower motor. Open the top deck covers and inspect camshaft, rocker arms and valve bridges.	[redacted]
L-C 1045	**With engine running, inspect AR15 gen. & blower assembly.** Listen for unusual noise and excessive vibration at blower assembly and inertial filter blower motor.	[redacted]
L-C 1046	**With engine running, inspect for oil, fuel & coolant leaks.** **Oil Leaks:** Check for oil leaks at the crankcase and air box covers, top deck and head frame assembly, eductor tube and oil separator, michiana oil filter and the turbo lube oil pump. At the HEP engine, inspect oil lines and the engine. **Fuel leaks:** Check for fuel leaks at the fuel pump discharge piping, spin on fuel filters and sight glasses, fuel manifold and crossover piping, and the Amot valve and associated piping. At the HEP engine check for leaks at the fuel filters and strainer, and the fuel lines. **Coolant Leaks:** Check for coolant leaks in the following areas: air compressor and piping, fuel oil pre-heater piping, lube oil cooler piping, water expansion tank, sight glass, pressure cap and associated piping, water pumps and associated piping, water drain valves, engine discharge "Y" pipes, turbocharger aftercooler piping, radiator cores, manifolds and associated piping. At the HEP engine, check for coolant leaks at the water pipe couplings. Also check for air leaks on the aftercooler housing gaskets, aftercooler core gaskets and the engine air box hand hole cover gaskets.	[redacted]

Task ID	Description	Completed By:
L-C 2002*	**Record differential pressure readings across aftercoolers.** The condition of each turbocharger aftercooler core can be checked by taking differential pressure readings across the core using the following procedure: 1) With the engine shut down or at idle, remove two aftercooler cover mounting bolts located on each side, fifth row from top. 2) Install two drilled bolts fitted with hose stems into the bolt holes. Connect a U-tube Manometer, with a hose attached to each end to the two hose stems. 3) Record the differential pressure reading across each aftercooler air duct with engine at full speed. Maximum allowable pressure differential across aftercooler core (engine at full speed) 25 " H20 Left Aftercooler 10 Right Aftercooler 11 Remove and clean aftercoolers with excessive pressure differential.	[redacted]
L-C 1047	**With engine running, inspect HEP & air compressor.** At air compressor, inspect for sticking unloader valve, or air escaping from pop off valves. At HEP engine, inspect for fuel, exhaust, and coolant leaks, listening for unusual noise. Ensure exhaust manifold and piping on HEP engine are protected with blankets. Ensure hot water pipes on main engine and HEP engine are protect with wrapping.	[redacted]
L-C 1048	**With engine running, inspect for exhaust leaks.** Using a flashlight, check for exhaust leaks in the area of the exhaust manifold base bolts, exhaust stack and silencer, turbo screen inspection window, turboscreen to expansion joint, and the expansion joint to turbo inlet scrolls.	[redacted]
L-C 1049	**Check low water & crankcase pressure device (F59PH).** Using the test fitting on the low water device, ensure low water button trips on device. Use vacuum bulb to test crankcase overpressure portion of device. Governor button will also trip shutting down main engine. Verify audible and visual alarms function properly.	[redacted]
L-C 2003*	**Check and record engine overspeed setting.** Verify main engine overspeed setting using a tachometer. Record speeds. A. Checking limits 1020-1075 RPM Actual RPM PH, 0 B. Throttle 8 RPM	[redacted]
L-C 1050	**Check cooling fans & radiator shutter operation.** Using the computer, select "Self Test' and then select "Fan Test" on the default screen. Follow the prompts as directed on the display panel and observe the #1 cooling fan and shutters operate first and then the #2 cooling fan.	[redacted]
L-C 1051	**Test main reservoir safety valve for proper operating range.** On the F59PH, place the Control & Fuel Pump slide switch down, and on the F59PFI, open the Module Breaker. Observe the main reservoir pressure increase on the gauge in the cab and when reaching 150 lbs, the safety valve should open, discharging compressed air to atmosphere. Verify that main reservoir pressure does not exceeding 150 lbs.	[redacted]

Task ID	Description	Completed By:

Head End Power

L-C 1052 **Check operation of cooling fan.** [redacted]

When first starting HEP engine and prior to load test, use a temperature pyrometer to measure coolant temperature at the Y pipe. As HEP engine ramps up and coolant temperature increases, verify cooling fan start to operate at 185 degrees.

L-C 1053 **Inspect HEP wiring and connections.** [redacted]

Inspect HEP wiring and loose connections and for signs of overheating.

L-C 1054 **Perform and record the results of the following tests.** [redacted]

Record findings on Inbound Load Test Sheet

HEP ENGINE

Overspeed (65Hz) (Adjust Tach Rheostat)	65 V
Over Voltage (510 - 520 VAC)	512 V
Under Voltage (450 - 460 VAC)	453 V
Over Frequency (62.5 - 63 Hz)	Set N/A
Under Frequency (56 - 58 HZ)	Set

	Tripped	Not Tripped
Low Oil Pressure Jumper N.C. Contacts of Oil Pressure Switch	X	
Hot Engine Warning (Jumper pins on gray 215 switch)	X	
Hot engine shut down (Jumper pins on black 225 switch)	X	
Ground Relay Test (jumper 24L7)	X	

Oil Pressure	65
Temperature	185° full
Fuel Pressure	35

L-C 1055 **Test HEP overspeed (65Hz)** [redacted]

Adjust tach. rheostat and increase engine speed to verify engine overspeed functions properly and trips at 65HZ.

L-C 1056 **Test HEP low oil pressure device.**

Using jumper wire, jumper the normally closed contacts at the oil pressure switch to verify engine shuts down.

L-C 1057 **Test HEP hot engine warning device (215°)**

Unplug harness from the hot engine switch (215°) gray switch. Use jumper wire to short the two (2) pins together. Observe cooling fans energize and the Hot Eng. & Aux. Eng. Fault lights illuminate. Remove jumper wire and attach harness to switch, cooling fan drops out and the Hot Eng. & Aux. Eng. Fault lights goes out.

Task ID	Description	Completed By:
L-C 1058	**Test HEP hot engine shut down (225°)** Unplug the harness for the engine shut down switch (225°) black switch. Use jumper wire to short the two (2) pins together. The Hot Eng. light and Aux. Eng. Fault lights will illuminate, engine speed will reduce to idle and after one (1) min. the engine will shut down. Try to restart the engine and it should not crank. Remove the jumper wire and attach harness to switch. Press the Fault Reset button and the Aux. Eng. Fault light & Hot Eng. lights will go out. Restart HEP.	[redacted]
L-C 1059	**Test HEP UOVT setting (510-520 VAC & 450-460 VAC)** Mark the position on the HEP rheostat REHE where presently set for 480 VAC. Increase/Decrease HEP voltage until UOV either drops out at 510-520 VAC or 450-460 VAC. Both under and over voltage shall be tested. After ten (10) secs. The VOLT TRIP light will come on and RH and LH HEP indicator light will go off. The RH and LH HEP Breaker Open lights will also come on. Readjust the rheostat to 480 volts, depress the Fault Reset button and the VOLT TRIP light will go off. Depress HEP pushbutton. Observe the RH and LH HEP lights come on. The RH and LH Breaker lights will go off.	[redacted]
L-C 1060	**Test HEP UOF relay settings (56-58 Hz & 62.5-63 Hz)** Turning the rated speed adjustment on the governor speed control panel, engine RPM will increase or decrease accordingly until the Under/Over Frequency Relay drops out at 56-58 Hz for low frequency or 62.5-63 Hz for high frequency. After ten (10) secs. the FREQ TRIP light will come on, the RH and LH HEP On indicator lights will go off and the RH and LH Breaker Open lights will come on. Readjust the engine RPM to 60 Hz. Push the Fault Reset button and the FREQ Trip light will go off.	[redacted]
L-C 1061	**Test ground relay (HEP)** At the HEP Fuse & Switch Panel, place the 480 VAC toggle switch to OFF. Ground 24L7 using a jumper. Place 480 VAC toggle switch to ON and observe the HEP SYST. GRND. light illuminates. Place the 480 VAC toggle switch to OFF and the Ground light should stay on. Depress the Ground Fault Reset push button and the GRND light will go out. Remove ground jumper from 24L7. Return the 480 VAC toggle switch to the ON position.	[redacted]
L-C 1062	**Load test HEP engine.** Verify HEP is producing 350KW with 60Hz. Check to ensure needles are not fluctuating.	[redacted]

Task ID	Description	Completed By:
	Shop Items	
Cab		
L-C 1063	**Review & resolve all outstanding defects.** Review SMP 100, logged computer faults and outstanding defect list. All defects recorded and those found during inspection must be corrected before locomotive is release for service.	[redacted]
L-C 1064	**Calibrate speed indicator with current wheel size.** 38.5"	[redacted]
L-C 1065	**Check speedometer overspeed & zero speed setting.** Verify overspeed setting, with ATS cut-in and cut-out, using a function generator. Check to ensure zero speed picks up and drops out at 3 mph. PHI 2 mph	[redacted]
L-C 1066	**Inspect high voltage cabinet.** Inspect the following contactors and switches: 1) Power Contactors 2) Motor Brake Transfer Switches 3) Generator Field Contactor 4) Starting Contactor 5) Engine Purge Contactor 6) Load Test Transfer Switch 7) Brake Power Contactor Inspect the condition of contactor tips, indications of arcing, and signs of overheating. Ensure arc shutes are properly installed after inspect.	[redacted]
L-C 3002	**Replace batteries in the memory module.** Replace the batteries in the ARC 101 module (F59PH) or in the MEM 300 (F59PHI) memory module. NOTE: To avoid the possibility of losing memory, it is important to replace one battery at a time.	[redacted]
L-C 1067	**Check condition of relays, transformers and wiring.** Inspect relays & transformers for signs of overheating, checking insulation and connectors. Ensure wires are routed properly and fastened securely.	[redacted]
L-C 1068	**Check for high voltage system grounds.** Use a 1000 volt megger, readings must be above 4 megs.	[redacted]
L-C 1069	**Check circuit and control breakers for proper operation.** Open and close circuit breakers ensuring that each spring and latch when closed and circuit breaker does not bind.	[redacted]
L-C 1070	**Inspect, download, reset time & seal event recorder.**	[redacted]
L-C 1071	**Replenish supplies, tools & hoses.** Supplies should include: 1 red flag, 1 sealed first aid kit, 12 fuses, pipe wrench, brake pipe and main reservoir hoses, a brake pipe adjustment tool and a reverser handle.	[redacted]
L-C 1072	**Change all HVAC air filters.** Change condenser inlet filter. Change return air filter ✓✓ Change fresh air make-up filter. ✓	[redacted]
L-C 2004	**Check calibration of load meter.** Using a test device to check the calibration of the load meter, apply 3 volts to load meter at the following terminals: On F59PH, terminal board 52, R4 and R5, located inside control stand. On F59PHI, output terminals 2 and 4 on the traction motor current monitor, located in high voltage cabinet above the module compartment. Verify amount of voltage applied using a meter. Use the following calculation to determine accuracy of load meter: F59PH 150 amps/volt; F59PHI 183 amps/volt With 3 volts applied to the load meter, the load meter should indicate the following amperage: F59PH 450 amps; F59PHI 490 amps If amperage on load meter is different, apply and test a new load meter.	3.1" S69A

Task ID	Description	Completed By:

Main Generator Compartment

L-C 3003 **Inspect & clean AR15 slip rings, fuses & diodes.**

Remove all panels on AR15 main generator and thoroughly clean both rectifier bank assemblies including the spike suppressers (capacitors), diodes and slip rings. Inspect for worn insulation and exposed wiring. Clean panels and windows before replacing.

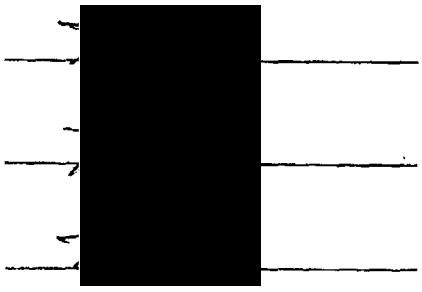
Slip Rings: Ensure that the surface of the slip rings are smooth and free of grooves. Inspect the surface of the slip rings for discoloration. Discoloration is a sign of alternator overloading (slip rings under stress). A horsepower reading or an excitation system check may assist in troubleshooting. Etching of the surface may be caused by an accumulation of dirt between the brush and slip ring. Threading may be caused by an improperly placed brush holder or improper spring tension. Ensure the insulation between the slip rings is wiped clean preventing a short circuit between slip rings. On the brush holders, verify the carbonway surface is smooth, allowing the brushes to move freely. Ensure that the brush holders are placed at the proper distance and location on the slip rings, not outside the surface of the slip rings. Clean the brush holder insulators and verify all wire connections are tight. Ensure the brushes are applied properly and that the pigtails do not interfere with the spring tension. The pigtails must be placed at an angle away from the spring finger.

(2) + (2)

Fuses/Diodes: Clean all diodes. A protruding pin on the fuse (attached to a diode) will signify a defective diode. Replace failed fuses and associated diodes in effected cluster. There are two types of diodes; the positive diode has a white ceramic ring and the negative diode has a pink ceramic ring. When changing diodes, both corresponding positive and negative diodes must be changed. Apply a thin coat of silicon heat transfer compound on the heat sink seat (hex base), not on the diode thread. Torque specifications for the diode is 25 ft/lbs and 13 ft/lb for the terminal lug end.

L-C 1074 **Renew worn AR15 slip ring brushes.**

Renew brushes if shorter than the top of the brush holder. When new brushes are installed, they need to be "sanded-in" by placing a piece of No. 100 grade sandpaper and moving the sandpaper in the direction of rotation. Lift the brush when moving the paper back. Avoid rounding the edges of the brush.



L-C 2005 **Reverse polarity of slip rings at brush connections**

To reverse polarity, pull input cables from rubber sleeves. Reverse input cables 1 and 2 and cables 3 and 4.

L-C 1075 **Ensure "Danger-High Voltage" decals are in place & legible.**

Danger - High Voltage decals must be legible and in place on frame of alternator housing and on high voltage cabinet.

L-C 1076 **Inspect T.B.31-M .**

Inspect T.B. 31-M for signs of overheating, and ensure connections are secure. PH 10

L-C 1077 **Test & lube traction motor blower inlet guide vane.**

Lubricate bushing around vane.

Task ID	Description	Completed By:
L-C 1078	**Change bag type engine air filters.** With the filters removed, examine the condition of the turbocharger intake impeller and check for signs of visible damage, nicks or chips on the impeller blades, or signs of the impeller rubbing on the housing. Inspect frame for missing or broken components. Install new intake filters and ensure hardware on filter housing is properly secured.	[redacted]
L-C 2006	**Renew the high voltage cabinet filter element.** Renew the four michana type filter elements located in the generator compartment.	[redacted]
Engine Room		
L-C 1079	**Review all lab results of oil samples.** Review lab analysis of main engine oil, air compressor oil, HEP oil.	
L-C 1080	**Clean radiators using compressed air.** Clean radiators using low pressure compressed air. Ensure passages between the tubes are clear and free from obstructions such as an accumulation of dirt/dust.	
L-C1081	**Inspect dynamic brake blower motor.** Inspect brushes and replace if below top of brush holder. Inspect condition of commutator. Inspect wiring and verify connections are tight. Blow out dust and debris with low pressure shop air. Ensure "Danger-High Voltage" decals are in place and legible. Verify "Danger-High Voltage" decal on high voltage cover adjacent to turbo lube pump is in place and legible.	[redacted]
L-C 1082	**Inspect fuel pump motor. Replace worn brushes.** Ensure mounting bolts are securely fastened. Inspect wiring and verify connections are tight, replacing worn brushes on F59PH as required. Blow out dust and debris with low pressure shop air.	[redacted]
L-C 1083	**Change fuel filters, clean suction strainer.** Check for signs of water in the bottom of the housing. If water accumulation is observed, this may be caused by excessive condensation in the fuel tank or a defective fuel oil heat exchanger. Drain and clean condensate from primary filter housing. Renew O-ring on filter housing. Renew secondary fuel filters, applying a light film of oil on the seal of the new filters and apply hand tight only. Remove both sight glasses, clean and reapply.	[redacted]
L-C 3004	**Replace AMOT fuel preheater mixing valve.** Replace fuel preheater mixing valve installing new "O" rings.	[redacted]
L-C 1084	**Inspect turbo soak back pump/motor. Replace worn brushes.** Ensure mounting bolts are securely fastened. Inspect wiring and verify connections are tight. Replace worn brushes on F59PH as required. Blow out dirt and debris using low pressure shop air.	[redacted]
L-C 1085	**Change soak back & turbo oil filters.** Drain and clean filter housing. Refill turbo canister with oil before replacing filter.	[redacted]
L-C 3005	**Renew hot oil detector thermostatic valve.** The thermostatic valve is located on the outlet elbow of the main lube oil pump. Renew the valve using a new gasket.	[redacted]

Task ID	Description	Completed By:
L-C 1086	**Change main engine lube oil filters. Clean lube oil strainers.** After removing the old filters, clean the housing of debris before applying new filters. Apply a new seal to the housing door, close the door and gradually tighten bolts in a cross pattern. At the lube oil strainer housing, remove and clean the fine mesh strainers and clean the housing. Apply new seals before the strainer screens are reapplied. Note: If the strainer screen is not seated properly when reinstalled, a suction leak in the lube oil system may be created and a low lube oil shutdown condition will occur.	[redacted]
L-C 1087	**Check main engine oil level.**	[redacted]
L-C 1088	**Clean eductor tube & lube oil separator screen.** The meshed element inside the oil separator and the eductor tube must be removed, cleaned and reapplied with new gaskets.	
L-C 1089	**Inspect turbo screen** Inspect the turbo screen through the inspection port for cracks, breaks, buildup of carbon or chemical residue buildup from the cooling water additive. These are all indicators of engine performance or engine problems. The engine should be examined further if any of these conditions are present.	[redacted]
L-C 3006	**Change governor oil. (F59PH) Bring to full mark.** Before draining governor oil, determine cause if governor oil level is low. Fill governor with HD-68 or 15W40 oil. Do not over fill.	N/A
L-C 1091	**Check main engine coolant level & concentration.**	[redacted]
L-C 1092	**Lubricate shutter linkage. Check for binding & worn areas.** Inspect for binding and worn sections.	[redacted]
L-C 1093	**Inspect A/C cabinets & check for grounds.**	[redacted]
; 2007	**Renew the AC cabinet filter element (F59PHI)** On F59PHI locomotives, renew the AC cabinet filter element located behind the AC cabinet.	[redacted]
L-C 1094	**Inspect all doors, latches, seals & safety retainers.** Check all car body and electrical cabinet doors, door handles and latches, door seals and module door supports.	[redacted]
L-C 1095	**Lube & operate handbrake. Stencil PM date on cover.**	[redacted]
L-C 1096	**Inspect exhaust manifold & expansion joints.** Inspect for loose exhaust manifold base bolts and gaskets out of position. Ensure engine "Vee" section is clean and free from an accumulation of oil which could cause an engine room fire. Ensure exhaust manifold heat shields are properly applied, secured and are not damaged.	[redacted]
L-C 1097	**Inspect turbo exhaust stack & silencer.** Inspect to ensure exhaust stack and silencer is secured and look for signs of an exhaust leak.	[redacted]
L-C 3007	**Change left and right water pumps.** Remove and replace both water pumps. 1) Drain cooling system. 2) Remove water pump inlet connection and engine protector sensing line, on F59PH locomotives. 3) Disconnect pump discharge flange connection. 4) Remove mounting bolts and pump from engine. 5) Install water pumps with new gaskets and rubber seals. 6) Torque water pump elbows and mounting bolts to 65 ft/lbs.	[redacted]

Task ID	Description	Completed By:
L-C 3008	**Renew both main engine water temperature probes.**	[redacted]
L-C 3009	**Fill cooling system and renew expansion tank pressure cap.**	[redacted]

Fill the cooling system:

1) Hold the fill/relief valve open, until the system pressure is completely vented.
2) Fill the system through the pressure cap opening. Observe the water tank sight gauge. Do not overfill.
3) Renew water tank pressure cap.

F59PH	7 psi pressure cap
F59PHI	20 psi pressure cap

L-C 3010 **Renew fuel injectors.** [redacted]

MUI injector installation.

1) Ensure the injector body and tapered hole in cylinder head are clean.
2) Install injector and apply injector crab, spherical washer, and nut. Torque nut to 50 ft/lbs.
3) Connect injector rack to lever assembly.
4) Install and tighten to 40 ft/lbs the fuel supply and return lines to injector and engine fuel manifolds.
5) Install rocker arm shaft and rocker arms. Loosen injector rocker arm locknut and back off on adjusting screw before tightening rocker arm shaft nuts. Rocker arm shaft nuts (lubricated) are initially torqued to 150 ft/lbs with final torque at 300 ft/lbs.

EUI injector installation.

1) Ensure the injector body and tapered hole in cylinder head are clean.
2) Install injector with tapered collar into the cylinder head. Check that the locating dowel is properly seated.
3) Lubricate the threads on the injector stud and nut, then apply injector crab, spherical washer and nut. Torque nut to 50 ft/lbs.
4) Connect fuel supply and return (jumper) lines to injector with new "O" rings and to engine fuel manifold. Torque fuel lines on injector end bolt to 20 ft/lbs and manifold end bolt to 40 ft/lbs.
5) Install rocker arm shaft and rocker arms. Loosen injector rocker arm locknut and back off on adjusting screw before tightening rocker arm shaft nuts. Rocker arm shaft nuts (lubricated) are initially torqued to 150 ft/lbs with final torque at 300 ft/
6) Re-connect the two wires with eyelet terminals to the injector and apply the cable tie and bracket to the cylinder head (if removed). Injector is not ready for timing.

Task ID	Description	Completed By:
L-C 3011	**Inspect valve bridges and adjust hydraulic lash adjusters.**	[redacted]

Carefully inspect valve bridge assembly prior to installation. Inspect the following:

1) Inspect valve bridge spherical seat for nicking, wear or other signs of damage.
2) Inspect spring assembly.
3) Inspect plungers for damage and verify ability to depress plungers.
4) Immerse in oil prior to installing.

Set lash adjusters using the following procedure:

1) Open cylinder test valve and bar engine over to that piston of cylinder being set is at or near top dead center.
2) Loosen rocker arm adjusting screw locknuts.
3) Insert 0.001" shim between valve stem top and adjuster plunger.
4) Turn rocker arm adjusting screw down until the last valve just touches the hydraulic lash adjuster plunger, or until the shim is just snug between the valve stem top and adjuster plunger. Remove shim and turn adjusting screw down 1-1/2 turns.
5) The valve bridge spherical seat must be spring-loaded against the cylinder head spherical seat. If the bridge spring spherical seat is not spring-loaded against the cylinder head spherical seat, turn down the rocker arm adjusting screw until no movement is felt, and then turn it another 1/4 turn. Check that valves are not held open.
6) Torque rocker arm adjusting screw locknut to 80 ± 5 ft/lbs.

L-C 3012	**Time each MUI/EUI injector**	[redacted]

With the injector installed, make the timing adjustment as follows:

MUI Injector Timing

1) Bar engine over in the normal direction of rotation until flywheel pointer indicates the correct crankshaft position in degrees relative to top dead center of the cylinder being timed. The badge plate located at the right rear side of the engine crankcase will provide the setting of top dead center for each cylinder assembly.
2) Insert injector timing gauge into the timing hole provided in the injector body.
3) Loosen the locknut and turn the rocker arm adjusting screw until the shoulder of the gauge just passes over the injector follower guide.
4) Tighten the adjusting screw locknut while holding the adjusting screw in position with screwdriver.
5) Recheck setting when completed.

EUI Injector Timing

1) Bar engine over in the normal direction of rotation until flywheel pointer indicates the correct crankshaft position in degrees relative to top dead center of the cylinder being times. The badge plate located at the right rear side of the engine crankcase will provide the setting of top dead center for each cylinder assembly.
2) Slowly run reach injector follower adjustment screw down until it bottoms, then back off 1-1/2 turns.
3) Tighten adjusting screw locknut while holding adjusting screw in position with a screwdriver.

Task ID	Description	Completed By:
L-C 3013	**Set MUI injector racks.** **Important:** Before setting injector racks; the racks, linkage and shafts must be checked for binding, sticking and wear with governor and control rods disconnected. If control shaft shows sings of wear from defective bearing, replace control shaft. MUI injector racks should be set with the engine at operating temperature. If racks are set cold, the settings needs to be rechecked when operating temperature is reached. Set the injector rack on the engine as follows: 1) Apply the injector linkage setting jack to governor. 2) Adjust the setting jack until the pointer on the governor aligns with the governor terminal shaft scale at the 1.00 inch. mark. 3) Install the rack gauge on rack of injector and hold firmly against calibrating slide of injector. 4) The gauge pointer on the tool should fall within the scale setting range. 5) If the pointer is at the short (S) end of the gauge scale, outside of the setting range, the rack is not extending out far enough from the injector. Loosen the locknut on the adjusting link, and turn the adjusting nut on link until pointer is at the long (L) side of the scale. Then reverse pointer travel until it is within the scale setting range. 6) Hold the adjusting nut and tighten the locknut.	N/A
L-C 3014	**Calibrate EUI injectors.** Use PC reader program on lap top computer to set calibration of each injector.	[redacted]
L-C 1098	**Inspect main engine air box & crankcase.** Pressurize the coolant system with water to 20 psi. With the top deck covers open and the air box hand hole covers removed, bar the engine over, inspecting all power assemblies and components for abnormal conditions, and signs of internal coolant leaks. 1) Abnormal ring or ring land wear. 2) Broken or damaged rings. 3) Excessive scoring or scuffing on the piston or liner. 4) Leaking inlet water jumper tube gasket at the manifold or the seal at the liner. 5) Water jumper cracked. 6) Cylinder head to liner gaskets leaking as seen by water leaking down the inside and outside of the liner or on top of the piston. 7) Cracked head leaking into combustion chamber as seen by water leaking down the inside of the liner or on top of the piston. 8) Cracked cylinder head in exhaust port as seen by water leaking past the exhaust valves onto the liner or on top of the piston. 9) Cracked liner as seen by water leaking down the inside of the liner, or leaking down the outside of the liner. 10) Inspect the aftercooler cores through the air box ports #6 and #12 power assemblies. 11) Air box to oil pan bolts for tightness. 12) Air box hand hole cover gaskets.	

Task ID	Description	Completed By:

Crankcase Inspection:
Bar the engine over and inspect for defects or abnormal conditions in the following areas:

1) Overheated main bearing caps, connecting rods, piston carriers and pistons. Overheated components will change from their normal gray color to a blue/red discoloration.
2) Worn or damaged main bearings or connecting rod bearings as seen by babbit or lead material weeping or rolling out from the bearing caps.
3) Loose main bearing caps.
4) Loose connecting rod basket bolts (fork rods).
5) Basket assembly improperly applied.
6) Blade rod out of place.
7) Pee pipes that are loose, bent, cracked, plugged, or misaligned.
8) Bottom of the pistons, piston carriers and connecting rods for signs of missing or damaged components.
9) Crankshaft for visible damage or cracks.
10) Thrust washer for excessive wear or visible defects.
11) Crankcase hand holé cover gaskets.

[redacted]

L-C 2008* **Measure and record piston to cylinder head clearance.**

Record wire lead readings. If higher than 0.100 inches, renew power assembly.

Cylinder	Assembly		Difference
1	.050	.041	.009
2	.042	.044	.002
3	.050	.052	.002
4	.040	.054	.014
5	.045	.039	.006
6	.041	.052	.011
7	.049	.055	.006
8	.055	.059	.004
9	.055	.042	.013
10	.055	.058	.003
11	.054	.053	.001
12	.054	.055	.001

[redacted]

L-C 1099 **Verify air box drains are clear.**

Ensure air box drains are free from obstruction to prevent the accumulation of oil inside the air box.

[redacted]

L-C 1100 **With fuel pump running, inspect for internal/external leaks**

Fuel Leaks: Inspect for fuel leaks at the fuel injector body, fuel jumper line connections at manifold and at injector, and the fuel delivery manifold and connections inside the top deck.

[redacted]

L-C 1101 **Inspect aftercoolers, radiators, piping & couplings for leaks.**

Inspect all water piping in the engine, and air compressor compartments. Remove inspections covers and inspect radiator cores and headers for coolant leaks. Inspect water pumps, expansion tank filter cap and neck for coolant leaks. When completed, relieve pressure and remove the pressurized equipment.

Task ID	Description	Completed By:
L-C 2009	**Re-torque exhaust manifold base and flange bolts.** Loosen bolts and re-torque to the following values: Exhaust manifold base bolts 130 ft/lbs Expansion joint bolts 80 ft/lbs	[redacted]
C 2010	**Re-torque top deck head frame base bolts.** Loosen bolts and re-torque to the following values: Head frame to crankcase bolts 30 ft/lbs	[redacted]
L-C 3015	**Re-torque cylinder plate crabs.** Loosen bolts and re-torque to the following values: Initial torque: 400 ft/lbs Final torque: 2400 ft/lbs	[redacted]
L-C 1102	**Ensure guards are properly applied on rotating equipment.** Inspect the following guards. 1) Air Compressor drive shaft. 2) Auxiliary generator drive shaft. 3) Auxiliary generator blower shroud.. 4) Cooling fan shrouds. 5) Dynamic brake fan shroud. 6) HEP cooling fan shroud. 7) Shutter shrouds. 8) Main generator guards. 9) Traction motor blower guard. 10) Front of HEP shaft guard..	[redacted]
Air Compressor		
L-C 1103	**Change air compressor oil filter.**	[redacted]
L-C 3016	**Change air compressor oil. Bring to full.** Use the HD-68 or 15W40 oil and fill to the proper indicator on the dipstick.	
HEP		
L-C 1105	**Change HEP lube oil filter and air filter.**	[redacted]
C 1106	**Change HEP fuel filter.**	
1107	**Clean HEP lube oil centrifuge element (884-887).**	
L-C 1108	**Change HEP engine oil. Bring to full mark after starting.**	
L-C 1109	**Change HEP coolant filter (884-887).**	
L-C 3017	**Renew HEP engine temperature regulator (thermostat).** Completely drain coolant from the cooling system. Ensure that the new thermostat is installed in the original position and the thermostat vent hole is open. DO NOT use liquid gasket material on the gasket or cylinder head surface.	
L-C 3018	**Renew fuel injector nozzles.** – none in stock –	[redacted]
L-C 3019	**Renew water pump.**	
L-C 3020	**Renew starter motor.**	
L-C 3021	**Replace HEP coolant & concentration. Renew pressure cap.** Flush the cooling system with clean water to remove any debris.	

Task ID	Description
L-C 2011	**Renew the HEP cabinet filter element.**

Renew the 2 HEP filter elements located to the left of the HEP engine.

[redacted]

L-C 2012 **Check HEP engine valve lash setting.**

Check and adjust if required HEP engine valve lash setting.

Valve lash is measured between the rocker arm and the bridge for the valves.

When the valve lash is checked, adjustment is not necessary if the measurement is in the range as indicated in the following chart:

VALVE LASH CHECK: ENGINE STOPPED	
Exhaust	0.69 TO 0.84 mm (.027 TO 0.33 in.)
Inlet	0.30 to 0.46 mm (.012 to .018 in.)

If measurement is outside this range, adjustment is necessary.

Adjust the valve lash setting to the nominal specification indicated in following chart:

VALVE LASH CHECK: ENGINE STOPPED	
Exhaust	0.76 mm (.030 in.)
Inlet	0.38 mm (.015 in.)

To make an adjustment to the valve lash, turn the adjustment screw in the rocker arm. Valve lash adjustments can be made using the following procedures:

1) Put No. 1 piston at top center (TC) on the compression stroke. Make a reference to finding top center compression position for the No. 1 piston.

2) Make an adjustment to the valve lash on the inlet valves for cylinders 1, 2, and 4. Make an adjustment to the valve lash on the exhaust valves for cylinders 1, 3, and 5.

3) After each adjustment, tighten the nut for valve adjustment screw to 22 ± 3 ft/lbs, and check the adjustment again.

4) Remove the timing bolt and turn the flywheel 360 degrees in the direction of engine rotation. This will put No. 6 piston at top center (TC) on the compression stroke. Install the timing bolt in the flywheel.

5) Make an adjustment to the valve lash on the inlet valves for cylinders 3, 5, and 6. Make an adjustment to the valve lash on the exhaust valves for cylinders 2, 4, and 6.

6) Remove the timing bolt from the flywheel when all adjustments to the valve lash have been made.

Task ID	Description	Completed By:
L-C 2013	**Clean, inspect and check HEP turbocharger.**	[redacted]

A buildup of crankcase fumes through the inlet air system can contribute to loss of engine power, increased black smoke, and overall loss of engine efficiency.

Clean, inspect and check the turbocharger using the following guidelines:

1) Remove the exhaust outlet and air inlet piping from the turbocharger. Visually check for oil leaks.

2) Turn the compressor wheel and turbine wheel by hand. The assembly should turn freely. Inspect the compressor wheel and turbine wheel for contact with the turbocharger housing. There should not be any signs of contact. Replace the turbocharger if there are signs of contact.

3) Check the compressor wheel for cleanliness. If the blade side of the wheel is dirty, dirt and/or moisture is passing through the air filtering system. If oil is found only on the back side of the wheel, it indicates a possible turbocharger oil seal leak.

4) Attach a dial indicator point on the end of the turbocharger shaft to check end clearance on the shaft. Push and pull the other end of the shaft and note the total dial indicator reading. End play should be .003 to .010 in. Replace turbocharger if readings are not within limits.

5) Inspect the turbine housing bore for corrosion.

6) Clean the turbocharger housing with standard shop solvents and a soft bristle brush.

7) Install new gaskets and O-ring seals and fasten the air inlet and exhaust outlet piping to the turbocharger housing. Torque bolts to 41 ± 4 ft/lbs.

8) Install oil supply tube with new gasket between oil supply tube and the turbocharger.

L-C 2104	**Re-torque HEP engine mount bolts.**	[redacted]

Loosen and re-torque HEP engine mount bolts to 425 ft/lbs to prevent excessive engine vibration.

Under frame

L-C 3022	**Renew brake pipe & main reservoir hoses.**	[redacted]

Renew brake pipe and main reservoir hoses at front and rear of locomotive. Check condition of dummy hose couplings and chain and repair or replace if needed.

L-C 1111*	**Record wheel measurements.**	[redacted]

Record wheel measurements

	Flange Ht.	Flange Th.	Rim Th.
	Max. 1-1/2"	**Min. 1"**	**Min. 1"**
Gauge readings	24	8	16
Wheel #L1	17	2	26
Wheel #R1	17	0	27
Wheel #L2	17	2	27
Wheel #R2	17	3	27
Wheel #L3	17	2	29
Wheel #R3	17	3	28
Wheel #L4	17	2	28
Wheel #R4	17	2	27

Notify Supervisor if readings are at these points:

Flange Ht.	Flange Th.	Rim Th.
22	5	18

Task ID	Description	Completed By:
L-C 1112	**Inspect wheels for defects.**	[redacted]

Following are condemning conditions involving wheels. Report any defective condition found to your supervisor regardless of severity.

Flat spots	A single flat spot that is 2-1/2 inches or more in length, or two adjoining spots that are each two or more inches in length.
Gouge or chip in the flange	Gouge or chip that is more than 1-1/2 inches in length and 1/2 inch in width.
Broken rim	If the tread, measured from the flange at a point 5/8 of an inch above the tread, is less than 3-3/4 inches in width.
Shelling	A shelled-out spot 2-1/2 inches or more in length, or two adjoining spots that are each two or more inches in length.
Seam running lengthwise	A seam running lengthwise that is within 3-3/4 inches of the flange.
Tread worn hollow	A tread worn hollow 5/16 of an inch or more.
Crack or break	A crack or break in the flange, tread, rim, plate, or hub.
Loose wheel	Any indication the wheel may be loose. Look for rust where the axle contacts the hub.

L-C 1113 **Inspect all traction motors.** [redacted]

Ensure brush holders are secure (150-160 ft/lbs) with cable & shunt connectors tight.
Brush holder is between 1/8" to 3/16" above commutator.
Inspect commutator for high/low bars, grooving, threading, copper drag & bar edge burning.
Examine for signs of flash over.
Inspect brushes for brakes, chips or cracks.
Inspect brush shunts for evidence of being burnt, pulled out, discolored or frayed.
Ensure shunt leads are properly routed around the spring fingers of the holder.
Replace worn brushes when one of the three wear limit lines just begin to disappear below the windows of the brush holder.

L-C 1114 **Clean traction motor string band & brush holders.** [redacted]

Wipe string/ teflon band clean using a clean shop towel.
Clean brush holder insulator studs.
When condition warrants, use high volume, low pressure (30-50 psi) clean dry compressed air to blow away debris.

L-C 1115 **Ensure traction motor covers & seals are in place.** [redacted]

Verify all covers are not bent, cracked or broken, are in place, tight and all bolts secured.

L-C 1116 **Inspect traction motor cables & ground wire.** [redacted]

Inspect cabling for signs of being burnt, overheated, cut & exposed wire strands.
Ensure protected sleeves are in place.
Ensure ground wire is secure.

L-C 1117 **Inspect air ducts for damage or loose connections.** [redacted]

Inspect ducts ensuring each is in proper position and are not damaged or cut.

L-C 1118 **Inspect end bells, support bearing caps & bolts.** [redacted]

Verify all bolts are secured properly and support bearing cap bolts are properly safety wired.

Task ID	Description	Completed By:
L-C 1119	**Inspect traction motor gear case & lube level.** Thoroughly clean dirt and debris from cap before removing. Inspect for damage. Inspect for excessive leakage evidenced by excessive oil flung outward around inside of the wheel. Add oil if necessary. Inspect support arm. Ensure gear case plugs are secured & safety wired.	[redacted]
L-C 2015	**Renew traction motor lubricator wicks. (F59PH)** Replace traction motor support bearing lubricator wicks in the following manner: 1) CLEAN area around lubricator cover plate and axle cap. 2) Bend locking tabs back and remove the four bolts from wick assembly. Remove lubricator wick assembly. Report to supervisor if any bolts are loose or missing. Inspect old wick for metal flaking and burned or hardened wick contact surface. Remove the old gasket from the top of the reservoir being careful not allowing pieces to fall into the reservoir. 3) Drain lubricant from the reservoir and thoroughly wipe reservoir clean using clean shop towels. If water was present, determine cause and notify supervisor. 4) Replace the drain plug and tighten securely. 5) Closely inspect the visible portions of the suspension bearing and the axle surface for signs of overheating, discoloration, grooving, shelling, fatigue or babbitt pulling. 6) The new lubricator wick assembly must be presoaked in warm oil for approximately 20 minutes. Install the new lubricator wick assembly using new gaskets. 7) Install a new locking tab plate over the cover. 8) Install the wick bolts and TORQUE to 50 ft/lbs. 9) Bend the locking tabs in position on the corners of the four bolts. 10) Inspect the condition of the filler cap and spring mechanism. 11) Fill the reservoir with motor support oil to the point of overflow at the top of the filler cap. 12) Report any defects or abnormal conditions to your supervisor.	N/A
L-C 1121	**Check truck center casting, motor suspension lugs/frames.** Visually inspect for oil leaks, cracks or breaks. Inspect traction motor nose suspension for excessive wear resulting in free movement between the traction motor frame and the suspension assembly. Check for more than 1/4" free movement in the nose suspension assembly. Minimum thickness of the lower wear plate is 7/16".	[redacted]
L-C 2016	**Lubricate truck center castings. (1 pint)** On F59PH locomotives, the front truck is lubricated through a pipe extension accessed adjacent to the HVAC unit and on F59PHI locomotives, in the cab, under the floor partitions at the High Voltage cabinet. The rear truck, on both models are lubricated through a pipe extension located near the air compressor.	[redacted]
L-C 3023	**Inspect, lubricate brake cylinders & replace diaphragm.** Inspect and clean all brake cylinders, check spring, grease walls of cylinder and replace diaphragm.	[redacted]

Task ID	Description	Completed By:
L-C 1122	**Verify wheel is not contacting truck side frame.**	[redacted]
L-C 1123	**Inspect draft gear, pocket & coupler carrier.**	
C 1124	**Clean radar head.** Check for proper alignment of radar unit and inspect cable for damage and being properly secured.	
L-C 1125	**Drain condensate from fuel tank.** To drain condensate from the fuel tank, remove the drain pipe plug, and open the drain valve. Drain condensate until clean fuel appears. Close the drain valve, and replace the plug when completed.	
L-C 3024	**Replace Salem twin tower air drier.** Replace air drier, renewing all gaskets, seals and seats.	[redacted]
L-C 2017	**Renew main reservoir filters and clean dirt collector.**	
L-C 2018	**Renew main reservoir safety valves.** Renew the 150 lb. J-1 safety valve located adjacent to the main reservoirs and on F59PH locomotives, renew the 175 lb. J-1 safety valve located on the discharge pipe at the air compressor.	
L-C 2019	**Renew No. 8 vent valves (2).** Renew no. 8 vent valves located at the right rear and left front on the locomotive.	
L-C 3025	**Replace horn relay valve.**	[redacted]
L-C 3026	**Replace GW595 relay valve (horn & bell).**	
L-C 3027	**Replace blended brake magnet valves (3).**	
L-C 3028	**Replace sander magnet valves (2).**	
C 3029	**Replace radar blow magnet valve.**	
L-C 3030	**Replace shutter control solenoid valve.**	
L-C 3031	**Replace compressor control cutoff solenoid valve.**	
L-C 3032	**Replace 60 lb. intercooler safety valve.**	
L-C 3033	**Replace auto/manual override drain valve.**	
L-C 3034	**Replace air compressor unloader valve.**	
L-C 3035	**Replace traction motor blower magnet valve (F59PH)**	
L-C 3036	**Replace MU2A valve w/pipe bracket.**	
L-C 3037	**Replace 30A, CDW valve.**	
L-C 3038	**Replace N1 90lb. reducing valve.**	
L-C 3039	**Replace 30 CW module, valve.**	
L-C 3040	**Replace H-5 relay valve 25 psig (2)**	
L-C 3041	**Replace 1-1/4" emergency conductors valve (2)**	
L-C 3042	**Replace one way check valve.**	
L-C 3043	**Replace double check valve.**	
L-C 3044	**Replace check valve between #1 & #2 main reservoirs.**	
L-C 3045	**Replace C-1 main reservoir air cutoff valve. (F59PH)**	
3046	**Replace equilizing reservoir cutoff valve. (F59PH)**	
L-C 3047	**Replace N-1 68lb. reducing valve. (F59PHI)**	

Task ID	Description	Completed By:
L-C 3048	**Replace H-5 90lb. relay air valve. (F59PHI)**	[redacted]
L-C 3049	**Replace 26 LUL air brake rack.**	
	After replacing above listed valves but before changing air brake rack, start locomotive and check for air leaks.	
L-C 3050	**Check main reservoir and piping for leakage.**	
	Charge main reservoir pressure to 90 lbs. using dry shop air connected to main reservoir equilizing pipe at either end of locomotive. Main air reservoir and related piping leakage must not exceed an average of 3 pounds per square inch per minute for 3 minutes.	

Final Running Checks

L-C 1126	**Bring engine and HEP oil level to full mark.**	
	Immediately after starting locomotive and HIP engine, check main engine and HIP engine oil level and bring to full mark.	
L-C1127	**Bring engine and HEP coolant level to full mark.**	
	Immediately after starting locomotive and HEP engine, check main engine and HEP engine coolant level and bring to full mark.	
L-C 1128	**Engine room inspection**	
	Perform engine room inspection of all components, checking for air, oil, fuel, and water leaks.	
L-C 1129	**Check all fire extinguishers.**	
	Fire extinguishers in place & sealed. Changed 2 Qty Check date tag (within 1 year) & pressure gauges.	
L-C 1130*	**Check & record battery specific gravity.**	

1.248	1.258	1.245	1.256
1.252	1.254	1.254	1.254
1.254	1.260	1.252	1.257
1.243	1.254	1.250	1.248

Left — Right

Front
Facing Battery
Left Side of Locomotive

1.248	1.252	1.247	1.251
1.251	1.252	1.251	1.248
1.260	1.258	1.262	1.248
1.259	1.261	1.265	1.261

Left — Right

Front
Facing Battery
Right Side of Locomotive

L-C 1131	**Wash batteries & check electrolyte level.**	[redacted]
	The electrolyte level in all cells should not be allowed to fall below the top of the battery plates. When refilling, allow about 1/4" space below the bottom of the filling tube to minimize splashing. Take care not to overfill, particularly cells that are hard to access. If the level is extremely low, check the battery cases for cracks. Look for acid corrosion marks when inspecting for cracks. Cleanliness is important to prevent the collection of dirt, corrosive products and oil on the top of the batteries. With the battery switch open, wash off the batteries with water or scrape the residue of oil/dirt with a wooden scraper. Note: An electrolyte spill can be neutralized with baking soda.	
L-C 1132	**Check battery cables & connections.**	[redacted]
	Verify the condition of the cable insulation for dryness and cuts. Ensure connectors (lugs) are properly secured to the battery posts.	

Task ID	Description	Completed By:

L-C 1133* **Load test main engine. Record results.** [redacted]

Self load main engine.

	Load Test 1	Load Test 2
Main Generator Volts	1340	1372
Main Generator Amps	1540	1528
Horsepower	3020	2998

	Idle	Full load
Lube Oil Pressure	21	82
Load Regulator	100	88
FC 1 (On or Off)	OFF	ON
FC 2 (On or Off)	OFF	OFF

	EPT1	EPT2	EPT1	EPT2
Engine Temperature	179	178	192	192

L-C 3051 **Check lash adjuster to valve clearance.** [redacted]

With engine at operating temperature, check clearance between lash adjuster body and the end of the valve stem of all cylinders with the piston near top dead center. A 1/16" minimum clearance gauge should fit between lash adjuster body and valve stem top to ensure minimum clearance. Also verify that there is no clearance between valve tip and adjuster plunger.

L-C 3052 **Check MUI injector rack settings.** N/A

With engine at operating temperature and shut down, recheck the injector rack settings following procedure as outlined in task L-C340.

L-C 1134* **Load test HEP engine. Record results.** [redacted]

Load test HEP engine a minimum of 20 minutes and verify HEP is producing 350KW with 60Hz. Check to ensure needles are not fluctuating.

Oil Pressure	60
Temperature	OK
Fuel Pressure	38

L-C 1135 **Check operation of ATS.** [redacted]

Verify ATS receiver is properly secured and the washboards are aligned. Perform a slap test. Perform ATS test and complete form SMP 8.

1-20-05

Task ID	Description	Completed By:
L-C 1136	**Check & drain moisture from main reservoir tanks.** Drain condensate from main reservoir tanks.	[redacted]
C 1137	**Drain intercooler & dirt collector condensate.**	
L-C 1138	**Check air compressor system.** Check to ensure main reservoir pressure is maintained between pressures of 130 and 140 lbs.	
L-C 3053	**Check Salem air dryer, humidity indicator & timing cycle.** With air compressor pumping, alternating exhaust should occur at 2 min. intervals ± 15 secs. Ensure air is not discharging from dehydrating unit.	[redacted]
L-C 1139	**Test air gauges.** Verify accuracy of each needle (4) using a CO2 tester at 100 lbs. of pressure.	
L-C 1140	**Equalizing reservoir & brake pipe pressure within 3 lbs.** Ensure equalizing reservoir needle and brake pipe needle are within 3 lbs. of each other. Increase and decrease equalizing reservoir pressure and note brake pipe pressure responds.	[redacted]
L-C 1141	**Test air brake, safety controls and warning devices.** Ensure 30 CDW Automatic Brake Valve functions as intended in all positions. Test actuating (bail-off), graduated release, TMS and emergency with PC function.	
L-C 1142	**Test independent brake.** Apply independent brake in 10 lb. increments and ensure brake cylinder pressure increases and stabilizes. Fully apply independent brake obtaining 72 lbs. brake cylinder pressure. Fully release independent and brake cylinder pressure should reduce to 0 lbs. pressure.	
L-C 1143	**Complete form FRA F6180-49A (Blue Card)**	[redacted]
	Review and resolve all outstanding defects. Review SMP 100, Service Requests, Notes, and other defect reports. All defects recorded and those found during inspection shall be corrected before locomotive is released for service.	**Signature:**

Download File: 124A0886.D30.

Unit Number:	0886	Laptop Time:	04/12/30 01:32:27
Recording Start:	03/12/16 13:12:37	Download Time:	04/01/06 14:39:17
Recording Stop:	04/01/06 13:59:17	Prev. Download:	03/10/19 13:40:44

Recorder Type:	53300	4 Freq., 8 Analog, 32 Digital Channels
Firmware Ver.:	2.40	1 MB Flash Memory
Flexware Ver.:	2.20	Vigilance: Installed
Download Ver.:	1.26	WinDNLD Download
Serial No.:	092123	

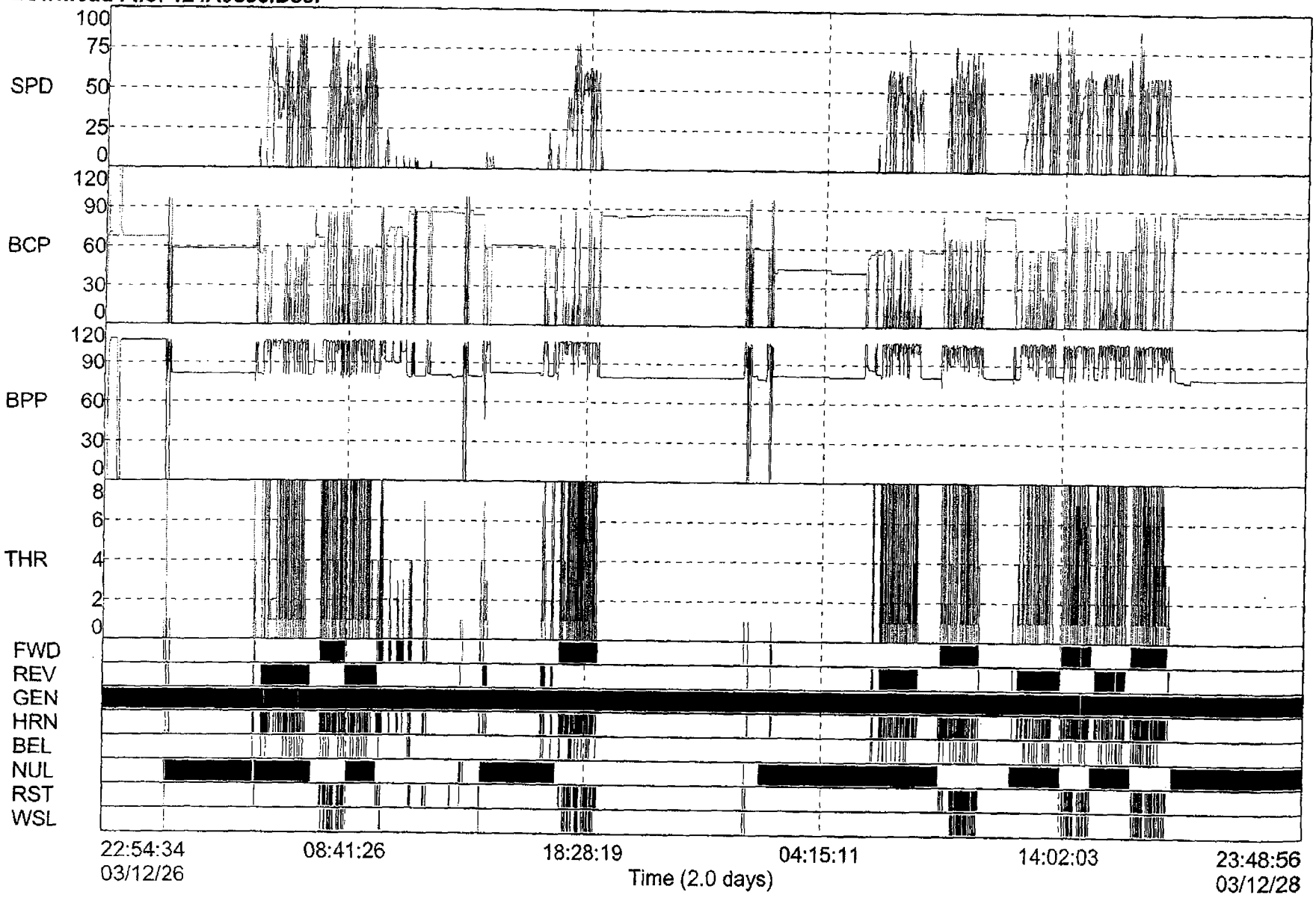
Freq. Channels:	SPD	F02	F03	TMC
Wheel Diameter:	39.3	400.0	400.0	1800.0
Pulses/Revolution:	160	160	160	1100
Event Threshold:	1	1000	1000	31

Anl. Channels:	A01	A02	A03	A04	A05	A06	BCP	BPP
Max. Input (V):	100	100	100	100	100	100	10	10
Max. Sensor (V):	100	100	100	100	100	100	6	6
Sensor Offset (V):	0	0	0	0	0	0	1	1
Sensor FS (EU):	100	100	100	100	100	100	159	152
Event Thres.(EU):	5	5	100	100	100	100	3	3

Unit: 0886
Wheel Size: 39.3
Download File: 124A0886.D30.

Graph Data

Dnld Date: 04/01/06
Dnld Time: 14:39:17



CEL INSTRUMENTS NOISE METER SURVEY REPORT

Organisation name [.....]

Address [.....]

Operator name [.....]

Measurement subject [886 Upper.....]

Measurement location [.....]

Measurement conditions [.....]

Other comments [.....]

Model number		[CEL-360]	Serial-no	[.....]	
Measurement range	(dB)	[50-120]	Version	[1.01]	
Frequency weighting	RMS	[A]	Peak	[Lin]	
Profiles recorded	stored	[NO]	interval	[---]	

	dd/mm/yy	hh:mm:ss			
Start of run	[20/01/05	15:24:48]			
End of run	[20/01/05	15:24:56]			
Duration of run	[	00:00:05]			
Total pause time	[	00:00:03]			
Calibrated before run on	[19/11/04	11:32:38]	at	[113.6]	dB
Calibrated after run on	[--/--/--	--------]	at	[---.-]	dB
Microphone serial number	[	80004259134]			

Equivalent sound level LAeq	(dB)	[107.5]	Q=3 No threshold	
RMS maximum level [SLOW]	(dB)	[107.6]	at [20/01/05	15:24:50]
RMS minimum level [SLOW]	(dB)	[104.1]	at [20/01/05	15:24:48]
Peak exceedance level	(dB)	[121.4]	at [20/01/05	15:24:49]
LAS[10.0] %	(dB)	[107.5]		
LAS[50.0] %	(dB)	[107.5]		
LAS[90.0] %	(dB)	[106.0]		
LAS[95.0] %	(dB)	[105.5]		
LAS[99.0] %	(dB)	[104.5]		
Time under-loaded		[0:00:00]	(%)	[0.00]
Time overloaded		[0:00:00]	(%)	[0.00]

GENERAL NOISE MEASUREMENT RESULTS

Instrument setup name	[METEB]		
Time above or equal to 85 dB	[0:00:05]	(%)	[100.00]
Time above or equal to 90 dB	[0:00:05]	(%)	[100.00]

CEL INSTRUMENTS NOISE METER SURVEY REPORT

Organisation name [.....]

Address [.....]

Operator name [.....]

Measurement subject [886 Lower.....]

Measurement location [.....]

Measurement conditions [.....]

Other comments [.....]

Model number		[CEL-360]	Serial-no	[.....]
Measurement range	(dB)	[50-120]	Version	[1.01]
Frequency weighting	RMS	[A]	Peak	[Lin]
Profiles recorded	stored	[NO]	interval	[---]

	dd/mm/yy	hh:mm:ss		
Start of run	[20/01/05	15:22:30]		
End of run	[20/01/05	15:22:39]		
Duration of run	[	00:00:06]		
Total pause time	[	00:00:03]		
Calibrated before run on	[19/11/04	11:32:38]	at [113.6]	dB
Calibrated after run on	[--/--/--	--------]	at [---.-]	dB
Microphone serial number	[	80004259134]		

Equivalent sound level LAeq	(dB)	[105.6]	Q=3 No threshold	
RMS maximum level [SLOW]	(dB)	[106.2]	at [20/01/05	15:22:33]
RMS minimum level [SLOW]	(dB)	[100.9]	at [20/01/05	15:22:30]
Peak exceedance level	(dB)	[118.8]	at [20/01/05	15:22:33]
LAS[10.0] %	(dB)	[106.0]		
LAS[50.0] %	(dB)	[105.0]		
LAS[90.0] %	(dB)	[104.0]		
LAS[95.0] %	(dB)	[103.0]		
LAS[99.0] %	(dB)	[101.5]		
Time under-loaded		[0:00:00]	(%) [	0.00]
Time overloaded		[0:00:00]	(%) [	0.00]

GENERAL NOISE MEASUREMENT RESULTS

Instrument setup name	[METEB]		
Time above or equal to 85 dB	[0:00:06]	(%) [	100.00]
Time above or equal to 90 dB	[0:00:06]	(%) [	100.00]

US Department of Transportation
Federal Railroad Administration

LOCOMOTIVE INSPECTION AND REPAIR RECOI

In accordance with the Locomotive Inspection A
36 State, 913, as amended and the regulations issu
pursuant to that Act, the parts and appurtenances
the locomotive unit have been inspected and all defe
disclosed by the inspection have been properly repair

Reporting year 2005 Check if new loco. ☐ If loco. renumbered give previous no.

1. OPERATED BY	RR CODE	2. OWNED BY (Railroad)	RR CODE
AMTRAK	0 1 5 0	SO. CA. REGIONAL RAIL AUTHORITY	

3. MODEL NO.	4. LOCO. NO.	5. YR. BUILT	6. PROPELLED BY	7. HORSEPOWER	8. TYPE OF SERVICE: PASSENGER [X] ROAD ☐ YARD ☐ OTHER ☐
F59PHI	886	2001	D-E	3000	

9. STEAM GEN.	GEN. #1. Working Pressure	GEN. #2. Working Pressure
NOT EQUIPPED		

10. MAXIMUM PISTON TRAVEL	TYPE OF AIR BRAKE	11. OUT OF USE CREDIT
8 INCHES inches	26LUL	52 DAYS

12. LAST PERIODIC INSPECTION DATE	PLACE
10-21-04 (M03 INSP.)	LOS ANGELES, CA.

PERIODIC INSPECTIONS

13. DATE MO DAY YR	14. PLACE	15.* ITEMS	16. PERSON CONDUCTING	15.* ITEMS	16. PERSON CONDUCTING	17. CERTIFIED BY
OUT OF USE FROM 12/29/04		TO	1/20/05 LOS	ANGELES,	CA.	[redacted]
1/20/05	LOS ANGELES, CA.	1-4 & 7	[redacted]	5	[redacted]	
OUT OF USE FROM		TO	LOS	ANGELES,	CA.	
	LOS ANGELES, CA.	1-4 & 7		5		
OUT OF USE FROM		TO	LOS	ANGELES,	CA.	
	LOS ANGELES, CA.	1-4 & 7		5		
OUT OF USE FROM		TO	LOS	ANGELES,	CA.	
	LOS ANGELES, CA.	1-4 & 7		5		

15.* ITEM CODE: [1] BRAKES [2] RUNNING GEAR [3] CAB EQUIP. [4] MECH. EQUIP. [5] ELECT. EQUIP. [6] STEAM GEN. [7] SAFETY APPL.

TESTS

H & H TEST PRESSURE DRILLED

TYPE	INTERVAL NOT MORE THAN	21. PERSON CONDUCTING	22. TEST DATE AND PLACE	23. CERTIFIED BY	24. PREVIOUS TEST DATE AND PLACE
METER	368 calendar days	[redacted]	1/20/05 LOS ANGELES, CA.	[redacted]	01-09-04 LOS ANGELES, CA.
HAMMER AND HYDRO	736 calendar days		DRILLED		DRILLED
AIRBRAKE 229.27	368 calendar days		1/20/05 LOS ANGELES, CA.		01-09-04 LOS ANGELES, CA.
AIRBRAKE 229.29	NUMBER OF CALENDAR DAYS 1104		1/20/05 LOS ANGELES, CA.		11-07-01 HORNELL, NY.

Certification of true copy.
I certify that this is a true copy of the inspection and repair record of locomotive no. 886

(Officer-in-charge) DATE

ATTENTION: *A false entry on this form is punishable by fine or imprisonment (U.S. Code, Title 18, Sec. 1001).*

FORM FRA F6180-49 A (3-85)

GOVERNMENT PROPERTY DO NOT REMOVE

OMB Approval No. 2130-0004

MAINTENANCE ANALYSIS PROGRAM
DIESEL ELECTRIC LOCOMOTIVES AND CAB CARS
INTERMITTENT INDUCTIVE TRAIN STOP INSPECTION

✓ PERIODIC _____ FAILURE

UNIT NO.	LOCATION	DATE	TIME
886	CMF (L.A)	1-20-05	08:00A

	FOUND	LEFT
1. Receiver height should be 4½ ± ¼".	4½"	4½"
2. Resistance B32/B31 to ground. (System de-energized). Should be no less than 250,000 Ohms.	∞	∞
3. Resistance C32/C31 to ground. (System de-energized). Should be no less than 250,000 Ohms.	∞	∞
4. Receiver resistance NA and A. Should be 12 to 21 Ohms.	14.9	14.9
5. Receiver resistance NS and A. Should be 27 to 41 Ohms.	34.3	34.3
6. Receiver resistance NA and NS. Should be 37 to 56 Ohms.	43.6	43.6
. System voltage. Should be 30 to 32 volts.	32.	32.
8. Acknowledge time. Hold ACK switch down and time start of air blow (MV open). Should be 6 to 8 seconds.	7 SEC.	7 SEC.
9. Brake cylinder pressure after ATS reduction. Should be equal or greater than full service.	84 LB.	84 LB.
10. Delay time from MV open (air blow) to ATS penalty (PCS open). Maximum allowed 8 seconds.	2 SEC.	2 SEC.
11. Condition of audible alarm and penalty indicators.	Good	Good
12. Test ATS system by using the ATS portable tester.	Good	Good

ATS CONTROL BOX DATE: 10-20-04
ATS CONTROL BOX SERIAL NO.: 210/004
ATS MAGNET VALVE DATE: 10-20-04

REMARKS

ATS CONTROL BOX SEAL NO: 0164565

[redacted] _____
MECHANIC

_____ [redacted]
SUPERVISOR

Car #197

BOMBARDIER
TRANSPORTATION

CENTRAL MAINTENANCE FACILITY

11/9/04 3:57 PM

EQUIPMENT OUT OF SERVICE

Equip #	In Date	W. O. #	REASON	Projected Out Date
866	11/08/04	327	3 Month Inspection	11/10/04
901	11/05/04	326	3 Month Inspection	11/11/04
863	10/22/04	302	3 Year Inspection / Mods: 7	11/12/04
800	11/08/04	328	12 Month Inspection	11/12/04
856	11/04/04	324	3 Month Inspection	11/19/04
Capitals & Mods:	1. Traction Mtrs	2. HEP Fl Plates	3. HEP Hr Meter	4. Belly Pan / Transom	5. Pilot Hnd Hld	6. Yaw Damper	7. Cooling Fan	
193	11/08/04	1797	3 Month Inspection / Wheel True	11/10/04
[redacted]				
179	10/25/04	1767	~~3 Month Inspection~~ / High Voltage Ground	11/10/04
605	10/26/04	1771	COT&S / Mods: 1, 8, 9, 10	11/11/04
602	11/08/04	1798	12 Month Inspection	11/11/04
137	11/09/04	1802	Air Leak	11/11/04
207	11/05/04	1796	3 Month Inspection / ~~Wheel True - Profile~~	11/12/04
2238	11/09/04	1803	3 Month Inspection / Mod: 13	11/12/04
618	11/09/04	1804	3 Month Inspection / Mod: 9	11/19/04
611	08/23/04	1620	COT&S / Mods: 8, 9, 10, 11, 12, 13 / Aux Lt Mod	11/19/04
166	11/04/04	1790	Holiday Train	01/03/05

Capitals & Mods:							
1. Strobe Lt Brkt	3. Comm Remvl	4. Roof Cut Away	5. Bio Counters	6. Reservoir Rel Brkt	7. Duct Clean		
8. Toilet Tank	9. HVAC	10. Dr Motors	11. Carpet	12. Toilet Shrd	13. LLEPM	14. Cndctrs Window	15. Dr Lf Gds	21. Trucks	22. Seat Mod
23. Window Gaskets								Recurring Mods	

EQUIPMENT SERVICEABLE

LOCOMOTIVES	867	875						
COACHES	205	200	195					
COACHES								
CAB CARS	636							
ON HOLD	801	802	803					
SPECIAL	Holiday Train: Loco - 166 - 1021 - 1020 - Caboose - 800							
DISPOSITION	113	634	608	174				

	"B"	"B" BO's	"BTR"	"BTR" BO's	Car
WHEEL SETS	3	5	3	1	OK - 25
Total TM's / TM's Built	6 - 0	2	2 - 0	2	BO - 23

METROLINK/92 DAY INSPECTION COACH/CAB CAR #197

Location: w/o # 1799

Date Shopped:

Task ID	Description	Completed By:
	Dumping, Sanitization and Watering	
C-C 1001	Empty and sanitize toilet retention tank.	
C-C 1002	Sanitize and fill potable water tanks.	
C-C 1003	Replenish biocide disinfectant.	
	Under Frame Inspection	
C-C 1004	Inspect condition of uncoupling lever and brackets.	
C-C 1005*	Inspect & gauge knuckle, coupler and check slack.	
C-C 1006*	Check & record coupler height.	
C-C 1007*	Check and record specific gravity of each battery cell.	
C-C 1008	Clean battery boxes and exterior of battery sets.	
C-C 1009	Inspect battery fluid level, add de-ionized water if needed.	
C-C 1010	Clean and lubricate battery terminals.	
C-C 1011	Inspect battery compartment and switch box.	
C-C 1012*	Record wheel measurements.	
C-C 1013	Inspect wheels for defects.	
C-C 1014*	Inspect and record brake disc measurements.	
C-C 1015	Inspect MU and communication cables and receptacles.	
C-C 1016	Inspect HEP cables, receptacles and 480V decals.	
C-C 1017	Inspect train line hoses, piping and valves.	
C-C 1018	Inspect draft gear, yoke, coupler & coupler carrier.	
C-C 1019	Inspect truck frames, bolster and ground straps..	
C-C 1020	Inspect bolster anchor assemblies, brackets and hardware.	
C-C 1021	Inspect air spring assemblies and chevron springs.	
C-C 1022	Inspect vertical & lateral dampers and friction snubbers.	
C-C 1023	Inspect laminated traction and side bearer pads.	
C-C 1024*	Inspect disc brake units and check fluid level.	
C-C 1025	Inspect tread brake units and brake shoes.	
C-C 1026	Inspect pedestal tie bars.	
C-C 1027	Inspect wheel slide speed sensors, check air gap and cabling.	
C-C 1028	Inspect cabling, conduit, piping and connections.	

[redacted]

NOV 17 2004

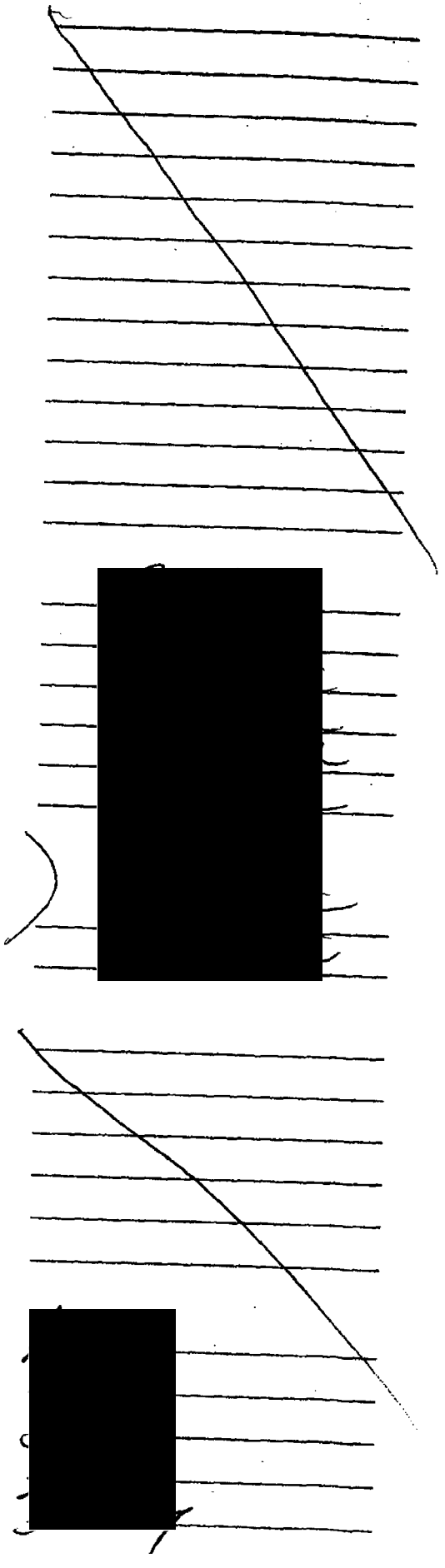
11-10-04

Task ID	Description	Completed By:
	Car Exterior	
C-C 1029	Inspect sides of car, end caps, and diaphragms.	
C-C 1030	Inspect side doors, access and inspection panels.	
C-C 1031	Inspect condition of car number, authority & locator decals.	
C-C 1032	Inspect condition of wheelchair, no smoking and bike decals.	
C-C 1033	Inspect emergency window access & removal decals.	
C-C 1034	Check emergency door locator and instruction decals.	
C-C 1035	Inspect all windows and condition of gaskets.	
C-C 1036	Inspect sill steps, horizontal and vertical handholds.	
C-C 1037	Inspect condition of evaporator, condenser & speaker grilles.	
C-C 1038	Inspect condition of indicator lights.	
C-C 1039	Inspect passenger door open assembly.	
C-C 1040	Inspect side door steps and yellow anti-slip edge material.	
	Cab Car Exterior	
CC-C 1001	Inspect headlight and auxiliary light housings.	
CC-C 1002	Inspect number and marker light housings.	
CC-C 1003*	Inspect pilot height.	
CC-C 1004	Inspect end door, window, barrier bar and curtain.	
CC-C 1005	Visually inspect upper horn (if equipped) and bell.	
CC-C 1006	Inspect lower horn, housing and piping.	
CC-C 1007	Inspect axle generator and cabling.	
	Car Interior	
C-C 1041	Inspect condition and securement of seats.	
C-C 1042	Inspect ADA folding seats and wheelchair restraints.	
C-C 1043	Inspect ADA wheelchair ramp and securement.	
C-C 1044	Inspect condition and securement of tables.	
C-C 1045	Inspect condition of ceiling panels and trim.	
C-C 1046	Inspect condition of window and cove frieze panels.	
C-C 1047	Inspect condition of carpet and exit path marking.	
C-C 1048	Inspect condition of windows and gaskets.	
C-C 1049	Check for low voltage grounds	
C-C 1050	Check for high voltage system grounds.	
C-C 1051	Inspect interior lighting.	
C-C 1052	Inspect and test emergency lighting.	
1053*	Measure & record pull force of emergency exit windows.	
C-C 1054	Inspect emergency exit window decals.	
C-C 1055	Check emergency brake cables and deals.	

Task ID	Description	Completed By:
C-C 1056	Check emergency flashlight, tools and first aid kit.	[redacted]
C-C 1057	Inspect and test destination sign controller and signs.	
C-C 1058	Check drinking water fountain.	
C-C 1059	Inspect condition of steps and handrails	
C-C 1060	Inspect and operate end doors.	
C-C 1061	Inspect all door motors and associated hardware.	
C-C 1062	Inspect & test door operation from both door control stations.	
C-C 1063	Check ADA sonalert, door lights and exterior indicator lights.	
C-C 1064	Check operation and Db level of PA and intercom.	
C-C 1065	Inspect diaphragms, vestibule curtains and walkway plates.	
C-C 1066	Inspect, lubricate and test handbrake.	
C-C 1067	Inspect and test emergency door pull cable rings.	
C-C 1068	Inspect emergency exit door decals.	
C-C 1069	Inspect emergency evacuation, safety & system map posters.	
C-C 1070	Inspect electrical cabinets and lockers and check decals.	
C-C 1071	Check all fire extinguishers.	
C-C 1072	Self test E-7 wheel slide/system and correct faults if required.	
C-C 1073	Inspect HVAC.	
C-C 1074	Inspect condition & securement of windscreens.	
C-C 1075	Inspect condition of bicycle rack securement.	
C-C 1076	Inspect vertical handholds and handrails.	
C-C 1077	Inspect heater strip and air filter grilles.	
C-C 1078	Inspect all access panel doors and latches.	
C-C 1079	Inspect condition of all trash receptacles.	
	Cab Car Interior	
CC-C 1008	Inspect wheelchair storage partitions.	
CC-C 1009	Inspect crew compartment door, door latch and door stop.	
CC-C 1010	Check instrument panel, cab, and indicator lights.	
CC-C 1011	Test air brake, safety controls and warning devices.	
CC-C 1012	Equalizing and brake pipe pressure within 3 lbs.	
CC-C 1013	Test air brake gauges.	
CC-C 1014	Perform brake pipe leakage test.	
CC-C 1015	Check controller for proper operation.	
CC-C 1016	Ensure proper operation of all exterior lights.	
CC-C 1017	Check speed recorder.	
CC-C 1018	Inspect cab seat and mounting.	

Task ID	Description
CC-C 1019	Inspect cab window, mirrors, and sun visor.
CC-C 1020	Inspect and test windshield wiper.
CC-C 1021	Check operation of ATS.
CC-C 1022	Inspect, download, reset time & seal event recorder.
CC-C 1023	Check radio output using Watt meter and voice test radio.
CC-C 1024	Test and record Db level of horn & test bell.
CC-C 1025	Inspect crew locker door and door latch hardware.
CC-C 1026	Inspect crew locker light and test on/off switch.
CC-C 1027	Check "Quiet Area" sign, bracket and nylon cord.
CC-C 1028	Check condition of "Compliant" first aid kit.
CC-C 1029	Check air hoses, wrench, supplies, and condition of step.
CC-C 1030	Stencil PM date on handbrake cover.
CC-C 1031	Complete form FRA F6180-49A (Blue Card).
	Restroom
C-C 1080	Inspect the two section sliding doors.
C-C 1081	Inspect condition of handholds.
C-C 1082	Inspect ceiling and plumbing compartment light.
C-C 1083	Inspect sink vanity mirror and wall mounted mirror.
C 1084	Inspect access panel and compartment type doors.
C-C 1085	Check operation of toilet and sink.
C-C 1086	Renew coalescent and particulate filters.
C-C 1087	Renew water cooler filter.
C-C 1088	Inspect exhaust fan & components in plumbing compartment.
C-C 1089	Inspect condition of floor, wall panels and molding.
	Cab Car Interior Cleaning
CC-CL 1001	Clean console, side and upper switch and indicator panels.
CC-CL 1002	Clean ceiling and wall panels.
CC-CL 1003	Clean seat and window(s).
CC-CL 1004	Sweep and mop floor.
CC-CL 1005	Clean crew locker walls and ceiling.
CC-CL 1006	Sweep and mop crew locker floor.
	Interior Cleaning
C-CL 1007	Remove all trash (newspapers, cups, etc.).
C-CL 1008	Wash ceilings, side Kydex panels, and bulkheads.
- 1009	Wash wind screens and kickboards under seats.
C-CL 1010	Clean handrails, stanchions, and handholds.
C-CL 1011	Clean windows and glass windscreens.

Completed By:



Task ID	Description
C-CL 1012	Inspect for and remove all graffiti.
C-CL 1013	Empty trash receptacles and wash interior of receptacles.
-CL 1014	Clean exterior of trash receptacles and replace trash bag.
C-CL 1015	Clean interior and exterior of cove light fixtures.
C-CL 1016	Remove and clean air grilles over mid-to-upper level stairs.
C-CL 1017	Clean air conditioning vents.
C-CL 1018	Replace seat bottoms, backs and headrests as required.
C-CL 1019	Clean seat shells, seat dividers and armrests.
C-CL 1020	Vacuum seat backs and bottoms and clean headrests.
C-CL 1021	Clean area between table and wall. Clean and sanitize tables.
C-CL 1022	Wipe down heater guards and heater boxes.
C-CL 1023	Clean and disinfect water fountain including drain sink.
C-CL 1024	Clean end doors and floor tracks.
C-CL 1025	Clean diaphragms, vestibule curtains and walkway plates.
C-CL 1026	Clean side doors, windows and door tracks.
C-CL 1027	Sweep and mop tile floors and steps.
C-CL 1028	Strip tile floors, reapply sealant if required and wax floors.
C-CL 1029	Vacuum and shampoo all carpeted areas.
	Car Exterior Cleaning
C-CL 1030	Wash door pockets, car end caps and diaphragms.
C-CL 1031	Clean side door step platforms and yellow anti-slip surface.
C-CL 1032	Clean cabcar window(s).

Completed By:

[redacted]

[redacted]

Review & resolve all outstanding defects.

Review SMP 129, SMP 100 and outstanding defect reports. All defects recorded and those found during inspection must be corrected before car or cab car is released for service.

Signature: [redacted]

Supervisor

NOTE: All defects must be corrected before releasing vehicle for service.

Task ID C-C 1014*

Description

Inspect and record brake disc measurements.

Completed By: [redacted]

Renew disc:

a) if surface cracks are more than 2-1/2 inches long (either side) or are within 3/8 in of the outer edge.
b) if the disc shows any score marks or there are any protrusions.
c) if there are nicks on the outer edge of the disc longer than 3/4 inch wide radially.
d) if there are cracks in the hub.

Ensure the bolts securing the disc are not loose, broken or missing and the locking tabs are in place and properly bent to prevent movement of the bolt. Cracks in the torque seal may indicate bolt movement.

Renew disc if the thickness of the disc (face to face) is less than 3.34 inches thick, or if the thickness of an individual face is less than .665 in.

Remove old torque seal and apply fresh torque seal to each bolt that extends from bolt head to disc hub.
Take three (3) measurements approximately 120 degrees apart and 2-1/2" in from the disc edge.

Disc Wheel 1 Axle Serial No. 05585

Measurements

	1st	2nd	3rd		Smallest Value
Outside Wall Thickness	.848	.848	.844	=	.844
Inside Wall Thickness	.794	.790	.816		.790
Face-to-Face	3.573	3.574	3.591		3.573

Disc Renewed: Yes ____ No ✓

Disc Wheel 5 Axle Serial No. 0418

Measurements

	1st	2nd	3rd		Smallest Value
Outside Wall Thickness	.801	.833	.809	=	8.01
Inside Wall Thickness	.791	.751	.754		.751
Face-to-Face	3.538	3.531	3.523		3.523

Disc Renewed: Yes ____ No ✓

Disc Wheel 4 Axle Serial No. 1142 1

Measurements

	1st	2nd	3rd		Smallest Value
Outside Wall Thickness	.874	.827	.853	=	.827
Inside Wall Thickness	.794	.792	.783		.783
Face-to-Face	3.563	3.564	3.557		3.557

Disc Renewed: Yes ____ No ✓

Disc Wheel 8 Axle Serial No. 0426

Measurements

	1st	2nd	3rd		Smallest Value
Outside Wall Thickness	.836	.827	.816	=	.816
Inside Wall Thickness	.782	.780	.797		.797
Face-to-Face	3.552	3.547	3.541		3.541

Disc Renewed: Yes ____ No ✓

Task ID	Description	Completed By:
C-C 1012*	**Record wheel measurements.**	[redacted]

Record wheel measurements

	Flange Ht.	Flange Th.	Rim Th.
	Max. 1-1/2"	Min. 1"	Min. 1"
Gauge readings	24	8	16
Wheel No.1	K 20	2	42
Wheel No.2	C 20	0	43
Wheel No. 3	K 20	2	43
Wheel No. 4	C 19	2	43
Wheel No. 5	K 20	0	43
Wheel No. 6	C 21	0	43
Wheel No. 7	K 22	0	43
Wheel No. 8	C 20	0	43

Notify Supervisor if readings are at these points:

Flange Ht.	Flange Th.	Rim Th.
22	5	18

C-C 1013 **Inspect wheels for defects.** [redacted]

Following are condemning conditions involving wheels. Report any defective condition found to your supervisor regardless of severity.

Flat spots	A single flat spot that is 2-1/2 inches or more in length, or two adjoining spots that are each two or
Gouge or chip in the flange	Gouge or chip that is more than 1-1/2 inches in length and 1/2 inch in width.
Broken rim	If the tread, measured from the flange at a point 5/8 of an inch above the tread, is less than 3-3/4 inches in width.
Shelling	A shelled-out spot 2-1/2 inches or more in length, or two adjoining spots that are each two or more inches in length.
Seam running lengthwise	A seam running lengthwise that is within 3-3/4 inches of the flange.
Tread worn hollow	A tread worn hollow 5/16 of an inch or more.
Crack or break	A crack or break in the flange, tread, rim, plate, or hub.
Loose wheel	Any indication the wheel may be loose. Look for rust where the axle contacts the hub.

Remove old torque seal and apply fresh torque seal extending from wheel hub to outside axle face.

Task I.D. Description

#197 11-8-04

Under Frame Inspection w/o #1799

Employee Signature

C-C 1001 **Inspect condition of uncoupling lever and brackets.**

Ensure uncoupling lever is not cracked, broken or bent and operate as intended. Close knuckle and operate uncoupling lever and check that the lever rotates the rotary lock lift lever, which opens the lock and knuckle. Inspect for loose or missing hardware securing uncoupling lever brackets.

C-C 1002 **Inspect & gauge knuckle, coupler and check slack.**

Gauge coupler, checking, Guard Arm Distortion, Contour Wear, Knuckle Nose and Knuckle Stretch. Draft gear components, pocket and coupler pin must be inspected for slack or wear. Using a long bar between the coupler horn and striker face and prying outward, measure the distance between the coupler horn and the striker face. Then move the coupler in as far as possible towards the draft gear and again measure the distance between the coupler horn and the striker face. The distance between the two is the amount of free slack in the draft gear and coupler arrangement. Total slack must not exceed 1/2". Check anti-creep protection.

Total slack Front 1/8 Rear 1/8

C-C 1006 **Check & record coupler height.**

Check and record the following measurements:

	Front	Rear	Clearance Limits
Coupler Height Above Top of Rail	33 1/2	33 1/2	31-1/2" Min. 34-1/2" Max.

Ensure coupler maintained in a level position. Check coupler bounce. Excessive couple bounce and coupler carrier ears not in contact with coupler pocket stop blocks indicate weak or broken coupler carrier springs. Replace worn coupler carrier ears and stop blocks if groove is worn into bottom of block.

C-C 1007* **Check and record specific gravity of each battery cell.**

Left Side Battery Box						Right Side Battery Box					
Cell No.		Cell No.		Cell No.		Cell No.		Cell No.		Cell No.	
1		9		17		1		9		17	
2		10		18		2		10		18	
3		11		19		3		11		19	
4		12		20		4		12		20	
5		13		21		5		13		21	
6		14		22		6		14		22	
7		15		23		7		15		23	
8		16		24		8		16		24	

Facing Battery

✓ CELLS TOO LOW

✓ REPLACED W/DISTILLED WATER

Note: If distilled water has been added before check specific gravity, charge the batteries for a minimum of five (5) hours.

If the specific gravity is less than 1.15, replace battery.

After checking specific gravity, turn on as many low voltage load as possible (lights, open doors at door stations, headlights, etc.) Turn off the battery charger main breaker. Allow batteries to discharge for ten (10) minutes and check the voltage drop across each cell on car nos. 188-210, and each pair of cells on all other cars. If the voltage drops to a value lower than one (1) volt on any of the cells, replace the battery with the low cell.

— PLEASE CHECK GRAVITY LEVEL.

METROLINK.

CENTRAL MAINTENANCE FACILITY - LOS ANGELES

EMERGENCY WINDOW TESTS

Date: 11-10-04 Work Order No.: _____ Car No.: 197

PROCEDURE

1) Randomly select four (4) emergency windows and perform a manual pull test using a digital force gage to measure and record the force required to remove windows.
2) Avoid testing more than two of the samples previously tested within the last 92-day PM cycle.
3) Record in the spaces provided below:
   a) Location codes listed on reverse side
   b) Force required to remove each window
   c) Acceptance as "Y" for ***Yes*** or "N" for ***No***
      - **Coach Cars #101- 182, and Cab Cars #601- 637:** 60 lbs. Max. allowable woith angle of pull force parallel to floor.
      - **Coach Cars #183 & Higher, and Cab Cars #638 & Higher:** 20 to 30 lbs. Allowable with pull force at 30° to 60° angle to floor.
   d) Any appropriate remarks.

NOTE: If any defective condition is noted on any of the windows in the car or if the specified pull force limits are exceeded on any of the four (4) test samples, this will require all emergency windows in the car be tested—not just the initial four (4) test samples. In such cases, a notation must be recorded in the "Comments" section on the reverse side of this form to include: 1) which window(s) failed or defective condition(s) was/were found, 2) brief description of the failure(s)/defective condition(s), 3) that the corrective actions were satisfactorily completed, and 4) who corrected the problem along with corresponding date.

REFERENCES

- MIL-STD-105D, Sampling Procedures and Tables for Inspection by Attributes
- CFR Title 49, Section 239.107, (b) & (c).

Window Test Sample	Location Code	Force (lbs)	Accept Y	Accept N	Remarks
1	L1	8.0			
2	L2	8.1			
3	L5	7.8			
4	L6	7.1			

[redacted] [redacted]

INSPECTOR SIGNATURE SUPERVISOR SIGNATURE

METROLINK.

CENTRAL MAINTENANCE FACILITY - LOS ANGELES

EMERGENCY WINDOW TESTS

Date: 11-10-04 Work Order No.: _____ Car No.: 197

PROCEDURE

1) Randomly select four (4) emergency windows and perform a manual pull test using a digital force gage to measure and record the force required to remove windows.
2) Avoid testing more than two of the samples previously tested within the last 92-day PM cycle.
3) Record in the spaces provided below:
   a) Location codes listed on reverse side
   b) Force required to remove each window
   c) Acceptance as "Y" for ***Yes*** or "N" for ***No***
      - **Coach Cars #101- 182, and Cab Cars #601- 637:** 60 lbs. Max. allowable woith angle of pull force parallel to floor.
      - **Coach Cars #183 & Higher, and Cab Cars #638 & Higher:** 20 to 30 lbs. Allowable with pull force at 30° to 60° angle to floor.
   d) Any appropriate remarks.

NOTE: If any defective condition is noted on any of the windows in the car or if the specified pull force limits are exceeded on any of the four (4) test samples, this will require all emergency windows in the car be tested—not just the initial four (4) test samples. In such cases, a notation must be recorded in the "Comments" section on the reverse side of this form to include: 1) which window(s) failed or defective condition(s) was/were found, 2) brief description of the failure(s)/defective condition(s), 3) that the corrective actions were satisfactorily completed, and 4) who corrected the problem along with corresponding date.

REFERENCES

- MIL-STD-105D, Sampling Procedures and Tables for Inspection by Attributes
- CFR Title 49, Section 239.107, (b) & (c).

Window Test Sample	Location Code	Force (lbs)	Accept Y	Accept N	Remarks
1	I 3	6.6			
2	I 4	6.4			
3	I 9	6.1			
4	I 10	6.7			

[redacted] _____ [redacted] _____

INSPECTOR SIGNATURE SUPERVISOR SIGNATURE

METROLINK

CENTRAL MAINTENANCE FACILITY - LOS ANGELES

EMERGENCY WINDOW TESTS

Date: 11-10-04 Work Order No.: _____ Car No.: 197

PROCEDURE

1) Randomly select four (4) emergency windows and perform a manual pull test using a digital force gage to measure and record the force required to remove windows.
2) Avoid testing more than two of the samples previously tested within the last 92-day PM cycle.
3) Record in the spaces provided below:
   a) Location codes listed on reverse side
   b) Force required to remove each window
   c) Acceptance as "Y" for *Yes* or "N" for *No*
      - **Coach Cars #101-182, and Cab Cars #601-637:** 60 lbs. Max. allowable woith angle of pull force parallel to floor.
      - **Coach Cars #183 & Higher, and Cab Cars #638 & Higher:** 20 to 30 lbs. Allowable with pull force at 30° to 60° angle to floor.
   d) Any appropriate remarks.

NOTE: If any defective condition is noted on any of the windows in the car or if the specified pull force limits are exceeded on any of the four (4) test samples, this will require all emergency windows in the car be tested—not just the initial four (4) test samples. In such cases, a notation must be recorded in the "Comments" section on the reverse side of this form to include: 1) which window(s) failed or defective condition(s) was/were found, 2) brief description of the failure(s)/defective condition(s), 3) that the corrective actions were satisfactorily completed, and 4) who corrected the problem along with corresponding date.

REFERENCES

- MIL-STD-105D, Sampling Procedures and Tables for Inspection by Attributes
- CFR Title 49, Section 239.107, (b) & (c).

Window Test Sample	Location Code	Force (lbs)	Accept Y	Accept N	Remarks
1	L1	2.8	✓		
2	L2	2.0	✓		
3	L5	2.6	✓		
4	L6	2.1	✓		

[redacted] INSPECTOR SIGNATURE

[redacted] SUPERVISOR SIGNATURE

METROLINK

CENTRAL MAINTENANCE FACILITY - LOS ANGELES

EMERGENCY WINDOW TESTS

Date: 11-10-04 Work Order No.: _____ Car No.: 197

PROCEDURE

1) Randomly select four (4) emergency windows and perform a manual pull test using a digital force gage to measure and record the force required to remove windows.
2) Avoid testing more than two of the samples previously tested within the last 92-day PM cycle.
3) Record in the spaces provided below:
   a) Location codes listed on reverse side
   b) Force required to remove each window
   c) Acceptance as "Y" for *Yes* or "N" for *No*
      - **Coach Cars #101-182, and Cab Cars #601-637:** 60 lbs. Max. allowable woith angle of pull force parallel to floor.
      - **Coach Cars #183 & Higher, and Cab Cars #638 & Higher:** 20 to 30 lbs. Allowable with pull force at 30° to 60° angle to floor.
   d) Any appropriate remarks.

NOTE: If any defective condition is noted on any of the windows in the car or if the specified pull force limits are exceeded on any of the four (4) test samples, this will require all emergency windows in the car be tested—not just the initial four (4) test samples. In such cases, a notation must be recorded in the "Comments" section on the reverse side of this form to include: 1) which window(s) failed or defective condition(s) was/were found, 2) brief description of the failure(s)/defective condition(s), 3) that the corrective actions were satisfactorily completed, and 4) who corrected the problem along with corresponding date.

REFERENCES

- MIL-STD-105D, Sampling Procedures and Tables for Inspection by Attributes
- CFR Title 49, Section 239.107, (b) & (c).

Window Test Sample	Location Code	Force (lbs)	Accept Y	Accept N	Remarks
1	U3	2.7	✓		
2	U7	2.9	✓		
3	U11	2.0	✓		
4	U15	2.0	✓		

[redacted] INSPECTOR SIGNATURE

S[redacted] SUPERVISOR SIGNATURE

METROLINK

CENTRAL MAINTENANCE FACILITY - LOS ANGELES

EMERGENCY WINDOW TESTS

Date: 11-10-04 Work Order No.: _____ Car No.: 197

PROCEDURE

1) Randomly select four (4) interior emergency exit windows and perform a manual pull test using a fish scale to measure the force required to remove windows.
2) Avoid testing more than two of the samples previously tested within the last 92-day PM cycle.
3) Record in the spaces provided below:
   a) Location codes listed on reverse side
   b) Force required to remove each window
   c) Acceptance as "Y" for *Yes* or "N" for *No*
      - **Coach Cars #101-182, Cab Cars #601-637:** 60 lbs. max. allowable with angle of pull force parallel to floor.
      - **Coach Cars # 183 & Higher, Cab Cars #638 & Higher:** 20 to 30 lbs. allowable with pull force at 30 to 60 degree angle to floor.
   d) Any appropriate remarks.

NOTE: If any defective condition is noted on any of the windows in the car or if the specified pull force limits are exceeded on any of the four (4) test samples, this will require that all emergency windows in the car be tested—not just the initially four (4) test samples. In such cases, a notation must be recorded in the "Comments section on the reverse side of this form to include: 1) which window(s) failed or defective condition(s) were found, 2) brief description of failure(s)/defective condition(s), 3) that the corrective actions were satisfactorily completed, and 4) who corrected problem along with date.

REFERENCES

- MIL-STD-105D, Sampling Procedures and Tables for Inspection by Attributes
- CFR Title 49, Section 239.107, (b) & (c).

Window Test Sample	Location Code	Force (lbs)	Accept Y	Accept N	Remarks
1	44	2.0	/		
2	48	2.9	/		
3	412	2.8	/		
4	416	2.9	/		

[redacted] INSPECTOR SIGNATURE

[redacted] SUPERVISOR SIGNATURE

SMP200 04/10/03

METROLINK

CENTRAL MAINTENANCE FACILITY - LOS ANGELES

EMERGENCY WINDOW TESTS

Date: 11-10-04 Work Order No.: _____ Car No.: 197

PROCEDURE

1) Randomly select four (4) emergency windows and perform a manual pull test using a digital force gage to measure and record the force required to remove windows.
2) Avoid testing more than two of the samples previously tested within the last 92-day PM cycle.
3) Record in the spaces provided below:
   a) Location codes listed on reverse side
   b) Force required to remove each window
   c) Acceptance as "Y" for *Yes* or "N" for *No*
      - **Coach Cars #101-182, and Cab Cars #601-637:** 60 lbs. Max. allowable width angle of pull force parallel to floor.
      - **Coach Cars #183 & Higher, and Cab Cars #638 & Higher:** 20 to 30 lbs. Allowable with pull force at 30° to 60° angle to floor.
   d) Any appropriate remarks.

NOTE: If any defective condition is noted on any of the windows in the car or if the specified pull force limits are exceeded on any of the four (4) test samples, this will require all emergency windows in the car be tested—not just the initial four (4) test samples. In such cases, a notation must be recorded in the "Comments" section on the reverse side of this form to include: 1) which window(s) failed or defective condition(s) was/were found, 2) brief description of the failure(s)/defective condition(s), 3) that the corrective actions were satisfactorily completed, and 4) who corrected the problem along with corresponding date.

REFERENCES

- MIL-STD-105D, Sampling Procedures and Tables for Inspection by Attributes
- CFR Title 49, Section 239.107, (b) & (c).

Window Test Sample	Location Code	Force (lbs)	Accept Y	Accept N	Remarks
1	T3	2.8			
2	T4	2.1			
3	T9	2.0			
4	T10	2.0			

[redacted] _____ [redacted] _____

INSPECTOR SIGNATURE SUPERVISOR SIGNATURE

Car #133

BOMBARDIER
TRANSPORTATION

CENTRAL MAINTENANCE FACILITY

1/3/05 3:16 PM

EQUIPMENT OUT OF SERVICE

Equip #	In Date	W. O. #	REASON	Projected Out Date
883	01/03/05	382	Air Compressor Trouble	01/04/05 — OK
871	01/03/05	381	Wheel True - Flat Spots	01/04/05 — OK
855	12/27/04	377	3 Month Inspection	01/05/05
868	01/03/05	380	3 Month Inspection	01/06/05
886	12/29/04	379	3 Year Inspection	01/14/04
Capitals & Mods:	1. Traction Mtrs	2. HEP Fl Plates	3. HEP Hr Meter	4. Belly Pan / Transom	5. Pilot Hnd Hld	6. Yaw Damper	7. Cooling Fan
148		2072		1/11/05
179		2073		1/11/05
637		2074		1/10/05
~~6104~~	6104	2075	3 Mo	1/10/05
166				
619	12/07/04	1862	3 Month Inspection / Mods: 11, 12, 13	01/05/05 — ok
609	12/27/04	2053	3 Month Inspection / B End Air Blower / Horn Valve BO	01/05/05
622	12/29/04	2064	3 Year Inspection / Mods: 13 / Test Horn	01/05/05 — ok
163	12/30/04	2067	~~3 Month Inspection~~ / Wheel True - Profile	01/05/05
107	12/28/04	2056	3 Month Inspection / Mods: 9	01/06/05
6104	01/03/05	2071	Headlight Problem	01/06/05
[redacted]			3 Month Inspection	ok
120	01/03/05	2069	3 Month Inspection	01/06/05 OK
633	01/03/05	2068	3 Month Inspection Carrier irons	01/07/05
143	01/03/05	2066	12 Month Inspection Carrier irons	01/07/05
139	12/16/04	2025	3 Month Inspection / Mods: 11, 12, 13	01/07/05

Capitals & Mods:							
1. Strobe Lt Brkt	3. Comm Remvl	4. Roof Cut Away	5. Bio Counters		7. Duct Clean		
8. Toilet Tank	9. HVAC	10. Dr Motors	11. Carpet	12. Toilet Shrd	13. LLEPM	14. Cndctrs Window	15. Dr Lf Gds	21. Trucks	22. Seat Mod
23. Window Gaskets	24. Aux Lights						Recurring Mods		

EQUIPMENT SERVICEABLE

LOCOMOTIVES	~~872~~							800
COACHES	~~162~~	~~170~~	~~204~~					
COACHES								
CAB CARS	~~603~~							
ON HOLD	801	802	803					
SPECIAL								
DISPOSITION	113	634	608	174				

	"B"	"B" BO's	"BTR"	"BTR" BO's	Car
WHEEL SETS	6	12	2	2	OK - 13
Total TM's / TM's Built	5 - 1	2	1 - 0	4	BO - 35

[redacted]

METROLINK/92 DAY INSPECTION COACH/CAB CAR #133

Location: W/O #2070 Date Shopped _____

Task ID	Description	Completed By:

Dumping, Sanitization and Watering

C-C 1001 **Empty and sanitize toilet retention tank.** [redacted]

1. Open wheel skirts at BL corner.
2. Remove cap from the 1" water-intake pipe.
3. Remove cap from the 3" ball valve and connect dumping hose to ball valve.
4. Open ball valve dumping contents in holding tank into sewer.
5. Connect jet-fog nozzle to the 1" water intake pipe and connect a fresh water hose to the other end of the jet-fog nozzle..
6. Open water supply allowing water to flow into water-intake tank for 5 to 10 minutes.
7. Close ball valve.
8. To remove large solid object from waste holding tank, remove hexagon nuts to remove the flange plate and gasket to gain access to holding tank..
9. Pour 1/2 gallon of bleach down toilet and flush.
10. Open outside water supply and fill waste-holding tank until water reaches top of flapper.
11. Allow water in waste holding tank to stand for 30 minutes.
12. Open ball valve allowing contents to drain into sewer.
13. Close ball valve, disconnect dump hose from ball valve, and install cap onto ball valve with cam locks locked. Ensure chain is attached to the cap and secured to the car.
14. Remove jet-fog nozzle from 1" water intake pipe, disconnect hose, and reinstall cap onto water-intake pipe.
15. Close and latch wheel skirts.

C-C 1002 **Sanitize and fill potable water tanks.** [redacted]

1. Open wheel skirts at BL corner.
2. Remove protective cap and connect bleach-filling adaptor to the water-fill connection and connect fresh-water hose to the other end of the adaptor..
3. In plumbing compartment, open drains valves for the 39 & 22 gallon tanks and drain tanks to approximately 1/2 full. (Drain pipes are located adjacent to jet-fog nozzle.)
4. Pour 1/4 gallon of bleach into bleach-filling adaptor.
5. Fill both water tanks to capacity.
6. Close pressurization valve by turning:
   a) the air cut-off valve to the close position.
   b) the overflow vent valve to the open position.
7. Allow 30 minutes for adequate sanitation.
8. Drain and flush tanks until proper "ph" level has been reached.
   a) test water using white color "ph" testing paper at drinking fountain
   b) Proper "ph" level is reached when white test paper turns to a light gray.
9. After proper "ph" level is reached, close drain valves for the water tanks.
10. Disconnect bleach-filling adaptor. Apply the protective cap ensuring it is properly secured.
11. Open the air cut-off valve and close the overflow vent valve.
12. Close and latch wheel skirts.

C-C 1003 **Replenish biocide disinfectant.** N/A

Connect a rubber hose to the drain/vent connection placing opposite end of hose in a 5 gallon container beneath overflow outlet. Connect quick disconnect fitting to biocide fill connection and fill the 20 gallon tank. When full, solution will pour out of the biocide drain/vent connection. Set biocide counter, located in plumbing compartment to zero.

1-5-05 JAN 26 2005

Task ID	Description	Completed By:

Under Frame Inspection

C-C 1004 **Inspect condition of uncoupling lever and brackets.** [redacted]

Ensure uncoupling lever is not cracked, broken or bent and operate as intended. Close knuckle and operate uncoupling lever and check that the lever rotates the rotary lock lift lever, which opens the lock and knuckle. Inspect for loose or missing hardware securing uncoupling lever brackets.

C-C 1005* **Inspect & gauge knuckle, coupler and check slack.** [redacted]

Gauge coupler, checking, Guard Arm Distortion, Contour Wear, Knuckle Nose and Knuckle Stretch. Draft gear components, pocket and coupler pin must be inspected for slack or wear. Using a long bar between the coupler horn and striker face and prying outward, measure the distance between the coupler horn and the striker face. Then move the coupler in as far as possible towards the draft gear and again measure the distance between the coupler horn and the striker face. The distance between the two is the amount of free slack in the draft gear and coupler arrangement. Total slack must not exceed 1/2". Check anti-creep protection.

Total slack Front 1/8 Rear 1/8

C-C 1006* **Check & record coupler height.** [redacted]

Check and record the following measurements:

	Front	Rear	Clearance Limits
Coupler Height Above Top of Rail	33 1/2	34 1/2	31-1/2" Min. 34-1/2" Max.

Ensure coupler maintained in a level position. Check coupler bounce. Excessive couple bounce and coupler carrier ears not in contact with coupler pocket stop blocks indicate weak or broken coupler carrier springs. Replace worn coupler carrier ears and stop blocks if groove is worn into bottom of block.

C-C 1007* **Check and record specific gravity of each battery cell.** [redacted]

Left Side Battery Box						Right Side Battery Box					
Cell No.		Cell No.		Cell No.		Cell No.		Cell No.		Cell No.	
1	1.21	9		17	1.21	1		9		17	
2	1.21	10		18	1.21	2		10		18	
3	1.21	11		19	1.21	3		11		19	
4	1.21	12		20	1.21	4		12		20	
5	1.23	13		21	1.21	5		13		21	
6	1.23	14		22	1.21	6		14		22	
7	1.23	15		23	1.21	7		15		23	
8	1.23	16		24	1.21	8		16		24	

Facing Battery

✓ CELLS TOO LOW

✓ REFILLED W/ DEIONIZED WATER

— PLEASE CHECK GRAVITY LEVEL —

Note: If distilled water has been added before check specific gravity, charge the batteries for a minimum of five (5) hours.

If the specific gravity is less than 1.15, replace battery.

After checking specific gravity, turn on as many low voltage load as possible (lights, open doors at door stations, headlights, etc.) Turn off the battery charger main breaker. Allow batteries to discharge for ten (10) minutes and check the voltage drop across each cell on car nos. 183-210, and each pair of cells on all other cars. If the voltage drops to a value lower than one (1) volt on any of the cells, replace the battery with the low cell.

BR 1-3-04

Task ID	Description	Completed By:
C-C 1008	**Clean battery boxes and exterior of battery sets.** Place the battery switch in the off position and open the battery switch box and remove both fuses from the fuse holder. Open the battery boxes and extend the battery trays completely. *Do not use abrasive cleansers, wire brushes, or acid washes inside the battery compartments.* Using clean water and a noncorrosive, non-caustic cleansing agent, wash the interior of the battery boxes and the exterior of the battery set.	[redacted]
C-C 1009	**Inspect battery & fluid level, add de-ionized water if needed.** Visually check batteries for cracks. Battery should be tight in tray with blocking in place. Inspect cables, terminals, connectors and terminal bars. Excessive water consumption indicates too high a charging voltage and little or no water consumption indicates that a battery is being inadequately charged. The electrolyte levels are visible through the plastic containers of the cells and have upper and lower lines on the containers to indicate the maximum and minimum levels. The cells need to be topped-up with distilled or de-ionized water when the electrolyte level is midway between the lower and upper line. Avoid leaks and spills. Note: An electrolyte spill can be neutralized with baking soda. Flush area with large amounts of fresh water once neutralized.	[redacted]
C-C 1010	**Coat battery terminals and lubricate battery tray rails.** With battery terminal wires and jumper bars disconnected, use clean water, a soft bristle brush and noncorrosive, non-caustic cleansing agent to clean all connections. Coat all terminals using Nifecote or a suitable approved substitute. Install jumper bars and connect battery terminal wires. Lubricate rails on the battery tray and ensure trolley moves freely.	[redacted]
1011	**Inspect battery compartment and switch box.** Inspect battery compartment and cover for damage, Ensure locking devices are in place and are effective. Apply battery compartment cover and secure with hardware. Inspect switch box, cover and latches. Clean battery switch box, install the fuses in the fuse holder and place the battery switch in the on position.	[redacted]

Task ID	Description	Completed By:
C-C 101 2*	**Record wheel measurements.**	[redacted]

Record wheel measurements

	Flange Ht.	Flange Th.	Rim Th.
	Max. 1-1/2"	**Min. 1"**	**Min. 1"**
Gauge readings	**24**	**8**	**16**
Wheel No.1	18	0	43
Wheel No.2	18	0	43
Wheel No. 3	18	0	43
Wheel No. 4	18	0	43
Wheel No. 5	18	0	42
Wheel No. 6	18	0	41
Wheel No. 7	18	0	42
Wheel No. 8	18	0	42

Notify Supervisor if readings are at these points:

Flange Ht.	Flange Th.	Rim Th.
22	5	18

C-C 1013 **Inspect wheels for defects.** [redacted]

Following are condemning conditions involving wheels. Report any defective condition found to your supervisor regardless of severity.

Flat spots	A single flat spot that is 2-1/2 inches or more in length, or two adjoining spots that are each two or
Gouge or chip in the flange	Gouge or chip that is more than 1-1/2 inches in length and 1/2 inch in width.
Broken rim	If the tread, measured from the flange at a point 5/8 of an inch above the tread, is less than 3-3/4 inches in width.
Shelling	A shelled-out spot 2-1/2 inches or more in length, or two adjoining spots that are each two or more inches in length.
Seam running lengthwise	A seam running lengthwise that is within 3-3/4 inches of the flange.
Tread worn hollow	A tread worn hollow 5/16 of an inch or more.
Crack or break	A crack or break in the flange, tread, rim, plate, or hub.
Loose wheel	Any indication the wheel may be loose. Look for rust where the axle contacts the hub.

Remove old torque seal and apply fresh torque seal extending from wheel hub to outside axle face.

Task ID C-C 1014*

Description

Inspect and record brake disc measurements.

Completed By: [redacted]

Renew disc:

a) if surface cracks are more than 2-1/2 inches long (either side) or are within 3/8 in of the outer edge.
b) if the disc shows any score marks or there are any protrusions.
c) if there are nicks on the outer edge of the disc longer than 3/4 inch wide radially.
d) if there are cracks in the hub.

Ensure the bolts securing the disc are not loose, broken or missing and the locking tabs are in place and properly bent to prevent movement of the bolt. Cracks in the torque seal may indicate bolt movement.

Renew disc if the thickness of the disc (face to face) is less than 3.34 inches thick, or if the thickness of an individual face is less than .665 in.

Remove old torque seal and apply fresh torque seal to each bolt that extends from bolt head to disc hub.
Take three (3) measurements approximately 120 degrees apart and 2-1/2" in from the disc edge.

Disc Wheel 1 Axle Serial No. LA 358

Measurements

	1st	2nd	3rd		Smallest Value
Outside Wall Thickness	.920	.919	.911		.911
Inside Wall Thickness	.840	.837	.841	=	.837
Face-to-Face	3.719	3.715	3.720		3.715

Disc Renewed: Yes ____ No X

Disc Wheel 5 Axle Serial No. 4E7007AX

Measurements

	1st	2nd	3rd		Smallest Value
Outside Wall Thickness	.934	.938	.941		.934
Inside Wall Thickness	.859	.860	.854	=	.854
Face-to-Face	3.726	3.730	3.728		3.726

Disc Renewed: Yes ____ No X

Disc Wheel 4 Axle Serial No. LA 285

Measurements

	1st	2nd	3rd		Smallest Value
Outside Wall Thickness	.942	.936	.934		.934
Inside Wall Thickness	.915	.911	.906	=	.906
Face-to-Face	3.717	3.720	3.722		3.717

Disc Renewed: Yes ____ No X

Disc Wheel 8 Axle Serial No. 5042

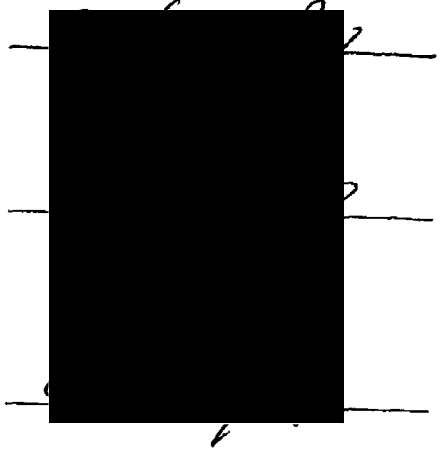
Measurements

	1st	2nd	3rd		Smallest Value
Outside Wall Thickness	.895	.901	.904		.895
Inside Wall Thickness	.850	.848	.852	=	.848
Face-to-Face	3.715	3.713	3.709		3.709

Disc Renewed: Yes ____ No X

Task ID	Description	Completed By:
C-C 1015	**Inspect MU and communication cables and receptacles.** Inspect condition of MU and communication cables. Inspect condition of insulation and for signs of a stretched cable. Ensure covers are not missing, broken or cracked, are spring loaded and operate properly. Check for broken receptacle pins. Check the mica insulating plate for cracks and mounting hardware in place and secure. Inspect for dirt/moisture contamination. Remove dirt and debris using air pressure using an electrical cleaner if needed.	[redacted]
C-C 1016	**Inspect HEP cables, receptacles and 480V decals.** Inspect HEP cables for cracks, cuts, damaged insulation or signs of a stretched cable. Check for broken, flashed or partially missing pins. Ensure covers are not missing, broken, cracked and are functioning properly. Ensure "DANGER" - 480 Volt" or Danger - High Voltage decals are in place at each HEP receptacle and are legible.	[redacted]
C-C 1017	**Inspect train line hoses, piping and valves.** Inspect brake pipe and main reservoir hoses for cuts, debris damage, or evidence of being collapsed. Inspect condition of glad-hand and gasket. Ensure dummy couplings are not damaged and secured to the car. Attach free end air hose to dummy coupling. Inspect angle valves and end valves for damage. Make sure handles are not bent or broke spring is in place and effective, and the stops prevent movement of handle in the open position.	[redacted]
C-C 1018	**Inspect draft gear, yoke, coupler & coupler carrier.** Inspect coupler body and parts, yokes, and connections for cracks, broken or missing parts. Replace coupler if cracking is found in the pin protector boss or pivot lug, or if portion of the pin protector boss are missing or broken. To ensure proper locking of coupler, check for the presence of an inverted U-shaped notch located in the lower edge of both side walls of the lock hole shroud. When this recess is clear and unobstructed, the knuckle is properly locked. Inspect draft gear for signs of separation from its substrate or any signs of surface cuts or splits. Separations, cuts, or splits may not exceed 1-1/2 inches in length and 3/4 inch in depth. Check for slack in the rubber pad assembly indicating draft gear is loose in the pocket. Replace the yoke bushings if the inside diameters are worn to 3-3/16 inch.	[redacted]
C-C 1019	**Inspect truck frames, bolsters and ground straps.** Inspect truck frame and bolster for cracks that may effect structural integrity. Ensure ground straps are in place and properly secured.	[redacted]
C-C 1020	**Inspect bolster anchor assemblies, brackets and hardware.** Ensure drag link and bracket and bolster link assembly is not cracked, broken or damaged and is properly secured.	
C-C 1021	**Inspect air spring assemblies and chevron springs.** Inspect the air spring rubber assembly for grease and oil contamination, cuts, tears, and excessive abrasion. Closely inspect the rubber around the girdle hoop. Visually check that the leveling valve lever is in the horizontal position. Use spring height GO/NOGO gauge, measure spring height. The normal working height of the air spring is 8-7/8 inches. Also check the position of the truck locking bolt where it passes through the truck locking bracket. Nominal clearance is 3/8 in. and minimum clearance is 1/8 in. Correct centering is equal spacing between truck locking bolt and truck locking bracket. If not in proper position, problem may be broken or missing stabilizer bars or leaking air spring assemblies.	

Task ID	Description	Completed By:



C-C 1022 **Inspect vertical & lateral dampers and friction snubbers.**

Inspect dampers for broken, or missing mounting hardware, cracked or broken mounting bracket. Check for oil leakage and the reservoir tube wet with oil. Inspect for damaged or dented casings.

C-C 1023 **Inspect laminated traction and side bearer pads.**

Check pads for proper position and are not damaged or show indications of stress. Check for sharp metal edges in contact with the free rubber surface. Remove burrs carefully using a file. Do not damage the rubber surface. Inspect and replace pads that have cracks or splits that exceed a depth of 3/8 in.

C-C 1024* **Inspect disc brake units and check fluid level.**

Inspect for loose or missing hardware and signs of rust. Air leaks at disc brake unit must be corrected. With the brakes released, check for any apparent brake fluid leaks around the disc brake unit reservoir castings.

Check disc brake fluid level:

a) Insert a bar or lever between the tongs and retract the piston push rod all the way back. Block in this position.

b) Remove dirt and completely clean top cover before removing.

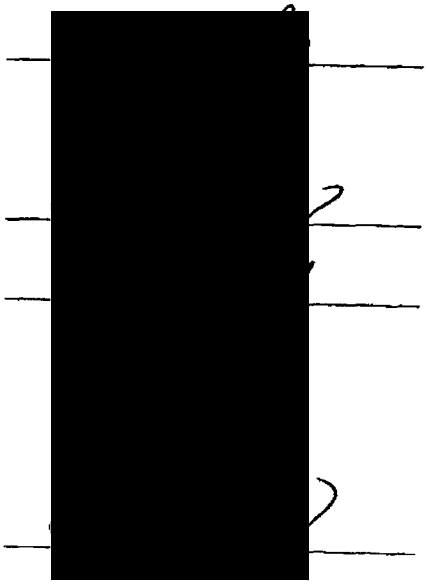
c) Loosen four bolts and remove the top cover, being careful not to contaminate the fluid with foreign material.

d) If the screen can be seen above the fluid level, add clean Dow Corning Silicone Brake Fluid No. Q2-1141, from a clean container so the fluid level is 1/4 inch below the top of the reservoir.

Disc Brake Fluid Added: Yes _____ No _____

NOTE: **If fluid is added more than twice a year, the actuator is malfunctioning and requires replacement.**

Lubricate swivel pin and bushing with lithium molybdenum disulfide-base grease (WABCO M-7672-1). Use a grease gun on the swivel bracket grease fitting.



C-C 1025 **Inspect tread brake units and brake shoes.**

Inspect for loose or missing hardware. Lubricate the hanger and brake head bolts. Lubricant Tread brake reservoir of the body is to be filled with lithium molybdenum disulfide-bas grease (WABCO M-7672-01).

C-C 1026 **Inspect pedestal tie bars.**

Inspect for damage and is properly secured.

C-C 1027 **Inspect wheel slide speed sensors, check air gap and cabling.**

Verify the green wheel slide failure (WSF) indicator light located below the E-7 decelostat controller at the "A" end of the car is illuminated. Inspect and adjust the wheel slide speed sensors. Check the gap between the magnetic pickup assembly and the split hear. Gap should be 0.025 in ± 0.005 in. Use low pressure air (less than 30 psig) to clean and blow off any excessive buildup of dirt.

C-C 1028 **Inspect cabling, conduit, piping and connections.**

Inspect under car for indication of a debris strike. Inspect under car wiring and clamps, piping, connections, unions, joints, valves and handles for damage.

Task ID	Description	Completed By:

Car Exterior

C-C 1029 **Inspect sides of car, end caps, and diaphragms.**

Inspect body panels for damage creating jagged or sharp edges. Check for and remove any signs of graffiti.

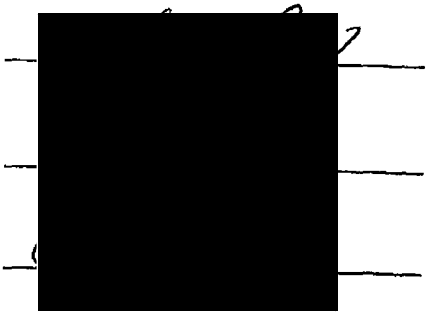
C-C 1030 **Inspect side door, access and inspection panels.**

Inspect doors and area around doors for damage, jagged or sharp edges. Ensure door windows are not cracked or broken and window gaskets are not torn cracked and are in place.

Inspect the truck inspection panels and ensure panels and latches are not damaged, hinge and hinge pin are in place and secured. Inspect condition of cable, hook and bracket at each panel.

C-C 1031 **Inspect condition of car number, authority & locator decals.**

Ensure that all number signs, authority logos, and car locator decals are in place, legible, and not discolored or faded.



C-C 1032 **Inspect condition of wheelchair, no smoking and bike decals.**

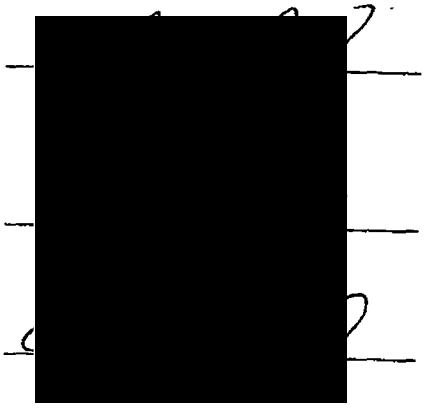
Ensure that each decal is in its proper place, legible, and not discolored or faded.

C-C 1033 **Inspect emergency window access & removal decals.**

Each emergency access window must have a fireman locator decal and an emergency window removal decal that provides instructions for operation or removal. Decals must be retro-reflective material. Decals must be in place, legible, and not faded or peeling.

C-C 1034 **Check emergency door locator & instruction decals.**

Emergency access door locator and instruction decals must be displayed adjacent to each emergency door pull box at doors 3, 5, 4 and 6. Decals must be retro-reflective material. Decals must in place, legible and not faded or peeling.



C-C 1035 **Inspect all windows and condition of gaskets.**

Ensure glass is not cracked or broken, window gaskets are in place and not torn. Emergency window filler gaskets split is at the bottom of the window with a 1 inch separation.

C-C 1036 **Inspect sill steps , horizontal and vertical handholds.**

Ensure all sill steps are secure with no indication of loose bolts or fasteners. Inspect for shiny areas or rust around fastener heads indicating the fastener may be loose. With bolt heads and nuts welded, check for broken welds. Ensure steps are not bent, cracked or broken. Outside edge of the tread shall not be more than 2" inside the side of the car. Check that the PVC roof drain is in place, and not broken or damaged.

Ensure all handholds are secure with a minimum 2 inches of clearance, not cracked or broken. Check for obstructions preventing the use of the handhold.

C-C 1037 **Inspect condition of evaporator, condenser & speaker grilles.**

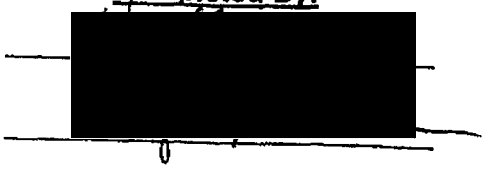
Inspect grilles on each side of car. Ensure each is properly secured and not damaged. Check that grills are clean and not obstructed.

C-C 1038 **Inspect condition of indicator lights.**

Ensure indicator lights and housing is not broken or damaged and operate as intended. Repair or replace indicator lights found defective.

Task ID	Description
C-C 1039	**Inspect passenger door open assembly.**
	Check hardware for proper securement and for sharp edges.
1040	**Inspect side door steps and yellow anti-slip edge material.**
	Exterior side steps must be free of tripping hazards. Check for damage resulting from vandalism or from a debris strike. Step grates must not be cracked, broken, bent and properly secured. Ensure the yellow anti-slip material is applied to the outer edge of the step surface, clean and effective.

Completed By:

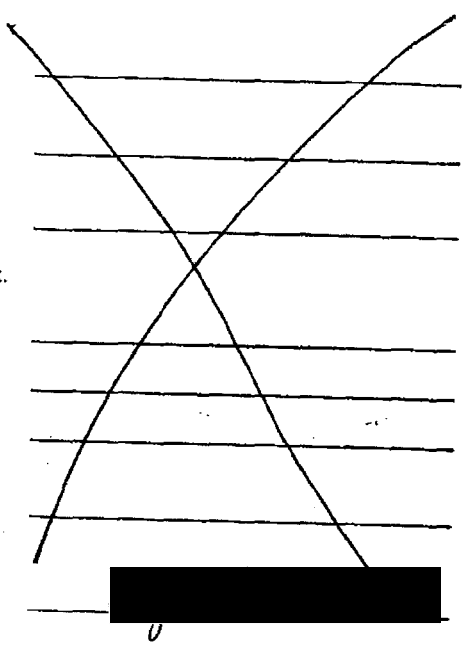


Cab Car Exterior

CC-C 1001	**Inspect headlight and auxiliary light housings.**
	Inspect for damage and housings are properly secured.
CC-C 1002	**Inspect number and marker light housings.**
	Inspect for damage and housings are properly secured.
CC-C 1003*	**Inspect front pilot height.**

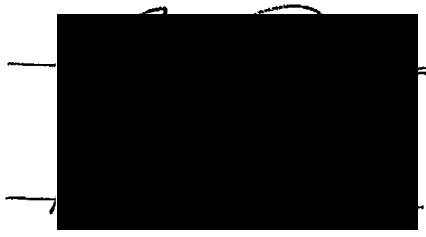
	Left	Right	
Front Pilot/Plow Height	____	____	3" Min. 6" Max.

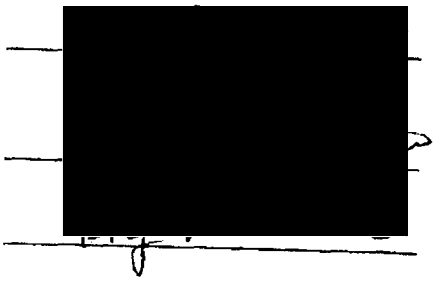
CC-C 1004	**Inspect end door, window, barrier bar and curtain.**
CC-C 1005	**Visually inspect upper horn (if equipped) and bell.**
CC-C 1006	**Inspect lower horn, housing and piping.**
	Check for indications of damage caused by a debris strike.
CC-C 1007	**Inspect axle generator and cabling.**



Car Interior

1041	**Inspect condition and securement of seats.**
	Ensure hardware securing seat shells to frame and hardware securing frame to wall mounted frames is not loose. Ensure arm rests and seat dividers are secured.
C-C 1042	**Inspect ADA folding seats and wheelchair restraints.**
	Ensure ADA seats raise and lock in the up position and can be lowered using the release handle. Ensure folding legs are not missing, bent, broken or inoperative.
C-C 1043	**Inspect ADA wheelchair ramp and securement.**
	Ensure wheel chair ramp is not damaged or broken. Check hinges for damage. Tie down straps should be tight and bottom strap secured properly.
C-C 1044	**Inspect condition and securement of tables.**
	Check for sharp edges on tables. Replace table top if chipped or cracked. Ensure hardware securing table pedestal at top table and floor mount is tight.
C-C 1045	**Inspect condition of ceiling panels and trim.**
	Ensure panels and molding is not cracked or broken and molding is in proper position.
C-C 1046	**Inspect condition of window and cove frieze panels.**
	Ensure cove panels are not cracked, broken, or damaged.
C-C 1047	**Inspect condition of carpet and exit path marking.**
	Inspect for conditions that may cause a tripping hazard. Check that "T" caps are in place and flush with carpet or tile and do not create a tripping hazard. Ensure low location exit path strips are secured to the sub floor and do not create a tripping hazard.





Task ID	Description	Completed By:
C-C 1048	**Inspect condition of windows and gaskets.** Check for windows that are cracked or broken. Inspect for graffiti etched in window or gasket. Check for gaskets that appear to sag, indicated inner portion of gasket is cut.	[redacted]
C-C 1049	**Check for low voltage grounds.**	[redacted]
C-C 1050	**Check for high voltage system grounds.**	
C-C 1051	**Inspect interior lighting.** Ensure all lighting throughout car is working properly. Replace burned out lamps and ballast as needed. Ensure cove light lens and caps are not broken or cracked.	
C-C 1052	**Inspect and test emergency lighting.** Ensure emergency lighting operates as intended: a) Ensure the battery switch is in the ON position. b) Ensure all circuit breakers for interior lights are up or closed. c) Open or turn off the "FWD MAIN SERVICES" and "REAR MAIN SERVICES" circuit breakers. d) Check upper level, mid-level and lower level to ensure emergency lighting operates as intended. e) Turn "FWD and REAR" Main Services circuit breakers on.	[redacted]
C-C 1053*	**Measure & record pull force of emergency exit windows.** Randomly select four (4) interior emergency exit windows and perform a manual pull test using a pull force indicator to measure the force required to remove windows. Check form SMP 200 completed at time of last maintenance to avoid testing the same windows. **Maximum Pull Forces:** Cars Numbered **101-182**, Cab Cars **601-637**: 60 lbs. Maximum allowable pull force when measured at an angle parallel to the floor. Cars Numbered **183-210**: 30 lbs. Maximum allowable pull force when measured at a 30 to 60 degree angle to the floor. **Important Note:** If any defective condition is noted on any of the windows in the car or if the pull force limit is exceeded on any of the four (4) windows tested, ***ALL*** of the emergency windows must be tested. Form SMP 200, Emergency Window Tests, must be completed and retained for two (2) years in the car's maintenance file.	[redacted]
C-C 1054	**Inspect emergency exit window decals.** All emergency window exits must be identified with EXIT decals including window removal instructions of photo luminescent material. The decals must be in place, legible, not faded or peeling.	[redacted]
C-C 1055	**Check emergency brake valve cable pull and decals.** Ensure handles are in place, not obstructed from use and decals are in place and legible.	
C-C 1056	**Check emergency flashlight, tools and first aid kit.** Inspect condition of frangible glass, gasket and pull ring if equipped. Check that emergency equipment, including emergency flashlight, saw, sledge hammer, pry bar, axe, and a mauf is in place and in serviceable condition. Observe LED on flashlight is flashing indicating batteries are in serviceable condition. Inspect condition of bracket and that seal is in tact. Ensure first aid kit is in place and sealed (shrink wrapped). If not sealed, replace first aid kit.	
C 1057	**Inspect and test destination sign controller and signs.** Check operation of destination sign controller and signs ensuring it is operating as intended.	[redacted]

Task ID	Description	Completed By:
C-C 1058	**Check drinking water fountain.** Check operation of water fountain and inspect for broken or damaged parts. Water pressure should be approx. 14 lbs.	[redacted]
C-C 1059	**Inspect condition of steps and handrails.** Ensure nosing on all steps is not loose and matches the level of the flooring material and is of a contrasting color. Repair or replace loose carpeting, step riser material, and nosing if tripping hazard is found. Handrails must be secure and provide at least 2 inches of usable clearance.	[redacted]
C-C 1060	**Inspect and operate end doors.** Adjust end door closer mechanism or use speed adjusting screw as need for correct operation. Closing force of on door panel leading edge should be approximately 5 lbs. Inspect weather stripping for damage. Lubricate the top hung sliding end doors and hinges on cab car end doors using DriSlide.	[redacted]
C-C 1061	**Inspect all door motors and associated hardware.** Tighten any leaking hose connections. When any internal leakage is found, replace the door motor assembly. Check the electro pneumatic valves for air leaks. If leaks are found, replace the valve.	[redacted]
C-C 1062	**Inspect & test door operation from both door control stations.** Check both door control stations for loose hardware, check all terminal connections for tightness and continuity, the slide panel completely clears door buttons, and the PA/INT indicator lights function. Clean away any dust or lint using low pressure dry compressed air. Clean and apply DriSlide, a molybdenum disulfide lubricant to the side door ball retainers. Test all door functions from each door control station including the door enable feature and the crew door. Check that the door control system energizes the doors by observing that each door open and close in a smooth, complete way checking: a) the doors open and close simultaneously at each door entrance. b) with the doors closed, check that the door rubber seals fit properly and that no gaps exist. c) if the door drags, check by a problem with the door tracking. d) if a door does not open or close fully, there is a problem with the door linkage. Check for worn or frayed bristles on brush seals. And worn or torn rubber seals. Door operator adjustment screw are located on the large cylinder of the door motor operator. Adjust screws include: **Door Cushioning Adjustment:** Use for adjusting the door's cushioning to prevent the door from slamming open and recoiling. Rotate the screw clockwise for more cushioning, or counterclockwise for less cushioning. Make all adjustments in small increments (1/4 turn or less. **Door Opening Speed Adjustment:** Door opening speed should be 1.6 to 2.0 seconds. Rotate the screw clockwise to increase opening speed or counterclockwise to decrease opening speed. Make adjustments in small increments (1/4 turn or less). **Door Closing Speed Adjustment:** Door closing speed should be 2.0 to 2.6 seconds. Rotate the screw clockwise to increase door closing speed or counterclockwise to decrease door closing speed. Make adjustments in small increments (1/4 turn or less).	[redacted]

Task ID	Description	Completed By:
C-C 1063	**Check ADA sonalert, door lights and exterior indicator lights.** Sonalert alarm sounds intermittently and starts when door close buttons are energized and should sound for 2 - 3 seconds before doors begin to close. White door lights will also begin to flash when door close buttons are energized and continues until doors are closed.	[redacted]
C-C 1064	**Check operation and Db level of PA and intercom.**	
C-C 1065	**Inspect diaphragms, vestibule curtains and walkway plates.** Diaphragms: Inspect aluminum mounting plate, sponge return spring, stainless steel fasteners and the graphite phenol resin wear plate. Check tightness of hardware, holes or tears in rubber parts, cracks or broken wear plates, bent or cracked face plate or mounting plate. Vestibule Curtains: Inspect upper and lower roller brackets for damage, curtains for holes or tears, and curtains recoil properly and are spring loaded. Check footing condition in walkway areas including the effectiveness of yellow anti slip surface. Replace walkway plugs if missing.	[redacted]
C-C 1066	**Inspect, lubricate and test handbrake.** Inspect handbrake rigging for wear and free movement. Lubricate lever fulcrum pins. Adjust cable slack, if required, and ensure slack adjuster	
C-C 1067	**Inspect and test emergency door pull cable rings.** Ensure that the frangible plastic cover is in serviceable condition and is not cracked or broken. Remove the cover housing, pull the cable ring until the door opens or releases sufficiently to be opened manually. Ensure cable is free moving and not frayed. Replace cover housing and tighten hardware.	[redacted]
C-C 1068	**Inspect emergency exit door decals.** Decals must be in place located at emergency door pull locations at doors 3, 5, 4 and 6. Decals must be of photo luminescent material, must be legible, not faded or peeling.	
C-C 1069	**Inspect emergency evacuation, safety & system map posters.** Inspect poster frames for sharp edges. Emergency evacuation poster must be displayed in frame located on lower level on sloped wall "A" end of car. Check for graffiti and not bent or creased.	
C-C 1070	**Inspect electrical cabinets and lockers and check decals.** Inspect wiring and insulation, check all electrical components for indications of overheating. Check to ensure wires are firmly attached and routed properly. Check circuit breakers ensuring that each spring and latch when closed and circuit breaker does not bind. Check battery charging. Open the access panel at the "B" end circuit breaker panel. Check the battery status monitor for the following: a) Status Normal green lamp is illuminated. b) Battery Percent Capacity meter registers a reading above 50. c) No red lamps are illuminated. Ensure "DANGER - High Voltage" decals are in place and legible on hi-voltage cabinet.	[redacted]

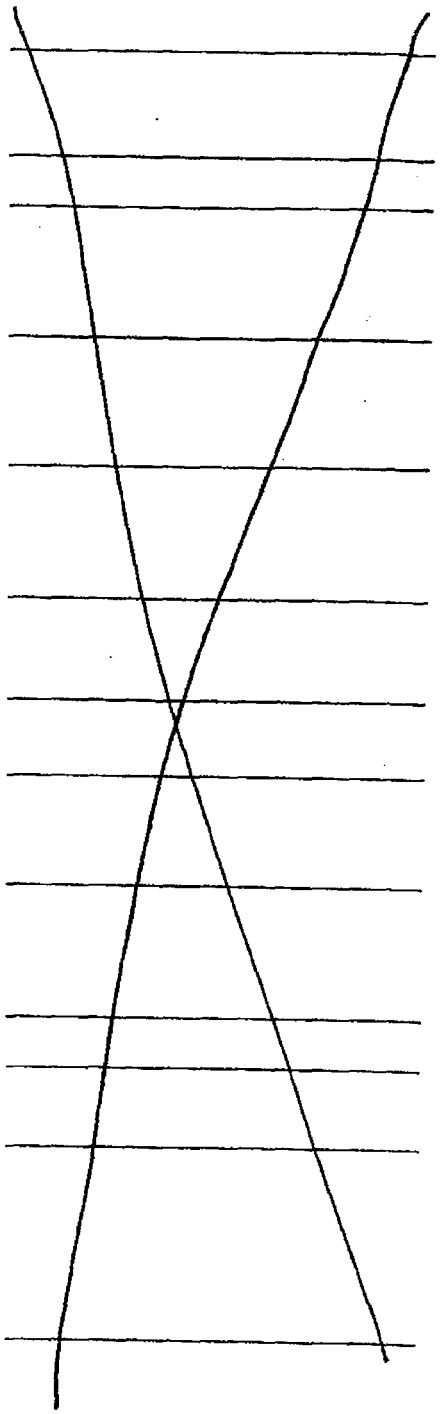
Task ID	Description	Completed By:
C-C 1071	**Check all fire extinguishers.** Remove fire extinguisher and ensure seal is not missing or broken. Check that gauge is not damaged and needle is in the green zone indicating proper pressure. Check for defects in the hose, nozzle, corrosion to canister and other visible defects. Ensure inspection tag is in date (1 year) and will remain in date before next maintenance due date (92 days). Clean compartment, inspect housing and frangible glass. Place fire extinguisher in holder, and is secure.	[redacted]
C-C 1072	**Self test E-7 wheel slide system and correct faults if required.**	[redacted]
C-C 1073	**Inspect HVAC.** a) Check the oil level in the compressor crankcase sight glass. The level should be approximately 1/2 the sight glass. b) Check all electrical circuits for continuity and tight connections. c) Check the following for grounds, using a 500 V megger, a 1 megohm or greater is acceptable: 1. Compressor motor 2. Condenser fan motor 3. Evaporator blower/motor d) Inspect the motors for dirt, friction, vibration, and proper rotation. Vacuum any dirt from the motor. e) Check the oil and refrigerant levels during steady state operating conditions (275 psig discharge pressure and 70 psig suction pressure). f) Check the refrigerant lines for leaks using a leak detector. g) If necessary, repair leak and add refrigerant and oil. h) Monitor the moisture and liquid indicator to determine the system dryness of refrigerant. If a condition other than Safe or Dry is indicated, change the filter-drier assembly. i) Inspect the resilient mounts for set or surface cracks. j) Inspect the surface of the condenser and evaporator coil. Remove any major blockage and clean the surface. k) Inspect the drain pan under the evaporator coil and the drain lines to ensure free water drainage. l) Clean the temperature sensors and thermostats with a soft cloth. m) Lubricate evaporator fan shaft bearings and condenser and evaporator motor bearings with grease. Check alignment tension and condition of fan belts and couplings. If the belt is correctly tensioned, the belt should deflect 1/4 inch at the center of the span if a force of 8 lbs. is applied at that point perpendicular to the belt. n) Test the HVAC system with the heating and air conditioning sequence tester.	[redacted]
C-C 1074	**Inspect condition & securement of windscreens.** Ensure glass wind screens are not broken or cracked with no sharp edges, and are secure in mountings.	[redacted]
C-C 1075	**Inspect condition of bicycle rack securement.** Check securement of brackets and condition of nylon cord.	
C-C 1076	**Inspect vertical handholds and handrails.** Ensure all handholds and handrails are properly secured checking for loose bolts or fasteners with at least 2 inches of clearance. Ensure handholds are not bent with no obstruction preventing its use.	
C-C 1077	**Inspect heater strip and air filter grilles.** Inspect for loose or missing hardware securing the heater grill or air filter grill. Ensure latches securing the air grilles function properly and tightly secures the air grill in place.	

Task ID	Description
C-C 1078	**Inspect all access panel doors and latches.** Ensure all access panel doors, hinges and latches are not broken or damaged. Secure all panel door latches upon completion of inspection.
C-C 1079	**Inspect condition of all trash receptacles.** Inspect trash receptacles for damage, being bent, cracked, or having sharp corners or edges.

Completed By: [redacted]

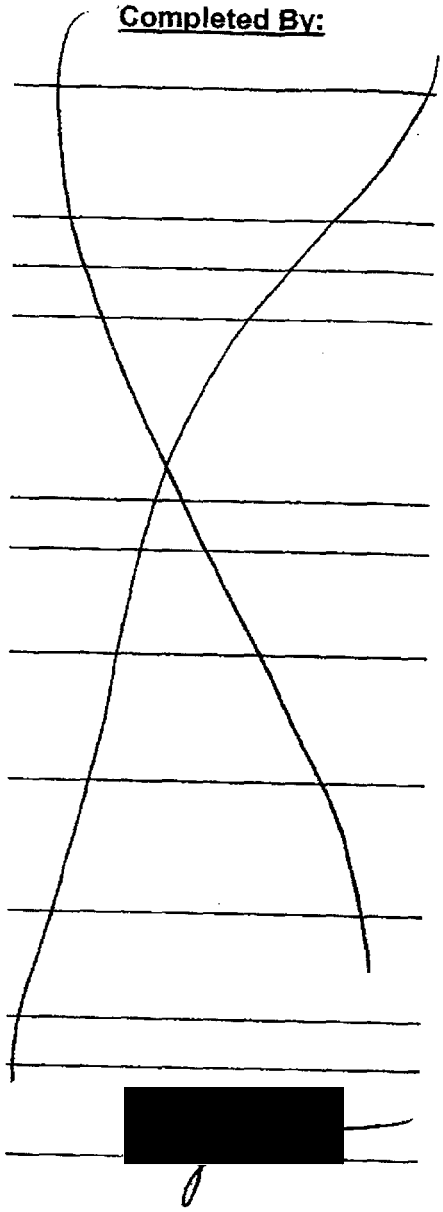
Cab Car Interior

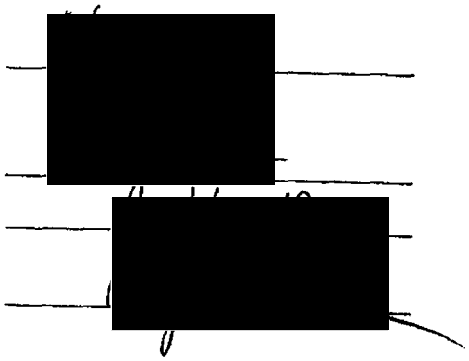
CC-C 1008	**Inspect wheelchair storage partitions.** Check for loose or missing hardware securing each panel to the brackets. Ensure panels are not cracked broken or chipped.
CC-C 1009	**Inspect compartment door, door latch and door stop.**
CC-C 1010	**Check instrument panel, cab, and indicator lights.** Inspect all gauge and panel lights including speed indicator and gauge dimmer switch. Operate push to test feature to verify lamps are working properly.
CC-C 1011	**Test air brake, safety controls and warning devices.** Check operation of 26B automatic brake valve it functions as intended in all positions. Test graduated release feature, TMS and emergency.
CC-C 1012	**Equalizing and brake pipe pressure within 3 lbs.** Ensure equalizing reservoir needle and brake pipe needle are within 3 lbs. of each other. Increase and decrease equalizing reservoir pressure and note brake pipe pressure responds.
CC-C 1013	**Test air brake gauges.** Verify accuracy of each needle (4) using a CO2 tester at 100 lbs. of pressure
CC-C 1014	**Perform brake pipe leakage test.** Brake pipe leakage must not exceed 3 lbs. per minute.
CC-C 1015	**Check controller for proper operation.** Ensure controller and reverser interlock as intended. Check electrical cannon plug under desk top to ensure connection is tight.
CC-C 1016	**Ensure proper operation of all exterior lights.** 1) Front Headlight (all positions). 2) Auxiliary lights (steady state and flashing). 3) Marker lights.
CC-C 1017	**Check speed recorder.**
CC-C 1018	**Inspect cab seat and mounting.** Ensure operators seat is securely mounted and is adjustable.
CC-C 1019	**Inspect cab window, mirrors, and sun visor.** Ensure cab windows and windshields are not cracked or broken and provide a clear unobstructed view. Ensure mirror is not damaged, cracked or broken. Check condition of mounting bracket and that hardware is not loose or missing. Inspect condition of sun visor.
CC-C 1020	**Inspect and test windshield wiper.** Ensure windshield wiper blades are in good serviceable condition and windshield wiper(s) are operating properly.



Task ID	Description
CC-C 1021	**Check operation of ATS.**
	Verify ATS receiver is properly secured and the washboards are aligned. Perform a slap test. Perform ATS test and complete form SMP 8.
CC-C 1022	**Inspect, download, reset time & seal event recorder.**
CC-C 1023*	**Check radio output using Watt meter and voice test radio.**
CC-C 1024*	**Test and record Db level of horn and test bell.**
	Using a sound level meter, within 1 yr. Of calibration, position meter 100 ft. forward of cab car with the microphone 4 ft. above ground at centerline of track. Minimum sound level of 96db(A) must be registered. Sign and attach sound level printout to cab car maintenance file.
CC-C 1025	**Inspect crew locker door and door latch hardware.**
CC-C 1026	**Inspect crew locker light and test on/off switch.**
	Inspect light bracket, hardware and protective lens cover. Check on/off switch is functioning.
CC-C 1027	**Check "Quiet Area" sign, bracket and nylon cord.**
	Replace sign if missing, illegible, cracked or broken. Check condition of nylon cord and wall mounted bracket and hardware.
CC-C 1028	**Check condition of "Compliant" first aid kit.**
	Ensure "FRA/CPUC" compliant first aid is available and sealed (shrink wrapped). Ensure contents of kit is on back side of container and legible. Replace first aid kit if seal is broken.
CC-C 1029	**Check air hoses, wrench, supplies, and condition of step.**
	Supplies should include: 1 red flag, 12 fuses, pipe wrench, brake pipe hose.
CC-C 1030	**Stencil PM date on handbrake cover.**
CC-C 1031	**Complete form FRA F6180-49A (Blue Card).**
	Restroom
C-C 1080	**Inspect the two section sliding doors.**
	Inspect the door tracks for excessive wear or foreign material that may interfere with proper door operation. Inspect the door panels and door hanger track for signs of excessive wear or damage. Access the door hanger track by unlocking the three locks that secure the hinged vestibule ceiling panel and lower panel. With the doors closed, doors should be parallel to header and jamb. Operate door to check that the bottom guides engage in bottom track and door lock properly engages the striker plate. Adjust the door tracks using the hanger nuts. Adjust doors for smooth operation and correct vibration. Clean door track and apply DriSlide to lubricate roller bearing track.
C-C 1081	**Inspect condition of handholds.**
	Ensure handholds are properly secured and provide 2 inches of usable clearance.
C-C 1082	**Inspect ceiling and plumbing compartment light.**
C-C 1083	**Inspect sink vanity mirror and wall mounted mirror.**
	Ensure mirrors are not cracked or broken and is properly secured.
C-C 1084	**Inspect access panel and compartment type doors.**

Completed By:





Task ID	Description	Completed By:
C-C 1085	**Check operation of toilet and sink.** Check toilet flush timing cycle, check for proper metering of water and biocide. Ensure adequate water seal is maintained in bowl. Check water pressure at sink, (14 psi) and ensure water spring loaded faucet plunger operates as intended and water does not drip.	[redacted]
C-C 1086	**Renew coalescent and particulate filters.** Remove and clean threaded polycarbonate bowl and renew coalescent and particulate filter elements.	[redacted]
C-C 1087	**Renew water cooler filter.** Close valve to isolate water cooler from supply tank. Depress valve until water flow ceases. Disassemble threaded body of filter shell and replace cartridge.	[redacted]
C-C 1088	**Inspect exhaust fan & components in plumbing compartment.**	[redacted]
C-C 1089	**Inspect condition of floor, wall panels and molding.** Inspect floor for tripping hazards, and check wall panels and molding for being cracked or broken.	[redacted]

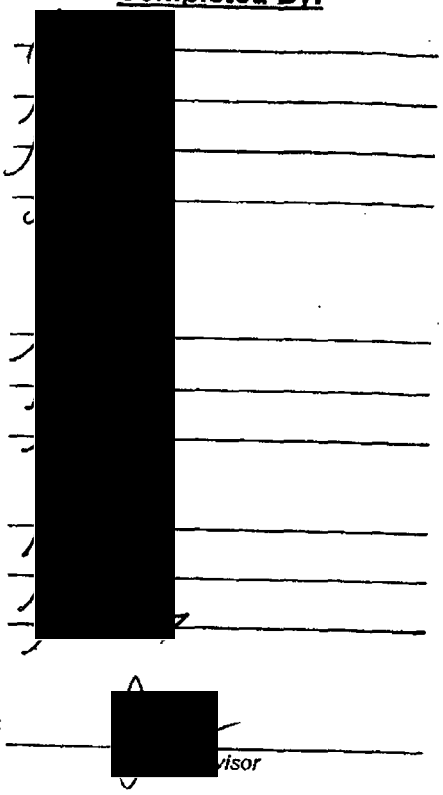
Cab Car Interior Cleaning

CC-CL 1001	**Clean console, side and upper switch and indicator panels.**	[redacted]
CC-CL 1002	**Clean ceiling and wall panels.**	
CC-CL 1003	**Clean seat and windows.**	
CC-CL 1004	**Sweep and mop floor.**	
CC-CL 1005	**Clean crew locker walls and ceiling.**	
CC-CL 1006	**Sweep and mop crew locker floor.**	

Interior Cleaning

C-CL 1007	**Remove all trash (newspapers, cups, etc.).**	[redacted]
C-CL 1008	**Wash ceilings, side Kydex panels, and bulkheads.**	
C-CL 1009	**Wash wind screens and kickboards under seats.**	
C-CL 1010	**Clean handrails, stanchions, and handhold.**	
C-CL 1011	**Clean windows and glass windscreens.**	
C-CL 1012	**Inspect for and remove all graffiti.**	
C-CL 1013	**Empty trash receptacles and wash interior of receptacles.**	
C-CL 1014	**Clean exterior of trash receptacles and replace trash bag.**	
C-CL 1015	**Clean interior and exterior of cove light fixtures.**	
C-CL 1016	**Remove and clean air grilles over mid-to-upper level stairs.**	
C-CL 1017	**Clean air conditioning vents.**	
C-CL 1018	**Replace seat bottoms, backs and headrests as required.**	
C-CL 1019	**Clean seat shells, seat dividers and armrests.**	
C-CL 1020	**Vacuum seat backs and bottoms and clean headrests.**	
C-CL 1021	**Clean area between wall and table. Clean and sanitize tables.**	
C-CL 1022	**Wipe down heater guards and heater boxes.**	
C-CL 1023	**Clean and disinfect water fountain including drain sink.**	

Task ID	Description	Completed By:
C-CL 1024	Clean end doors and floor tracks.	
C-CL 1025	Clean diaphragms, vestibule curtains and walkway plates.	
C-CL 1026	Clean side doors, windows, and door tracks.	
	Completely clean dirt and debris in door track. Clean the guide slot of the door threshold. Remove any debris in the door pockets. Ensure drain holes are not plugged.	
C-CL 1027	Sweep and mop tile floors and steps.	
C-CL 1028	Strip tile floors, reapply sealant if required and wax floors.	
C-CL 1029	Vacuum and shampoo all carpeted areas.	
	Car Exterior Cleaning	
C-CL 1030	Wash door pockets, car end caps, and diaphragms.	
C-CL 1031	Clean side door step platforms and yellow anti slip surface.	
C-CL 1032	Clean cab car window(s).	



Review and resolve all outstanding defects.

Review SMP 129, SMP 100 and outstanding defect reports. All defects recorded and those found during inspection must be corrected before car or cab car is released for service.

Signature: [redacted] *visor*

NOTE: All defects must be corrected before releasing vehicle for service.

Serial Numbers Car 133 Date 1-5-05 Employee Signature [redacted]

A-End Truck E92 827

B-End Truck E92 820

Axle 1 Serial # LA 358

Axle 2 Serial # LA 235

Axle 3 Serial # 4E7007A X

Axle 4 Serial # SO 42

Wheel # 1 80701

Wheel # 2 76410

Wheel # 3 69586

Wheel # 4 96144

Wheel # 5 06154

Wheel # 6 80634

Wheel # 7 80628

Wheel # 8 72373

METROLINK

CENTRAL MAINTENANCE FACILITY - LOS ANGELES

EMERGENCY WINDOW TESTS

Date: 1-5-05 Work Order No.: _____ Car No.: 133

PROCEDURE

1) Randomly select four (4) emergency windows and perform a manual pull test using a digital force gage to measure and record the force required to remove windows.
2) Avoid testing more than two of the samples previously tested within the last 92-day PM cycle.
3) Record in the spaces provided below:
   a) Location codes listed on reverse side
   b) Force required to remove each window
   c) Acceptance as "Y" for *Yes* or "N" for *No*
      - **Coach Cars #101- 182, and Cab Cars #601- 637:** 60 lbs. Max. allowable woith angle of pull force parallel to floor.
      - **Coach Cars #183 & Higher, and Cab Cars #638 & Higher:** 20 to 30 lbs. Allowable with pull force at 30° to 60° angle to floor.
   d) Any appropriate remarks.

NOTE: If any defective condition is noted on any of the windows in the car or if the specified pull force limits are exceeded on any of the four (4) test samples, this will require all emergency windows in the car be tested—not just the initial four (4) test samples. In such cases, a notation must be recorded in the "Comments" section on the reverse side of this form to include: 1) which window(s) failed or defective condition(s) was/were found, 2) brief description of the failure(s)/defective condition(s), 3) that the corrective actions were satisfactorily completed, and 4) who corrected the problem along with corresponding date.

REFERENCES

- MIL-STD-105D, Sampling Procedures and Tables for Inspection by Attributes
- CFR Title 49, Section 239.107, (b) & (c).

Window Test Sample	Location Code	Force (lbs)	Accept Y	Accept N	Remarks
1	U3	46.0	/		
2	U7	43.8	/		
3	U11	43.0	/		
4	U15	47.0	/		

[redacted] INSPECTOR SIGNATURE

[redacted] SUPERVISOR SIGNATURE

METROLINK

CENTRAL MAINTENANCE FACILITY - LOS ANGELES

EMERGENCY WINDOW TESTS

Date: 1-5-05 Work Order No.: _____ Car No.: 133

PROCEDURE

1) Randomly select four (4) emergency windows and perform a manual pull test using a digital force gage to measure and record the force required to remove windows.
2) Avoid testing more than two of the samples previously tested within the last 92-day PM cycle.
3) Record in the spaces provided below:
   a) Location codes listed on reverse side
   b) Force required to remove each window
   c) Acceptance as "Y" for *Yes* or "N" for *No*
      - **Coach Cars #101-182, and Cab Cars #601-637:** 60 lbs. Max. allowable woith angle of pull force parallel to floor.
      - **Coach Cars #183 & Higher, and Cab Cars #638 & Higher:** 20 to 30 lbs. Allowable with pull force at 30° to 60° angle to floor.
   d) Any appropriate remarks.

NOTE: If any defective condition is noted on any of the windows in the car or if the specified pull force limits are exceeded on any of the four (4) test samples, this will require all emergency windows in the car be tested—not just the initial four (4) test samples. In such cases, a notation must be recorded in the "Comments" section on the reverse side of this form to include: 1) which window(s) failed or defective condition(s) was/were found, 2) brief description of the failure(s)/defective condition(s), 3) that the corrective actions were satisfactorily completed, and 4) who corrected the problem along with corresponding date.

REFERENCES

- MIL-STD-105D, Sampling Procedures and Tables for Inspection by Attributes
- CFR Title 49, Section 239.107, (b) & (c).

Window Test Sample	Location Code	Force (lbs)	Accept Y	Accept N	Remarks
1	I-3	44.6	✓		
2	I4	53.4	✓		
3	I9	46.1	✓		
4	I10	55.4	✓		

[redacted] INSPECTOR SIGNATURE

[redacted] SUPERVISOR SIGNATURE

METROLINK

CENTRAL MAINTENANCE FACILITY - LOS ANGELES

EMERGENCY WINDOW TESTS

Date: 1-5-05 Work Order No.: _____ Car No.: 133

PROCEDURE

1) Randomly select four (4) emergency windows and perform a manual pull test using a digital force gage to measure and record the force required to remove windows.
2) Avoid testing more than two of the samples previously tested within the last 92-day PM cycle.
3) Record in the spaces provided below:
   a) Location codes listed on reverse side
   b) Force required to remove each window
   c) Acceptance as "Y" for *Yes* or "N" for *No*
      - **Coach Cars #101- 182, and Cab Cars #601- 637:** 60 lbs. Max. allowable woith angle of pull force parallel to floor.
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   d) Any appropriate remarks.

NOTE: If any defective condition is noted on any of the windows in the car or if the specified pull force limits are exceeded on any of the four (4) test samples, this will require all emergency windows in the car be tested—not just the initial four (4) test samples. In such cases, a notation must be recorded in the "Comments" section on the reverse side of this form to include: 1) which window(s) failed or defective condition(s) was/were found, 2) brief description of the failure(s)/defective condition(s), 3) that the corrective actions were satisfactorily completed, and 4) who corrected the problem along with corresponding date.

REFERENCES

- MIL-STD-105D, Sampling Procedures and Tables for Inspection by Attributes
- CFR Title 49, Section 239.107, (b) & (c).

Window Test Sample	Location Code	Force (lbs)	Accept Y	Accept N	Remarks
1	U4	50.7	/		
2	48	50.1	/		
3	412	30.0	/		
4	416	50.0	/		

[redacted] _____ [redacted] _____

INSPECTOR SIGNATURE SUPERVISOR SIGNATURE

METROLINK

CENTRAL MAINTENANCE FACILITY - LOS ANGELES

EMERGENCY WINDOW TESTS

Date: 1-5-05 Work Order No.: _____ Car No.: 133

PROCEDURE

1) Randomly select four (4) emergency windows and perform a manual pull test using a digital force gage to measure and record the force required to remove windows.
2) Avoid testing more than two of the samples previously tested within the last 92-day PM cycle.
3) Record in the spaces provided below:
   a) Location codes listed on reverse side
   b) Force required to remove each window
   c) Acceptance as "Y" for *Yes* or "N" for *No*
      - **Coach Cars #101-182, and Cab Cars #601-637:** 60 lbs. Max. allowable woith angle of pull force parallel to floor.
      - **Coach Cars #183 & Higher, and Cab Cars #638 & Higher:** 20 to 30 lbs. Allowable with pull force at 30° to 60° angle to floor.
   d) Any appropriate remarks.

NOTE: If any defective condition is noted on any of the windows in the car or if the specified pull force limits are exceeded on any of the four (4) test samples, this will require all emergency windows in the car be tested—not just the initial four (4) test samples. In such cases, a notation must be recorded in the "Comments" section on the reverse side of this form to include: 1) which window(s) failed or defective condition(s) was/were found, 2) brief description of the failure(s)/defective condition(s), 3) that the corrective actions were satisfactorily completed, and 4) who corrected the problem along with corresponding date.

REFERENCES

- MIL-STD-105D, Sampling Procedures and Tables for Inspection by Attributes
- CFR Title 49, Section 239.107, (b) & (c).

Window Test Sample	Location Code	Force (lbs)	Accept Y	Accept N	Remarks
1	L1	32.7	/		
2	L2	53.0	/		
3	L5	45.2	/		
4	L6	43.8	/		

[redacted] INSPECTOR SIGNATURE

[redacted] SUPERVISOR SIGNATURE

METROLINK

CENTRAL MAINTENANCE FACILITY - LOS ANGELES

EMERGENCY WINDOW TESTS

Date: 1-4-05 Work Order No.: _____ Car No.: 133

PROCEDURE

1) Randomly select four (4) emergency windows and perform a manual pull test using a digital force gage to measure and record the force required to remove windows.
2) Avoid testing more than two of the samples previously tested within the last 92-day PM cycle.
3) Record in the spaces provided below:
   a) Location codes listed on reverse side
   b) Force required to remove each window
   c) Acceptance as "Y" for *Yes* or "N" for *No*
      - **Coach Cars #101-182, and Cab Cars #601-637:** 60 lbs. Max. allowable woith angle of pull force parallel to floor.
      - **Coach Cars #183 & Higher, and Cab Cars #638 & Higher:** 20 to 30 lbs. Allowable with pull force at 30° to 60° angle to floor.
   d) Any appropriate remarks.

NOTE: If any defective condition is noted on any of the windows in the car or if the specified pull force limits are exceeded on any of the four (4) test samples, this will require all emergency windows in the car be tested—not just the initial four (4) test samples. In such cases, a notation must be recorded in the "Comments" section on the reverse side of this form to include: 1) which window(s) failed or defective condition(s) was/were found, 2) brief description of the failure(s)/defective condition(s), 3) that the corrective actions were satisfactorily completed, and 4) who corrected the problem along with corresponding date.

REFERENCES

- MIL-STD-105D, Sampling Procedures and Tables for Inspection by Attributes
- CFR Title 49, Section 239.107, (b) & (c).

Window Test Sample	Location Code	Force (lbs)	Accept Y	Accept N	Remarks
1	U4	91.5		✓	
2	U8	73.1		✓	
3	U12	41.6	✓		
4	U16	51.5	✓		

[redacted] INSPECTOR SIGNATURE

[redacted] SUPERVISOR SIGNATURE

METROLINK

CENTRAL MAINTENANCE FACILITY - LOS ANGELES

EMERGENCY WINDOW TESTS

Date: 1-4-05 Work Order No.: _____ Car No.: 133

PROCEDURE

1) Randomly select four (4) emergency windows and perform a manual pull test using a digital force gage to measure and record the force required to remove windows.
2) Avoid testing more than two of the samples previously tested within the last 92-day PM cycle.
3) Record in the spaces provided below:
   a) Location codes listed on reverse side
   b) Force required to remove each window
   c) Acceptance as "Y" for *Yes* or "N" for *No*
      - **Coach Cars #101-182, and Cab Cars #601-637:** 60 lbs. Max. allowable woith angle of pull force parallel to floor.
      - **Coach Cars #183 & Higher, and Cab Cars #638 & Higher:** 20 to 30 lbs. Allowable with pull force at 30° to 60° angle to floor.
   d) Any appropriate remarks.

NOTE: If any defective condition is noted on any of the windows in the car or if the specified pull force limits are exceeded on any of the four (4) test samples, this will require all emergency windows in the car be tested—not just the initial four (4) test samples. In such cases, a notation must be recorded in the "Comments" section on the reverse side of this form to include: 1) which window(s) failed or defective condition(s) was/were found, 2) brief description of the failure(s)/defective condition(s), 3) that the corrective actions were satisfactorily completed, and 4) who corrected the problem along with corresponding date.

REFERENCES

- MIL-STD-105D, Sampling Procedures and Tables for Inspection by Attributes
- CFR Title 49, Section 239.107, (b) & (c).

Window Test Sample	Location Code	Force (lbs)	Accept Y	Accept N	Remarks
1	U3	77.8		✓	
2	U7	69.6		✓	
3	U11	67.4		✓	
4	U15	77.1		✓	

[redacted] INSPECTOR SIGNATURE

[redacted] SUPERVISOR SIGNATURE

METROLINK

CENTRAL MAINTENANCE FACILITY - LOS ANGELES

EMERGENCY WINDOW TESTS

Date: 1-4-05 Work Order No.: _____ Car No.: 133

PROCEDURE

1) Randomly select four (4) emergency windows and perform a manual pull test using a digital force gage to measure and record the force required to remove windows.
2) Avoid testing more than two of the samples previously tested within the last 92-day PM cycle.
3) Record in the spaces provided below:
   a) Location codes listed on reverse side
   b) Force required to remove each window
   c) Acceptance as "Y" for *Yes* or "N" for *No*
      - **Coach Cars #101- 182, and Cab Cars #601- 637:** 60 lbs. Max. allowable woith angle of pull force parallel to floor.
      - **Coach Cars #183 & Higher, and Cab Cars #638 & Higher:** 20 to 30 lbs. Allowable with pull force at 30° to 60° angle to floor.
   d) Any appropriate remarks.

NOTE: If any defective condition is noted on any of the windows in the car or if the specified pull force limits are exceeded on any of the four (4) test samples, this will require all emergency windows in the car be tested—not just the initial four (4) test samples. In such cases, a notation must be recorded in the "Comments" section on the reverse side of this form to include: 1) which window(s) failed or defective condition(s) was/were found, 2) brief description of the failure(s)/defective condition(s), 3) that the corrective actions were satisfactorily completed, and 4) who corrected the problem along with corresponding date.

REFERENCES

- MIL-STD-105D, Sampling Procedures and Tables for Inspection by Attributes
- CFR Title 49, Section 239.107, (b) & (c).

Window Test Sample	Location Code	Force (lbs)	Accept Y	Accept N	Remarks
1	I-3	84.2		✓	
2	I-4	77.1		✓	
3	I 9	48.9	✓		
4	I 10	73.3		✓	

[redacted] INSPECTOR SIGNATURE

[redacted] SUPERVISOR SIGNATURE

METROLINK

CENTRAL MAINTENANCE FACILITY - LOS ANGELES

EMERGENCY WINDOW TESTS

Date: 1-4-05 Work Order No.: _____ Car No.: 133

PROCEDURE

1) Randomly select four (4) emergency windows and perform a manual pull test using a digital force gage to measure and record the force required to remove windows.
2) Avoid testing more than two of the samples previously tested within the last 92-day PM cycle.
3) Record in the spaces provided below:
   a) Location codes listed on reverse side
   b) Force required to remove each window
   c) Acceptance as "Y" for *Yes* or "N" for *No*
      - **Coach Cars #101-182, and Cab Cars #601-637:** 60 lbs. Max. allowable woith angle of pull force parallel to floor.
      - **Coach Cars #183 & Higher, and Cab Cars #638 & Higher:** 20 to 30 lbs. Allowable with pull force at 30° to 60° angle to floor.
   d) Any appropriate remarks.

NOTE: If any defective condition is noted on any of the windows in the car or if the specified pull force limits are exceeded on any of the four (4) test samples, this will require all emergency windows in the car be tested—not just the initial four (4) test samples. In such cases, a notation must be recorded in the "Comments" section on the reverse side of this form to include: 1) which window(s) failed or defective condition(s) was/were found, 2) brief description of the failure(s)/defective condition(s), 3) that the corrective actions were satisfactorily completed, and 4) who corrected the problem along with corresponding date.

REFERENCES

- MIL-STD-105D, Sampling Procedures and Tables for Inspection by Attributes
- CFR Title 49, Section 239.107, (b) & (c).

Window Test Sample	Location Code	Force (lbs)	Accept Y	Accept N	Remarks
1	L1	56.7	✓		
2	L2	74.9		✓	
3	L5	63.9		✓	
4	L6	82.3		✓	

[redacted] INSPECTOR SIGNATURE

[redacted] SUPERVISOR SIGNATURE

Cab Car #625

BOMBARDIER
TRANSPORTATION

CENTRAL MAINTENANCE FACILITY

12/21/04 3:45 PM

EQUIPMENT OUT OF SERVICE

Equip #	In Date	W. O. #	REASON	Projected Out Date	
853	12/16/04	363	3 Month Inspection	12/22/04	OK
884	12/20/04	369	3 Month Inspection	12/24/04	
871	12/20/04	368	Accident Damage	12/27/04	
859	12/21/04	371	3 Month Inspection	12/28/04	
B65		373	12 Mo		
~~872~~			~~3 Mo~~		
881		372	Dynamic Brake Blower Motor		
Capitals & Mods:		1. Traction Mtrs	2. HEP FI Plates | 3. HEP Hr Meter | 4. Belly Pan / Transom | 5. Pilot Hnd Hld | 6. Yaw Damper	7. Cooling Fan	
178		2040	12 Mo	12-29	
[redacted]					OK
188	12/15/04	2012	COT&S	12/22/04	OK
613		2041	3 Mo	12-29	
611	08/23/04	1620	COT&S / Mods: 8, 9, 10, 11, 12, 13, 24	12/23/04	
180	12/13/04	2008	12 Month Inspection / Floor Repair / Mods: 13	12/28/04	22-0
176	12/20/04	2034	3 Month Inspection	12/28/04	22-0
2213	12/21/04	2038	3 Month Inspection	12/23/04	
606	11/22/04	1830	~~3 Month Inspection~~ / Rotors / Mods: 11, 12, 13	~~12/24/04~~	12-21
619	12/07/04	1862	3 Month Inspection / Mods: 11, 12, 13	12/27/04	
145	12/21/04	2037	3 Month Inspection	12/27/04	
630	12/21/04	2036	3 Month Inspection	12/27/04	
166	12/20/04	2035	Remove Holiday Decorations	12/28/04	
136	12/20/04	2033	12 Month Inspection	12/28/04	2201
206	12/21/04	2039	COT&S	12/30/04	
139	12/16/04	2025	3 Month Inspection / Mods: 11, 12, 13	01/07/05	

Capitals & Mods:									
1. Strobe Lt Brkt	3. Comm Remvl	4. Roof Cut Away	5. Bio Counters		7. Duct Clean				
8. Toilet Tank	9. HVAC	10. Dr Motors	11. Carpet	12. Toilet Shrd	13. LLEPM	14. Cndctrs Window	15. Dr Lf Gds	21. Trucks	22. Seat Mod
23. Window Gaskets	24. Aux Lights							Recurring Mods	

EQUIPMENT SERVICEABLE

LOCOMOTIVES	~~873~~	~~883~~						800
COACHES	~~124~~							
COACHES								
CAB CARS								
ON HOLD	801	802	803					
SPECIAL								
DISPOSITION	113	634	608	174				

	"B"	"B" BO's	"BTR"	"BTR" BO's	Car
WHEEL SETS	7	12	2	2	OK - 13
Total TM's / TM's Built	5 - 0	2	1 - 0	4	BO - 35

TROLINK/1104 DAY INSPECTION CAB CAR

Location: _____ Date Shopped _____

Task ID	Description	Completed By:

Dumping, Sanitization and Watering

C-C 1001 **Empty and sanitize toilet retention tank.** [redacted]

1. Open wheel skirts at BL corner.
2. Remove cap from the 1" water-intake pipe.
3. Remove cap from the 3" ball valve and connect dumping hose to ball valve.
4. Open ball valve dumping contents in holding tank into sewer.
5. Connect jet-fog nozzle to the 1" water intake pipe and connect a fresh water hose to the other end of the jet-fog nozzle..
6. Open water supply allowing water to flow into water-intake tank for 5 to 10 minutes.
7. Close ball valve.
8. To remove large solid object from waste holding tank, remove hexagon nuts to remove the flange plate and gasket to gain access to holding tank..
9. Pour 1/2 gallon of bleach down toilet and flush.
10. Open outside water supply and fill waste-holding tank until water reaches top of flapper.
11. Allow water in waste holding tank to stand for 30 minutes.
12. Open ball valve allowing contents to drain into sewer.
13. Close ball valve, disconnect dump hose from ball valve, and install cap onto ball valve with cam locks locked. Ensure chain is attached to the cap and secured to the car.
14. Remove jet-fog nozzle from 1" water intake pipe, disconnect hose, and reinstall cap onto water-intake pipe.
15. Close and latch wheel skirts.

C-C 1002 **Sanitize and fill potable water tanks.** [redacted]

1. Open wheel skirts at BL corner.
2. Remove protective cap and connect bleach-filling adaptor to the water fill connection and connect fresh-water hose to the other end of the adaptor..
3. In plumbing compartment, open drains valves for the 39 & 22 gallon tanks and drain tanks to approximately 1/2 full. (Drain pipes are located adjacent to jet-fog nozzle.)
4. Pour 1/4 gallon of bleach into bleach-filling adaptor.
5. Fill both water tanks to capacity.
6. Close pressurization valve by turning:
   a) the air cut-off valve to the close position.
   b) the overflow vent valve to the open position.
7. Allow 30 minutes for adequate sanitation.
8. Drain and flush tanks until proper "ph" level has been reached.
   a) test water using white color "ph" testing paper at drinking fountain
   b) Proper "ph" level is reached when white test paper turns to a light gray.
9. After proper "ph" level is reached, close drain valves for the water tanks.
10. Disconnect bleach-filling adaptor. Apply the protective cap ensuring it is properly secured.
11. Open the air cut-off valve and close the overflow vent valve.
12. Close and latch wheel skirts.

C-C 1003 **Replenish biocide disinfectant.** NA

Connect a rubber hose to the drain/vent connection placing opposite end of hose in a 5 gallon container beneath overflow outlet. Connect quick disconnect fitting to biocide fill connection and fill the 20 gallon tank. When full, solution will pour out of the biocide drain/vent connection. Set biocide counter, located in plumbing compartment to zero.

JAN - 5 2005 12-21-04

Task ID **Description** **Completed By:**

Under Frame Inspection

C-C 1004 **Inspect condition of uncoupling lever and brackets.**

Ensure uncoupling lever is not cracked, broken or bent and operate as intended. Close knuckle and operate uncoupling lever and check that the lever rotates the rotary lock lift lever, which opens the lock and knuckle. Inspect for loose or missing hardware securing uncoupling lever brackets.

C-C 1005* **Inspect & gauge knuckle, coupler and check slack.**

Gauge coupler, checking, Guard Arm Distortion, Contour Wear, Knuckle Nose and Knuckle Stretch. Draft gear components, pocket and coupler pin must be inspected for slack or wear. Using a long bar between the coupler horn and striker face and prying outward, measure the distance between the coupler horn and the striker face. Then move the coupler in as far as possible towards the draft gear and again measure the distance between the coupler horn and the striker face. The distance between the two is the amount of free slack in the draft gear and coupler arrangement. Total slack must not exceed 1/2". Check anti-creep protection.

Total slack Front 9/16 Rear 1/5

C-C 1006* **Check & record coupler height.**

Check and record the following measurements:

	Front	Rear	Clearance Limits
Coupler Height Above Top of Rail	34 1/2	34 1/2	31-1/2" Min. 34-1/2" Max.

Ensure coupler maintained in a level position. Check coupler bounce. Excessive couple bounce and coupler carrier ears not in contact with coupler pocket stop blocks indicate weak or broken coupler carrier springs. Replace worn coupler carrier ears and stop blocks if groove is worn into bottom of block.

C-C 1007* **Check and record specific gravity of each battery cell.**

Left Side Battery Box						Right Side Battery Box					
Cell No.		Cell No.		Cell No.		Cell No.		Cell No.		Cell No.	
1	1.21	9	1.23	17	1.22	1		9	1.21	17	1.22
2	1.21	10	1.23	18	1.22	2		10	1.21	18	1.22
3		11	1.23	19	1.20	3	1.20	11	1.20	19	
4		12	1.23	20	1.20	4	1.20	12	1.20	20	
5	1.20	13	1.23	21		5	1.23	13	1.20	21	
6	1.20	14	1.23	22		6	1.23	14	1.20	22	
7	1.19	15	1.23	23		7	1.18	15	1.19	23	1.22
8	1.19	16	1.23	24		8	1.18	16	1.19	24	1.22

Facing Battery

Note: If distilled water has been added before check specific gravity, charge the batteries for a minimum of five (5) hours.

If the specific gravity is less than 1.15, replace battery.

After checking specific gravity, turn on as many low voltage load as possible (lights, open doors at door stations, headlights, etc.) Turn off the battery charger main breaker. Allow batteries to discharge for ten (10) minutes and check the voltage drop across each cell on car nos. 183-210, and each pair of cells on all other cars. If the voltage drops to a value lower than one (1) volt on any of the cells, replace the battery with the low cell.

Task ID	Description	Completed By:
C-C 1008	**Clean battery boxes and exterior of battery sets.** Place the battery switch in the off position and open the battery switch box and remove both fuses from the fuse holder. Open the battery boxes and extend the battery trays completely. *Do not use abrasive cleansers, wire brushes, or acid washes inside the battery compartments.* Using clean water and a noncorrosive, non-caustic cleansing agent, wash the interior of the battery boxes and the exterior of the battery set.	
C-C 1009	**Inspect battery & fluid level, add de-ionized water if needed.** Visually check batteries for cracks. Battery should be tight in tray with blocking in place. Inspect cables, terminals, connectors and terminal bars. Excessive water consumption indicates too high a charging voltage and little or no water consumption indicates that a battery is being inadequately charged. The electrolyte levels are visible through the plastic containers of the cells and have upper and lower lines on the containers to indicate the maximum and minimum levels. The cells need to be topped-up with distilled or de-ionized water when the electrolyte level is midway between the lower and upper line. Avoid leaks and spills. Note: An electrolyte spill can be neutralized with baking soda. Flush area with large amounts of fresh water once neutralized.	
C-C 1010	**Coat battery terminals and lubricate battery tray rails.** With battery terminal wires and jumper bars disconnected, use clean water, a soft bristle brush and noncorrosive, non-caustic cleansing agent to clean all connections. Coat all terminals using Nifecote or a suitable approved substitute. Install jumper bars and connect battery terminal wires. Lubricate rails on the battery tray and ensure trolley moves freely.	
C-C 1011	**Inspect battery compartment and switch box.** Inspect battery compartment and cover for damage, Ensure locking devices are in place and are effective. Apply battery compartment cover and secure with hardware. Inspect switch box, cover and latches. Clean battery switch box, install the fuses in the fuse holder and place the battery switch in the on position.	

Task ID **Description** **Completed By:** [redacted]

C-C 1012* **Record wheel measurements.**

Record wheel measurements

	Flange Ht.	Flange Th.	Rim Th.
	Max. 1-1/2"	Min. 1"	Min. 1"
Gauge readings	24	8	16
Wheel No.1	20	2	~~19~~ 22
Wheel No.2	~~19~~ 20	3	~~29~~ 19
Wheel No. 3	19	2	24
Wheel No. 4	19	0	~~30~~ 24
Wheel No. 5	19	2	~~29~~ 30
Wheel No. 6	19	2	~~30~~ 29
Wheel No. 7	19	3	30
Wheel No. 8	19	2	30

Notify Supervisor if readings are at these points:

Flange Ht.	Flange Th.	Rim Th.
22	5	18

C-C 1013 **Inspect wheels for defects.** [redacted]

Following are condemning conditions involving wheels. Report any defective condition found to your supervisor regardless of severity.

Flat spots	A single flat spot that is 2-1/2 inches or more in length, or two adjoining spots that are each two or
Gouge or chip in the flange	Gouge or chip that is more than 1-1/2 inches in length and 1/2 inch in width.
Broken rim	If the tread, measured from the flange at a point 5/8 of an inch above the tread, is less than 3-3/4 inches in width.
Shelling	A shelled-out spot 2-1/2 inches or more in length, or two adjoining spots that are each two or more inches in length.
Seam running lengthwise	A seam running lengthwise that is within 3-3/4 inches of the flange.
Tread worn hollow	A tread worn hollow 5/16 of an inch or more.
Crack or break	A crack or break in the flange, tread, rim, plate, or hub.
Loose wheel	Any indication the wheel may be loose. Look for rust where the axle contacts the hub.

Remove old torque seal and apply fresh torque seal extending from wheel hub to outside axle face.

Task ID **Description** **Completed By:** [redacted]

C-C 10 14* **Inspect and record brake disc measurements.**

Renew disc:

a) if surface cracks are more than 2-1/2 inches long (either side) or are within 3/8 in of the outer edge.
b) if the disc shows any score marks or there are any protrusions.
c) if there are nicks on the outer edge of the disc longer than 3/4 inch wide radially.
d) if there are cracks in the hub.

Ensure the bolts securing the disc are not loose, broken or missing and the locking tabs are in place and properly bent to prevent movement of the bolt. Cracks in the torque seal may indicate bolt movement.

Renew disc if the thickness of the disc (face to face) is less than 3.34 inches thick, or if the thickness of an individual face is less than .665 in.

Remove old torque seal and apply fresh torque seal to each bolt that extends from bolt head to disc hub.
Take three (3) measurements approximately 120 degrees apart and 2-1/2" in from the disc edge.

Disc Wheel 1 Axle Serial No. S021

Measurements

	1st	2nd	3rd		Smallest Value
Outside Wall Thickness	.854	.855	.865		.855
Inside Wall Thickness	.904	.892	.871	=	.871
Face-to-Face	3.688	3.678	3.683		3.678

Disc Renewed: Yes ____ No ✓

Disc Wheel 5 Axle Serial No. LAZ90

Measurements

	1st	2nd	3rd		Smallest Value
Outside Wall Thickness	.828	.817	.820		.814
Inside Wall Thickness	.907	.910	.906	=	.907
Face-to-Face	3.690	3.703	3.688		3.688

Disc Renewed: Yes ____ No ✓

Disc Wheel 4 Axle Serial No. S023

Measurements

	1st	2nd	3rd		Smallest Value
Outside Wall Thickness	.807	.875	.827		.807
Inside Wall Thickness	.924	.891	.901	=	.891
Face-to-Face	3.677	3.673	3.691		3.673

Disc Renewed: Yes ____ No ✓

Disc Wheel 8 Axle Serial No. SA7030

Measurements

	1st	2nd	3rd		Smallest Value
Outside Wall Thickness	.873	.867	.830		.830
Inside Wall Thickness	.883	.891	.902	=	.883
Face-to-Face	3.683	3.691	3.681		3.681

Disc Renewed: Yes ____ No ✓

Task ID	Description	Completed By:
C-C 1015	**Inspect MU and communication cables and receptacles.** Inspect condition of MU and communication cables. Inspect condition of insulation and for signs of a stretched cable. Ensure covers are not missing, broken or cracked, are spring loaded and operate properly. Check for broken receptacle pins. Check the mica insulating plate for cracks and mounting hardware in place and secure. Inspect for dirt/moisture contamination. Remove dirt and debris using air pressure using an electrical cleaner if needed.	[redacted]
C-C 1016	**Inspect HEP cables, receptacles and 480V decals.** Inspect HEP cables for cracks, cuts, damaged insulation or signs of a stretched cable. Check for broken, flashed or partially missing pins. Ensure covers are not missing, broken, cracked and are functioning properly. Ensure "DANGER" - 480 Volt" or Danger - High Voltage decals are in place at each HEP receptacle and are legible.	[redacted]
C-C 1017	**Inspect train line hoses, piping and valves.** Inspect brake pipe and main reservoir hoses for cuts, debris damage, or evidence of being collapsed. Inspect condition of glad-hand and gasket. Ensure dummy couplings are not damaged and secured to the car. Attach free end air hose to dummy coupling. Inspect angle valves and end valves for damage. Make sure handles are not bent or broke spring is in place and effective, and the stops prevent movement of handle in the open position.	[redacted]
C-C 1018	**Inspect draft gear, yoke, coupler & coupler carrier.** Inspect coupler body and parts, yokes, and connections for cracks, broken or missing parts. Replace coupler if cracking is found in the pin protector boss or pivot lug, or if portion of the pin protector boss are missing or broken. To ensure proper locking of coupler, check for the presence of an inverted U-shaped notch located in the lower edge of both side walls of the lock hole shroud. When this recess is clear and unobstructed, the knuckle is properly locked. Inspect draft gear for signs of separation from its substrate or any signs of surface cuts or splits. Separations, cuts, or splits may not exceed 1-1/2 inches in length and 3/4 inch in depth. Check for slack in the rubber pad assembly indicating draft gear is loose in the pocket. Replace the yoke bushings if the inside diameters are worn to 3-3/16 inch.	[redacted]
C-C 1019	**Inspect truck frames, bolsters and ground straps.** Inspect truck frame and bolster for cracks that may effect structural integrity. Ensure ground straps are in place and properly secured.	[redacted]
C-C 1020	**Inspect bolster anchor assemblies, brackets and hardware.** Ensure drag link and bracket and bolster link assembly is not cracked, broken or damaged and is properly secured.	[redacted]
C-C 1021	**Inspect air spring assemblies and chevron springs.** Inspect the air spring rubber assembly for grease and oil contamination, cuts, tears, and excessive abrasion. Closely inspect the rubber around the girdle hoop. Visually check that the leveling valve lever is in the horizontal position. Use spring height GO/NOGO gauge, measure spring height. The normal working height of the air spring is 8-7/8 inches. Also check the position of the truck locking bolt where it passes through the truck locking bracket. Nominal clearance is 3/8 in. and minimum clearance is 1/8 in. Correct centering is equal spacing between truck locking bolt and truck locking bracket. If not in proper position, problem may be broken or missing stabilizer bars or leaking air spring assemblies.	[redacted]

C-C 1022 . Inspect vertical & lateral dampers and friction snubbers.

Inspect dampers for broken, or missing mounting hardware, cracked or broken mounting bracket. Check for oil leakage and the reservoir tube wet with oil. Inspect for damaged or dented casings.

C 1023 Inspect laminated traction and side bearer pads.

Check pads for proper position and are not damaged or show indications of stress. Check for sharp metal edges in contact with the free rubber surface. Remove burrs carefully using a file. Do not damage the rubber surface. Inspect and replace pads that have cracks or splits that exceed a depth of 3/8 in.

C-C 1024* Inspect disc brake units and check fluid level.

Inspect for loose or missing hardware and signs of rust. Air leaks at disc brake unit must be corrected. With the brakes released, check for any apparent brake fluid leaks around the disc brake unit reservoir castings.

Check disc brake fluid level:

a) Insert a bar or lever between the tongs and retract the piston push rod all the way back. Block in this position.

b) Remove dirt and completely clean top cover before removing.

c) Loosen four bolts and remove the top cover, being careful not to contaminate the fluid with foreign material.

d) If the screen can be seen above the fluid level, add clean Dow Corning Silicone Brake Fluid No. Q2-1141, from a clean container so the fluid level is 1/4 inch below the top of the reservoir.

Disc Brake Fluid Added: Yes ____ No X

NOTE: If fluid is added more than twice a year, the actuator is malfunctioning and requires replacement.

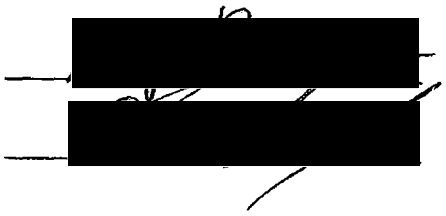
Lubricate swivel pin and bushing with lithium molybdenum disulfide-base grease (WABCO M-7672-1). Use a grease gun on the swivel bracket grease fitting.

C-C 1025 Inspect tread brake units and brake shoes.

Inspect for loose or missing hardware. Lubricate the hanger and brake head bolts. Lubricant Tread brake reservoir of the body is to be filled with lithium molybdenum disulfide-bas grease (WABCO M-7672-01).

C-C 1026 Inspect pedestal tie bars.

Inspect for damage and is properly secured.



C-C 1027 Inspect wheel slide speed sensors, check air gap and cabling.

Verify the green wheel slide failure (WSF) indicator light located below the E-7 decelostat controller at the "A" end of the car is illuminated. Inspect and adjust the wheel slide speed sensors. Check the gap between the magnetic pickup assembly and the split hear. Gap should be 0.025 in ± 0.005 in. Use low pressure air (less than 30 psig) to clean and blow off any excessive buildup of dirt.

C-C 1028 Inspect cabling, conduit, piping and connections.

Inspect under car for indication of a debris strike. Inspect under car wiring and clamps, piping, connections, unions, joints, valves and handles for damage.

Car Exterior

C-C 1029 **Inspect sides of car, end caps, and diaphragms.**

Inspect body panels for damage creating jagged or sharp edges. Check for and remove any signs of graffiti.

C-C 1030 **Inspect side door, access and inspection panels.**

Inspect doors and area around doors for damage, jagged or sharp edges. Ensure door windows are not cracked or broken and window gaskets are not torn cracked and are in place.

Inspect the truck inspection panels and ensure panels and latches are not damaged, hinge and hinge pin are in place and secured. Inspect condition of cable, hook and bracket at each panel.

C-C 1031 **Inspect condition of car number, authority & locator decals.**

Ensure that all number signs, authority logos, and car locator decals are in place, legible, and not discolored or faded.

C-C 1032 **Inspect condition of wheelchair, no smoking and bike decals.**

Ensure that each decal is in its proper place, legible, and not discolored or faded.

C-C 1033 **Inspect emergency window access & removal decals.**

Each emergency access window must have a fireman locator decal and an emergency window removal decal that provides instructions for operation or removal. Decals must be retro-reflective material. Decals must be in place, legible, and not faded or peeling.

C-C 1034 **Check emergency door locator & instruction decals.**

Emergency access door locator and instruction decals must be displayed adjacent to each emergency door pull box at doors 3, 5, 4 and 6. Decals must be retro-reflective material. Decals must in place, legible and not faded or peeling.

C-C 1035 **Inspect all windows and condition of gaskets.**

Ensure glass is not cracked or broken, window gaskets are in place and not torn. Emergency window filler gaskets split is at the bottom of the window with a 1 inch separation.

C-C 1036 **Inspect sill steps , horizontal and vertical handholds.**

Ensure all sill steps are secure with no indication of loose bolts or fasteners. Inspect for shiny areas or rust around fastener heads indicating the fastener may be loose. With bolt heads and nuts welded, check for broken welds. Ensure steps are not bent, cracked or broken. Outside edge of the tread shall not be more than 2" inside the side of the car. Check that the PVC roof drain is in place, and not broken or damaged.

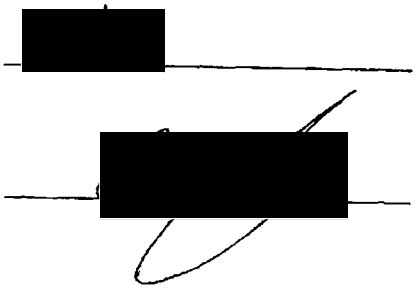
Ensure all handholds are secure with a minimum 2 inches of clearance, not cracked or broken. Check for obstructions preventing the use of the handhold.

C-C 1037 **Inspect condition of evaporator, condenser & speaker grilles.**

Inspect grilles on each side of car. Ensure each is properly secured and not damaged. Check that grills are clean and not obstructed.

C-C 1038 **Inspect condition of indicator lights.**

Ensure indicator lights and housing is not broken or damaged and operate as intended. Repair or replace indicator lights found defective.

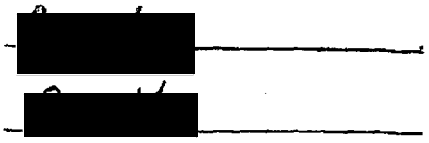


C-C 1039 **Inspect passenger door open assembly.**

Check hardware for proper securement and for sharp edges.

C-C 1040 **Inspect side door steps and yellow anti-slip edge material.**

Exterior side steps must be free of tripping hazards. Check for damage resulting from vandalism or from a debris strike. Step grates must not be cracked, broken, bent and properly secured. Ensure the yellow anti-slip material is applied to the outer edge of the step surface, clean and effective.



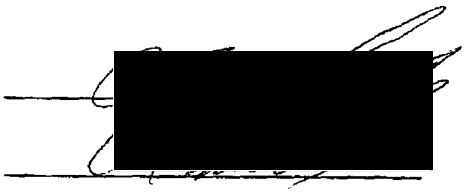
Cab Car Exterior

CC-C 1001 **Inspect headlight and auxiliary light housings.**

Inspect for damage and housings are properly secured.

CC-C 1002 **Inspect number and marker light housings.**

Inspect for damage and housings are properly secured.



CC-C 1003* **Inspect front pilot height.**

	Left	Right	
Front Pilot/Plow Height	_____	_____	3" Min. 6" Max.

CC-C 1004 **Inspect end door, window, barrier bar and curtain.**

CC-C 3001 **Replace 26B-1, automatic brake valve.**

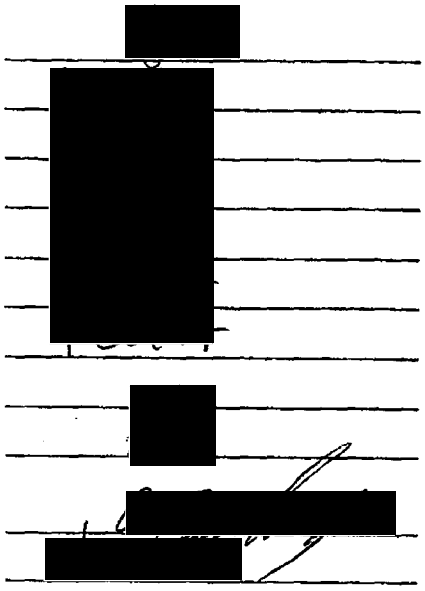
CC-C 3002 **Replace H-5, relay air valve.**

CC-C 3003 **Replace 1" check valve.**

CC-C 3004 **Replace P-2-A brake application valve.**

CC-C 3005 **Replace 24-A, double check valve.**

CC-C 3006 **Replace vent valve (#8 or VX type).**



C 1005 **Visually inspect upper horn (if equipped) and bell.**

CC-C 1006 **Inspect lower horn, housing and piping.**

Check for indications of damage caused by a debris strike.

CC-C 1007 **Inspect axle generator and cabling.**

CC-C 3007* **Perform Single Car Test**

Completed Single Car Test procedure worksheet filed in cab car maintenance file.

Car Interior

C-C 2001 **Remove seat cushions, inspect shell, pan and safety retainers.**

Remove seat backs and bottoms being careful not benting or distorting the pans. Examine seat shells for cracking, ensuring the hardware securing the shell is tight. Inspect and replace if needed, the safety retainer straps and clips.

C-C 1041 **Inspect condition and securement of seats.**

Ensure hardware securing seat shells to frame and hardware securing frame to wall mounted frames is not loose. Ensure arm rests and seat dividers are secured.

C-C 1042 **Inspect ADA folding seats and wheelchair restraints.**

Ensure ADA seats raise and lock in the up position and can be lowered using the release handle. Ensure folding legs are not missing, bent, broken or inoperative.

C-C 1043 **Inspect ADA wheelchair ramp and securement.**

Ensure wheel chair ramp is not damaged or broken. Check hinges for damage. Tie down straps should be tight and bottom strap secured properly.

C-C 1044 **Inspect condition and securement of tables.**

Check for sharp edges on tables. Replace table top if chipped or cracked. Ensure hardware securing table pedestal at top table and floor mount is tight.

C-C 1045 **Inspect condition of ceiling panels and trim.**

Ensure panels and molding is not cracked or broken and molding is in proper position.

C-C 1046 **Inspect condition of window and cove frieze panels.**

Ensure cove panels are not cracked, broken, or damaged.

C-C 1047 **Inspect condition of carpet and exit path marking.**

Inspect for conditions that may cause a tripping hazard. Check that "T" caps are in place and flush with carpet or tile and do not create a tripping hazard. Ensure low location exit path strips are secured to the sub floor and do not create a tripping hazard.

C-C 1048 **Inspect condition of windows and gaskets.**

Check for windows that are cracked or broken. Inspect for graffiti etched in window or gasket. Check for gaskets that appear to sag, indicated inner portion of gasket is cut.

C-C 1049 **Check for low voltage grounds.**

C-C 1050 **Check for high voltage system grounds.**

C-C 1051 **Inspect interior lighting.**

Ensure all lighting throughout car is working properly. Replace burned out lamps and ballast as needed. Ensure cove light lens and caps are not broken or cracked.

C-C 1052 **Inspect and test emergency lighting.**

Ensure emergency lighting operates as intended:

a) Ensure the battery switch is in the ON position.

b) Ensure all circuit breakers for interior lights are up or closed.

c) Open or turn off the "FWD MAIN SERVICES" and "REAR MAIN SERVICES" circuit breakers.

d) Check upper level, mid-level and lower level to ensure emergency lighting operates as intended.

e) Turn "FWD and REAR" Main Services circuit breakers on.

C-C 1053* Measure & record pull force of emergency exit windows.

Randomly select four (4) interior emergency exit windows and perform a manual pull test using a pull force indicator to measure the force required to remove windows. Check form SMP 200 completed at time of last maintenance to avoid testing the same windows.

Maximum Pull Forces:

Cars Numbered **101-182**, Cab Cars **601-637**: 60 lbs. Maximum allowable pull force when measured at an angle parallel to the floor.

Cars Numbered **183-210**: 30 lbs. Maximum allowable pull force when measured at a 30 to 60 degree angle to the floor.

Important Note: If any defective condition is noted on any of the windows in the car or if the pull force limit is exceeded on any of the four (4) windows tested, *ALL* of the emergency windows must be tested.

Form SMP 200, Emergency Window Tests, must be completed and retained for two (2) years in the car's maintenance file.

C-C 1054 Inspect emergency exit window decals.

All emergency window exits must be identified with EXIT decals including window removal instructions of photo luminescent material. The decals must be in place, legible, not faded or peeling.

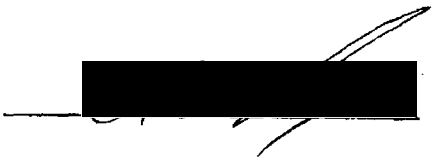
C-C 1055 Check emergency brake valve cable pull and decals.

Ensure handles are in place, not obstructed from use and decals are in place and legible.

C-C 1056 Check emergency flashlight, tools and first aid kit.

Inspect condition of frangible glass, gasket and pull ring if equipped. Check that emergency equipment, including emergency flashlight, saw, sledge hammer, pry bar, axe, and a maul is in place and in serviceable condition. Observe LED on flashlight is flashing indicating batteries are in serviceable condition. Inspect condition of bracket and that seal is in tact. Ensure first aid kit is in place and sealed (shrink wrapped). If not sealed, replace first aid kit.

C-C 1057 Inspect and test destination sign controller and signs.



Check operation of destination sign controller and signs ensuring it is operating as intended.

C-C 1058 Check drinking water fountain.

Check operation of water fountain and inspect for broken or damaged parts. Water pressure should be approx. 14 lbs.

C-C 1059 Inspect condition of steps and handrails.

Ensure nosing on all steps is not loose and matches the level of the flooring material and is of a contrasting color. Repair or replace loose carpeting, step riser material, and nosing if tripping hazard is found. Handrails must be secure and provide at least 2 inches of usable clearance.

C-C 1060 Inspect and operate end doors.

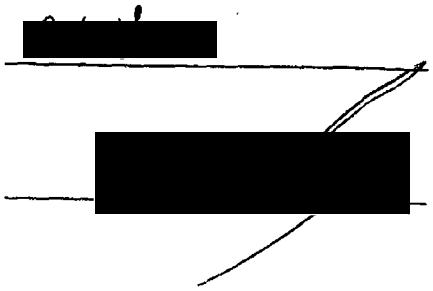
Adjust end door closer mechanism or use speed adjusting screw as need for correct operation. Closing force of on door panel leading edge should be approximately 5 lbs. Inspect weather stripping for damage. Lubricate the top hung sliding end doors and hinges on cab car end doors using DriSlide.

C-C 2002 Examine door control panel relay contacts.

Examine the relay contracts for pitting or burning. When in doubt of a contact's condition, make a continuity check with a multimeter (zero ohms, for a good contact, using the 1000 ohm scale).

[redacted] associated hardware.

Tighten any leaking hose connections. When any internal leakage is found, replace the door motor assembly. Check the electro pneumatic valves for air leaks. If leaks are found, replace the valve.



C-C 2003 **Wipe clean & dust vacuum complete door operator assembly.**

Completely clean the door control relay panel and the door control station using clean dry compressed air and vacuum away any dust or lint.

C-C 1062 **Inspect & test door operation from both door control stations.**

Check both door control stations for loose hardware, check all terminal connections for tightness and continuity, the slide panel completely clears door buttons, and the PA/INT indicator lights function. Clean away any dust or lint using low pressure dry compressed air. Clean and apply DriSlide, a molybdenum disulfide lubricant to the side door ball retainers. Test all door functions from each door control station including the door enable feature and the crew door. Check that the door control system energizes the doors by observing that each door open and close in a smooth, complete way checking:

a) the doors open and close simultaneously at each door entrance.
b) with the doors closed, check that the door rubber seals fit properly and that no gaps exist.
c) if the door drags, check by a problem with the door tracking.

d) if a door does not open or close fully, there is a problem with the door linkage.

Check for worn or frayed bristles on brush seals. And worn or torn rubber seals.

Door operator adjustment screw are located on the large cylinder of the door motor operator. Adjust screws include:

Door Cushioning Adjustment: Use for adjusting the door's cushioning to prevent the door from slamming open and recoiling. Rotate the screw clockwise for more cushioning, or counterclockwise for less cushioning. Make all adjustments in small increments (1/4 turn or less.

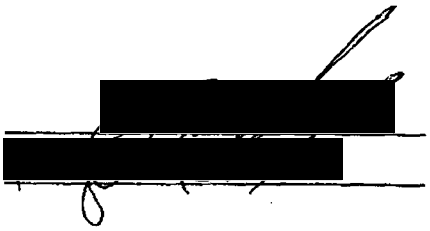
Door Opening Speed Adjustment: Door opening speed should be 1.6 to 2.0 seconds. Rotate the screw clockwise to increase opening speed or counterclockwise to decrease opening speed. Make adjustments in small increments (1/4 turn or less).

Door Closing Speed Adjustment: Door closing speed should be 2.0 to 2.6 seconds. Rotate the screw clockwise to increase door closing speed or counterclockwise to decrease door closing speed. Make adjustments in small increments (1/4 turn or less).

C-C 1063 **Check ADA sonalert, door lights and exterior indicator lights.**

Sonalert alarm sounds intermittently and starts when door close buttons are energized and should sound for 2 - 3 seconds before doors begin to close. White door lights will also begin to flash when door close buttons are energized and continues until doors are closed.

C-C 1064 **Check operation and Db level of PA and intercom.**

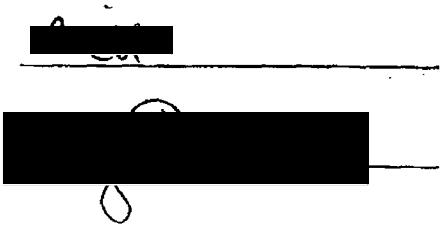


C-C 1065 **Inspect diaphragms, vestibule curtains and walkway plates.**

Diaphragms: Inspect aluminum mounting plate, sponge return spring, stainless steel fasteners and the graphite phenol resin wear plate. Check tightness of hardware, holes or tears in rubber parts, cracks or broken wear plates, bent or cracked face plate or mounting plate.

Vestibule Curtains: Inspect upper and lower roller brackets for damage, curtains for holes or tears, and curtains recoil properly and are spring loaded.

Check footing condition in walkway areas including the effectiveness of yellow anti slip surface. Replace walkway plugs if missing.

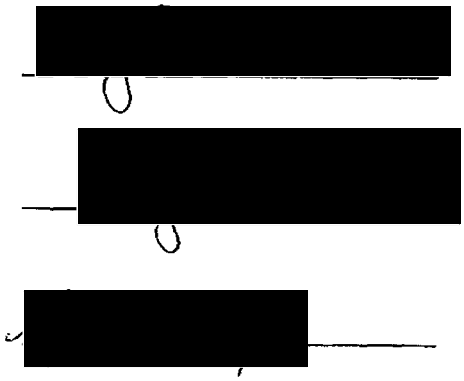


C-C 1066 **Inspect, lubricate and test handbrake.**

Inspect handbrake rigging for wear and free movement. Lubricate lever fulcrum pins. Adjust cable slack, if required, and ensure slack adjuster

C-C 1067 **Inspect and test emergency door pull cable rings.**

Ensure that the frangible plastic cover is in serviceable condition and is not cracked or broken. Remove the cover housing, pull the cable ring until the door opens or releases sufficiently to be opened manually. Ensure cable is free moving and not frayed. Replace cover housing and tighten hardware.



C-C 1068 **Inspect emergency exit door decals.**

Decals must be in place located at emergency door pull locations at doors 3, 5, 4 and 6. Decals must be of photo luminescent material, must be legible, not faded or peeling.

C-C 1069 **Inspect emergency evacuation, safety & system map posters.**

Inspect poster frames for sharp edges. Emergency evacuation poster must be displayed in frame located on lower level on sloped wall "A" end of car. Check for graffiti and not bent or creased.

C-C 1070 **Inspect electrical cabinets and lockers and check decals.**

Inspect wiring and insulation, check all electrical components for indications of overheating. Check to ensure wires are firmly attached and routed properly. Check circuit breakers ensuring that each spring and latch when closed and circuit breaker does not bind.

Check battery charging. Open the access panel at the "B" end circuit breaker panel. Check the battery status monitor for the following:

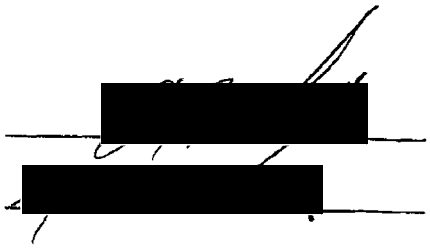
a) Status Normal green lamp is illuminated.
b) Battery Percent Capacity meter registers a reading above 50.
c) No red lamps are illuminated.

Ensure "DANGER - High Voltage" decals are in place and legible on hi-voltage cabinet.

C-C 1071 **Check all fire extinguishers.**

Remove fire extinguisher and ensure seal is not missing or broken. Check that gauge is not damaged and needle is in the green zone indicating proper pressure. Check for defects in the hose, nozzle, corrosion to canister and other visible defects. Ensure inspection tag is in date (1 year) and will remain in date before next maintenance due date (92 days). Clean compartment, inspect housing and frangible glass. Place fire extinguisher in holder, and is secure.

C-C 1072 **Self test E-7 wheel slide system and correct faults if required.**



C-C 1073 **Inspect HVAC.**

a) Check the oil level in the compressor crankcase sight glass. The level should be approximately 1/2 the sight glass.

b) Check all electrical circuits for continuity and tight connections.

c) Check the following for grounds, using a 500 V megger, one (1) megohm or greater is acceptable:

1. Compressor motor
2. Condenser fan motor
3. Evaporator blower/motor

d) Inspect the motors for dirt, friction, vibration, and proper rotation. Vacuum any dirt from the motor.

e) Check the oil and refrigerant levels during steady state operating conditions (275 psig discharge pressure and 70 psig suction pressure).

f) Check the refrigerant lines for leaks using a leak detector.

Presence or accumulation of oily dirt on lines or insulation normally indicates a leak.

g) If necessary, repair leak and add refrigerant and oil.

h) Monitor the moisture and liquid indicator to determine the system dryness of refrigerant. If a condition other than Safe or Dry is indicated, change the filter-drier assembly.

i) Inspect the resilient mounts for set or surface cracks.

j) Inspect the surface of the condenser and evaporator coil. Remove any major blockage and clean the surface.

k) Inspect the drain pan under the evaporator coil and the drain lines to ensure free water drainage.

l) Clean the temperature sensors and thermostats with a soft cloth.

m) Lubricate evaporator fan shaft bearings and condenser and evaporator motor bearings with grease. Check alignment tension and condition of fan belts and couplings. If the belt is correctly tensioned, the belt should deflect 1/4 inch at the center of the span if a force of 8 lbs. is applied at that point perpendicular to the belt.

n) Test the HVAC system with the heating and air conditioning sequence tester.

C-C 2004 Inspect HVAC heaters, sensors, thermostats & control panels.

Perform a thorough inspection and perform a complete check of controls, all safety devices, and electrical and mechanical connections. Inspect evaporator blowers and condenser fan for proper alignment, tightness on shaft, and proper rotation.

Inspect floor heaters. Inspect the wiring and terminations. Examine the heater terminals and mounting insulators, remove any dirt or debris from components.

Inspect overhead heaters. Inspect and examine the terminals and connections, removing dust and dirt from the assembly.

Sensors. Examine the sensor assemblies. Remove all dust from sensors with a camels-hair brush. (Do Not Use Compressed Air). Examine the wiring and terminal connections for tightness.

Thermostats, Thermoswitches. Wipe the barrel clean with a dry lint-free cloth. Examine wire and terminations.

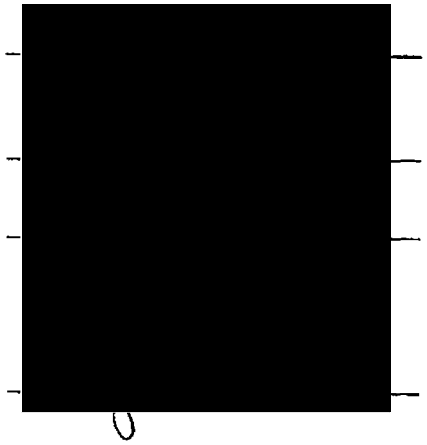
Temperature control panels. Vacuum the panels free of all dust and dirt. Examine all terminations for tightness. Check the condition of the contacts of the relays and contactors. Remove any dust from the boards of the Electronic Control Modules with a camels-hair brush.

Door pocket heaters. Inspect and examine the terminals and connections. Remove dust and dirt from the assembly, clean the cover and remove dirt from the openings.

Under seat heaters. Clean cover and openings. Vacuum dust from the inside enclosure. Inspect and examine the terminals and connections.

Door track heaters. Examine terminal connections for tightness. Check the seal at the ends of heater element. Check mountings and ensure element is firmly in place. Brush the surface of the element, removing material lodged around element.

C-C 1074 Inspect condition & securement of windscreens.



Ensure glass wind screens are not broken or cracked with no sharp edges, and are secure in mountings.

C-C 1075 Inspect condition of bicycle rack securement.

Check securement of brackets and condition of nylon cord.

C-C 1076 Inspect vertical handholds and handrails.

Ensure all handholds and handrails are properly secured checking for loose bolts or fasteners with at least 2 inches of clearance. Ensure handholds are not bent with no obstruction preventing its use.

C-C 1077 Inspect heater strip and air filter grilles.

Inspect for loose or missing hardware securing the heater grill or air filter grill. Ensure latches securing the air grilles function properly and tightly secures the air grill in place.

C-C 1078 **Inspect all access panel doors and latches.**

Ensure all access panel doors, hinges and latches are not broken or damaged. Secure all panel door latches upon completion of inspection.

C-C 1079 **Inspect condition of all trash receptacles.**

Inspect trash receptacles for damage, being bent, cracked, or having sharp corners or edges.

Cab Car Interior

CC-C 1008 **Inspect wheelchair storage partitions.**

Check for loose or missing hardware securing each panel to the brackets. Ensure panels are not cracked broken or chipped.

CC-C 1009 **Inspect compartment door, door latch and door stop.**

CC-C 2005 **Check calibration of load meter.**

Using a test device to check the calibration of the load meter, apply 3 volts to pins no. 1 and no. 11 in the locomotive MU receptacle (yellow). Verify amount of voltage applied using a meter. With 150 amps/volt conversion, 3 volts applied to the load meter should indicate 450 amps if accurate..

CC-C 1010 **Check instrument panel, cab, and indicator lights.**

Inspect all gauge and panel lights including speed indicator and gauge dimmer switch. Operate push to test feature to verify lamps are working properly.

CC-C 1011 **Test air brake, safety controls and warning devices.**

Check operation of 26B automatic brake valve it functions as intended in all positions. Test graduated release feature, TMS and emergency.

CC-C 1012 **Equalizing and brake pipe pressure within 3 lbs.**

Ensure equalizing reservoir needle and brake pipe needle are within 3 lbs. of each other. Increase and decrease equalizing reservoir pressure and note brake pipe pressure responds.

CC-C 1013 **Test air brake gauges.**

Verify accuracy of each needle (4) using a CO2 tester at 100 lbs. of pressure

CC-C 1014 **Perform brake pipe leakage test.**

Brake pipe leakage must not exceed 3 lbs. per minute.

CC-C 3008 **Replace throttle controller**

CC-C 1015 **Check controller for proper operation.**

Ensure controller and reverser interlock as intended. Check electrical cannon plug under desk top to ensure connection is tight.

CC-C 1016 **Ensure proper operation of all exterior lights.**

1) Front Headlight (all positions).
2) Auxiliary lights (steady state and flashing).
3) Marker lights.

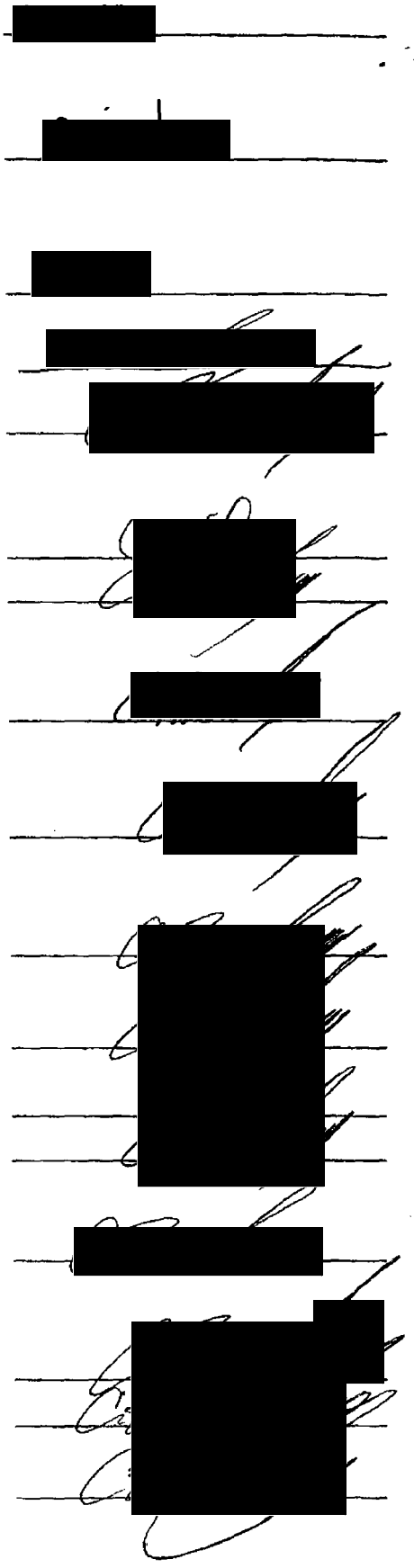
CC-C 1017 **Check speed recorder.**

CC-C 1018 **Inspect cab seat and mounting.**

Ensure operators seat is securely mounted and is adjustable.

CC-C 1019 **Inspect cab window, mirrors, and sun visor.**

Ensure cab windows and windshields are not cracked or broken and provide a clear unobstructed view. Ensure mirror is not damaged, cracked or broken. Check condition of mounting bracket and that hardware is not loose or missing. Inspect condition of sun visor.



CC-C 1020 **Inspect and test windshield wiper.**

Ensure windshield wiper blades are in good serviceable condition and windshield wiper(s) are operating properly.

CC-C 1021 **Check operation of ATS.**

Verify ATS receiver is properly secured and the washboards are aligned. Perform a slap test. Perform ATS test and complete form SMP 8.

CC-C 1022 **Inspect, download, reset time & seal event recorder.**

CC-C 1023* **Check radio output using Watt meter and voice test radio.**

CC-C 1024* **Test and record Db level of horn and test bell.**

Using a sound level meter, within 1 yr. Of calibration, position meter 100 ft. forward of cab car with the microphone 4 ft. above ground at centerline of track.
Minimum sound level of 96db(A) must be registered.
Sign and attach sound level printout to cap car maintenance file.

CC-C 1025 **Inspect crew locker door and door latch hardware.**

CC-C 1026 **Inspect crew locker light and test on/off switch.**

Inspect light bracket, hardware and protective lens cover. Check on/off switch is functioning.

CC-C 1027 **Check "Quiet Area" sign, bracket and nylon cord.**

Replace sign if missing, illegible, cracked or broken. Check condition of nylon cord and wall mounted bracket and hardware.

CC-C 1028 **Check condition of "Compliant" first aid kit.**

Ensure "FRA/CPUC" compliant first aid is available and sealed (shrink wrapped). Ensure contents of kit is on back side of container and legible. Replace first aid kit if seal is broken.

C 1029 **Check air hoses, wrench, supplies, and condition of step.**

Supplies should include: 1 red flag, 12 fuses, pipe wrench, brake pipe hose.

CC-C 1030 **Stencil PM date on handbrake cover.**

CC-C 1031 **Complete form FRA F6180-49A (Blue Card).**

Restroom

C-C 1080 **Inspect the two section sliding doors.**

Inspect the door tracks for excessive wear or foreign material that may interfere with proper door operation. Inspect the door panels and door hanger track for signs of excessive wear or damage. Access the door hanger track by unlocking the three locks that secure the hinged vestibule ceiling panel and lower panel. With the doors closed, doors should be parallel to header and jamb. Operate door to check that the bottom guides engage in bottom track and door lock properly engages the striker plate. Adjust the door tracks using the hanger nuts. Adjust doors for smooth operation and correct vibration. Clean door track and apply DriSlide to lubricate roller bearing track.

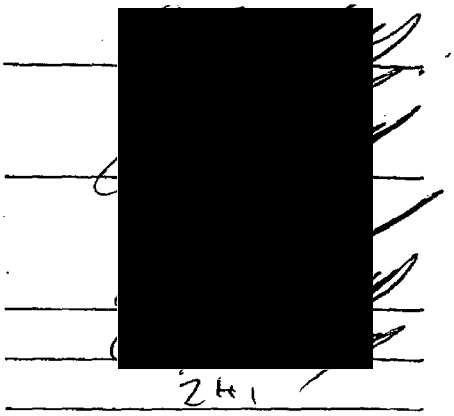
C-C 1081 **Inspect condition of handholds.**

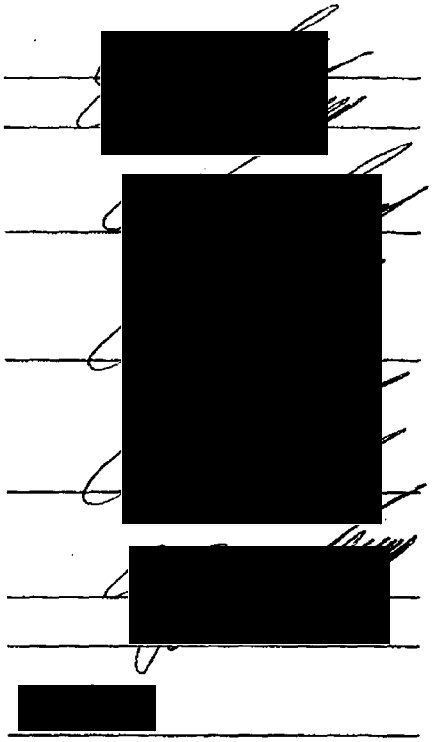
Ensure handholds are properly secured and provide 2 inches of usable clearance.

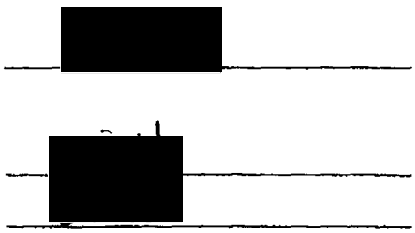
C-C 1082 **Inspect ceiling and plumbing compartment light.**

C-C 1083 **Inspect sink vanity mirror and wall mounted mirror.**

Ensure mirrors are not cracked or broken and is properly secured.







C-C 1084 **Inspect access panel and compartment type doors.**

C-C 1085 **Check operation of toilet and sink.**

Check toilet flush timing cycle, check for proper metering of water and biocide. Ensure adequate water seal is maintained in bowl. Check water pressure at sink, (14 psi) and ensure water spring loaded faucet plunger operates as intended and water does not drip.

C-C 1086 **Renew coalescent and particulate filters.**

Remove and clean threaded polycarbonate bowl and renew coalescent and particulate filter elements.

C-C 1087 **Renew water cooler filter.**

Close valve to isolate water cooler from supply tank. Depress valve until water flow ceases. Disassemble threaded body of filter shell and replace cartridge.

C-C 1088 **Inspect exhaust fan & components in plumbing compartment.**

C-C 1089 **Inspect condition of floor, wall panels and molding.**

Inspect floor for tripping hazards, and check wall panels and molding for being cracked or broken.

Cab Car Interior Cleaning

CC-CL 1001 **Clean console, side and upper switch and indicator panels.**

CC-CL 1002 **Clean ceiling and wall panels.**

CC-CL 1003 **Clean seat and windows.**

CC-CL 1004 **Sweep and mop floor.**

CC-CL 1005 **Clean crew locker walls and ceiling.**

CC-CL 1006 **Sweep and mop crew locker floor.**

Interior Cleaning

C-CL 1007 **Remove all trash (newspapers, cups, etc.).**

C-CL 1008 **Wash ceilings, side Kydex panels, and bulkheads.**

C-CL 1009 **Wash wind screens and kickboards under seats.**

C-CL 1010 **Clean handrails, stanchions, and handhold.**

C-CL 1011 **Clean windows and glass windscreens.**

C-CL 1012 **Inspect for and remove all graffiti.**

C-CL 1013 **Empty trash receptacles and wash interior of receptacles.**

C-CL 1014 **Clean exterior of trash receptacles and replace trash bag.**

C-CL 1015 **Clean interior and exterior of cove light fixtures.**

C-CL 1016 **Remove and clean air grilles over mid-to-upper level stairs.**

C-CL 1017 **Clean air conditioning vents.**

C-CL 2100 **With seat cushions remove, thoroughly clean seat shells.**

C-CL 1018 **Replace seat bottoms, backs and headrests as required.**

C-CL 1019 **Clean seat shells, seat dividers and armrests.**

C-CL 1020 **Vacuum seat backs and bottoms and clean headrests.**

(. 1021 **Clean between wall and table. Clean and sanitize tables.**

C-CL 1022 **Wipe down heater guards and heater boxes.**

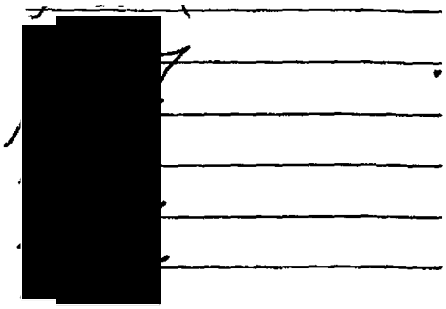
C-CL 1023 **Clean and disinfect water fountain including drain sink.**

C-CL 1024 **Clean end doors and floor tracks.**

C-CL 1025 **Clean diaphragms, vestibule curtains and walkway plates.**

C-CL 1026 **Clean side doors, windows, and door tracks.**

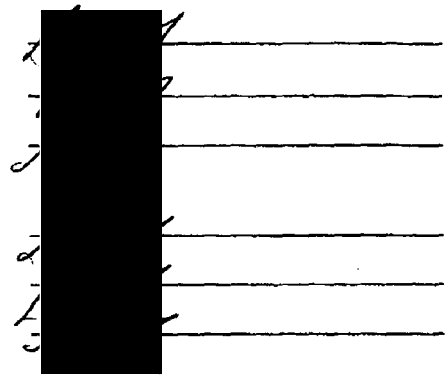
Completely clean dirt and debris in door track. Clean the guide slot of the door threshold. Remove any debris in the door pockets. Ensure drain holes are not plugged.



C-CL 1027 **Sweep and mop tile floors and steps.**

C-CL 1028 **Strip tile floors, reapply sealant if required and wax floors.**

C-CL 1029 **Vacuum and shampoo all carpeted areas.**



Car Exterior Cleaning

C-CL 1030 **Wash door pockets, car end caps, and diaphragms.**

C-CL 1031 **Clean side door step platforms and yellow anti slip surface.**

C-CL 1032 **Clean cab car window(s).**

Review and resolve all outstanding defects.

Review SMP 129, SMP 100 and outstanding defect reports. All defects recorded and those found during inspection must be corrected before car or cab car is released for service.

Signature:

NOTE: All defects must be corrected before releasing vehicle for service.

Download File: 124A0625.D21.

Start Time:	Tue Dec 07 06:47:40 2004.
Stop Time:	Tue Dec 21 14:13:49 2004.
Laptop Time:	Tue Dec 21 13:03:57 2004.
Event Recorder Time:	Tue Dec 21 14:13:35 2004.
Previous Download:	Thu Sep 16 12:42:35 2004.
KBytes used since then:	2647.

Analog Thresholds:

A1 (SPD): 2	A2 (BPP): 4	A3 (BCP): 99	A4 (HVT): 5
A5 (ATE): 99	A6 (ATK): 99	A7 (TM+): 99	A8 (TM-): 99

Record Type Summary:

POWERUP	22	LOCO ID	482	DOWNLOAD	1
TEST	0	CHG_TIME	0	ENABLE	244
DISABLE	238	ANL_THRES	0	DELTA	54205
PRIORITY	0	PERIODIC	1633		

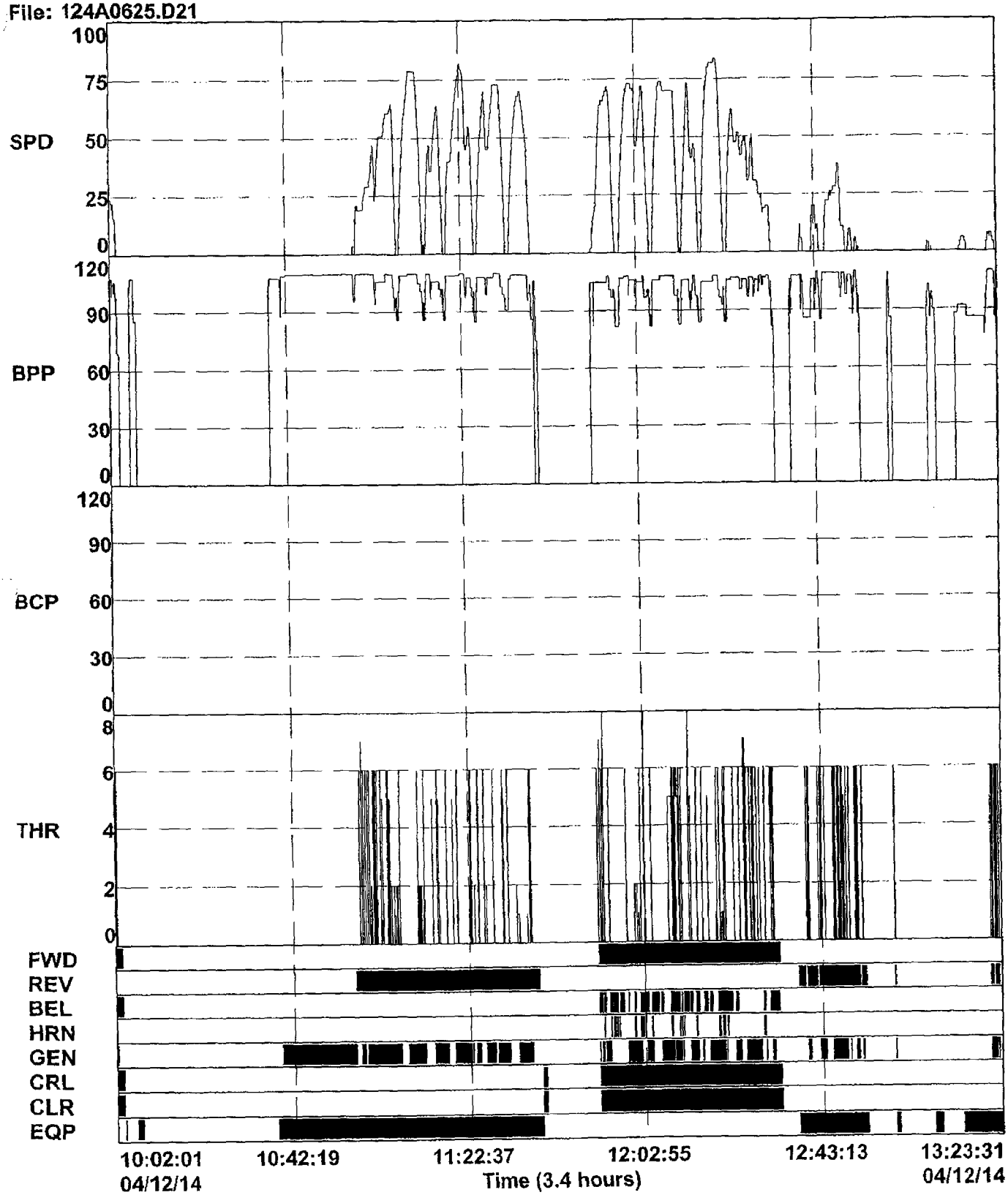
Download Programme Version:	3.24
Event Recorder Programme Version:	2.61
Download came from Cab Car:	0625

Downloaded from TS 404 Event Recorder.

Road#: 0625
Wheel Size: 33.0
File: 124A0625.D21

Graph Data

Dnld Date: 04/12/21
Dnld Time: 14:13:35



CEL INSTRUMENTS NOISE DOSIMETER SURVEY REPORT

Company name [.....625.....]

User name [.....]

Location [.....Upper.....]

Department [.....]

Job Function [.....]

Employee number [.....]

Social Security number [.....]

Model number		[CEL-360]	Serial-no	[.....]	
Measurement range	(dB)	[70-140]	Version	[1.01]	
Frequency weighting	RMS	[A]	Peak	[Lin]	
Profiles recorded	stored	[NO]	interval	[---]	

	dd/mm/yy	hh:mm:ss			
Start of run	[22/12/04	14:02:09]			
End of run	[22/12/04	14:02:15]			
Duration of run	[	00:00:06]			
Total pause time	[	00:00:00]			
Calibrated before run on	[02/12/04	10:28:56]	at	[113.6]	dB
Calibrated after run on	[--/--/--	--------]	at	[---.-]	dB
Microphone serial number	[	80007702884]			

Equivalent sound level LAeq	(dB)	[108.8]	Q=3 No threshold	
Sound exposure level LAE	(dB)	[116.9]	Q=3 No threshold	
Average sound level [SLOW]	(dB)	[109.6]	Q=5 No threshold	
RMS maximum level [SLOW]	(dB)	[111.4]	at [22/12/04	14:02:09]
RMS minimum level [SLOW]	(dB)	[102.2]	at [22/12/04	14:02:15]
Peak exceedance level	(dB)	[122.1]	at [22/12/04	14:02:09]
LAS[10.0] %	(dB)	[111.0]		
LAS[50.0] %	(dB)	[110.0]		
LAS[90.0] %	(dB)	[105.0]		
LAS[95.0] %	(dB)	[103.5]		
LAS[99.0] %	(dB)	[102.5]		
Time under-loaded		[0:00:00]	(%)	[0.00]
Time overloaded		[0:00:00]	(%)	[0.00]

OSHA 1910.95 Occupational Noise Exposure Regulations (1983)

Instrument setup name		[OSHA]			
Threshold level	(dB)	80		90	
Criterion level	(dB)	90		90	
Exchange rate	(Q)	5		5	
Time weighting		[SLOW]		[SLOW]	
Time weighted average TWA	(dB)	[48.9]		[48.9]	
Actual measured dose	(%)	[0.3]		[0.3]	
8 hour projected dose	(%)	[1508.9]		[1508.9]	
Time above or equal to 85 dB		[0:00:06]	(%)	[100.00]	
Time above or equal to 90 dB		[0:00:06]	(%)	[100.00]	

CEL INSTRUMENTS NOISE DOSIMETER SURVEY REPORT

Company name [625]

User name [.....]

Location [.....]

Department [Lower]

Job Function [.....]

Employee number [.....]

Social Security number [.....]

Model number		[CEL-360]	Serial-no	[.....]	
Measurement range	(dB)	[70-140]	Version	[1.01]	
Frequency weighting	RMS	[A]	Peak	[Lin]	
Profiles recorded	stored	[NO]	interval	[---]	

	dd/mm/yy	hh:mm:ss		
Start of run	[22/12/04	14:04:33]		
End of run	[22/12/04	14:04:38]		
Duration of run	[	00:00:05]		
Total pause time	[	00:00:00]		
Calibrated before run on	[02/12/04	10:28:56]	at [113.6]	dB
Calibrated after run on	[--/--/--	--------]	at [---.-]	dB
Microphone serial number	[	80007702884]		

Equivalent sound level LAeq	(dB)	[105.9]	Q=3 No threshold	
Sound exposure level LAE	(dB)	[113.5]	Q=3 No threshold	
Average sound level [SLOW]	(dB)	[106.3]	Q=5 No threshold	
RMS maximum level [SLOW]	(dB)	[107.5]	at [22/12/04	14:04:37]
RMS minimum level [SLOW]	(dB)	[101.1]	at [22/12/04	14:04:38]
Peak exceedance level	(dB)	[121.1]	at [22/12/04	14:04:36]
LAS[10.0] %	(dB)	[107.5]		
LAS[50.0] %	(dB)	[106.5]		
LAS[90.0] %	(dB)	[103.5]		
LAS[95.0] %	(dB)	[102.5]		
LAS[99.0] %	(dB)	[101.5]		
Time under-loaded		[0:00:00]	(%)	[0.00]
Time overloaded		[0:00:00]	(%)	[0.00]

OSHA 1910.95 Occupational Noise Exposure Regulations (1983)

Instrument setup name		[OSHA]				
Threshold level	(dB)	80			90	
Criterion level	(dB)	90			90	
Exchange rate	(Q)	5			5	
Time weighting		[SLOW]			[SLOW]	
Time weighted average TWA	(dB)	[44.8]			[44.8]	
Actual measured dose	(%)	[0.2]			[0.2]	
8 hour projected dose	(%)	[954.9]			[954.9]	
Time above or equal to 85 dB		[0:00:05]		(%)	[100.00]	
Time above or equal to 90 dB		[0:00:05]		(%)	[100.00]	

MAINTENANCE ANALYSIS PROGRAM
DIESEL ELECTRIC LOCOMOTIVES AND CAB CARS
INTERMITTENT INDUCTIVE TRAIN STOP INSPECTION

✓ PERIODIC _____ FAILURE

UNIT NO.	LOCATION	DATE	TIME
SCAX 625	Los Angeles, CA C.M.F.	12-21-04	10:00 AM

	FOUND	LEFT
1. Receiver height should be 4½ ± ¼".	4½"	4½"
2. Resistance B32/B31 to ground. (System de-energized). Should be no less than 250,000 Ohms.	∞	∞
3. Resistance C32/C31 to ground. (System de-energized). Should be no less than 250,000 Ohms.	∞	∞
4. Receiver resistance NA and A. Should be 12 to 21 Ohms.	15	15
5. Receiver resistance NS and A. Should be 27 to 41 Ohms.	33	33
6. Receiver resistance NA and NS. Should be 37 to 56 Ohms.	44	44
System voltage. Should be 30 to 32 volts.	31vdc	31vdc
8. Acknowledge time. Hold ACK switch down and time start of air blow (MV open). Should be 6 to 8 seconds.	7 SEC.	7 SEC.
9. Brake cylinder pressure after ATS reduction. Should be equal or greater than full service.	48 LB.	48 LB.
10. Delay time from MV open (air blow) to ATS penalty (PCS open). Maximum allowed 8 seconds.	6 SEC.	6 SEC.
11. Condition of audible alarm and penalty indicators.	Good	Good
12. Test ATS system by using the ATS portable tester.	Ok	Ok

ATS CONTROL BOX DATE: 9-16-04

ATS CONTROL BOX SERIAL NO.: 2897005

ATS MAGNET VALVE DATE: 9-16-04

REMARKS

ATS CONTROL BOX SEAL NO: 0157967

[redacted] _____ [redacted] _____

MECHANIC SUPERVISOR

US Department of Transportation
Federal Railroad Administration

LOCOMOTIVE INSPECTION AND REPAIR RECORD

In accordance with the Locomotive Inspection Act 36 State, 913, as amended and the regulations issued pursuant to that Act, the parts and appurtenances of the locomotive unit have been inspected and all defects disclosed by the inspection have been properly repaired.

Reporting year 2004 Check if new loco. ☐ If loco. renumbered give previous no.

1. OPERATED BY	RR CODE	2. OWNED BY (Railroad)	RR CODE
AMTRAK	0 1 5 0	SO. CA. REGIONAL RAIL AUTHORITY	

3. MODEL NO.	4. LOCO. NO.	5. YR. BUILT	6. PROPELLED BY	7. HORSEPOWER	8. TYPE OF SERVICE: PASSENGER ☒ ROAD ☐ YARD ☐ OTHER ☐
TRC-2-85-L	625	1993	NMUC	N/A	

9. STEAM GEN.	GEN. #1.	Working Pressure	GEN. #2.	Working Pressure
NOT EQUIPPED				

10. MAXIMUM PISTON TRAVEL	TYPE OF AIR BRAKE	11. OUT OF USE CREDIT
4.5 INCHES inches	26 C	

12. LAST PERIODIC INSPECTION DATE	PLACE
12-17-03 (M12 INSP.)	LOS ANGELES, CA.

PERIODIC INSPECTIONS

13. DATE MO DAY YR	14. PLACE	15.* ITEMS	16. PERSON CONDUCTING	15.* ITEMS	16. PERSON CONDUCTING	17. CERTIFIED BY
OUT OF USE FROM 3-18-04		TO	3-19-04 LOS ANGELES, CA.			[redacted]
3-19-04	LOS ANGELES, CA	1-4 & 7	[redacted]	5	[redacted]	
OUT OF USE FROM 6A 6-15-04		TO	6-16-04 LOS ANGELES, CA.			
6-16-04	LOS ANGELES, CA	1-4 & 7	[redacted]	5	[redacted]	
OUT OF USE FROM 6A 6-9-15-04		TO	9-17-04 LOS ANGELES, CA.			
9-17-04	LOS ANGELES, CA	1-4 & 7	[redacted]	5	[redacted]	
OUT OF USE FROM 12-14-04		TO	12-21-04 LOS ANGELES, CA.			
12-21-04	LOS ANGELES, CA	1-4 & 7	[redacted]	5	[redacted]	

15.* ITEM CODE: [1] BRAKES [2] RUNNING GEAR [3] CAB EQUIP. [4] MECH. EQUIP. [5] ELECT. EQUIP. [6] STEAM GEN. [7] SAFETY APPL.

TESTS		H & H TEST PRESSURE DRILLED		
TYPE	INTERVAL NOT MORE THAN	21. PERSON CONDUCTING	22. TEST DATE AND PLACE	23. CERTIFIED BY	24. PREVIOUS TEST DATE AND PLACE
METER	368 calendar days	[redacted]	12-21-04 LOS ANGELES, CA.	[redacted]	12-17-03 LOS ANGELES, CA.
HAMMER AND HYDRO	736 calendar days		DRILLED		DRILLED
AIRBRAKE 229.27	368 calendar days	[redacted]	12-21-04 LOS ANGELES, CA.		12-17-03 LOS ANGELES, CA.
AIRBRAKE 229.29	NUMBER OF CALENDAR DAYS 1104	[redacted]	12-21-04 LOS ANGELES, CA.		01-14-02 LOS ANGELES, CA.

Certification of true copy.
I certify that this is a true copy of the inspection and repair record of locomotive no. 625

(Officer-in-charge) DATE

ATTENTION: *A false entry on this form is punishable by fine or imprisonment (U.S. Code, Title 18, Sec. 1001).*

FORM FRA F6180-49 A (3-85) OMB Approval No. 2130-0004

GOVERNMENT PROPERTY DO NOT REMOVE

METROLINK

Southern California Regional Rail Authority
Equipment Condition Report

SMP 100

B227317

LOCOMOTIVE NUMBER: S.C.A.X. – 625 POSITION IN CONSIST: Lead

USE SEPARATE REPORT FOR EACH UNIT IN CONSIST.

Each locomotive unit shall be inspected in accordance with CFR title 49 parts 229.21, and 236.587.
Cab Card SMP 101 must be signed.

NAME OF EMPLOYEE MAKING DAILY INSPECTION	EMPLOYEE #	OCCUPATION	PLACE	DATE	TIME
[redacted]		Mech Tech	MPK	1-26-05	4:25 PM

SEAL NUMBERS

ATS	0174539	SPEEDOMETER OVERSPEED	0138366
ALERTOR	0130226	DOOR OVERRIDE	0130230
ZERO SPEED	0145912	EVENT RECORDER	0130231
HORN	0174541		

ATS DEPARTURE TEST

NAME OF EMPLOYEE MAKING ATS TEST	EMPLOYEE #	OCCUPATION	PLACE	DATE	TIME

CONDITION OF EQUIPMENT

SPEED INDICATOR		CROSSING BELL	
H.E.P.		HORN	
DYNAMIC BRAKES		ATS	
BRAKES & RIGGING		ALERTOR	
RADIO		WIPERS	
SANDERS		MAIN RESERVOIR PRESSURE	PSI
[illegible] PIPE PRESSURE	PSI		

FAILURES EN ROUTE	ENGR. INIT.	REPAIRED BY

THE ABOVE WORK HAS BEEN PERFORMED, EXCEPT AS NOTED, THE REPORT IS APPROVED, AND THIS UNIT IS AVAILABLE FOR SERVICE.

SIGNATURE OF EMPLOYEE APPROVING UNIT FOR SERVICE	OCCUPATION	PLACE	DATE	TIME

SIGNATURE OF LOCOMOTIVE ENGINEER	LOCATION	DATE	TIME

USE REVERSE SIDE FOR ADDITIONAL COMMENTS OR DETAILS

METROLINK

Southern California Regional Rail Authority
Class 1 Brake Test and Inspection Certificate

SMP 1173

Initial Terminal Air Brake Test has been satisfactorily performed per CFR49 Part 232.12 for freight/work trains.

TO BE COMPLETED AND SIGNED BY PERSON(S) PERFORMING AIR BRAKE TEST AND INSPECTION

Class 1 Brake Test has been satisfactorily performed as required by CFR 49 Part 238.313

Loco #	Loco #	Loco #	Cab Car #	Number of Cars
886	—	—	6025	3

Date	Time	Location	Name	Employee No.
1-26-05	3:57A	MMOL	[redacted]	

Following equipment has received an Exterior and Interior Calendar Day Mechanical Inspection as required by CFR 49 Part 238.303 and 238.305.

Car #	Car #	Car #	Car #	Car #	Car #	Car #	Car #	Car #	Car #
197	133	6025							

Exterior Inspection performed by: [redacted] (Name) ____ (Employee No.) 1-26-05 (Date) 3:57A (Time) MMOL (Location)

Interior Inspection performed by: [redacted] (Name) ____ (Employee No.) 1-26-05 (Date) 3:57A (Time) MMOL (Location)

Communications System: ☑ Operative ☐ Inoperative **Train Set for:** ☑ **Graduated Release** ☐ **Direct Release**

TO BE COMPLETED AND SIGNED BY INBOUND ENGINEER (AMT-3, 14.4):

Locomotive #(s) or Cab Car #	Date	Time	Number of Cars	Condition of Brakes	Engineer's Signature
				☐ Acceptable ☐ Unacceptable	
				☐ Acceptable ☐ Unacceptable	
				☐ Acceptable ☐ Unacceptable	

METROLINK

Southern California Regional Rail Authority
Class 1 Brake Test and Inspection Certificate

SMP 1173

☐ **An Initial Terminal Air Brake Test has been satisfactorily performed per CFR49 Part 232.12 for freight/work trains.**

TO BE COMPLETED AND SIGNED BY PERSON(S) PERFORMING AIR BRAKE TEST AND INSPECTION

Class 1 Brake Test has been satisfactorily performed as required by CFR 49 Part 238.313

Loco #	Loco #	Loco #	Cab Car #	Number of Cars
817	—	—	6035	3

Date	Time	Location	Name	Employee No.
1-24-05	5:10A	MMH	[redacted]	

Following equipment has received an Exterior and Interior Calendar Day Mechanical Inspection as required by CFR 49 Part 238.303 and 238.305.

Car #	Car #	Car #	Car #	Car #	Car #	Car #	Car #	Car #	Car #
197	133	6035							

Exterior Inspection performed by:

[redacted] Name	Employee No.	Date	Time	Location
		1-24-05	4:55A	MMH

Interior Inspection performed by:

[redacted] Name	Employee No.	Date	Time	Location
		1-24-05	4:55A	MMH

Communications System: ☑ Operative ☐ Inoperative **Train Set for:** ☑ **Graduated Release** ☐ **Direct Release**

TO BE COMPLETED AND SIGNED BY INBOUND ENGINEER (AMT-3, 14.4):

Locomotive #(s) or Cab Car #	Date	Time	Number of Cars	Condition of Brakes	Engineer's Signature
				☐ Acceptable ☐ Unacceptable	
				☐ Acceptable ☐ Unacceptable	
				☐ Acceptable ☐ Unacceptable	

METROLINK

Southern California Regional Rail Authority
Equipment Condition Report

SMP 100

NO. B227307

LOCOMOTIVE NUMBER: S.C.A.X. – 625 POSITION IN CONSIST: Lead

USE SEPARATE REPORT FOR EACH UNIT IN CONSIST.

Each locomotive unit shall be inspected in accordance with CFR title 49 parts 229.21, and 236.587.
Cab Card SMP 101 must be signed.

NAME OF EMPLOYEE MAKING DAILY INSPECTION	EMPLOYEE #	OCCUPATION	PLACE	DATE	TIME
[redacted]		Mech Tech	MAF	1-24-05	5:10 A

SEAL NUMBERS

ATS	0174539	SPEEDOMETER OVERSPEED	0138886
ALERTOR	~~0130236~~ 0130240	DOOR OVERRIDE	~~0130236~~ 0130244
ZERO SPEED	J.A. ~~0115592~~ 0115592	EVENT RECORDER	0130831
HORN	0174541		

ATS DEPARTURE TEST

NAME OF EMPLOYEE MAKING ATS TEST	EMPLOYEE #	OCCUPATION	PLACE	DATE	TIME

CONDITION OF EQUIPMENT

SPEED INDICATOR	CROSSING BELL
H.E.P.	HORN
DYNAMIC BRAKES	ATS
BRAKES & RIGGING	ALERTOR
RADIO	WIPERS
SANDERS	MAIN RESERVOIR PRESSURE PSI
BRAKE PIPE PRESSURE PSI	

FAILURES EN ROUTE	ENGR. INIT.	REPAIRED BY

THE ABOVE WORK HAS BEEN PERFORMED, EXCEPT AS NOTED, THE REPORT IS APPROVED, AND THIS UNIT IS AVAILABLE FOR SERVICE.

SIGNATURE OF EMPLOYEE APPROVING UNIT FOR SERVICE	OCCUPATION	PLACE	DATE	TIME
[redacted]	MECH	CMF	1-24-05	1:30 PM

SIGNATURE OF LOCOMOTIVE ENGINEER	LOCATION	DATE	TIME

USE REVERSE SIDE FOR ADDITIONAL COMMENTS OR DETAILS

ORIG. – MECHANICAL MAINTENANCE FACILITY / COPY – RETAINED AT ENGINES INITIAL TERMINAL

METROLINK

CENTRAL MAINTENANCE FACILITY - LOS ANGELES

EMERGENCY WINDOW TESTS

Date: 12-16-04 Work Order No.: _____ Car No.: 625

PROCEDURE

1) Randomly select four (4) emergency windows and perform a manual pull test using a digital force gage to measure and record the force required to remove windows.
2) Avoid testing more than two of the samples previously tested within the last 92-day PM cycle.
3) Record in the spaces provided below:
   a) Location codes listed on reverse side
   b) Force required to remove each window
   c) Acceptance as "Y" for *Yes* or "N" for *No*
      - **Coach Cars #101-182, and Cab Cars #601-637:** 60 lbs. Max. allowable woith angle of pull force parallel to floor.
      - **Coach Cars #183 & Higher, and Cab Cars #638 & Higher:** 20 to 30 lbs. Allowable with pull force at 30° to 60° angle to floor.
   d) Any appropriate remarks.

NOTE: If any defective condition is noted on any of the windows in the car or if the specified pull force limits are exceeded on any of the four (4) test samples, this will require all emergency windows in the car be tested—not just the initial four (4) test samples. In such cases, a notation must be recorded in the "Comments" section on the reverse side of this form to include: 1) which window(s) failed or defective condition(s) was/were found, 2) brief description of the failure(s)/defective condition(s), 3) that the corrective actions were satisfactorily completed, and 4) who corrected the problem along with corresponding date.

REFERENCES

- MIL-STD-105D, Sampling Procedures and Tables for Inspection by Attributes
- CFR Title 49, Section 239.107, (b) & (c).

Window Test Sample	Location Code	Force (lbs)	Accept Y	Accept N	Remarks
1	I 3		✓		
2	I 4	57.2	✓		
3	I 9	48.0	✓		
4	I 10	50.0	✓		

[redacted] [redacted]

INSPECTOR SIGNATURE SUPERVISOR SIGNATURE

METROLINK.

CENTRAL MAINTENANCE FACILITY - LOS ANGELES

EMERGENCY WINDOW TESTS

Date: 12-16-04 Work Order No.: _____ Car No.: 625

PROCEDURE

1) Randomly select four (4) emergency windows and perform a manual pull test using a digital force gage to measure and record the force required to remove windows.
2) Avoid testing more than two of the samples previously tested within the last 92-day PM cycle.
3) Record in the spaces provided below:
   a) Location codes listed on reverse side
   b) Force required to remove each window
   c) Acceptance as "Y" for *Yes* or "N" for *No*
      - **Coach Cars #101- 182, and Cab Cars #601- 637:** 60 lbs. Max. allowable woith angle of pull force parallel to floor.
      - **Coach Cars #183 & Higher, and Cab Cars #638 & Higher:** 20 to 30 lbs. Allowable with pull force at 30° to 60° angle to floor.
   d) Any appropriate remarks.

NOTE: If any defective condition is noted on any of the windows in the car or if the specified pull force limits are exceeded on any of the four (4) test samples, this will require all emergency windows in the car be tested—not just the initial four (4) test samples. In such cases, a notation must be recorded in the "Comments" section on the reverse side of this form to include: 1) which window(s) failed or defective condition(s) was/were found, 2) brief description of the failure(s)/defective condition(s), 3) that the corrective actions were satisfactorily completed, and 4) who corrected the problem along with corresponding date.

REFERENCES

- MIL-STD-105D, Sampling Procedures and Tables for Inspection by Attributes
- CFR Title 49, Section 239.107, (b) & (c).

Window Test Sample	Location Code	Force (lbs)	Accept Y	Accept N	Remarks
1	L1	50.4	✓		
2	L2	52.4	✓		
3	L5	56.1	✓		
4	L6	55.1	✓		

[redacted]

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SUPERVISOR SIGNATURE

METROLINK.

CENTRAL MAINTENANCE FACILITY - LOS ANGELES

EMERGENCY WINDOW TESTS

Date: 12-16-04 Work Order No.: _____ Car No.: 625

PROCEDURE

1) Randomly select four (4) emergency windows and perform a manual pull test using a digital force gage to measure and record the force required to remove windows.
2) Avoid testing more than two of the samples previously tested within the last 92-day PM cycle.
3) Record in the spaces provided below:
   a) Location codes listed on reverse side
   b) Force required to remove each window
   c) Acceptance as "Y" for *Yes* or "N" for *No*
      - **Coach Cars #101- 182, and Cab Cars #601- 637:** 60 lbs. Max. allowable woith angle of pull force parallel to floor.
      - **Coach Cars #183 & Higher, and Cab Cars #638 & Higher:** 20 to 30 lbs. Allowable with pull force at 30° to 60° angle to floor.
   d) Any appropriate remarks.

NOTE: If any defective condition is noted on any of the windows in the car or if the specified pull force limits are exceeded on any of the four (4) test samples, this will require all emergency windows in the car be tested—not just the initial four (4) test samples. In such cases, a notation must be recorded in the "Comments" section on the reverse side of this form to include: 1) which window(s) failed or defective condition(s) was/were found, 2) brief description of the failure(s)/defective condition(s), 3) that the corrective actions were satisfactorily completed, and 4) who corrected the problem along with corresponding date.

REFERENCES

- MIL-STD-105D, Sampling Procedures and Tables for Inspection by Attributes
- CFR Title 49, Section 239.107, (b) & (c).

Window Test Sample	Location Code	Force (lbs)	Accept Y	Accept N	Remarks
1	U4	54.6	✓		
2	U8	49.4	✓		
3	U12	54.1	✓		
4	U16	56.0	✓		

[redacted] _____ _____ [redacted] _____

INSPECTOR SIGNATURE SUPERVISOR SIGNATURE

METROLINK

CENTRAL MAINTENANCE FACILITY - LOS ANGELES

EMERGENCY WINDOW TESTS

Date: 12-16-04 Work Order No.: _____ Car No.: 625

PROCEDURE

1) Randomly select four (4) emergency windows and perform a manual pull test using a digital force gage to measure and record the force required to remove windows.
2) Avoid testing more than two of the samples previously tested within the last 92-day PM cycle.
3) Record in the spaces provided below:
   a) Location codes listed on reverse side
   b) Force required to remove each window
   c) Acceptance as "Y" for *Yes* or "N" for *No*
      - **Coach Cars #101-182, and Cab Cars #601-637:** 60 lbs. Max. allowable woith angle of pull force parallel to floor.
      - **Coach Cars #183 & Higher, and Cab Cars #638 & Higher:** 20 to 30 lbs. Allowable with pull force at 30° to 60° angle to floor.
   d) Any appropriate remarks.

NOTE: If any defective condition is noted on any of the windows in the car or if the specified pull force limits are exceeded on any of the four (4) test samples, this will require all emergency windows in the car be tested—not just the initial four (4) test samples. In such cases, a notation must be recorded in the "Comments" section on the reverse side of this form to include: 1) which window(s) failed or defective condition(s) was/were found, 2) brief description of the failure(s)/defective condition(s), 3) that the corrective actions were satisfactorily completed, and 4) who corrected the problem along with corresponding date.

REFERENCES

- MIL-STD-105D, Sampling Procedures and Tables for Inspection by Attributes
- CFR Title 49, Section 239.107, (b) & (c).

Window Test Sample	Location Code	Force (lbs)	Accept Y	Accept N	Remarks
1	43	54.7	✓		
2	47	46.1	✓		
3	411	49.2	✓		
4	415	56.8	✓		

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[redacted] SUPERVISOR SIGNATURE

METROLINK

CENTRAL MAINTENANCE FACILITY - LOS ANGELES

EMERGENCY WINDOW TESTS

Date: 12-16-04 Work Order No.: _____ Car No.: 625

PROCEDURE

1) Randomly select four (4) emergency windows and perform a manual pull test using a digital force gage to measure and record the force required to remove windows.
2) Avoid testing more than two of the samples previously tested within the last 92-day PM cycle.
3) Record in the spaces provided below:
   a) Location codes listed on reverse side
   b) Force required to remove each window
   c) Acceptance as "Y" for *Yes* or "N" for *No*
      - **Coach Cars #101-182, and Cab Cars #601-637:** 60 lbs. Max. allowable width angle of pull force parallel to floor.
      - **Coach Cars #183 & Higher, and Cab Cars #638 & Higher:** 20 to 30 lbs. Allowable with pull force at 30° to 60° angle to floor.
   d) Any appropriate remarks.

NOTE: If any defective condition is noted on any of the windows in the car or if the specified pull force limits are exceeded on any of the four (4) test samples, this will require all emergency windows in the car be tested—not just the initial four (4) test samples. In such cases, a notation must be recorded in the "Comments" section on the reverse side of this form to include: 1) which window(s) failed or defective condition(s) was/were found, 2) brief description of the failure(s)/defective condition(s), 3) that the corrective actions were satisfactorily completed, and 4) who corrected the problem along with corresponding date.

REFERENCES

- MIL-STD-105D, Sampling Procedures and Tables for Inspection by Attributes
- CFR Title 49, Section 239.107, (b) & (c).

Window Test Sample	Location Code	Force (lbs)	Accept Y	Accept N	Remarks
1	I3	68.5		✓	
2	I4	74.8		✓	
3	I9	51.9	✓		
4	I10	56.4	✓		

[redacted] INSPECTOR SIGNATURE

[redacted] SUPERVISOR SIGNATURE

METROLINK.

CENTRAL MAINTENANCE FACILITY - LOS ANGELES

EMERGENCY WINDOW TESTS

Date: 12-16-04 Work Order No.: _____ Car No.: 625

PROCEDURE

1) Randomly select four (4) emergency windows and perform a manual pull test using a digital force gage to measure and record the force required to remove windows.
2) Avoid testing more than two of the samples previously tested within the last 92-day PM cycle.
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REFERENCES

- MIL-STD-105D, Sampling Procedures and Tables for Inspection by Attributes
- CFR Title 49, Section 239.107, (b) & (c).

Window Test Sample	Location Code	Force (lbs)	Accept Y	Accept N	Remarks
1	L1	94.4		✓	
2	L2	97.5		✓	
3	L5	90.5		✓	
4	L6	96.1		✓	

[redacted] INSPECTOR SIGNATURE

[redacted] SUPERVISOR SIGNATURE

METROLINK

CENTRAL MAINTENANCE FACILITY - LOS ANGELES

EMERGENCY WINDOW TESTS

Date: 12-16-04 Work Order No.: _____ Car No.: 625

PROCEDURE

1) Randomly select four (4) emergency windows and perform a manual pull test using a digital force gage to measure and record the force required to remove windows.
2) Avoid testing more than two of the samples previously tested within the last 92-day PM cycle.
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REFERENCES

- MIL-STD-105D, Sampling Procedures and Tables for Inspection by Attributes
- CFR Title 49, Section 239.107, (b) & (c).

Window Test Sample	Location Code	Force (lbs)	Accept Y	Accept N	Remarks
1	43	66.0		✓	
2	47	77.3		✓	
3	411	75.7		✓	
4	415	64.5		✓	

[redacted] INSPECTOR SIGNATURE

[redacted] SUPERVISOR SIGNATURE

METROLINK

CENTRAL MAINTENANCE FACILITY - LOS ANGELES

EMERGENCY WINDOW TESTS

Date: 12-16-04 Work Order No.: _____ Car No.: 625

PROCEDURE

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REFERENCES

- MIL-STD-105D, Sampling Procedures and Tables for Inspection by Attributes
- CFR Title 49, Section 239.107, (b) & (c).

Window Test Sample	Location Code	Force (lbs)	Accept Y	Accept N	Remarks
1	44	75.4		✓	
2	48	68.7		✓	
3	412	70.3		✓	
4	416	65.0		✓	

[redacted] INSPECTOR SIGNATURE

[redacted] SUPERVISOR SIGNATURE