



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

I have reviewed the work packet for locomotive 5018 on this date 9-13-10 and take no exception to applicable laws, rules and or MMA standards, policies and standards.

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



**Out 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
- C. AXLE ALT. SPEEDO
- D. MU ENGINE SHUTDOWN
- E. FUEL CUT-OFF
- F. TEST WARNING DEVICES

PC  
No Radio

**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
- 130 main reservoir is 64 + or - 3,  
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

DR Saucier  
-No funk-  
PC/KH  
PC/KH  
PC/KH  
PC/KH

NOTE: 120-  
130-140 main

PC/KH  
PC/KH

PC

PC

PC

PC

PC

PC

PC

PC

PC

PC

PC

PC

PC

-N/A-

**NO INBOUND  
DEAD BATTERIES**



# 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	J. Martin
INSPECT ALL WIRING ON THE MAIN GENERATOR TERMINAL BOARD. REPAIR ANY LUGS THAT ARE OVERHEATED.	J. Martin
CHECK AND CHANGE "IF NEEDED" THE BRUSHES ON THE FOLLOWING EQUIPMENT:	
GRID BLOWER MOTORS	N/A
SOAK BACK MOTORS	N/A
AUXILLARY GENERATOR	J. Martin
SLIP RING BRUSHES, EXCITER MOTOR	J. Martin
CHANGE FUEL PUMP MOTOR BRUSHES	J. Martin
INSPECT CAB HEATERS AND CHANGE MOTOR BRUSHES AS NECESSARY	J. Martin
<b>CAB ELECTRICAL</b>	
DOWNLOAD EVENT RECORDER	J. Martin
CHECK & RECORD THE DATE ON HEAD END DEVICE <u>4-22-2010</u>	J. Martin
CHECK AND CHANGE "IF NEEDED" THE BRUSHES ON THE FOLLOWING EQUIPMENT:	
CHECK GENERATOR AND ELECTRIC CABINET COVERS TO ENSURE THEY HAVE LEGIBLE "DANGER" STICKERS	J. Martin
CHECK CAB STICKERS TO ENSURE THAT THEY ARE LEGIBLE (DANGER 600 VOLTS) (FRA 223 GLAZING) ETC.	J. Martin
ENSURE DYNAMIC BRAKE HATCH DOORS ARE SECURED PROPERLY AND HAVE LEGIBLE "DANGER" STICKERS.	J. Martin
CHECK THE FOLLOWING EQUIPMENT AND THEIR RELATED GUARDS AND LENSES FOR PROPER OPERATION:	
AUXILLARY GENERATOR	J. Martin
SLIP RING BRUSHES, EXCITER MOTOR	J. Martin
ALT. DIODE BANK	J. Martin
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 N/A
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	J. Martin
CHECK CONTROLLER FOR PROPER OPERATION OF REVERSER AND THROTTLE HANDLE LOCKING DEVICES	PC.
CHECK EMERGENCY FUEL SHUT-OFF FROM ALL LOCATIONS	
<b>TRACTION MOTORS AND UNDERFRAME</b>	
INSPECT AXLE GENERATOR AND ENSURE ALL COVER BOLTS ARE IN PLACE AND TIGHT	J. Martin
CLEAN AND CHECK THE TRACTION MOTOR LEADS, CLAMPS, VERIFY NO LEADS ARE RUBBING ON THE FRAME	J. Martin
CHANGE ANY TRACTION MOTOR BRUSH WITH LESS THAN 50% LIFE LEFT	J. Martin
INSPECT TRACTION MOTOR COVERS AND ENSURE BOLTS ARE IN PLACE AND TIGHT	J. Martin
ENSURE TRACTION GROUND WIRES ARE IN PLACE AND PROPERLY SECURED	J. Martin
CLEAN FACE PLATE ON RADAR TRANSCIEVER	N/A
CHECK M.U. RECEPTACLE AND LIDS. MAKE NECESSARY REPAIRS	J. Martin
MAKE SURE M.U. CABLES DO NOT FOUL COUPLERS	PC.

7.2

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

**SECTION 3**

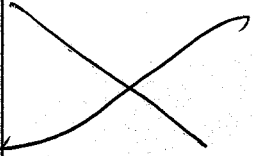
COMPLETE FRA INSPECTION	
INSPECT ALL TRAINLINE BRAKE VALVES	D.R. Savier
COMPLETE WHEEL REPORT SHEET	see Wheel sheet
CHECK FOR BROKEN COIL SPRINGS & LATERAL PADS	D.R. Savier DEFECT
INSPECT VERTICAL AND YAW DAMPERS FOR LEAKS AND SIGNS OF BUSHING DETERIORATION.	DRS see DEFECT
CHECK AND LUBRICATE COUPLER CARRIER	DRS
INSPECT AND REPLACE BRAKE SHOES AS NECESSARY (40012998)	DRS DEFECT
CHECK BRAKE CYLINDER TRAVEL	DRS
MAKE PIT INSPECTION OF LOCOMOTIVE UNDERCARRIAGE	DRS
INSPECT WICK BOLT SECUREMENT AND REPAIR IF NECESSARY	DRS DEFECT
CHECK SUSPENSION BEARING OIL LEVEL	
CHECK JOURNAL BOX OIL LEVEL	DRS
CHECK OIL FILLED GEAR CASES AND FILL	D. Black
CHECK GEAR CASES AND INSPECT BULL GEAR (ADD 3lbs. OF GEARCASE GREASE)	D. Black Defect
SUSPENSION BEARING BOXES	
TRACTION MOTOR AIR DUCTS	DRS
NOSEPADS, BINDERS, PEDESTAL JAWS AND LINERS, ROLLER BEARING BOXES AND BOLTS	DRS
INITIAL BY APPROPRIATE TYPE (SWITCHER: 6 In ROAD: 8 In)	DRS
ELLIPTIC SPRINGS, HANGERS AND SAFETY STRAPS, BOLSTER WEAR PLATES, BOLSTER SUPPORT PADS AND TIE PADS	DRS
INSPECT ALL BRAKE HANGERS, HEADS, GUIDES AND STRAPS INSURING BRAKE SHOES ARE IN LINE WITH WHEELS	DRS
INSPECT SIDE BEARINGS AND REPAIR AS NEEDED	DRS
CHECK KNUCKLE CLEARANCE AND KNUCKLE THROWER, MAKE REPAIRS AS NEEDED AND APPLY SPARE KNUCKLES (E AND F TYPE)	DRS
INSPECT, TEST, LUBRICATE HAND BRAKE, NOTE SERVICE DATE ON BLUE CARD	DRS

**SECTION 4**

IN ACCORDANCE WITH FRA 229.23. VERIFY AIR GAUGES (+/- 3PSI) CALIBRATE AT +/- 1PSI, REQUIRES 130 PSI MR	DRS
CHECK ALL FLUID LEVELS, ENGINE OIL, COOLING WATER, AIR COMPRESSOR OIL	
DRAIN RETENTION TANK	- N/A -
TOILET MAINTENANCE:	
A. INSPECT/REPAIR AS NEEDED TOILET DRAIN VALVE & FLOOR SEALS	DRS
<b>Cab Seat Inspection:</b>	New seats
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.	DRS
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 KNOW. 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.	

MONTREAL

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

P: VERIFY ALL ARMREST FASTENERS ARE SECURE. REPLACE ANY MISSING OR STRIPPED OUT FASTENERS.	DRS
Q: INSPECT ARMREST SWIVEL FASTENERS. ENSURE SWIVEL FASTENER IS SECURE ON EACH ARMREST SUCH THAT THE ARMREST IS WITHOUT SIDE TO SIDE MOVEMENT. ARMREST SHOULD SWIVEL TO VERTICAL. ARMREST SHOULD NOT DROP DOWN PAST IT'S ORIGINAL STOP.	DRS
R: INSPECT SEAT FABRIC ON SEAT PAN AND BACKREST. INSPECT FOR RIPS, TEARS, OR HOLES. SEAT PAN OR BACKREST COMPONENT MAY BE REPLACED IF THERE IS AN EXCESSIVE RIP, TEAR, OR HOLE.	DRS
<b>SEAT PART NUMBERS:</b> Cab Seat, Freight with arms: 2043511 Cab Seat Mid Back: 20425731 Wall Mounted Pedestal: 20435541 Trunion Pedestal Assembly: 20425721 Seat Pedestal Rail Left Side 65": 20422211	
INSPECT AND REPAIR AS REQUIRED:	—
A. CAB / CARBODY/DOORS/HINGES/WINDOWS/LATCH SEALS/WEATHER STRIPPING AND SEALS/MIRRORS. ALSO LUBRICATE AS NEEDED	DRS
A. CLEAN THE CAB, WINDOWS, AND EQUIPMENT	DRS
COMPLETE WINTERIZATION SHEET (AUGUST - APRIL)	DRS
WASH LOCOMOTIVE ENGINE/ENGINE ROOM/AND AIR COMPRESSOR ROOM	DRS
WASH THE LOCOMOTIVE	DRS



# 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	DRS
PERFORM CRANKCASE INSPECTION WHILE BARRING THE ENGINE OVER, PAY CAREFUL ATTENTION FOR BROKEN RINGS AND/OR "JUMPING" RODS INDICATING THRUST WASHER WEAR	DRS
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	OIL 6.28 DRS
INSPECT TOP DECK COVERS, SEALS AND LATCHES. REPLACE AS NECESSARY	DRS
INSPECT ALL EXHAUST MANIFOLDS, EXPANSION JOINTS AND HEAT SHIELDS FOR DEFECTS AND SECUREMENT.	DRS
REMOVE AND CLEAN EDUCTOR TUBE AND STACK OUTLET AND REPLACE GASKETS	DRS
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)	DRS
LUBRICATE RADIATOR SHUTTER LINKAGES AND CYLINDERS	N/A
REPLACE THE BELL VALVE	---
INSPECT ROCKER ARMS, ROCKER ARM BUSHINGS AND CAM FOLLOWERS	DRS
<b>SECTION 2</b>	
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	DRS
PRIMARY, SECONDARY FUEL FILTERS & O RING SEALS	DRS
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	DRS
RENEW MICHIANA O RING SEAL AND CLEAN MICHIANA FILTER HOUSING	DRS
CLEAN LUBE OIL STRAINERS AND STRAINER BOX, REFRESH OIL	---

LOCOMOTIVE											DATE			
5018											9-10-10			
	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	0.22	4-0	3.14				L#1						FLANGE THICKNESS MEASUREMENT	
L#2	0-20	0-0	2.16				L#2						9-on-0-1-17/64"	
L#3	0-17	0-0	2.04				L#3						1-on-0-1-15/64"	
L#4	0-17	4-0	3.00				L#4						2-on-0-1-7/32"	
L#5	2-22	0-0	3.16				L#5						3-on-0-1-5/32"	
L#6	0-20	0-0	2.16				L#6						4-on-0-1-7/64"	
R#1	0-20	0-0	3.08				R#1						5-on-0-1-3/64"	
R#2	0-20	0-0	2.16				R#2						6-on-0-1-132"	
R#3	0-17	0-0	2.04				R#3						7-on-0-1-3/64"	
R#4	0-17	3-0	2.28				R#4						8-on-0-1-13/16"	
R#5	0-22	7-0	3.12				R#5							
R#6	0-20	0-0	2.16				R#6							

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

*Fit, #15 grease no grease  
Baking lower bolt*

NEW GAUGE

0-on-17-1-1/16"
0-on-18-1-1/8"
0-on-19-1-3/16"
0-on-20-1-1/4"
0-on-21-1-5/16"
0-on-22-1-3/8"
2-on-22-1-13/32"
4-on-22-1-7/16"
6-on-22-1-15/32"
8-on-22-1-1/2"

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 3/4"	29= 39 5/8"	36= 40 1/2"
9= 37 1/8"	16= 38"	23= 38 7/8"	30= 39 3/4"	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 1/4"	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"

NEW GAUGE

0-on-0-1-17/64"
1-on-0-1-15/64"
2-on-0-1-7/32"
3-on-0-1-5/32"
4-on-0-1-7/64"
5-on-0-1-3/64"
6-on-0-1-1/32"
7-on-0-63/64"
8-on-0-15/16"

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"	5 1/4"	FRA MIN 2 1/2"
MMA	MAX 34 1/2" MIN 32 1/2"	MMA	MAX 6" MIN 3 1/2"	5 1/8"	MMA MIN 3"

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)

1/4" IS THE MAXIMUM VARIATION ALLOWED, IN WHEEL DIAMETER, BETWEEN ANY 2 WHEELS IN THE SAME TRUCK WITHOUT SHIMS.  
1/8" IS THE MAXIMUM VARIATION ALLOWED, IN WHEEL DIAMETER, BETWEEN ANY 2 WHEELS IN THE SAME TRUCK WITH SHIMS APPLIED  
1/4" 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.  
9 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 EMD LOCOMOTIVES USE ONLY ONE 1/2" SHIM EMD PART NUMBER 8455981 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 ARE SHELLED SPOT 1" OR GREATER IN LENGTH ONE SHELLED SPOT WITH A DEPTH OF 1/4" OR MORE.

EMPLOYEES SIGNATURE

[Signature Line]

SUPERVISORS SIGNATURE

[Signature Line]

Unit: 5018

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

### DEFECTS FOUND DURING INSPECTION

DEFECT	Engine Aspirator tube cracked / out of position	INSPECTED BY:	DRS
REPAIR	Repositioned L/Aspirator pipe	CORRECTED BY:	DRS

DEFECT	engine coolant low	INSPECTED BY:	DRS
REPAIR	Filled	CORRECTED BY:	KH/PC



DEFECT	Engine needs rust inhibitor	INSPECTED BY:	DRS
REPAIR	<del>Replaced</del>	CORRECTED BY:	<del>DRS</del>

DEFECT	Loose Bolts exhaust to turbo	INSPECTED BY:	DRS
REPAIR	Tightened	CORRECTED BY:	DRS

DEFECT	Missing Jamb nut on R3 exhaust valve adjuster	INSPECTED BY:	DRS
REPAIR	New PA COMING OUT	CORRECTED BY:	PC/KH



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

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

### DEFECTS FOUND DURING INSPECTION

DEFECT #5 R wheel thin flange	INSPECTED BY: DRS
REPAIR <del>*</del> Comming out <del>*</del>	CORRECTED BY:

DEFECT #2 R Journal box spring not in pocket	INSPECTED BY: DRS
REPAIR Straightened pocket Reset	CORRECTED BY: KH/DRS

DEFECT Left Rear sand pipe loose/missing bolts	INSPECTED BY: DRS
REPAIR Repaired	CORRECTED BY: DRS

DEFECT Several B/O brake shoes	INSPECTED BY: DRS
REPAIR Replaced 5 shoes	CORRECTED BY: DWC

DEFECT #5 G.C. Bolt Broken	INSPECTED BY: D Black
REPAIR <del>*</del> Comming out <del>*</del> C/O Motor	CORRECTED BY: CREW

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

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

### DEFECTS FOUND DURING INSPECTION

DEFECT	Main gen. brushes short	INSPECTED BY:	J.H
REPAIR	Replaced brushes	CORRECTED BY:	J.H

DEFECT	Both batteries dry/low voltage	INSPECTED BY:	J.H
REPAIR	New Batteries	CORRECTED BY:	OS/PC/KM

DEFECT	#3 Spring pack Damaged	INSPECTED BY:	DRS
REPAIR	OK	CORRECTED BY:	DRS

DEFECT	#3 safety wire broken.	INSPECTED BY:	DRS
REPAIR	Replaced	CORRECTED BY:	DRS

DEFECT	#2 R brake cyl. inner slider worn through	INSPECTED BY:	DRS
REPAIR	C/O slider	CORRECTED BY:	DRS

See Additional Defects  
in Rear of packet

# Description of Work Performed

Locomotive ID \_\_\_\_\_

Time Started \_\_\_\_\_

Time Finished \_\_\_\_\_

L 3 Exhaust stud missing

Replaced Bolt DRS

L 2 cam seg. pitted

R3 ~~PT~~ Bad

Replaced with New PT KH-PC

# JSP-010 (BATTERY MAINTENANCE AND QUALIFICATION)

## JOB SPECIFIC PROCESS

Locomotive Type: ALL MODELS

Valid for Road Numbers: (All Models)

Overview: This job process sheet will assist with the maintenance and qualification of batteries.

### SPECIAL TOOLS OR EQUIPMENT:

### SEQUENCE OF JOB STEPS

Please print your name,  
NO signatures

1. Ensure the locomotive is shutdown, discharged, all of the circuit breakers are open and the battery knife switch is open.

### Battery Qualification/Maintenance

2. **NOTE: If batteries are dead, connect the charger until the charge rate falls below 10 amps to determine state of charge. Readings under 20 V are suspect for units with just 2 batteries.**

3. Insert hose stem into battery cell and squeeze bulb.

4. Release pressure until enough acid solution is drawn into the tube allowing the float to float freely. Be sure float does not touch rubber stopper at the top of the tube.

5. The float reading at the water line is the uncorrected charge level of the battery.

6. Read and record the specific gravity of all 16 pilot cells. "record readings below": acceptable range is 1.225 – 1.300 ( if out of this range notify tech support) **207-478-5572**

**Note 1:** the sheet below is set up for 2 or 8 batteries as some units have 8 batteries.

**Note 2:** accurate readings cannot be obtained if water has recently been added to cells. Differences of 50 points or more between readings in battery cells may indicate pending battery failure.

7. Based on the above specific gravity readings, do any batteries need replaced? Remember, if the unit came in with already dead batteries, an attempt to charge the batteries must be made before taking the specific gravity readings. **YES**

8. Return acid to cell from which it was drawn.

9. Be sure all vent plugs are replaced and tight.

10. With Unit shut down measure the voltage reading across each battery at the terminals, record readings on the chart below.

11. Make a general check of the battery as to proper blocking, clean and tight connections at all points, and any unusual appearance or condition. If any unusual appearance or conditions exit, like corrosion, clean with scotch-brite buffer or wire br

12. Apply approved protective coating to connections after terminals are cleaned and dried

13. Add water as required (Add water to bottom of filler neck).

### Battery Cranking Voltage Test

14. Close battery knife switch, and circuit breakers.

15. Open the injector toggle switch, on EUI units to prevent unit from starting.

**NOTE: Battery cranking voltage readings do not need to be taken on Air Start Locomotives.**

*New Batteries  
9-16-10*

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								
Section B								
Section C								
Section D								

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								
Section B								
Section C								
Section D								

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 CRANKING VOLTAGE CHART**

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

REVISED: 8/18/2010



**MMA RAILWAY  
MECHANICAL DEPARTMENT  
MODIFICATIONS**

UNIT 5018

DATE 9-15-10

ELECTRICIAN / MACHINIST

SIGNATURES

1. DYNAMIC BRAKE HOLDING FEATURE
2. CHECK BATTERY CONNECTIONS AND RECOAT LUGS
3. SINGLE MAN BRAKE TEST

\_\_\_\_\_  
PC/KH  
\_\_\_\_\_  
KH



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

LOCOMOTIVE INSPECTION REPORT AIR99

SIGNATURE

	RECORDED DATE	(STENCIL DATE)	
26 INDEPENDENT BRAKE VALVE	8.28.08	6.08	
26 C AUTOMATIC BRAKE VALVE	71	71	
HB5D RELAY AIR VALVE (NOTE IF NOT EQUIPPED)			
26 F CONTROL VALVE	71	71	
A-1 CHARGING VALVE	71	71	
P-2-A PENALTY BRAKE APPLICATION VALVE	71	71	
F-1 SELECTOR VALVE (NOTE IF NOT EQUIPPED)	71	71	
MU2A VALVE	71	71	
J-1 RELAY AIR VALVE	71	71	
J-1.6-16 RELAY AIR VALVE	71	71	
QUICK RELEASE PORTION	71	71	
#8 VENT ENGINEER'S SIDE (NOTE IF NOT EQUIPPED)	71	71	
#8 VENT FIREMAN'S SIDE (NOTE IF NOT EQUIPPED)	71	71	
MAIN RESERVOIR POP VALVE. Check for proper setting	71	71	

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

WINTERIZATION	
	Signature
Winterization - All MMA Locomotives. (August - April)	
Inspect front and rear cab door seals replace, as needed (NO TAPE)	DRS
Inspect left and right side window seals replace as needed.	DRS
Inspect Electric cabinet door seals replace as needed.	PR -
Operate Cab Heaters-Check condition of Heater Assembly @ 45o F above Ambient Temperature.	DRS
Operate Window Defrosters-Check condition of Defroster @ 45o F above Ambient Temperature.	-N/A-
If equipped, test the Auto Dump valve for proper operation.	Guru DRS
Test Manual Water Dump Valves, Proper Handle, Location, Orifice is Open.	DRS
Close Winter/ Summer doors if equipped.	DRS
Check Traction Motor cover gaskets, install as needed.	DRS
Check condition of Cab Door Hinges (Lubricate all Hinges)	DRS
Check condition of Cab Door Locks (Lubricate all Locks)	DRS
Inspect Cab Windows Slider Rail, Adjust Top Rail as needed, Lubricate with Silicone Grease.	DRS
Renew all Wiper Blades.	OK DRS
Criteria for Door seal Replacement: A. Seal shows signs of Deterioration and or Medium to Heavy Cracking. 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.	DRS
Criteria for Window seal Replacement: A. Seals shows signs of Deterioration and or Medium to Heavy Cracking. 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.	DRS



# Service Operations

## THROTTLE 8 OUTBOUND LOAD TESTS

UNIT 5018

DATE 9-18-10

Eng RPM (900)	EMD	<del>1020</del>	Lube Oil Pres	<u>90</u>
Eng RPM (1050)	GE	<u>1020</u>	Water Temp	<u>160</u>
Horsepower		<u>2925</u>	Overspeed Setting	<u>1090</u>
Volts (5.3)	B-23		RACK SETTING	<u>19.5</u>
Volts (7)	C-30	<u>6.9 Volts - 2925 HP</u>		
Volts (720)	B-39	<u>74V</u>		

### THROTTLE #1 STALL TEST

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

TL 24T

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



Quantum Desktop Playback  
Data Scan Report

Report Date: 09-13-2010  
Locomotive 5018

Data Removed on 09-13-10

SPEED (MPH)	OK
TRACTION MOTOR CURRENT	OK
BRAKE PIPE PRESSURE	OK
INDEPENDENT BRAKE	OK
END-OF-TRAIN PSI	Never above 20.
EP BRAKE REQUESTED	Never ON/ACTIVE
THROTTLE	Stop never reported. Low Idle never reported.
REVERSE	OK
EIE	OK
PCS	Never ON/ACTIVE
HORN	OK
EOT MOVING	Never ON/ACTIVE
EOT MSG. JUST RX	Never ON/ACTIVE
EOT LIGHT	Never ON/ACTIVE
EP OPERATING MODE	Never ON/ACTIVE
EP PENALTY BRAKE	Never ON/ACTIVE
EP ENGINEER EMERGENCY	Never ON/ACTIVE



Quantum Desktop Playback

Manufacturer is QEI Version # S45E  
Serial Number is 0204090074  
Customer is MMR

Data was removed on - 09:34:28 on 09/13/10  
Last Downloaded on - 10:38:00 on 07/21/10  
Battery was installed on - 08/10/04  
Locomotive Number is - 5018

Downloaded by - jh  
Location - derby  
Train - 234  
Wheel Size Entry - 40  
Wheel Size used by program:  
Circumference = 125.7 Diameter = 40.0  
No memo present.

Wheel size used for printout is 125.66

QDP Version V

