

MIDWEST LOCOMOTIVE
 6817 STADIUM DRIVE #114
 KANSAS CITY, MO 64129
 (816) 923-1777

Periodic Inspection - All Locomotives

Date Feb 21, 2020
 Locomotive 82

Hour Meter Reading:
 Idle Last P.I. _____
 Load _____
 Idle Current P.I. _____
 Load _____

Task Description		Signature
CAB		
1	Check with Service Manager for any known defects. Setup blue flag, derail, set handbrakes, chock wheels and notify crew. FRA Rule 218.21, 218.25, 218.27, 218.29	WC
2	Check operation of horn, bell, sanders, and windshield wipers.	WC
3	Check engineers seat and mounting base. (229.119)	WC
4	Inspect cab windows for cracks, chips and proper operation. (229.119)	WC
5	Inspect cab doors for broken hinges and proper latching. (229.119)	DJ
6	Inspect cab floor condition. (229.119)	DJ
7	Inspect fire extinguisher for proper mounting and last date of service. Date: _____	WC
8	Inspect control stand for proper covers and check to see that it is properly secured.	ND
9	Check hour meter for proper operation.	WC
10	Inspect handbrake and related brake rigging. (232.10(2))	ND
		WC
CARBODY		
11	Inspect condition of carbody for cracks, rust, and looseness.	WC
12	Check all carbody doors for proper latching.	WC
13	Change carbody door filters as needed.	WC
14	Check walkways for oil, grease, or any debris or other defects. (rust holes, etc.) (229.119)	WC
15	Safety chains and platforms must be up and in place on none M-U locomotives. (229.119)	WC

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TRUCKS		Task Description	Signature
16	Record side bearing clearance: Min 1/16" Max 1/4" per side cannot exceed combined total of 1/2" per FRA Rule 229-69. Front Left <u>1/8</u> Rear Left <u>1/8</u> Front Right <u>1/8</u> Rear Right <u>1/8</u>		DJ
17	Check brake rigging for excessive wear. (229.57)		DJ
18	Check brake shoes for wear and alignment, adjust piston travel as required. (229.57, 229.55(a)(b), 229.10 (h1)(2))		DJ
19	Check all brake rigging bolts and nuts for tightness and cotter pins or must be self locking nuts. (229.57)		DJ
20	Check gear case clips and bolts for tightness, gear cases for leaks, and add gear grease. (229.45)		DJ
21	On GP locomotives, inspect Hyatt journal boxes for oil level.		—
22	On all locomotives, inspect roller bearings for any defects - loose bolts, roller bearing box wear, etc...		DJ
23	Check pedestal wear shoes for cracks, looseness, or excessive wear. (229.63)		DJ
24	On all locomotives, check spring planks for broken springs and condition of safety hangers and swing arms.		DJ
25	On all locomotives, check condition of coil springs, leaf springs, hanging devices and safety pins - hangers. (229.65)		DJ
26	Check truck side frames, stabilizer bars, and bolster for any defects, cracks, excessive wear, etc. (229.67)		DJ
27	Check axle cap (support bearing cap) bolts for tightnes and safety wiring.		DJ
28	Check support bearing wicks annually. Date last checked <u>10-1-19</u> This PM _____		DJ
29	Check TM nest spring condition, hold in pins and pin safety hanger condition and bolts. (229.65)		DJ

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Task Description		Signature
30	Check truck center casting for excessive wear (max. lost motion 1/2") and lubrication. (229.71)	DJ
31	Check condition of sander hoses and pipes and height off rail. (min. 2 1/2") (229.71)	DJ
32	Check condition of Traction Motors including brushes for chips, cracks, and proper movement. Check tightness of brush holder leads and clean motors as needed. (229.91)	DJ
33	Check condition of brake cylinder hold down bolts and piston arms.	DJ
SAFETY APPLIANCES		
34	Check grab irons and coupler lock lift levers for proper clearance. Must be at least 2 1/2". (231.30)	DJ
35	Check steps for any defects including loose bolts, loose or no kick plates and bent steps. (231.30 & 231.39)	DJ
36	Check height of pilots, snowplows and end sheets. (min. 3" max. 6") (229.123)	DJ
37	Check all handrails and standards for proper securement. (231.3)	DJ
COUPLERS AND DRAFT GEARS		
38	Record coupler height measuring fro center for knuckle to top of rail. Min. 31 1/2" Max. 34 1/2" (232.2) Front <u>32 1/8</u> Rear <u>32 1/2</u>	DJ
39	Check operation of coupler - must have 1/2" of free lift before lock lifting pin moves upward. Must not have more than 1/2" lost motion in coupler travel. (229.61(3)(4))	DJ
40	Check coupler, coupler knuckle, and knuckle pin for defects, cracks, excessive wear, etc. See FRA Rule 229.61 for proper clearance of guard arm to knuckle. (229.61(1)(2))	DJ
41	Check condition of coupler carrier and carrier bolt. Lubricate as needed.	DJ

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42	Check draft gear and yoke for cracks and excessive wear. (229.61)	DJ
43	Check coupler (draft gear) pocket for excessive wear. (229.61)	DJ
44	Check condition of coupler pin and safety pin. (229.61(B))	DJ
ELECTRICAL - ENGINE SHUT DOWN		
45	Inspect all relays ER, FPC, PCR, RCR, FOR, FPR, and etc... for condition of interlocks, coils, and wire connections. Replace all covers. (229.25)	WC
46	plunder to finger block. Lift by hand to check travel of movable fingers 1/8" after contact min.	ND
47	Check condition of battery knife switch and fuse holders. Replenish fuse supply as needed.	WC
48	Check all wiring, wire connections, and terminal board connection in H.V. cabinet. (229.25)	WC
49	Check reversers for proper operation. Inspect tips on electric reversers for burning. Inspect and lubricate segments and fingers on electro-pneumatic reversers. (229.25)	WC
50	Check grease condition in top of electro-pneumatic reverser annually. Date last Inspected: _____ This PM: _____	ND
51	Inspect magnet valves and electrical connections of electro-pneumatic reversers and power contactors. (229.25)	WC
52	Check power contactors for proper operation. Inspect tips on electric power contactors for burning. Remove arc chute and check tips on electro-pneumatic power contactors for looseness, burning, and pitting. Physically check tips for tightness. (229.25)	WC
53	Check all high voltage connections on reversers, power contractors, bus bars, etc... for tightness and signs of over-heating or corrosion. (229.25)	WC

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Task Description		Signature
54	On GP locomotives, remove half moon cover on rear of MG and check condition of slip rings. They should be relatively shiny and smooth.	—
55	Physically lift slip ring brushes to make sure they are not stuck. Replace brushes when in doubt of lasting till next inspection.	NA
56	Check condition of brush holders, brush holder rings, commutator, and cleanliness of MG. Blow out and clean as often as necessary. (229.91)	WC
57	Check MG brush for length, burnt shunts and chipping. Make sure brushes are floating free. (229.91)	WC
58	Check condition for aux. Gen. Including Commutator, length of brushes, brush freeness, and condition of brush holders. (229.91)	WC
59	Check fuel pump motor brushes, condition of commutator and love-joy coupling to pump.	WC
60	Megggers high voltage circuit and record lowest reading _____	WC
61	Check low voltage system for grounds. Voltage to ground Positive Post: <u>34</u> Voltage to ground Negative Post: <u>33</u>	WC
62	Check all electrical high voltage access panels for "Danger 600 Volts" or "Danger High Voltage" labels or signs. Apply as needed. FRA requirements (229.5(H) 229.85)	WC
63	On round style throttle and reverser stands, remove front and back panels and check condition of throttle and reverser fingers and buses. Replace as needed.	NA
ELECTRICAL - ENGINE RUNNING		
64	Inspect air compressor governor controls - mag valves, electro-pneumatic switch and relays for loose connections and proper operation. (229.49(D))	DJ
65	Check charging rate from negative on battery knife switch to positive of both sides of charging fuse. Set at 72V.	DJ 73V
66	Check low voltage grounds again.	WC

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Task Description		Signature
67	With generator field switch off and isolation switch in run, check for proper throttle response in all 8 throttle notches.	WC
68	Check all lights including cab lights <input checked="" type="checkbox"/> , step lights <input checked="" type="checkbox"/> , platform lights <input checked="" type="checkbox"/> , ground lights <input checked="" type="checkbox"/> , and engine room lights <input checked="" type="checkbox"/> . FRA must have globes and guards in place on all engine room lights. All lights must work. (229.125 & 229.127)	WC
69	Check headlights front and rear on dim, med, and bright. Check condition of headlight resistors and wire connections. (229.125)	WC
70	On GP locomotives, check cooling fan contactors and switches. Manually run fans using switches and check for rotation. Check TM blowers for proper operation.	—
71	Check operation of ground relay. Put jumper wire from brush shunt in MG to a good ground. Set loco to load up and crack throttle to #1 or #2 ground relay should trip. Check resetting of G.R.	WD
72	Check controller mechanism for proper operation and that it locks when reverser handle is removed.	WC
73	Test all warning devices - Audible and Visual including PC light, ground relay, alt. failure, wheel slip, low oil, ETS, etc.	WC
74	Where applicable, check TM cutouts for proper operation.	—
75	Test all emergency shut down devices and check for proper labeling. (229.93)	WC
76	Inspect governor plug receptacle and wiring harness for proper securement.	WC
MECHANICAL - ENGINE SHUT DOWN		
77	Check to make sure all drain sumps are clear and able to drain.	WC
78	Check all oil lines, sink drains, over speed covers, top deck covers, oil line in B of engine (rear) oil supply and drain lines to blowers and aux. Gen. drive etc... for leaks. Record and repair as necessary. (229.45)	WC
79	Check all water lines, water pumps and couplings for leaks. Record and repair as necessary.	WC
80	Check engine, equipment rack, MG and air compressor mounting bolts for tightness. (229.45)	WC

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Task Description		Signature
81	Inspect and insure all coupling and shaft guards are in place and secure. (229.41)	DJ
82	Inspect air compressor and aux. Gen. drive couplings for excessive wear and loose bolts.	WC
83	Check manifold to block bolts for tightness and check manifolds for any cracks or leaks. (229.43(A))	WC
84	Clean "V" of engine block as necessary. (229.45)	WC
ENGINE - SHUT DOWN		
85	Raise top deck covers and inspect rocker-arms and hold-down nuts, injector hold-down crab and nut, inspect valve bridges, lash adjusters and valve stem keepers, fuel lines, and track arm pins and clips. With fuel pump running, check for fuel leaks.	WC
86	Inspect air-box. Look at pistons for broken or stuck rings, liners for scoring and liners and jumper lines for water leaks. Verify air box drains are open and draining.	ND
87	Inspect crankcase, check for displaced bearings, loose bearing material, scored liners, loose "p" pipes, loose bolts and any sign of rod or main bearings running hot.	ND
88	Hammer test (by tapping with ball pin) rod and main bearing nuts for tightness every 6 months. Date last checked _____ This PM _____	ND
89	Inspect load regulator, including commutator, brushes, and brush rack holders. Check terminal boards under load regulators for condition of wiring, cleanliness, and tightness of connections. (229.91)	WC
90	Inspect batteries for low water (add when necessary) cleanliness, condition of blocking. Physically check tightness of all terminals and clean corrosion and wash batteries as needed. Grease all terminals with a light coat of grease.	WC
91	Remove back panels on control stand and check wiring, wire connections and gauge light bulbs. (229.27)	WC
92	Inspect all TM - car body cabling for rubbing (against TM) chafing and cracking and proper clamping. Repair as necessary.	DJ

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Task Description		Signature
LUBE OIL SYSTEM		
93	Check all oil lines for signs of leaks and repair as necessary. (229.45)	WC
94	Check lube oil suction strainers in (ice cream box) and clean as necessary. Replace "o" ring seals as necessary.	WC
95	Check scavenging oil strainer and replace gaskets annually. Last checked _____ This PM _____	WC
96	With engine running and warm, record lube oil pressure <u>30</u> PSI and record water temperature <u>125</u> degrees F.	ND DJ
97	Check lube oil level after engine warm-up, take sample and check viscosity. Record viscosity (min. 850) _____	ND
98	Using check gauge provided, check low lube oil shut down pressure and record _____. If below 8 lbs.PSI, notify supervisor.	—
FUEL SYSTEM		
99	Check fuel system for leaks after any filter changes or work done on system.	WC
100	With fuel pump running, check fuel (fish bowl) sight glasses for air or fuel in outboard glass. Be sure sight glasses are clean and replace gaskets any time they are removed.	WC
101	Inspect fuel tank mounting bolts, filter tubes and caps for looseness or any defects and clean fuel tank sight glasses as necessary. (229.45)	WC
COOLING SYSTEM		
102	Check water level in sight glass (should be full standing and half way down when running) and clean sight glass as necessary.	WC dirty water
103	Add water treatment when there is not color in water.	WC water
104	If equipped, check low water protector.	—
105	On all switcher locomotives, check belt tension of fan belts, inspect fan pig and idler pulley mounting mounting bolts, and grease idler pulley if so equipped.	WC
106	When engine is running, listen to fan and idler pulley for unusual noise.	WC
107	Make sure all radiator and fan room access panels are closed after inspection.	WC
108	On sw 7 switchers, remove round access panel below TM blower and check condition of faulk coupling and grease as necessary. Replace access panels.	WC

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Task Description		Signature
AIR COMPRESSOR		
109	Listen to compressor (loaded and unloaded) for pounding, clicking, or any unusual noise.	DJ
110	Check cylinders, heads and crankcase covers for air, oil, and water leaks (water cooled only).	WC
111	Check automatic main reservoir drain valves for proper operation and manually drain reservoirs.	DJ
112	Check engine air filters and change as necessary. Record date changed <u>2-21-2020</u>	WC
113	Check air compressor filters and replace when necessary.	WC DJ
114	Replace primary and secondary fuel filters every inspection. Check for leaks. (229.45)	WC
115	Replace lube oil filters every 6 months. Date last changed _____ This PM <u>02-21-2020</u>	WC
116	Check and record lube oil in engine <u>running 5/11</u> gallons added <u>2</u>	WC
117	Check oil level in governor and record _____. Use regular SAE 20 wt. Oil to fill.	WC
118	Check water level with engine running.	WC
119	Check oil level in air compressor and record <u>low</u> , Qts. Added <u>5 QTS</u> . Note whether deep or shallow crankcase <u>deep</u> SAE 20 wt.	DJ
AIR		
120	Check air gauges to insure proper operation. Should not be hanging and no more than 3 PSI difference between equalizing and brake pipe gauge. (229.53)	WC
121	Independent Brake Test: Move brake handle to full application and record brake cylinder pressure <u>35</u> (should be about 35 PSI). Record time taken to obtain full pressure <u>4</u> sec. (max 5) (229.550)	WC

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Task Description		Signature
122	Automatic Brake Test: Service Application Move brake handle to service position (with independent in the release position) until the independent starts to apply. Record the reduction in equalizing gauge <u>10</u> PSI and increase in brake cylinder pressure <u>10</u> should be about 10 PSI. (232.10 (J2))	WC
123	Automatic Brake Test: Emergency Application Move brake handle to emergency position and record time taken <u>5</u> sec. to develop maximum pressure <u>70</u> PSI (66-70) in brake cylinder. Insure PC switch (if equipped) operates properly. If throttle is past #1 notch it should drop back to idle.	WC
124	Check sanders for proper operation and depositing of sand on rail.	WC
RESET AIR		
125	Main reservoir leakage: With brake system fully charged, supply to main reservoirs, reduce main reservoir pressure to 80 PSI. Check and record main reservoir leakage for 3 minutes <u>4</u> PSI (max. 9 PSI). Stop leakage if necessary. (229.59(a))	WC
126	Brake cylinder leakage: Move handle to full application position. After brakes have applied cut out brake cylinders and record duration for which the brakes remain applied <u>5+</u> min. (min. 5 minutes) NOTE: Be sure to open cut out cocks to air governor. Check operation of handbrake and repair as necessary. (232.10(3) & 229.590)	WC
127	Check brake cylinders when applied for leaks around pistons and any defects. (232.10)	WC
128	Check to make sure main reservoir safety pop releases at 150 PSI and resets properly. (229.41(A1))	WC
FINAL CHECK		
129	With locomotive running, listen to blowers, aux. gen., rocker arms and lash adjusters, cylinders for fuel knock, engine for any unusual noise, TM blowers, and cooling fans and idler pulleys for any noise, and air compressor for proper operation.	DS/WC

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Task ID	Task Description	Signature
130	Open all car body doors while engine is running and make a visual inspection.	WC
131	Walk around locomotive to make sure brake cylinders are cut in and do visual inspection of trucks, couplers, and steps.	DJ
BEFORE LEAVING		
132	If locomotive is to be left running - leave isolation switch in start - stop - generator field switch off - brakes applied and handbrake on and wheels chocked. <small>(218.24(2)(1-v1))</small>	DJ/WC
133	If locomotive is to be left standing - same as above and pull battery knife switch.	—
134	Remove blue flag and derails and notify crew. <small>(218.23(4)(b))</small>	DJ/WC
135	Let LOCATION MANAGER (without fail) know status of locomotive.	DJ/WC

Location Manager

Bruce

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Location:

Date: 2-21-2020
 Hour Meter
 Reading:

	NOTE DEFECTS FOUND	NOTED BY	REPAIRED BY
1	All brake cyl excessive piston travel	DJ	DJ
2	(7) brake shoes V-330	DJ	DJ
3	TM 7 Gear Case leaking Cong Inbr	DJ	
4	TM brushes within holder	DJ	
5	Air Comp low oil	DJ	
6	Front Coupler Excessive Swing	DJ	DJ
7	Cab heater blowers Inop. Need motor x2	DJ	
8	Man Gen has short brushes	DJ/wc	
9	Wiper motor air cut off in cab		
10	oil leak at marmors to Icecream Box		
11	Air Comp leak oil center head	DJ	
12			
13			
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23			
24			
25			

WHEEL & TRUCK REPORT

Locomotive: 82

Date: 2-21-2020

Employee: David Jones

L#	Wheel Thickness (229.75(j))	Flange Height (229.75(h))	Flange Thickness (229.75(f))	Witness Reading (229.73)	Shims Installed (229.73(b))	Pedestal Jaw Wear	Tread Wear (229.75(g))	Side Bearing Clearance (229.69(b))	
								RF	LF
L#1	40	0-21	0-0	30	0	1/8	1/8	RF	1/8
L#2	40	0-21	0-0	30	0	1/8	1/16	LF	1/8
L#3	44	0-22	0-0	34	3/4	3/16	1/16	RR	1/8
L#4	44	0-22	0-0	34	3/4	3/16	1/16	LR	1/8
L#5									
L#6									
R#1	40	0-21	0-0	30	0	1/8	1/16	Wear Limits 5/32" min - 1/4" max each side, 1/2" total both sides	
R#2	40	0-22	0-0	30	0	1/8	1/16		
R#3	40	0-22	0-0	34	3/4	3/16	1/16	Horizontal Handholds FRA Min. Height 30" 30" W/High Snow Plow (221.30)	
R#4	40	0-22	0-0	30	3/4	3/16	1/16		
R#5								Rail Clearance FRA Min. 2-1/2" (229.71) Vertical Hand-hold Clearance FRA 2-1/2"	
R#6									
Wear Limits	17/16" MIN	23/16" MAX	15/16" MIN		8/16" MAX	8/16"	5/16" Max		
FRA Limits	16/16"	24/16"	14/16"				5/16"		

	Coupler Slack (229.61(a)(2)(4))	Coupler Height (232.2)	Pilot Height (229.123)	Coupler Swing	Condition of Springs (229.65)			
					Front		Rear	
Front	3/8	32 1/8	5"	8	L	ok	L	ok
Rear	ND	32 1/2	5 1/4	ND	R	ok	R	ok
Wear Limits	8/16	31 1/2" 34 1/2"	3" 6"	8"	MIN MAX			

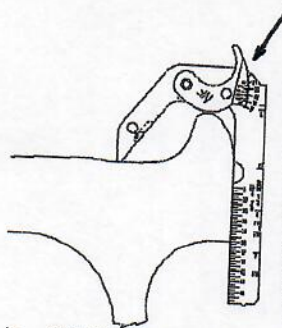
Wheel Sets (FRA Part 229.73)

- (229.73(a)) Variation between wheels on the same axle may not exceed 4/16" when applied or turned.
- (229.73(b)) Variation between wheel diameter on the same SD truck may not exceed 12/16" without shims and 20/16" with shims.
- (229.73(b)) Variation between wheel diameters on different SD trucks may not exceed 20/16".

Conversion for Flange Height		Conversion for Flange Width	
0 - 0 = 17/16	0 - 5 = 21/16	0 - 0 = 20/16	0 - 7 = 16/16
0 - 1 = 18/16	0 - 6 = 22/16	0 - 2 = 19/16	0 - 8 = 15/16
0 - 2 = 19/16	4 - 6 = 23/16	0 - 4 = 18/16	0 - 9 = 14/16
0 - 4 = 20/16	8 - 6 = 24/16	0 - 5 = 17/16	

Supervisor: _____

FLANGE HEIGHT MEASUREMENT

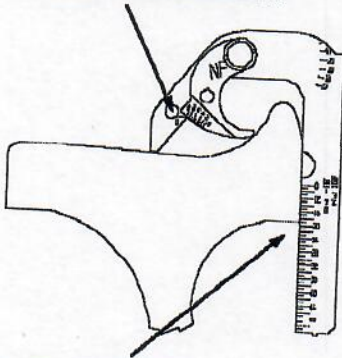


STANDARD S-617-80 WINCHESTER W601		STANDARD S-630-98 WINCHESTER W601A	
STD	HEIGHT	STD	HEIGHT
0 on 0	1 3/64	0 on 17	1 1/16
0 on 1	1 7/64	0 on 18	1 1/8
0 on 2	1 11/64	0 on 19	1 3/16
0 on 3	1 3/16	0 on 20	1 1/4
0 on 4	1 1/4	0 on 21	1 5/16
0 on 5	1 5/16	0 on 22	1 3/8
0 on 6	1 3/8	4 on 22	1 7/16
4 on 6	1 7/16	6 on 22	1 31/64
6 on 6	1 31/64	8 on 22	1 1/2
8 on 6	1 1/2		

TURN WHEELS AT 1 5/16" FLANGE HEIGHT

FLANGE THICKNESS MEASUREMENT

FLANGE THICKNESS MEASUREMENT



STD	THICKNESS
0 on 0	1 17/64
0 on 2	1 13/64
0 on 3	1 11/64
0 on 4	1 1/8
0 on 5	1 1/16
0 on 6	1 1/32
0 on 7	1
0 on 8	61/64
0 on 9	57/64

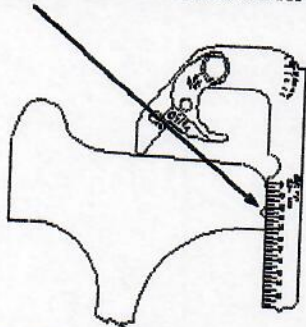
NOTE: READING FOR NARROW FLANGE GAUGE

RIM THICKNESS MEASUREMENTS

FLANGE THICKNESS READING OF 0 on 9 WOULD EQUATE TO 9-16" OF MATERIAL BEING REMOVE FROM THE TREAD FOR TURNING PURPOSES

WHEEL DIAMETER MEASUREMENT

MEASUREMENTS ARE TAKEN FROM THE TOP OF THE WITNESS GROOVE.



40" DIAMETER WHEELS (WITNESS GROOVE = 36")
42" DIAMETER WHEELS DC TRACTION MOTOR (WITNESS GROOVE = 36")
42" DIAMETER WHEELS AC TRACTION MOTOR (WITNESS GROOVE = 38")
45" DIAMETER WHEELS (WITNESS GROOVE = 40")

NOTE: *ITALIC TEXT* DENOTES MINIMUM REQUIREMENTS FOR 92 DAY INSPECTIONS.

CONDEMNING LIMITS FOR SHELLED TREAD

PERIODIC OR UNSCHEDULED MAINTENANCE:

SHELLED TREAD AND FLAT SPOTS MUST BE TRUED OR CHANGED.

SERVICE TRACK MAINTENANCE:

ONE SHELLED SPOT 1" OR GREATER IN LENGTH
ONE SHELLED SPOT WITH A DEPTH OF 1/4" OR MORE.

WHEEL MATCHING INSTRUCTIONS FOR 6 AXLE LOCOMOTIVES.

CONVERSION CHART FOR WHEEL DIAMETER						
GAUGE	MEAS	36 WG DIA			40 WG DIA	
		36 WG DIA	38 WG DIA	40 WG DIA	GAUGE	MEAS
8	1/2	37	39	41	39	2 7/16
9	9/16	37 1/8	39 1/8	41 1/8	40	2 1/2
10	5/8	37 1/4	39 1/4	41 1/4	41	2 9/16
11	11/16	37 3/8	39 3/8	41 3/8	42	2 5/8
12	3/4	37 1/2	39 1/2	41 1/2	43	2 11/16
13	13/16	37 5/8	39 5/8	41 5/8	44	2 3/4
14	7/8	37 3/4	39 3/4	41 3/4	45	2 13/16
15	15/16	37 7/8	39 7/8	41 7/8	46	2 7/8
16	1	38	40	42	47	2 15/16
17	1 1/16	38 1/8	40 1/8	42 1/8	48	3
18	1 1/8	38 1/4	40 1/4	42 1/4	49	3 1/16
19	1 3/16	38 3/8	40 3/8	42 3/8	50	3 1/8
20	1 1/4	38 1/2	40 1/2	42 1/2	51	3 3/16
21	1 5/16	38 5/8	40 5/8	42 5/8	52	3 1/4
22	1 3/8	38 3/4	40 3/4	42 3/4	53	3 5/16
23	1 7/16	38 7/8	40 7/8	42 7/8	54	3 3/8
24	1 1/2	39	41	43	55	3 7/16
25	1 9/16	39 1/8	41 1/8	43 1/8	56	3 1/2
26	1 5/8	39 1/4	41 1/4	43 1/4	57	3 9/16
27	1 11/16	39 3/8	41 3/8	43 3/8	58	3 5/8
28	1 3/4	39 1/2	41 1/2	43 1/2	59	3 11/16
29	1 13/16	39 5/8	41 5/8	43 5/8	60	3 3/4
30	1 7/8	39 3/4	41 3/4	43 3/4	61	3 13/16
31	1 15/16	39 7/8	41 7/8	43 7/8	62	3 7/8
32	2	40	42	44	63	3 15/16
33	2 1/16	40 1/8	42 1/8	44 1/8	64	4
34	2 1/8	40 1/4	42 1/4	44 1/4	65	4 1/16
35	2 3/16	40 3/8	42 3/8	44 3/8	66	4 1/8
36	2 1/4	40 1/2	42 1/2	44 1/2	67	4 3/16
37	2 5/16	40 5/8	42 5/8	44 5/8	68	4 1/4
38	2 3/8	40 3/4	42 3/4	44 3/4		

WHEN MEASURING WHEELS FOR DIAMETER THE NEWEST STYLE AAR STEEL WHEEL GAUGE SHOULD BE USED WHICH IS CALIBRATED IN 1/16" OF AN INCH.

TO DETERMINE IF SHIMS ARE REQUIRED (6 AXLE ONLY) TO MATCH WHEELS, USE THE CONVERSION CHART AND SUBTRACT THE DIAMETER NUMBER (NUMBER ON THE LEFT) OF EACH WHEEL FROM THE LARGEST WHEEL.

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:

- WITHIN TRUCK: 0 TO 12 DIAMETER DIFFERENCE: NO SHIMS REQUIRED.
- WITHIN TRUCK: 13 TO 20 DIAMETER DIFFERENCE: ADD APPROPRIATE SHIMS TO BOTH BOXES ON BOTH SIDES.
- WITHIN TRUCK OR TRUCK TO TRUCK: OVER 20 IN DIAMETER DIFFERENCE REQUIRES WHEEL CHANGE OR TRUED

NOTE:

EMD LOCOMOTIVES

USE ONLY ONE 1/2" SHIM EMD
PART NUMBER - 8455981

- HYATT JOURNAL BOX - 155B9381CRP126
- TIMKEN JOURNAL BOX - 155B9381BE78