



M06

Locomotive Release from Shop Form  
To be completed on every engine released from the Shop

I have reviewed the work packet for locomotive 3603 on this date 5-14-13 and take no exception to applicable laws, rules and or MMA standards, policies and standards.



UNIT 3603  
DATE 5-15-13

# Service Operations

## THROTTLE 8 INBOUND LOAD TESTS

Eng RPM (900)	EMD	_____	Lube Oil Pres	_____
Eng RPM (1050)	GE	_____	Water Temp	<u>170°F</u>
Horsepower		<u>2,762.19</u>	Overspeed Setting	<u>- ? -</u>
Volts (5.3)	B-23	_____	RACK SETTING	_____
Volts (7)	C-30	<u>6.53V</u>		
Volts (720)	B-39	_____		

## THROTTLE #1 STALL TEST

OP Mode	(PWR)	_____	NOT APPLICABLE TO B-23 AND C-30
AMPS	(300)	_____	
MGA	(1220)	_____	
Charging Rate	(70v)	<u>73.1</u>	

# B-23, B-39, C-30, GP-7 MO6 INSPECTION



## In-Bound Loadtest Electrical/Mechanical

WORKED BY:

### ELECTRICAL

VERIFY THE OPERATION OF THE GROUND RELAY  
 CHECK FOR LOW VOLTAGE GROUNDS (7 watt bulb)  
 WHILE IN THROTTLE 3 LOAD TEST, CHECK FOR AC GROUNDS  
 CHECK OPERATION OF:  
 A. HEATING  
 COMPLETE THE IN-BOUND LOAD TEST SHEETS  
 GROUND RELAY-(TEST THREE TIMES TO VERY LOCK-OUT)(DYNAMIC & POWER)  
 CHECK THE FOLLOWING FOR PROPER OPERATION:  
 A. CREW ALERT  
 B. RADIO AND ANTENNA @ 02:07 Hrs. -OK-  
 C. AXLE ALT. SPEEDO  
 D. MU ENGINE SHUTDOWN  
 E. FUEL CUT-OFF  
 F. TEST WARNING DEVICES

*[Handwritten signatures and initials for electrical section]*  
 -NA-

### MECHANICAL

CLEAN AND SERVICE TOILET AND RESTROOM  
 DRAIN RETENTION TANK  
 PROPER LUBRICATION? FUEL LEAKS? CAM ROLLER ROTATION? ETC.  
 INSPECT FUEL SYSTEM HOSES AND PIPES FOR LEAKS  
 INSPECT COOLING SYSTEM:  
 A: CHECK HOSES AND PIPES FOR LEAKS  
 CHECK OPERATION OF ENGINE PROTECTION DEVICES:  
 A. CRANKCASE PRESSURE  
 VISUALLY INSPECT AIR COMPRESSOR FOR WATER, AIR OR OIL LEAKS  
 PERFORM MANUAL AIR BRAKE TEST  
 Verify Flow Gauge NOTE: 120-  
 130 main reservoir is 64 + or - 3, 130-140 main  
 reservoir is 60 + o  
 PERFORM PENALTY BRAKE TEST  
 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)  
 CHECK FLUID LEVELS BEFORE LOADING:  
 A: ENGINE OIL  
 B: COOLING WATER  
 C: AIR COMPRESSOR OIL  
 TEST OPERATION OF THE FOLLOWING DEVICES:  
 A. BELL  
 B. SANDERS (FORWARD, REVERSE, EMERGENCY)  
 C. RADIATOR SHUTTERS

*[Handwritten signatures and initials for mechanical section]*  
 -NA-



# B-23, B-39, C-30, GP-7 MO6 INSPECTION

## ELECTRICAL IN HOUSE

WORKED BY:

- COMPLETE THE BATTERY MAINTENANCE SHEET PER JSP-010
- 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.
- CHECK AND CHANGE "IF NEEDED" THE BRUSHES ON THE FOLLOWING EQUIPMENT:
- GRID BLOWER MOTORS
- SOAK BACK MOTORS
- AUXILLARY GENERATOR
- SLIP RING BRUSHES, EXCITER MOTOR
- CHANGE FUEL PUMP MOTOR BRUSHES
- INSPECT CAB HEATERS AND CHANGE MOTOR BRUSHES AS NECESSARY

### CAB ELECTRICAL

- DOWNLOAD EVENT RECORDER
- CHECK & RECORD THE DATE ON HEAD END DEVICE *NA*
- CHECK AND CHANGE "IF NEEDED" THE BRUSHES ON THE FOLLOWING EQUIPMENT:
- 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.
- CHECK THE FOLLOWING EQUIPMENT AND THEIR RELATED GUARDS AND LENSES FOR PROPER OPERATION:
- AUXILLARY GENERATOR
- SLIP RING BRUSHES, EXCITER MOTOR
- ALT. DIODE BANK

*OK B White*

*OK White*

*OK B White*

*B White*

- 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

NOTE: MMA 758 ONLY

APPLY A THIN COAT OF THE SAE NO. 10 OIL TO THE FOLLOWING STARTER COMPONENTS

A. ARMATURE SHAFT SPLINES

B. CLUTCH ASSEMBLY SPIRAL SPLINES AND MATING GEAR SPLINES

FRONT AND REAR HEADLIGHTS, DITCH LIGHTS, CAB LIGHTS, GAUGE LIGHTS, NUMBER PLATES, PLATFORM LIGHTS, ENGINE ROOM LIGHTS, INDICATOR LIGHTS

CHECK CONTROLLER FOR PROPER OPERATION OF REVERSER AND THROTTLE HANDLE LOCKING DEVICES

CHECK EMERGENCY FUEL SHUT-OFF FROM ALL LOCATIONS

### TRACTION MOTORS AND UNDERFRAME

INSPECT AXLE GENERATOR AND ENSURE ALL COVER BOLTS ARE IN PLACE AND TIGHT  
CLEAN AND CHECK THE TRACTION MOTOR LEADS, CLAMPS, VERIFY NO LEADS ARE RUBBING ON THE FRAME

CHANGE ANY TRACTION MOTOR BRUSH WITH LESS THAN 50% LIFE LEFT

INSPECT TRACTION MOTOR COVERS AND ENSURE BOLTS ARE IN PLACE AND TIGHT

ENSURE TRACTION GROUND WIRES ARE IN PLACE AND PROPERLY SECURED

CLEAN FACE PLATE ON RADAR TRANSCEIVER

CHECK M.U. RECEPTACLE AND LIDS. MAKE NECESSARY REPAIRS

MAKE SURE M.U. CABLES DO NOT FOUL COUPLERS



# B-23, B-39, C-30, GP-7 MO6 INSPECTION

*In-House Or Dead Mechanical*

WORKED BY

## SECTION 1 (ANNUAL ITEMS)

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 (END ONLY)

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

INSPECT AIR BOX; CLEAN AS NECESSARY - *EMD only*

*22 months?*

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

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)

LUBRICATE RADIATOR SHUTTER LINKAGES AND CYLINDERS

REPLACE THE BELL VALVE

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

**B-23, B-39, C-30, GP-7 MO6 INSPECTION**

**SECTION 3**

COMPLETE FRA INSPECTION

INSPECT ALL TRAINLINE BRAKE VALVES

COMPLETE WHEEL REPORT SHEET

CHECK FOR BROKEN COIL SPRINGS & LATERAL PADS

INSPECT VERTICAL AND YAW DAMPERS FOR LEAKS AND SIGNS OF BUSHING DETERIORATION.

CHECK AND LUBRICATE COUPLER CARRIER

INSPECT AND REPLACE BRAKE SHOES AS NECESSARY (40012998)

CHECK BRAKE CYLINDER TRAVEL

MAKE PIT INSPECTION OF LOCOMOTIVE UNDERCARRIAGE

INSPECT WICK BOLT SECUREMENT AND REPAIR IF NECESSARY

CHECK SUSPENSION BEARING OIL LEVEL

CHECK JOURNAL BOX OIL LEVEL

CHECK OIL FILLED GEAR CASES AND FILL

CHECK GEAR CASES AND INSPECT BULL GEAR (ADD 3lbs. OF GEARCASE GREASE

SUSPENSION BEARING BOXES

TRACTION MOTOR AIR DUCTS

NOSEPADS, BINDERS, PEDESTAL JAWS AND LINERS, ROLLER BEARING BOXES AND BOLTS

INITIAL BY APPROPRIATE TYPE (SWITCHER: 6 In ROAD: 8 In

ELLIPTIC SPRINGS, HANGERS AND SAFETY STRAPS, BOLSTER WEAR PLATES, BOLSTER

SUPPORT PADS AND TIE PADS

INSPECT ALL BRAKE HANGERS, HEADS, GUIDES AND STRAPS INSURING BRAKE SHOES ARE IN LINE WITH WHEELS

INSPECT SIDE BEARINGS AND REPAIR AS NEEDED

CHECK KNUCKLE CLEARANCE AND KNUCKLE THROWER, MAKE REPAIRS AS NEEDED AND APPLY SPARE KNUCKLES (E AND F TYPE)

INSPECT, TEST, LUBRICATE HAND BRAKE, NOTE SERVICE DATE ON BLUE CARD

**SECTION 4**

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

DRAIN RETENTION TANK

TOILET MAINTENANCE:

A. INSPECT/REPAIR AS NEEDED TOILET DRAIN VALVE & FLOOR SEALS

**Cab Seat Inspection:**

A. INSPECT THE VERTICAL ADJUSTMENT LEVER. VERIFY THAT THE LEVER OPERATES AND THAT THE SEAT PAN ADJUSTS UP AND DOWN AND DOES NOT DROP SUDDENLY.

B. LUBRICATE PIVOT POINTS

C. INSPECT ROTATION ADJUSTMENT LOCKING PIN. VERIFY THAT THE LOCKING PIN OPERATES (PULL OUT TO RELEASE LOCK) AND THAT THE SEAT ROTATES WHEN UNLOCKED.

D. LUBRICATE THE PIN MECHANISM.

E. SEAT PAN COMPONENTS: INSPECT THE FORE-AFT FINE ADJUSTMENT LEVER.

F. VERIFY THAT THE LEVER SLIDES SIDEWAYS TO UNLOCK SEAT FOR/AFT ADJUSTMENT AND SEAT SLIDES FOR/AFT EASILY

G. IF THE SEAT MOVEMENT IS IMPEDED, REMOVE SEAT CUSHION AND INSPECT SEAT PAN ROLLER TRACK FOR DEBRIS, MALFUNCTION, OR LACK OF LUBRICATION.

H. INSPECT SEAT RAILS AND REPLACE IF DAMAGED OR WORN BEYOND PROVIDING SECURE, STABLE MOUNTING OF SEAT.

I. INSPECT THE FORE/AFT SEAT POSITIONING TRACK. INSPECT THE SEAT RAILS AND REPLACE IF DAMAGED OR WORN BEYOND PROVIDING SECURE, STABLE MOUNTING OF SEAT.

J. LUBRICATE THE SEAT RAILS WITH SILICONE LUBRICANT.

K. INSPECT THE BACKREST RAKE ADJUSTMENT KNOB. VERIFY THAT THE KNOB ROTATES EASILY TO ADJUST BACKREST ANGLE.

L. INSPECT KNOB FOR CRACKS OR SPLITS AND THAT IT IS SECURELY FASTENED.

M. INSPECT GEAR MECHANISM FOR ANY WEAR OR DAMAGE.

N. ENSURE THAT THE BACKREST MECHANICAL STOP IS INTACT AND FUNCTIONS AS INTENDED-- PREVENTS THE SEAT BACKREST FROM RECLINING BEYOND APPROXIMATELY 45 DEGREES BACKWARDS FROM A VERTICAL POSITION.

O. INSPECT THE LUMBAR SUPPORT ADJUSTMENT LEVER. VERIFY THAT THE ADJUSTMENT LEVER OPERATES EASILY TO ADJUST THE LUMBAR SUPPORT.

*J. Anderson*  
*B.C.*  
*B. Cleary*  
*B. Cleary*  
*J. Anderson*  
*B. Cleary*  
*J. Anderson*  
*B. Cleary*  
*B.C.*  
*B. Cleary*  
*B. Cleary*  
*B. Cleary*  
*B. Cleary*  
*J. Anderson*  
*B. Cleary*  
*B. Cleary*  
*B. Cleary*  
*B. Cleary*

*B. Cleary*

*OK B White*

*✓*

# Description of Work Performed

Locomotive ID

Time Started

Time Finished

Locomotive ID	Time Started	Time Finished

Employee Signature \_\_\_\_\_ Form to fill out completely and Signature must be legible.

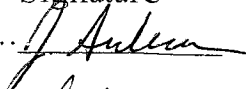
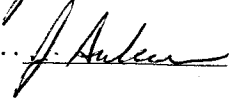
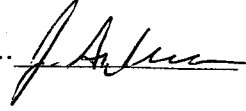
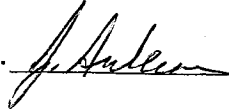
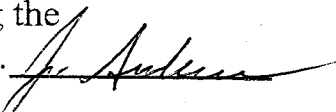
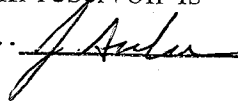
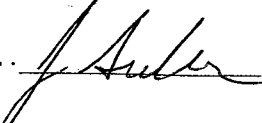
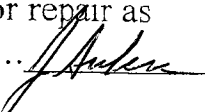
Montreal, Maine, & Atlantic Railway  
Locomotive

Unit 3603

Date 5-15-13

3 Month Federal Air Work

Signature

1. Inspect and repair air piping and valves for leaks ..... 
2. Test all air gauges with gauge tester and set if required..... 
3. With full brake pipe pressure, make a 20lb. reduction, move the cutoff valve to "OUT" position and move the lead - dead valve to "DEAD" position. Brakes must remain applied for 5 minutes..... 
4. Cover each trainline hose coupling with hand and test for leakage through valve, then apply blank dummy couplings to the trainline hoses on each end of the unit and open trainline valves. Make a 20lb. reduction with the Automatic, move the cutoff valve to "OUT" position and check for brake pipe leakage. Leakage shall not exceed 5 lb. per minute..... 
5. Reduce main reservoir pressure to 85 lbs. by draining #2 main reservoir.(\*)  
Check cab gauge for leakage from main reservoirs and piping for 3 minutes.  
Leakage must not exceed an average of 3 lb. per minute during the test..... 
6. Drain #1 main reservoir (\*) completely and test check valve between reservoirs.  
Pressure should remain on the main reservoir gauge in the cab as #1 main reservoir is drained..... 
7. Check all MU valve handles to ensure the locking devices work properly. Lubricate or replace as necessary..... 
8. Check knuckle thrower to make sure it opens the knuckle. Lubricate or repair as necessary..... 

Note (\*) #1 reservoir is without the check valve.# 2 is with the check valve.



Montreal, Maine, & Atlantic Railway  
Mechanical Department

Unit Number. 3603

Date 5-15-13

1. Inspect traction motor wicks and report action

- #1. OK ...
- #2. OK ...
- #3. ↑ ... B. Clean
- #4. ↓ ...
- #5. ↓ ...
- #6. OK ...

DRAIN ALL Wick Boxes B. Clean

Unit: 3603

Date: 5-15-13

### DEFECTS FOUND DURING INSPECTION

DEFECT <u>Exhaust leak - Exhaust to turbo flange bolts loose and or missing -</u>	INSPECTED BY: <u>D-Stu</u>
REPAIR <u>Replaced and tightened existing bolts</u>	CORRECTED BY: <u>J. Anders</u>

DEFECT <u>Overspeed needs to be <del>checked</del><sup>serviced</sup> - not kicking out when revved over 8<sup>th</sup> notch - Revved over 2000 <sup>RPM</sup> w/tach specs calls for 1716 ± 15 RPM - at tach drive-</u>	INSPECTED BY: <u>D-Stu</u>
REPAIR _____	CORRECTED BY: _____

DEFECT <u>Oil leak in compressor room</u>	INSPECTED BY: <u>D-Stu</u>
REPAIR <u>Cleaned oil up</u>	CORRECTED BY: <u>J. Anders</u>

DEFECT <u>Front wiper blade linkage is disconnected</u>	INSPECTED BY: <u>D-Stu</u>
REPAIR <u>Loosened + reconnected + tightened back</u>	CORRECTED BY: <u>B White</u>

DEFECT <u>Cond side turbo elbow bolts broke</u>	INSPECTED BY: <u>J. Anders</u>
REPAIR <u>replaced</u>	CORRECTED BY: <u>J. Anders</u>

Unit: \_\_\_\_\_

Date: \_\_\_\_\_

### DEFECTS FOUND DURING INSPECTION

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

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

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

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

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

UNIT#	DATE	DESCRIPTION	PART #	QUANTITY	INSTALLED	AWP

<b>LOCOMOTIVE</b> <b>3603</b>	<b>DATE</b> <b>5-15-13</b>
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	Start Readings				Has Shims		END READING				Has Shims		OLD GAUGE
	Flange Height	Flange Thickness	Rim Thickness	Witness Groove	YES	NO	Flange Height	Flange Thickness	Rim Thickness	Witness Groove	YES	NO	
L#1	0-19	0-0	19				L#1						<b>FLANGE THICKNESS MEASUREMENT</b> 0-on 0--1-1/64 1-on 0--1-1/8 2-on 0--1-1/4 3-on 0--1-3/8 4-on 0--1-1/2 5-on 0--1-5/8 6-on 0--1-13/32 7-on 0--1-3/4 8-on 0--1-7/8
L#2	0-21	0-0	25				L#2						
L#3	0-18	0-0	31				L#3						
L#4	0-20	0-0	27				L#4						
L#5	0-20	0-0	23				L#5						
L#6	0-21	0-3	27				L#6						
													<b>OLD GAUGE</b>
R#1	0-19	0-0	19				R#1						<b>FLANGE HEIGHT MEASUREMENT</b> 0-on 0--1" 0-on 1--1-1/8 0-on 2--1-1/8 0-on 3--1-3/8 0-on 4--1-1/4 0-on 5--1-5/8 0-on 6--1-3/8 2-on 6--1-13/32 4-on 6--1-7/8 6-on 6--1-3/4
R#2	0-22	0-3	23				R#2						
R#3	0-18	0-0	34				R#3						
R#4	0-20	0-0	25				R#4						
R#5	0-19	0-0	24				R#5						
R#6	0-21	0-0	28				R#6						

WEAR LIMITS FOR ROAD & SWITCH LOCOMOTIVES - MINIMUM DAILY REQUIREMENTS

RA 1 1/2"	MMA 1 7/16"	Flange Height
RA 7/8"	MMA 15/16"	Flange Thickness
RA 1"	MMA 1 1/16"	Rim Thickness
RA 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

LANGE	Flange THICKNESS	Rim THICKNESS	Tread WEAR	Flange HEIGHT	Flange THICKNESS	Rim THICKNESS	Tread WEAR
RA 1 1/2"	FRA 7/8"	FRA 1"	FRA 5/16"	FRA 1 1/2"	FRA 7/8"	FRA 1"	FRA 5/16"
MA 1 7/16"	MMA 1 1/32"	MMA 1 1/8"	MMA 1/4"	MMA 1 7/16"	MMA 1"	MMA 1 1/2"	MMA 1/4"

**CONVERSION CHART FOR WHEEL DIAMETER**

= 37"	15= 37 7/8"	22= 38 1/4"	29= 39 5/8"	36= 40 1/2"
= 37 1/8"	16= 38"	23= 38 7/8"	30= 39 1/4"	37= 40 5/8"
0= 37 1/4"	17= 38 1/8"	24= 39"	31= 39 7/8"	38= 40 3/4"
1= 37 3/8"	18= 38 1/4"	25= 39 1/8"	32= 40"	39= 40 7/8"
2= 37 1/2"	19= 38 3/8"	26= 39 1/4"	33= 40 1/8"	40= 41"
3= 37 5/8"	20= 38 1/2"	27= 39 3/8"	34= 40 1/4"	41= 41 1/8"
4= 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
RA MAX 34 1/2" MIN 31 1/2"	32 1/2"	FRA MAX 6" MIN 3"	5	FRA MIN 30" MMA MIN 30" FRA MAX 50" MMA MAX 50"	FRA MIN 2 1/2" MMA MIN 3"
MA MAX 34 1/2" MIN 32 1/2"	32 1/2"	MMA MAX 6" MIN 3 1/2"	4		

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

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

1/8" IS THE MAXIMUM VARIATION ALLOWED, IN WHEEL DIAMETER, BETWEEN ANY 2 WHEELS IN THE SAME TRUCK WITHOUT SHIMS  
1/4" IS THE MAXIMUM VARIATION ALLOWED, IN WHEEL DIAMETER, BETWEEN ANY 2 WHEELS IN THE SAME TRUCK WITH SHIMS APPLIED.  
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

**MEMBER THIS RULE**  
TO 3 DIAMETER DIFFERENCE NO SHIMS REQUIRED & TO 10 DIAMETER DIFFERENCE ADD APPROPRIATE SHIMS TO BOTH BOXES ON BOTH SIDES OVER 13 IN DIAMETER DIFFERENCE REQUIRES WHEEL CHANGE OR TRUED. NOTE: ON EMD LOCOMOTIVES USE MAX ONE (1) SHIM EMD PART NUMBER 2455991 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: 1/4" SHELLED SPOT 1" OR GREATER IN LENGTH. ONE SHELLED SPOT WITH A DEPTH OF 1/4" OR MORE.

EMPLOYEES SIGNATURE

*William Cherry*

SUPERVISORS SIGNATURE

16. On MUI engines, pull the Governor button and hold back the Lay-shaft while cranking the engine over to prevent unit from starting.

18. Based on the cranking voltages, is any battery suspect of needing replaced? YES  NO

2 Battery Units	Specific Gravity				Water Added			Battery Replaced-Reason
	Cell 1	Cell 2	Cell 3	Cell 4	Yes	No	Yes	
Battery 1								o
Section A	1250	1250	1250	1250				
Section B	1250	1250	1275	1275				
Section C	1275	1275	1275	1275				
Section D	1275	1275	1275	1275				

2 Battery Units	Specific Gravity				Water Added			Battery Replaced-Reason
	Cell 1	Cell 2	Cell 3	Cell 4	Yes	No	Yes	
Battery 2								o
Section A	1250	1250	1250	1250				
Section B	1275	1250	1250	1250				
Section C	1250	1275	1250	1250				
Section D	1275	1275	1275	1250				

8 Battery Units	Specific Gravity				Water Added			Battery Replaced-Reason
	Cell 1	Cell 2	Cell 3	Cell 4	Yes	No	Yes	
Battery 1								
Battery 2								
Battery 3								
Battery 4								
Battery 5								
Battery 6								
Battery 7								
Battery 8								

	Battery 1	Battery 2	Battery 3	Battery 4	Battery 5	Battery 6	Battery 7	Battery 8
Battery Voltage	34	33.96						
Battery Voltage								
Cranking Battery Voltage								
Battery Voltage								
Cranking Battery Voltage								

UNIT # 3603

MAIN ALTERNATOR

POS	1	2	3	4	B	W
9						
10						
11			OK			
12						
1						
2						

SIGNATURE B White

NO. 1 TRACTION MOTOR

POS	1	2	3	B	W
3					
6					
9			OK		
12					

SIGNATURE B White

NO. 2 TRACTION MOTOR

POS	1	2	3	B	W
3					
6					
9			replaced		
12					

SIGNATURE B White

NO. 3 TRACTION MOTOR

POS	1	2	3	B	W
3					
6					
9			replaced		
12			replaced		

SIGNATURE B White

NO. 4 TRACTION MOTOR

POS	1	2	3	B	W
3					
6			OK		
9					
12					

SIGNATURE B White

AUXILIARY GENERATOR

POS	1	2	3	B	W
2					
4					
8			OK		
10					

SIGNATURE B White

NO. 5 TRACTION MOTOR

POS	1	2	3	B	W
3					
6			OK		
9					
12					

SIGNATURE B White

NO. 6 TRACTION MOTOR

POS	1	2	3	B	W
3					
6					
9			replaced		
12			replaced		

SIGNATURE B White

EXCITER GENERATOR

POS	1	2	3	B	W
2					
4			OK		
8					
10					

SIGNATURE B White

Cab heater

~~DYNAMIC BRAKING BLOWER MOTORS~~

COG

FUEL PUMP MOTOR

POS	1	B	W
3			NA
9			

SIGNATURE B White

POS	1	B	W
2			
4			changed both
5			
10			

SIGNATURE B White

REAR

POS	1	B	W
2			
4			OK
8			
10			

SIGNATURE B White