

BRUSH RECORD

UNIT # 8553

DATE 6/7/10

MAIN ALTERNATOR

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

SIGNATURE BW

NO. 1 TRACTION MOTOR

POS	1	2	3	B	W
3					
6					
9					
12					

SIGNATURE BW

NO. 2 TRACTION MOTOR

POS	1	2	3	B	W
3					
6					
9					
12					

SIGNATURE BW

AUXILIARY GENERATOR

POS	1	2	3	B	W
2					
4					
8					
10					

SIGNATURE _____

NO. 3 TRACTION MOTOR

POS	1	2	3	B	W
3					
6					
9					
12					

SIGNATURE BW

NO. 4 TRACTION MOTOR

POS	1	2	3	B	W
3					
6					
9					
12					

SIGNATURE BW

EXCITER GENERATOR

POS	1	2	3	B	W
2					
4					
8					
10					

SIGNATURE _____

NO. 5 TRACTION MOTOR

POS	1	2	3	B	W
3					
6					
9					
12					

SIGNATURE _____

NO. 6 TRACTION MOTOR

POS	1	2	3	B	W
3					
6					
9					
12					

SIGNATURE _____

DYNAMIC BRAKING BLOWER MOTORS

FRONT

POS	1	B	W
2			
4			
8			
10			

SIGNATURE BW

Cleaned up
← →
very dirty

REAR

POS	1	B	W
2			
4			
8			
10			

SIGNATURE BW

Down load Event Recorder & Wiles / Leblanc



Quantum Desktop Playback
Data Scan Report

Report Date: 06-07-2010
Locomotive 8553

Data Removed on 06-07-10

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	Dynamic Brake never reported. Stop never reported. Low Idle never reported.
REVERSE	OK
EIE	OK
PCS	OK
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 0204060172
Customer is

Data was removed on - 10:43:32 on 06/07/10
Last Downloaded on - 14:06:00 on 03/22/10
Battery was installed on - 05/26/04
Locomotive Number is - 8553

Downloaded by - BW
Location - Derby
Train - 92 day
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

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.	J. Hartis
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.	J. Hartis
3. Insert hose stem into battery cell and squeeze bulb.	J. Hartis
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.	J. Hartis
5. The float reading at the water line is the uncorrected charge level of the battery.	J. Hartis
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) 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.	J. Hartis
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	J. Hartis
8. Return acid to cell from which it was drawn.	J. Hartis
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.	J. Hartis
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	J. Hartis
12. Apply approved protective coating to connections after terminals are cleaned and dried	J. Hartis
13. Add water as required (Add water to bottom of filler neck).	J. Hartis
Battery Cranking Voltage Test	
14. Close battery knife switch, and circuit breakers.	J. Hartis
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.	

8553

B-23, B-39, C-30, GP-7 MO3 INSPECTION



MECHANICAL IN HOUSE

WORKED BY:

REVIEW LAB CODE AND PERFORM A COMPLETE AIRBOX/CRANKCASE INSPECTION IF A LAB CODE EXISTS

WITH THE ENGINE WARM, PRESSURE TEST COOLING SYSTEM AT 20 PSI FOR 15 MINUTES AND IF THE PRESSURE ON THE GAUGE DOES NOT DROP, THEN NO FURTHER ACTION IS REQUIRED

CHANGE THE FOLLOWING FILTERS AND ASSOCIATED GASKETS:

FUEL SPIN ON FILTERS. EMD ONLY

SOAK BACK FILTER. EMD ONLY

TURBO SPIN ON FILTER. EMD ONLY

COMPLETE FRA INSPECTION (DAILY INSPECTION CHECKLIST)

CARBODY

INSURE SAND NOZZLES AND HOSES ARE IN PLACE AND SECURED. MAKE SURE THEY ARE ALIGNED WITH WHEEL AND TRACK. INSPECT SAND TRAPS AND REPAIR AS NEEDED.

INSPECT COUPLERS & DRAFT GEARS. MAKE REPAIRS AS NECESSARY

CHECK KNUCKLE CLEARANCE AND KNUCKLE THROWER, MAKE REPAIRS AS NEEDED AND APPLY SPARE KNUCKLES (E AND F TYPE) (2.5")

INSPECT PIN LIFTERS CHECKING FOR PROPER HAND CLEARANCE AND ANTI-CREEP

CHECK SNOWPLOW (IF EQUIPPED) FOR HANDHOLDS AND PROPER DISTANCE

CHECK AUTO BLOWDOWNS FOR PROPER OPERATIONS IN AUTOMATIC MODE

ENSURE SUMP DRAINS ARE OPEN AND FREE OF DEBRIS

TRUCKS

INSPECT WICK BOLT SECUREMENT AND REPAIR IF NECESSARY

CHECK SUSPENSION BEARING OIL LEVEL

CHECK JOURNAL BOX OIL LEVEL (FILL TO POINT OF OVERFLOW)

CHECK GEAR CASES AND INSPECT BULL GEAR (ADD 6lbs. OF GEARCASE GREASE)

CHECK OIL FILLED GEAR CASES AND FILL (RECORD USAGE BELOW)

1 TRACTION MOTOR: OIL USED filled with 6800

2 TRACTION MOTOR: OIL USED ''

3 TRACTION MOTOR: OIL USED ''

4 TRACTION MOTOR: OIL USED ''

5 TRACTION MOTOR: OIL USED X

6 TRACTION MOTOR: OIL USED X

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

CAB

CHECK FIRE EXTINGUISHERS, DATE AND TAG. REPLACE IF USED OR OUT OF DATE.

CHECK CAB SEATS FOR PROPER OPERATION INSURING ALL BOLTS ARE IN PLACE AND TIGHT.

CHECK HANDBRAKE AND INSPECT DATE. MAKE REPAIRS AS NECESSARY

MISC

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

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

J. HARTIN

D. Ryan

D. Ryan

D. Ryan

D. Ryan

D. Ryan

K. Hasey

K. Hasey

K. Hasey

K. Hasey

K. Hasey

K. Hasey

K. Hasey

K. Hasey

D. Ryan

D. Ryan

D. Ryan

D. Ryan

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K. Hasey

J. Hartin

D. Ryan

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B-23, B-39, C-30, GP-7 MO3 INSPECTION

G. IF THE SEAT MOVEMENT IS IMPEDED, REMOVE SEAT CUSHION AND INSPECT SEAT PAN ROLLER TRACK FOR DEBRIS, MALFUNCTION, OR LACK OF LUBRICATION.	<i>P. Lopez</i>
H. INSPECT SEAT RAILS AND REPLACE IF DAMAGED OR WORN BEYOND PROVIDING SECURE, STABLE MOUNTING OF SEAT.	<i>P. Lopez</i>
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.	<i>P. Lopez</i>
J. LUBRICATE THE SEAT RAILS WITH SILICONE LUBRICANT.	<i>P. Lopez</i>
K. INSPECT THE BACKREST RAKE ADJUSTMENT KNOB. VERIFY THAT THE KNOB ROTATES EASILY TO ADJUST BACKREST ANGLE.	<i>P. Lopez</i>
L. INSPECT KNOB FOR CRACKS OR SPLITS AND THAT IT IS SECURELY FASTENED.	<i>P. Lopez</i>
M. INSPECT GEAR MECHANISM FOR ANY WEAR OR DAMAGE.	<i>P. Lopez</i>
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.	<i>P. Lopez</i>
O. INSPECT THE LUMBAR SUPPORT ADJUSTMENT LEVER. VERIFY THAT THE ADJUSTMENT LEVER OPERATES EASILY TO ADJUST THE LUMBAR SUPPORT.	<i>P. Lopez</i>
P. VERIFY ALL ARMREST FASTENERS ARE SECURE. REPLACE ANY MISSING OR STRIPPED OUT FASTENERS.	<i>P. Lopez</i>
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.	<i>P. Lopez</i>
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.	<i>P. Lopez</i>
SEAT PART NUMBERS: 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 Seat Pedestal Rail Right Side 46": 20422221	
INSPECT AND REPAIR AS REQUIRED: A. CAB / CARBODY/DOORS/HINGES/WINDOWS/LATCH SEALS/WEATHER STRIPPING AND SEALS/MIRRORS. ALSO LUBRICATE/CHANGE AS NEEDED A. CLEAN THE CAB, WINDOWS, AND EQUIPMENT COMPLETE WINTERIZATION SHEET (AUGUST - APRIL) WASH LOCOMOTIVE ENGINE/ENGINE ROOM/AND AIR COMPRESSOR ROOM WASH THE LOCOMOTIVE	
	<i>P. Lopez</i>
	<i>P. Lopez</i>
	<i>P. Lopez</i>

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**

J. Harts

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	1200	1225	1225	1200	✓			
Section B	1225	1200	1225	1225	✓			
Section C	1225	1225	1225	1225	✓			
Section D	1225	1200	1250	1225	✓			

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	1225	1200	1225	1225	✓			
Section B	1225	1225	1225	1225	✓			
Section C	1225	1200	1200	1225	✓			
Section D	1225	1225	1225	1225	✓			

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	33.9	34.2						
Battery Voltage	33.9	34.2						
Cranking Battery Voltage	24.9	24.7						
Battery Voltage	32.75	32.1						
Cranking Battery Voltage	24.7	24.0						
	32.2	32.0						