Federal Railroad Administration, DOT

(b) Maintenance. Crank pin collars and collar fasteners shall be maintained in a safe and suitable condition for service.

SECTION 230.98 Driving, trailing, and engine truck axles.

(a) Condemning defects. Driving, trailing, and engine truck axles with any of the following defects shall be removed from service immediately and repaired (see appendix A of this part for inspection requirements):

(1) Bent axle;
(2) Cut journals that cannot be made to run cool without turning;
(3) Transverse seams in iron or steel axles;
(4) Seams in axles causing journals to run hot;
(5) Axles that are unsafe on account of usage, accident or derailment;
(6) Any axle worn 1/2 inch or more in diameter below the original/new journal diameter, except as provided in paragraph (a)(7) of this section;
(7) Any driving axles other than main driving axles with an original or new diameter greater than 6 inches that are worn 3/4 inch or more in diameter below the original/new diameter.

(b) Journal diameter stamped. For steam locomotives with plain bearings, the original/new journal diameter shall be stamped on one end of the axle no later than January 18, 2005.

SECTION 230.99 Tender truck axles.

The minimum diameters of axles for various axle loads shall be as follows:

<table>
<thead>
<tr>
<th>Axle load (in pounds)</th>
<th>Minimum diameter of journal (in inches)</th>
<th>Minimum diameter of wheel seat (in inches)</th>
<th>Minimum diameter of center (in inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>50000</td>
<td>5½</td>
<td>7½</td>
<td>6½</td>
</tr>
<tr>
<td>38000</td>
<td>5</td>
<td>6½</td>
<td>5½</td>
</tr>
<tr>
<td>31000</td>
<td>4½</td>
<td>6½</td>
<td>5½</td>
</tr>
<tr>
<td>22000</td>
<td>3½</td>
<td>5</td>
<td>4½</td>
</tr>
<tr>
<td>15000</td>
<td>3½</td>
<td>4½</td>
<td>3½</td>
</tr>
</tbody>
</table>

SECTION 230.100 Defects in tender truck axles and journals.

(a) Tender truck axle condemning defects. Tender truck axles with any of the following defects shall be removed from service immediately and repaired:

(1) Axles that are bent;
(2) Collars that are broken, cracked, or worn to 1/4 inch or less in thickness;
(3) Truck axles that are unsafe on account of usage, accident, or derailment;
(4) A fillet in the back shoulder that is worn out; or
(5) A gouge between the wheel seats that is more than 1/4 of an inch in depth.

(b) Tender truck journal condemning defects. Tender truck journals with any of the following defects shall be removed from service immediately and repaired:

(1) Cut journals that cannot be made to run cool without turning;
(2) Seams in axles causing journals to run hot;
(3) Overheating, as evidenced by pronounced blue black discoloration;
(4) Transverse seams in journals of iron or steel axles; or
(5) Journal surfaces having any of the following:
   (i) A circumferential score;
   (ii) Corrugation;
   (iii) Pitting;
   (iv) Rust;
   (v) Etching.

SECTION 230.101 Steam locomotive driving journal boxes.

(a) Driving journal boxes. Driving journal boxes shall be maintained in a safe and suitable condition for service. Not more than one shim may be used between the box and bearing.

(b) Broken bearings. Broken bearings shall be renewed.