

HORIZON RAIL

FRA MECHANICAL INSPECTION FORM

LOCOMOTIVE NUMBER 2133 LOCATION Fairport

DATE 12-18-24

QUARTERLY 1 Through 34
 SEMI ANNUAL 1 Through 36
 ANNUAL 1 Through 48
 BIENNIAL/TRIENNIAL 1 Through 54

		Blower Type	Turbo Type	
1	TAKE LUBE OIL SAMPLE (ENGINE & AIR COMPRESSOR).	X	X	
2	CHECK OPERATION OF LOW WATER CRANKCASE PROTECTOR.	X	X	<u>B</u>
3	WITH ENGINE RUNNING - CHECK FOR AIR-FUEL, OIL, LUBE OIL, WATER AND EXHAUST LEAKS.	X	X	<u>L</u> <u>ATB</u>
4	WITH ENGINE RUNNING, MAKE TOP DECK INSPECTION. CHECK FUEL LINES, ROCKER ARM / CAM CONDITION & OIL FLOW, DISCHARGE ELBOW LEAKS, CRAB AND LINER STUD INTEGRITY.	X	X	<u>ATB</u>
5	CHECK ENGINE SPEEDS - OVERSPEED TRIP VALUE _____ RPM	X	X	<u>-</u>
6	TEST HORN: 100 FT FR & REAR MINIMUM 100 db. _____ db	X	X	
7	RESERVED	X	X	
8	PERFORM AIR BRAKE TEST, TEST FIREMAN'S SIDE EMERG. BRAKE VALV	X	X	<u>ATB</u>
9	TEST WIPER FOR OPERATION AND FIRM CONTACT @ WINDOW	X	X	<u>ATB</u>
10	TEST AIR GAUGES	X	X	<u>ATB</u>
RUNNING TESTS COMPLETED. UNIT MAY BE SHUT DOWN AT THIS POINT PERSON PERFORMING RUNNING INSPECTION IS RESPONSIBLE FOR				
ITEMS 11-17				
11	INSPECT ENGINE, COMP & GEN BASE BOLTS & DOWEL PIN INTEGRITY	X	X	<u>ATB</u>
12	INSPECT CAB WINDOWS FOR DEFECTS	X	X	<u>ATB</u>

13	INSPECT WINDOW AND DOOR WEATHERSTRIPPING & SECURE CLOSURE				ATB
14	INSPECT CAB EQUIPMENT: SEATS, TRIPOD, STOPS & FUSEE HOLDER	X	X		ATB
15	INSPECT TOILET: FUNCTION, MOUNTING INTEGRITY	X	X		ATB
16	INSPECT ENGINE ROOM AND CAB FIRE EXTINGUISHERS & MTG EQUIP.	X	X		N/A
17	INSPECT TRUCKS AND RUNNING GEAR:				
a	SUPPORT BEARING & JOURNAL CAP BOLTS FOR TIGHTNESS AND ENSURE THEY ARE LOCK WIRED.	X	X		JTS
b	GEAR CASE AND GEAR CASE BOLTS.	X	X		JTS
c	FUEL TANK AND FILLERS FOR LEAKS, DAMAGE, ETC.	X	X		ATB
d	BRAKE SHOES, ALIGNMENT, RIGGING, PINS & BUSHING CONDITION	X	X		JTS
e	SPRINGS, SPRING PLANKS, SAFETY HANGER, SWING HANGER & BUSHIN	X	X		JTS
f	STEPS FOR DEFECTS	X	X		ATB
g	PIN LIFTER & HANDHOLD CLEARANCE, CROSSWALK SAFETY CHAINS	X	X		ATB
h	SAND HOSES AND CLAMPS	X	X		JTS
i	SIDE BEARING CLEARANCE YES / NO ? <u>Yes</u> Max 1/2"	X	X		JTS
18	MAKE WHEEL CONDITION REPORT.	X	X		JTS
	SIGN CAB CARDS.	X	X		
19	RESERVED	X	X		
20	CHECK FOR INTERNAL FUEL LEAKS. (INJECTORS, FUEL LINES, MANIFOLDS)	X	X		ATB
21	DRAIN CONDENSATION FROM FUEL TANK SUMP, AS APPLICABLE	X	X		-
22	CHECK JOURNAL BOX OIL LEVEL - ADD AS NEEDED.	X	X		-
23	CHECK AND REPLENISH TRACTION MOTOR GEAR LUBE	X	X		JTS
24	CHECK SUPPORT BEARING OIL LEVEL	X	X		-
25	CENTER BOWL LUBED	X	X		-
26	OPEN ALL CARBODY, GENERATOR, AND SUMP DRAINS.	X	X		ATB

27	CHANGE FILTERS:				
a	IMPINGEMENT TYPE, CARBODY AND SUB BASE	X	X		—
b	MICHIANA OIL FILTERS.	X	X	ERC	—
c	TURBO FILTERS, ALL		X		—
d	AIR COMPRESSOR OIL FILTER (IF EQUIPPED)				—
e	FUEL OIL PRIMARY, SPIN ON AND STRAINER ELEMENTS.	X	X		—
28	CLEAN LUBE OIL STRAINERS.	X	X		—
29	DRAIN AIR BOX RETENTION TANKS.	X	X		—
30	CLEAN ALL SPARK ARRESTOR TRAPS.	X			—
31	INSPECT TURBO SCREEN FOR CRACKS AND PLUGGING.		X		—
32	CHANGE ENGINE AIR FILTERS (INSURE NO FOREIGN MATERIAL IS IN HOUSING).	X	X	ERC	—
33	CHANGE AIR COMPRESSOR PAPER FILTER.	X	X	JIS	—
34	CHECK UNDER MAIN GENERATOR FOR OIL AND CLEAN AS NEEDED.	X	X		ARB
SEMI ANNUAL					
35	RESERVED	X	X		
36	LOAD TEST ENGINE (+ / - 10% HP of RATED HP)	X	X		OK
ANNUAL					
37	REMOVE AND INSPECT TRACTION MOTOR SUPPORT BEARING WICKS CHECK FOR WATER, RENEW GASKETS, ADD SUPPORT OIL TO FULL LEVEL	X	X		—
38	TORQUE CRAB NUTS, HEAD NUTS, BASKET BOLTS, EXHAUST STACKS AND ROCKER ARM NUTS.	X	X		—
39	VERIFY FLYWHEEL POINTER, TIME INJECTORS, SET VALVE LASH	X	X		—
40	SET INJECTOR RACK (WARM ENGINE)	X	X		—
41	TAKE RING LAND READINGS		X		—
42	TAKE ENGINE LEAD READINGS	X	X		—
43	CHECK TURBO, IDLER BACKLASH.		X		—
44	CHANGE ALL MAIN RESERVOIR AND DIRT COLLECTOR ELEMENTS.	X	X		ERC

45	RESERVED	X	X	
46	CHECK MAIN GENERATOR / AR-10 BEARING.	X	X	---
47	CLEAN, SERVICE AND DATE HANDBRAKE ON CARD	X	X	SSS
48	RETROREFLECTIVE SHEETING INSPECTED FOR PRESENCE AND CONDITION 224.109 (B)			D
49	MAKE ALL MODIFICATIONS DUE. BIENNIAL / TRIENNIAL	X	X	
50	CLEAN INERTIAL FILTERS.	X	X	—
51	CHANGE ENGINE CRANKCASE PROTECTOR.	X	X	---
52	CLEAN TURBO EDUCATOR TUBE.	X	X	---
53	RENEW WATER PRESSURE CAP.	X	X	---
54	CHANGE AIR COMPRESSOR OIL.	X	X	SSS

HORIZON RAIL

FRA ELECTRICAL INSPECTION FORM

LOCOMOTIVE NUMBER 2133 LOCATION F8 DATE 12-18-24

QUARTERLY 1 Through 24
 ANNUAL 1 Through 35
 BIENNIAL/TRIENNIAL 1 Through 36

No.	Maintenance Item	Blower Type		Turbo Type		Completed By
		Blower Type	Turbo Type	Blower Type	Turbo Type	
QUARTERLY & SEMI (ITEMS TO BE DONE WITH UNIT RUNNING)						
1	TEST OPERATION OF EVENT RECORDER. INFORM SUPERVISOR OF FAILED TESTS IMMEDIATELY	X	X			<i>D</i>
2	INSPECT MAIN AND SIDEWALL HEATERS FOR PROPER FAN OPERATION	X	X			
a	ELECT HEAT: ENG MAIN AMPS _____ FIREMAN'S MAIN AMPS _____					
b.	ENG SIDEWALL AMPS _____ FIREMAN'S SIDEWALL AMPS: _____	X	X			<i>DF</i>
3	TEST SPEED INDICATOR. VERIFY WHEEL DIA. SET TO 38.5" (20/16th)	X	X			<i>DF</i>
4	TEST ALL (3-5) WHEEL SLIP SYSTEM CORRECTION AND WARNING FI	X	X			<i>DF</i>
5	CHECK FOR LOW VOLTAGE GROUNDS.	X	X			<i>DFB</i>
6	CHECK AUXILIARY GENERATOR VOLTAGE. ADJUST AS NECESSARY, 74 MAX - 72 MIN <u>73</u>	X	X			<i>DFB</i>
7	PERFORM FUNCTION TEST ON WARNING DEVICES:					
a	HOT ENGINE	X	X			<i>DF</i>
b.	NVR	X	X			<i>DF</i>
c	LOW OIL	X	X			<i>DF</i>
d	GROUND RELAY & RESET FUNCTION. TEST AUTO RESET IF EQUIP	X	X			<i>DF</i>
e	TRACTION MOTOR CUT OUTS	X	X			<i>DFB</i>
f	DYN. BRAKE MAGNET VALVE OPERATION	X	X			<i>DF</i>

g	RESERVED	X	X	
h	RESERVED	X	X	
i	RESERVED	X	X	
j	EMERGENCY FUEL CUT OFF - ALL	X	X	ATB
k	PERFORM FUNCTIONAL MODULE TESTS ON DASH 2 and 50 Series UNITS	X	X	
8	RESERVED	X	X	
9	PERFORM CONTROL AIR LEAKAGE TEST. (PNEUMATIC SWITCH GEAR)	X	X	WA B
10	PERFORM P.C.R. FUNCTION TEST.	X	X	ATB
11	TEST THROTTLE SEQUENCE, LOADING FWD. & REV.,	X	X	ATB
b.	TEST THROTTLE SHUTDOWN, M.U. STOP, DYNAMIC BRAKE SET UP	X	X	ATB
c	TEST THROTTLE LOCK FUNCTIONS.	X	X	ATB
13	CHECK SHUTTER OPERATION, COOLING FANS AND INERTIAL BLOWER OPERATION AND ROTATION	X	X	ATB
b.	CHECK ROTATION OF TM BLOWERS ON AC POWERED BLOWERS	X	X	ATB
14	CHECK SANDER OPERATION, LD TRK, MANUAL & ESS.	X	X	ATB
IN HOUSE FRA (UNIT SHUTDOWN) PERSON PERFORMING RUNNING INSPECTION IS RESPONSIBLE FOR ITEMS 15-16-17.				
15	INSPECT VISIBLE INSULATION, SW GEAR CONTACTS, CONNECTIONS, PLUGS, RECEPTACLES, RELATED WIRING, ELECT. LOCKER COMPONENTS	X	X	ATB
16	MEGAR TEST A/C / DC HIGH VOLTAGE SYSTEMS	X	X	
	HV MEG READING _____ @500 VOLTS	X	X	
	AC MEG READING _____ @250 VOLTS	X	X	no procedure
(HI POT HV SYSTEM LESS THAN 1/2 MEG)				
17	FRA INBOUND REQUIREMENTS COMPLETE - SIGN CAB CARD.	X	X	
b.	SHUT OFF ALL LIGHTS, CONTROL AND LOCAL CONTROL BREAKERS.			

		If control breaker activates overspeed whistle, that breaker may be left closed.		
18	CHECK BRUSH WEAR IN THE FOLLOWING ROTATING EQUIPMENT: a MAIN GENERATOR / AR10 AND D14 SLIP RINGS. CLEAN AR-10 OR MAIN / GEN INSPECTION WINDOWS AS NEEDED. b. AUXILIARY GENERATOR, IF ONE BRUSH NEEDS CHANGING CHANGE ALL c LOAD REGULATOR (except linear type) d CAB HEATER MOTORS e TURBO LUBE PUMP MOTOR f TRACTION MOTOR 1 <input checked="" type="checkbox"/> 2 <input checked="" type="checkbox"/> 3 <input checked="" type="checkbox"/> 4 <input checked="" type="checkbox"/> 5 <input checked="" type="checkbox"/> 6 <input checked="" type="checkbox"/> g DYNAMIC BRAKE MOTORS h FUEL PUMP MOTOR	X	X	ATB — — ATB ATB JS ATB
19	RESERVED:	X	X	
20	RESERVED	X	X	
21	CHECK ALL LIGHTS: GAGE, CAB, NUMBER, CARBODY, GRD & HDLT.	X	X	ATB
22	BATTERIES: CHECK FOR BROKEN / LEAKING CELLS, INSPECT TERMINALS	X	X	ATB
	ELECTROLYTE LEVEL. WASH WITH SODA AND WATER.	X	X	ATB
	CHECK BATTERY BLOCKING, LESS THAN 3/8" LATERAL FREE SPACE	X	X	ATB
23	MODIFICATIONS DUE:	X	X	
24	ENSURE ALL COVERS AND GUARDS ARE IN PLACE AND SECURE.	X	X	ATB
	INSPECT FRONT MAIN ELECT CABINET DOORS, LUBRICATE AND ADJUST NECESSARY FOR EASE OF MOVEMENT AND SECURE CLOSURE	X	X	ATB
ANNUAL				
25	CHANGE ELECT. CABINET AIR FILTER.	X	X	—
28	TEST GROUND RELAY OPERATIONAL PICK-UP VALVE.	X	X	ATB
29	TEST & CALIBRATE ALL LOAD INDICATORS AND AMMETER, 5% VARIANCE ALLOWED. SIGN BLUE CARD.	X	X	ATB

HORIZON RAIL

LOCOMOTIVE WHEEL MEASUREMENTS

IDENTIFIER E-45X 8581

POS	LEFT SIDE		FLANGE		THICKNESS
	RIM THICKNESS	HEIGHT	THICKNESS	THICKNESS	
1	55	0-19	16	W-Ø	16
2	52	0-19	16	W-Ø	16
3	55	0-19	16	W-Ø	16
4	55	0-19	16	W-Ø	16
5	52	0-19	16	W-Ø	16
6	52	0-18	16	W-Ø	16

RIM THICKNESS	RIGHT SIDE		SHIM THICK	DEFECT CODE
	HEIGHT	FLANGE THICKNESS		
55	0-19	16	W-2	16
50	0-19	16	W-Ø	16
55	0-19	16	W-2	16
55	0-19	16	W-Ø	16
53	0-19	16	W-Ø	16
53	0-18	16	W-Ø	16

- REASON DESCRIPTION
- CH CHAMFER
 - FS FLAT SPOT
 - HD HI IMPACT
 - HF HIGH FLANGE
 - HT HIGH THIN FLANGE
 - MA MATCH WHEELS
 - MM MISMATCHED
 - ST SHELLED TREAD
 - TC TRUCK CHANGE
 - TF THIN FLANGE
 - TM TRACTION MOTOR TRBL
 - TT THIN TREAD
 - WC WHEEL CHANGE

MIN	COUPLER HEIGHT	PILOT HEIGHT
FR	31.5	3"
RE		
MAX	34.5	6"

MEASURED BY: Justin Stanford

DATE: 12-8-27