

(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
  - (2) Is not located in its design position.

**§ 230.103 Tender roller bearing journal boxes.**

Tender roller bearing journal boxes shall be maintained in a safe and suitable condition.

**§ 230.104 Driving box shoes and wedges.**

Driving box shoes and wedges shall be maintained in a safe and suitable condition for service.

**§ 230.105 Lateral motion.**

(a) *Condemning limits.* The total lateral motion or play between the hubs of the wheels and the boxes on any pair of wheels shall not exceed the following limits:

	Inches
Engine truck wheels (with swing centers) .....	1
Engine truck wheels (with rigid centers) .....	1½
Trailing truck wheels .....	1
Driving wheels .....	¾

(b) *Limits increased.* These limits may be increased on steam locomotives operating on track where the curvature exceeds 20 degrees when it can be shown that conditions require additional lateral motion.

(c) *Non-interference with other parts.* The lateral motion shall in all cases be kept within such limits that the driving wheels, rods, or crank pins will not interfere with other parts of the steam locomotive.

TRUCKS, FRAMES AND EQUALIZING SYSTEM

**§ 230.106 Steam locomotive frame.**

- (a) *Maintenance and inspection.* Frames, decks, plates, tailpieces, pedestals, and braces shall be maintained in a safe and suitable condition for service, and shall be cleaned and thoroughly inspected as often as necessary to maintain in a safe and suitable condition for service with cleaning intervals, in any case, not to exceed every 1472 service days.
- (b) *Broken frames.* Broken frames properly patched or secured by clamps or other suitable means which restores the rigidity of the frame are permitted.

**§ 230.107 Tender frame and body.**

- (a) *Maintenance.* Tender frames shall be maintained in a safe and suitable condition for service.
- (b) *Height difference.* The difference in height between the deck on the tender and the cab floor or deck on the steam locomotive shall not exceed 1½ inches.
- (c) *Gangway minimum width.* The minimum width of the gangway between steam locomotive and tender, while standing on tangent track, shall be 16 inches.
- (d) *Tender frame condemning defects.* A tender frame with any of the following