Memorandum

U.S. Department
of Transportation

**Federal Railroad
Administration**

Date: June 15, 1998 Reply to Att. of: MPE 98-10

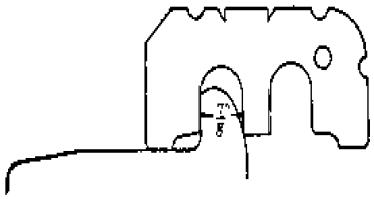
Subject: Accepted Wheel Gaging Methods

From: Edward R. English
Director, Office of Safety Assurance and Compliance

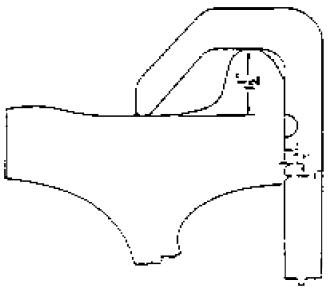
To: Regional Administrators, Deputy Regional Administrators,
Motive Power & Equipment Specialists and Inspectors

To determine if a locomotive or freight car wheel is in compliance, a standard application of wheel gages is equally as important as having standard gages.

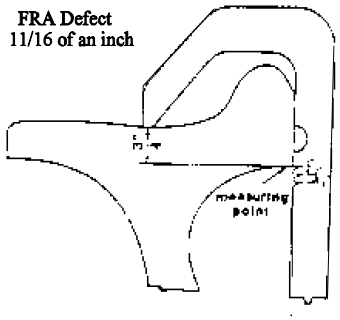
215.103(a) and 229.75(f) To gage a wheel for thin flange, the 7/8 - inch opening of the AAR 34401 gage should slip over the flange of the wheel when the gage is held with the flat surface at the top, perpendicular to the tread. The unused bulk of the gage must be suspended behind the back face of the rim. Gaging in a chipped area is not accepted.



215.103(b) and 229.75(h) A high flange wheel shall be gaged with a simplified steel wheel gage (hook gage). The shank, or long flat portion of the gage must be held flat against the back face of the rim and parallel to the radius of the wheel. The flange will sit in the hook portion and will hold the tip or point of the gage clear of the tread. Gaging in a flat spot or shelled spot is not acceptable.



215.103(c) A thin rim wheel on a freight car cannot be properly gaged with existing gages. It is suggested that the inspector mark the simplified steel wheel gage 1/16 of an inch above the 3/4-inch mark. This will allow you to make a close evaluation of an 11/16-inch rim. However, it is not recommended that a violation be submitted when using a non-calibrated gage.



229.75(j) A thin rim wheel on a locomotive in road service is less than 1 inch and in yard service is less than 3/4 inch.

The gage is to be applied to the wheel in the same manner as that used for gaging a high flange, however, the gaging point would be the abrupt angle at eh inside of the back face of the rim. With the gage held firmly against the back face of the rim, parallel to the radius and the point resting on the tread of the wheel, the reading should be 11/16 of an inch or less for cars, less than 3/4 inch for yard locomotive and less than for 1 inch for road locomotives. Gaging with the tip or point of the gage in a flat spot or shelled spot is not acceptable.

215.103(f)(1) and 229.75(a) A flat spot on a wheel may be gaged with AAR gage 34401. The flat portion of the gage is marked in such a way that a 2 ½ inch flat spot can be easily measured. This portion of the gage must be applied to the flat spot on the wheel with absolutely no rocking motion allowable within the 2 ½ inch area.

215.103(f)(2) Two adjoining flat spots two or inches in length are measured by the same method as above.

215.103(h) The overheated wheel requires a higher degree of judgement because of the varying degrees of discoloration. The discoloration should come toward the center of the wheel four inches inside the rim before exceptions are taken.

It is not acceptable to place a gage on a wheel in such a way that it takes a combination of two or more conditions to condemn it as defective; i.e., gaging for high flange in a flat spot.

Each Motive Power and Equipment Specialist shall know that all inspectors who have wheel gages, know how they are to be applied to the wheel for proper defect condition.

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