DOCUMENT CONTROL SHEET

BOMBARDIER
the evolution of mobility

UNIT# **645**

INSPECTION TYPE: **12M** (pick from drop down list)

DATE IN:	1/14/2015
FINISHED:	1/19/2015

RECEIVED JAN 26 2015
RECEIVED JAN 26 2015

WORK ORDER # ECMS02 2015 370

RECENT WHEEL MEASUREMENTS

Wheel #	Flange Ht.	Flange Th.	Rim Th.
1	17	0	35
2	17	0	34
3	17	0	35
4	17	0	35
5	17	0	34
6	17	0	34
7	17	0	34
8	17	0	34

RECENT DEFECTS TO INSPECT

CAPITAL PROJECTS COMPLETED	**DATE**	**YES**
VESTIBULE CURTAINS INSTALLED CORRECTLY & GOOD CONDITION	1-19-15	✓

ALL TASK ITEMS SIGNED OFF	**DATE**	**YES**
WHEEL DATA ATTACHED	1-19-15	✓
HORN TEST COPY ATTACHED (*)	1-23-15	✓
EVENT RECORDER DOWNLOAD AND HARD COPY ATTACHED (*)	1-19-15	✓
ATS DOCUMENTATION AVAILABLE (*)	1-19-15	✓
WINDOW PULL TEST DATA ATTA[redacted]	1-19-15	✓

SUPERVISOR SIGN OFF: [redacted] *DATE:* 1-19-15

[redacted] locomotives & cab cars

REVIEWED BY: [redacted] **DATE:** 1/23/15

Report Date/Time: 01/14/2015 15:12 User: MARTINEZH

PM ORDER

Work Order ECMS02-2015-370

Work Order	ECMS02-2015-370	Equipment ID	SCAX645 OWNED
Opened by:	MARTINEZH		2010 ROTEM CABCAR STAINLESS
		License No	
Datetime In	01/14/2015 15:11	Serial No	NA SCAX645
Datetime Due	01/14/2015 15:41	In Service	02/11/2011
Est Complete		PM Class	CABCAR
	Current Life		CAB CAR
Meter 1	0	Dept	2300
Meter 2	0		EQUIPMENT MAINTENANCE
Priority	1 30 MINUTES	Asset ID	
Employee ID		Contact	
Parking Stall		Warranty Exp Date	
Reference Order		Equip Status	N
Account ID	100000-1.16.55-50421 SHOP OPERATIONS		
Tax Code		Hat Number	
Est Hours	0.00		

Leave Work Order

PM Service 360C-CC Assigned Shop ECMS02

No next PM service info: this PM order is for an inspection

[redacted]

Comments

1/19/15

Notes

Report Date/Time: 01/14/2015 15:15 User: MARTINEZH

REPAIR ORDER

Work Order ECMS02-2015-371

Work Order	ECMS02-2015-371	Equipment ID SCAX645	OWNED
Opened by:	MARTINEZH	2010 ROTEM CABCAR STAINLESS	
		License No	
Datetime In	01/14/2015 15:14	Serial No	NA SCAX645
Datetime Due	01/14/2015 15:44	In Service	02/11/2011
Est Complete		Maint Class	CABCAR
	Current Life		CAB CAR
Meter 1	0	Dept	2300
Meter 2	0		EQUIPMENT MAINTENANCE
Priority	1 30 MINUTES	Asset ID	
Employee ID		Contact	
Parking Stall		Warranty Exp Date	
Reference Order		Equip Status	N
Account ID	100000-1.16.55-50421 SHOP OPERATIONS		
Tax Code		Hat Number	
Est Hours	0.00		

Leave Work Order

Repair Reason WN WORN
Work Class 1 Warranty NO

[redacted]

Comments

Notes

-- 01/14/2015 15:15 - MARTINEZH - HUGO MARTINEZ --
REPAIR WORK ORDER

DOCUMENT CONTROL SHEET

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INSPECTOR INITIALS	MECHANICAL / ELECTRICAL DEFECTS	EQUIP
		12MONTH PM

	DEFECT ONE PER BOX	CORRECTIVE ACTION	SRD# + INITIALS
RW	Wheels have heat checks, 5/4 flat spots, 78 minor shelling.	Wheels trued	[redacted]
RW	RR missing TP holder	Replaced	[redacted]
RW	RR Ceiling has loose/missing hardware	Tightened and Replaced	[redacted]
RW	Loose Hand Holds @ seats - 5, 11, 46, 50, 54	Tightened	[redacted]
RW	Loose Seat bottoms - 21, 22 31, 33, 36, 38, 50, 57, 70, 75, 86	Tightened	[redacted]
RW	Missing Seat #'s - 9, 10, 11, 12, 17, 31, 34, 35, 36, 39, 47, 48, 51, 83, 87	Replaced	[redacted]
RW	B-mid utility outlet cover missing	Replaced	[redacted]
RW	loose hardware ~~and~~ on windscreens @ doors 3 + 5	Tightened	[redacted]
RW	Loose Ceiling Panel screws A/B mid hallways	Tightened as needed	[redacted]
RW	70% window removal decal @ seat 32 B/O	Replaced	[redacted]

SUPERVISOR: [redacted] DATE: 1/19/15

Signature of Su[redacted]upervisor has reviewed the defects above and has ensured each defect has been addressed and the appropriate corrective action has been entered, as well as the initial of the employee performing or inspecting the work

DOCUMENT CONTROL SHEET

BOMBARDIER
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INSPECTOR INITIALS	MECHANICAL / ELECTRICAL DEFECTS	EQUIP
		12MONTH PM

	DEFECT ONE PER BOX	CORRECTIVE ACTION	SRD# + INITIALS
RW	Horizontal circuit protector decal @ seat 84 B/O	Repaired	RW
RW	ADA Decals @ 118/121 missing or B/O	Replaced	RW
RW	Arms/legs decals @ doors 2 + 3 B/O	Replaced	RW
RW	No Smoking decals @ wall B-end windscreens B/O	Replaced	RW
RW	Lower Rt and Upper Left lights have loose/missing hardware	Tightened and Replaced	RW
RW	E-7 showing Fault code "AD" and "6C"	REPAIRED	[redacted]
RW	A end plastic cover over emergency pull handle broken.	Glued back together	RW
RW	Springs weak on ADA Seat 120/121	Replaced one spring	RW
RW	Missing Dump Cap	Replaced Cap and lanyard	RW

SUPERVISOR: [redacted] DATE: 1/19/15

Signature of Super[redacted] supervisor has reviewed the defects above and has ensured each [redacted] dressed and the appropriate corrective action has been entered, as well as the initial of the employee performing or inspecting the work

METROLINK/360 DAY INSPECTION COACH/CAB CAR

Work Order Number: _____ Date Work Order Opened: _____

Task ID	Description	Completed by:

CAR SERVICING

[redacted]

C-C 101 Dump, sanitize, service and water car.

SRT - 60" **Empty and sanitize toilet retention tank.**

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.

[redacted]

Sanitize and fill potable water tanks.

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
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
11. Open the air cut-off valve and close the overflow vent valve.
12. Close and latch wheel skirts.

[redacted] S&I

Replenish biocide disinfectant.

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.

Task ID	Description	Completed by:

Under Frame Inspection

C-C 102 SRT - 30" **Inspect couplers, draft gears, knuckles, cabling and hoses.**

[redacted]

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.

[redacted]

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.

[redacted]

Total slack Front Ø Rear Ø

Check & record coupler height.
Check and record the following measurements:

	Front	Rear	Clearance Limits
Coupler Height Above Top of Rail	34"	33"	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.

[redacted]

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]

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]

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]

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.

Task ID	Description	Completed by:
C-C 103	Inspect battery box, record specific gravity, service batteries.	[redacted]
SRT - 30"	Inspect battery compartment and switch box.	

Inspect battery compartment and cover for damage, Ensure locking devices are in

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	1.22	9	1.21	17	1.20	1	1.20	9	1.20	17	1.20
2	1.20	10	1.21	18	1.21	2	1.20	10	1.21	18	1.20
3	1.23	11	1.21	19	1.22	3	1.21	11	1.21	19	1.20
4	1.20	12	1.20	20	1.20	4	1.21	12	1.21	20	1.21
5	1.20	13	1.22	21	1.20	5	1.22	13	1.22	21	1.21
6	1.20	14	1.23	22	1.20	6	1.21	14	1.23	22	1.22
7	1.21	15	1.21	23	1.20	7	1.22	15	1.22	23	1.23
8	1.22	16	1.22	24	1.20	8	1.23	16	1.20	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.

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.

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.

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.

Task ID	Description	Completed by:
C-C 104	Inspect wheels and record wheel measurements.	[redacted]
SRT-30"	Inspect wheels for defects.	

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
Shelling	A shelled-out spot 2-1/2 inches or more in length, or two adjoining spots that are each two or more
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.

Record wheel measurements.

	Flange Ht.	Flange Th.	Rim Th.	Serial Number
Go-No-Go Gauge	Max. 1-1/2"	Min. 1"	Min. 1"	
FingerGauge Readings	24	8	16	
Wheel No.1	19	0	36	104020
Wheel No.2	19	0	36	104016
Wheel No. 3	18	0	36	104104
Wheel No. 4	18	0	36	100297
Wheel No. 5	18	0	37	100306
Wheel No. 6	17	0	37	104110
Wheel No. 7	17	0	36	104017
Wheel No. 8	17	0	37	104023

CAR 645

Action Taken:

Wheels Trued

Changed Wheels

OK For Service

Notify Supervisor if readings are at these points:

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

Reviewed by Supervisor

C-C 105	Inspect tread and disc brake units, record disc measurements.	[redacted]
SRT-30"		

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).

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

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.

Task ID Description Completed by:

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.

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.

Record Brake Disc Measurements

[redacted]

Disc Wheel 1 Axle Serial No. LA391

Measurements

	1st	2nd	3rd		Smallest Value
Outside Wall Thickness	918	901	964	=	901
Inside Wall Thickness	952	939	936		936
Face-to-Face	3869	3714	3721		3714

Disc Renewed: Yes ___ (No)

Disc Wheel 2 Axle Serial No. LA391

Measurements

	1st	2nd	3rd		Smallest Value
Outside Wall Thickness	927	899	937	=	899
Inside Wall Thickness	935	954	949		935
Face-to-Face	3747	3766	3745		3745

Disc Renewed: Yes ___ (No)

Disc Wheel 3 Axle Serial No. 5036

Measurements

	1st	2nd	3rd		Smallest Value
Outside Wall Thickness	920	914	916	=	914
Inside Wall Thickness	952	946	963		946
Face-to-Face	3763	3750	3741		3741

Disc Renewed: Yes ___ (No)

Task ID | Description | Completed by:

Disc Wheel 4 Axle Serial No. 5036

Measurements

	1st	2nd	3rd		Smallest Value	Disc Renewed
Outside Wall Thickness	908	901	910	=	901	
Inside Wall Thickness	964	966	946	=	946	Yes ____ (No)
Face-to-Face	3478	3747	3743	=	3743	

Disc Wheel 5 Axle Serial No. 014

Measurements

	1st	2nd	3rd		Smallest Value	Disc Renewed
Outside Wall Thickness	939	920	924	=	920	
Inside Wall Thickness	933	944	933	=	933	Yes ____ (No)
Face-to-Face	3740	3739	3751	=	3739	

Disc Wheel 6 Axle Serial No. 014

Measurements

	1st	2nd	3rd		Smallest Value	Disc Renewed
Outside Wall Thickness	889	908	881	=	881	
Inside Wall Thickness	940	896	908	=	896	Yes ____ (No)
Face-to-Face	3747	3740	3748	=	3740	

Disc Wheel 7 Axle Serial No. LA212

Measurements

	1st	2nd	3rd		Smallest Value	Disc Renewed
Outside Wall Thickness	911	951	948	=	948	
Inside Wall Thickness	932	942	970	=	942	Yes ____ (No)
Face-to-Face	3809	3803	3770	=	3770	

Disc Wheel 8 Axle Serial No. LA212

Measurements

	1st	2nd	3rd		Smallest Value	Disc Renewed
Outside Wall Thickness	904	909	905	=	904	
Inside Wall Thickness	946	950	959	=	946	Yes ____ (No)
Face-to-Face	3749	3752	3767	=	3749	

RESULTS SHEET – CAR AIR BAG AND FLOOR HEIGHT ADJUSTMENTS

CHECK ITEM		EXPECTED VALUE	ACTUAL VALUE							
			AXLE 1		AXLE 2		AXLE 3		AXLE 4	
			WH 1	WH 2	WH 3	WH 4	WH 5	WH 6	WH 7	WH 8
PRE-TRUING MEAUSURMENT	SHIMS ADDED	-1/4" TO 1-1/4"	0	0	0	0	0	0	0	0
	CLEARANCE BETWEEN BEARING HOUSING & PEDESTAL ARCH (H4)	1-1/2" TO 2-3/4"	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2
POST-TRUING MEASUREMENT	SHIMS ADDED	-1/4" TO 1-1/4"								
	CLEARANCE BETWEEN BEARING HOUSING & PEDESTAL ARCH (H4)	1-1/2" TO 2-3/4"	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2

AIR BAG (SPRING) HEIGHT (H3)	8-11/16" TO 9-1/16" GAUGE LOW LIMIT = 8-11/16" GAUGE MID POINT = 8-7/8" GAUGE HIGH LIMIT = 9-1/16"	SPRING 1	SPRING 2	SPRING 3	SPRING 4
		8 7/8	8 7/8	8 11/16 (H) 9 1/16	8 11/16

			B-END LEFT	B-END RIGHT	A-END LEFT	A-END RIGHT
PRE-TRUING MEAUSURMENT	FLOOR HEIGHT B-END & A-END	50-5/8" TO 51-3/8"	51 1/8	51		
POST-TRUING MEASUREMENT	FLOOR HEIGHT B-END & A-END	50-5/8" TO 51-3/8"				

LEVELING RODS TORQUE SEALED ☒

PERFORMED BY [redacted] DATE 1-15-2015

Task ID	Description	Completed by:
C-C 106	**Inspect trucks and wheel slide speed sensors.**	[redacted]
SRT - 15"	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. 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. **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. **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. **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. **Inspect pedestal tie bars.** Inspect for damage and is properly secured. **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 107	**Inspect cabling, conduit, piping and connections.**	[redacted]
SRT - 15"	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 108 — **Inspect sides of car, end caps, and diaphragms.**

SRT - 5"

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

[redacted]

C-C 109 — **Inspect side doors, steps and inspection panels.**

SRT - 5"

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 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.

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.

[redacted]

C-C 110 — **Inspect all windows and condition of gaskets.**

SRT - 5"

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.

[redacted]

C-C 111 — **Inspect condition of all exterior decals.**

SRT - 5"

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.

Inspect condition of wheelchair, no smoking and bike decals.

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

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.

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.

[redacted]

C-C 112 — **Inspect sill steps , horizontal and vertical handholds.**

SRT - 5"

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.

[redacted]

C-C 113 — **Inspect condition of indicator lights and door open assemblies.**

SRT - 5"

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

Check hardware for proper securement and for sharp edges.

[redacted]

C-C 114 — **Inspect condition of evaporator, condenser & speaker grilles.**

SRT - 5"

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

Task ID	Description	Completed by:

Cab Car Exterior

CC-C 115 SRT - 5"	Inspect headlight, auxiliary, number & marker light housings. Inspect for damage and housings are properly secured.	[redacted]
CC-C 116 SRT - 5"	Inspect end door, window, barrier bar and curtain.	[redacted]
CC-C 117 SRT - 5"	Visually inspect upper horn (if equipped), lower horn and bell. Check lower horn and bell for indications of damage caused by a debris strike.	[redacted]
CC-C 118 SRT - 5"	Inspect axle generator and cabling. Inspect pilot height. Record front pilot height measurements:	[redacted]

	Left	Right	
Front Pilot/Plow Height	4 5/8"	4 1/2"	3" Min. 6" Max.

Car Interior

C-C 201 SRT - "	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.	N/A
C-C 119 SRT - 60"	Inspect condition and securement of seats and tables. 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. 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.	[redacted]
C-C 120 SRT - 5"	Inspect ADA seats, wheelchair restraints and ramp. 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. Ensure wheel chair ramp is not damaged or broken. Check hinges for damage. Tie down straps should be tight and bottom strap secured properly.	[redacted]
C-C 121 SRT - 20"	Inspect condition of floors, steps, handrails and handholds. 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. 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. 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.	[redacted]
C-C 122 SRT - 20"	Inspect condition of ceiling and wall panels and trim. Ensure panels and molding is not cracked or broken and molding is in proper position. Ensure cove panels are not cracked, broken, or damaged.	[redacted] See details

Task ID	Description	Completed by:
C-C 123	**Inspect interior lighting and test emergency lighting.**	[redacted]
SRT - 5"	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. 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 124	**Inspect condition of windows and gaskets.**	[redacted]
SRT - 10"	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 125	**Measure & record pull force of emergency exit windows.**	[redacted]
SRT - 120"	Randomly select eight (8) 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 126	**Inspect and check operation of all doors.**	[redacted]
SRT - 15"	**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.	
	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:	[redacted]
	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]

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]

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]

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 202 Examine door control panel relay contacts.

SRT - " 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]

C-C 203 Wipe clean & dust vacuum complete door operator assembly.

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

[redacted]

C-C 127 Check condition of interior decals and posters.

SRT - 10"

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.

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.

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.

[redacted]

See defects

Task ID	Description	Completed by:
C-C 128	**Inspect electrical system and check for systems for grounds.**	[redacted]
SRT - 20"	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. Check for low voltage grounds. Check for high voltage system grounds.	
C-C 129	**Self test E-7 wheel slide/system and correct faults if required.**	[redacted] see defects
SRT - 5"		
C-C 130	**Inspect HVAC, heater strip and air filter grilles.**	[redacted]
SRT - 90"	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 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 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. **Inspect heater strip and air filter grilles.** Inspect for loose or missing hardware securing the heater grill or air filter grille. Ensure latches securing the air grilles function properly and tightly secures the air grille in place.	

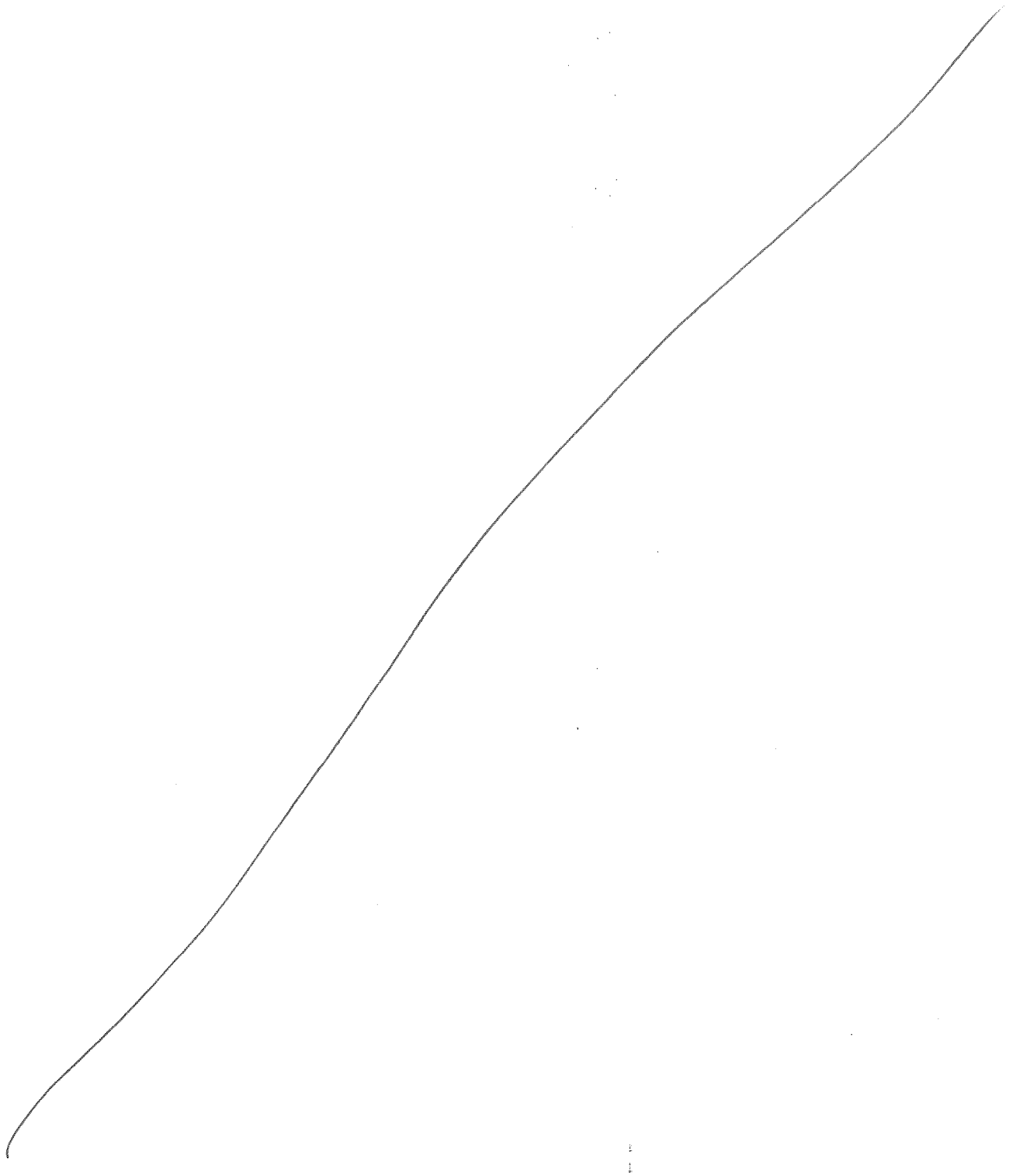
Task ID	Description	d by:
C-C 204	Inspect HVAC heaters, sensors, thermostats & control panels.	[redacted]
SRT - "	Perform a thorough inspection and perform a complete check of controls, all safely devices, and electrical and mechanical connections. Inspect evaporator blowers and condenser fan for proper 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 131	**Inspect windscreens, access doors and bicycle straps.**	[redacted] See defects
SRT - 5"	**Inspect condition & securement of windscreens:** Ensure glass wind screens are not broken or cracked with no sharp edges, and are secure in mountings. **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. **Inspect condition of bicycle rack securement.** Check securement of brackets and condition of nylon cord.	
C-C 132	**Check emergency flashlight-tools-first aid kit-fire extinguishers.**	[redacted]
SRT - 10"	**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. **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 133	Inspect and test destination sign controller and signs.	[redacted]
SRT - 10"	Check operation of destination sign controller and signs ensuring it is operating as intended.	

Task ID	Description	y:
C-C 134	Check operation and Db level of PA and intercom.	
SRT - 5"		
C-C 135	Check drinking water fountain and trash receptacles.	
SRT - 5"	Check operation of water fountain and inspect for broken or damaged parts. Water pressure should be approx. 14 lbs.	
	Inspect trash receptacles for damage, being bent, cracked, or having sharp corners or edges.	
C-C 136	Inspect diaphragms, vestibule curtains and walkway plates.	
SRT - 10"	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 137	Check emergency brake cable - check & lubricate handbrake.	
SRT - 10"	**Check emergency brake valve cable pull and decals.** Ensure handles are in place, not obstructed from use and decals are in place and legible.	
	Inspect, test and lubricate handbrake: Inspect handbrake rigging for wear and free movement. Lubricate lever fulcrum pins. Adjust cable slack, if required, and ensure slack adjuster is secure.	

Cab Car Interior

C-C 138	Check instrument panel-cab-indicator lights-all exterior lights.	
SRT - 5"	Inspect all gauge and panel lights including speed indicator and gauge dimmer switch. Operate push to test feature to verify lamps are working properly.	
	Ensure proper operation of all exterior lights. 1) Front Headlight (all positions). 2) Auxiliary lights (steady state and flashing). 3) Marker lights.	
CC-C 205	Check calibration of load meter.	
SRT - "	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.	
C-C 139	Inspect & test air gauges. Perform brake pipe leakage test.	
SRT - 10"	**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	
	Test air brake gauges. Verify accuracy of each needle (4) using a CO2 tester at 100 lbs. of pressure.	
	Perform brake pipe leakage test. Brake pipe leakage must not exceed 3 lbs. per minute.	
C-C 140	Test air brake-safety controls-warning devices-controller.	
SRT - 10"	Check operation of 26B automatic brake valve it functions as intended in all positions. Test graduated release feature, TMS and emergency.	
	Check controller for proper operation:	

Task ID	Description	Completed by:
	Ensure controller and reverser interlock as intended. Check electrical cannon plug under desk top to ensure connection is tight.	



Task ID	Description	
C-C 141	**Check ATS-speed recorder-inspect/download event recorder.**	[redacted]
SRT - 30"	Verify ATS receiver is properly secured and the washboards are aligned. Perform a slap test. Perform ATS test and complete form SMP 8.	
	Inspect, download, reset time & seal event recorder.	
C-C 142	**Test and record Db level of upper and lower horn & test bell.**	[redacted]
SRT - 20"	Using a sound level meter, within 1 yr. of calibration, position meter 100 ft. forward of cab car with the microphone positioned above top of rail 4 ft. for the lower horn and 15 ft. for the upper horn.	
	Adjust horn to produce a maximum sound level of 100 dB(A).	
	Minimum sound level of 96dB(A) and maximum of 110 dB(A) must be registered.	
	Sign and attach sound level printout to cab car maintenance file.	
C-C 143	**Check radio output using Watt meter and voice test radio.**	[redacted]
SRT - 5"		
C-C 144	**Inspect cab window, mirrors, sun visor and windshield wiper.**	[redacted]
SRT - 5"	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.	
	Ensure windshield wiper blades are in good serviceable condition and windshield wiper(s) are operating properly.	
C-C 145	**Inspect crew compartment - door and "Quiet Area" sign.**	[redacted]
SRT - 5"	Inspect cab seat and mounting. Ensure operators seat is securely mounted and is adjustable.	
	Inspect crew compartment including door, door latch and door stop.	
	Replace "Quiet Area" sign if missing, illegible, cracked or broken. Check condition of nylon cord and wall mounted bracket and hardware.	
C-C 146	**Inspect crew locker door, light switch & wheelchair storage.**	N/A
SRT - 5"	Inspect crew locker door and door latch hardware. Inspect crew locker light and test on/off switch. Inspect light bracket, hardware and protective lens cover. Check on/off switch is functioning.	
	Inspect hardware securing wheelchair storage partitions.	
	Check for loose or missing hardware securing each panel to the brackets. Ensure panels are not cracked broken or chipped.	
C-C 147	**Check air hoses-wrench-supplies-step & "Compliant" first aid kit.**	[redacted]
SRT - 5"	Supplies should include: 1 red flag, 12 fuses, pipe wrench, brake pipe hose.	
	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 shrink wrap is broken.	[redacted]
C-C 148	**Stencil PM date on handbrake. Complete FRA Blue Card.**	

Task ID	Description	Completed by:
SRT - 15"		

Restroom

C-C 149	**Inspect sliding doors, access & compartment type doors.**	[redacted]
SRT - 5"	Inspect the restroom 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 150	**Inspect condition of floor, handholds, panels and molding.**	[redacted]
SRT - 5"	Inspect floor for tripping hazards, and check wall panels and molding for being cracked or broken. Ensure handholds are properly secured and provide 2 inches of usable clearance. Inspect access panel and compartment type doors.	
C-C 151	**Inspect ceiling, plumbing compartment/light and exhaust fan.**	[redacted] see defects
SRT - 5"	Inspect exhaust fan & components in plumbing compartment. Inspect plumbing compartment for obvious fluid leaks, check light.	
C-C 152	**Check operation of toilet, sink and inspect mirrors.**	[redacted]
SRT - 5"	Inspect sink vanity mirror and wall mounted mirror. Ensure mirrors are not cracked or broken and is properly secured. 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 153	**Renew ~~coalescent - particulate and~~ water cooler filters.**	[redacted]
SRT - 10"	Remove and clean threaded polycarbonate bowl and renew coalescent and particulate filter elements. Close valve to isolate water cooler from supply tank. Depress valve until water flow ceases. Disassemble threaded body of filter shell and replace cartridge.	

Interior Cleaning

C-CL 101	**Remove trash (newspapers, cups). Inspect and remove graffiti.**	[redacted]
C-CL 102	**Wash ceilings, walls, bulkheads, windscreens & kickboards.** Wash wind screens and kickboards under seats. Do not leave cleaning streaks on wall panels.	[redacted]
C-CL 103	**Clean windows, glass partitions, handrails and handholds.** Clean all side and door windows. Clean glass partitions on lower and mid-levels. Clean handrails, stanchions, and handholds. Clean stainless steel door control station covers. Wipe off excess cleaning material.	[redacted]
C-CL 104	**Empty trash. Clean interior-exterior of trash receptacles.** Replace plastic trash bags. Ensure slide-out trash receptacles are applied properly.	[redacted]
C-CL 105	**Clean interior and exterior of cove light fixtures.**	[redacted]
C-CL 106	**Remove and clean return air grilles & air conditioning vents.**	[redacted]
C-CL 107	**Wipe down heater guards and heater boxes.**	[redacted]
C-CL 201	**With seat cushions remove, thoroughly clean seat shells.**	[redacted]
C-CL 108	**Vacuum seat backs/bottoms-clean headrests-Replace if needed.**	[redacted]

Task ID	Description	Completed by:
SRT - 5"		
C-CL 110	Clean and disinfect water fountain including drain sink.	[redacted]
C-CL 111	Clean side doors, windows, and door tracks.	
	Completely clean dirt and debris in all 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 112	Clean diaphragms, vestibule curtains and walkway plates.	[redacted]
C-CL 113	Sweep and mop tile floors and steps. Strip & mop floor.	
	Sweep and mop all tile floors including restroom and steps. Strip tile floors, reapply sealant if required and wax floors.	
C-CL 114	Vacuum and shampoo all carpeted areas.	[redacted]
SRT - 480"	total C-CL 101-114	

Cab Car Interior Cleaning

CC-CL 115	Clean console, side and upper switch and indicator panels.	[redacted]
CC-CL 116	Clean ceiling and wall panels.	
CC-CL 117	Clean seat, window(s), wall panels & ceiling. Sweep & mop floor.	
	Clean crew locker walls and ceiling. Sweep and mop crew locker floor.	
SRT - 15"	total C-CL 115-117	

Car Exterior

C-CL 118	Wash door pockets, car end caps, and diaphragms.	[redacted]
SRT - 30"		
C-CL 119	Clean side door step platforms and yellow anti slip surface.	
SRT - 30"		
C-CL 120	Clean cab car window(s).	
SRT - 10"	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.	

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

Supervisor Reviewing Work Order: [redacted]

Name

Date Work Order Finished: 1-19-15

Manager Reviewing Work Order: [redacted]

Name

Date Work Order Closed: 1/23/15

Car: 645 Date: 1-15-2015 Employee Signature: [redacted]

A – End Truck: 09149

B – End Truck: 09136

Axle 1 Serial # LA391

Axle 2 Serial # 5036

Axle 3 Serial # 014

Axle 4 Serial # LA212

Wheel # 1: 104020

Wheel # 2: 104016

Wheel # 3: 104104

Wheel # 4: 100297

Wheel # 5: 100306

Wheel # 6: 104110

Wheel # 7: 104017

Wheel # 8: 104023

METROLINK WHEEL TRUING RECORD

EQUIPMENT NO. SCAX 645

BEFORE TRUING WHEEL MEASUREMENT

WHEEL POSITION		DEFECT	BACK TO BACK	FLANGE THICKNESS	FLANGE HEIGHT	RIM THICKNESS
☒	☐					
CAR	LOCO					
A - END						
8	R1	st		0	17	37
7	L1	st		0	17	36
6	R2	FS		0	17	37
5	L2	FS		0	18	37
4	R3	RP		0	18	36
3	L3	RP		0	18	36
2	R4	RP		0	19	36
1	L4	RP		0	19	36

AFTER TRUING WHEEL MEASUREMENTS

FLANGE THICKNESS	FLANGE HEIGHT	RIM THICKNESS	OPERATOR COMMENTS
0	17	35	
0	17	34	
0	17	35	
0	17	35	
0	17	34	
0	17	34	
0	17	34	
0	17	34	

2 4 6 8
COACH/CAB
1 3 5 7

CAR A -END

L4 L3 L2 L1
LOCOMOTIVE
R4 R3 R2 R1

LOCO A - END

SERVICE LIMITS

BACK TO BACK	53" - 53 3/8"
FLANGE THICKNESS	"0" ÷ 1 or "0" - 0 ON STEEL WHEEL GAGE
RIM THICKNESS	1 1/8" MINIMUM
TAPE SIZE	BOTH WHEELS <= 1 TAPE DIFFERENCE
RUN OUT	< .020"

DEFECTS		
	FS	FLAT SPOTS
	BUT	BUILT-UP TREAD
	ST	SHELLING
	HF	HIGH FLANGE
	HC	THERMO CRACKS
	TF	THIN FLANGE
	WT	TREAD WORN HOLLOW
	RP/TRUE	REPROFILE/TRUE TO MATCH

PERFORM DAILY MAINTENANCE ☐ YES ☒ NO

INDEX INSERTS/CHECK RUN OUT/TAPE ☐ YES ☒ NO

SINGLE CAR AIR TEST PER CFR 238.311 ☐ YES ☒ NO

Additonal Operator Comments

MACHINE OPERATOR/ ID #: 186332/Miguel Lopez
[redacted]
Signature

SUPERVISOR/ ID#: [redacted]
Signature

DATE: 1-16-15

U.S. Department of Transportation
Federal Railroad Administration

SCAX645 Next PM Due By:
04/11/15 11:59 PM MD
Bombardier Transportation

LOCOMOTIVE INSPECTION AND REPAIR RECORD

Reporting year 2015 Check if new loco. ☐ If loco. renumbered give previous no. ☐☐☐☐☐☐

OMB No. 2130-0004

1. OPERATED BY	RR CODE	2. OWNED BY (Railroad)	RR CODE
AMTRAK	A M T K	Southern California Regional Rail Authority	S C A X

3. MODEL NO.	4. LOCO. NO.	5. YR. BUILT	6. PROPELLED BY	7. HORSEPOWER	8. TYPE OF SERVICE: PASSENGER ☒ ROAD ☐ YARD ☐ OTHER ☐
EP142-06	645	2010	NMUC	N/A	

9. STEAM GEN.	GEN. #1	Working Pressure	GEN. #2	Working Pressure
NOT EQUIPPED	N/A	N/A	N/A	N/A

10. MAXIMUM PISTON TRAVEL	TYPE OF AIR BRAKE	11. OUT OF USE CREDIT
4.5 Inches	26-C	112 DAYS

12. LAST PERIODIC INSPECTION DATE	PLACE
10/17/2014 (90 DAY)	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	01-14-15	TO	[redacted]	LOS ANGELES, CA		[redacted]
01-19-15	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		
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	18. H&H TEST PRESSURE	19. WAIVER PART - 229	20. WAIVER - OTHER
	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]	01-19-15 LOS ANGELES, CA	[redacted]	01/22/2014 LOS ANGELES, CA
HAMMER AND HYDRO	736 calendar days	[redacted]	DRILLED	[redacted]	DRILLED
AIRBRAKE 229.27	368 calendar days	[redacted]	01-19-15 LOS ANGELES, CA	[redacted]	01/22/2014 LOS ANGELES, CA
AIRBRAKE 229.29	NUMBER OF CALENDAR DAYS 1,440		LOS ANGELES, CA		01/10/2011 COLTON, CA

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.

Certification of true copy.
I certify that this is a true copy of the inspection and repair record of locomotive no. 645

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

(Officer-in-charge) DATE

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

✓ PERIODIC _____ FAILURE

UNIT NO.	LOCATION	DATE	TIME
645	CMF Los ANGELES	1-19-15	2:50 pm

	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.	17	17
5. Receiver resistance NS and A. Should be 27 to 41 Ohms.	35	35
6. Receiver resistance NA and NS. Should be 37 to 56 Ohms.	48	48
7. 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.	32 LB.	32 LB.
10. Delay time from MV open (air blow) to ATS penalty (PCS open). Maximum allowed 8 seconds.	1 SEC.	1 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: 1-16-15
ATS CONTROL BOX SERIAL NO.: 0083
ATS MAGNET VALVE DATE: 1-16-15

REMARKS

ATS CONTROL BOX SEAL NO: 005269

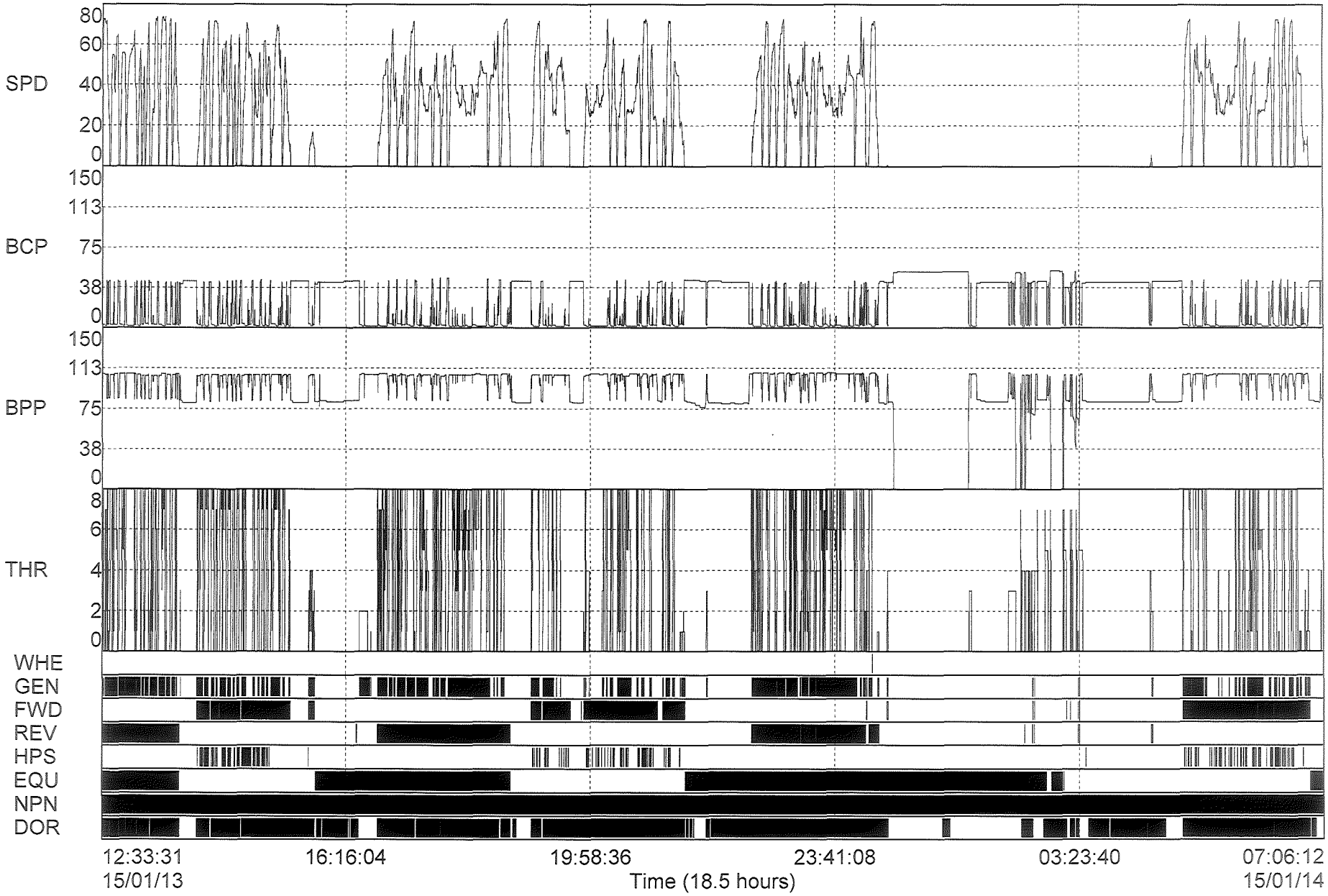
[redacted] MECHANIC

SUPERV[redacted]

Download File: 015A0645.D16
Speed (mph) Wheel Size: 30.0 (inches)
Unit#: 0645, SN: 090312

Graph Data

Report Date: 15/01/23
Dnld Date: 15/01/16
Dnld Time: 16:00:34



Download File: 015A0645.D16

MLK-242

Unit Number:	0645	Laptop Time:	15/01/16 15:00:52
Recording Start:	15/01/13 07:34:51	Download Time:	15/01/16 16:00:34
Recording Stop:	15/01/16 15:58:24	Prev. Download:	15/01/13 15:49:38

Recorder Type:	ERS	2 Freq., 16 Analog, 48 Digital Channels
Firmware Ver.:	4.51	8 MB Flash Memory
Flexware Ver.:	6.00	Vigilance: Installed
Download Ver.:	1.30	WinDNLD Download
Serial No.:	090312	

Processor Module:	6.00	Freq. Channels:	SPD N/A
Freq & ID:	0.90	Wheel Diameter (in.):	30.0 180.0
Analog Module 1:	1.60	Pulses/Revolution:	110 704
		Event Threshold:	1 20

Anl. Channels:	BCP	BPP	A03	HLV	PLV	AXL	TMC	A08
Max. Input (V):	10	10	10	100	100	100	20	20
Max. Sensor (V):	10.0	10.0	10.0	100.0	100.0	100.0	11.3	20.0
Sensor Offset (V):	1.6	1.6	1.6	-1.6	-4.2	0.6	-0.3	0.1
Sensor FS (EU):	242	243	243	117	118	117	2018	117
Event Thres.(EU):	2	2	2	5	5	5	27	1

Anl. Channels:	A09	A10	A11	APP	A13	A14	A15	A16
Max. Input (V):	100	100	100	100	100	100	100	100
Max. Sensor (V):	48.8	48.8	48.8	48.8	48.8	48.8	48.8	48.8
Sensor Offset (V):	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sensor FS (EU):	999	999	999	999	999	999	999	999
Event Thres.(EU):	1	1	1	1	1	1	1	1

F01, SPD, Speed of Car (MPH)	F02, N/A, N/A		
A01, BCP, Brake Cylinder Pressure	A02, BPP, Brake Pipe Pressure	A03, A03, Spare Pressure Channel	A04, HLV, Headlight Voltage
A05, PLV, Power Supply Voltage	A06, AXL, Aux.Light Voltage	A07, TMC, Traction Motor Current (	A08, A08, Spare Analog Channel
A09, A09, Spare	A10, A10, Spare	A11, A11, Spare	A12, APP, Application
A13, A13, Spare	A14, A14, Spare	A15, A15, Spare	A16, A16, Spare
D01, ASL, Solenoid AV	D02, BSL, Solenoid BV	D03, CSL, Solenoid CV	D04, DSL, Solenoid DV
D05, PBA, Penalty Brake Applied	D06, RAD, Radio Cradle Switch	D07, PCS, PCS Open	D08, WHE, Wheel Slip/Slide Indicat
D09, GEN, Generator	D10, FWD, Forward	D11, REV, Reverse	D12, EMS, Emergency Shutdown
D13, EQU, Equalizing Reservoir	D14, EMG, Engineer Emergency	D15, RST, Manual Reset	D16, HRN, Horn Switch
D17, HPS, Horn Pressure Switch	D18, DYN, Dynamic Brake Setup	D19, ALF, Aux. Lights Flashing	D20, AMV, ATS Magnet Valve
D21, BEL, Bell	D22, NPN, No Alerter Penalty	D23, OVI, ERS TMS Override Switch	D24, BTE, Bench Test Enabled Input
D25, ALS, Aux. Light Switch	D26, ZSP, Zero Speed System Bypa	D27, HSW, Headlight Switch On/Off	D28, DOV, Door Open Override Switc
D29, DOR, Door Closed Light	D30, ATS, ATS Enabled	D31, ATR, ATS Request	D32, HSQ, Horn Sequencer Switch
D33, OSP, Overspeed Mag Valve	D34, ATA, ATS Acknowledge	D35, HHL, Headlight Switch High/Lo	D36, OVE, ERS TMS Override Switch
D37, D37, Spare Digital Input	D38, D38, Spare Digital Input	D39, D39, Spare Digital Input	D40, D40, Spare Digital Input
D41, PHN, PTC Horn	D42, D42, Spare Digital Input	D43, D43, Spare Digital Input	D44, D44, Spare Digital Input
D45, D45, Spare Digital Input	D46, D46, Spare Digital Input	D47, D47, Spare Digital Input	D48, D48, Spare Digital Input
D49, D49, Digital 49	D50, D50, Digital 50	D51, D51, Digital 51	D52, D52, Digital 52
D53, D53, Digital 53	D54, D54, Digital 54	D55, D55, Digital 55	D56, D56, Digital 56
D57, D57, Digital 57	D58, D58, Digital 58	D59, VEN, Alerter Enabled	D60, VAL, Alerter Alarm
D61, VPE, Alerter Penalty	D62, FLT, ER Fault	D63, PEN, Penalty Output	D64, FPN, Fault Penalty

<CEL-246 Data>		
Version	035-08	
<Run>		
Start		1/23/2015 4:17
Duration		0:00:10
Serial Number		1116969
Run		76
Range	30-100 dB	
Overload	Yes	
Battery Low	No	
Interval Seconds		1
<Broadband>		
LASmax		101
LAeq		100
Lavg Q=5		100
<Profile LAeq>		
	1/23/2015 4:17	

SCAX 645
CMF, Los Angeles

METROLINK

CENTRAL MAINTENANCE FACILITY - LOS ANGELES

EMERGENCY WINDOW TEST RECORD - ROTEM CARS

Car No.: 645

1st Half -Yr Cycle 2nd Half -Yr Cycle

Date: 1/15/15

W.O#: 370

STEPS:

1) Annually, select emergency widows for pull test each quarter in accordance with the following schedule:
   - First Half Year Cycle: Lower Level, Both Sides, Window Location Codes: L1, L2, L3, L4 and Mid-Level, Both Sides, A & B Ends, Window Location Codes: M1, M2, M3, M4.
   - Second Half Year Cycle: Upper Level, Both Sides, Window Location Codes: C1, C2, U1, U2, U3, U4, U5, U6, U7 & U8
2) Perform pull test using digital force gage to measure and record actual force required to remove windows.
3) Record results for: a) Location codes; b) "Y" for *Yes* or "N" for *No*; c) Any appropriate remarks; d) Retain copy in car shop.
   NOTE: Pull test must not exceed 30 lbs. maximum with direction of pull force applied at 30°- 60° angle to floor.

NOTE: If any defectives are observed or if the specified pull force limits are exceeded on any of the selected test samples, this requires that all remaining emergency windows on the entire car must be tested—not just the initial eight (8) test samples. In such cases, notations are required to briefly describing problem(s) & correction(s) taken, by whom & date. Supervisor is required to verify satisfactory completion of all testing and/or any corrective action(s) needed, initial & date for each semi-annual testing.

Window Location Code	Force (lbs)	Accept Y	Accept N	Tested By	Corrective Actions Taken (Only If & As Required) (Reverse Side For Additional Comments)	Corrected By (Initials)	Date
1st HALF-YEAR CYCLE							
L1	11	X		AM			
L2	11	X		AM			
L3	8	X		AM			
L4	8	X		AM			
M1	7	X		AM		[redacted]	
M2	9	Y		AM			
M3	11	X		AM			
M4	9	X		AM			1-19-18 Date
2nd HALF-YEAR CYCLE							
C1	8	X		AM			
C2	6	X		AM			
U1	8	X		AM			
U2	11	X		AM			
U3	10	X		AM			
U4	8	X		AM			
U5	7	X		AM			
U6	10	X		AM		[redacted]	
U7	9	X		AM			
U8	9	X		AM			1-19-15 Date