

Procedure for retrofitment of Bio-Toilet tank on ICf/RCf design BG Coaches



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No. MC/CB/LF/Anaerobic

Dated. 31.03.2015

मुख्य चल स्टाक अभियन्ता (कोचिंग)

1. मध्य रेलवे, छत्रपति शिवाजी टर्मिनस, मुंबई- 400 001.
2. पूर्वरेलवे, फेयरली प्लेस, कोलकाता- 700 001.
3. उत्तर रेलवे, बडौदा हाउस, नईदिल्ली- 110 001.
4. दक्षिण रेलवे, पार्क टाउन, चेन्नई- 600 003.
5. दक्षिण मध्य रेलवे, रेलनिलयम, सिकन्दराबाद- 500 071.
6. दक्षिण पूर्व रेलवे, गार्डेन रीच, कोलकाता- 700 043.
7. पूर्वोत्तर रेलवे, गोरखपुर- 273 012.
8. पूर्वोत्तर सीमान्त रेलवे, मालीगाँव, गुवाहाटी- 781 011.
9. पश्चिम रेलवे, चर्चगेट, मुंबई- 400 020.
10. पूर्व मध्य रेलवे, हाजीपुर- 844 101.
11. पूर्व तटीय रेलवे, बीडीए रेंटल कालोनी, रेलवे काम्प्लेक्स, चन्द्रशेखरपुरा, भुवनेश्वर, उड़ीसा- 751 016.
12. उत्तर मध्य रेलवे, हारिंग रोड, इलाहाबाद- 211 001.
13. उत्तर पश्चिम रेलवे, जयपुर- 302 006.
14. दक्षिण पश्चिम रेलवे, हुबली- 580 023.
15. पश्चिम मध्य रेलवे, जबलपुर- 482 001.
16. दक्षिण पूर्व मध्य रेलवे, आर ई आफिस काम्प्लेक्स, बिलासपुर- 495 004.

Sub: Issue of direct mounting bolted design bio digester design /drawings for retro-fitment of IR-DRDO Bio-Toilet in ICF/ RCF Design BG Coaches.

- Ref:1. MOM of the 15th JWG on IR-DRDO bio toilets issued by RCF vide letter no. MD22301 dated 07.03.2015.
2. This office letter of even no. dated 10.02.2015.
 3. This office letter of even no. dated 30.05.2013.

In reference to para 1.1 of the MOM of the 15th JWG on IR-DRDO bio toilets, Design/ Drawings of direct mounting, bolted design, IR-DRDO bio digester has been prepared and being issued for fitment in all eligible coaches.

Qualifying criteria for retro-fitment of IR-DRDO bio toilets in existing coaches has been already issued vide this office letter under ref.2.

Procedure for Retro-fitment of IR-DRDO Bio-Toilet Tank on ICF/ RCF Design BG Coaches issued vide letter under reference 3 has been revised and attached as annexure 2 for ready reference.

- Enclosure: 1. Drawing no CG-15028 and its components
2. Procedure for retro-fitment

(P.K. Srivasiava)
Joint Director Carriage

प्रतिलिपि :-

1. मुख्य अभिकल्प अभियन्ता, इन्टीगरल कोच फैक्टरी, चेन्नई- 600 038.
2. मुख्य अभिकल्प अभियन्ता, रेल कोच फैक्टरी, हुसैनपुर, कपूरथला- 144 602.
3. कार्यकारी निदेशक, कैमटेक, ग्वालियर
4. कार्यकारी निदेशक यांत्रिक (कोचिंग), रेलवे बोर्ड, रेलभवन, नईदिल्ली- 110 001.
5. कार्यकारी निदेशक यांत्रिक (डेव), रेलवे बोर्ड, रेलभवन, नईदिल्ली- 110 001.

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ANNEXURE-I

S.N.	Drawing No.	Alt.	Description
1.	CG-15028	Nil	DRDE tank mounting arrangement(For Ball valve type arrangement)
2.	CG-15029	Nil	IR-DRDO Bio Tank with Bottle catcher and separator
3.	CG-15030	Nil	Bio Toilet tank for ICF/RCF type Coaches
4.	CG-15031	Nil	Top Cover with Evacuation interface Assembly
5.	CG-15032	Nil	Mounting Bracket on inner head stock for IR-DRDO Biological Toilet Tank.
6.	CG-15033	Nil	Mounting Bracket on Outer head stock for IR-DRDO Biological Toilet Tank.
7.	CG-15034	Nil	Securing Bracket for S.S. wire rope welded on inner head stock
8.	CG-15036	Nil	Brackets on U/f for mounting of DRDE Bio tank
9.	CG-15037	Nil	Locking plate
10.	CG-K9086	2	Tank part 1
11.	CG-K9087	3	Tank part 2
12.	CG-K9088	1	Tank part 3
13.	CG-K9089	2	Tank part 4
14.	CG-K9090	3	Tank part 5
15.	CG-K9091	3	Tank part 6
16.	CG-K9092	4	Tank part 7
17.	CG-K9093	2	Tank part 8
18.	CG-K9094	2	Lower Bracket
19.	CG-11064	1	Tank part 10
20.	CG-12013	1	Frame for chlorinator
21.	CG-11065	Nil	Rubber Strip
22.	CG-11063	1	Tank part 9
23.	CG-K9031	1	Filter Mesh
24.	CG-K9030	2	Rubber Sealing
25.	CG-12012	2	Chlorinator Complete
26.	CG-11085	3	P-Trap
27.	CG-K9028	2	Adaptor for Ball Valve
28.	CG-11089	2	Ball Valve 5"
29.	CG-13006	Nil	Covering Plate
30.	CG-13008	Nil	Rubber sealing for Ball Valve
31.	CG-14070	Nil	Hose Connector
32.	CG-11088	1	Bracket for Safety Rope
33.	CG-12009	2	Bend Sheet for Chlorination chamber
34.	CG-12010	2	Chlorination chamber
35.	CG-12011	1	Top cover with chlorine jacket
36.	CG-14101	Nil	Bend Pipe for Evacuation of first Chamber

ANNEXURE-II to letter No. MC/CB/LF/Anaerobic dated 31.03.2015

Procedure for Retro-fitment of DRDE Bio-toilet Tank on ICF/ RCF Design BG Coaches

1. Remove lavatory chute mounted on brackets.
2. Remove bracket welded on on under frame provided for mounting of the lavatory chute arrangement.
3. If any corrosion is evident on the structural member it should be repair as per procedure laid down in RDSO maintenance manual RDSO/2011/CG/CMI- 01(latest version).
4. Removal of buffer ribs and plates on outer head stocks
5. Check that adequate clearance between underframe and tank is available, where tank has to be mounted. In some design of coaches water filling pipe for overhead tank and air brake piping for passenger emergency alarm signal device (PEASD) or any other item may infringe, should be relocated before welding of mounting brackets.
6. Weld all strengthening/supporting brackets on outer and inner head stock of under frame as per RDSO drawing No. CG-15036 with recommended electrodes for welding with carton steel.
7. Check the alignment of all mounting brackets for each bio digester tank as per RDSO drawing No. CG-15028 (latest alteration). Mark the location of each mounting bracket for making holes of spacificed size on inner and outer head stock C-Channels as per RDSO drawing No. CG-15036.
8. Drill the holes required for mounting brackets of IR-DRDO Bio digester on inner and outer head stock of under frame as per RDSO drawing No. CG-15036 with the help of suitable Jig/Fixtutre and recommended drilling tools for in position drilling.
9. Mark, cut, tack weld or weld to formulate the foundation provision of clutch wire opening/closing mechanism as per CAI issued for this purpose.
10. Mount all bolted design J-Brackets at the location marked in the drawing No. CG-15028. All the brackets should be properly fastened with spacificed size, material, grade fastener only and properly tightened.
11. Fix one end of safety ropes on inner head stock with spacificed size, material, grade fastener only and properly tightened.

12. Load empty bio-toilet tank assembly with the help of the fork filter or any other suitable arrangement.
13. Align P-trap, rubber hose to the outlet of lavatory Pan and fix it, after fixing of P-trap and rubber hose, it should be sealed with suitable sealant to make joint leak proof.
14. All the fasteners used should be to the specified size, material, grade mentioned in the drawings and properly tightened.
15. Fix second end of the safety ropes properly routed through bio-digester tank as per RDSO drawing no. CG-15028 (latest alteration).
16. Check all the modification done for fixing of bio-toilet tanks and rectify if any deficiency noticed before dispatch of the coach.
17. Fill bacterial inoculums about 150 liters obtained from DRDE Gwalior on their TOT holder just before putting coach into service.

Note: P trap has now been removed by s-trap