

Bridges and Structures  
??, 2001

October 22, 2001????

All Employees

521.1

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Bridges and Structures

Bearing Design MM No. 22 (Standard Rocker Bearings-Design Exception)

OBS Standard Sheets 1008 and 1009 give details for rocker bearings designed according to the contact stress provisions of the 1992 Series of AASHTO Standard Specifications (Article 10.32.4.2). Those rocker bearings do not meet the more conservative contact stress provisions of the 1996 Series of AASHTO Standard Specifications (Article 14.6.1.4). As an example, R5 on OBS Standard Sheet 1009 is listed with a maximum reaction of 650 kips, whereas under the new contact stress formula the capacity would be limited to 563 kips (without a deduction for pintle holes).

At the time AASHTO changed the contact stress formula based on evidence of problems in some states, Iowa had no known problems with the standard rocker bearings. Based on Iowa's experience William Lundquist and John Harkin objected to the change, and AASHTO ~~grandfathered~~grand fathered the old formula for Iowa. Thus ~~any new~~ rocker bearings ~~designed to be compatible with the bearings detailed on~~ the OBS Standard Sheets 1008 and 1009 ~~are approved shall be designed~~ under the 1992 Series of AASHTO Standard Specifications.

However, any new ~~low-profile fixed or expansion~~ bearings ~~with curved plates~~ shall be designed using the contact stress provisions of the 1996 Series of AASHTO Standard Specifications. ~~An example for design with the new contact stress formula is in the new OBS Procedure Guide under Article 5.7.~~ The designer may consider the contact line to be the full width of the bearing without a deduction for pintle holes.

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