

FINAL REPORT OF INVESTIGATION A&I E19252

May 21, 2019

Train Movement with Doors Open

Adopted by the Washington Metrorail Safety Commission at its meeting on October 8, 2019.

Washington Metrorail Safety Commission
777 North Capitol Street, NE, Suite 402
Washington, DC 20002



FINAL REPORT OF INVESTIGATION A&I E19252**SMS #20190521#80061**

Date of Event:	05/19/2019
Type of Event:	Train Moved with Doors Open
Incident Time:	13:55 hrs.
Location:	Dunn Loring Station (K07), Track 1
Time and How received by SAFE:	16:12 hrs., - 05/20/2019 - Social Media
Safety Officer Response:	Yes
Time of Safety Officer Arrival:	05/20/2019 - 19:00 hrs.
Time of Safety Officer Departure:	05/21/2019 - 21:00 hrs.
Rail Vehicle:	L3135 -3134.3104-05.3142-43.3091-90T
Injuries:	None
Damage:	None
Emergency Responders:	SAFE

Executive Summary

On Monday, May 20, 2019, at 17:12 hrs., SAFE received notification Via. Social Media, that on Sunday, May 19, 2019, at approximately 13:55hrs., an Inbound Orange Line legacy fleet consist (**L3135**-3134.3104-05.3142-43.3091-90T) traveling in the direction of New Carrollton Station (D14) experienced a door event after servicing the Dunn Loring Station (K07). This anomaly allowed the doors to remain open while the Train Operator (T/O) commanded the train by Master Controller (MC) operation to take a point of power thus enabling Train ID 903 to move. Note: Under normal conditions, the train would not move with train doors open.

Further investigation revealed, a Westinghouse Cam Switch shunt (constructed of copper) at the MC1 position inside the MC broke as a result of exceeding its mechanical endurance cycle and bridged (shorted) the broken shunt to MC7 position which energized the Door Check Relay (DCKR). Note: As a final check, the door system DCKR component verifies doors are closed by reading signals from the door summary relays for each door. Once the DCKR was satisfied, it allowed the T/O to move the train in Power Mode (P1-P5) with the doors open. Refer to photos 1-9

Based on Closed Circuit Television (CCTV) video recording playback of K07 platform, it revealed the following information related to the event:

- The train doors outside indication lights were illuminated and doors were open on all cars as the train left K07 station. Refer to photos 1-9
- The train doors did begin to close after Train ID 903 began to move.

- The T/O failed to follow Metrorail Safety Rules and Procedures Handbook (MSRPH) Standard Operating Procedure SOP 40 (ensure door indication lights were extinguished prior to movement)

Based on Vehicle Program Services (CENV) post-incident inspection and event log data analysis, SAFE came to the following conclusion related to the rail vehicle involved:

- The Train ID 903, lead car 3135, arrived at K07 station on track 1 (inbound) at approximately 13:53:00 Hrs.
- Six (6) seconds later, the Left Door Open push-button was depressed followed by the de-energization of the DCKR indicating doors opened.
- Thereafter, the Left Door Close Push Button was depressed two times in less than one (1) second.

Note: Actual door closing time is delayed by three (3) seconds after a close push-button command so pressing the door close push button twice in quick succession as indicated, the doors will stay open.

- Then, with train doors open (doors close/lock signals low indicating doors open), the Left Door open push button was depressed.
- Under this condition, the MC was commanded to P5 rate and the DCKR signal went high giving the indication of "ALL DOORS CLOSED". The Train consist started moving with DCKR showing all doors closed but door signals in the car were showing doors open (exterior red signal lights were on).
- While the train was in motion, the MC changed from Power rate to Brake rate, at the same time. Several doors in the train consist were still open causing the DCKR to drop for about 6-7 seconds at approximately 33 mph with proper brake application.
- The doors were commanded to close after Zero Speed Relay (ZSR) dropped and the train went into a Full-service Brake (B4 rate) application per design, but due to the inertia respect to the direction of motion, some doors remained open for more than 8 seconds.
- After all doors in the train consist were closed and locked, the Full-service Brake application was released, and the train consist continued to the next station.

Based on the salient facts as part of this investigation, CCTV video playback, CENV analysis, SAFE concludes, the T/O failed to ensure the outside door indication lights were extinguished in accordance SOP #40:

40.5.1.5.2 Verify the platform side of the train by placing your head out of the cab window and first look and identify the platform. Then look at the doors on the platform side of the train to observe any activity in front of the doors, with your hands to your side for five (5) seconds, before reaching up to touch the manual door opening button and then;

40.5.1.5.3 Depress Open Doors button on the platform side of the train.

40.5.3.2 When passenger flow has subsided, initiate the Close Door button while constantly observing the train doors closing and passengers on the platform.

40.5.3.3 If any object/customer is caught in the train doors or the door indicator lights fail to extinguish, immediately recycle train doors. Be aware that small items such as clothing can be caught in the doors and NOT cause a loss of All Doors Closed Indication. Do not allow the train to move until it has been verified that it is safe to do so.

The T/O should've continued to observe the platform until all exterior lights are extinguished, there is the requirement for "constantly observing the train doors closing" and "not allowing the train to move until it is safe to do so." The exterior lights function independently of the MC. Therefore, if the T/O observed this action, the T/O would have known the doors were open on all cars.

SAFE further concludes, CENV, Virginkar and Associates, Inc., and CMNT post-incident inspection of the rail car determined the shunt (wire) on MC1 Cam Switches inside the MC failed. The MC1 wire contacted the door check relay circuit (MC7) and became energized when MC moved to the power position giving a false indication that doors were closed. This enabled the train to take power while the doors were open. When the train reached a speed of 2-mph, a redundant safety feature (Zero Speed Relay) overrode the DCKR relay subsequently initiating the Door Close and Full-service Brake command.

Based on the 30-day work history, there were no apparent fatigue-related issues or other human factors that contributed to this incident. SAFE has no further information to disclose regarding E19252 and recommends its closure.

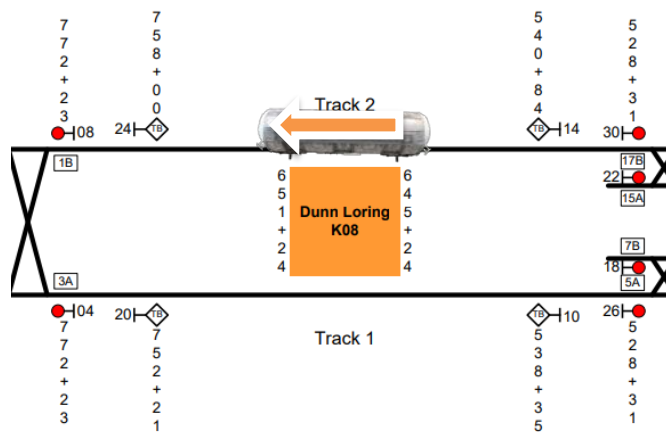
Notification

Title	Time	Comment:
WMSC	17:48 hrs.	WMSC Email Notification

Incident Site

K07, Track 2

Field Sketch/Schematics



Investigation

Interviews:

Office of Rail Transportation (RTRA)

Train Operator

During the interview, the T/O stated, as Train ID 903 approached K07 station, the T/O observed the platform prior to opening the doors on the left-hand side, initiated the door open push-button, and made proper announcements. The T/O then stated, upon closing the left side doors, he observed the platform, ensured exterior door indication lights were extinguished, verified doors were closed, and the console had an ADC indication. The T/O further stated, he then proceeded to operate as normal leaving the station. Moments later, the T/O stated the Train ID 903 loss brakes off and ADC indication, the train went into B4 Full-service brake application, and the train came to a complete stop. Seconds later, the ADC indication was achieved, and the T/O was able to continue with the operation of Train ID 903. The T/O stated, he did not notify ROCC of the event due to being able to regain ADC and thought it may have been a result of a customer leaning against a train door.

Resourced Information/Factual Data:

Virginkar and Associates, Inc

A Tear-Down Inspection was performed at WMATA Maintenance Repair and Overhaul (MRO) Shop. The MC1 shunt was broken and shorting to the MC7 Cam Switch Assembly and determined as the root cause of this door event. There are 22 Cam Switch assemblies in the MC and all were inspected with 13 found good, 2 with major defects, 2 with significant defects, and 5 others with minor findings. Please refer to Photos 1-9

Vehicles Program Services (CENV)

Date: 05/19/2019 Time: 13:55 hrs.

Final Report – Train Moved With Doors Open
E19252

Drafted By: SAFE 704 – 06/21/2019
Reviewed By: SAFE 701 – 07/01/2019
Approved By: SAFE 70 – 07-02/2019

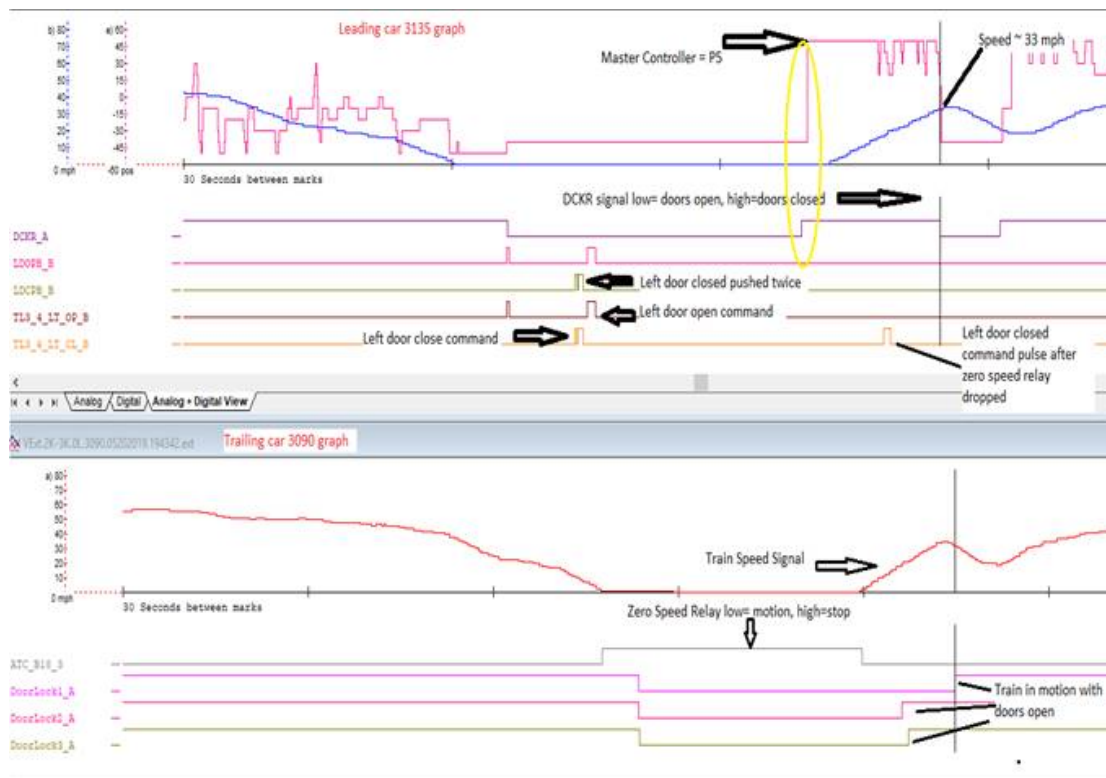
Page 4

After a review of Event Log data on the affected consist, CENV determined the following:

The Vehicle Monitoring System (VMS) data analysis indicates the following:

- The Train ID 903, lead car 3135, arrived at K07 station on track 1 (inbound) at approximately 13:53:00 Hrs.
- Six (6) seconds later, the Left Door Open push-button was depressed followed by the de-energization of the DCKR indicating doors opened.
- Thereafter, the Left Door Close Push Button was depressed two times in less than one (1) second.
- Then, with train doors still open (doors close/lock signals low indicating doors open), the Left Door open push button was depressed.
- Under this condition, the MC was commanded to P5 rate and the DCKR signal went high giving the indication of "ALL DOORS CLOSED". The Train consist started moving with DCKR showing all doors closed but door signals in the car were showing doors open (exterior red lights were on).
- While the train was in motion, the MC changed from Power rate to Brake rate, at the same time. Several doors in the train consist were still open causing the DCKR to drop for about 6-7 seconds at approximately 33 mph with proper brake application.
- The doors were commanded to close after ZSR dropped per design, but due to the inertia respect to the direction of motion, some doors closed after more than 8 seconds.
- After all doors in the train consist were closed and locked, the Full-service brake was released, and the train consist continued to the next station.

There were no intercoms activated during the next 40 minutes following the departure from Dunn Loring Station.



During the investigation, the incident event was duplicated when on leading car 3135 “All Doors Closed” condition was achieved with all doors open and MC commanded only to any power rate (P1 to P5 positions).

The fault was isolated to the MC of car 3135.

Recommendations to CMNT

- Remove and replace the MC on the car 3135 and send the original MC to MRO shop for failure analysis.
- Perform a test on the new MC installed on the car 3135.
- Perform fleet-wide inspection of MC for 2-3K railcars before releasing cars to service. Emergency **Service Bulletins (SB) B-624** submitted to proceed with the MC safety inspections.

Office of Car Maintenance (CMNT)

Car Maintenance is performing the following actions as a result of this event:

- CMNT performed a fleet-wide inspection in accordance to SB-B624 on 2-3K series railcars MC's
- MRO will Overhaul XMA-24 Master Controllers with an estimation of eight (8) overhauls per week, expected to begin overhaul in November of 2019

- MRO will perform an Inspection of Twenty-Five (25) Master Controllers per week, expected completion date October 1, 2019

Car Maintenance technicians removed and replaced the defective Master Controller performed an operation check in accordance with SB B-624 and returned the affected car back to revenue service on 6/14/2019. Refer to attachment 3 page 1-2.

RTRA Management

RTRA issued a bulletin reminding operators of the importance of verifying that door indicator lights have been fully extinguished prior to returning to the operator's seat and attempting to take a point of power and to report any unusual occurrences. Refer to attachment 1 page 1 of 1. Additionally, after further investigation, RTRA management determined the T/O failed to observe the platform in accordance with SOP 40:

40.5.1 Door Opening Procedures:

40.5.1.5.2 Verify the platform side of the train by placing your head out of the cab window and first look and identify the platform. Then look at the doors on the platform side of the train to observe any activity in front of the doors, with your hands to your side for five (5) seconds, before reaching up to touch the manual door opening button and then;

40.5.1.5.3 Depress Open Doors button on the platform side of the train.

40.5.3 Door Closing Procedures:

40.5.3.2 When passenger flow has subsided, initiate the Close Door button while constantly observing the train doors closing and passengers on the platform.

40.5.3.3 If any object/customer is caught in the train doors or the door indicator lights fail to extinguish, immediately recycle train doors. Be aware that small items such as clothing can be caught in the doors and NOT cause a loss of All Doors Closed Indication. Do not allow the train to move until it has been verified that it is safe to do so.

RTRA management re-instructed the T/O in accordance with the aforementioned SOP.

Human Factors

Years of Service

Date: 05/19/2019 Time: 13:55 hrs.

Final Report – Train Moved With Doors Open
E19252

Drafted By: SAFE 704 – 06/21/2019
Reviewed By: SAFE 701 – 07/01/2019
Approved By: SAFE 70 – 07-02/2019

Page 7

The Washington Metropolitan Area Transit Authority (WMATA) employee is an 8-year Veteran T/O with 19 years of service with the authority. The T/O was certified at the time of the incident and possessed a valid Road Way Protection (RWP) Level 2 certification. The T/O did not have any operational incidents in the last 3 years and was familiar with the Orange Line.

Fatigue

Based on SAFE's review of the T/O's 30-day work history, it was determined that the controller's hours of service were in accordance with WMATA's *Fatigue Risk Management Policy 10.6* and *Hours of Service Limitations for Prevention of Fatigue Policy 10.7*.

Post-Incident

After reviewing the T/O's post-incident testing results, it was determined that the T/O was not in violation of the Drug and Alcohol Policy and Testing Program 7.7.3/5, therefore, being under the influence of a controlled substance has been excluded as a contributing factor.

Weather

At the time of the incident, the temperature was 70°F, and clear. SAFE has concluded that weather was not a contributing factor in this incident (Weather source: National Oceanic Atmospheric Administration (NOAA) – Location: Mclean, VA.)

Findings

- CCTV video recording shows train:
 - The train doors outside indication lights were illuminated and doors were open on all cars as the train left K07 station
 - The T/O failed to follow Metrorail Rules and Procedures (MSRPH) Standard Operating Procedure SOP 40 (ensure door indication lights were extinguished prior to movement)
 - The train doors did begin to close after Train ID 903 began to move.

Post-incident Inspection revealed:

- MC1 Cam Switch identified broken within the M/C

- The MC1 bridged MC7 bypassing MC7 subsequently giving a false All Doors Closed indication
- The ZSR dropped at 2-mph overriding the DCKR per design forcing the train doors to close

Conclusion

Based on the salient facts as part of this investigation, CCTV video playback, CENV analysis, SAFE concludes, the T/O failed to ensure the outside door indication lights were extinguished in accordance to Metrorail Rules and Procedures Handbook (MSRPH) SOP #40:

40.5.3.2 When passenger flow has subsided, initiate the Close Door button while constantly observing the train doors closing and passengers on the platform.

40.5.3.3 If any object/customer is caught in the train doors or the door indicator lights fail to extinguish, immediately recycle train doors. Be aware that small items such as clothing can be caught in the doors and NOT cause a loss of All Doors Closed Indication. Do not allow the train to move until it has been verified that it is safe to do so.

The T/O should continue to observe the platform until all exterior lights are extinguished, there is the requirement for “constantly observing the train doors closing” and “not allowing the train to move until it is safe to do so.” The exterior lights function independently of the MC. Therefore, if the T/O observed this action, the T/O would have known the doors were open on all cars.

SAFE further concludes, CENV, Virginkar and Associates, Inc, and CMNT post-incident inspection of the rail car determined the shunt (wire) on MC1 Cam Switches inside the M/C failed. The MC1 wire contacted the MC7 and became energized when M/C moved to the power position giving a false indication that doors were closed. This enabled the train to take power while the doors were open. When the train reached a speed of 2-mph, a redundant safety feature (Zero Speed Relay) overrode the DCKR relay subsequently resulting in the doors to close.

SAFE has no further information to disclose regarding E19252 and recommends its closure.

Immediate Mitigation to Prevent Recurrence

- The affected consist was removed from service for post-incident inspection
- WMATA temporarily grounded the 2K/3K legacy fleet

- CENV issued SB-B624, a daily test procedure for the entire 2K/3K legacy fleet which tests M/C's prior to entering revenue service.
- CMNT performed a fleet-wide inspection in accordance to SB-B624 on 2-3K series railcars MC's
- MRO will Overhaul XMA-24 Master Controllers with an estimation of eight (8) overhauls per week, expected to begin overhaul in November of 2019
- MRO will perform an Inspection of Twenty-Five (25) Master Controllers per week, expected completion date October 1, 2019
- RTRA re-issued door observation procedure to all T/O's
- T/O was re-instructed in accordance with SOP 40.

Corrective Action

Short Term (State of Good Repair)

- CENV shall develop Maintenance and Service Instruction (MSI) 180314 for inspection and overhaul of XMA-24 MC Cam Switches
- CMNT shall inspect and perform preventative maintenance on Master Controllers per MSI 180314

Long Term (Overhaul)

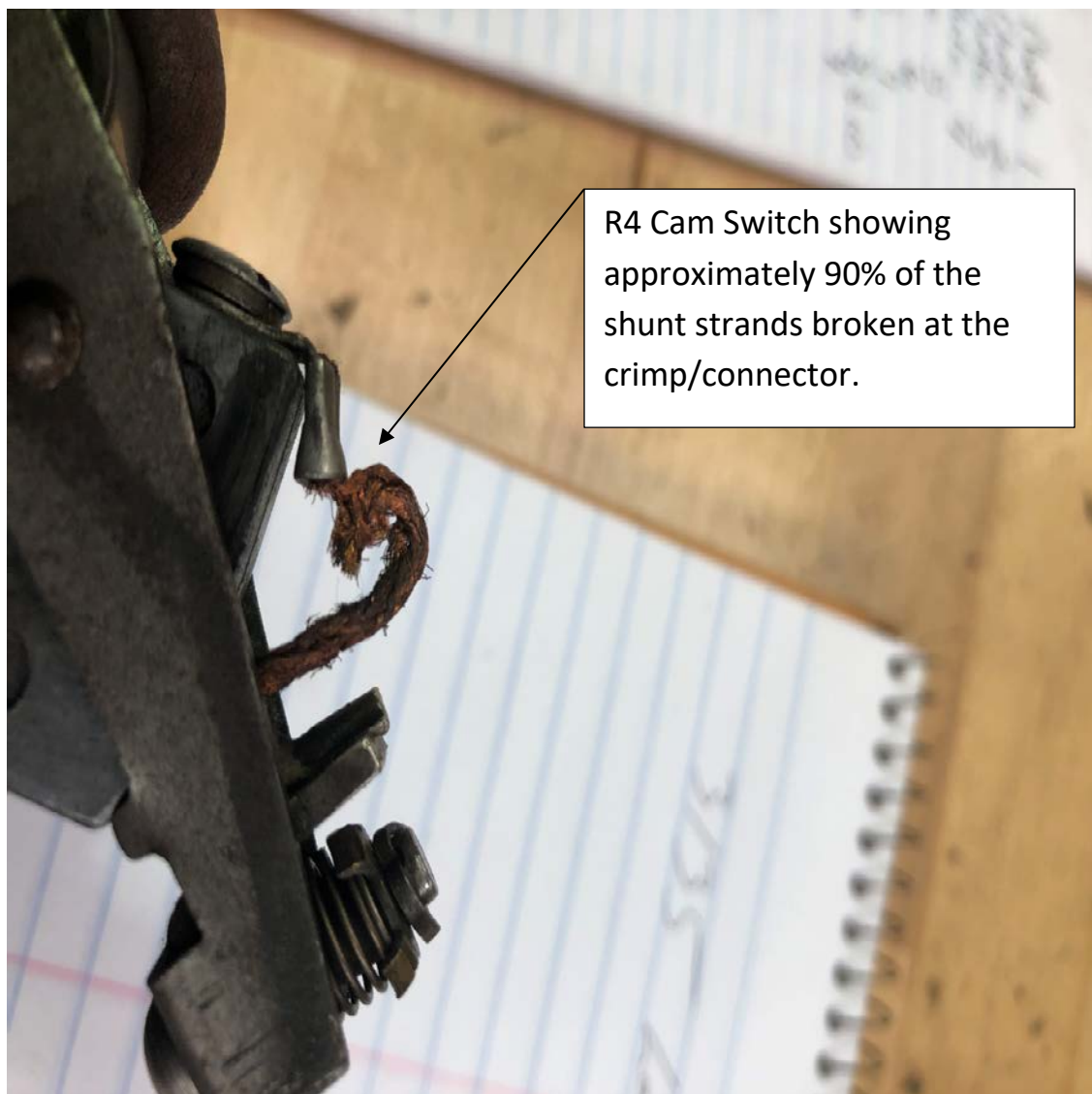
- CMNT shall overhaul impacted MC's per OEM and engineering specifications
- Engineering shall research upgraded designs for an insulating shield that will prevent recurrence of failure i.e., contacting/bridging another circuit within the MC.

Photos

MC1 Cam Switch showing broken shunt that shorted to MC7 when the MC was in Power Position P1 through P5 and Emergency Position.



Photo 1 - Major Finding / Root Cause of Door event involving Car 3135



R4 Cam Switch showing approximately 90% of the shunt strands broken at the crimp/connector.

Photo 2 - Major finding, shunt damage

MC2 Cam Switch showing some damage to shunt where the shunt wears during movement.



Photo 3 – Significant finding, shunt damage

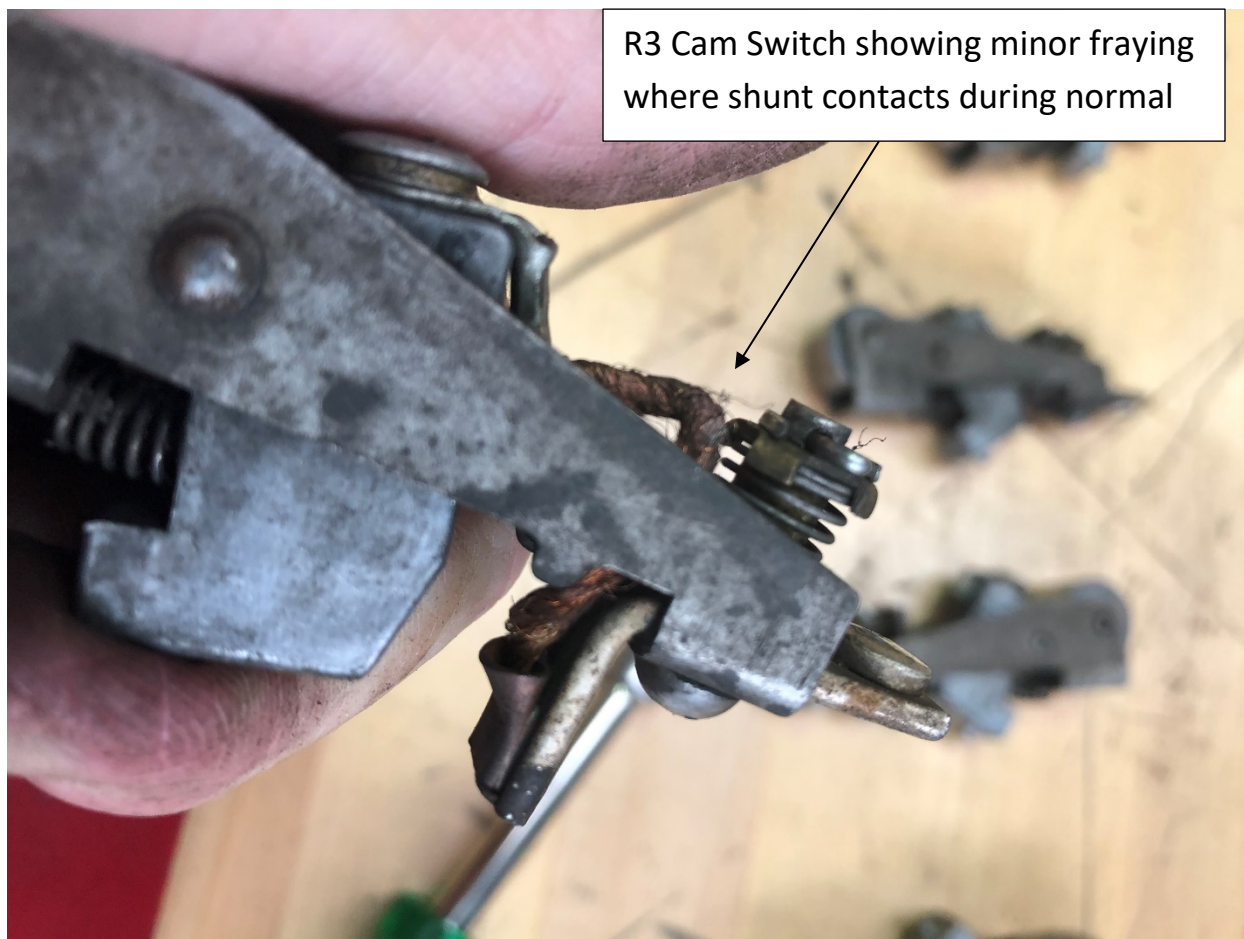


Photo 4 – Significant finding, shunt damage

EM Cam Switch showing splaying of shunt; however minimal strands found broken.



Photo 5 – Significant finding, shunt damage

PFS1 Cam Switch showing multiple fray points on the shunt and significant strands broken at the crimp / connection.



Photo 6 - Minor Finding, shunt with Damage

JSO Cam Switch showing multiple fray points on the shunt



Photo 7 - Minor Finding, shunt with Damage

SFS1 Cam Switch showing significant strands of the shunt frayed /broken at the crimp / connection.

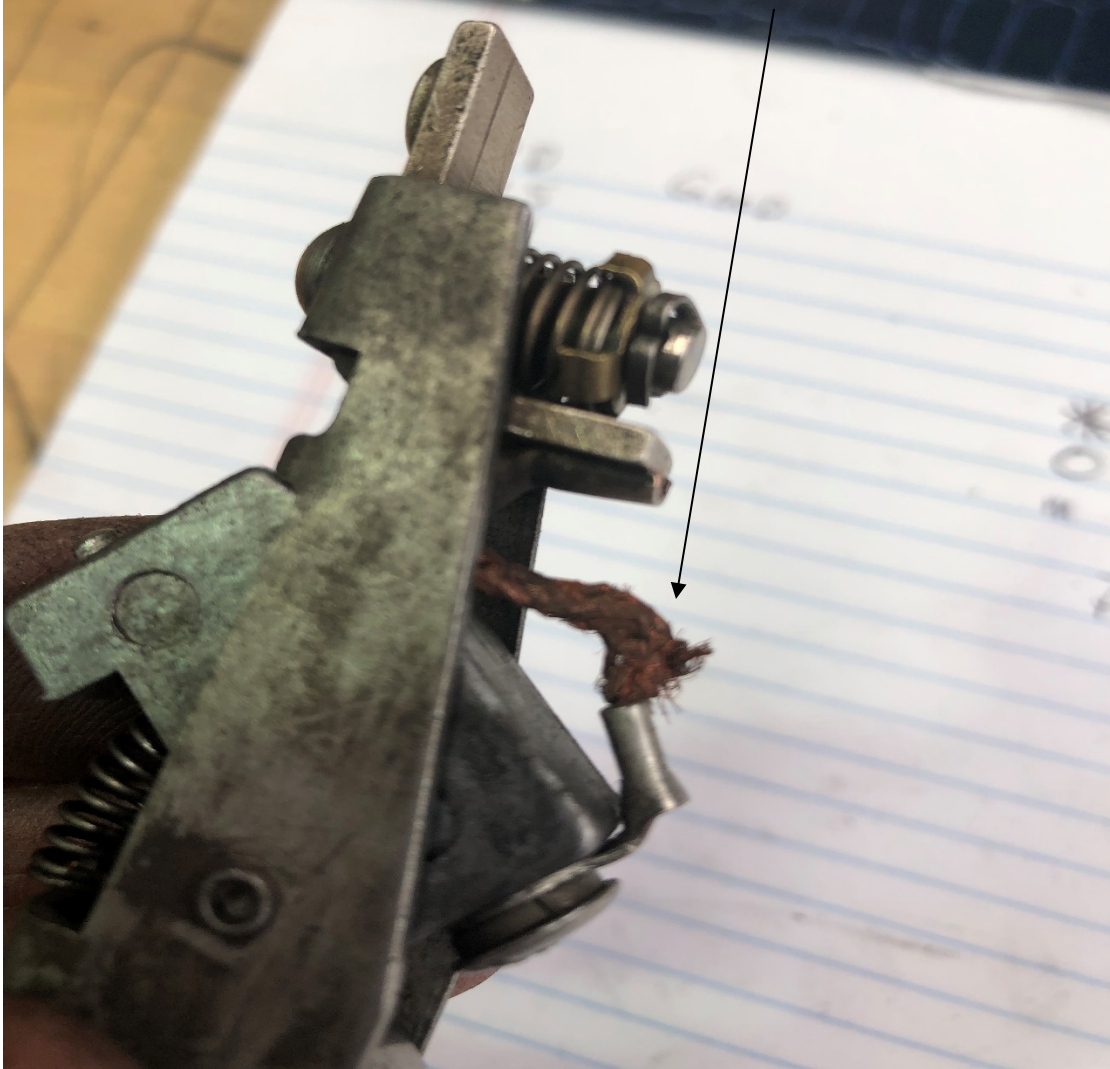
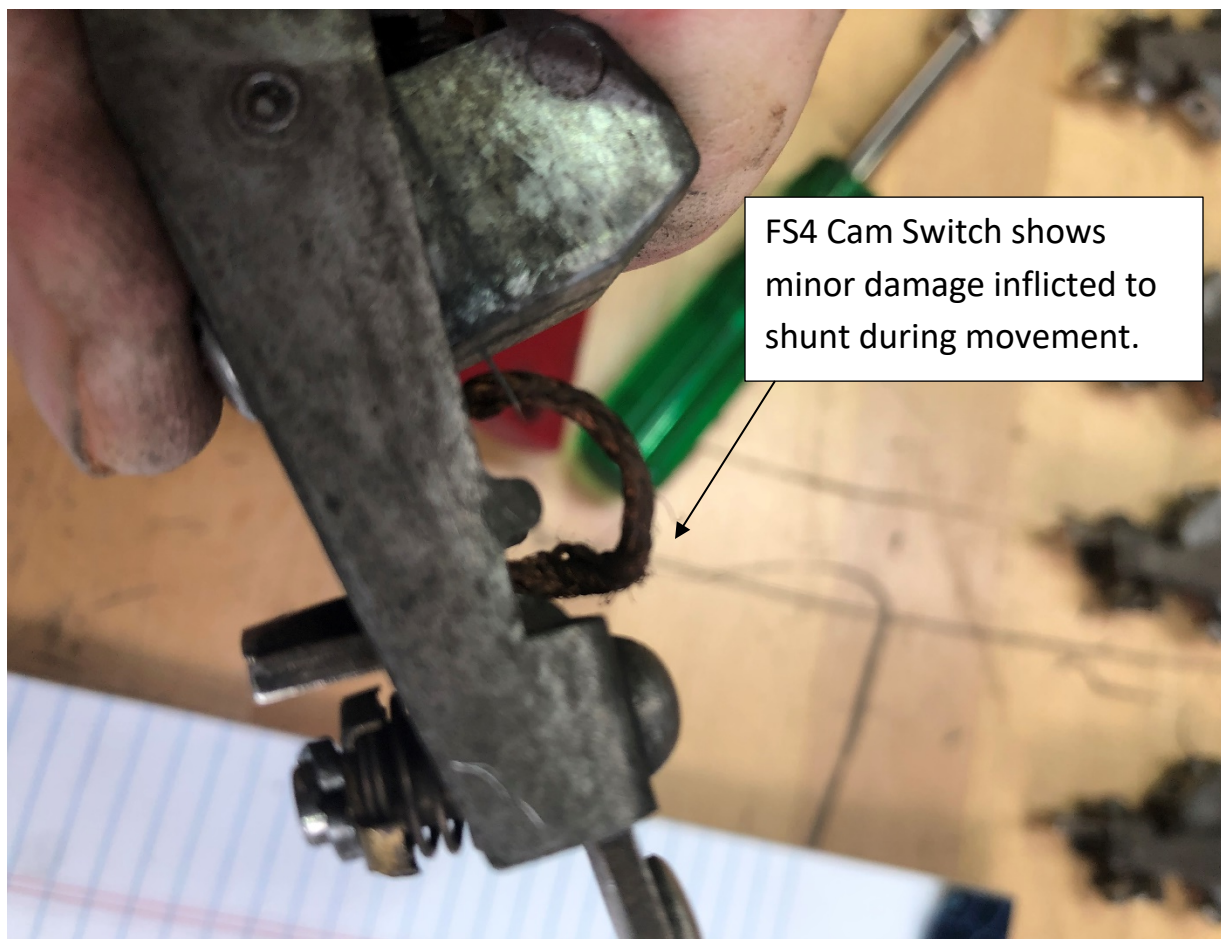


Photo 8 - Minor Finding, shunt with Damage



FS4 Cam Switch shows minor damage inflicted to shunt during movement.

Photo 9 - Minor Finding, shunt with Damage



Photo 10 – 13:55:19 Doors open while train in motion outside platform limits



Photo 11 – 13:55:20 doors began to close while inertia prevents right leaves from closing.



Photo 12 – 13:55:20 door indication lights illuminated while train in motion

Attachment

Date: 05/19/2019 Time: 13:55 hrs.
Final Report – Train Moved With Doors Open
E19252

Drafted By: SAFE 704 – 06/21/2019
Reviewed By: SAFE 701 – 07/01/2019
Approved By: SAFE 70 – 07-02/2019



RTRA OPERATIONS PERSONNEL NOTICE

Tuesday, May 21, 2019

Temporary Removal of 3000 Series Trains/SOP #40 Reminder

On Sunday, May 19, 2019, an Orange Line train approached Dunn Loring station, Track #1. While properly berthed on the platform, the train operator opened the doors on the platform side in order to service the station. Afterwards, the operator depressed the 'Close Door' button and prior to the doors closing, the 'Door Open' button was quickly depressed. It should be noted that the last door operation was possibly done inadvertently. An 'All Doors Closed' indication was illuminated on the console, however according to station platform surveillance, *the door indicator lights were still illuminated outside the train*. Despite this, the operator was still able to take a point of power and the train was observed departing the station with doors still opened.

The following day, Monday May 20, 2019, RAIL received notification of a video displaying the train moving with a door leaf fully opened on social media; the consist was identified and removed from the line for inspection by Car Maintenance (CMNT) personnel. As a precaution, all 3000 series trains were removed from the line and prohibited from operating while in revenue service followed by numerous inspections conducted to re-enact the incident. Inspections revealed that the doors, *within the incident consist*, were open while the master controller was in a power mode. Due to a mechanical failure, the door check relay was energized thus providing an 'All Doors Closed' indication on the operator's console allowing the train to take a point of power. Although the operator's console had an 'All Doors Closed' indication, the door indicator lights were still illuminated.

It is imperative for train operators to verify that door indicator lights have been fully extinguished prior to returning to the operator's seat and attempting to take a point of power. To prevent recurrences, adhere to SOP #40 re: door operations/station servicing procedures.

40.5.3.2 states, *When passenger flow has subsided, initiate the Close Door button while constantly observing the train doors closing and passengers on the platform.*

- *According to station platform surveillance, the first two door leaves behind the operator were fully opened prior to the train taking a point of power.*


40.5.3.3 states, *If any object/customer is caught in the train doors or the door indicator lights fail to extinguish, immediately recycle train doors. Be aware that small items such as clothing can be caught in the doors and NOT cause a loss of All Doors Closed Indication. Do not allow the train to move until it has been verified that it is safe to do so.*

- *According to station platform surveillance, and as previously mentioned, the door indicator lights were still illuminated outside the train prior to the train taking a point of power.*


While further investigations regarding this incident are currently underway, train operators are reminded that all discrepancies and unusual occurrences must be reported to the Rail Operations Control Center. A failure to do so may result in unsafe conditions for our internal and external customers and damage to equipment.

Attachment 1 – RTRA immediate mitigation page 1 of 1.

ALWAYS CHECK SOURCE DOCUMENT FOR CURRENT REVISION

WMATA - VEHICLE PROGRAM SERVICES	
SERVICE BULLETIN	
	
ATTENTION RAIL EMPLOYEES	
TITLE: 2/3K SPECIAL MASTER CONTROLLER CHECK	
SB B-624	Rev 00
INITIATING DOCUMENT(S): INCIDENT 8419530	
ASSOCIATED SBs: SBE 126 (6K)	
<input checked="" type="checkbox"/> SB to be tracked as a campaign <input type="checkbox"/> PI Manuals are affected	
<input checked="" type="checkbox"/> Information (APPLICABLE FOR QUICKFLOW ONLY)	
CENV/RAIL VEHICLE ENGINEER	DATE: May 22, 2019
PROGRAM/CENV MANAGER APPROVAL	DATE: May 22, 2019
CHIEF ENGINEER APPROVAL	DATE: May 23, 2019

Attachment 2 – SBB-624 page 1 of 2

WMATA - VEHICLE PROGRAM SERVICES	
<h1>SERVICE BULLETIN</h1> 	
ATTENTION RAIL EMPLOYEES	
SPECIAL MASTER CONTROLLER CHECK ALSTOM 2/3K SERIES RAILCARS	SBB 624 Rev 00
<p>Because of as failure on car 3135 door check circuit all 2/3K series railcars must be checked immediately for master controller operations prior to being released for service.</p> <p>Any car not checked or fails the outlined procedure must be removed from service, have a MAXIMO work order opened against the car, and remain out of service until the procedure has successfully been completed.</p> <p>The compliance of the SBB 624 will be tracked by CMNT thru a fleet logger generated under name "2/3/6K Special MP Check" including the employee ID number of the person doing the check in the extra data column.</p> <p>Procedure:</p> <ol style="list-style-type: none"> 1. Blue flag the track under work 2. Key up the cab under test 3. Close all doors and verified ADC indication 4. Cut out all the propulsion system from each cab of the consist using the switch in the BD panel. 5. Open both side doors 6. Charge the brake pipe 7. Verified no ADC indication 8. Move the selector switch to manual mode in the master controller 9. Move the master controller to all positions including emergency and verified that the ADC indication stay off all time, any blinks in the ADC indicator is not allowed. 10. Repeat the test in all cabs in the consist 11. Normalize all the cabs when the test is ended. <p>This procedure is being performed on ALSTOM 6K Series Railcars under SBE 126.</p>	
Page 2 of 2	

Uploaded to Document Control on 05/23/2019

Attachment 2 – SBB-624 page 2 of 2



Washington Metropolitan Area Transit Authority
Maintenance and Material Management System
Work Order Details

Page 1 of 2
MX76PROD

Work Order #: 15037385
Type: CM



Status: CLOSE
06/14/2019 17:38

Work Description: TRAIN OFFLOADED DUE TO A PREVIOUS INCIDENT INVOLVING A DOOR MALFUNCTION, 8/3, D03, CMD, DOOR, 916
Job Plan Description:

Work Information			
Asset: R3135	3135, RAIL CAR, BRED A, 3000 AC, B CAR	Owning Office: CMNT-CMNT-CMNT	Parent:
Asset Tag: R3135		Maintenance Office: CMNT-WFCH-INSP	Create Date: 05/21/2019 13:53
Asset S/N: 3135		Labor Group: CMNT	Actual Start: 05/21/2019 13:55
Location: 2494	K99, WEST FALLS CHURCH YARD	Crew:	Actual Comp: 06/14/2019 17:15
Work Location: 2494	K99, WEST FALLS CHURCH YARD	Lead:	Item: L18060002
Failure Class: CMNT001	RAIL CAR	GL Account: WMATA-02-33370-50499160-041-*****-OPR**	
Problem Code: 2424	N/A CODE (GENERAL SYMPTOM)	Supervisor: [REDACTED]	Target Start:
Requested By:		Requestor Phone: [REDACTED]	Target Comp:
Chain Mark Start:		Chain Mark End:	Scheduled Start:
Create-Mileage: 2477298.0		Complete-Mileage: 2477298.0	

Task IDs						
Task ID						
10	SEE DETAILS: ENGINEERING DIAGNOSED PROBLEM TO MP. MASTER CONTROLLER WAS SWAPPED TO A-CAR AND FAILED. WAS REMOVED BY OTHER, REMOVED MASTERCONTROLLER AND INSTALLED BACK TO ORIGINAL A-CAR(3134) ASSET #619670, INSTALLED FROM STOCK MASTER CONTROLLER ON B-CAR(3135). ASSET # 623528. OPS CHECK, GOOD. VISUAL INSPECTION OF BRAKE CYLINDER PSI, BRAKES ON/OFF, ALSO CHECKED MP OPERATION WITH DOORS OPEN FOR ALL DOORS CLOSED. DST, BRAKES ON/OFF, GOOD.					
Component: 3K	000-300-D01-001 MASTER CONTROLLER ASSY; 2K/	Work Accom: REPLACED USED	Reason: INOPERATIVE	Status: CLOSE	Position:	Warranty?: N
20	PERFORMED "SPECIAL MASTER CONTROLLER CHECK, SBB 624" ALL STEPS COMPLIED WITH, MOVE MASTER CONTROLLER TO ALL POSITIONS INCLUDING EMERGENCY AND VERIFIED ADC INDICATION STAY OFF ALL TIME. NORMALIZED TRAIN AFTER COMPLETE. NO TROUBLE FOUND.					
Component: 3K	000-300-D01-001 MASTER CONTROLLER ASSY; 2K/	Work Accom: TESTED	Reason: NO TROUBLE FOUND	Status: CLOSE	Position:	Warranty?: N

Planned Materials			
Task ID	Item	Description	Quantity
	M18310111	CONTROLLER,MP:1K, 2K, 3K,RAILCAR	1
			Total Planned Materials:

Actual Labor									
Task ID	Labor	Start Date	End Date	Start Time	End Time	Approved?	Regular Hours	Premium Hours	Line Cost
10	[REDACTED]	05/22/2019	05/22/2019	06:30	09:30	Y	03:00	00:00	\$112.19
10	[REDACTED]	05/22/2019	05/22/2019	06:30	09:30	Y	03:00	00:00	\$112.19
20	[REDACTED]	06/13/2019	06/13/2019	13:30	14:00	Y	00:30	00:00	\$19.07
20	[REDACTED]	06/13/2019	06/13/2019	13:30	14:00	Y	00:30	00:00	\$19.07

WT_plust_woprnt.rptdesign

06/19/2019 15:22

Attachment 3 – CMNT repair work-order in compliance with SBB 624 page 1 of 2



Washington Metropolitan Area Transit Authority
Maintenance and Material Management System
Work Order Details

Page 2 of 2
MX76PROD

Work Order #: 15037385
Type: CM



Status: CLOSE
06/14/2019 17:38

Work Description: TRAIN OFFLOADED DUE TO A PREVIOUS INCIDENT INVOLVING A DOOR MALFUNCTION, 8/3, D03, CMD, DOOR, 916

Job Plan Description:

Actual Labor											
Task ID	Labor		Start Date	End Date	Start Time	End Time	Approved?	Regular Hours	Premium Hours		
Total Actual Hour/Labor:								07:00	00:00		
Actual Materials											
Task ID	Item	Assetnum	Description		Storeroom	Trans Date	Issue Unit	Quantity			
	M18310111	623528	CONTROLLER,MP:1K, 2K, 3K,RAILCAR		255	05/21/2019	EA	1			
								Total Actual Materials:			
Related Incidents											
Ticket	Description				Class		Status		Relationship		
8419530	TRAIN OFFLOADED DUE TO A PREVIOUS INCIDENT INVOLVING A DOOR MALFUNCTION, 8/3, D03, CMD, DOOR, 916				SR		CLOSED		ORIGINATOR		
Failure Reporting											
Cause			Remedy			Supervisor			Remark Date		
2349	MATERIAL FAILURE		0004	REPLACED					06/14/2019		
Remarks: TROUBLESHOT PROBLEM TO A DEFECTIVE MASTER CONTROLLER, REPLACED MASTER CONTROLLER, SBB 824 C/W.											

WT_plust_woprnt.rptdesign

06/19/2019 15:22

Attachment 3 – CMNT repair work-order in compliance with SB-B624 page 2 of 2

Date: 05/19/2019 Time: 13:55 hrs.

Final Report – Train Moved With Doors Open
E19252

Drafted By: SAFE 704 – 06/21/2019
Reviewed By: SAFE 701 – 07/01/2019
Approved By: SAFE 70 – 07-02/2019

Page 28