

INTRODUCTION

For ensuring optimum performance of wagon fleet, it is necessary that:-

Preventive maintenance is given timely to avoid occurrence of defects

Defects are attended effectively and well in time so that the wagons remain fit for traffic use till the next schedule falls due

Detention during examination and repairs is kept to minimum

Frequent failures of similar nature are studied and necessary modifications/ design changes are effected to eliminate the cause of such failure.

IMPORTANT PARAMETERS OF WAGONS

The important dimensions of main type of wagons stock used over Indian Railways are detailed as under

OPEN WAGONS

Designation	Axle Load	Bogie	Springs	Permissible Speed Loaded/Emp ty	Remarks
BOY	22.9 t	Casnut 22 NLB (modified)	O – 14 I – 10 S – 4	65/ 75 Kmph	It has no doors. Designed for heavy minerals.
BOYEL	25.0 t	Casnut 22 NLC	O – 14 I – 14 S – 4	45+5/ 60+5 Kmph	Min. wheel tread dia. 950 mm.
BOXN	20.32 t	Casnut 22 NLB	O – 12 I – 8 S – 4	75/ 80 Kmph	Operation at CC +6 +2/ CC +8 +2 allowed as interim measure, with speed restriction 60/80
BOXN M1	22.82 t	Casnut 22 NLB (Modified)	O – 14 I – 10 S – 4	70/ 80 (CC +6 +2) 60/ 80 (CC +8 +2) Kmph	On specified routes the speed is 75/80 Kmph with CC +8 +2
BOXNEL	25.0 t	Casnut 22 NLC	O – 14 I – 14 S – 4	50/ 65 Kmph	Min. wheel tread dia. 950 mm
BOXNHS	20.32 t	Casnut 22 HS	O – 14 I – 12 S – 4	100/ 100 Kmph	-
BOXNHS M1	22.82 t	Casnut 22 HS (Modified)	O – 14 I – 14 S – 4	75/ 90 (CC +6 +2) 60/ 90 (CC +8 +2) Kmph	On specified routes the speed is 75/80 Kmph with CC +8 +2
BOXNHA	22.1 t	IRF 108 HS	O – 14 I – 14 S – 4	100/100 Kmph (20.32 & 22.1 t) 75/100Kmph(22.82 t)	-
BOXNLW	20.32 t	Casnut 22 HS	O – 14 I – 12 S – 4	100/ 100 Kmph	Stainless steel (IRS: M44) and Corton Steel (IRS: M41) used in body & under frame
BOXNLW M1	22.82 t	Casnut 22 HS (Modified)	O – 14 I – 14 S – 4	60/ 65 Kmph	-
BOXNHL	22.9 t	Casnut 22 HS	O – 14 I – 14 S – 4	75/ 100 Kmph	IRS: M44 (Body), Flat centre Pivot, K type CBB, Improved Coupler & draft gear Br. Cyl, 300 mm, IRSA 750 Slack Adj., A.R. 75 litres, PU Painting (Phirozi colour)
BOST	20.32 t	Casnut 22 HS	O – 14 I – 12 S – 4	75/ 80 Kmph	Operation at CC+ 6 + 2 allowed as an interim measure with speed restriction to 50/ 80
BOSTM1	22.32 t	Casnut 22 HS (modified)	O – 14 I – 14 S – 4	60/ 65 Kmph	High Axle load version of BOST
BOSTHS	20.32 t	Casnut 22 HS (mod- I)	O – 12 I – 12 S – 4	100/ 100 Kmph	High Speed version of BOST
BOSTHS M1	22.32 t	Modified Casnut 22 HS (Mod- I)	O – 14 I – 14 S – 4	60/ 80 Kmph	High Axle load version of BOST HS

Designation	Axle Load	Bogie	Springs	Permissible Speed Loaded/Empty	Remarks
BOSTHS M2	22.32 t	Modified Casnub HS (Mod- II)	O – 12 I – 12 S – 4	60/ 100 Kmph	Design of suspension is different than BOSTHS M1.
BOXNHAM	22.82 t	IRF 108 HS	O – 14 I – 14 S – 4	75/ 100 Kmph	-
BOXNR	22.9 t	Casnub 22 NLB	O – 12 I – 8 S – 4	75/ 80 Kmph	Rehab wagon with replacement of end wall & side walls in POH
BOMN	16.4 t	Casnub 22 NLB	O – 12 I – 8 S – 4	80/75 Kmph	Bogie open Military wagon for defence equipment's.

COVERED WAGONS

Designation	Axle Load	Bogie	Springs	Permissible Speed (in Kmph)	Remarks
BCN	20.32 t	Casnub 22 NLB	O – 12 I – 8 S – 4	75/ 80 Kmph	Permitted with CC +6 +2 also.
BCN M1	22.82 t	(Modified) Casnub 22 NLB	O – 14 I – 10 S – 4	75/ 80 (CC +6 +2) 60/ 80 (CC +8 +2) Kmph	High axle load version of BCN
BCNHS M1	22.82t	(Modified) Casnub 22 HS	O – 14 I – 14 S – 4	75/ 90 (CC +6 +2) 75/ 90 (CC +8 +2) Kmph	High axle load version of BCNHS
BCNA	20.32 t	Casnub 22 NLB	O – 12 I – 8 S – 4	80/ 80 Kmph	Permitted with CC +6 +2 also.
BCNA M1	22.82 t	(Modified) Casnub 22 NLB	O – 14 I – 10 S – 4	75/ 80 (CC +6 +2) 60/ 80 (CC +8 +2) Kmph	High axle load version of BCNA
BCNAHS	20.32 t	Casnub 22 HS	O – 14 I – 12 S – 4	100/ 100 Kmph	Variant of BCNA with Casnub bogie 22 HS bogie
BCNAHS M1	22.82 t	(Modified) Casnub 22 HS	O – 14 I – 14 S – 4	75/ 100 (CC +6 +2) 75/ 100 (CC +8 +2) Kmph	High axle load version of BCNA HS
BCNHL	22.9 t	Casnub 22 HS	O – 14 I – 14 S – 4	75/ 70 Kmph	Length reduced, width and height increased Than BCNA. Under frame mounted No. of wagons/ rake = 58 Flat centre Pivot, K-type CBB, improved coupler & draft gear, Brake cylinder 300 mm, A.R. 75 liters, PU painting (Phirozi).
BCNHL	22.9 t	Casnub 22 HS	O – 14 I – 14 S – 4	75/ 70 Kmph	With BMBS
BCCN End wagon A Middle Wagon B	10.425 t 10.50 t	IRF 106 HS	O – 14 I – nil S – 4	100 Kmph	Maruti Car Double decker
BCCW	20.32 t	Casnub 22 NLB	O – 12 I – 8 S – 4	70 Kmph (Specific Route)	Cement Wagon
BCCW	21.82 t	Casnub 22 HS	O – 14 I – 14 S – 4	65 Kmph	Cement Wagon

BCBFG	21.82 t	Casnub 22HS (Mod.1)	O – 14 I – 14 S – 4	75 Kmph (Specific Route)	Food Grain hopper wagon
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FLAT WAGONS

Designation	Axle Load	Bogie	Springs	Permissible speed Loaded/Empty	Remarks
BRN	20.32 t	Casnub 22 NLB	O – 12 I – 8 S – 4	75/ 80 Kmph	Designed for rails and heavy steel products.
BRN22.9	22.9 t	Casnub 22 HS	O – 14 I – 14 S – 4	65/ 65 Kmph	Improved version of BRN
BRNA	20.32 t	Casnub 22 NLB	O – 12 I – 8 S – 4	75/ 80 Kmph	Improved version of BRN, Higher pay to tare ratio.
BRNAHS	20.32 t	Casnub 22 HS	O – 14 I – 12 S – 4	100/ 100 Kmph	High speed variant of BRNA
BFNS	20.32 t	Casnub 22 HS	O – 14 I – 12 S – 4	100/ 100 Kmph	Designed for transportation of steel coils, plates, sheets & billets etc.
BRHNEHS	20.32 t	Casnub 22 HS	O – 14 I – 12 S – 4	65/ 65 Kmph	Bogie rail wagon designed for Track Relaying trains (TRT) specially for loading RCC sleepers.
BRSTN	20.32 t	Casnub 22 NLB	O – 12 I – 8 S – 4	80/ 75 Kmph	Bogie rail wagon for heavy vehicles.
BWTB	22.9 t	Casnub 22 NLB	O – 14 I – 10 S – 4	65/ 65 Kmph	Bogie well wagon (well height 1055 mm).

HOPPER WAGONS

Designation	Axle Load	Bogie	Springs	Permissible Speed	Remarks
BOBSN	22.9 t	(modified) Casnub 22 NLB	O – 14 I – 10 S – 4	75/ 75 Kmph	Designed in 1994 for transportation of Iron ore, side discharge.
BOBSN M1	25 t	Casnub 22 NLC	O – 14 I – 14 S – 4	50/ 60 Kmph	High axle load variant of BOBSN. Casnub 22 NLC Bogie.
BOB R	20.32 t	Casnub 22 NLB	O – 12 I – 8 S – 4	80/ 80 Kmph	Designed in 1986 for coal. Bottom discharge. No. of wagons/ rake = 53.
BOBR M1	22.32 t	(Modified) Casnub 22 NLB	O – 14 I – 10 S – 4	70/ 75 Kmph	(CC + 6 + 2) version of BOBR.
BOB RN	20.32 t	Casnub 22 NLB	O – 12 I – 8 S – 4	70/ 75 Kmph	Designed in 1991 by reducing the length of BOBR. No. of wagons/ rake = 58.
BOBRN M1	22.32 t	(Modified) Casnub 22 NLB	O – 14 I – 10	70/ 80 Kmph	(CC + 6 + 2) version of BOBRN.

BOBRNHS	20.32 t	Casnub 22 HS	S – 4 O – 14 I – 12 S – 4	100/ 100 Kmph	High speed BOBRN
BOBRNHS M1	22.32 t	(Modified) Casnub 22 HS	O – 14 I – 14 S – 4	60/ 65 Kmph	--
BOBRNEL	25 t	Casnub 22 NLC	O – 14 I – 14 S – 4	45+5/ 60+5 Kmph	25 t axle load. Wheel dia 1000 mm. POH–6 years, ROH–2 years.
BOBYN	20.32 t	Casnub 22 NLB	O – 12 I – 8 S – 4	75/ 75 Kmph	Air Brake version of BOBY. Designed in 1996
BOBYN22.9	22.9 t	Casnub 22 HS	O – 14 I – 14 S – 4	75/ 75 Kmph	Air Brake version of BOBYHS.
BCBFG	21.82 t	Casnub 22 HS (Mod-I)	O – 12 I – 12 S – 4	75/ 75 Kmph	Bogie covered Hopper Wagon for food grains. Designed with automatic LSD.

TANK WAGONS

Designation	Axle Load	Bogie	Springs	Permissible Speed	Remarks
BTALN	20.32 t	UIC Bogie	--	65/ 65 Kmph	Bogie Ammonia Tank Wagon
BTPN	20.32 t	Casnub 22 NLB	O – 12 I – 8 S – 4	80/ 75 Kmph(Loaded)	Bogie POL Tank Wagon
BTPGLN	19.8 t	Casnub 22 NLB	O – 12 I – 8 S – 4	75/ 80 Kmph	Bogie LPG Tank Wagon. Variant of BTP GL with Air Brakes / Casnub 22 NLB bogie.
BTCS	20.32 t	Casnub 22 W	O – 12 I – 8 S – 4	65/ 65 Kmph	Bogie Caustic Soda Tank Wagon. Provisional speed certificate is with casnub 22W bogie. In 2007, bogie altered to NLB in the drawing.
BTAP	20.32 t	Casnub 22 NLB	O – 12 I – 8 S – 4	65/ 65 Kmph	Bogie Alumina Tank Wagon.
BTFLN	20.32 t	Casnub 22 HS	O – 14 I – 12 S – 4	65/ 65 Kmph (Provisional)	Bogie POL Tank Wagon

CONTAINER WAGONS

Designation	Axle Load	Bogie	Springs	Permissible Speed	Remarks
BLLA/ B	20.32 t	LCCF 20 (c)	O – 14 I – 12 S – 4	100/ 100 Kmph	Bogie low platform longer container flat wagon.

BLCA/ B	20.32 t	LCCF 20 (c)	O – 14 I – 12 S – 4	100/ 100 Kmph	Bogie low platform container flat wagon
BLCAM/ BLCBM	22 t	Modified LCCF 20 (c)	O – 14 I – 14 S – 4	90/ 100 Kmph	In 2007, bogie of BLC wagon was modified by providing upgraded side bearer, upgraded friction wedge, and two additional inner springs for double stack container operation.
BCACM	20.32 t	LCCF 20 (c)	O – 14 I – 12 S – 4	65/ 75 Kmph	For auto car industry
BCACBM	A-12.715 t 12.680t	BLCCF 20 ©	O – 14 I – 12 S – 4	100/95 Kmph	For transportation of Automobile cars.

BRAKE VAN

Designation	Axle Load	Bogie	Springs	Permissible Speed	Remarks
BVZI	5.875 t	ICF Bogie	-	100 Kmph	Designed in 2000 with ICF Bogie to achieve comfortable ride, 5 m longer than BVZC.
BVZC	06.98 t	4- wheeler	-	100 Kmph	RDSO Drg. No. WD- 81035/S-2