

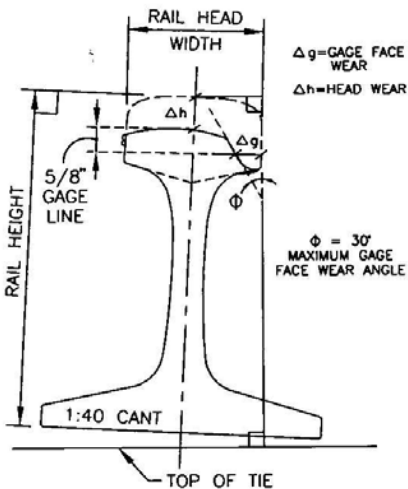
## §113.2(M) Maintenance Wear Limits for Rail

### §113.2.1(M) Head and Gage Face Wear

- With traffic, the rail head wears vertically and horizontally. As this wear increases, the cross section of the rail decreases. This decrease in rail section will overstress the rail causing rail failure.
- The following table contains the maintenance wear limits for vertical wear and gage face wear (both gage and field) for rail section commonly found on Amtrak.
- Rail replacement will be accomplished prior to reaching the given rail wear limits.

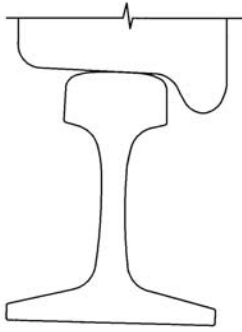
### §113.2.2(M) Gage Face Wear Angle

- When a rail is placed in track, with traffic, the gage face wears at an angle ( $\phi$ ). As this angle increases, the possibility for a wheel to climb the gage face of a rail increases.
- As shown on the following diagram, rail replacement shall be accomplished when the face wear gage angle ( $\phi$ ) exceeds  $30^\circ$ . As the rail wear readings approach  $30^\circ$ , the Division should make necessary plans to change out the rail.



### Rail Wear Criteria

- For field verification of gage face wear angle, contact the Office of the Deputy Chief Engineer-Track.
- For an example of new wheel and new rail interface, see the following diagram.



**Wheel Rail Interface (New Conditions)**

Maintenance Rail Wear Limits <sup>3</sup>								
Rail Section	New Rail Head Width <sup>(1)</sup> (inches)	If Vertical Wear is			New Rail Height (inches)	If Side Wear <sup>(2)</sup> is		
		<1/4"	1/4" to 1/2"	≥1/2"		0"	≤1/4"	>1/4"
		Maximum Side Wear ( $\Delta g$ ) (inches)				Maximum Vertical Wear ( $\Delta h$ ) (inches)		
107 NH	2-5/8	1/2	3/8	3/8	6-1/8	1/2	7/16	7/16
112 RE	2-11/16	1/2	5/16	5/16	6-5/8	7/16	3/8	5/16
115 RE	2-11/16	1/2	3/8	3/8	6-5/8	7/16	3/8	5/16
119 RE	2-5/8	1/2	3/8	3/8	6-13/16	1/2	7/16	3/8
127 DY(M)	2-15/16	9/16	7/16	7/16	7	9/16	1/2	7/16
130 PS	3	9/16	7/16	7/16	6-5/8	9/16	1/2	7/16
131 RE	3	9/16	1/2	3/8	7-1/8	5/8	9/16	1/2
132 RE	3	5/8	1/2	3/8	7-1/8	5/8	9/16	1/2
136 RE	2-15/16	11/16	9/16	1/2	7-5/16	11/16	5/8	9/16
140 RE	2-7/8	3/4	5/8	1/2	7-5/16	3/4	11/16	5/8
152 PS	2-15/16	7/8	3/4	5/8	8	15/16	7/8	13/16
155 PS	2-7/8	7/8	3/4	5/8	8	15/16	7/8	13/16

Notes: (1) Head width at the gage line at 5/8" below top of rail.

(2) Side wear includes the total gage face and field face wear as found in transposed rail.

(3) See "Rail Wear Criteria" figure