



भारत सरकार GOVERNMENT OF INDIA
रेल मंत्रालय MINISTRY OF RAILWAYS
(रेलवे बोर्ड RAILWAY BOARD)



No: 2025/RS(IC)/Misc./2

New Delhi, Dated: 29/04/2025

The General Managers, All Indian Railways/PUs, NF(C), CORE
DG, RDSO/Lucknow, NAIR/ Vadodara
PCAO, PLW/Patiala, COFMOW
CAO, WPO/Patna, RWP/ Bela

Sub.: List of Must-change Items.

Ref.: Railway Board letter no.: 2024/RS(G)/709/24 dated 10/01/2025.

During the review meeting conducted by Railway Board on 09/01/2025 with PCMMs of Zonal Railways regarding the availability of safety items (Record of Discussions of the meeting was issued vide letter under ref.), it was requested that a consolidated list of must-change items be provided, so that its availability position would be constantly monitored at zonal level.

2. In view of the above, a list of must-change items, forwarded by Mechanical Directorate of Railway Board, is attached herewith for necessary action.

(S.Natarajan)

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Encl.: As above (in 11 pages)

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Annexure - A

| Appendix – V of Wagon Maintenance Manual Dec 2022 | | | |
|--|------------------------------------|----|---|
| Must Change Items in POH | | | |
| 1 | Pedestal Jaw Liners | 2 | SF Key nut bolt with washer |
| 3 | Land surface liner | 4 | Pocket slope liner |
| 5 | Rotation stop lug liner | 6 | Split Pin 12 x 110 mm |
| 7 | CTRB Locking plate | 8 | CTRB Grease Seal |
| 9 | CTRB End Cap Screws | 10 | CTRB Grease (In Kg) |
| 11 | Elastomeric pads | 12 | Knuckle |
| 13 | CBC Lock | 14 | Rotary Lock Lift Assembly |
| 15 | Bearing Piece | 16 | Yoke Pin support plate liner |
| 17 | Shank Wear Plate | 18 | Striker Casting Wear Plate |
| 19 | Dirt Collector Filter | 20 | Dirt Collector Rubber Washer ('O' Ring) |
| 21 | Rubber gaskets (Air Brake System) | 22 | Rubber Seals of Cut off Angle Cocks. |
| 23 | MU washers | 24 | Grip seals / Rubber washer |
| 25 | AR Drain Plug leather washer | 26 | BC Drain Plug leather washer |
| 27 | BP Air Hose | 28 | Filling Pipe Joint Ring (BTPN) |
| 29 | Man Hole Cover Sealing Ring (BTPN) | | |

Annexure - B

| Appendix – V of Wagon Maintenance Manual Dec 2022 | | | |
|--|-----------------------------------|----|------------------------------------|
| Must Change Items in ROH | | | |
| 1 | SF Key nut bolt with washer | 2 | Split Pin 12 x 110 mm |
| 3 | CTRB Locking plate | 4 | Striker casting Wear Plate |
| 5 | Dirt Collector Filter | 6 | Dirt Collector Washer ('O' Ring) |
| 7 | Rubber gaskets (Air Brake system) | 8 | MU washers |
| 9 | AR Drain Plug leather Washer | 10 | BC Drain Plug leather Washer |
| 11 | Filling Pipe Joint Ring (BTPN) | 12 | Man Hole Cover Sealing Ring. BTPN) |

Annexure - C

| Must Chage items in POH added by Committee of CBC | | | |
|--|--------------------|---|------------------|
| 1 | Knuckle | 2 | Lock |
| 3 | Lock Lift Assembly | 4 | Operating Handle |

Annexure - D

| Must Chage items in POH added by Committee of CTRB | |
|---|--------------------|
| 1 | Axle End Cap Screw |

APPENDIX - V**LIST OF MUST CHANGE ITEMS IN FREIGHT
STOCK DURING POH AND ROH**

(Railway Board's Letter No. 2003/M(N)/951/22 dated 16-01-2013)

ITEMS TO BE REPLACED DURING ROH

| Sr. No. | Description of item | Justification for replacement |
|----------------|-----------------------------|--|
| A | CASNUB BOGIE | |
| A-1 | SF Key nut bolt with washer | During dismantling of wheel from bogie, it is necessary to cut the bolt since it is tack welded with nut. Therefore the committee recommends 100% replacement of this item during ROH. |
| A-2 | Split Pin 12 x 110 mm | The split pins of Brake Shoe key are being changed 100% in some depots as they are getting distorted/damaged while taking out the brake blocks. Hence 100% replacement is recommended during ROH. |
| A-3 | CTRB Locking plate | The Locking plates are being changed on 100% basis. While carrying out the UST of Wheel sets, the locking plates are to be removed and while doing so, tabs are getting damaged or broken. Hence 100 % replacement is recommended during ROH. |
| B | CBC | |
| B-1 | Striker casting Wear Plate | This item is subjected to wear in service as it comes in contact with CBC Shank. Wear Plate. Some ROH depots are replacing the item to the extent of 100 %. The worn out component will have serious impact on uncoupling of CBCs and it will also damage CBC shank; it will cause ovality on the top portion of Yoke Pin hole. Therefore the committee recommends 100% replacement of this item during ROH. |
| C | Air Brake System | |

| | | |
|-----|----------------------------------|--|
| C-1 | Dirt Collector Filter | This is basically a non-metallic strainer and of a small value. At present depots are changing on condition basis and there is an apprehension that dirt collectors are not at all opened in depots during ROH. There are many cases of DV malfunctioning and subsequent brake bindings in service and the filter is playing a major role. Therefore, the committee recommends 100% replacement of this item during ROH so that it will be compulsory on the part of the depot to open the Dirt Collector. |
| C-2 | Dirt Collector Washer ('O' Ring) | These are the small value rubber items perishable in nature and getting damaged while opening the assemblies. Therefore, the committee recommends 100% replacement of this item during ROH. |
| C-3 | Rubber gaskets | |
| C-4 | MU washers | |
| C-5 | AR Drain Plug leather washer | These items are perishable in nature getting damaged while opening the assemblies. Therefore, the committee recommends 100% replacement of this item during ROH |
| C-6 | BC Drain Plug leather washer | |
| D | Tank wagons | |
| D-1 | Filling Pipe Joint Ring (BTPN) | These are the rubber items perishable in nature and getting damaged while opening the assemblies. Therefore, the committee recommends 100% replacement of this item during ROH. |
| D-2 | Man Hole Cover Sealing Ring. | |

ITEMS TO BE REPLACED DURING POH:

| Sr. No. | Description of item | Justification for replacement |
|------------|-----------------------------|--|
| A | CASNUB BOGIE | |
| A-I | Side Frame | |
| 1. | Pedestal Jaw Liners | These items are subjected to wear in service as they are continuously in contact with adaptor and not expected to last beyond one POH. The liners of suitable thickness are Required to be welded. Therefore, the committee recommends 100% replacement of these items during POH. Committee also recommends that no weld metal deposit should be done on the pedestal jaw surfaces to maintain the clearances as no machining is done after welding. RDSO may explore the possibility of liners in original design. The smoothness of the surface is primarily important. |
| 2. | SF Key nut bolt with washer | During dismantling of wheel from bogie, it is necessary to cut the bolt since it is tack welded with nut. Therefore, the committee recommends 100% replacement of this item during POH. |

| | | |
|-----|--------------------------------|---|
| A-2 | Bolster | |
| 1 | Land surface liner | These items are subjected to wear in service as they are continuously in contact with adaptor and expected to last from POH to POH. The liners of suitable thickness are required to be welded. Therefore, the committee recommends 100% replacement of this item during POH. |
| 2 | Pocket slope liner | |
| 3. | Rotation stop lug liner | |
| A-3 | Bogie Brake Gear | |
| 1 | Split Pin 12 x 110 mm | The split pins of Brake Shoe key are being changed 100% in some depots as they are getting distorted/ damaged while taking out the brake blocks. Hence 100% replacement is recommended during POH. |
| A-4 | CTRB Locking plate | The Locking plates are being changed on 100% basis. While carrying out UST of the Wheel sets, the locking plates are to be removed and while doing so, tabs are getting damaged or broken. Hence 100 % replacement is recommended during POH. |
| A-5 | CTRB Grease Seal | Used grease seal must be replaced with new grease seal whenever CTRBs are overhauled. |
| A-6 | CTRB End Cap Screws | Used end cap screws must be replaced with new one. |
| A-7 | CTRB Grease | CTRBs must be lubricated/ charged with fresh grease. |
| A-8 | Elastomeric pads | It has been observed that many workshops are replacing this item to the extent of 100%. Being a rubber component, committee recommends 100% replacement of this item during POH. However, the serviceable EM Pads shall be given to divisions for replacement during the course of train examination. |
| B | Draw and Buffing Gear Assembly | |
| B-1 | Knuckle | Knuckle is subjected to wear on Nose, Pulling lug area. Some workshops are changing on 100% basis and released serviceable material is given to divisions. Knuckles are playing very important role in coupling gear. In the present spurt of train parting / uncoupling cases Knuckles might be playing a vital role. Upgraded couplers are being developed by RDSO as per WD70- BD-10. The committee therefore recommends one time replacement of indigenous knuckles with the upgraded knuckles as per WD- 70-BD-10. However, serviceable knuckles shall be given to divisions for replacement during train examination. |

| | | |
|-----|------------------------------|--|
| B-2 | CBC Lock | Lock is subjected to wear on contact area corresponding to Knuckle pulling lug and curved surface. Committee has observed that majority of the uncoupling cases are on account of worn-out Locks. Upgraded couplers are being developed by RDSO as per WD-70-BD-10. The committee therefore recommends one time replacement of indigenous CBC locks with the upgraded CBC locks as per WD- 70-BD-10. However, serviceable locks shall be given to divisions for replacement during train examination. |
| B-3 | Rotary Lock Lift Assembly | Mostly, the Anti-Creep Lug of Lock Lifter Assembly is found in worn condition. Moreover, the alignment is disturbed due to riveting became loose in service Upgraded couplers are being developed by RDSO as per WD-70-BD-10. The committee therefore recommends one time replacement of indigenous lock lift assembly with the upgraded lock lift assembly as per WD-70:BD- 10. However, serviceable assemblies shall be given to divisions for replacement during train examination. |
| B-4 | Bearing Piece | The committee observed that consumption of this item between workshops to workshop varies from 3% to 33%. The item is subjected to wear in service; the slot (17.5 mm x 17.5 mm) of bearing piece becomes worn out in service and not holding the Operating Handle in position. As a result the operating handle along with Rotary Lock Lift Assembly gets displaced from its position thereby causing uncoupling of CBC. The item is not expected to last beyond one POH. The committee therefore recommends 100% replacement of this item. However, serviceable bearing pieces shall be given to divisions for replacement during train examination. |
| B-5 | Yoke Pin support plate liner | This item is subjected to wear particularly due to interaction of Yoke Pin's vertical movement. The pin makes a dent mark on the liner which is dangerous which restricts the movement of the yoke pin resulting in the breakage of Support plate rivets. The item is not expected to last beyond one POH cycle. The committee therefore recommends 100% replacement of this item. |

| | | |
|---------------------------|---|--|
| B-6 | Shank Wear Plate | This item is subjected to wear in service as it comes in contact with CBC Shank Wear Plate. Some workshops are replacing the item to the extent of 70%. The worn-out component will have serious impact on uncoupling of CBCs and it will also damage CBC shank. The life of the component is not expected beyond one POH cycle. Therefore, the committee recommends 100% replacement of this item during POH. |
| B-7 | Striker Casting Wear Plate | This item is subjected to wear in service as it comes in contact with CBC Shank. Some workshops are already replacing the item to the extent of 100%. The worn-out component will have serious impact on uncoupling of CBCs. The life of the component is not expected beyond one POH cycle. Therefore, the committee recommends 100% replacement of this item during POH. |
| C Air Brake System | | |
| C-1 | Dirt Collector Filter | This is basically a non-metallic strainer and of a small value item. At present workshops are changing on condition basis. There are many cases of DV malfunctioning in service and the filter is playing a major role. The life of the component is not expected beyond one POH cycle. Therefore, the committee recommends 100% replacement of this item during POH. |
| C-2 | Dirt Collector Rubber Washer ('O' Ring) | These are the rubber items perishable in nature and getting damaged while opening the assemblies. The life of the items is not expected beyond one POH cycle. Therefore, the committee recommends 100% replacement of this item during POH. |
| C-3 | Rubber gaskets | |
| C-4 | Rubber Seals of Cut off Angle Cocks. | |
| C-5 | MU washers | |
| C-6 | Grip seals / Rubber washers | |
| C-7 | AR Drain Plug leather washer | These are items perishable in nature and getting damaged while opening the assemblies. Therefore, the committee recommends 100% replacement of this item during POH. |
| C-8 | BC Drain Plug leather washer | |
| C-9 | BP Air Hose | This item is generally tested during POH for leakage and bulging at 10 Kg/cm ² pressure and about 50% rejection is there. Moreover, there are large numbers of service failures. Some workshops are changing 100%. Being a Rubber item; it is not expected to last beyond one POH cycle. Therefore, the committee recommends 100% replacement of this item during POH. However, serviceable hoses shall be given to divisions for replacement during train examination. |

| D | Tank wagons | |
|-----|--------------------------------|--|
| D-1 | Filling Pipe Joint Ring (BTPN) | These are the rubber items perishable in nature and getting damaged while opening the assemblies. Therefore the committee recommends 100% replacement of this item during POH. |
| D-2 | Man Hole Cover Sealing Ring. | |

Note: Zonal railways may review the consumption of items and further rationalize the AAC of the items at their ends.

| 14. Striker Casting Wear Plate :- | |
|--|--|
| Present Status | It is a must-change item during POH and ROH. |
| Discussion | As per the RDSO spreadsheet, train parting due to Striker Casting Wear Plate missing is 1 No. in 2022, 3 Nos. in 2023 & 1 No. in 2024 (up to 14.09.2024). The committee is of the view that the Striker Casting Wear Plate should continue to be a must-change item during POH and ROH. |

The summary of recommendations for **POH** is given below:

| SN | Item | Recommendation by previous committee and existing practice | Revised Recommendation |
|-----------|--------------|---|--|
| 1. | Coupler Body | Replacement on the condition basis. The new item should be of WD-70 BD spec. | Replace on the condition basis by WD-70 BD. Renew WD 48 BD by WD-70 BD after 12 Years of life. MPT at critical areas (which may be decided by RDSO) during POH. |
| 2. | Draft Gear | Replacement on the condition basis. | Replacement on the condition basis. POH shops need to review/audit their overhauling/maintenance practices of Draft Gear of different types. |
| 3 | Yoke | Replacement on the condition basis. The new item should be of WD-70 BD spec. | Replace on the condition basis by WD-70 BD. Renew WD 48 BD by WD-70 BD after 12 Years of life. MPT at critical areas (which may be decided by RDSO) during POH. |
| 4. | Knuckle | One-time replacement of WD-48-BD by WD-70-BD and thereafter on the condition basis. | Must Change. |
| 5. | Lock | One-time replacement of WD-48-BD by WD-70-BD and thereafter on the condition basis. | Must Change. |

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| | | | |
|-------------|---|---|---|
| ✓ 6. | Lock Lift Assembly | One-time replacement of WD-48-BD by WD-70-BD and thereafter on the condition basis. | Must Change. |
| 7. | Knuckle Thrower | Replacement on the condition basis. The new item should be of WD-70 BD spec. | One-time replacement of WD-48-BD by WD-70-BD and thereafter on the condition basis. |
| ✓ 8. 1/2 | Bearing Piece & Operating Handle | Bearing Piece-Must Change Operating Handle-Condition basis | Bearing Piece-Must Change Operating Handle-Must Change |
| ✓ 9. | Knuckle Pivot Pin | Replacement on the condition basis. The new items should be of WD-70 BD spec. | Must Change |
| 10. | Yoke Pin | Replacement on the condition basis. New item should be of WD-70 BD spec. | One-time replacement of WD-48-BD by WD-70-BD and thereafter on the condition basis. |
| 11. | Yoke Pin Support Plate | Replacement on the condition basis | Same as existing |
| 12. | Yoke Pin Support Plate Liner/Wear Plate | Must Change | Same as existing |
| 13. | Shank Wear Plate | Must Change | Same as existing |
| 14. | Striker Casting Wear Plate | Must Change | Same as existing |

The summary of recommendations for **ROH** is given below:

| SN | Item | Recommendation previous committee existing practice by and | Revised Recommendation |
|----|--------------|--|------------------------|
| 1. | Coupler Body | Replacement on the condition basis | Same as existing |

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| | | | |
|-----|---|------------------------------------|--|
| 2. | Draft Gear | Replacement on the condition basis | Same as existing |
| 3 | Yoke | Replacement on the condition basis | Same as existing |
| 4. | Knuckle | Replacement on the condition basis | Same as existing. ROH depot should carry out MPT |
| 5. | Lock | Replacement on the condition basis | Same as existing. Gauging of locks to be done. |
| 6. | Lock Lift Assembly | Replacement on the condition basis | Same as existing |
| 7. | Knuckle Thrower | Replacement on the condition basis | Same as existing |
| 8. | Bearing Piece & Operating Handle | Replacement on the condition basis | Same as existing |
| 9. | Knuckle Pivot Pin | Replacement on the condition basis | Same as existing |
| 10. | Yoke Pin | Replacement on the condition basis | Same as existing |
| 11. | Yoke Pin Support Plate | Replacement on the condition basis | Same as existing |
| 12. | Yoke Pin Support Plate Liner/Wear Plate | Replacement on the condition basis | Same as existing |
| 13. | Shank Wear Plate | Replacement on the condition basis | Same as existing |
| 14. | Striker Casting Wear Plate | Must Change | Same as existing |

Additional Recommendations:

- 1. Knuckle :** Rejection of Knuckle during POH and ROH is high even of WD-70-BD spec. Knuckle breakage is one of the major reasons for train parting (RDSO spreadsheet). This is also a major reason for sick marking of wagons online (FMM data of CRIS). Quality of this item requires stringent checks which may be looked into by RDSO.
- 2. Draft Gear :** The defect in Draft Gear is one of the major reasons for sick marking online. POH shops need to review/audit their overhauling/maintenance practice of the Draft Gears of different types.

- (e) Faulty adapters are also reported as cause of CTRB failures due to pinching effect. Zonal Railways have been advised to check 100% adapters in ROH/POH through gauges. The drawings of the gauge have been circulated.

RECOMMENDATIONS:

- (a) Zonal Railways may be advised to furnish/ provide complete information of hot axle cases as per prescribed proforma on FMM so that complete analysis can be done.
- (b) CRIS may be advised and instructed to make feeding of failure data in a more user friendly manner. The google sheet format should be replicated on the FMM portal because feeding is very easy in that and also data mining is very simple and all other units directly monitor their cases.
- (c) Detailed analysis of CTRB pulled out due to OMRS and HABD alerts be put on FMM.
- (d) As several cases of failure of CTRB are attributed to adapter, adapter be made must change item in POH. This decision may be reviewed in due course duly considering the performance of modified Adapter which is under development.
- (e) It is recommended that Axle End Cap Screw may be made must change item during POH.

| | | | | |
|---|--|--|--|--|
| <p>MANISH THAPLYAL</p> <p>Digitally signed by MANISH THAPLYAL DN: cn=MANISH THAPLYAL, c=IN, ou=UTTAR PRADESH, o=MINISTRY OF RAILWAYS, email=MANISH.THAPLYAL@RAILWAYS.CO.IN Date: 2023.06.02 18:42:38 +05'30'</p> | <p>RAVISH KUMAR</p> <p>Digitally signed by RAVISH KUMAR Date: 2023.06.04 09:58:40 +05'30'</p> | <p>AMIT SINHA</p> <p>Digitally signed by AMIT SINHA Date: 2023.06.06 20:27:44 +05'30'</p> | <p>SRINIVAS SADHANAKARI</p> <p>Digitally signed by SRINIVAS SADHANAKARI Date: 2023.06.05 13:08:14 +05'30'</p> | <p>SUDHIR KUMAR SARVARIA</p> <p>Digitally signed by SUDHIR KUMAR SARVARIA Date: 2023.06.02 17:54:40 +05'30'</p> |
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