



Locomotive Release from Shop Form

To be completed on every engine released from the Shop

I have reviewed the work packet for locomotive 5016 on this  
date 7/26/10 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)	FMD	_____	Lube Oil Pres	_____
Eng RPM (1050)	CL	_____	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)	_____	NOT APPLICABLE TO B-23 AND C-30
AMPS	(300)	_____	
MGA	(1220)	_____	
Charging Rate	(70v)	_____	

## TL 241

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
- 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.
- 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

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)
- 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

*OUTBOUND*

**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	LeBlanc
VERIFY EVENT RECORDER IS WORKING	LeBlanc
CHECK & RECORD THE DATE ON HEAD END DEVICE <u>00133 Nov 18 2009</u>	LeBlanc
CLOSELY INSPECT THE HEAD END DEVICE CONNECTOR. ENSURE IT IS TIGHTLY CONNECTED AND NOT CROSS THREADED	LeBlanc
CHECK THE FOLLOWING EQUIPMENT AND THEIR RELATED GUARDS AND LENSES FOR PROPER OPERATION: <u>Aux Exciter, Alt.</u>	LeBlanc
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	LeBlanc
<b>TRACTION MOTORS AND UNDERFRAME</b>	
CHECK THE TRACTION MOTOR LEADS, VERIFY NO LEADS ARE RUBBING ON THE FRAME	DR Saucier
INSPECT TRACTION MOTOR COVERS AND ENSURE BOLTS ARE IN PLACE AND TIGHT	DR Saucier
CHECK M.U. RECEPTACLE PINS AND LIDS. MAKE NECESSARY REPAIRS	DR Saucier See Det
MAKE SURE M.U. CABLES DO NOT FOUL COUPLERS	DR SAUCIER

B-23, B-39, J-11, 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)

DR Saucier

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

DR Saucier <sup>see Defa</sup>  
DR Saucier  
DR Saucier  
DR Saucier  
DR Saucier <sup>see Defa</sup>  
DR Saucier  
DR Saucier

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)

DR Saucier  
DR Saucier  
DR Saucier  
DR Saucier  
DR Saucier

# 1 TRACTION MOTOR: OIL USED 4 #  
 # 2 TRACTION MOTOR: OIL USED 4 #  
 # 3 TRACTION MOTOR: OIL USED 4 #  
 # 4 TRACTION MOTOR: OIL USED 4 #  
 # 5 TRACTION MOTOR: OIL USED 4 #  
 # 6 TRACTION MOTOR: OIL USED 4 #

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

DR Saucier

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

DR Saucier  
DR Saucier  
DR Saucier

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

DR Saucier  
DR Saucier

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:

N/A  
NORM  
DR Saucier

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

DR Saucier  
DR Saucier

COMPLETE WINTERIZATION SHEET (SEPTEMBER-FEBRUARY)

WASH LOCOMOTIVE ENGINE/ENGINE ROOM/AND AIR COMPRESSOR ROOM

WASH THE LOCOMOTIVE

OK DRS

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

*Out-Bound Loadtest Electrical/Mechanical*

WORKED BY:

<b>ELECTRICAL</b>		
VERIFY THE OPERATION OF THE GROUND RELAY		<i>[Signature]</i>
CHECK FOR LOW VOLTAGE GROUNDS (7 watt bulb)		<i>[Signature]</i>
WHILE IN THROTTLE 3 LOAD TEST, CHECK FOR AC GROUNDS		<i>[Signature]</i>
CHECK OPERATION OF:		<i>[Signature]</i>
A. HEATING		<i>[Signature]</i>
COMPLETE THE OUTBOUND LOAD TEST SHEETS		<i>[Signature]</i>
GROUND RELAY-(TEST THREE TIMES TO VERY LOCK-OUT)(DYNAMIC & POWER)		<i>[Signature]</i>
IF EQUIPPED, VERIFY THE OPERATION OF THE LDVR CAMERA		<i>[Signature]</i>
<b>MECHANICAL</b>		
PROPER LUBRICATION? FUEL LEAKS? CAM ROLLER ROTATION? ETC.		<i>[Signature]</i>
INSPECT FUEL SYSTEM HOSES AND PIPES FOR LEAKS		<i>[Signature]</i>
INSPECT COOLING SYSTEM:		<i>[Signature]</i>
A. CHECK HOSES AND PIPES FOR LEAKS		<i>[Signature]</i>
CHECK OPERATION OF ENGINE PROTECTION DEVICES:		<i>[Signature]</i>
A. CRANKCASE PRESSURE		<i>[Signature]</i>
VISUALLY INSPECT AIR COMPRESSOR FOR WATER, AIR OR OIL LEAKS		<i>[Signature]</i>
PERFORM MANUAL AIR BRAKE TEST		<i>[Signature]</i>
Verify Flow Gauge	NOTE: 120-	
130 main reservoir is 64 + or - 3,	130-140 main	
reservoir is 60 + o		<i>[Signature]</i>
PERFORM PENALTY BRAKE TEST		<i>[Signature]</i>
CHECK FOR CORRECT AIR PRESSURE SETTINGS:		<i>[Signature]</i>
A. MAIN RESERVOIR (130 - 140 PSI)		<i>[Signature]</i>
B. BRAKE PIPE (90 PSI)		<i>[Signature]</i>
C. EQUALIZING RESERVOIR (90 PSI)		<i>[Signature]</i>
D. BRAKE CYLINDER (72 - 74 PSI)		<i>[Signature]</i>
E. COMPRESSOR CONTROL (130 - 140 PSI +/-5 PSI)		<i>[Signature]</i>
CHECK FLUID LEVELS BEFORE LOADING:		<i>[Signature]</i>
A: ENGINE OIL		<i>[Signature]</i>
B: COOLING WATER		<i>[Signature]</i>
C: AIR COMPRESSOR OIL		<i>[Signature]</i>
TEST OPERATION OF THE FOLLOWING DEVICES:		<i>[Signature]</i>
A. BELL		<i>[Signature]</i>
B. SANDERS (FORWARD, REVERSE, EMERGENCY)		<i>[Signature]</i>
C. RADIATOR SHUTTERS		<i>[Signature]</i>

UNIT 5016  
 DATE 7/26/10

### Service Operations

#### THROTTLE 8 OUTBOUND LOAD TESTS

Eng RPM (900)	FMI	_____	Lube Oil Pres	_____
Eng RPM (1050)	GI	<u>1050</u>	Water Temp	<u>170°F</u>
Horsepower		<u>2950</u>	Overspeed Setting	_____
Volts (5.3)	B-23	_____	RACK SETTING	_____
Volts (7)	C-30	<u>6.8</u>		
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)	<u>5.3</u>
Throttle 2		<u>15.4</u>
Throttle 3		<u>20.7</u>
Throttle 4		<u>36.3</u>
Throttle 5		<u>47</u>
Throttle 6		<u>56</u>
Throttle 7		<u>64.3</u>
Throttle 8	(72V)	<u>69</u>

WINTERIZATION	Signature
Winterization – All MMA Locomotives. (August - April)	
Inspect front and rear cab door seals replace, as needed (NO TAPE)	
Inspect left and right side window seals replace as needed.	
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.	
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.	
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.	



**LOCOMOTIVE** 5016 **DATE** 7.26.10

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	1 1/4"	1 5/16"	1 3/8"	38"		✓	L#1							
L#2	1 1/4"	1 1/2"	1 3/8"	38"	✓		L#2							
L#3	1 3/16"	1 1/4"	1 5/8"	38"		✓	L#3							
L#4	1 1/4"	1 3/8"	1 1/16"	38"		✓	L#4							
L#5	1 1/4"	1 1/2"	1 5/8"	38"		✓	L#5							
L#6	1 1/4"	1 3/2"	1 5/8"	38"		✓	L#6							
R#1	1 1/4"	1 7/16"	1 7/8"	38"		✓	R#1							
R#2	1 5/16"	1 7/16"	1 1/4"	38"	✓		R#2							
R#3	1 3/16"	1 1/2"	1 5/8"	38"		✓	R#3							
R#4	1 1/4"	1 7/16"	1 1/16"	38"		✓	R#4							
R#5	1 1/4"	1 1/16"	1 1/16"	38"		✓	R#5							
R#6	1 3/16"	1 3/8"	1 5/8"	38"		✓	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		

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 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"

**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"	4"	FRA MAX 6" MIN 3"	32 1/2"	FRA MIN 2 1/2"
MMA	MAX 34 1/2" MIN 32 1/2"	4"	MMA MAX 6" MIN 3 1/2"	33 1/2"	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 TREAD NOTE: ON EMD LOCOMOTIVES USE ONLY ONE (1) SHIM EMD PART NUMBER 8453981 SHELLED TREAD AND FLAT SPOTS MUST BE TROUDED OR CHANGED WHEN FOUND ON PERIODIC OR UNSCHEDULED MAINTENANCE YCS CONFORMANCE 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 DR SUPERVISORS SIGNATURE

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

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

### DEFECTS FOUND DURING INSPECTION

DEFECT	<i>Frnt. MU Resp. cover Not Red</i>	INSPECTED BY:	<i>DRS</i>
REPAIR	<i>Painted cover Red</i>	CORRECTED BY:	<i>DRS</i>

DEFECT	<i>L/F Sand hose loose/misaligned</i>	INSPECTED BY:	<i>DRS</i>
REPAIR	<i>Realigned</i>	CORRECTED BY:	<i>DRS</i>

DEFECT	<i>L/F Plow Hand grab bent</i>	INSPECTED BY:	<i>DRS</i>
REPAIR	<i>Straightened</i>	CORRECTED BY:	<i>DRS</i>

DEFECT	<i>Frnt/Rear Hand rails need paint</i>	INSPECTED BY:	<i>DRS</i>
REPAIR	<i>Painted</i>	CORRECTED BY:	<i>DRS</i>

DEFECT	<i>R<del>8</del>1 Axle gen. Rubber mount coming apart</i>	INSPECTED BY:	<i>DRS</i>
REPAIR	<i>OK</i>	CORRECTED BY:	<i>DRS</i>

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

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

### DEFECTS FOUND DURING INSPECTION

DEFECT	#3 Rf. brake cyl has loose bolts.	INSPECTED BY:	DRS
REPAIR	Tightened Bolts	CORRECTED BY:	DRS

DEFECT	# 3 TM Air duct boot missing bolt.	INSPECTED BY:	DRS
REPAIR	OK Says Norm	CORRECTED BY:	DRS

DEFECT	L/R Fat. truck suspension pads worn	INSPECTED BY:	DRS
REPAIR		CORRECTED BY:	

DEFECT	MR Pop valve out of Date	INSPECTED BY:	DRS
REPAIR	c/o valve	CORRECTED BY:	DRS

DEFECT	# 2 R Wheel flange 1 7/8"	INSPECTED BY:	DRS
REPAIR	Duffy says its good	CORRECTED BY:	DRS

# Description of Work Performed

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

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

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

# Description of Work Performed

Locomotive ID

Time Started

Time Finished

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

