### Work Order Detail for Asset 207



Work Order: MRDVSH-2020-911

Status: CLOSED

Dept: MECH - MECHANICAL

Asset No: 207 - 1978 PULLMAN/MK BTC-1C COACH

Serial No: 207

License:

Eq Type: 1978-PULLMAN/MK-BTC

Opened By: Current Equip Status:

JAMES.DUNN RELEASED

Date In: Date Due: 08/18/2020 06:32

Warranty: NO

Asset No:

-1C

Account:

10/02/2020 06:32

Job Type: PM Meter 1:

0.00

Reference WO:

254-530001

Opened: Finished:

08/18/2020 06:32 08/20/2020 09:33 08/20/2020 09:33

Meter 2: Shop Hrs:

0.00 25.09

Estimated Hours: User Hours:

0.00 0.00

Closed: Warranty Expire:

Priority: Incident: **M4 - EVALUATE NEXT OPPORTUNITY** 

Accident:

Project:

### **Service Request Tasks**

Service Request: 207-3524050

Symptom:

TRAPSO - TRAP DOOR ISSUES

Comments:

1L TRAP NEEDS TO BE REMOVED AND SUPPORTS RE-WELDED. UNABLE TO SECURE PROPERLY FOR DOOR OPERATION

Service Request: 207-3525420

Symptom:

TRUCKSO - TRUCK INSPECTION

Comments:

244 AND 707 FLOOR HEIGHT HIGH AND LOW, TRIPPING HAZARD

Service Request: 207-3525491

Comments:

UPDATE LLEPM & EMERGENCY SIGNAGE ON 200 SERIES PULLMAN COACHES PER LINKED WORK INSTRUCTIONS.

### **Non Service Request Tasks**

Task: BTC180-PM - Btc 180 Day Class Pm

WAC: 09 - SERVICED

Reason:

Work Class:

Comments:

#### **Task Notes**

HOWARD.I 8-19-2020 10:19AM CHANGED MAIN RES AND BRAKE PIPE FROM FRONT TO REAR.

HOWARD.I 8-19-2020 3:49PM CHANGED E-FILTER.H.P

HOWARD. I 8-18-2020 3:56PM LUBRICATED CUT-OUT VALVES AND HANDLE COCKS.

T.C ASSISTED

Labor		Labor Hrs	Cost
08/18/2020 15:56	Emp: PARKERH - Howard Parker	7.93	218.08
08/18/2020 15:58	WARWICK - Kevin Warwick	8.05	221,38
08/19/2020 10:20	PARKERH - Howard Parker	0.03	0.83
08/19/2020 11:14	WARWICK - Kevin Warwick	0.02	0.55
08/19/2020 13:38	MCMAHOG - Gerard Mcmahon	5,60	154.00
08/19/2020 15:50	PARKERH - Howard Parker	0.03	0.83
08/19/2020 16:14	DAMELIR - Ralph Damelio	0.03	0.83
08/19/2020 17:48	SULLIVD - Donald Sullivan	0.00	0.00
08/19/2020 17:49	DILETIG - Gino Diletizia	4.00	110.00
08/19/2020 17:53	SULLIVD - Donald Sullivan	0.08	2.20
08/20/2020 08:02	HALLB - Brian Hall	17.28	475.20



Warranty: NO

Work Order: MRDVSH-2020-911

Parts		Qty Issued	Iss Price	Tax & Markup	Total Cost
2294580467-0 - HOSE	; HOSE; ASSY; 1.250 FTG X 26.750 OAL	2.00	51.87	0.00	103.75
2294680900-0 - HOSE; HOSE; ASSY; 1.000 FTG X 28.000 OAL;F40PH-3C		2.00	35.00	0.00	70.00
2470301251-0 - COVE CARSSINGLE RECEP	R; COVER; WEATHER RESISTANT RECPT F/ PULLMAN T	1.00	3.32	0.00	3.32
2470301597-0 - SCRE F/200 BOMB VEST CEI	W; SCREW; THUMB; 18-8 STAINLESS; KNURLED HEAD	1.00	4.00	0.00	4.00
Task: <b>C17-000 - Gene</b>	ral Coach Tasks Group				Warranty: NO
WAC:	Reason: E - NOTED IN PM		-		wantanty. 110
Work Class:	Comments:				
Task: <b>P05-116-0060</b> -	Trap Door Assembly - 2R + 1L				Warranty: NO
WAC:	Reason: E - NOTED IN PM				warranty: NO
Work Class:	Comments:				

Overhead

Small Parts - Labor: 0.00

Tools: 0.00

Small Parts - Parts: 0.00

Overhead Costs: 0.00

Total Overhead Costs: 0.00





### PM PACKET SIGN-OFF SHEET

Instructions: Please complete this form ensuring all attached paperwork is completed. Once completed, attach this form with the required PM packet documents.

Work Order #: 1 RDVSH - 2020 - 9	7//	Equipment ID:
PM Service (ex. 45-Day, 92-Day, 1YR etc.):		180 Day
Date Work Order Opened:		Date Work Order Closed:
Confirm all work carried out in accordance		Work Deferred
with the PM requirements:	Yes	lo
If work Deferred, confirm that a Deferred		Enter Deferred Work Order number below
work order has been raised:	Yes N	10
		Enter Deferred Work Order Number
All required forms are attached and	Yes	0
completed: Locomotive Tests	(ies)	
Oil Sample		Coach Tests
Air Filters		Disc Report  A/C Filters
45 Day PM		Toilet
		45 Day PM
Equipment Release Date: 8/20/2	20	
Manager/Supervisor Reviewing Work Order: (	Please prin	t clearly and sign)
Name:	Signatu	
Supt reviewing Work Order: (Please print clearly	and sign)	
Name: Kevin Mullin	Signatu	re: /////
Comments:	-	
		i de la companya de l

PM Checklist								
Task / Comment BTC180-PM	Exceptio	n PM: No	Employee	Completed	N/A	Failed	SR	Comments
PM448 BLIND TRA 180-DAY INSPECTION		PARKERH PARKER	- HOWARD	1				K METROKEN KIKA KIPALARIA KILA 1.13
PM110 SHEET ME	TAL WORKER	PARKERH PARKER	- HOWARD	<b>√</b>				T.C ASSISTED
PM323 - CHECK UNDERCAR OF LOOSENING AND DAMAG	PIPING FOR SIGNS	PARKERH PARKER	- HOWARD	1				T.C
PM330 - INSPECT ALL PIPIN HOSES & FITTINGS THAT SI	G, VALVES, HOW SIGNS	PARKERH PARKER	- HOWARD	1				T.C
Procedure: OF LEAKSÝ ABRA HOLESÝ HAVE MISSING OR COMPONENTS OR ARE BELII RESTRICTIONS.	BROKEN							
PM338 - FLUSH AND CLEAN EVAPORATOR COILS	DRAINPAN UNDER	PARKERH PARKER	- HOWARD	1				
PM339 - REPAIR ANY TORN INSULATION	OR MISSING PIPE	PARKERH PARKER	- HOWARD	1				II tida pad sain sad sain sad sa
PM720 - RECONNECT HOSES TO TRUCKS	FROM CAR BODY	PARKERH PARKER	- HOWARD	1				e energia de la vida cinsta di un di un
PM721 - AVAILABLE FOR LEA SINGLE CAR AIR TEST	AK REPAIR DURING	PARKERH PARKER	- HOWARD	<b>√</b>				
PM117 CARMAN		DUNNJ - J	AMES DUNN	<b>√</b>				
PM324 - INSPECT ALL BRAKE VALVES TREAD BRAKES FOR	EQUIP INCL. PROPER	HURNEYJ -	- JOHN HURNEY	<b>√</b>				HERVER FOR FREE STATE OF THE ST
Procedure: OPERATIONÝ SEC ALL BOLTS AND BUSHINGS A KEYS	CUREMENT OF AND COTTER							
PM325 - INSPECT TRUCK FR TRUCK-MOUNTED COMPONE	AME AND NTS FOR PROPER	SULLIVD - SULLIVAN		✓				
Procedure: SECUREMENT AN WEAR. I.E. VERTICAL BUMPE BUSHINGSÝ AIR SPRING SYS ABSORBERSÝ JOURNAL BOX ALL SPRINGS AND SEATSÝ TCASTINGÝ BRAKE RIGGINGÝ BOLSTER ANCHOR RODSÝ SÆQUALIZERSÝ AND TIE BAR.	ersý rubber Temý shock And bearingsý Ruck center Side bearingsý Afety hangersý	,						
PM817 - CHECK ALL EQUALIZ BUSHINGS FOR DAMAGE, RE	ZER BEAM PLACE AS REQ	HURNEY) -	JOHN HURNEY	1				DS
Procedure: UIRED - 8 LOCAT RMM 12.2.3 FRA 238.303(C)(	IONS PER COACH 5)(IV)							
PM326 - INSPECT WHEELS A COMPLETE WHEEL REPORT	XLES AND	MCMAHOG MCMAHON		1				AND REAL PROPERTY AND REAL PROPERTY.
PM327 - CHANGE BRAKE SHO	DES AS NEEDED	HURNEY) -	JOHN HURNEY	1				
PM328 - INSPECT COUPLERS PARTS FOR HEIGHT AND COI	AND COUPLER NDITION	MCMAHOG MCMAHON	- GERARD	1				
Procedure: RECORD ON CRM- FRA-238.303(E)(3)	-3A RMM-3.2 FRA							



Work Order: MRDVSH-2020-911

PM329 - INSPECT DRAFT GEAR - TIGHTNESS	HURNEYJ - JOHN HURNEY			
IN POCKET, CRACKING,	HORNEY	V		
Procedure: OTHER DAMAGES				
PM637 - INSPECT WELDED BRACKETS USED TO ATTACH HANDRAILS ON BOMBARDI	SULLIVD - DONALD SULLIVAN	<b>√</b>		
Procedure: ER COACHES (300`SÝ 600`S AND 1600`S) AND ON KAWASAKI COACHES (700-766Ý AND 1700`S). ALSO INSPECT WELDED BRACKETS AT UNCOUPLING LEVERS ON ALL KAWASAKI COACHES (700 SÝ 900 SÝ AND 1700 S).				
PM331 - INSPECT ENTIRE CAR BODY FOR LOOSE , DEFECTIVE AND	SULLIVD - DONALD SULLIVAN	1		
Procedure: MISSING PARTSÝ TO INCLUDE LUGGAGE RACKSÝ SEATSÝ SEAT ATTACHMENTS AND TRAPS RMM-1.4.1.A FRA FRA-238.307(C)(1)				
PM332 - CLEAN FRESH AIR INTAKE SCREEN AT BOTH ENDS	HURNEYJ - JOHN HURNEY	<b>√</b>		
PM333 - TEST AND LUBRICATE THE HANDBRAKE	HURNEYJ - JOHN HURNEY	1		
PM334 - INSPECT FIRE EXTINGUISHER FOR PROPER GAUGE AND DATE AND VERI	DAMELIR - RALPH DAMELIO	<b>√</b>		***************************************
Procedure: FY PIN AND SEAL ARE INTACT FRA-238.307(C)(4)				
PM335 - INSPECT FOR EMERGENCY PRY BAR IN PLACE	DAMELIR - RALPH DAMELIO	1		
PM336 - LUBRICATE ALL MOVEABLE PARTS INCLUDING DOOR TRACKS AND	DAMELIR - RALPH DAMELIO	$\checkmark$		
Procedure: ROLLERS WITH DRY GRAPHITE				9.
PM337 - REPLACE BAD-ODOR SPONGE AT BOTH ENDS OF CAR	DAMELIR - RALPH DAMELIO	1		NI THE SHE SPECIES AND DE
PM651 - INSPECT ALL SEATS, SEAT CUSHIONS AND SEAT ATTACHMENTS FOR BR	DAMELIR - RALPH DAMELIO	<b>√</b>		
Procedure: OKENÝ LOOSEÝ OR SHARP EDGES RMM-1.4.1.A FRA FRA-238.307(C)(1)				
PM340 - VERIFY PROPER OPERATION OF EMERGENCY EXIT WINDOW	DAMELIR - RALPH DAMELIO	1		
Procedure: LOCATION AND RECORD	1			- 1
PM341 - CHECK FOR PROPER EMERGENCY SIGNAGE INTERIOR AND EXTERIOR AND	MCMAHOG - GERARD MCMAHON	1		tota koto kina kasa zizi zizigi
Procedure: HIGH VOLTAGE SIGNS.				
PM341.2 - INSPECT LOW LEVEL EXIT PATH MARKING (LLEPM) SIGNAGE	DAMELIR - RALPH DAMELIO	<b>√</b>		
PM342 - FUNCTIONALLY TEST OPERATION OF POWER DOOR RELEASE MECHANISMS	DAMELIR - RALPH DAMELIO	1		NAME OF THE PARTY
Procedure: BOTH INTERIOR AND EXTERIOR - POWER DOOR EQUIPPED COACHES ONLY.				
PM575 - TEST ALL EMERGENCY VALVES (CONDUCTORS VALVES)	DILETIG - GINO DILETIZIA	1	П	



Work Order: MRDVSH-2020-911

PM343 - PERFORM SINGLE CAR AIR TEST (RECORD ON CRM-3A)	DILETIG - GINO DILETIZIA	1		
Procedure: NOT ON 180 DAY IN LINE INSPECTION EXCEPT IF CONDITIONS WARRANT				
PM574 - REPLACE E-TYPE FILTER CARTRIDGE	DILETIG - GINO DILETIZIA	<b>√</b>		
PM610 - CHECK FOR FIRST AID KIT AND REPLENISH AS NECESSARY	DAMELIR - RALPH DAMELIO	1		
PM360 - CLEAN RETURN AIR FILTER GRILLS	MCMAHOG - GERARD MCMAHON	1		
PM454 ELECTRICAL	WARWICK - KEVIN WARWICK	1	BH D	Н
PM345 - INSPECT ALL UNDERSIDE CONDUIT AND ENCLOSURES FOR SIGNS OF	WARWICK - KEVIN WARWICK	<b>√</b>	BH D	H
Procedure: DAMAGE AND SEAL INTEGRITY				
PM346 - CHECK UNDER CAR HIGH AND LOW VOLTAGE WIRING AND CABLING AND	WARWICK - KEVIN WARWICK	1	BH D	H
Procedure: ELECTRICAL EQUIPMENT FOR SIGNS OF DAMAGE OR OVERHEATING	and the second			
PM347 - CHECK ALL WHEEL SENSORS AND CABLING FOR SIGNS OF DAMAGE AND	WARWICK - KEVIN WARWICK	1	BH D	Н
Procedure: PROPER GAP				
PM348 - INSPECT AND CLEAN ALL JUMPERS AND JUMPER RECEPTACLES	WARWICK - KEVIN WARWICK	1	BH D	Н
PM349 - REPAIR OR REPLACE AS NEEDED ALL GROUND STRAPS AND CABLES	WARWICK - KEVIN WARWICK	<b>√</b>	BH D	H
PM712 - REPAIR AND REPLACE TRAP HEATERS (AS NEEDED)	WARWICK - KEVIN WARWICK	1		O 102 fbs tos tosees
PM350 - TEST ALL M.U. AND SIGNAL CIRCUITS	WARWICK - KEVIN WARWICK	1		e eeskwa kaa ce-tr
PM351 - CHECK ALL SWITCHES, RELAYS, CONTACTORS, SHUNT TRIPS, WIRING	WARWICK - KEVIN WARWICK	1		Mitologia bara bara bara ba
Procedure: CONNECTIONS AND CIRCUIT BREAKERS FOR PROPER OPERATIONSÝ SIGNS OF LOOSENING AND OVERHEATING.				М
PM352 - REPLACE AS NEEDED HEAD LIGHTS, BRAKE INDICATOR LIGHTS, CLASS	WARWICK - KEVIN WARWICK	1		
Procedure: LIGHTSÝ NUMBER LIGHTSÝ STEP LIGHTSÝ EMERGENCY LIGHTS AND GENERAL LIGHTING.				
PM353 - TEST WHEEL SLIDE SYSTEM FOR PROPER OPERATION AND SECURE CONT	WARWICK - KEVIN WARWICK	1		
Procedure: ROL BOX	A TORRESCOOL OF THE SECURITY O			
PM354 - CLEAN AND VACUUM ALL ELECTRICAL LOCKERS	WARWICK - KEVIN WARWICK	1		
PM355 - CHECK FOR PROPER OPERATION OF H.V.A.C. CONTROLS AND THERMOST	BARRYB - BRIAN BARRY	1		STREETERS COLORS
Procedure: ATS				



PM356 - CHECK THE EVAPORATOR BLOWER

Work Order: MRDVSH-2020-911

PM356 - CHECK THE EVAPORATOR BLOWER AND CONDENSER FANS FOR PROPER	BARRYB - BRIAN BARRY	1			
Procedure: WORKING CONDITION					
PM357 - REPLACE RETURN AIR AND FRESH AIR INTAKE FILTERS	BARRYB - BRIAN BARRY	1			
PM358 - INSPECT ENTIRE H.V.A.C. SYSTEM FOR LOOSE OR MISSING COMPONEN	BARRYB - BRIAN BARRY	<b>√</b>			S SOC LES DOC MES CONTRACT (S)
Procedure: TS, LEAKS AND SIGNS OF EXCESSIVE VIBRATION					
PM359 - INSPECT COMPRESSOR FOR PROPER OIL LEVEL AND RECEIVER TANK FO	BARRYB - BRIAN BARRY	<b>V</b>			
Procedure: R PROPER REFRIGERANT LEVEL					
PM362 - TEST HIGH AND LOW VOLTAGE SYSTEMS FOR GROUNDS	WARWICK - KEVIN WARWICK	1			
PM363 - INSPECT AND REPAIR TRAP HEATERS AS NEEDED	WARWICK - KEVIN WARWICK	1			
PM638 - TEST POWER DOOR OPERATION-POWER DOOR EQUIPPED COACHES ONLY	WARWICK - KEVIN WARWICK	1	ПП		NON-POWER DOC
PM361 - CLEAN SURFACE OF CONDENSER COILS	BARRYB - BRIAN BARRY	1			
PM5032 COACH CLEANER	DUNNJ - JAMES DUNN	1			en energe met ove per per
PM5974 - REMOVE ALL TRASH	NURSEM - MARK NURSE	1		П	
PM5982 - REMOVE ALL TRASH FROM ELECTRICAL LOCKER AND FUSEE BOX	NURSEM - MARK NURSE	1			
PM5983 - WIPE DOWN ALL HANDLES GRAB HANDLES AND HANDHOLDS	NURSEM - MARK NURSE	1			
PM5984 - CLEAN SEAT BACKS BOTTOMS AND TABLES	NURSEM - MARK NURSE	1			
PM5985 - SWEEP AND WET MOP FLOORS AND STAIRS	NURSEM - MARK NURSE	1			C7 - 22 - 27 - 23 - 24 - 27 - 24 - 27 - 24 - 27 - 27 - 27
PM5986 - HAND WASH ALL TOILET ROOM SURFACES AND BUTTONS	NURSEM - MARK NURSE	1			El titi toe toe coe coe coe c
PM5987 - CLEAN AC VENTS	NURSEM - MARK NURSE	1			
PM5988 - WIPE DOWN ALL CAB SURFACES CONTROLS AND DISPLAY SCREENS	NURSEM - MARK NURSE	1			
PM5989 - CLEAN WINDSHIELD INSIDE AND OUTSIDE	NURSEM - MARK NURSE	<b>√</b>			PRESENCE AND EXTREMED TO THE STATE OF THE ST
PM5990 - CLEAN ALL WINDOWS	NURSEM - MARK NURSE	<b>√</b>			
PM5975 - REMOVE ALL GRAFFITI AND UNAUTHORIZED MATERIALS	NURSEM - MARK NURSE	1			

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#### **Comments:**

Internal Parts Cost:	\$181.07
Internal Labor Cost:	\$1,183.90
Commercial Parts Cost:	\$0.00
Commercial Labor Cost:	\$0.00
Commercial Misc Cost:	\$0.00
Commercial Tax & Markup:	\$0.00
Equipment Usage Costs:	\$0.00
Overhead Costs:	\$0.00

Internal Total:	\$1,364.97
<b>Commercial Total:</b>	0.00
Work Order Total:	\$1,364.97





## **EMERGENCY LIGHTING DURATION TEST RECORD**

# **All Single-Level Coaches**

	ne end of 60 minutes in operation, the emergency		(check one):	
	All emergency lighting is functioning properly  Duration: minutes (How long lighting functioned)		Record any failures a replacements on MR	
END	LIGHTING ARRANGEME	W 17	12 13 14 15 14 77	#1 END 200 - 258 SERIES
ND (	LIGHTING ARRANGEME	19 1: NT	12 13 54 15 56	#1 END 350 - 389 SERIES
a d	LIGHTING ARRANGEMEN	16 NT	13 13 14 15	#1 END 600 - 1600 SERJES BT
<i></i>				

NOTE: Refer to instructions for performing tests on Page 2 if needed.



# EMERGENCY LIGHTING DURATION TEST RECORD **All Single-Level Coaches**

### INSTRUCTIONS:

Before beginning, verify the following: Any/All emergency lighting ballast replacements have been completed.

- 1. The emergency lighting ballasts have been charging for at least 30 minutes.
- 2. Ensure the main lighting circuit breaker is ON, all individual light switches are ON, and when equipped, the emergency light CUTOUT SWITCH in the circuit breaker control panel is in the NORMAL position.
- 3. Varify all regular inside coach lighting in ON.
- 4. Turn the main lighting circuit breaker OFF.
- 5. Verify all emergency lighting comes ON.
- 6. Verify emergency lighting remains ON for 60 minutes. If at any point in the 60-minute period the emergency lighting stops functioning altogether, record its duration on the MR1 form, then refer to the NOTE that follows Step 10.
- 7. At the end of 60 minutes, record the results in the spaces provided on the record sheet.
- 8. Turn the main lighting circuit breaker ON after testing /recording is complete.
- Ensure the record sheet is fully completed, then submit it to the Foreman on duty. The completed record sheet is to be included in the PM completed work order and control forms package.
- 10. Charge the emergency ballasts for 30 minutes.

NOTE: If any of the steps fail to perform as expected, consult the OEM manual as needed, and troubleshoot/repair/replace parts. If all the emergency lighting fails early, begin by doublechecking that the ballast actually did charge a full 30 minutes prior to testing. Retest. Provide PM comments or open a Service Order, whichever is applicable.



# COACH COUPLER INSPECTION REPORT



For any maintenance and/or replacement

Task	Description	Other reference	Front	Rear
	Inspect Coupler to Include:			
1.	Visually Inspect Coupler for Proper Coupling, damage and Body Integrity	FRA-238.303(e)(3) APTA PR-M-RP-002-98	Sm	GM
2.	Gauge Coupler for 31000 34100-1 34100-2A (if required) 32600 34101-4 44250-5	APTA PR-M-RP-002-98	-GM	GM
3.	Inspect Coupler lock + lock drop/ and inspect for proper coupling CHECK "TELLTALE" IS CLEAR, NO OBSTRUCTION.	APTA PR-M-RP-002-98	SA	GM
· 4.	Inspect Coupler Anti-Creep+ Draft Gear for Excessive Wear, Loose or Cracked Welds in Pocket	FRA-238.303(e)(3) APTA PR-M-RP-002-98	GM	GM
5.	Coupler Lock Lift (Special Lock) lever and Operating Rod Eye Clearance.	APTA PR-M-RP-002-98	GM	GM
6.	Inspect Coupler Free Slack	APTA PR-M-RP-002-98	GM	Son
7.	Inspect Coupler Left Level Coupler as Required, Measure Height+ Record on Document# HRU-3	HRU-3	GM	GM
8.	Perform Coupler Carrier Inspection	FRA-238.303(e)(3) APTA PR-M-RP-002-98	GM	GM
	Record all Defects on Form MR1			

Date:	8/19/20	Employee: 6 McMahan	32
Employee ID:		Employee Signature:	
Foreman:	Peter & Seddon	Foreman Signature:	

KCS-ME-FO-210072 Rev. 4

11/6/2018 Coupler Inspection Report

-	~	1	0	4000
			7	-
-				No.

Coach #: 207

# **COACH WHEEL REPORT**



	7		WHEELM	EASURE	_	Test Date	: 8/19/20
POS.	FLANGE HEIGHT [LIMIT: 1 7/16"]	FLANGE THICKNESS [LIMIT: 1"]	RIM THICKNESS [LIMIT: 1 1/18"]	POS.	FLANGE HEIGHT [LIMIT: 1 7 /16"]	FLANGE THICKNESS [LIMIT: 1"]	RIM THICKNESS [LIMIT: 1 1/18"]
L1	146	184	2"	R1	146	154	) "
L2	1-8	1784	ð"	R2	186	112	2"
L3	146	134	2/2	R3	11/2	130	27
L4	1/8	11264	246	R4	1/2	1/24	241

Comments:

**TOP OF RAIL CLEARANCE HEIGHT** 

COUPLER HEIGHT (MAX. 34 1/2" MIN. 32 1/2")		PILOT HEIGHT (MAX. 6" MIN. 4")		FLOOR HEIGHT (51 in±1.0")	
FRONT	323		r/A	1R 51.50	11 51.50
REAR	73	FRONT	1/1-+	2R S1, 25	2L 51.50

**AIR SPRING VERIFICATION INSPECTION** 

	AIR SPRING HEIGHT		AIR	No.	
1 9	L2_9	R1_9	R2_9_	SPRING PRESSURE	NO. 1 ENDLBS.

SINGLE CAR TEST PRESSURES

ASP		ВСР	FULL SERVICE	EMERGENCY	AMERICAN PROPERTY.
DEFLATED	0	DEFLATED	55	70	
AW0	56	AWO	60	73	
AW3	72	AW3	71	81	

	1000
Employee:	
Foreman:	" 07512.
Officer:	и

### Keolis

# MBTA COMMUTER RAIL COACH WHEEL SLIDE REPORT

VEHICLE NO	207 DATE	8/19/20	LOCATION: Re	du
WHEEL 81	IDE CONTROL UNIT:			
口	Wheel Slide Control Un performance test	nit System	COMMENTS:	
	Electronic panels, cards	s, wires, test		
口	Speed sensor resistance	check		
	#2 <u>980</u> #3 <u>976</u> #4 <u>979</u>	Signature:	BH KN	
PNEUMAT	ICS:		COMMENTS:	
	A & B valve operation			
	В	Signature:	BH KW	
SPEED SEN	SORS AND CABLES:		COMMENTS:	
回	Speed sensor cables			
四	Proper sensor			
国	Speed sensor gap			
	gear	Signature:	BH KW	
<u>DEFERRED</u>		SEVERITY A - HOLD CAR B - SCHEDULE F C - MONITOR		RECOMMENDED SEVERITY CODE
SYSTEM ST	ATUS:			
	FUNCTIONING	Foreman	DO A LIN	
	NOT FUNCTIONING	Signature:	TUNKEN	03911

Keolis

# MBTA COMMUTER RAIL HVAC SYSTEM INSPECTION for Single Level Coaches

Bombardier Coaches 600-653, 1600-1652 (Faiveley A/C System R-22)
Bombardier Coaches 350-389, (Stone Safety A/C System R-22)
MBB Coaches 500-532, 1500-1533 (Sigma A/C System R-22)
Pullman Coaches 200-257 (Stone Safety A/C System R-22)

COACH CLE	ORER	EMP. ID #	CAR NUM	TED: 8	19-202	30
REQUIRED TO	OOLS: Oil Test Kit TA-1, Fluk	e Multieter with clamp-or	n Ammeter and ther	mocoupl	е	
	attachments, Megohm	neter, Electronic Leak De	tector, HVAC Manif	old Gaug	jes,	
	Bristle Brush, Rubber	Mallet, Step ladder			51 X2	
WARNING	ALL SAFETY PRECAUTION BE STRICTLY ADHERED INSTRUCTIONS FOR DETERIOR TO STARTING AN	TO. FOLLOW SPECIFIC ERMINING IF EQUIPME	PROCEDURE			
			F	PASS	FAIL	
Verify refrige     If none visible	erant level in lower sight glas e refer to leak detection/repa	s of receiver tank is visib air procedure	le.			
Inspect using oil at pipe co	g visual and electronic leak on Innections, fittings, valves, co	letector for Freon leaks a ompressor, condenser co	ind traces of bils, etc.	~		
<ol><li>Vacuum air i flow.</li></ol>	ntake compartment and che	ck evaporator pan and di	rains for water	W		
4. Wash return	air grill.					
5. Check all mo	tors and mounts for securen	nent and deterioration/da	mage.			
6. Inspect air flo	ow boots for integrity and pro	per attachment.				
<ol><li>Inspect all co blower motor</li></ol>	ntactors, that control compress.	essor, condenser fan, hea	aters, and			
8. Blow all contr	ol boxes with air to clean an	y debris from them.				
Check for pro	d dust from temperature sens per securement.		ntrol units.			
10. Replace air fi	Iters and Bad Odor Sponges	• b				
			P	ASS	FAII	

11.	Megger test compressor Megohmeter.	r, condenser fan, and blo	wer motors for grounds v	vith
12.	Megger test from heater	of all overhead (30-80 Ω's circuit to ground (>2MΩ) May through November	. See Chart in appendix	
13.	Test resistance values of	of all protective heaters (1 recircuit to ground (>2M $\Omega$ )	0 to 50 Ω's).	Mariota
14.	Inspect and test operation (Klixon).	on of air flow switch and o	overhead heat thermosta	t
15.	Inspect all motors and re	ecord current draw on all	phases.	
	MOTOR #1 Phase A Phase B Phase C	CONDENSER Phase A Phase B Phase C	27	OMPRESSOR MOTOR Phase A 23.8 Phase B 23.5 Phase C 24.4
	Phase B Phase C		FAN MOTOR #2 2.6 2.8 2.9	
16.	Check for proper rotatio	n and air flow of condens	er fan and blower motors	
17.	Check thermal expansion	on valve bulbs for proper	securement.	
	PUT HVAC SYSTEM	ON AUTOMATIC AND C	HECK FOR PROPER O	PERATION
18.	Between Nov 1st throug of system, apply diagno record Freon pressures	nh May 1st apply manifolo stic equipment (TEST BC	gauges to high and low DX). Operate the system	sides
		1 END		. 2 END
	Line valve THX	Modulation THX	Line valve THX	Modulation THX
	Low Side Suction Pressure	Suction Pressure	Low Side Suction Pressure	Suction Pressure
	Saturation Temp.	Saturation Temp.	Saturation Temp.	Saturation Temp.
	(from chart)	(from chart)	(from chart)	(from chart)
	Suction Temp	Suction Temp	Suction Temp	Suction Temp
	SUPERHEAT	SUPERHEAT	SUPERHEAT _	SUPERHEAT
		High	n Side	
	Ambient Temperature		Discharge Pressure	
	L			

PASS FAIL

19	<ul> <li>Charge system as necessary to maintain Freon level 1/2 full on lower sight glass. (Nominal: 270 - 275 psig)</li> </ul>		
20	Cover condenser coils with cardboard to cause #2 condenser fan to operate.     (Nominal: 250 psig)		
	START PRESSURE: 270		
21	. Restrict compressor suction valve to lower system pressure, until shutdown. (Nominal: 20 to 25 psig)		
	SHUTDOWN PRESSURE:		
	REOPEN SUCTION VALVE		
22	Block condenser completely to cause system to go into modulation, if necessary heat coach prior to attempting modulation to cause a higher pressure. (Nominal: 380 - 400 psig)  MODULATION PRESSURE:  Observe that modulation occurs and continues to operate in modulation until a pressure of 330 +/-10 psig is reached. (When modulation occurs you will see a sudden drop in pressure around 400 psig).		
23.	Block condenser completely to cause system to shutdown on high pressure, if necessary heat coach prior to attempting shutdown to cause a higher pressure. (Nominal: 425 - 430 psig)  SHUTDOWN PRESSURE: 425		
	CAUTION: DO NOT CONTINUE IF PRESSURE GOES ABOVE 435 psig.  NOTE: Do not use discharge valve to raise pressure.		
24.	Record the loading pressure and the unloading pressure for each head. (place a heat load on the coach and use suction valve)		
	1st stage unloader LOADED:  (Nominal: 63 - 65 psig)  2nd stage unloader LOADED:  (Nominal: 68 - 70 psig)  1st stage unloader UNLOADED  (Nominal: 51 - 55 psig)  2nd stage unloader UNLOADED  (Nominal: 56 - 60 psig)	-13	_
25.	Check system for moisture at the filter dryer sight glass indicator, if indicator is pink in color, or the sight glass indicates moisture, checked failed. If failed change the filter/dryer.		
	Between Nov 1st through May 1st take oil sample (Acid Test) use test kit. Follow the oil sample kit instructions to determine condition of the compressor oil and record result.		
	MARGINAL PASS FAIL N/A		
27.	Wash condenser compressor unit and associated piping.		
	pier .		
		2465	
		PASS	CAH

28	Using the DTE (Diagnostic Test Equipment) raise the temperature in the coach so that Full Cool will be called for. (>75°F)
29	Remove the DTE and observe that the coach responds properly moving from Full Cool to Partial Cool. Verify that the modulation valves deenergize. (Appox. 74°F)
30	When the Coach gets cooler Reheat is energized. Verify 1st stage OH heat contactors close. (Approx. 72°F)
31	The Coach should continue to cool until Partial cool drops out. Verify Compressor contactor is Open. (Approx. 71°F)
Rev	FOREMAN MANAGER

### **APPENDIX A**

Resistance Chart

200	OH - 1st Stage	75+- 2.5	Ω
	OH - 2nd Stage	47.5+- 2.5	Ω
	FH - 1st Stage	32.5 +- 2.5	Ω
	FH - 2nd Stage	Disabled	
300	OH - 1st Stage	75+- 2.5	Ω
	OH - 2nd Stage	47.5+- 2.5	Ω
	FH - 1st & 2nd Stage	52.5 +-2.5	Ω
500	OH - 1st Stage	67.5 +- 2.5	Ω
	OH - 2nd Stage	35 +- 5	Ω
	FH - 1st & 2nd Stage	35 +- 5	Ω
600	OH - 1st Stage	57.5 +- 2.5	Ω
	OH - 2nd Stage	37.5 +- 2.5	Ω
	FH - 1st & 2nd Stage	32.5 +- 2.5	Ω



### REFRIGERANT USAGE AND LEAK REPAIR RECORD

The EPA, in accordance with Section 608 of the CLEAN AIR ACT, requires record keeping of refrigerant usage and leak repairs for comfort cooling systems with a charge of 50 pounds or greater. All single level coaches have approximately a 55 pound charge. Kawasaki coaches have a 33 pound charge in each end. Any leak with an annual leak rate greater than 15% of system capacity must be repaired.

Coach $207$ Date $8-$	19-2020 Location KEADUILLE
Defect	
Repair	
Amount of Refrigerant recovered from system	-0-
Amount of recovered Refrigerant reinstalled in syst	tem _ O ~
Amount of new Refrigerant charged to system	
Amount of Refrigerant drawn from stores	-6-

				- William Constitution of the Constitution of	le-leve	**************						В	i-leve	1	NAME OF THE OWNER, WHEN
	_	-		55#	SYSTE	Μ					VS	RS 3	3# SY	STEM	
#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
1	1.8	12	21.8	23	41.8	34	61.8	45	81.8	1	3.0	12	36.4	23	69.7
2	3.6	13	23.6	24	43.6	35	63.6	46	83.6	2	6.1	13	39.4	24	
3	5.5	14	25.5	25	45.5	36	65.5	47	85.5	3	9.1	14	42.4	25	A CONTRACTOR DESCRIPTION OF THE PARTY OF THE
4	7.3	15	27.3	26	47.3	37	67.3	48	87.3	4	12.1	15	45.5	26	
5	9.1	16	29.1	27	49.1	38	69.1	49	89.1	5	15.2	16	48.5	27	_
6	10.9	17	30.9	28	50.9	39	70.9	50	90.9	6	18.2	17	51.5	28	-
7	12.7	18	32.7	29	52.7	40	72.7	51	92.7	7	-	18	54.5	29	CONTRACTOR DESCRIPTION OF THE PARTY OF THE P
8	14.5	19	34.5	30	54.5	41	74.5	52	94.5	8	24.2	19	57.6	30	
9	16.4	20	36.4	31	56.4	42	76.4	53	96.4	9	27.3	20	60.6	31	93.9
10	18.2	21	38.2	32	58.2	43	78.2	54	98.2		30.3	21	63.6	32	97.0
11	20.0	22	40.0	33	60.0	44	80.0	55	100.0	-	33.3	22	66.7	33	100.0

Alstom	Bi-level					
Alte 13	# Circuits					
#	1 %					
1	8					
2 3	15					
3	23					
4	31					
5	38 46					
6						
7	54					
8	62					
9	69					
10	77					
11	85					
12	92					
13	100					

Has the system been charged in the past 12 months?

If yes, what was the percentage of system capacity charged?

What is the percentage of system capacity charged for this repair?

Total percentage charged past 12 months

Technician

Foreman

Copies of this form are to go into the coach file and into the Freon control file.