



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

I have reviewed the work packet for locomotive 8546 on this
date 8-11-10 and take no exception to applicable laws, rules and or MMA
standards, policies and standards.



Service Operations

UNIT _____

DATE _____

THROTTLE 8 INBOUND LOAD TESTS

Eng RPM (900)	EMD	_____	Lube Oil Pres	_____
Eng RPM (1050)	GE	_____	Water Temp	_____
Horsepower		_____	Overspeed Setting	_____
Volts (5.3)	B-23	_____	RACK SETTING	_____
Volts (7)	C-30	_____		
Volts (720)	B-39	_____		


THROTTLE #1 STALL TEST

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

TL 24T

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

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

 In-Bound Loadtest Electrical/Mechanical	WORKED BY:	
ELECTRICAL		
VERIFY THE OPERATION OF THE GROUND RELAY	Not Done Big Rush	
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 OUTBOUND LOAD TEST SHEETS		
GROUND RELAY-(TEST THREE TIMES TO VERY LOCK-OUT)(DYNAMIC & POWER)		
IF EQUIPPED, VERIFY THE OPERATION OF THE LDVR CAMERA		
MECHANICAL		
PROPER LUBRICATION? FUEL LEAKS? CAM ROLLER ROTATION? ETC.		D. Black
INSPECT FUEL SYSTEM HOSES AND PIPES FOR LEAKS	D. Black	
INSPECT COOLING SYSTEM:	D. Black	
A: CHECK HOSES AND PIPES FOR LEAKS	D. Black	
CHECK OPERATION OF ENGINE PROTECTION DEVICES:	D. Black	
A. CRANKCASE PRESSURE	D. Black	
VISUALLY INSPECT AIR COMPRESSOR FOR WATER, AIR OR OIL LEAKS	D. Black	
PERFORM MANUAL AIR BRAKE TEST	D. Black	
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:	D. Black	
A. MAIN RESERVOIR (130 - 140 PSI)	D. Black	
B. BRAKE PIPE (90 PSI)	D. Black	
C. EQUALIZING RESERVOIR (90 PSI)	D. Black	
D. BRAKE CYLINDER (72 - 74 PSI)	D. Black	
E. COMPRESSOR CONTROL (130 - 140 PSI +/-5 PSI)	D. Black	
CHECK FLUID LEVELS BEFORE LOADING:		
A: ENGINE OIL	1/2 low D. Black	
B: COOLING WATER	D. Black	
C: AIR COMPRESSOR OIL	D. Black Low	
TEST OPERATION OF THE FOLLOWING DEVICES:		
A. BELL	D. Black	
B. SANDERS (FORWARD, REVERSE, EMERGENCY)	D. Black	
C. RADIATOR SHUTTERS		

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

Revision Date: 06/26/2010
 Issued By: Tim Scalia

ELECTRICAL IN HOUSE	WORKED BY:
SERVICE THE BATTERIES	<i>M. White</i>
VERIFY EVENT RECORDER IS WORKING	<i>[Signature]</i>
CHECK & RECORD THE DATE ON HEAD END DEVICE _____	<i>[Signature]</i>
CLOSELY INSPECT THE HEAD END DEVICE CONNECTOR. ENSURE IT IS TIGHTLY CONNECTED AND NOT CROSS THREADED	<i>[Signature]</i>
CHECK THE FOLLOWING EQUIPMENT AND THEIR RELATED GUARDS AND LENSES FOR PROPER OPERATION: <i>T.M. Dynamic Brake - Gen.</i>	<i>[Signature]</i>
CHECK ALL GROUND AND STEP LIGHTS, FRONT AND REAR HEADLIGHTS, DITCH LIGHTS, CAB LIGHTS, GAUGE LIGHTS, NUMBER PLATES, PLATFORM LIGHTS, ALL WARNING AND INDICATOR LIGHTS	<i>[Signature]</i>
TRACTION MOTORS AND UNDERFRAME	
CHECK THE TRACTION MOTOR LEADS, VERIFY NO LEADS ARE RUBBING ON THE FRAME	<i>M. Corley</i>
INSPECT TRACTION MOTOR COVERS AND ENSURE BOLTS ARE IN PLACE AND TIGHT	<i>[Signature]</i>
CHECK M.U. RECEPTACLE PINS AND LIDS. MAKE NECESSARY REPAIRS	<i>[Signature]</i>
MAKE SURE M.U. CABLES DO NOT FOUL COUPLERS	<i>[Signature]</i>

B-23, B-39, -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 8 PKg

2 TRACTION MOTOR: OIL USED 6 PKg

3 TRACTION MOTOR: OIL USED 6 PKg

4 TRACTION MOTOR: OIL USED OK New

5 TRACTION MOTOR: OIL USED _____

6 TRACTION MOTOR: OIL USED _____

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

INSPECT CAB SEATS. REPAIR AND LUBRICATE AS REQUIRED

INSPECT AND REPAIR AS REQUIRED:

A. CAB / CARBODY/DOORS/HINGES/WINDOWS/LATCH SEALS/WEATHER STRIPPING AND SEALS/MIRRORS. ALSO LUBRICATE/CHANGE AS NEEDED see defects

A. CLEAN THE CAB, WINDOWS, AND EQUIPMENT

COMPLETE WINTERIZATION SHEET (SEPTEMBER-FEBRUARY)

WASH LOCOMOTIVE ENGINE/ENGINE ROOM/AND AIR COMPRESSOR ROOM

WASH THE LOCOMOTIVE

NA

X

M. Cortey
M. Cortey

M. Cortey
M. Cortey
M. Cortey

M. Cortey
M. Cortey
M. Cortey
M. Cortey

M. Giley
M. Cortey
M. Cortey

X
JWB Black

M. White
R. Black
B. Black

D. Black
D. Black
D. Black
D. Black

M. White

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



Out-Bound Loadtest Electrical/Mechanical

WORKED BY: BW

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 OUTBOUND LOAD TEST SHEETS
 GROUND RELAY-(TEST THREE TIMES TO VERY LOCK-OUT)(DYNAMIC & POWER)
 IF EQUIPPED, VERIFY THE OPERATION OF THE LDVR CAMERA

J.W
BW
None BW
OK BW
BW
BW
BW

MECHANICAL

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

J. Black
J. Black
D. Black
D. Black
OK BW

Verify Flow Gauge
 130 main reservoir is 64 + or - 3,
 reservoir is 60 + 0

NOTE: 120-
 130-140 main

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)

140
87
89
87
79

CHECK FLUID LEVELS BEFORE LOADING:
 A: ENGINE OIL
 B: COOLING WATER
 C: AIR COMPRESSOR OIL

BW
BW
BW

TEST OPERATION OF THE FOLLOWING DEVICES:
 A. BELL
 B. SANDERS (FORWARD, REVERSE, EMERGENCY)
 C. RADIATOR SHUTTERS

OK BW
OK BW
N/A



UNIT 8546
 DATE 8/11/10

Service Operations

THROTTLE 8 OUTBOUND LOAD TESTS

Eng RPM (900)	EMD	<u> </u>	Lube Oil Pres	<u>45</u>
Eng RPM (1050)	GE	<u>1050</u>	Water Temp	<u>180</u>
Horsepower		<u>3756</u>	Overspeed Setting	<u>1100</u>
Volts (5.3)	B-23	<u> </u>	RACK SETTING	<u> </u>
Volts (7)	C-30	<u> </u>		
Volts (720)	B-39	<u>708</u>		

THROTTLE #1 STALL TEST

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

TL 24T

Throttle 1	(1V)	<u> </u>	
Throttle 2		<u> </u>	
Throttle 3		<u> </u>	
Throttle 4		<u> </u>	
Throttle 5		<u> </u>	
Throttle 6		<u> </u>	
Throttle 7		<u> </u>	
Throttle 8	(72V)	<u> </u>	

LOCOMOTIVE 8546										DATE 8-10-10				
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	FLANGE THICKNESS MEASUREMENT
L#1	0-170-0	3		yes		✓	L#1	0-17	00	2 1/16				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"
L#2	0-180-0	2 9/16					L#2							
L#3	0-210-0	2 7/16					L#3							
L#4	4-220-0	3 3/16					L#4	2-17	00	3 1/16				
L#5							L#5							
L#6							L#6							OLD GAUGE
R#1	0-17	0-0	3 1/16	yes		✓	R#1	0-17	00	3 1/16				FLANGE HEIGHT MEASUREMENT 0-on 0-1" 0-on 1-1/16" 0-on 2-1/8" 0-on 3-1/16" 0-on 4-1/4" 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"
R#2	0-17	0-0	2 9/16				R#2							
R#3	0-21	0-0	2 7/16				R#3							
R#4	7-22-2-0	3 3/16					R#4	1-17	00	2 1/16				
R#5							R#5							
R#6							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

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"

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"

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	FROM	PILOT HEIGHT	FRONT	HEIGHT OF HORIZONTAL END HANDHOLD OR UNCOUPLING LEVER IF USED AS HORIZONTAL HANDHOLD	LOCO RAIL CLEARANCE
FRA	MAX 34 3/4" MIN 31 1/2"	35	53 1/4	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"	33	4		

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 1/2" 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 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 CONDEMNATES LIMITS FOR SHELLED TREAD ON A SERVICE TRACK: ONE SHELLED SPOT 1" OR GREATER IN LENGTH ONE SHELLED SPOT WITH A DEPTH OF 1/4" OR MORE.

EMPLOYEES SIGNATURE

M. Conley

SUPERVISORS SIGNATURE

Unit: 8546

Date: 8/10/10

DEFECTS FOUND DURING INSPECTION

DEFECT <u>Broken head lamp, and wrong voltage</u>	INSPECTED BY: <u>mwhite</u>
REPAIR <u>Replaced both head lamps w/ 30V</u>	CORRECTED BY: <u>mwhite</u>

DEFECT <u>Left front number board out of weather strip.</u>	INSPECTED BY: <u>mwhite</u>
REPAIR <u>set number board back into rubber weather strip</u>	CORRECTED BY: <u>mwhite</u>

DEFECT <u>3 Thin Brake Shoes</u>	INSPECTED BY: <u>JWBlack</u>
REPAIR <u>Changed out</u>	CORRECTED BY: <u>JWBlack</u>

DEFECT <u>#1 TM GC Belt Missing</u>	INSPECTED BY: <u>MWC</u>
REPAIR <u>Replaced #1 Tmotor</u>	CORRECTED BY: <u>JWBlack</u>

DEFECT <u>#1 L & R wheel High flange</u>	INSPECTED BY: <u>MWC</u>
REPAIR <u>changed out #1 Tms</u>	CORRECTED BY: <u>JWBlack</u>

Unit: 8546

Date: 8/10/10

DEFECTS FOUND DURING INSPECTION

DEFECT <u>Conductor's Side Door Seal broken at bottom</u>	INSPECTED BY: <u>M. White</u>
REPAIR <u>OK. For service</u>	CORRECTED BY: <u>N.L.</u>

DEFECT <u>L-A exhaust Leak</u>	INSPECTED BY: <u>D. Black</u>
REPAIR <u>repaired New gasket</u>	CORRECTED BY: <u>D. Black</u>

DEFECT <u>Spring pack Bolts in place</u>	INSPECTED BY: <u>J. Black</u>
REPAIR <u>removed</u>	CORRECTED BY: <u>D. Black</u>

DEFECT <u>leaking leaking MR line</u>	INSPECTED BY: <u>J. Black</u>
REPAIR <u>Fixed; new hose</u>	CORRECTED BY: <u>J. Black</u>

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

