

1103



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 8/2/2012 and take no exception to applicable laws, rules and or MMA standards, policies and standards.

Grease - Cooling fan - C.F.  
 Com shaft - C.F.  
 Gov + Rack - C.F.  
 Equipment blower ~~GEN~~ - C.F.  
 oil sample C.F.  
 Water doors closed C.F.

5016

DATE 9-26-12

# Service Operations

## THROTTLE & OUTBOUND LOAD TESTS

Engine RPM	_____	Oil Temp	_____
Engine Hours	_____	Air Temp	145°F
Weight	2,859.48	Engine Temp	_____
Time	_____	Oil Pressure	_____
Temp	6.76		
Work Type	_____		
<i>[Signature]</i>			
AMPS	_____	NOT APPLICABLE TO B-23 AND C-30	
Charging Rate	73.5V	<i>[Signature]</i>	

**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 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

*[Handwritten signatures and initials]*  
 - N/A  
 - P. boechle  
 - P. boechle  
 - P. boechle  
 - P. boechle

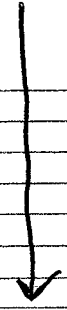
**MECHANICAL**

- 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 + 0
- 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

Done -

*P. boechle*

NOTE: 120-130-140 main



*K.H*

B-23, B-39, C-20, 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

*CHANGED ENGINE, INTAKE GASKET C.F.*

SOAK-BACK FILTER - EMD ONLY

*change oil filter CHANGED COMP INTAKE FILTERS*

*C.F.  
C.F.  
C.F.*

TURBO SPIN-ON FILTER - EMD ONLY

*CHANGED FUEL FILTER*

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

*[Handwritten signatures and initials]*

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)

*P.C. 1900 motor oil/C.F.  
OK  
C.F. / Paul H.*

# 1 TRACTION MOTOR OIL USED

# 2 TRACTION MOTOR OIL USED

# 3 TRACTION MOTOR OIL USED

# 4 TRACTION MOTOR OIL USED

# 5 TRACTION MOTOR OIL USED

# 6 TRACTION MOTOR OIL USED

*C.F.*

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

*[Handwritten signatures and initials]*

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

*MCNE  
Done*

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

*[Handwritten signature and checkmark]*

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

Revision Date: 8/18/2010  
 Issued By: Tim Scalia

WORKED BY:

Electrical in House

SERVICE THE BATTERIES AND COMPLETE JSP-010

VERIFY EVENT RECORDER IS WORKING

CHECK & RECORD THE DATE ON HEAD END DEVICE 1 - MAR - 12

COMPLETE THE HEAD END DEVICE CONNECTOR SHEET

CHECK THE FOLLOWING EQUIPMENT AND THEIR RELATED GUARDS AND LENSES FOR PROPER OPERATION:

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

TRACTION MOTORS AND UNDERFRAME

CHECK THE TRACTION MOTOR LEADS, VERIFY NO LEADS ARE RUBBING ON THE FRAME

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

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

MAKE SURE M.U. CABLES DO NOT FOUL COUPLERS

*[Handwritten signature]*  
*[Handwritten signature]*  
 -NA-

*[Handwritten signature]*

*[Handwritten signature]*  
*[Handwritten signature]*  
 -NA-

**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>A. Boone</i>
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.	
P. VERIFY ALL ARMREST FASTENERS ARE SECURE. REPLACE ANY MISSING OR STRIPPED OUT FASTENERS.	
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.	
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.	↓
<p><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            Seat Pedestal Rail Right Side 46": 20422221</p>	
INSPECT AND REPAIR AS REQUIRED:	
A. CAB / CARBODY/DOORS/HINGES/WINDOWS/LATCH SEALS/WEATHER STRIPPING AND SEALS/MIRRORS. ALSO LUBRICATE/CHANGE AS NEEDED	<i>R. Shores</i>
A. CLEAN THE CAB, WINDOWS, AND EQUIPMENT	
COMPLETE WINTERIZATION SHEET (AUGUST - APRIL)	<i>R. Shores</i>
WASH LOCOMOTIVE ENGINE/ENGINE ROOM/AND AIR COMPRESSOR ROOM	
WASH THE LOCOMOTIVE	

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

~~027~~ Bound Loadtest Electrical/Mechanical

WORKED BY

**ELECTRICAL**

- VERIFY THE OPERATION OF THE GROUND RELAY
- CHECK FOR LOW VOLTAGE GROUNDS (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

*[Handwritten signatures and initials, including "NA" and "T. Chapman"]*

**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 + 0
- 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

NOTE: 120-130-140 main

*[Handwritten signatures and initials, including "Boode" and a large downward arrow]*

5016

# Service Operations

DATE 9-26-12

## THROTTLE 8 OUTBOUND LOAD TESTS

Time	_____	Water Temp	_____
Eng RPM (1500)	_____	Oil Temp (1500)	_____
Throttle	<u>2859.48</u>	AVR (1500)	<u>145°F</u>
Volts (53)	_____	AVR (1500)	_____
Volts (74)	<u>6.76</u>		
Volts (72)	_____		

*[Signature]*

### THROTTLE 8 OUTBOUND TESTS

AVR (1500)	_____		
AVR (1200)	_____	NOT APPLICABLE TO B-23 AND C-30	
Charging Rate (70v)	<u>73.5V</u>		

*[Signature]*



**LOCOMOTIVE**  
**5016**

**DATE**  
**9-4-12**

Start Readings					max Strips		END READING					max Strips		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	FLANGE HEIGHT MEASUREMENT		
L#1						L#1	0-20	0-0	1.9						
L#2						L#2	0-19	0-0	1.13						
L#3						L#3	0-19	0-0	2.9						
L#4						L#4	0-19	0-4	1.8						
L#5						L#5	0-21 → 6-22	0-0	1.4						
L#6						L#6	0-21 → 2-22	0-0	1.10						
R#1						R#1	0-21	0-0	1.8						
R#2						R#2	0-18	0-0	1.9						
R#3						R#3	0-19	0-0	2.9						
R#4						R#4	0-19	0-0	1.8						
R#5						R#5	0-22	0-0	1.7						
R#6						R#6	0-22	0-0	1.13						

*defect*  
*See sheet*

0-21 → 6-22  
0-21 → 2-22

**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 LOCOMOTIVES - MIN 90 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"	MMA 1 1/2"	MMA 1 7/16"	MMA 1"	MMA 1/4"

**CONVERSION CHART FOR WHEEL DIAMETER**

8= 37"	15= 37 7/8"	22= 39 1/4"	29= 39 5/8"	36= 40 1/2"
9= 37 1/8"	16= 38"	23= 39 7/8"	30= 39 3/4"	37= 40 5/8"
10= 37 1/4"	17= 38 1/8"	24= 39 3/4"	31= 39 7/8"	38= 40 3/4"
11= 37 3/8"	18= 38 1/4"	25= 39 1/2"	32= 40"	39= 40 7/8"
12= 37 1/2"	19= 38 3/8"	26= 39 3/4"	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 3/4"

**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"	FRA	MAX 5" MIN 3"		
MMA	MAX 34 1/2" MIN 32 1/2"	MMA	MAX 5" MIN 3 1/2"	FRA MIN 30" MMA MIN 30" FRA MAX 50" MMA MAX 48"	FRA MIN 2 1/2" MMA MIN 2 1/2"

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

- 1. THE MAXIMUM STANDARD IS FOR A WHEEL DIAMETER OF 36" & MMA STANDARDS ARE THE SAME.
- 2. THE MAXIMUM VARIATION ALLOWED IN WHEEL DIAMETER BETWEEN ANY 2 AXLES IN THE SAME TRUCK WITH 16MM.
- 3. THE MAXIMUM VARIATION ALLOWED IN WHEEL DIAMETER OF 16MM BETWEEN 2 AXLES ON THE SAME TRUCK WITH 16MM APPLIED.
- 4. IS THE MAXIMUM VARIATION ALLOWED IN WHEEL DIAMETER BETWEEN ANY 2 AXLES ON DIFFERENT TRUCKS.

REMEMBER THIS RULE  
NOT

EMPLOYEES SIGNATURE

*K. Hasey*

SUPERVISORS SIGNATURE

5016 9-5-12

- 1. Inspect and repair all piping and valves for leaks. K. Hays, R.A.S.
- 2. Test all air gauges with gauge tester and set if required. K. Hays
- 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. R.A.S.
- 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. R.A.S. / K. Hays
- 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. R.A.S.
- 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. K. Hays
- 7. Check all M-1 valve handles to ensure the locking device works properly. Lubricate or replace as necessary. K. Hays
- 8. Check handbrake through main reservoir to ensure they handle 4 ton load or more as necessary. K. Hays
- 9. Note (\*) #1 reservoir is without the check valve # 2 is with the check valve.

# 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)

**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 exist, 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.

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								
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								
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								
CrankingBattery Voltage								
Battery Voltage								
CrankingBattery Voltage								

Unit: 5016

Date: 9-2-12

DEFECTS FOUND DURING INSPECTION

DEFECT <u>Gear train at Clover Cover/Aux/Exciter</u> <u>Growling &amp; clanking noise</u> <u>oil Filled Cap was off</u>	INSPECTED BY: <u>H.C.</u>
REPAIR <u>0/0</u>	CORRECTED BY:

DEFECT <u>Exhaust leaks when pop testing rack</u> <u>L2, L3</u>	INSPECTED BY: <u>H.C.</u>
REPAIR <u>Tightend All Loose Bolts</u> <u>WEIDED Exhaust</u>	CORRECTED BY: <u>R.A.S.S.</u>

DEFECT <u>oily all through Eng. Comp.</u>	INSPECTED BY: <u>H.C.</u>
REPAIR	CORRECTED BY:

DEFECT <u>R1 Brake shoe worn out</u>	INSPECTED BY: <u>C.F.</u>
REPAIR <u>replaced</u>	CORRECTED BY:

DEFECT <u>power Assembly has tight exhaust valve</u> <u>when shutting down - not sure which cyl. it is.</u>	INSPECTED BY: <u>J.P.G.</u>
REPAIR	CORRECTED BY:

- Check for oil leaks on run-out

Unit: 5016

Date: 9-2-12

DEFECTS FOUND DURING INSPECTION

DEFECT	Erg. Seat pivot pin broke off	INSPECTED BY:	
			TPG
REPAIR	FABRICATED NEW PIN	CORRECTED BY:	RAS

DEFECT	L-5 wheel height 6-22 + L-6 " " 2-22	INSPECTED BY:	K. Hany
REPAIR	L-5 cut to 0-21 L-6 cut to 0-21	CORRECTED BY:	B. O'Connell

DEFECT	MISSING WIRE #2 T.M	INSPECTED BY:	P.C.
REPAIR	REPLACED	CORRECTED BY:	Paul-C

DEFECT	MAIN GEN MAKING NOISES (TOOK GEAR TRAIN APART - GEARS STRIPPED)	INSPECTED BY:	K. Hany / P.C.
REPAIR	90 Main gen / out and exc	CORRECTED BY:	B. O'Connell / K. Hany

DEFECT	Unit will not Battery charge Burnt wires at the H-R Voltage Regulator 30-	INSPECTED BY:	D. Str
REPAIR	90 burnt wires at the H-R - tested OK 90 Voltage Regulator	CORRECTED BY:	D. Str

# Description of Work Performed

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

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

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