

# **REPAIR & MAINTENANCE OF GOODS STOCK—ROH**

## **PRACTICE**

### **ROH of Casnub Bogie Wagon:**

ROH of air braked wagons with Casnub bogie are given ROH schedule at the nominated sick line where proper facilities are provided. For undertaking ROH schedule, the complete wagon has been broken into 5(Five) major sub systems.

- i) Casnub bogie
- ii) Body including under frame, superstructure and bogie rigging
- iii) Air brake system
- iv) Centre buffer coupler
- v) Wheel, axle and bearing.

### **The steps of ROH schedule are as follows:**

- i) Lift the body, keep it on trestle and run out the bogies.
- ii) Dismantle the wheel and axle sets from bogies.
- iii) Strip bogie components for examination and repair
- iv) Strip brake-gear levers and rods for examination of worn-out and damaged parts
- v) Check brake system equipments for proper functioning.
- vi) Draining of auxiliary reservoir and cleaning of dirt collector.
- vii) Checking of leakage in pipe and pipe joints.
- viii) Clean hand lever, hand brake gears and lubricate.
- ix) Check solebar and headstock for corrosion, bent or crack. Scrap, clean and paint at doorways portion of solebar.
- x) Checking of doors, side panels, end panels and floor for corrosion.
- xi) Checking of side pillars for corrosion and welding failure.
- xii) Examine and repair of bogie frame as per instruction contained in RDSO's technical pamphlet no. G-64.

- xiii) Inspection and gauging of centre buffer coupler components. Anticrip /articulated rotary operation of locking arrangement to be done.
- xiv) Inspection of wheel and bearing for rejectable defects.
- xv) Ultra-sonic test of axle and turning of wheel with Worn Wheel Profile (WWP).
- xvi) Manual adjustment of brake gear and testing of air brake system by Single Wagon Test Rig (SWTR).
- xvii) Modification works as issued by RDSO from time to time.
- xviii) Lettering and stenciling of depot name and ROH date.

### **CONDEMNATION OF WAGONS:**

For condemnation of rolling stock, the powers delegated to various officers on zonal railways through their Schedule of Powers may be used.

#### **Condemnation of over-age wagons**

Over aged wagon stock can be inspected personally by CWM/Dy. CME/WM-Incharge/Sr.DME and condition report prepared and personally signed. Condemnation can be approved by any of these officers.

#### **Codal life of wagon stock:**

<b>SN</b>	<b>Type of wagon stock</b>	<b>Codal life</b>
01	All open wagons & variants [ BOX-N etc.]	30 Years
02	All covered wagons & variants [ BCN etc.]	35 Years
03	BTPN tank wagons & variants	40 Years
04	All Flat wagons & variants [ BRN, BLC etc.]	35 Years
05	BOBRN wagons & variants	30 Years
06	BOBY & BOBY-N	30 Years
07	Brake Vans – BVZC & BVZI	30 Years

**Certain issues have been clarified in Railway Board's letter No. 2007/M(N)/60/7 dated 21.10.2010. The same are summarized below:-**

**Condemnation of under-age wagons**

Under aged wagon stock should be inspected personally by CWM/Dy.CME/WM-Incharge/Sr.DME and condition report prepared and personally signed.

Condemnation proposals should be sent to CME/CRSE for approval duly concurred by associated finance i.e., WAO of the workshop concerned, further this proposal to expedite the whole process, following procedure to be adopted:-

BG and MG wagons should be condemned on „as is where is“ basis and moved from division to the yards/stations nominated by DRMs. Each DRM should nominate sufficient number of yards/stations on their division for disposal of condemned wagons. Workshops can continue the present practice of sending the wagons to scrap yards.

**Policy for Pre-Mature Condemnation of Wagons:**

Board (MM & FC) have approved the following policy for pre-mature condemnation of the wagons vide Rly. Boards letter No 2007/M(N)/60/7 dated 21.10.2010.

SN	Category of wagons	Competence for approving premature condemnation
01	All accident damaged wagons & Vacuum brake stock	CMEs
02	Non Accident Air Brake Stock of more than 25 years of age	CMEs with FA&CAOs concurrence
03	Non Accident Air Brake Stock of the age of 25 Years or less	Railway Board ( In this case, the proposal should be duly vetted by FA&CAO and approved by GM).

Board's approval will normally be granted within 90 days from the date of receipt of proposal, in case the boards approval is not received within this time limit, the proposal will be deemed to have been approved and Railway may go ahead with the condemnation. The above

policy does not restrict premature condemnation of any specific type of wagons permitted under specific instructions from the Railway Board.

### **Use of Over aged/ Condemnable Wagons for Departmental Purposes**

(Ref: Rly. Board's letter No. 2007/M(N)/951/5 dated 11.11.2011)

Over aged/ condemnable wagons which no longer remain unusable as traffic wagons, may be used for departmental purpose, with or without modifications, subject to the following provisions:

Over aged/ condemnable wagons may be used for departmental purpose with the approval of authority competent for condemnation of such wagons.

In case departmental use requires modifications to be carried out on the wagons, such modifications should, invariably, have approval of RDSO except in cases where such modified wagons are pre-existing. For pre-existing modifications, approval of CME will be necessary.

Wagon modification work shall be carried out only at a POH workshop or at an open line wagon depot maintained by the CME.

Wagon selected for departmental use should provide service of minimum one POH cycle with prescribed preventive maintenance. The POH periodicity of such stock shall be same as the original wagon type.

Departmental wagons may be used upto an age limit of 40 years on condition basis. The condition of such stock shall be reviewed in every ROH and POH to assess its suitability for continuity in service based on the extent safety norms.

In case it becomes necessary for any departmental stock to continue in service beyond age of 40 yrs., CME may extend the life of such stock, maximum one year (financial year) at a time upto an age limit of maximum 50 years. The annual condition reports of such wagons prepared by in-charge by base wagon depot, duly endorsed by the coordinating branch officer of Mechanical and the user department shall be put up to CME for approval prior to commencement of the financial year. Standard maintenance shall be carried out on such wagons during the period of extended life as per prescribed periodicity and all safety norms will be observed.

No departmental wagon shall be permitted to be in service beyond the age limit of 50 years.

### **POH & ROH INTERVAL**

(Ref: IRCA letter M.219/Policy/W Dated 10.5.99)

**POH INTERVAL OF AIR BRAKE STOCK**

Sr. No.	Wagon Stock	POH (Years)	
		First	Subsequent
1.	BOXN,BOXNHS,BOXNHL,BOXNR	6	4.5
2.	BCN,BCNA,BCNHL,BOST,BOSTHS	6	6
3.	BRN,BLC-A,BLC-B,BLL-A,BLL-B	6	4.5
4.	BRNA	6	6
5.	BOY	3	3
6.	BTPH	6	4.5
7.	BTPN,BFNS,	6	6
8.	BOBR & BOBRN, BOBYN	6	6
9.	BTPGLN	4	4
10.	BTALN	4	4
11.	Stainless steel wagons BOXNCR/BOXNLW	6	6
12.	BOXNEL, / BOYEL (25 t axle load)	3	3
13.	BOBRNEL, BOBSNM1	3	3
14.	BVZI Brake van	--	2

**Note:**

Wagons become due POH on the last date of the month indicated in the return date.

Empty wagon will be marked sick for POH up to 30 days in advance of the due date.

Loaded wagons will be allowed up to 30 days after the due date of POH.

**ROH INTERVAL OF WAGONS**

<b>Sr. No.</b>	<b>Wagon Stock</b>	<b>ROH Newly Built (Months)</b>	<b>ROH After First POH (Months)</b>
1.	Roller Bearing Tank Wagons	24	21 (14 months with CBC)
2.	TPGLR	24	24
3.	BOXN,BOXNHL,BOXNHA,BCN, BLLB, BLLA,	18	18
4.	BLC-A/BLC-B	24	18
5.	BCNA, BCNAHL,BCCNR,BRN	24	24
6.	BOBR, BOBRN	24	24
7.	BTPN	18	18
8.	BTPGL, BTPGLN	24	24
9.	BTPH	24	18
10.	BTAL, BTALN	24	24
11.	BTCS	24	24
12.	BOY	18	18
13.	BOBY, BOBYN	24	24
14.	BOXNEL, BOYEL	12	12
15.	BVZI Brake Van	12	12

Each sub system is further split into individual items and the particular work to be done in respect of each item is indicated under the different ROH schedules.

## **BODY**

### **UNDER FRAME :-**

Sole bar: Scrap the portion of sole bar at doorways, clean and apply primer paint followed by Top Coat

### **SIDE WALL :-**

SKIRTING: Check and patch if corroded then apply primer and top coat on the patch.

SIDE DOORS: Check damage and repair, clean and lubricate hinges.

SIDE PILLARS: Check cracks at the base and repair.

### **UNDER GEAR:**

BRAKE LINKAGES: Check free movement on SWTR test.

HAND BRAKE: Check proper working.

## **CASNUB BOGIE**

### **BOLSTER:-**

POCKET SLOPE LINER: change liner if thickness less than 5mm.

ROTATION STOP LUGS: Provide liner (thickness to suit) if dimensions less than 514mm.

INNER COLOUMN GIB: Provide liner (thickness to suit) if dimensions more than 142mm.

LAND SURFACE: Provide liner (thickness to suit) if dimensions less than 442mm.

OUTER COLOUMN GIB: Renew by welding if dimension more than 241mm.

### **SIDE FRAME:**

COLOUMN FRICTION LINER: Change liner if dimension more than 445mm.

COLOUMN SIDE: Provide liner (thickness to suit) if dimension less than 209mm.

ANTI ROTATION LUGS: Provide liner (thickness to suit) if dimension more than 526mm.

KEY SEAT TO PEDESTAL 22 W: Provide liner (thickness to suit) if dimension more than 276mm.

CROWN ROOF 22 W (M): Provide liner (thickness to suit) if dimension more than 321mm.

CROWN ROOF 22 NL: Provide liner (thickness to suit) if dimension more than 326mm.

PEDESTAL CROWN SIDES: Renew by welding if dimension less than 147mm.

PEDESTAL JAW 22 W: Provide liner (thickness to suit) if dimension more than 275mm.

PEDESTAL JAW 22 W (M): Provide liner (thickness to suit) if dimension more than 283mm.

PEDESTAL JAW 22 NL-S: Provide liner (thickness to suit) if dimension more than 195mm.

PEDESTAL JAW 22 NL-L: Provide liner (thickness to suit) if dimension more than 241mm.

PEDESTAL SIDES 22 W: Provide liner (thickness to suit) if dimension more than 102mm.

PEDESTAL SIDES 22 W (M): Provide liner (thickness to suit) if dimension more than 195mm.

PEDESTAL SIDES 22 NL: Provide liner (thickness to suit) if dimension more than 78mm.

#### WEDGE:

SLOPE SURFACE: Renew by welding if dimension less than 7mm.

VERTICAL SURFACE: If vertical surface from the centre line of spigot less than 56mm, provide liner of 6mm thickness.

#### CENTRE PIVOT (BOTTOM):

VERTICAL SIDE 22 W: Renew by welding if wear more than 4mm.

VERTICAL SIDE 22 W (M): Renew by welding if wear more than 3mm.

VERTICAL SIDE 22 W NL: Renew by welding if wear more than 3mm.

SEAT 22 W: Renew by welding if wear more than 3mm.

SEAT 22 W (M): Renew by welding if wear more than 3mm.

SEAT 22 NL: Renew by welding if wear more than 3mm.

#### COIL SPRING:

OUTER: Group and use in sets. Replace if free height less than 245mm.

INNER: Group and use in sets. Replace if free height less than 247mm.

SNUBBER: Group and use in sets. Replace if free height less than 279mm.

#### BOGIE BRAKE GEAR:

PINS & BUSHES: Change if clearance is more than 1.5mm.

### **AIR BRAKE SYSTEM**

#### DISTRIBUTER VALVE:

D.V.: Test on SWTR.

D.V. ISOLATING COCK: Examine operation.

D.V. RELEASE VALVE: Examine operation.

D.V. P4AG FILTER: Clean

#### BRAKE CYLINDER:

FILTERS OF ESCORTS AND RPIL MAKE: Clean.

BRAKE CYLINDER OF GREYSHAM AND WSF MAKE: Lubricate.

#### CUT OFF ANGLE COCK:

ANGLE COCK: Examine and lubricate.

RUBBER SEALS: Change.

#### DIRT COLLECTOR:

DIRT COLLECTOR: Clean

SEALING RING: Change

#### RESERVOIR:

AR & CR: Drain

SEALING RING: Change

HOSE COUPLING:

HOSE AND COUPLING: Examine

GASKET (MU WASHER) : Change

METAL PIPES AND JOINTS:

PIPE AND JOINTS: Examine leakage and repair.

SEALS (20MM & 32MM PIPE) : Change.

SLACK ADJUSTER:

SLACK ADJUSTER: Test functioning, repair if required.

A DIMENSION: Adjust.

M20 ANCHOR PIN NUT: Ensure securing by welding to pin.

AIR BRAKE SYSTEM:

BRAKE SYSTEM: Test on SWTR as per procedure.

BRAKE BLOCK: Ensure standard key split pin and all new brake block.

**CENTRE BUFFER COUPLER**

CBC BODY:

COUPLER BODY: Replace on condition.

CBC CONTOUR: Examine, replace if required.

SHANK WEAR PLATE: Replace on condition.

KNUCKLE:

NOSE: Replace if wear more than 4.3mm with H.T.E. knuckle. Knuckle with nose wear more than 4.3mm and less than 9.0mm can be used in yard replacement.

KNUCKLE PIN: Replace on condition.

KNUCKLE STRETCH: Examine, replace if required.

#### STRIKER CASTING:

WEAR PLATE: Replace

STRIKER CASTING: Replace on condition.

#### COUPLER MECHANISM:

ANTI CREEP PROTECTION: Examine and repair.

LOCK LIFT ASSEMBLY: Examine.

OPERATING MECHANISM: Examine.

LOCK: Examine.

#### DRAFT GEAR:

SLACK: Measure and take corrective action.

#### GENERAL:

YOKE PIN SUPPORT: Replace on condition.

BUFFER HEIGHT: Examine and correct if required.

### **WHEEL, AXLE AND BEARING**

#### AXLE:

ULTRASONIC TESTING: To be carried out at every ROH and reject if fails.

DEEP NOTCHES DUE TO GRAGING OF PULL ROD: Reject if depth is more than 5mm.

AXLE AND HOLES: Clean and lubricate in case end cover is opened.

#### WHEEL:

TREAD PROFILE: check with tyre defect gauge.

HEIGHT OF FLANGE: If height more than 31mm do not use in ROH.

SMOOTH FLANGE: If flange not completely smooth in region 'A', then do not use in ROH.

#### BEARINGS:

Cup: Rotate the bearing for unusual sound. Check cup for crack/chipping.

SEAL: Check seal for external damage and dent.

BACKING RING: Check backing ring for looseness and vent fitting on backing ring with vent hole (the vent fitting should be intact or the vent hole should be plugged).

LOCKING PLATE: Use new locking plate whenever end cover is opened.

AXLE END CAP SCREW: Clean and lubricate in case end cover is opened.

LOAD ZONE CHANGE: Change load zone area of the cup while lowering bogie side frame.

#### ADAPTER:

CROWN SURFACE: Replace if worn to relief depth.

SIDE LUG: Replace/reverse and use.

THRUST SHOULDER: Replace if depth exceeds 0.7mm.

MACHINED RELIEF: Replace if depth exceeds 0.8mm.

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