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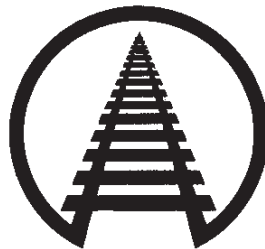
**2023**

**FIELD MANUAL**

**OF THE**

**A A R**

**INTERCHANGE RULES**



**ASSOCIATION  
OF AMERICAN  
RAILROADS**

**FIELD MANUAL**  
**OF THE**  
**INTERCHANGE RULES**

ADOPTED BY THE

**Association of American Railroads**  
**Safety and Operations**  
**Rules and Standards**

**Effective January 1, 2023**

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## RULE 36 – ROLLER BEARINGS

### A. Cause for Attention

1. At Any Time
  - a. Major Derailment. Wheel sets on cars involved in a derailment at a speed exceeding 10 miles per hour or that have moved on the ground more than 200 feet, must be replaced.
  - b. Minor Derailment. Wheel sets on cars involved in a derailment at a speed of not over 10 miles per hour and that have not moved on the ground more than 200 feet must inspect for derailment damage in accordance with E.4.
  - c. Partially or fully submerged.
  - d. Evidence of electrical arcing.
  - e. Internal parts defective as identified by internal roughness or catches, must inspect per E.5.
  - f. Internal parts defective as identified by excessive lateral movement of the bearing cup, must inspect per E.6.
  - g. Acoustic bearing detector defect, handle per E.7.
  - h. External parts visibly cracked, broken, or bent.
  - i. Prohibited in interchange (See Rule 90).
  - j. Wrong size roller bearing, not standard to car.
  - k. Loose backing ring, per E.8.
  - l. Loose, cocked or damaged seal, inspect per E.9.
  - m. One or more visibly loose or missing cap screws, missing or broken locking plate, or missing lubricant fitting or plug except by design.
  - n. Fire or heat damage per Rule 95.
  - o. Unfair usage damage per Rule 95 (other than fire, flood, or derailment).
  - p. Journal roller bearings equipped with cap screw seal rings are prohibited in interchange per Rule 90. Identification per E.10.
  - q. Overheated roller bearing (WM50) as defined in E.11.
  - r. Roller bearing temperature performance (WM51 or WM52) as defined in E.12.
2. When Car Is on Shop or Repair Track for Any Reason
  - a. When a defective wheel set is removed from a truck, any other wheel set under the same truck with SKF Certificate Nos. 4, 4A, and 4B must be replaced.
3. When Car Is at Home Shop
  - a. Wheel sets on cars arriving home shop due to derailment damage, including private line and contract shops, without record of Wheel set(s) replacement or performance of roller bearing inspection, must:
    - (1) Major Derailment, replace wheel set(s)
    - (2) Minor Derailment, perform roller bearing inspection(s)

## RULE 36

## B. Correct Repairs

## CORRECT REPAIR CHART—ALL AAR APPROVED ROLLER BEARINGS

## Group B – Bearings with Tapered Rollers (Rotating Endcap)

| Removed   | What Can Be Applied                              | Remarks                                                                                                        |             |                                     |
|-----------|--------------------------------------------------|----------------------------------------------------------------------------------------------------------------|-------------|-------------------------------------|
| Group B   | Group B<br>Group B1<br>Group B2                  | Bearings applied must properly fit existing pedestal and adapter requirements.                                 |             |                                     |
| Group B   | Group B3                                         | Apply Group B3 roller bearings only with the car owner's permission. Exchange adapters if Group B3 is applied. |             |                                     |
| Group B   | Group B4                                         |                                                                                                                |             |                                     |
| Qualifier | Group B Manufacturer                             | Certificate Number                                                                                             | Description |                                     |
| 01        | Timken Company.                                  | 1, 1A<br>(**Orange)                                                                                            | "AP"        | 5½ × 10, 6 × 11,<br>6½ × 12, 7 × 12 |
| 03        | Brenco, Incorporated                             | 5, 5A<br>(**Green)                                                                                             |             | 5½ × 10, 6 × 11,<br>6½ × 12, 7 × 12 |
| 04        | Hyatt Manufacturing                              | 6, 6A<br>(**Blue)                                                                                              | Hyatt       | 5½ × 10, 6 × 11,<br>6½ × 12, 7 × 12 |
| 08        | Hyatt Manufacturing                              | 6B<br>(**Blue)                                                                                                 | Hyatt       | 5½ × 10, 6 × 11,<br>6½ × 12, 7 × 12 |
| *10       | Nachi Fujikoshi, Limited                         | 12                                                                                                             | Nachi       | 5½ × 10, 6 × 11,<br>6½ × 12, 7 × 12 |
| 11        | FAG Kugelfischer                                 | 13<br>(**Red)                                                                                                  | FAG-Tarol   | 5½ × 10, 6 × 11,<br>6½ × 12, 7 × 12 |
| 12        | Koyo Seiko Company, Limited                      | 14<br>(**White)                                                                                                | Koyo        | 5½ × 10, 6 × 11,<br>6½ × 12, 7 × 12 |
| 14        | Nippon Seiko Kabushki Kaisha                     | 11A                                                                                                            | NSK         | 5½ × 10, 6 × 11,<br>6½ × 12, 7 × 12 |
| 15        | NTN Corporation (NTN Toyo Bearing Mfg. Co. Ltd.) | 10A, 19<br>(**Purple)                                                                                          | NTN-Titan   | 5½ × 10, 6 × 11,<br>6½ × 12, 7 × 12 |
| 16        | Nippon Seiko Kabushiki Kaisha                    | 22                                                                                                             | NSK         | 5½ × 10, 6 × 11,<br>6½ × 12, 7 × 12 |
| 17        | Aktiebolaget SKF                                 | 23<br>(**Yellow)                                                                                               | SKF         | 5½ × 10, 6 × 11,<br>6½ × 12, 7 × 12 |
| 18        | FAG                                              | 26<br>(**Brown)                                                                                                | FAG         | 5½ × 10, 6 × 11,<br>6½ × 12, 7 × 12 |
| ***19     | Roller Bearing Industries, Incorporated          | 29<br>(**Gold)                                                                                                 | RBI         | 6 × 11, 6½ × 12,<br>7 × 12          |
| ***20     | FAG                                              | 32                                                                                                             | FAG         | 6 × 11                              |

\*Bearing not in production

\*\*Color of locking plate if interchangeable endcap of another manufacturer is used

\*\*\*Conditionally approved

**RULE 36**

**Group B1 – Bearings with Tapered Rollers (Rotating Endcap)**

| Removed   | What Can Be Applied         | Remarks                                                                                                        |             |         |
|-----------|-----------------------------|----------------------------------------------------------------------------------------------------------------|-------------|---------|
| Group B1  | Group B1                    | Renew Group B1 in kind, where possible.                                                                        |             |         |
| Group B1  | Group B<br>Group B2         | Bearings applied must properly fit existing pedestal and adapter requirements.                                 |             |         |
| Group B1  | Group B3                    | Apply Group B3 roller bearings only with the car owner's permission. Exchange adapters if Group B3 is applied. |             |         |
| Group B1  | Group B4                    |                                                                                                                |             |         |
| Qualifier | Group B1<br>Manufacturer    | Certificate<br>Number                                                                                          | Description |         |
| 01        | Timken Company              | 20                                                                                                             | "XP"        | 6½ × 12 |
| 02        | Hyatt Manufacturing         | 21                                                                                                             |             | 6½ × 12 |
| 03        | Koyo Seiko Company, Limited | 24                                                                                                             | "MF"        | 6½ × 12 |
| 04        | Brenco, Incorporated        | 25                                                                                                             | "XL"        | 6½ × 12 |

**Group B2 – Bearings with Tapered Rollers (Rotating Endcap)**

| Removed   | What Can Be Applied                                 | Remarks                                                                                                        |                 |                             |
|-----------|-----------------------------------------------------|----------------------------------------------------------------------------------------------------------------|-----------------|-----------------------------|
| Group B2  | Group B<br>Group B1<br>Group B2                     | Bearings applied must properly fit existing pedestal and adapter requirements.                                 |                 |                             |
| Group B2  | Group B3                                            | Apply Group B3 roller bearings only with the car owner's permission. Exchange adapters if Group B3 is applied. |                 |                             |
| Group B2  | Group B4                                            |                                                                                                                |                 |                             |
| Qualifier | Group B2<br>Manufacturer                            | Certificate<br>Number                                                                                          | Description     |                             |
| *03       | Bower Roller Bearing Division                       | 8                                                                                                              | 6 × 11, 6½ × 12 |                             |
| *04       | Nippon Seiko Kabushiki<br>Kaisha                    | 11                                                                                                             | NSK             | 5½ × 10, 6 × 11,<br>7 × 12  |
| 05        | Magnus Metal Division,<br>National Lead Company     | 16                                                                                                             | Magnus          | 6 × 11, 6½ × 12             |
| *06       | NTN Corporation (NTN Toyo<br>Bearing Mfg. Co. Ltd.) | 10                                                                                                             | NTN             | 5½ × 10, 6 × 11,<br>6½ × 12 |

\*Bearing not in production.

**RULE 36**

**Group B3 – Bearings with Tapered Rollers (Rotating Endcap)**

| Removed   | What Can Be Applied      | Remarks               |                |
|-----------|--------------------------|-----------------------|----------------|
| Group B3  | Group B3<br>Group B5     |                       |                |
| Qualifier | Group B3<br>Manufacturer | Certificate<br>Number | Description    |
| 01        | Timken Company           | 27                    | 6½ × 9, 7 × 12 |
| 02        | Brenco, Inc.             | 28                    | 6½ × 9         |
| 03        | SKF                      | 30                    | 6½ × 9, 7 × 12 |
| 04        | Brenco, Inc.             | 31                    | 6½ × 9         |
| ***05     | LYC                      | 33                    | 6½ × 9         |
| ***06     | Iijin                    | 34                    | 6½ × 9         |

\*\*\*Conditionally approved

## RULE 36

**Group B4 – Bearings with Tapered Rollers (Rotating Endcap) with Universal Fitted Backing Ring**

| Removed   | What Can Be Applied                              | Remarks                                                                                                    |             |                 |
|-----------|--------------------------------------------------|------------------------------------------------------------------------------------------------------------|-------------|-----------------|
| Group B4  | Group B4                                         |                                                                                                            |             |                 |
| Group B4  | Group B<br>Group B1<br>Group B2                  |                                                                                                            |             |                 |
| Group B4  | Group B3                                         | Apply Group B3 roller bearings only with car owner's permission. Exchange adapters if Group B3 is applied. |             |                 |
| Qualifier | Group B4 Manufacturer                            | Certificate Number                                                                                         | Description |                 |
| 01        | Timken Company                                   | 1, 1A<br>(**Orange)                                                                                        | "AP"        | 6 × 11, 6½ × 12 |
| 03        | Brenco, Incorporated                             | 5, 5A<br>(**Green)                                                                                         |             | 6 × 11, 6½ × 12 |
| 04        | Hyatt Manufacturing                              | 6, 6A<br>(**Blue)                                                                                          | Hyatt       | 6 × 11, 6½ × 12 |
| 08        | Hyatt Manufacturing                              | 6B<br>(**Blue)                                                                                             | Hyatt       | 6 × 11, 6½ × 12 |
| *10       | Nachi Fujikoshi, Limited                         | 12                                                                                                         | Nachi       | 6½ × 12         |
| 11        | FAG Kugelfischer                                 | 13<br>(**Red)                                                                                              | FAG-Tarol   | 6 × 11, 6½ × 12 |
| 12        | Koyo Seiko Company, Limited                      | 14<br>(**White)                                                                                            | Koyo        | 6 × 11, 6½ × 12 |
| 14        | Nippon Seiko Kabushki Kaisha                     | 11A                                                                                                        | NSK         | 6 × 11, 6½ × 12 |
| 15        | NTN Corporation (NTN Toyo Bearing Mfg. Co. Ltd.) | 10A, 19<br>(**Purple)                                                                                      | NTN-Titan   | 6 × 11, 6½ × 12 |
| 16        | Nippon Seiko Kabushiki Kaisha                    | 22                                                                                                         | NSK         | 6 × 11, 6½ × 12 |
| 17        | Aktiebolaget SKF                                 | 23<br>(**Yellow)                                                                                           | SKF         | 6 × 11, 6½ × 12 |
| 18        | FAG                                              | 26<br>(**Brown)                                                                                            | FAG         | 6 × 11, 6½ × 12 |
| 19        | Roller Bearing Industries, Incorporated          | 29<br>(**Gold)                                                                                             | RBI         | 6 × 11, 6½ × 12 |
| 20        | FAG                                              | 32                                                                                                         | FAG         | 6 × 11          |
| 21        | Koyo Seiko Company, Limited                      | 24(*)                                                                                                      | Koyo        | 6 × 11, 6½ × 12 |
| 22        | Magnus Metal Division, National Lead Company     | 16(*)                                                                                                      | Magnus      | 6 × 11, 6½ × 12 |
| 23        | Bower Roller Bearing Division                    | 8                                                                                                          |             | 6½ × 12         |

\*Bearing not in production

\*\*Color of locking plate if interchangeable endcap of another manufacturer is used

**RULE 36**

**Group B5 – Bearings with Tapered Rollers (Rotating Endcap) with Universal Fitted Backing Ring**

| Removed   | What Can Be Applied      | Remarks               |                                             |
|-----------|--------------------------|-----------------------|---------------------------------------------|
| Group B5  | Group B3<br>Group B5     |                       |                                             |
| Qualifier | Group B3<br>Manufacturer | Certificate<br>Number | Description                                 |
| 01        | Timken Company.          | 27                    | 6½ × 9 (with Universal Fitted Backing Ring) |
| 02        | Brenco, Inc.             | 28                    | 6½ × 9 (with Universal Fitted Backing Ring) |



**RULE 36**

**Group E –Obsolete Bearings**

| Removed   | What Can Be Applied                          | Remarks                                                                                                    |                                                                           |
|-----------|----------------------------------------------|------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|
| Group E   | Group B<br>Group B1<br>Group B2              | Bearings applied must properly fit existing pedestal and adapter requirements.                             |                                                                           |
| Group E   | Group B3                                     | Apply Group B3 roller bearings only with car owner's permission. Exchange adapters if Group B3 is applied. |                                                                           |
| Group E   | Group B4                                     | Bearings applied must properly fit existing pedestal and adapter requirements.                             |                                                                           |
| Qualifier | Group E Manufacturer                         | Certificate Number                                                                                         | Description                                                               |
| 01        | SKF Industries, Incorporated                 | 7                                                                                                          | Piggybacker 6 × 11                                                        |
| 02        | Hyatt Division of General Motors Corporation | 2                                                                                                          | Hy-Roll All sizes                                                         |
| 03        | SKF Industries, Incorporated                 | 4                                                                                                          | Expediter All sizes                                                       |
| 04        | SKF Industries, Incorporated                 | 4A                                                                                                         | Expediter All sizes                                                       |
| 05        | SKF Industries, Incorporated                 | 4B                                                                                                         | Expediter All sizes                                                       |
| 06        | Nippon Seiko Kabushiki Kaisha                | 11                                                                                                         | NSK 6½ × 12                                                               |
| 07        | Timken Company                               |                                                                                                            | Cartridge Type C & CL, non-rotating end cover (for integral boxes)        |
| 08        | Timken Company                               |                                                                                                            | Heavy-duty type WP and WPL, non-rotating end cover (for wide pedestal)    |
| 09        | Hyatt Bearing Division                       |                                                                                                            | General-purpose package type, non-rotating end cover (for integral boxes) |
| 10        | Hyatt Bearing Division                       |                                                                                                            | Full-size housing type, non-rotating end cover (for wide pedestal)        |
| 11        | SKF Industries, Incorporated                 |                                                                                                            | Housing type, non-rotating and cover                                      |
| 12        | Bower Franklin                               |                                                                                                            | Rotating endcap                                                           |
| 13        | A B Svenska Kullagerfabriken                 | 3                                                                                                          | SKF-RBU 5 × 9, 5½ × 10, 6 × 11, 6½ × 12                                   |
| 14        | A B Svenska Kullagerfabriken                 | 3A                                                                                                         | SKF-RBU 5 × 9, 5½ × 10, 6 × 11, 6½ × 12                                   |
| 15        | A B Svenska Kullagerfabriken                 | 3B                                                                                                         | SKF-RBU 4¼ × 8, 5 × 9, 5½ × 10, 6 × 11, 6½ × 12                           |
| 16        | SKF Industries, Incorporated                 | L17                                                                                                        | Dispatcher 6 × 11, 6½ × 12                                                |
| 17        | A B Svenska Kullagerfabriken                 | L18                                                                                                        | LMU 4¼ × 8, 5 × 9, 5½ × 10, 6 × 11, 6½ × 12, 7 × 12                       |
| 18        | All                                          |                                                                                                            | Equipped with cap screw seal rings                                        |

**RULE 36**

**C. Recondition Requirements**

1. Roller bearings must be reconditioned in accordance with the AAR Roller Bearing Manual at approved roller bearing maintenance facilities per *MSRP* Section H-II.
2. Roller bearings must be reconditioned in a facility that has a Quality Assurance Certification in accordance with *MSRP* Section J, Specification M-1003.

**D. Welding Requirements**

1. No welding or evidence of welding arc damage permitted anywhere on the bearing.

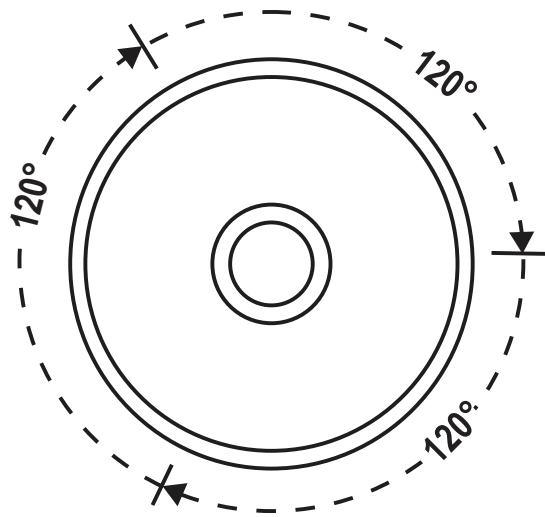
**E. General Information**

1. Roller bearings submerged in flood or damaged by fire or from electrical arcing must be replaced before being sent home on own wheels.
2. Owner will be responsible for all roller bearing failures other than Rule 95.
3. When there is an accumulation of grease on truck side or car underframe, in order to avoid false indications of grease leakage, wipe these areas clean. Accumulation of grease, in itself, is not cause for renewal.
4. Inspection for Derailment Damage—Remove Wheel Sets
  - a. Inspect for bent axle in accordance with Rule 43.E.
  - b. Inspect bearings as follows:
    - (1) Bearings must be sufficiently clean to permit adequate inspection of all exterior parts.
    - (2) Inspect the outer cup for cracks or breaks.
    - (3) Inspect for loose or damaged front and rear seals.
    - (4) Inspect for missing or loose endcap screws.
    - (5) Inspect for loose backing rings. See Rule 36.E.8.
    - (6) Inspect for defective internal parts in accordance with the guidelines in Rule 36.E.5 and Rule 36.E.6.
    - (7) Inspect endcap for cracks, broken ears or nicks, dents, and gouges in excess of 1/8 inch deep.
    - (8) If these checks are satisfactory, continue wheel set(s) in service. Otherwise, replace the wheel set(s).
5. Inspection for Defective Internal Parts by Hand Roll—Feel for internal roughness or catches by holding rollers and raceways against each other while:
  - a. Rotating the bearing, push the cup toward the inner raceway and rotate the cup in one direction for at least two complete revolutions.
  - b. Rotating the bearing, pull the cup toward the outer raceway and rotate the cup in the same direction as Step a for at least two complete revolutions.
  - c. Roll the wheel 1/3 of the way around (120°) as shown in Figure 36.1 and repeat Steps a and b.
  - d. Roll the wheel 1/3 of the way around (120°) in the same direction and repeat Steps a and b again.

**RULE 36**

NOTE: Noise can be misleading. A clicking sound can result from the normal shifting of rollers in their cages. Shifting of the rollers can also be felt, particularly when the direction of cup rotation is changed. Neither of these conditions indicates the presence of a defect.

FIGURE 36.1



Rotate in same direction

6. Inspection for Excessive Lateral (Defective Internal Parts)
  - a. By hand, shove the bearing cup toward the wheel and then pull it away from the wheel to check the lateral movement.
  - b. Measure lateral by using a steel tape or scale held alongside the length of the cup with the end of the tape/scale steadied against the hub face of the wheel.
  - c. Lateral movement greater than  $\frac{1}{16}$  inch is considered excessive.
7. Handling of Acoustic Bearing Detector Defects (WM91 and WM96):
  - a. Acoustic, validated device. Acoustic bearing detection Level-1, with a successfully completed ABD site initial validation in accordance with *MSRP* Section F. Replace wheel set. Why Made 96.
  - b. Acoustic non-validated device. Acoustic bearing detection with any device/system. Removed bearing must receive a teardown inspection and must exhibit evidence of ABD Level-1 internal defect(s). Replace wheel set. Why Made 91.
8. Inspection for loose backing ring—A backing ring that can be moved by hand is considered loose.

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9. Inspection for defective seal—A seal is considered defective if:
  - a. Seal can be rotated or moved by hand or with use of a suitable probe as shown in Figure 36.2.
  - b. Seal is cocked out of position.
  - c. Seal is visibly damaged.

FIGURE 36.2

Method for checking to see if seal is loose in counterbore of the bearing outer ring.



10. Identification of bearings with possible cap screw seal rings or cap screw O-ring:
  - a. Endcap with a lube fitting—no seal rings.
  - b. Locking plate date stamped is illegible and wheel manufacture date is prior to January 1, 1988—has seal rings.
  - c. Locking plate date stamp prior to May 1988—has seal rings.
  - d. Locking plate date stamp is May 1988 or later—no seal rings.
  - e. If cup date stamp or outboard wheel hub stamp is May 1988 or later—no seal rings.
  - f. Locking plate date stamp, between October 1, 1989 and March 1, 1994, and marked with company/railroad marks and shop marks in place of marks of company mounting roller bearing—no seal rings.
  - g. Locking plate date stamp after March 1, 1994, marked with company/railroad marks, shop marks, and the marks “EC”—no seal rings.

**RULE 36**

11. Overheated roller bearing (WM50) definitions:
  - a. An absolute temperature of 200 °F on the surface of the cup as measured using an AAR-approved handheld device. The following devices are AAR approved: Tempilstik, thermometer, or devices using infrared, thermocouple, or thermistor sensors.
  - b. A temperature measured by a wayside hot bearing detector at least 170 °F above the ambient temperature. The measurement must be manually confirmed to be significantly hotter than the next hottest bearing on the same side of the equipment to ensure that the correct bearing is chosen.
  - c. A temperature measured by a wayside hot bearing detector at least 95 °F above the temperature of the mate bearing on the same axle. The measurement must be manually confirmed to be significantly hotter than the next hottest bearing on the same side of the equipment to ensure that the correct bearing is chosen.
12. Roller Bearing Temperature Performance (WM51 or WM52) definition:
  - a. Any combination of wayside detection measurements that meet the requirements specified in *MSRP F, S-6001*. WM51 is based upon temperature readings only (per S-6001, paragraph 4.1), while WM52 is based upon temperatures in combination with other factors (per S-6001, paragraph 4.2).
13. When a wheel set is removed from the car due to a suspected or confirmed overheated roller bearing, roller bearing temperature performance, or acoustic bearing alert (WM50, WM51, or WM91),
  - a. an MD-11 report must be initiated at <https://mechanicaldefects.railinc.com/#/md11/create> or approved alternate method within 15 days of wheel set removal;
  - b. the roller bearing cup must be marked along the circumference with a 2-inch-wide white or yellow vinyl tape to identify the bearing for future teardown;
  - c. do not cover the bearing cup serial number;
  - d. the roller bearing cup must be marked with the car initial and number, bearing fail side, axle position, date of removal, Why Made Code, and unique identifier (MDID) provided by the MD-11 system. This should be completed using a paint pen or other suitable marking method on the tape, cup, or outside of MD-11 envelope attached to bearing (if used).
14. For replacement of wrong size components when a Job Code 2814 or 2861 is used for both removed and applied, report Why Made Code 45. For all others, report Why Made Code 08.
15. Universal Fitted Backing Ring Bearing to be identified by stamping on the backing ring and by label on the backing ring (Figure 36.3).
16. When replacing wheel sets for cause, cars designated in Umler as IGRL Code 1 may have bearing sizes of only 6 1/2 × 9, or 7 × 12 applied. Roller bearing adapters replaced to correspond with the correct bearing size and not having another defect shall be billed as Why Made Code 08.
17. Roller bearings removed for government regulatory conditions that are different than those in this rule will be billed as Why Made Code 04.
18. Facilities mounting roller bearings, or removing and reapplying endcaps, must be approved for that purpose in accordance with *MSRP G-II, Wheel and Axle Manual*.



**RULE 36**

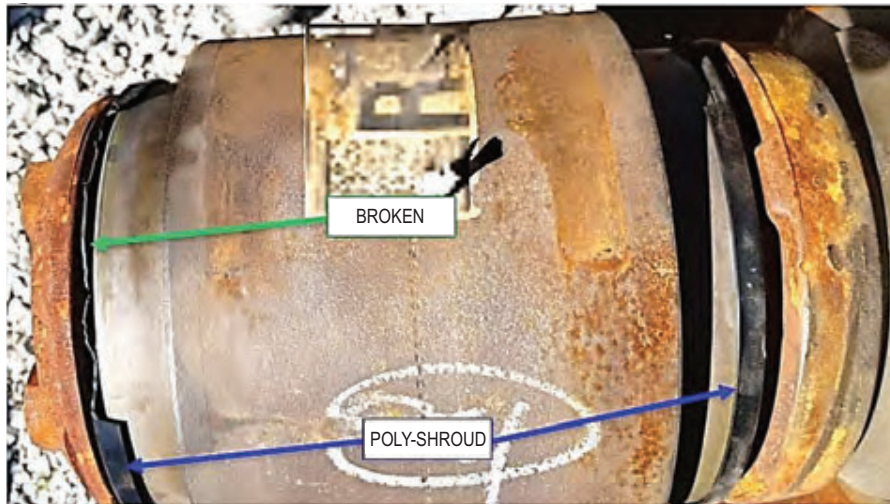
19. Tightening loose cap screws or replacing missing cap screws is prohibited.
20. All roller bearings on wheel sets applied to cars must be new or reconditioned. This does not, however, prohibit the transfer of wheel sets within a shop between cars of the same owner provided the bearings are inspected in accordance with Rule 36.A, Rule 36.E.5, and Rule 36.E.6 and have no wheel or axle defects. A waiver request for deviation from this transfer provision should be submitted to the AAR for approval. Wheel sets having straight plate wheels are prohibited from reapplication under this transfer provision.

FIGURE 36.3



21. Bearings equipped with the Brenco Poly-Shroud – if the outboard or inboard Poly-Shroud has become cracked, broken, or missing, it is not cause for wheelset removal. (Figure 36.4)

FIGURE 36.4



**RULE 36**

**F. Billing Repair Data Requirements**

1. Location
  - a. Show location
2. Quantity
  - a. Show 1 at all times
3. Condition Code
  - 0 = Labor attention
  - 1 = New
  - 3 = Reconditioned
4. Job Code Applied
  - a. Show applicable code
  - b. Show qualifier per Section B for job codes preceded by \*\*
5. Description
  - a. Show applicable description
6. Why Made Code (use only Why Made Codes shown for specific job codes)
  - 02 = Broken (Including cracked)
  - 03 = Missing
  - 04 = Defective internal parts
  - 05 = Bent
  - 07 = Obsolete material
  - 08 = Wrong (not standard to car)
  - 11 = Removed in good condition, account of associated repairs
  - 24 = Attention required
  - 25 = Owner's request
  - 31 = Fire or heat damage per Rule 95
  - 32 = Submerged per Rule 95
  - 33 = Derailment damage per Rule 95
  - 34 = Unfair usage damage per Rule 95 (Other than fire, flood or derailment)
  - 35 = Submerged per Rule 99
  - 45 = Wrong size component (applies when same job code is removed and applied)
  - 50 = Roller bearing overheated.
  - 51 = Roller bearing temperature performance—per *MSRP* Section F S-6001
  - 52 = Roller bearing temperature performance composite—per *MSRP* Section F S-6001
  - 91 = Acoustic Bearing Detector Level-1, non-verified
  - 92 = Loose or missing cap screw, or other part missing except by design
  - 93 = Seals loose or cocked out of position
  - 94 = Weld arc damage
  - 95 = Roller bearing fused due to overheating

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- 96 = Acoustic Bearing Detector Level-1
- 97 = Loose backing ring
- 99 = Damaged seals
- 7. Job Code Removed
  - a. Show applicable code
  - b. Show qualifier per Section B for job codes preceded by \*\*
- 8. Responsibility Code
  - 1 = Owner
  - 2 = Handling Line
  - 3 = Defect Card
- 9. Job Codes and Standard Reporting Descriptions
  - a. Job codes must be reported.
  - b. Job Code 2857 is not applied at any time, including all necessary labor and material to complete the operation, regardless of whether work is performed separately or in connection with any other repair, except as applicable per Section E of this Rule.

| <u>Job Code</u> | <u>Description</u>                                                                                                                                                                                                                               |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| **2814          | ROLLER BEARING, GROUP B, 6 × 11 INCHES OR LESS<br>Tapered Rollers, per Section B. 6 × 11 inch size.<br>(Condition Codes 1, 3)<br>(Why Made Codes 02, 03, 04, 05, 08, 11, 25, 31, 32, 33, 34, 35, 45, 50, 51, 52, 91, 92, 93, 94, 95, 96, 97, 99) |
| **2816          | ROLLER BEARING, GROUP B, 6½ × 12 INCHES<br>Tapered Rollers, per Section B. 6½ × 12 inch size.<br>(Condition Codes 1, 3)<br>(Why Made Codes 02, 03, 04, 05, 08, 11, 25, 31, 32, 33, 34, 35, 50, 51, 52, 91, 92, 93, 94, 95, 96, 97, 99)           |
| **2820          | ROLLER BEARING, GROUP B, 7 × 12 INCHES<br>Tapered Rollers, per Section B. 7 × 12 inch size.<br>(Condition Codes 1, 3)<br>(Why Made Codes 02, 03, 04, 05, 08, 11, 25, 31, 32, 33, 34, 35, 50, 51, 52, 91, 92, 93, 94, 95, 96, 97, 99)             |
| **2822          | ROLLER BEARING, GROUP B1, 6½ × 12 INCHES<br>Tapered Rollers, per Section B. 6½ × 12 inch size.<br>(Condition Codes 1, 3)<br>(Why Made Codes 02, 03, 04, 05, 08, 11, 25, 31, 32, 33, 34, 35, 50, 51, 52, 91, 92, 93, 94, 95, 96, 97, 99)          |
| 2830            | ROLLER BEARING, GROUP B3, 7 × 12 INCHES<br>Tapered Rollers, per Section B. 7 × 12 inch size.<br>(Condition Codes 1, 3)<br>(Why Made Codes 02, 03, 04, 05, 08, 11, 25, 31, 32, 33, 34, 35, 50, 51, 52, 91, 92, 93, 94, 95, 96, 97, 99)            |



**RULE 36**

| <u>Job Code</u> | <u>Description</u>                                                                                                                                                                                                                                                                                                                                                                                                                                              |
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| **2848          | ROLLER BEARING, GROUP E<br>For removal only. Obsolete Roller Bearings per Section B. Any size.<br>(Why Made Codes 07, 31, 32, 33, 34, 35)                                                                                                                                                                                                                                                                                                                       |
| 2857            | ROLLER BEARING INSPECTION<br>Inspect pair of roller bearings on any roller bearing type truck per Rule 36, Section A.1.b. Rotate bearings manually to discover any sign of distress, paying attention to seals and cups. This job code is chargeable only when no handling line defects are found on the wheels, axles, or roller bearings. Defective owners material must be reported separately to obtain charge.<br>(Condition Code 0)<br>(Why Made Code 33) |
| **2861          | ROLLER BEARING, GROUP B2, 6 × 11 INCHES OR LESS<br>Tapered Rollers, per Section B. 6 × 11 inch size.<br>(Condition Codes 3)<br>(Why Made Codes 02, 03, 04, 05, 08, 11, 25, 31, 32, 33, 34, 35, 45, 50, 51, 52, 91, 92, 93, 94, 95, 96, 97, 99)                                                                                                                                                                                                                  |
| **2862          | ROLLER BEARING, GROUP B2, 6½ × 12 INCHES<br>Tapered Rollers, per Section B. 6½ × 12 inch size.<br>(Condition Codes 3)<br>(Why Made Codes 02, 03, 04, 05, 08, 11, 25, 31, 32, 33, 34, 35, 50, 51, 52, 91, 92, 93, 94, 95, 96, 97, 99)                                                                                                                                                                                                                            |
| **2863          | ROLLER BEARING, GROUP B2, 7 × 12 INCHES<br>Tapered Rollers, per Section B. 7 × 12 inch size.<br>(Condition Codes 3)<br>(Why Made Codes 02, 03, 04, 05, 08, 11, 25, 31, 32, 33, 34, 35, 50, 51, 52, 91, 92, 93, 94, 95, 96, 97, 99)                                                                                                                                                                                                                              |
| **2864          | ROLLER BEARING, GROUP B4, 6½ × 12 INCHES<br>Tapered Rollers, per Section B. 6½ × 12 inch size.<br>(Condition Codes 1, 3)<br>(Why Made Codes 02, 03, 04, 05, 08, 11, 25, 31, 32, 33, 34, 35, 50, 51, 52, 91, 92, 93, 94, 95, 96, 97, 99)                                                                                                                                                                                                                         |
| **2865          | ROLLER BEARING, GROUP B4, 6 × 11 INCHES<br>Tapered Rollers, per Section B. 6 × 11 inch size.<br>(Condition Codes 1, 3)<br>(Why Made Codes 02, 03, 04, 05, 08, 11, 25, 31, 32, 33, 34, 35, 50, 51, 52, 91, 92, 93, 94, 95, 96, 97, 99)                                                                                                                                                                                                                           |
| **2866          | ROLLER BEARING, GROUP B3, 6½ × 9 INCHES<br>Tapered Rollers, per Section B. 6½ × 9 inch size.<br>(Condition Codes 1, 3)<br>(Why Made Codes 02, 03, 04, 05, 08, 11, 25, 31, 32, 33, 34, 35, 50, 51, 52, 91, 92, 93, 94, 95, 96, 97, 99)                                                                                                                                                                                                                           |

**RULE 36**

| <u>Job Code</u> | <u>Description</u>                                                                                                                                                                                                                       |
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| **2867          | ROLLER BEARING, GROUP B5, 6½ × 9 INCHES<br>Tapered Rollers, per Section B, 6½ × 9 inch size.<br>(Condition Codes 1, 3)<br>(Why Made Codes 02, 03, 04, 05, 08, 11, 25, 31, 32, 33, 34, 35, 50, 51, 52, 91,<br>92, 93, 94, 95, 96, 97, 99) |
| 3999            | SEE RULE 72                                                                                                                                                                                                                              |