

Rail Coach Factory, Kapurthala

(Coach Alteration Instruction No. CAI/RCF/MECH/CONV/126 Rev 01)

MD21561

Date: 01.06.2021

Sub: Coach Alteration Instructions for conventional MEMU/DMC and TC fitted with air suspension.

Ref: i. Earlier CAI no. (Coach Alteration Instruction No. CAI/RCF/MECH/CONV/126) Date 20.03.2020.

ii. PCME SC Railway letter no. E.221/EMU/MEMU/Bogie Dated: 25.03.2021

Zonal Railways have reported failures of bogie frame crack near anchor link bracket in conventional type MEMU/TC bogies with air suspension and bogie bolster's vertical damper bracket crack of conventional type MEMU/DMC bogies with air suspension. In order to strengthening members, CAI (ref i) for modifications in coaches was issued.

Further, SCR Railway has suggested vide (ref ii) above , another arrangement for strengthening brackets w.r.t earlier issued CAI (ref i). SCR suggestions have been examined and revised CAI prepared and issued.

CAI/RCF/MECH/CONV/126 Rev 01 is applicable for coaches in which no modifications has been carried out w.r.t earlier CAI issued i.e CAI/RCF/MECH/CONV/126.

Railways are requested to implement this CAI on the existing coaches as per following instructions:

1. Description: Provision of additional stiffener for anchor link bracket on bogie frame of MEMU/TC bogies and modified design of vertical damper bracket on bogie bolster of MEMU/DMC bogies.

2. Drawing no. :

#	Description	Drawing no. & alteration.	QPA	Remarks
1	Strengthening of anchor link bracket on MEMU/TC bogie frame arrangement.	MI007441 alt-a	2	Modification in bracket for vertical damper shall be implemented immediately by Railways.
2	Strengthening of vertical damper bracket on bogie bolster arrangement of MEMU/DMC bogie	MI007443 alt-a	2	
3	Vertical Damper bracket LH & RH with detail drawings.	EM04108 LH alt- d EM04182 RH alt- c	1 1	
4	Modified Plate for vertical damper bracket	EM04105 alt-d	2	
5	Support angle	EM04194 ali-nil	2	

3. Alteration :

- a. "U" shape Strengthening plate around anchor link bracket to be welded on MEMU/TC bogie frame drawing no MI007441 alt-a.
- b. Vertical damper bracket of MEMU/DMC bogie bolster to be modified as per drawing no. MI007443alt-a.

4. Reason for alteration: Zonal Railways have reported that repeated for cracks in anchor link bracket of MEMU/TC bogie frame and vertical damper bracket of MEMU/DMC bogie fitted with air suspension.

5. Coach concerned: Conventional MEMU/TC and MEMU/DMC bogies fitted with air suspension.

6. Implementation stage: As mentioned above.

7. Special Instructions:

- 7.1 Ensure for proper cleaning for area of anchor link bracket on MEMU/TC bogie frame where "U" shape support plate is to be welded.
- 7.2 Ensure for proper cut size in plate of old vertical damper bracket welded on bogie bolster for MEMU/DMC bogie.
- 7.3 Ensure for proper welding and grinding as per specified drawings.

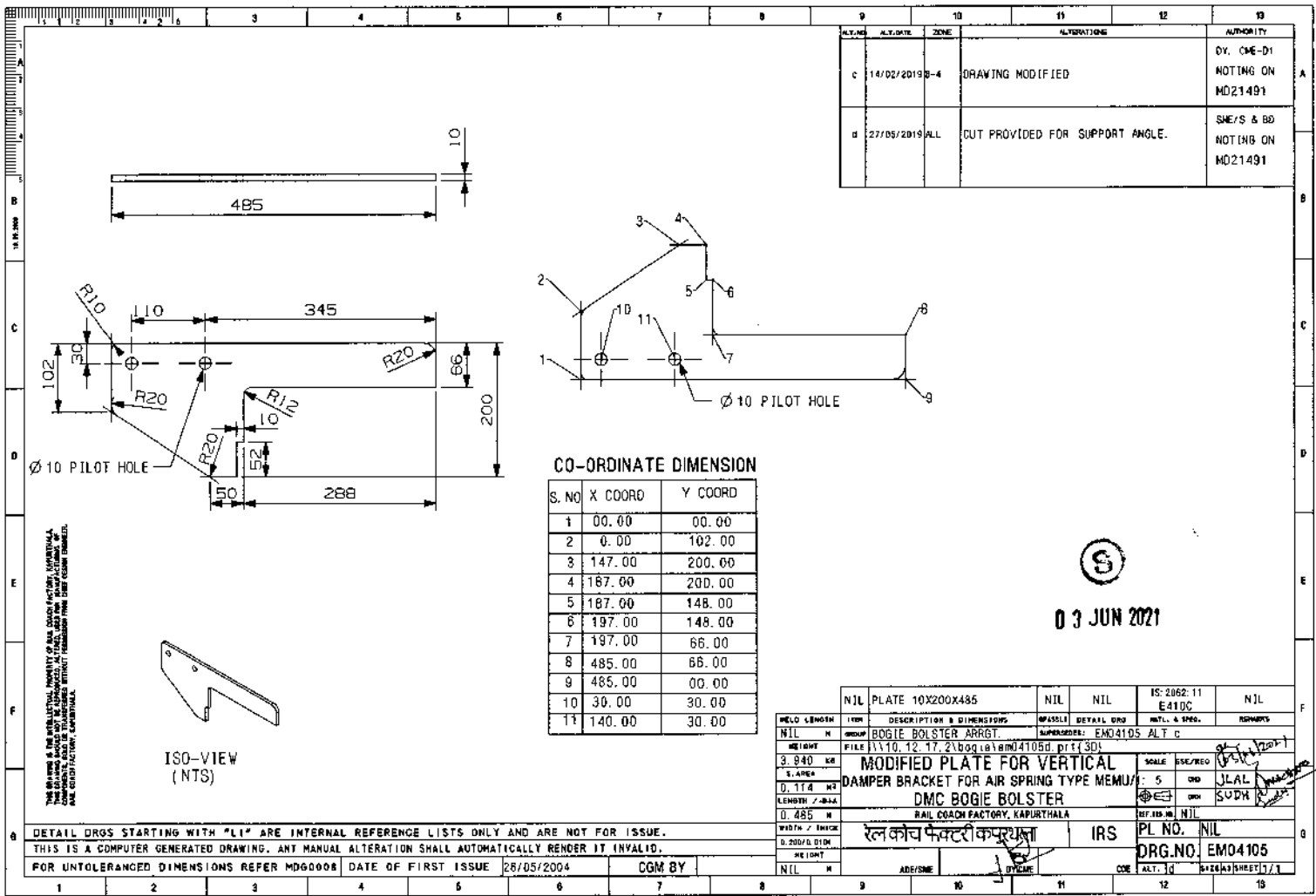
Encls: As mentioned in above table.


1/6/2021
For General Manager (Mech)

Copy to:

All Principal Chief Mechanical Engineers of IR
All Chief Workshop Engineers of IR

ED/Carriage, RDSO, Manak Nagar, Lucknow -226011: for information please



ALT. NO.	ALT. DATE	ZONE	ALTERATIONS	AUTHORITY
c	14/02/2019	B-4	DRAWING MODIFIED	DY. CME-D1 NOTING ON MD21491
d	27/05/2019	ALL	CUT PROVIDED FOR SUPPORT ANGLE.	SME/S & BD NOTING ON MD21491

CO-ORDINATE DIMENSION

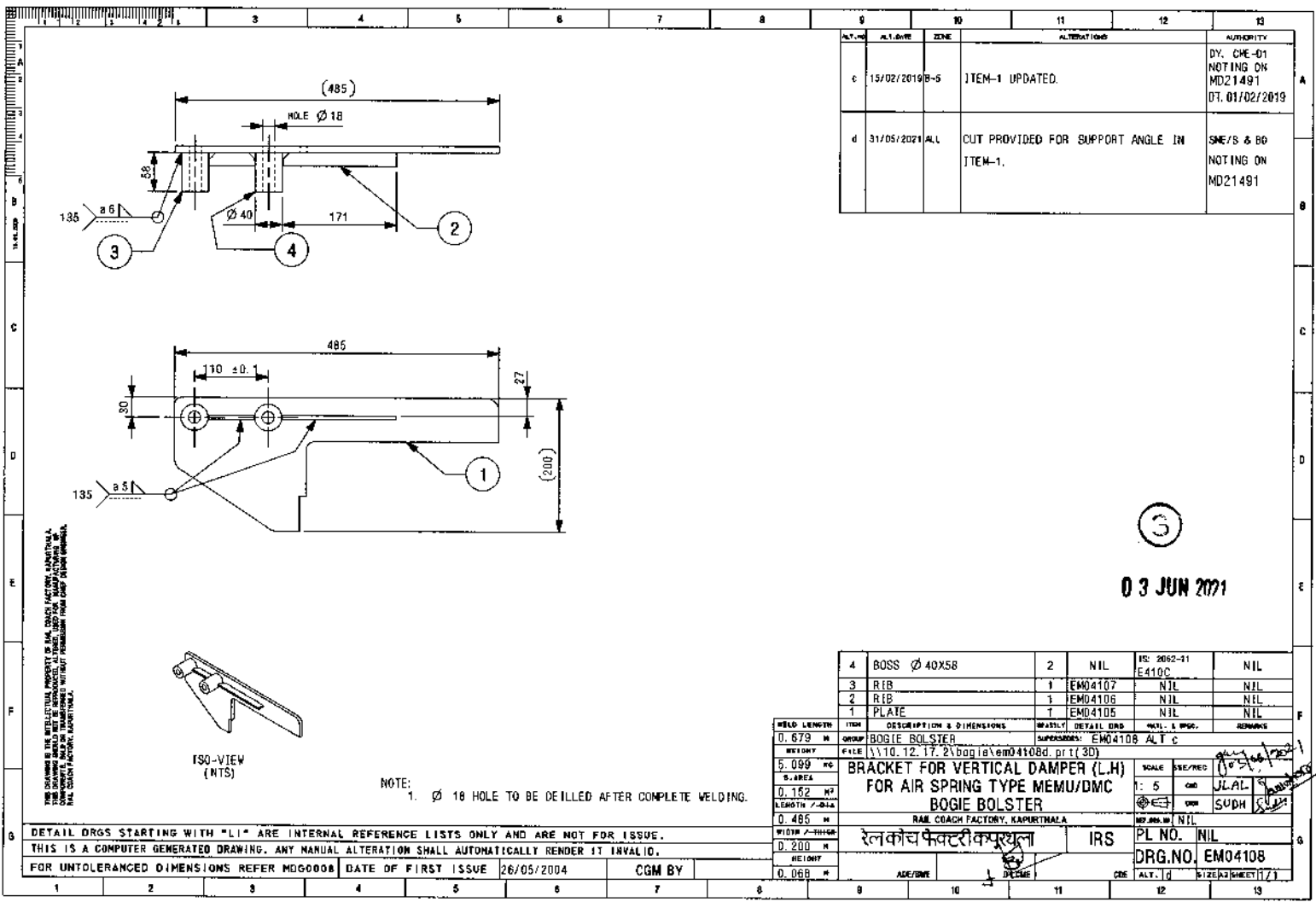
S. NO	X COORD	Y COORD
1	00.00	00.00
2	0.00	102.00
3	147.00	200.00
4	187.00	200.00
5	187.00	148.00
6	197.00	148.00
7	197.00	66.00
8	485.00	66.00
9	485.00	00.00
10	30.00	30.00
11	140.00	30.00

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NIL	PLATE 10X200X485	NIL	NIL	IS: 2062:11 E41DC	NIL
WGT	3.940 KR	AREA	0.114 M ²	LENGTH / DIA	0.485 M
DESCRIPTION	DAMPER BRACKET FOR AIR SPRING TYPE MEMU		SCALE	5	DRG
DATE	26/05/2004		DRG. NO.	EM04105	
ISSUED BY	CGM BY		DATE	26/05/2004	
DESIGNED BY	DYNAMIC		DATE	26/05/2004	

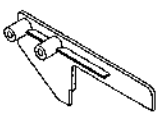
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 FOR UNTOLERANCED DIMENSIONS REFER MD60008 DATE OF FIRST ISSUE 26/05/2004 CGM BY



ALT. NO.	AL. DATE	ZONE	ALTERATIONS	AUTHORITY
c	15/02/2019	B-5	ITEM-1 UPDATED.	DY. CHE-01 NOTING ON MD21491 07.01/02/2019
d	31/05/2021	ALL	CUT PROVIDED FOR SUPPORT ANGLE IN ITEM-1.	SME/S & BO NOTING ON MD21491

3
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ISO-VIEW
(NTS)

NOTE:
1. \varnothing 18 HOLE TO BE DRILLED AFTER COMPLETE WELDING.

ITEM	DESCRIPTION & DIMENSIONS	QUANTITY	DETAILS	UNIT & SPEC.	REMARKS
4	BOSS \varnothing 40X58	2	NIL	IS: 2052-11 E410C	NIL
3	RIB	1	EM04107	NIL	NIL
2	RIB	1	EM04106	NIL	NIL
1	PLATE	1	EM04105	NIL	NIL

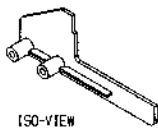
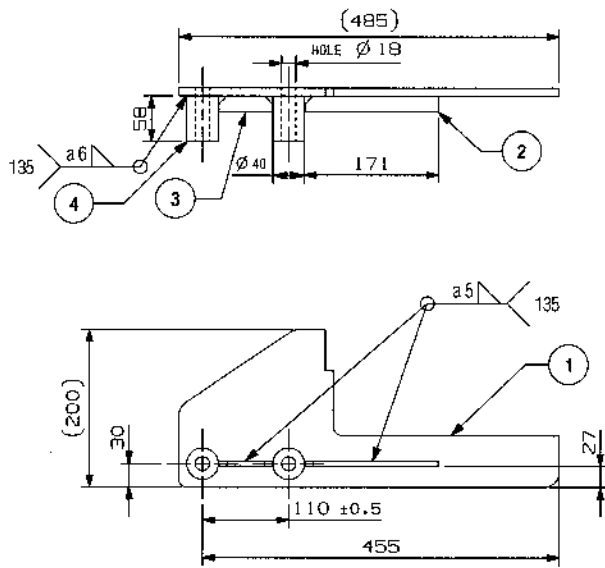
WELD LENGTH	0.679	M
WEIGHT	5.099	KG
S. AREA	0.152	M ²
LENGTH / DIA	0.485	M
WIDTH / THICK	0.200	M
HEIGHT	0.068	M

GROUP	BOGIE BOLSTER	BRACKET	DETAILS	EM04108	ALT c
FILE	\\10.12.17.2\Bogies\em04108d.drt (3D)				
BRACKET FOR VERTICAL DAMPER (L.H) FOR AIR SPRING TYPE MEMU/DMC BOGIE BOLSTER					
RAIL COACH FACTORY, KAPURTHALA					
रेलकोच फॅक्टरी कपूरथला			IRS		
SCALE	1:5	PREPARED BY	JLAL		
CHKD BY	SUDH				
PL NO.	NIL				
DRG. NO.	EM04108				
ALT. ID	SIZE: A3 SHEET: 1/1				

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DATE OF FIRST ISSUE: 26/05/2004 CGM BY: [Signature]



ISO-VIEW
(NTS)

NOTE:
1. \varnothing 18 HOLE TO BE DEILLED AFTER COMPLETE WELDING.

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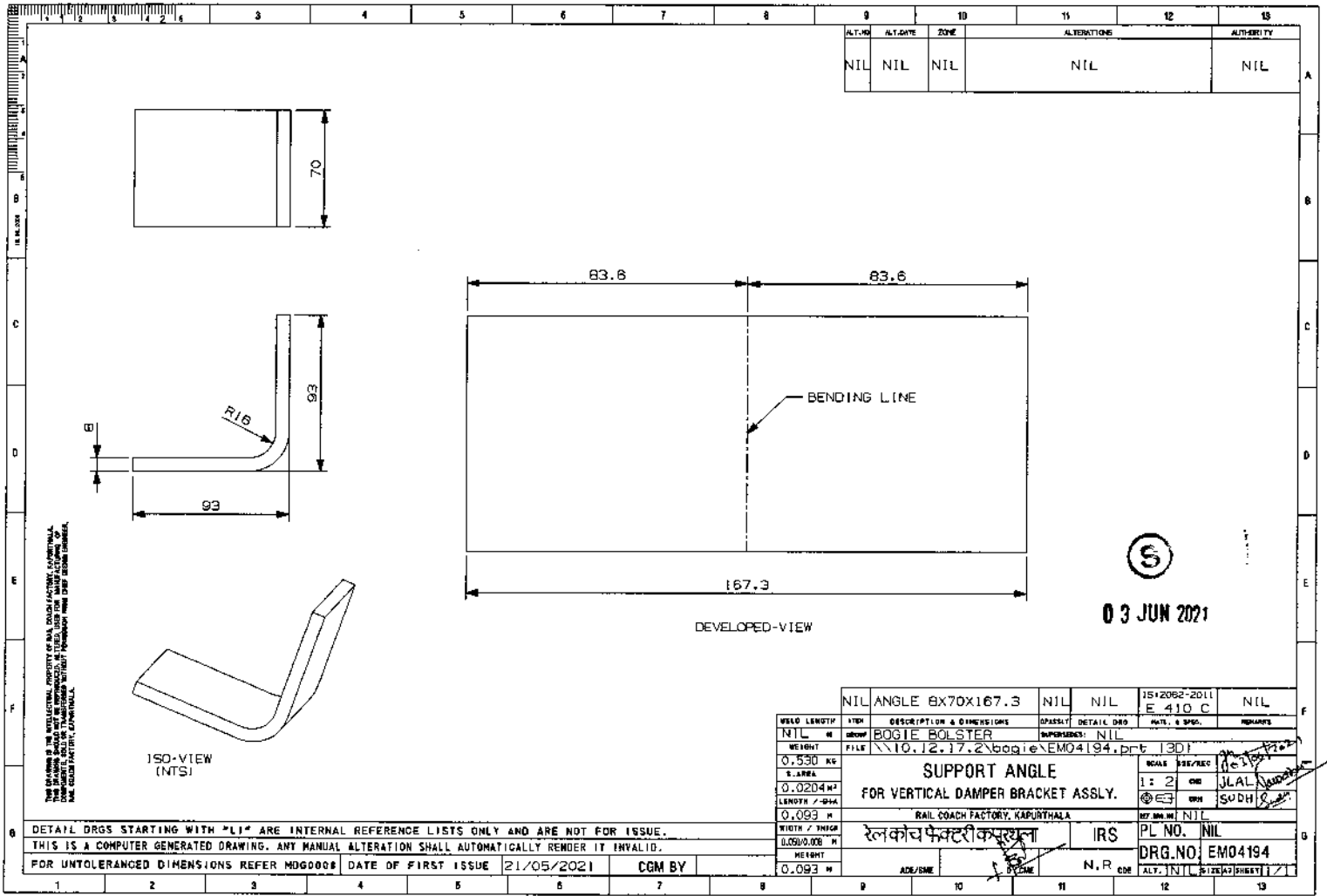
ALT. NO.	ALT. DATE	ZONE	ALTERATIONS	AUTHORITY
b	15/02/2019	B-4	ITEM-1 UPDATED.	DY. CME-01 NOTING ON MD21491 DT. 01/02/2019
c	31/05/2021	NIL	CUT PROVIDED FOR SUPPORT ANGLE IN ITEM-1.	SME/S & BD NOTING ON MD21491



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4	BOSS \varnothing 40X58	2	NIL	IS: 2002-11 E410C	NIL
3	RIB	1	EMD4107	NIL	NIL
2	RIB	1	EMD4108	NIL	NIL
1	PLATE	1	EMD4105	NIL	NIL

WELD LENGTH	ITEM	DESCRIPTION & DIMENSIONS	DETAIL ORG	MATL. & SPEC.	REMARKS
0.679	M	GROUP BOGIE BOLSTER	EMD41B2	ALT b	
		FILE \\10.12.17.2\bogiem04182c.prt(3D)			
5.060	KG	BRACKET FOR VERTICAL DAMPER (R.H)			SCALE: 1:5 CHK: J.L.A.L. SUDH
0.152	M2	FOR AIR SPRING TYPE MEMU			
		/DMC BOGIE BOLSTER			
0.485	M	RAIL COACH FACTORY, KAPURTHALA			PL NO. NIL
0.200	M	रल कोच फैक्टरी कपूरथला	IRS		DRG. NO. EMO4182
0.058	M	APR/SME			ALT. IC: E12EJ21R0001/1



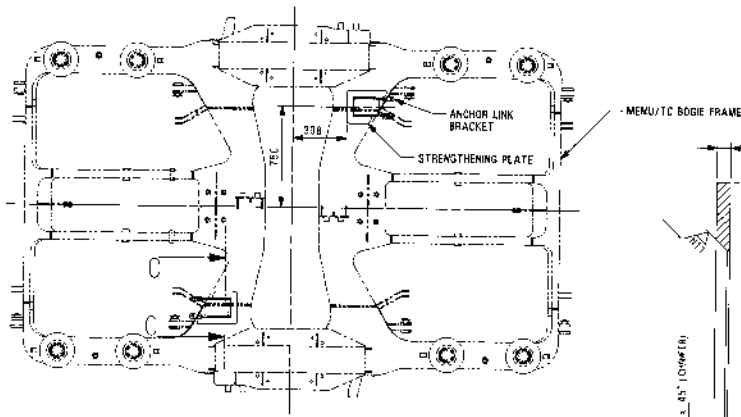
ALT. NO.	ALT. DATE	ZONE	ALTERATIONS	AUTHORITY
NIL	NIL	NIL	NIL	NIL

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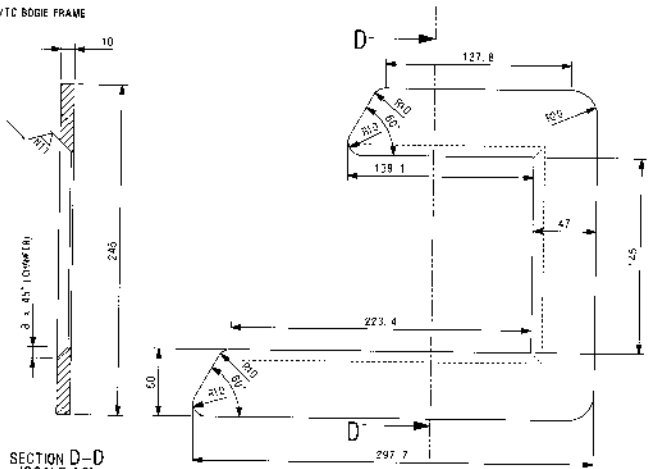
NIL	ANGLE 8X70X167.3	NIL	NIL	IS:2062-2011	NIL
NIL	BOGIE BOLSTER	DETAIL DED		E 410 C	
WEIGHT	0.530 KG	FILE	\\10.12.17.2\boogie\EMO4194.prt (3D)		
S.AREA	0.0204 M ²	SUPPORT ANGLE FOR VERTICAL DAMPER BRACKET ASSLY.			
LENGTH / DIA	0.093 M				
WIDTH / THICK	0.050/0.008 M	RAIL COACH FACTORY, KAPURTHALA		SCALE	1:2
HEIGHT	0.093 M	रेलकोच फैक्टरी कपूरथला		DRG. NO.	EMO4194
		IRS		PL. NO.	NIL
		N.R		ALT. INTL	SIZE

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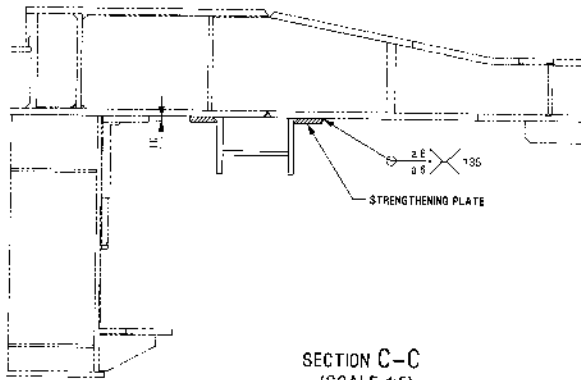
DATE OF FIRST ISSUE 21/05/2021 CGM BY



SECTION D-D
(SCALE 1:2)



STRENGTHENING PLATE 10X245X298
 MAT. SPEC. - IRS M 41-97
 (SCALE 1:2)



SECTION C-C
(SCALE 1:5)

ALT. NO.	ALT. DATE	ZONE	ALTERATIONS	AUTHOR. TS
1	21/05/2021	ALL	STRENGTHENING PLATE PROVIDED FOR ANCHOR LINK BRACKET.	SME'S & BO NO.11111 ON NO.2451

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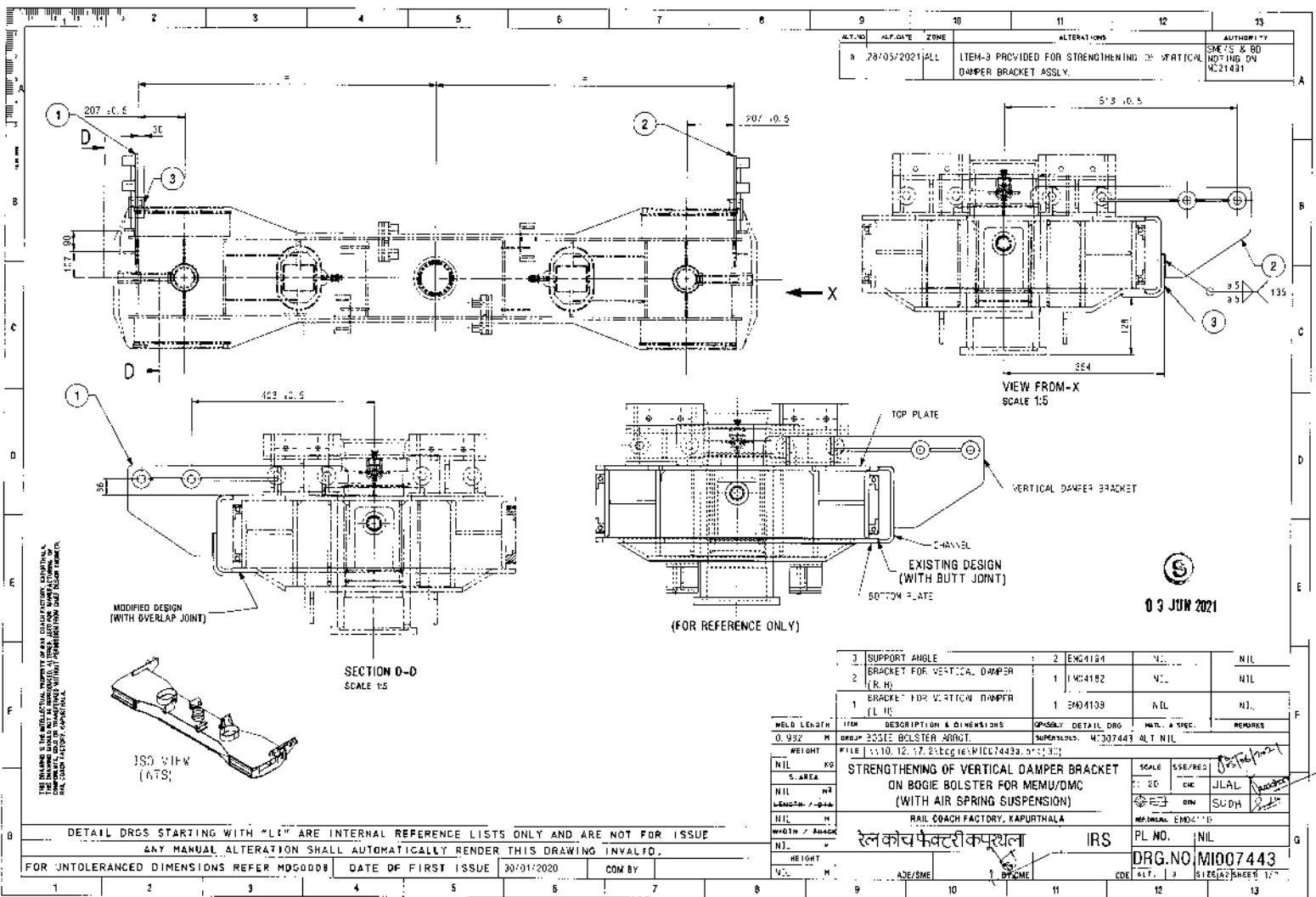
WELD LENGTH	ITEM	DESCRIPTION & DIMENSONS	ISSUED BY	DETAIL Dwg	MAT. & SPEC.	REMARKS
1.150	M	BOGIE FRAME			AL 1 NIL	
FILE	1116 12.17.21BOJ 81PIC67441a.pf: 130					
WEIGHT	NIL					
AREA	NIL					
VOL.	NIL					
LENGTH	NIL					
HEIGHT	NIL					
STRENGTHENING OF ANCHOR LINK BRACKET (MEMU/TC AIR SPRING SUSPENSION) RAIL COACH FACTORY, KAPURTHALA						
रेल कोच फैक्ट्री कपूरथला				IRS		PL NO. NIL
ADE/SME				BY SME		DRG. NO. M1007441 1:1

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 FOR UNTOLERANCED DIMENSIONS REFER M060008

DATE OF FIRST ISSUE 23/01/2020

CGM BY

SCALE 1:1
 SSE/REG
 C/C
 L/L
 D/M
 S/UH



ALT. NO.	ALT. DATE	ZONE	ALTERATIONS	AUTHORITY
3	28/05/2021	ALL	ITEM-3 PROVIDED FOR STRENGTHENING OF VERTICAL DAMPER BRACKET ASSLY.	SME'S & BD NOTHING ON ME21431

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 FOR UNTOLERANCED DIMENSIONS REFER MDG0008

DATE OF FIRST ISSUE	30/01/2020
COM BY	

ITEM	DESCRIPTION & DIMENSIONS	SUPPLIER	DETAIL DRG NO.	MATERIAL SPEC.	REMARKS
3	SUPPORT ANGLE (K.H.)		ENG4184	NIL	
2	BRACKET FOR VERTICAL DAMPER (L.H.)		IND4182	NIL	
1	BRACKET FOR VERTICAL DAMPER (L.H.)		IND4182	NIL	

WELD LENGTH	0.932	M	GROUP	BOGIE BOLSTER BRGT.	DETAIL DRG	DRG	NO.	307443	ALT	NIL
FILE	\\10.12.17.2\EGG\EX\M\IND4182_312313									
WEIGHT	NIL									
S.AREA	NIL									
STRENGTHENING OF VERTICAL DAMPER BRACKET ON BOGIE BOLSTER FOR MEMU/DMC (WITH AIR SPRING SUSPENSION)										
RAIL COACH FACTORY, KAPURTHALA										
रेल कोच फॅक्टरी कपूरथला IRS										
PL NO. NIL DRG. NO. MID07443										
CODE	A3E/SME				BY	D/PCME		DATE	28/05/2021	
SIZE	A3 (297x420) SHEET 17									

1 2 3 4 5 6 7 8 9 10 11 12 13