

LOCOMOTIVE
2000

DATE *3-17-11*

	Start Readings				Has Shims			END READING				Has Shims		OLD GAUGE
	Flange Height	Flange Thickness	Rim Thickness	Witness Grove	YES	NO		Flange Height	Flange Thickness	Rim Thickness	Witness Grove	YES	NO	
L#1	<i>0-21</i>	<i>0-0</i>	<i>120</i>				L#1							FLANGE THICKNESS MEASUREMENT 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	<i>0-19</i>	<i>0-0</i>	<i>130</i>				L#2							
L#3	<i>0-21</i>	<i>0-0</i>	<i>134</i>				L#3							
L#4	<i>0-20</i>	<i>0</i>	<i>124</i>				L#4							
L#5	<i>0-20</i>	<i>0</i>	<i>124</i>				L#5							
L#6							L#6							
R#1	<i>0-20</i>	<i>0-0</i>	<i>124</i>				R#1							OLD GAUGE FLANGE HEIGHT MEASUREMENT 0-on 0--1" 0-on 1--1-1/16" 0-on 2--1-1/8" 0-on 3--1-3/16" 0-on 4--1-1/4" 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	<i>0-20</i>	<i>0-0</i>	<i>130</i>				R#2							
R#3	<i>0-20</i>	<i>0-0</i>	<i>133</i>				R#3							
R#4	<i>0-20</i>	<i>0-0</i>	<i>124</i>				R#4							
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

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"

FLANGE HEIGHT MEASUREMENT

WEAR LIMITS - ROAD & SWITCH LOCOS - MIN. 32 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 1/2"	29=	39 5/8"	36=	40 1/2"
9=	37 1/8"	16=	38"	23=	38 7/8"	30=	39 1/4"	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"

FLANGE THICKNESS MEASUREMENT

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"	<i>33 1/2</i>	FRA MAX 6" MIN 3"	<i>4"</i>	FRA MIN 2 1/2"
MMA	MAX 34 1/2" MIN 32 1/2"	<i>32 1/2</i>	MMA MAX 6" MIN 3 1/2"	<i>5 3/4</i>	MMA MIN 3"

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

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.

RR 1/4
LR 1/4
RF 1/4 side bearing
LF 1/4 clearance

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

6 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 CONDEMNING 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

[Signature]

SUPERVISORS SIGNATURE

[Signature Box]