

§ 230.99 Tender truck axles.

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

Axle load (in pounds)	Minimum diameter of journal (in inches)	Minimum diameter of wheel seat (in inches)	Minimum diameter of center (in inches)
50000 .....	5½	7¾	6⅞
38000 .....	5	6¾	5⅞
31000 .....	4½	6¼	5⅝
22000 .....	3¾	5	4¾
15000 .....	3¼	4⅝	3⅞

§ 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 ¼ 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 ⅛ 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.

§ 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.

(c) *Loose bearings.* Loose bearings shall be repaired or renewed.

§ 230.102 Tender plain bearing journal boxes.

Plain bearing journal boxes with the following defects shall be removed from service immediately and repaired:

- (a) A box that does not contain visible free oil;
- (b) A box lid that is missing, broken, or open except to receive servicing;
- (c) A box containing foreign matter, such as dirt, sand, or coal dust that can reasonably be expected to damage the bearing; or have a detrimental effect on the lubrication of the journal and bearing;
- (d) A lubricating pad that:
  - (1) Is missing;
  - (2) Is not in contact with the journal;
  - (3) Has a tear extending half the length or width of the pad, or more, except by design;
  - (4) Shows evidence of having been scorched, burned, or glazed;
  - (5) Contains decaying or deteriorated fabric that impairs proper lubrication of the pad;
  - (6) Has an exposed center core (except by design); or
  - (7) Has metal parts contacting the journal;
- (e) A plain bearing that:
  - (1) Is missing, cracked, broken;
  - (2) Has a bearing liner loose;
  - (3) Has a broken out piece; or
  - (4) Has indications of having been overheated, as evidenced by:
    - (i) Melted babbitt;
    - (ii) Smoke from hot oil; or
    - (iii) Journal surface damage; or
  - (f) A plain bearing wedge that:
    - (1) Is missing, cracked or broken; or