



M 12

Locomotive Release from Shop Form

To be completed on every engine released from the Shop

I have reviewed the work packet for locomotive 8583 on this date 12-30-11 and take no exception to applicable laws, rules and or MMA standards, policies and standards.

Eng. oil sample - P. Boachie

Air Compressor drain + refilled - DB

Main Relief Valves cleaned - DB

Greased cooling fan - K. Hany



# B-23, B-39, C-30, GP-7 M12 MAINTENANCE

## *In-Bound Or Running Electrical*

WORKED BY:

### ELECTRICAL

SWITCH ENGINES DO NOT GET LOAD BOXED ON THE INBOUND, THEY ONLY GET LOAD BOXED ON THE OUTBOUND INSPECTION

COMPLETE BATTERY MAINTENANCE

DOWNLOAD & TEST EVENT RECORDER SYSTEM,

VERIFY COOLING FAN OPERATION

CHECK INERTAL BLOWER OPERATION

PERFORM ALL LOCOMOTIVE SELF TEST FUNCTIONS

B. CHECK FOR AC GROUNDS IN COOLING FAN CIRCUIT WITH TEST LIGHT (30 watt bulb)

CHECK OPERATION OF GROUND RELAY

CHECK FOR LOW VOLTAGE GROUNDS (7 watt bulb)

WHILE IN THROTTLE 3 LOAD TEST, CHECK FOR AC GROUNDS

CHECK OPERTION OF:

A. HEATING/AIR CONDITIONING UNIT

## *In-Bound Or Running Mechanical*

WORKED

CHECK FOR PROPER LUBRICATION AND CAM ROLLER ROTATION

VISUALLY INSPECT AIR COMPRESSOR FOR WATER, AIR OR OIL LEAKS

PERFORM MANUAL AIR BRAKE TEST AND PENALTY BRAKE TESTS

PERFORM AIR BRAKE SELF TEST

CHECK FOR WATER LEAKS

CHECK FOR OIL LEAKS

CHECK FOR FUEL LEAKS

CHECK FOR EXHAUST LEAKS

CHECK FOR VERIFY CLEAR STACK



**B-23, B-39, C-30, GP-7 M12 MAINTENANCE**



**ELECTRICAL IN HOUSE**

Part #

QTY

WORKED BY:

CHECK DIODES AND FUSES IN THE MAIN GENERATOR. REPLACE AS NECESSARY

INSPECT ALL WIRING ON THE MAIN GENERATOR TERMINAL BOARD. REPAIR ANY LUGS THAT ARE OVERHEATED.

CHANGE THE BRUSHES ON THE FOLLOWING EQUIPMENT:

GRID BLOWER MOTORS

- OK

20418761

SOAK BACK MOTORS

20405221

AUXILLARY GENERATOR

20418761

SLIP RING BRUSHES, EXCITER MOTOR

MAIN GEN - OK

20410051 (D22)  
20410551 (D32)  
20434451 (AR10/S)  
20436041 (AR10/L)

CHANGE FUEL PUMP MOTOR BRUSHES

- BRUSHLESS

20405221

2

INSPECT CAB HEATERS AND CHANGE MOTOR BRUSHES AS NECESSARY

20421421

2

CHECK AND RENEW ANY EXCESSIVELY WORN CONTACTOR TIPS

**CAB ELECTRICAL**

INSPECT PULSE TRAIN LINK EQUIPMENT AND CONTROL CABLES. ENSURE SYSTEM IS FUNCTIONING PROPERLY AND ENSURE LOCOMOTIVE ID IS CORRECT

DOWN  
LOAD  
COMPLETE

- NA

CHANGE PULSE TAPE ENSURING THAT ALL THE INFORMATION REQUIRED IS RECORDED ON OLD AND NEW TAPE, RECORD ON THE FORM - DOWNLOAD

EVEN RELEASER

SEND THE HEAD OF TRAIN DEVICE TO COMET FOR ANNUAL TESTING

CHECK & RECORD THE DATE ON HEAD END

DEVICE DUE 1-24-2017 NONE IN STOCK

CLOSELY INSPECT THE HEAD END DEVICE CONNECTOR. ENSURE IT IS TIGHTLY CONNECTED AND NOT CROSS THREADED

- OK -

- N/A -

CHECK GENERATOR AND ELECTRIC CABINET COVERS TO ENSURE THEY HAVE LEGIBLE "DANGER" STICKERS

CHECK CAB STICKERS TO ENSURE THAT THEY ARE LEGIBLE (DANGER 600 VOLTS) (FRA 223 GLAZING) ETC.

ENSURE DYNAMIC BRAKE HATCH DOORS ARE SECURED PROPERLY AND HAVE LEGIBLE "DANGER" STICKERS.

**B-23, B-39, C-30, GP-7 M12 MAINTENANCE**

CHECK THE FOLLOWING EQUIPMENT AND THEIR RELATED GUARDS AND LENSES FOR PROPER OPERATION:			
INSPECT BOTH STARTER SERIAL NUMBERS. IF ANY STARTER IS WITHIN 3 MONTHS OF BEING 3 YEARS OLD, PLEASE CHANGE THE STARTER. TOP STARTER SN _____ BOTTOM STARTER SN _____ DID EITHER STARTER GET REPLACED? YES NO			-NA-
APPLY A THIN COAT OF THE SAE NO. 10 OIL TO THE FOLLOWING STARTER COMPONENTS			-NA-
A. ARMATURE SHAFT SPLINES			-NA-
B. CLUTCH ASSEMBLY SPIRAL SPLINES AND MATING GEAR SPLINES			-NA-
FRONT AND REAR HEADLIGHTS, DITCH LIGHTS, CAB LIGHTS, GAUGE LIGHTS, NUMBER PLATES, PLATFORM LIGHTS, ENGINE ROOM LIGHTS, INDICATOR LIGHTS			Inspected
CHECK CONTROLLER FOR PROPER OPERATION OF REVERSER AND THROTTLE HANDLE LOCKING DEVICES			
CHECK EMERGENCY FUEL SHUT-OFF FROM ALL LOCATIONS			Inspected
<b>TRACTION MOTORS AND UNDERFRAME</b>			
INSPECT AXLE GENERATOR AND ENSURE ALL COVER BOLTS ARE IN PLACE AND TIGHT			Inspected
CLEAN AND CHECK THE TRACTION MOTOR LEADS, CLAMPS, VERIFY NO LEADS ARE RUBBING ON THE FRAME			Inspected
CHANGE ANY TRACTION MOTOR BRUSH WITH LESS THAN 50% LIFE LEFT	20422161(D87) 20426671(D78)	16 12	Inspected
INSPECT TRACTION MOTOR COVERS AND ENSURE BOLTS ARE IN PLACE AND TIGHT			Inspected
ENSURE TRACTION GROUND WIRES ARE IN PLACE AND PROPERLY SECURED			Inspected
CLEAN FACE PLATE ON RADAR TRANSCIVER			Inspected
CHECK M.U. RECEPTACLE AND LIDS. MAKE NECESSARY REPAIRS			-NA-
MAKE SURE M.U. CABLES DO NOT FOUL COUPLERS			-NA-

CHECKED MAIN GEN. BRUSHES - *[Signature]*

**B-23, B-39, C-30, GP-7 M12 MAINTENANCE**

**SECTION 3**

COMPLETE FRA INSPECTION		
INSPECT ALL TRAINLINE BRAKE VALVES		
COMPLETE WHEEL REPORT SHEET		
CHECK FOR BROKEN COIL SPRINGS & LATERAL PADS		<i>J Black</i>
INSPECT VERTICAL AND YAW DAMPERS FOR LEAKS AND SIGNS OF BUSHING DETERIORATION.		<i>J Black</i>
CHECK AND LUBRICATE COUPLER CARRIER		<i>J Black</i>
INSPECT AND REPLACE BRAKE SHOES AS NECESSARY (40012998)		<i>J Black</i>
CHECK BRAKE CYLINDER TRAVEL		<i>J Black</i>
MAKE PIT INSPECTION OF LOCOMOTIVE UNDERCARRIAGE		<i>J Black</i>
INSPECT WICK BOLT SECUREMENT AND REPAIR IF NECESSARY		<i>J Black</i>
CHECK SUSPENSION BEARING OIL LEVEL		<i>J Black</i>
CHECK JOURNAL BOX OIL LEVEL		<i>J Black</i>
CHECK OIL FILLED GEAR CASES AND FILL		<i>J Black</i>
CHECK GEAR CASES AND INSPECT BULL GEAR (ADD 3lbs. OF GEARCASE GREASE		<i>J Black</i>
SUSPENSION BEARING BOXES		<i>J Black</i>
TRACTION MOTOR AIR DUCTS		<i>J Black</i>
NOSEPADS, BINDERS, PEDESTAL JAWS AND LINERS, ROLLER BEARING BOXES AND BOLTS		<i>J Black</i>
BRAKE CYLINDERS		<i>J Black</i>
INITIAL BY APPROPRIATE TYPE (SWITCHER: 6 in ROAD: <u>8 in</u> )		<i>J Black</i>
ELLIPTIC SPRINGS, HANGERS AND SAFETY STRAPS, BOLSTER WEAR PLATES, BOLSTER		<i>J Black</i>
SUPPORT PADS AND TIE PADS		<i>J Black</i>
INSPECT ALL BRAKE HANGERS, HEADS, GUIDES AND STRAPS INSURING BRAKE SHOES ARE IN		<i>J Black</i>
LINE WITH WHEELS		<i>J Black</i>
INSPECT SIDE BEARINGS AND REPAIR AS NEEDED		<i>J Black</i>
CHECK KNUCKLE CLEARANCE AND KNUCKLE THROWER, MAKE REPAIRS AS NEEDED AND APPLY		<i>J Black</i>
SPARE KNUCKLES (E AND F TYPE)		<i>J Black</i>
INSPECT, TEST, LUBRICATE HAND BRAKE, NOTE SERVICE DATE ON BLUE CARD		<i>J Black</i>
<b>SECTION 4</b>		
IN ACCORDANCE WITH FRA 229.23. VERIFY AIR GAUGES (+/- 3PSI) CALIBRATE AT +/- 1PSI,		
REQUIRES 130 PSI MR		
CHECK ALL FLUID LEVELS, ENGINE OIL, COOLING WATER, AIR COMPRESSOR OIL		<i>J Black</i>
DRAIN RETENTION TANK		
TOILET MAINTENANCE:		
INSPECT/REPAIR AS NEEDED TOILET DRAIN VALVE & FLOOR SEALS		
INSPECT CAB SEATS. REPAIR AND LUBRICATE AS REQUIRED		<i>T P Goodie</i>
INSPECT AND REPAIR AS REQUIRED:		<i>T P Goodie</i>
CAB / CARBODY/DOORS/HINGES/WINDOWS/LATCH SEALS/WEATHER STRIPPING AND		<i>T P Goodie</i>
SEALS/MIRRORS. ALSO LUBRICATE AS NEEDED		<i>T P Goodie</i>
A. CLEAN THE CAB, WINDOWS, AND EQUIPMENT		<i>T P Goodie</i>
COMPLETE WINTERIZATION SHEET (AUGUST - APRIL)		
WASH LOCOMOTIVE ENGINE/ENGINE ROOM/AND AIR COMPRESSOR ROOM		
WASH THE LOCOMOTIVE		
<b>TOTAL TASK TIME</b>		<b>minutes</b>
		<b>hours</b>

B-23, B-39, C-30, GP-7 M12 MAINTENANCE

In-House Or Dead Mechanical

Part #

QTY

WORKED BY

SECTION 1 (ANNUAL ITEMS)

WITH ENGINE WARM, COMPRESSION TEST THE ENGINE AND RECORD READINGS:

CYL#1	320	CYL#1	315
CYL#2	370	CYL#2	320
CYL#3	320	CYL#3	330
CYL#4	330	CYL#4	350
CYL#5	375	CYL#5	325
CYL#6	315	CYL#6	325
CYL#7	315	CYL#7	320
CYL#8	350	CYL#8	330

*[Handwritten Signature]*

WITH ENGINE WARM, PRESSURE TEST COOLING SYSTEM AT 20 PSI AND INSPECT THE ENTIRE COOLING SYSTEM FOR LEAKS

PERFORM CRANKCASE INSPECTION WHILE BARRING THE ENGINE OVER, PAY CAREFUL ATTENTION FOR BROKEN RINGS AND/OR "JUMPING" RODS INDICATING THRUST WASHER WEAR INSPECT PISTON COOLING TUBES (EMD ONLY)

TAKE THRUST WASHER SNAP RING READINGS. FILL OUT THRUST WASHER SHEET. (USE JSP-001 FOR GUIDANCE)

INSPECT WATER MANIFOLD SADDLE STRAPS BETWEEN 4&5 AND 12&13 PA'S FOR PROPER SECUREMENT (EMD ONLY)

INSPECT AIR BOX, CLEAN AS NECESSARY

INSPECT TOP DECK COVERS, SEALS AND LATCHES. REPLACE AS NECESSARY

INSPECT TURBOCHARGER EXHAUST SCREEN AND EXPANSION JOINT. IF ANY DEBRIS IS FOUND IN THE TRAP, INVESTIGATE FOR A DROPPED VALVE AND REMOVE TURBO SCREEN AND INSPECT THE TURBO FOR DAMAGES BLADES.

INSPECT ALL EXHAUST MANIFOLDS, EXPANSION JOINTS AND HEAT SHIELDS FOR DEFECTS AND SECUREMENT.

REMOVE AND CLEAN EDUCTOR TUBE AND STACK OUTLET AND REPLACE GASKETS

REMOVE AND CLEAN ENGINE OIL SEPARATOR. REPLACE GASKET (EMD ONLY)

VERIFY SOAKBACK PUMP OPERATION AT #16 OIL PAN COVER (EMD ONLY)

PULL MICHIANA TANK AND SUCTION BOX DRAIN (IF CRANKCASE AND AIRBOX PASS INSPECTION) (EMD ONLY)

INSPECT AFTERCOOLER DUCTS FOR LOOSE/MISSING BOLTS (60 FT LBS)

REPLACE FLEXIBLE COUPLING SEALS IN COOLING AND LUBE OIL SYSTEM

LUBRICATE RADIATOR SHUTTER LINKAGES AND CYLINDERS

REPLACE THE BELL VALVE

INSPECT AIR COMPRESSOR SHAFT COUPLINGS (FOR THOSE UNITS WITH SHAFT DRIVEN AIR COMPRESSORS)

CLEAN AIR COMPRESSOR UNLOADER VALVES AND REPLACE UNLOADER VALVE "O" RINGS

Inspect rocker arms, rocker arm bushings and cam followers

SECTION 2

CHANGE / INSPECT / CLEAN:

CHANGE HVAC FILTERS IF APPLICABLE

INTAKE FILTER (ONLY AFTER HVAC IS WASHED)

REPLACE "BAGGIE" AIR FILTERS AND VISUALLY INSPECT TURBO IMPELLER AND EXAMINE CHAMBER FOR DEBRIS AND CRACKS

PRIMARY, SECONDARY FUEL FILTERS & O RING SEALS

FUEL STRAINERS & O RING SEALS

FUEL BY-PASS GAUGE (INSPECT ONLY)

CHANGE SOAKBACK FILTER AND RENEW O RING SEALS

CHANGE TURBO FILTER AND RENEW O RING SEALS

REMOVE PRIMARY LUBE OIL FILTER BYPASS VALVE AND CLEAN

CHANGE ENGINE LUBE OIL FILTERS

RENEW MICHIANA O RING SEAL AND CLEAN MICHIANA FILTER HOUSING

CLEAN LUBE OIL STRAINERS AND STRAINER BOX, REFRESH OIL

20402961 1

20434861 1  
VARIES

20423521 1

REFERENCE ATTACHED  
FILTER KIT LIST

*[Handwritten Signature]*  
*[Handwritten Signature]*  
DB  
DB

20409081  
20410471(sw) 1

WINTERIZATION	
	Signature
Winterization - All MMA Locomotives. (August - April)	
Inspect front and rear cab door seals replace, as needed (NO TAPE)	<i>J. P. Goodie</i>
Inspect left and right side window seals replace as needed.	<i>J. P. Goodie</i>
Inspect Electric cabinet door seals replace as needed.	
Operate Cab Heaters-Check condition of Heater Assembly @ 45o F above Ambient Temperature.	
Operate Window Defrosters-Check condition of Defroster @ 45o F above Ambient Temperature.	
If equipped, test the Auto Dump valve for proper operation.	
Test Manual Water Dump Valves, Proper Handle, Location, Orifice is Open.	
Close Winter/ Summer doors if equipped.	
Check Traction Motor cover gaskets, install as needed.	
Check condition of Cab Door Hinges (Lubricate all Hinges)	
Check condition of Cab Door Locks (Lubricate all Locks)	
Inspect Cab Windows Slider Rail, Adjust Top Rail as needed, Lubricate with Silicone Grease.	
Renew all Wiper Blades.	<i>J. P. Goodie</i>
Criteria for Door seal Replacement:	
A. Seal shows signs of Deterioration and or Medium to Heavy Cracking.	<i>J. P. Goodie</i>
B. Door seal is Torn or Loose from Door.	
C. With Door in the fully closed position has noticeable crack between door jam and cab carbody.	
Criteria for Window seal Replacement:	
A. Seals shows signs of Deterioration and or Medium to Heavy Cracking.	<i>J. P. Goodie</i>
B. Seal is Torn or Loose from window seal.	
C. With windows fully in the closed position there is a gap between window frame and carbody.	





B-23, B-39, C-30, GP-7 M12 MAINTENANCE

LOCOMOTIVE INSPECTION REPORT AIR99		SIGNATURE	
	RECORDED DATE	(STENCIL DATE)	
26 INDEPENDENT BRAKE VALVE			
26 C AUTOMATIC BRAKE VALVE			
HB5D RELAY AIR VALVE (NOTE IF			
26 F CONTROL VALVE			
A-1 CHARGING VALVE			
P-2-A PENALTY BRAKE APPLICATION			
F-1 SELECTOR VALVE (NOTE IF NOT			
MU2A VALVE			
J-1 RELAY AIR VALVE			
J-1.6-16 RELAY AIR VALVE			
QUICK RELEASE PORTION			
#8 VENT ENGINEER'S SIDE (NOTE IF			
#8 VENT FIREMAN'S SIDE (NOTE IF			
MAIN RESERVOIR POP VALVE Check	Changed -	1-02-12	J. Baker
CHANGE ALL MAIN RESERVOIR AND DIRT COLLECTOR ELEMENTS		1-1-12	T. Brooker

All salem Filters changed

The equipment above is to be changed out every 24 months. If the date dictates it needs changed, please change it.



# B-23, B-39, C-30, GP-7 M12 MAINTENANCE

## Out-Bound Loadtest Electrical/Mechanical

WORKED BY:

### ELECTRICAL

- CHECK FOR LOW VOLTAGE GROUNDS (7 watt bulb)
- WHILE IN THROTTLE 3 LOAD TEST, CHECK FOR AC GROUNDS
- PERFORM EXCITATION TEST (CHECK FOR AC GROUNDS)
- CHECK BEARING DOWN RELAY FOR PROPER SETTING
- RUN END OF TRAIN DEVICE TEST (USE #00001 FOR TESTING)
- TEST RADIO ANTENNA WITH MFJ-269 ANALYZER
- TRACK TEST LOCOMOTIVE AND VERIFY OPERATION OF ALL AXLE ALTERNATOR (TEST THREE TIMES TO VERY LOCK-OUT)(DYNAMIC & POWER)
- B. WINDSHIELD HEATERS/DEFOGGER (SEPTEMBER - FEBRUARY)
- CHECK OPERATION OF ALERTNESS DEVICES
- CHECK OPERATION OF ALL EMERGENCY FUEL SHUTOFF DEVICES
  - A. EMERGENCY FUEL CUTOFFS
  - B. MU ENGINE STOP
- CHECK OPERATION OF:
  - A. HEATING

*[Handwritten signatures]*

### MECHANICAL

- CHECK FLUID LEVELS: ADD OIL AND WATER AS REQUIRED
  - A. AIR COMPRESSOR
  - B. COOLING WATER
  - C. ENGINE OIL
- INSPECT ENGINE OVERHEAD, ENGINE IDLING. CHECK FOR PROPER LUBRICATION, FUEL SYSTEM LEAKS, CAM ROLLER ROTATION, ETC.
- INSPECT FUEL SYSTEM HOSES AND PIPES FOR LEAKS
- TRIP THE CCOP DEVICE & ENSURE THE ENGINE SHUTS DOWN
- VISUALLY INSPECT AIR COMPRESSOR FOR WATER, AIR OR OIL LEAKS
- INSPECT SAND TRAP, NOZZLES, HOSES AND BRACKETS
- SERVICE/INSPECT FIRE EXTINGUISHER AND BRACKET, CHECK TAG FOR DATE
- CHECK OPERATIONS OF AND INSPECT DISCHARGE ELBOWS ON ALL 580
- DRAIN MOISTURE FROM BOTH MAIN RESERVOIRS AND SALEM FILTERS
- CHECK OPERATION OF THE AUTOMATIC DRAIN VALVES
- TEST OPERATION OF THE FOLLOWING DEVICES:
  - A. BELL
  - B. SANDERS
  - C. HORN
  - D. ALERTNESS DEVICES
  - E. RADIATOR SHUTTERS
- PERFORM MANUAL AIR BRAKE TEST AND PENALTY BRAKE TESTS
  - Verify Flow Gauge
  - 130 main reservoir is 64 + or - 3, reservoir
- TEST MR SAFETY VALVE (145 - 155 PSI)
- CHECK FOR CORRECT AIR PRESSURE SETTINGS:
  - A. MAIN RESERVOIR (130 - 140 PSI)
  - B. BRAKE PIPE (90 PSI)
  - C. EQUALIZING RESERVOIR (90 PSI)
  - D. BRAKE CYLINDER (72 - 74 PSI)
  - E. COMPRESSOR CONTROL (130 - 140 PSI +/- 5 PSI)
- LOAD TEST THE ENGINE FOR 30 MINUTES

*[Multiple handwritten signatures and initials]*

NOTE: 120-130-140 main



UNIT 8583

# Service Operations

DATE 1-2-12

## THROTTLE 8 INBOUND LOAD TESTS

Eng RPM (900)	EMD	_____	Lube Oil Pres	_____
Eng RPM (1050)	GE	_____	Water Temp	<u>150°F</u>
Horsepower		<u><del>3732</del> 3732</u>	Overspeed Setting	<u>OK</u>
Volts (5.3)	B-23	_____	RACK SETTING	_____
Volts (7)	C-30	<u>693</u>		
Volts (720)	B-39	_____		

*[Handwritten Signature]*

## THROTTLE #1 STALL TEST

OP Mode	(PWR)	_____	
AMPS	(300)	<u>3839</u>	
MGA	(1220)	_____	NOT APPLICABLE TO B-23 AND C-30
Charging Rate	(70v)	<u>73V</u>	

*[Handwritten Signature]*

TL 24T

Throttle 1	(1V)	_____
Throttle 2		_____
Throttle 3		_____
Throttle 4		_____
Throttle 5		_____
Throttle 6		_____
Throttle 7		_____
Throttle 8	(72V)	_____

Montreal, Maine, & Atlantic Railway  
Mechanical Department

Unit Number. 8583

Date 1-01-12

1. Inspect traction motor wicks and report action

#1.	<u>OK</u>	<u>OK</u>	...
#2.	<u>OK</u>	<u>OK</u>	...
#3.	<u>OK</u>	<u>OK</u>	...
#4.	<u>OK</u>	<u>OK</u>	...
#5.			...
#6.			...

*JWB Black*

DRAIN ALL WICK BOXES Oct 1<sup>st</sup> to March 15<sup>th</sup>

① All wicks - JWB

Replaced all wick gasket - JWB

DRAINED ALL BOXES & Refilled w/ Ro-100 JB

Sally wire all plugs - JB

1-1-12

LOCOMOTIVE										DATE				
8583										12-30-11				
Start Readings					Has Shims		END READING					Has Shims		OLD GAUGE
Flange Height	Flange Thickness	Rim Thickness	Witness Grove	YES	NO		Flange Height	Flange Thickness	Rim Thickness	Witness Grove	YES	NO	FLANGE THICKNESS MEASUREMENT	
L#1	0-21	0-0	2.9			L#1							0-on 0-1-17/64"	
<del>L#2</del>	<del>2-22</del>	<del>0-0</del>	<del>3.5</del>			L#2	0-22	0-0	2.9				1-on 0-1-15/64"	
<del>L#3</del>	<del>2-22</del>	<del>0-0</del>	<del>3.5</del>			L#3	0-22	0-0	3.3				2-on 0-1-7/32"	
L#4	3-22	0-0	3.3			L#4	0-21	0-0	3.3				3-on 0-1-5/32"	
L#5						L#5							4-on 0-1-7/64"	
L#6						L#6							5-on 0-1-3/64"	
													6-on 0-1-1/32"	
													7-on 0-63/64"	
													8-on 0-15/16"	
R#1	0-21	0-0	2.9			R#1	0-21						FLANGE HEIGHT MEASUREMENT	
<del>R#2</del>	<del>2-22</del>	<del>0-0</del>	<del>3.4</del>			R#2	0-22	0-0	3.4				0-on 0-1"	
R#3	0-21	0-0	3.3			R#3							0-on 1-1-1/16"	
R#4	0-22	0-0	3.3			R#4							0-on 2-1-1/8"	
R#5						R#5							0-on 3-1-3/16"	
R#6						R#6							0-on 4-1-1/4"	
													0-on 5-1-5/16"	
													0-on 6-1-3/8"	
													2-on 6-1-13/32"	
													4-on 6-1-7/16"	
													6-on 6-1-31/64"	

WEAR LIMITS FOR ROAD & SWITCH LOCOMOTIVES - MINIMUM DAILY REQUIREMENTS

FRA 1 1/2" MMA 1 7/16" Flange Height  
 FRA 7/8" MMA 15/16" Flange Thickness  
 FRA 1" MMA 1 1/16" Rim Thickness  
 FRA 5/16" MMA 1/4" Tread Wear

FLANGE HEIGHT MEASUREMENT

WEAR LIMITS - ROAD & SWITCH LOCOS - MIN. 92 DAY REQ

WEAR LIMITS - PASSENGER LOCOS - MIN 92 DAY REQ

FLANGE HEIGHT	FLANGE THICKNESS	RIM THICKNESS	TREAD WEAR	FLANGE HEIGHT	FLANGE THICKNESS	RIM THICKNESS	TREAD WEAR
FRA 1 1/2"	FRA 7/8"	FRA 1"	FRA 5/16"	FRA 1 1/2"	FRA 7/8"	FRA 1"	FRA 5/16"
MMA 1 7/16"	MMA 1 1/32"	MMA 1 1/8"	MMA 1/4"	MMA 1 7/16"	MMA 1"	MMA 1 1/4"	MMA 1/4"

CONVERSION CHART FOR WHEEL DIAMETER

8=	37"	15=	37 7/8"	22=	38 1/4"	29=	39 5/8"	36=	40 1/2"
9=	37 1/8"	16=	38"	23=	38 7/8"	30=	39 1/4"	37=	40 5/8"
10=	37 1/4"	17=	38 1/8"	24=	39	31=	39 7/8"	38=	40 3/4"
11=	37 3/8"	18=	38 1/4"	25=	39 1/8"	32=	40"	39=	40 7/8"
12=	37 1/2"	19=	38 3/8"	26=	39 1/2"	33=	40 1/8"	40=	41"
13=	37 5/8"	20=	38 1/2"	27=	39 3/8"	34=	40 1/4"	41=	41 1/8"
14=	37 3/4"	21=	38 5/8"	28=	39 1/2"	35=	40 3/8"	42=	41 1/4"

FLANGE THICKNESS MEASUREMENT

LOCOMOTIVE RAIL CLEARANCE

COUPLER HEIGHT	FRONT	PILOT HEIGHT	FRONT	HEIGHT OF HORIZONTAL END HANDHOLD OR UNCOUPLING LEVER IF USED AS HORIZONTAL HANDHOLD	LOCO RAIL CLEARANCE
FRA	MAX 34 1/2" MIN 31 1/2"	FRA MAX 6" MIN 3"	6	FRA MIN 30" MMA MIN 30" FRA MAX 50" MMA MAX 50"	FRA MIN 2 1/2" MMA MIN 3"
MMA	MAX 34 1/2" MIN 32 1/2"	REAR MAX 6" MIN 3 1/2"	5		

WHEEL DIAMETER MEASUREMENTS ARE TAKEN FROM THE TOP OF THE WITNESS GROOVE 40" DIAMETER WHEELS WITNESS GROOVE = 36"  
 42" DIAMETER WHEEL WITNESS GROOVE = 38"

WHEEL MATCHING STANDARDS FOR 6 AXLE LOCOMOTIVES (FRA & MMA STANDARDS ARE THE SAME)

3/4" IS THE MAXIMUM VARIATION ALLOWED, IN WHEEL DIAMETER, BETWEEN ANY 2 WHEELS IN THE SAME TRUCK WITHOUT SHIMS.  
 1 1/4" IS THE MAXIMUM VARIATION ALLOWED, IN WHEEL DIAMETER, BETWEEN ANY 2 WHEELS IN THE SAME TRUCK WITH SHIMS APPLIED.  
 1 1/2" IS THE MAXIMUM VARIATION ALLOWED, IN WHEEL DIAMETER, BETWEEN ANY 2 WHEELS ON DIFFERENT TRUCKS.

NOTE: WHEN FIGURING THE DIFFERENCE IN WHEEL DIAMETER, TO DETERMINE IF SHIMS ARE REQUIRED, YOU MUST USE THE AVERAGE WHEEL DIAMETER FIGURES  
 REMEMBER THIS RULE

0 TO 5 DIAMETER DIFFERENCE NO SHIMS REQUIRED 6 TO 10 DIAMETER DIFFERENCE ADD APPROPRIATE SHIMS TO BOTH BOXES ON BOTH SIDES OVER 10 IN DIAMETER DIFFERENCE REQUIRES WHEEL CHANGE OR TRUED NOTE: ON EMC LOCOMOTIVES USE ONLY ONE 1/2" SHIM END PART NUMBER 845981 SHELLED TREAD AND FLAT SPOTS MUST BE TRUED OR CHANGED WHEN FOUND ON PERIODIC OR UNSCHEDULED MAINTENANCE. KCS CONDEMNING LIMITS FOR SHELLED TREAD ON A SERVICE TRACK:  
 \*ONE SHELLED SPOT 1" OR GREATER IN LENGTH \*ONE SHELLED SPOT WITH A DEPTH OF 1/2" OR MORE

EMPLOYEES SIGNATURE

*J. Black*

SUPERVISORS SIGNATURE

Unit: MMA 8583

Date: 12-30-11

### DEFECTS FOUND DURING INSPECTION

DEFECT <u>Toilet was frozen on inbound</u>	INSPECTED BY: <u>J. Anderson</u>
REPAIR <u>Dumped &amp; cleaned Toilet. Refilled with low temp</u>	CORRECTED BY: <u>J. Anderson</u>

DEFECT <u>Eng. Rear wiper Bad - Bent</u>	INSPECTED BY: <u>TP6</u>
REPAIR <u>Replaced wiper ✓ wiper travel - too far - Hanging up on weatherstripping Had 50° timer in it - put 40° timer plate in it</u>	CORRECTED BY: <u>TP6</u>

DEFECT <u>FIRE EXT. IN CAB RUNS OUT IN FEB. 2012</u>	INSPECTED BY: <u>TP6</u>
REPAIR <u>REPLACED</u>	CORRECTED BY: <u>TP6</u>

DEFECT <u>COND. SEAT MISSING SLIDE HANDLE Cond. Seat RS ARM Rest missing</u>	INSPECTED BY: <u>TP6</u>
REPAIR <u>Replaced handle Replaced RS Arm rest</u>	CORRECTED BY: <u>TP6</u>

DEFECT <u>Eng. seat wont slide forward &amp; backwards Missing pivot bolt too</u>	INSPECTED BY: <u>TP6</u>
REPAIR <u>Had to shim slide rails - binding on mounting bolt Added pivot post bolt</u>	CORRECTED BY: <u>TP6</u>

Unit: MMA 8583

Date: 1-1-12

### DEFECTS FOUND DURING INSPECTION

DEFECT <u>Unsecured wire harness in electrical control room</u> <u>Grid leads behind bus bars w/broken old zip ties</u>	INSPECTED BY: <u>[Signature]</u>
REPAIR <u>secured wire harness with new zip ties</u> <u>secured grid-<del>bars</del> of leads with new zip ties-insulated</u> <u>fire-bar</u>	CORRECTED BY: <u>[Signature]</u>

DEFECT <u>Two bad brake shoes</u>	INSPECTED BY: <u>[Signature]</u>
REPAIR <u>replaced</u>	CORRECTED BY: <u>[Signature]</u>

DEFECT <u>Equalizing test block leaking off</u> <u>MR test block leaking off</u>	INSPECTED BY: <u>[Signature]</u>
REPAIR <u>Replaced O-Rings on test block &amp; Gauges</u> <u>Retested- Good</u>	CORRECTED BY: <u>[Signature]</u>

DEFECT _____	INSPECTED BY: _____
REPAIR _____	CORRECTED BY: _____

DEFECT _____	INSPECTED BY: _____
REPAIR _____	CORRECTED BY: _____

UB/3  $\frac{2006}{3614} - \frac{800}{}$

6 HRS.

~~5028 - 5028~~

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