



भारत सरकार - रेल मंत्रालय
अनुसंधान अभिकल्प और मानक संगठन
लखनऊ - 226 011
EPBX (0522) 2451200
Fax (0522) 2458500

Government of India-Ministry of Railways
Research Designs & Standards Organisation
Lucknow - 226 011
DID (0522) 2450115
DID (0522) 2465310



No. MC/CTRB/Genl.

Date: 10-12-2024

**PCMEs All Zonal Railways &
ICF, RCF and MCF**

Sub: Use of High tensile fasteners for critical application in LHB type coaches.

Ref: (i) Railway Board Letter no. 2019/M(C)/137/5 Pt3 dated 15-12-2023
(ii) This office letter of even no. dated 05-11-2024.
(iii) ICF letter no. MD/D/LHB/103B dated 10-12-2024.
(iv) RCF letter no. MD44121 dated 26-11-2024.
(v) MCF letter no. RBL-MD32223 dated 02-12-2024 & 04-12-2024

Vide letter under Ref-(i), Railway Board had advised RDSO to issue a consolidated list of High Tensile Fasteners for critical applications in LHB coaches, in consultation with ICF, RCF and MCF, in a single group of "High Tensile Fasteners for LHB Coaches" with a list of approved manufacturers.

In this regard, based on inputs received from ICF and RCF a compiled list of high tensile fastener for critical application in LHB type coaches was circulated for further appending / modification of specified torque value and make etc to all PUs vide this office letter at ref. (ii).

Now input from ICF, RCF and MCF vide letter at ref. (iii), (iv) & (v) has been further received and accordingly the list of high tensile fastener for critical application in LHB type coaches has been finalised.

Zonal Railways and PUs (ICF, RCF & MCF) are advised to use only high tensile fasteners of approved manufacturers for all critical applications in LHB type coaches as per approved list of manufacturers attached as Annexure-A and for other similar critical items identified.

DA: As above.

(A. K. Singh)

Executive Director (Std) Carriage

CC:

1. EDME/Chg., Railway Board, Rail Bhawan, New Delhi – For kind information.
 2. CDE/Mech. Integral Coach Factory, Perambure, Chennai
 3. CDE/Mech. Rail Coach Factory, Kapurthala.
 4. CDE/Mech. Modern Coach Factory, Lalganj, Raebareli
- } For necessary action pl.

ANNEXURE-A to MC/CTRB/Genl dated 10-12-2024

Updated list of High Tensile fastener for critical application in LHB type coaches

A. Under slung items

Under slung item	Type of coach	Description of fasteners	Size of fastener	specification	Specified Torque Value	Approved Make / Authority	Remarks
1. Water tank	LHB AC Coaches	HEX HEAD SCREW	M12x60	IS:1364 (Part 2 -2018)TAB. 1, A2-70 to TAB. 2 of IS:1367 (Part.14 /SEC1): 2018	67 Nm	TVS, TUFF, DFL and UNBRAKO	Same hardware to be used by all PUs.
		SS NYLOC NUT	M12	IS:7002-2018, A2-70 TO IS:1367 (Part14 / Sec 2)		TVS, TUFF, DFL and UNBRAKO	
		PLAIN WASHER	A14	IS:2016-1967 TAB.2, TYPE-A, AISI-304		TVS, TUFF, DFL and UNBRAKO	
2. Bio tanks	LHB AC & non-AC Coaches	SS Hex Head Screw	M16x60	IS:1364 (PT2 -2018) TAB. 1, A2-70 to IS:1367 PT.14 SEC1 TAB. 2	170 Nm	TVS, TUFF, DFL and UNBRAKO	Same hardware to be used by all PUs.
		SS Nyloc Nut	M16	IS:7002-2018, A2-70 TO IS:1367 PT.14		TVS, TUFF, DFL and UNBRAKO	
		Plain Washer	A18	IS:2016-1967 TAB.2, TYPE-A, AISI-304		TVS, TUFF, DFL and UNBRAKO	
3. Auxiliary Reservoir	LHB AC & Non-AC Coaches	HEX. HD. SCREW	M16x50-8.8 – A3L	IS:1364, PART-2 2002 PROPERTY CLASS 8.8 TO IS:1367 (PART-3)-2002, Zinc passivated to A3L of annex-E of IS:1367 (PART-11)	214 Nm	TVS, TUFF, DFL and UNBRAKO	Same hardware to be used by all PUs.
		HEX. NUT	M16 – 8 - A3L	IS:1364, PART-3 2002, Zinc passivated to A3L of annex-E of IS:1367 (PART-11)		TVS, TUFF, DFL and UNBRAKO	

ANNEXURE-A to MC/CTRB/Genl dated 10-12-2024

Under slung item	Type of coach	Description of fasteners	Size of fastener	specification	Specified Torque Value	Approved Make / Authority	Remarks
		HEX. THIN NUT	M16- 05	IS:1364, PART-4 2003, Zinc passivated to A3L of annex-E of IS:1367 (PART-11)		TVS, TUFF, DFL and UNBRAKO	
		PLAIN WASHER	A16 steel 200 HV –A3L	IS:2016-67 TAB-2, TYPE-A, Zinc passivated to A3L of annex-E of IS:1367 (PART-11)		TVS, TUFF, DFL and UNBRAKO	
		HEX. HD. SCREW	M16x65-8.8-A3L	IS:1364, PART-2 2002 Property Class 8.8 To IS:1367 (PART-3)-2002, IS:2016-67 TAB-2, TYPE-A,		TVS, TUFF, DFL and UNBRAKO	
4. Fuel tank	LHB power Car	WASHER	A17 steel 200HV-A3L	IS:7002-2018	200 Nm	TVS, TUFF, DFL and UNBRAKO	Same hardware to be used by all PUs.
		PREVALING TORQUE HEX. NUT	M16 - 8 - A3L			TVS, TUFF, DFL and UNBRAKO	
		HEX. HD. BOLT	M16X70 -8.8 - A3L	IS:1364, PART-1 2002, PROPERTY CLASS 8.8 TO IS:1367(Part-3)-2002,		TVS, TUFF, DFL and UNBRAKO	
5. Battery Box	All LHB type AC coaches	PREVALING TORQUE HEX. NUT	M16 - 8 - A3L	IS:7002-2018	214 Nm	TVS, TUFF, DFL and UNBRAKO	Same hardware to be used by all PUs.
		PLAIN WASHER	A17-Steel 200 HV –A3L	IS:2016-67 TAB-2, TYPE-A		TVS, TUFF, DFL and UNBRAKO	
						TVS, TUFF, DFL and UNBRAKO	

ANNEXURE-A to MC/CTRB/Genl dated 10-12-2024

Under slung item	Type of coach	Description of fasteners	Size of fastener	specification	Specified Torque Value	Approved Make / Authority	Remarks
6. Transformer	LHB AC & non-AC Coaches	HEX. HD. SCREW	M16X60 -8.8, M12X50 -8.8, M12X40-8.8	ISO:4017 / IS:1364 Part 2, Properly clause 8.8 to IS:1367 (Part-3) -2002	214 Nm 87 Nm 85 Nm	TVS, TUFF, DFL and UNBRAKO	Same hardware to be used by all PUs
		PREVALING TORQUE HEX. NUT	M16 -8	ISO 7040 / IS:7002 TAB-1			
		PLAIN WASHER	A17 -steel 200HV -A3L, A13-steel 200HV -A3L	IS:2016-67 TAB-2, TYPE-A,			
7. WRA	LHB AC & non-AC Coaches	HEX. HD. SCREW	M16X50 M10x50	IS:1364, Part-2 2002, A2-70 to TAB. 2 of IS:1367 (Part.14 /SEC1): 2018	214 Nm	TVS, TUFF, DFL and UNBRAKO	Same hardware to be used by all PUs
		PREVALING TORQUE HEX. NUT	M16 M10	IS:7002-2018, A2-70 to IS:1367 Pl 14.		TVS, TUFF, DFL and UNBRAKO	
		PLAIN WASHER	A18	IS:2016-67 TAB-2, TYPE-A, Stainless steel AISI 304		TVS, TUFF, DFL and UNBRAKO	
		Spring washer	B16 B10	Stainless steel AISI 304		TVS, TUFF, DFL and UNBRAKO	
		Split pin	3.2x32	Stainless steel AISI 304		TVS, TUFF, DFL and UNBRAKO	

B. FIAT Bogie items

Sl. No.	FIAT BOGIE	Type of coach	Description of fasteners	Size of Fasteners	Specification / drawing no.	Make	Specified torque (N)
1	CTRB		HEX HD SCREW	M20X60	RDSO CG-15067	TVS, TUFF, DFL and UNBRAKO	200 Nm
2			HEX HD BOLT	M8X35	RDSO CG-15071		30 Nm
3			HEX HD SCREW	M8X30	RDSO CG-15070		30 Nm
4	BOGIE		HEX HD BOLT	M16x70	IS:1364-2002, PT-1, IS:1367-2002, PT-3, 10.9, CE, MDTS-057	All approved vendors for "axle end steel high tensile cap screw to be used in end holes of BG Freight axles" borne in the RDSO approved vendor list available on UVAM portal.	170 Nm
5			HEX HD BOLT	M16X90			170 Nm
6			HEX HD BOLT	M20X100			265 Nm
7			HEX HD BOLT	M24X150			590 Nm
8			HEX HD BOLT	M24X200			590Nm
9			HEX HD BOLT	M12X55			70 Nm
10			HEX HD BOLT	M12X100			70 Nm
11			HEX HD BOLT	M12X70			70 Nm
12			HEX HD BOLT	M16X65			170 Nm
13			HEX HD BOLT	M16X170			170 Nm
14			HEX HD BOLT	M20X120	IS:1364-2002, PT-2, IS:1367-2002, PT-3, 10.9, CE, MDTS-057		340 Nm
15			HEX HD SCREW	M16X120			170 Nm
16			HEX HD SCREW	M16X100			170 Nm
17			HEX HD SCREW	M16X45			170 Nm
18			HEX HD SCREW	M16X60			170 Nm
19			HEX HD SCREW	M10X25			40 Nm
20			HEX HD SCREW	M10X16			40 Nm
21			HEX HD SCREW	M24X100			590 Nm
22			HEX HD SCREW	M10X30			Torque not specified in drg.
23			HEX HD SCREW	M16X50	DIN 6925/DIN 980V, IS: 1367-2002, PT-8, 10, A3B		170 Nm
24			HEX NUT PREVAILING TORQUE TYPE	M8			-
25			HEX NUT PREVAILING TORQUE TYPE	M10			40 Nm

ANNEXURE-A to MC/CTRB/Genl dated 10-12-2024

26				HEX NUT PREVAILING TORQUE TYPE	M12			70 Nm
27				HEX NUT PREVAILING TORQUE TYPE	M16			170 Nm
28				HEX NUT PREVAILING TORQUE TYPE	M20			265 /340 Nm
29				HEX NUT PREVAILING TORQUE TYPE	M24			590 Nm
30				HEX NUT	M30		IS:1364-2002, PT-3, IS:1367-2002, PT-6, 10, CE, MDTs-057	250 Nm
31				HEX SOCKET HD CAP SCREW	M12X45		IS:2269-2006, IS:1367-2002, PT-3, 10.9, CE, MDTs-057	70 Nm
32				HEX SOCKET HD CAP SCREW	M8X25			Torque not specified in drg.
33				HEX SOCKET HD CAP SCREW	M12X60			Torque not specified in drg.
34				HEX SOCKET HD SCREW WITH FLAT POINT	M12X25-45H		IS:6094-2006, PT-1 ISO 898, PT-5, MDTs- 057	Torque not specified in drg.
35				HEX SOCKET COUNTER SUNK HD SCREW	M8X70		IS:6761-1994, 12.9, MDTs-057	Torque not specified in drg.
36				HEX HD PLUG SCREW	M22X1.5		DIN 910, ST, IS:1367-2002, PT-3, 10.9, A3C	Torque not specified in drg.
37				HEX HD PLUG SCREW	M10X1		DIN 910, ST, IS:1367-2002, PT-3, 10.9, A3C	Torque not specified in drg.
38				HEX HD PLUG SCREW	M27X2		DIN 910 -ST, IS:1367-2002, PT-3, 10.9, A3C	Torque not specified in drg.
39				HEX Socket HD CAP SCREW	M20X55		IS:2269, IS:1367-2002, PT-3	340 Nm