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2024-07-03

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PRASA PROJECT




SELF INSPECTION SHEET

CONFIDENTIAL INFORMATION




This document and the information contemplated therein have to be considered as Confidential Information pursuant to the provisions of Clause 25 of the MSA, and treated as such.

APPLICATION REFERENCE


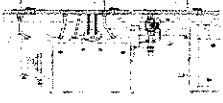



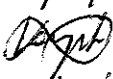









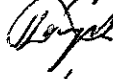
MOUNTING	DESCRIPTION	STATION	CAR TYPE						WORK INSTRUCTION	SAFETY ? 
			TC1	M4	M1	M2	M3	TC2		
<input type="checkbox"/>	DTR3-PROCE-14	LEVELLING, WEIGHTING AND BALANCING M CAR	FT1140	1	1	1	1		PRA.FT1140.04	YES
<input type="checkbox"/>	DTR3-PROCE-14	LEVELLING, WEIGHTING AND BALANCING TC CAR	FT1140	1				1	PRA.FT1140.05	YES
<input type="checkbox"/>	DTR3-PROCE-17	LEVELLING, WEIGHTING AND BALANCING TC CAR	FT1140	1	1	1	1	1	PRA.FT1140.05	YES
<input type="checkbox"/>	DTR3-PROCE-17	LEVELLING, WEIGHTING AND BALANCING TC CAR	FT1140	1	1	1	1	1	PRA.FT1140.05	YES
<input type="checkbox"/>										
<input type="checkbox"/>										
<input type="checkbox"/>										

REV	DATE	MODIFICATION CONTENT	RESPONSIBLE	NAME	DATE
7	2/11/2020	UPDATE OF AIR TIGHTNESS TEST TIME FROM 4 MIN TO 5 MIN. ADD PANTOGRAPH AIR TIGHTNESS.	APPROVER	GIVEN SILOWA	2/11/2020
			CHECKER	SIMON MOKOENA	2/11/2020
			COMPILER	COMFORT MALATJI	2/11/2020
8	9/13/2021	ADDING GAUGE MEASUREMENT CHECK ON THE SI.	APPROVER	MAKOFANE LUCY	9/13/2021
			CHECKER	RATAU EDISON	9/13/2021
			COMPILER	TSAKANI KHOSA	9/13/2021
9	5/31/2022	pressure valve (APV) Isolation	APPROVER	MAKHURUPETJI THABANG	5/31/2022
			CHECKER	HAZEL MGIBA	5/31/2022
			COMPILER	RATAU EDISON	5/31/2021

TUE	CAR	OPERATOR NAME	DATE	SELF INSPECTION NUMBER	PAGES
TS 233	M2	Andrew	03/07/24	SI.FT1140.52	01/08

	SELF INSPECTION INDUSTRIAL QUALITY		Rev:09	Project: PRASA	SI.FT1140.52						
			Date:								
			5/31/2022								
Cdr:			NCR:								
			Work Station	FT1140							
 Safety Related											
I - Document and Instrument Control											
I.1 - Documents control											
Document	TC1	HY	M2	H3	M4	TC2	Revision	Remark	OK	NOK	Signature/Date
PRA.FT1140.04											
PRA.FT1140.05			✓						✓		Revis 3/06/24
PRA.FT1140.05											
I.2 - Instruments Control - Monitoring and Measuring Instrument Control (Used for all instrument with calibration needed)											
Instruments description	Serial number		Calibration or Verification Validation Date		OK	NOK	Signature/Date				
Measuring tape	GIBTA 0276		26/10/23 - 26/10/24		✓		<div style="writing-mode: vertical-rl; transform: rotate(180deg);">03/09/2024</div> 				
Vernier Caliper	GIBVR 0056		27/10/23 - 27/10/24		✓						
Torque wrench 25 N.m	D254073		19/12/23 - 19/12/24		✓						
Torque wrench 150 N.m	D25622009		19/12/23 - 19/12/24		✓						
Torque wrench 325 N.m	A9650027		20/12/23 - 20/12/24		✓						



	<h1 style="text-align: center;">SELF INSPECTION INDUSTRIAL QUALITY</h1>		Rev:09	Project: PRASA	SI.FT1140.52												
			Date:														
			5/31/2022														
II - Self Inspection - Items to Check																	
II.1 - Items to Check																	
Item	Picture/Sketch	Description	Criteria/Record	OK	NO	Not Eval	Signature/Date										
01		Ensure that the average pressure valve (APV) is isolated by capping the two input pipes at the fittings installing the blanking fitting on the pipes highlighted		✓			 03/07/24										
02		Check underframe pipe system Air tightness. Test performance according to WI PRA.FT1130.15.	The test was performed and no leak was observed. Initial pressure (IP): 10.10 bar Final pressure (FP): 12.00 bar FP - IP = 2.00 bar APPROVAL CRITERIA: After 5 minutes the pressure cannot drops more than 0.2 bar	✓			 03/07/24										
03		Movement performed at least 50m to shudder the car. And position on the leveled load cell, with wheels on the center.		✓			 03/07/24										
04		Measurement inspection was done with car on condition AW0 and the rail leveled. (The load cells system must be levelled and calibrated)	Calibration Validation Date 19/12/2023	✓			 03/07/24										
05		In case of the equipments not installed, equivalent weight of the item should be added in the same place to simulate the equipment (Any simulated weight, add on pending list)	<table border="1" style="width: 100%;"> <thead> <tr> <th>EQUIPMENT DESCRIPTION</th> <th>WEIGHT (kg)</th> </tr> </thead> <tbody> <tr> <td>BLANQUET</td> <td>360</td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </tbody> </table>	EQUIPMENT DESCRIPTION	WEIGHT (kg)	BLANQUET	360							✓			 03/07/24
EQUIPMENT DESCRIPTION	WEIGHT (kg)																
BLANQUET	360																
06		The pressure difference between air spring on each bogie when raise the pressure was maintained < 0.3 bar.		✓			 03/07/24										
07		Measuremet recorded with empty suspension and loaded are on conformity with tolerances of the project.		✓			 03/07/24										
08		All levelling measurements are according to the reference. (Values out of reference must be recorded on "Description of defects")		✓			 03/07/24										

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Rev:09

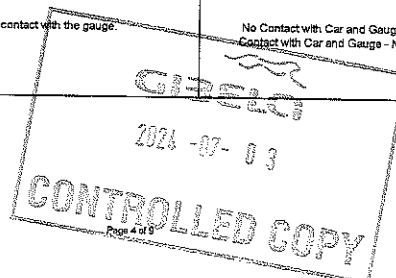
Date:

5/31/2022

Projet:
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Item	Picture/Sketch	Description	Criteria/Record	C.K.	Signature/Date
09		Check that the levelling rods are torqued and have torque marker.		✓	 03/07/24
10		The difference of weight between the left and right wheels of each axis, must be $\leq 4\%$. (Verify on the T&C equipment if all arrows are in green).		✓	 03/07/24
11		Remove the car, move back onto the load cells and repeat the step 09. Confirm if both are in the tolerance of $\leq 4\%$.		✓	 03/07/24
12		1 - Record shims thickness used on rod. 2 - All screws were torqued and have torque marker.	THICKNESS (mm) I 0 II 0 III 0 IV 0	✓	 03/07/24
13		Pivot fixation	1- M20 x 90 screws with application of torque according to PRA.FT1140.04 / 05	✓	 03/07/24
14		FOR TC CARS F= Height of the center of Automatic coupler F = 895mm (+5/-10mm) (Using levelled rail)	TC CAB #1= _____ mm		N/A
15		FOR TC CARS Height of Eurobalise Antenna = 205mm(+/-10mm) (Using levelled rail)	TC CAB #1= _____ mm		N/A
16		Check pantograph piping air tightness. Test performance according to WI PRA.FT1140.17.	The test was performed and no leak was observed. -Roof piping connection fittings. -Room piping connection fittings(Roof arch and door trimming)	✓	 03/07/24
17		Pantograph does not come in contact with the higher height gauge when passing through.	No Contact with Pantograph and Gauge -GO Contact with Pantograph and Gauge - NO GO	✓	 03/07/24
18		Car does not come into contact with the gauge.	No Contact with Car and Gauge -GO Contact with Car and Gauge - NO GO	✓	 03/07/24





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DRAFT TO MEASUREMENTS DURING LEVELLING (ALL UNITS MUST BE IN mm/bar/kg)

		END#1												
DESCRIPTION	TOLERANCE	LEFT SIDE						RIGHT SIDE						
		6	5	4	3	2	1	1	2	3	4	5	6	
AIR SPRING HEIGHT (EMPTY)	N/A	A ¹ II												A ¹ I
AIR SPRING HEIGHT (FULL)	min 254 max 261	A ¹ II					257 260	260 257						A ¹ I
FLOOR COVERING HEIGHT	min 1096 max 1116	E ¹ II												E ¹ I
AIR SPRING PRESSURE	≤ 0.3 {Ci - Ci}	C ¹ II					3,15	2,18						C ¹ I
PRIMARY SUSPENSION	SEE TABLE (ONLY REF)	D ³												D ³
PRIMARY SUSPENSION	SEE TABLE (ONLY REF)	D ⁴												D ⁴
PIVOT VERTICAL GAP	min 25 max 32	K ¹ II												K ¹ I
PIVOT LATERAL STOP GAPS DIFFERENCE	≤ 4 {Ji - Ji}	J ¹ II												J ¹ I
QTY OF TURNS OF LEVELLING ROD	N/A	X ¹ II					1 1/2	1 1/2						X ¹ I
SHIMS OF ANTI-ROLL BAR	N/A	Y ¹ II												Y ¹ I
DESCRIPTION	TOLERANCE		6	5	4	3	2	1	1	2	3	4	5	6
AIR SPRING HEIGHT (EMPTY)	N/A	A ¹ III												A ¹ IV
AIR SPRING HEIGHT (FULL)	min 254 max 261	A ¹ III					259 265	266 258						A ¹ IV
FLOOR COVERING HEIGHT	min 1096 max 1116	E ¹ III												E ¹ IV
AIR SPRING PRESSURE	≤ 0.3 {Civ - Civ}	C ¹ III					2,79	2,87						C ¹ IV
PRIMARY SUSPENSION	SEE TABLE (ONLY REF)	D ⁵												D ⁵
PRIMARY SUSPENSION	SEE TABLE (ONLY REF)	D ⁶												D ⁶
PIVOT VERTICAL GAP	min 25 max 32	K ¹ III												K ¹ IV
PIVOT LATERAL STOP GAPS DIFFERENCE	≤ 4 {Jiv - Jiv}	J ¹ III												J ¹ IV
QTY OF TURNS OF LEVELLING ROD	N/A	X ¹ III					1 1/2	1 1/2						X ¹ IV
SHIMS OF ANTI-ROLL BAR	N/A	Y ¹ III												Y ¹ IV

COMPARE EACH TENTATIVE WITH THE TOLERANCE AND IDENTIFY EACH MEASURE AS BELOW

GOOD LOWER HIGHER

✓ ↓ ↑

WEIGHT COMPENSATION

EQUIPMENT

WEIGHT

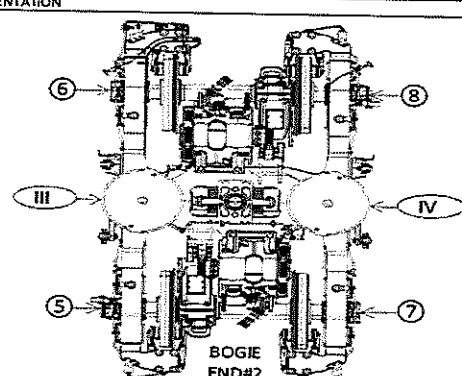
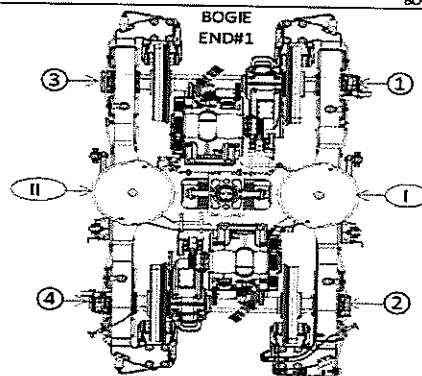
EQUIPMENT

WEIGHT

SECONDARY MEASUREMENTS (ONLY TC CARS)

AUTOMATIC COUPLER HEIGHT

ANTENNA HEIGHT



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DRAFT TO MEASUREMENTS DURING LEVELLING (ALL UNITS MUST BE IN mm/bar/kg)

DESCRIPTION	TOLERANCE	END#1												END#2											
		LEFT SIDE						RIGHT SIDE						LEFT SIDE						RIGHT SIDE					
AIR SPRING HEIGHT (EMPTY)	N/A	A ^{II}												A ^{II}											A ^I
AIR SPRING HEIGHT (FULL)	min 254 max 261	A ^{II}												A ^{II}											A ^I
FLOOR COVERING HEIGHT	min 1096 max 1116	E ^I												E ^I											E ^I
AIR SPRING PRESSURE	≤ 0.3 (Q _I - Q _I)	C ^I												C ^I											C ^I
PRIMARY SUSPENSION	SEE TABLE (ONLY REF)	D ₃												D ₃											D ₁
PRIMARY SUSPENSION	SEE TABLE (ONLY REF)	D ₄												D ₄											D ₂
PIVOT VERTICAL GAP	min 25 max 32	K ^{II}												K ^{II}											K ^I
PIVOT LATERAL STOP GAPS DIFFERENCE	≤ 4 (J _I - J _I)	J ^{II}												J ^{II}											J ^I
QTY OF TURNS OF LEVELLING ROD	N/A	X ^{II}												X ^{II}											X ^I
SHIMS OF ANTI-ROLL BAR	N/A	Y ^{II}												Y ^{II}											Y ^I
AIR SPRING HEIGHT (EMPTY)	N/A	A ^{III}												A ^{III}											A ^{IV}
AIR SPRING HEIGHT (FULL)	min 254 max 261	A ^{III}												A ^{III}											A ^{IV}
FLOOR COVERING HEIGHT	min 1096 max 1116	E ^{III}												E ^{III}											E ^{IV}
AIR SPRING PRESSURE	≤ 0.3 (Q _{IV} - Q _{IV})	C ^{III}												C ^{III}											C ^{IV}
PRIMARY SUSPENSION	SEE TABLE (ONLY REF)	D ₅												D ₅											D ₇
PRIMARY SUSPENSION	SEE TABLE (ONLY REF)	D ₆												D ₆											D ₈
PIVOT VERTICAL GAP	min 25 max 32	K ^{III}												K ^{III}											K ^{IV}
PIVOT LATERAL STOP GAPS DIFFERENCE	≤ 4 (J _{IV} - J _{IV})	J ^{III}												J ^{III}											J ^{IV}
QTY OF TURNS OF LEVELLING ROD	N/A	X ^{III}												X ^{III}											X ^{IV}
SHIMS OF ANTI-ROLL BAR	N/A	Y ^{III}												Y ^{III}											Y ^{IV}

COMPARE EACH TENTATIVE WITH THE TOLERANCE AND IDENTIFY EACH MEASURE AS BELOW

GOOD LOWER HIGHER



WEIGHT COMPENSATION

EQUIPMENT

WEIGHT

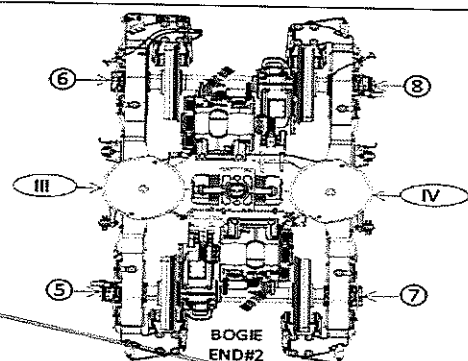
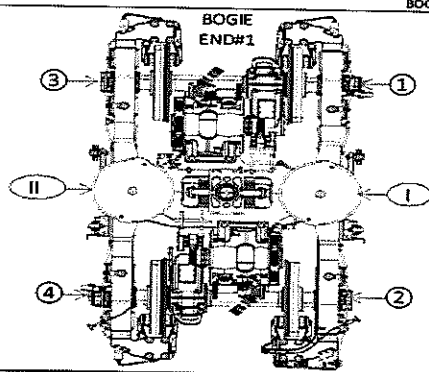
EQUIPMENT

WEIGHT

SECONDARY MEASUREMENTS (ONLY TC CARS)

AUTOMATIC COUPLER HEIGHT

ANTENNA HEIGHT



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Table 1 - Reference Values and Measurement Tolerances for the Car Levelling.

ITEM		THEORETICAL VALUES														TC2 CAR	
		TC1 CAR		M4 CAR		M1 CAR		M2 CAR		M3 CAR		M3 CAR		TC2 CAR			
		TBent	TBInt	MB1	MB1	MB1	MB2	MB2	MB1	MB1	MB1	MB1	MB1	TBInt	TBent		
Pivot lateral stop gaps difference [mm]	Fig. 4	≤4	≤4	≤4	≤4	≤4	≤4	≤4	≤4	≤4	≤4	≤4	≤4	≤4	≤4	≤4	
Air Spring height [mm]	Fig. 5	255 ⁺⁶ ₋₁	255 ⁺⁶ ₋₁	255 ⁺⁶ ₋₁	255 ⁺⁶ ₋₁	255 ⁺⁶ ₋₁	255 ⁺⁶ ₋₁	255 ⁺⁶ ₋₁	255 ⁺⁶ ₋₁	255 ⁺⁶ ₋₁	255 ⁺⁶ ₋₁	255 ⁺⁶ ₋₁	255 ⁺⁶ ₋₁	255 ⁺⁶ ₋₁	255 ⁺⁶ ₋₁	255 ⁺⁶ ₋₁	
Air spring pressure at AWD [Bar]	Fig. 5	3,76 (Ref.)	2,82 (Ref.)	2,87 (Ref.)	2,83 (Ref.)	3,02 (Ref.)	2,91 (Ref.)	3,07 (Ref.)	2,85 (Ref.)	2,83 (Ref.)	2,87 (Ref.)	2,83 (Ref.)	2,87 (Ref.)	2,83 (Ref.)	2,87 (Ref.)	3,76 (Ref.)	
Primary Suspension gaps [mm]	C ₁ - C ₁₁ C ₂₀ - C ₁₇	0,3 Māx.	0,3 Māx.	0,3 Māx.	0,3 Māx.	0,3 Māx.	0,3 Māx.	0,3 Māx.	0,3 Māx.	0,3 Māx.	0,3 Māx.	0,3 Māx.	0,3 Māx.	0,3 Māx.	0,3 Māx.	0,3 Māx.	
	D ₁₁ D ₅	35 ⁺¹⁵ ₋₅	35 ⁺¹⁵ ₋₅	35 ⁺¹⁵ ₋₅	35 ⁺¹⁵ ₋₅	35 ⁺¹⁵ ₋₅	35 ⁺¹⁵ ₋₅	35 ⁺¹⁵ ₋₅	35 ⁺¹⁵ ₋₅	35 ⁺¹⁵ ₋₅	35 ⁺¹⁵ ₋₅	35 ⁺¹⁵ ₋₅	35 ⁺¹⁵ ₋₅	35 ⁺¹⁵ ₋₅	35 ⁺¹⁵ ₋₅	35 ⁺¹⁵ ₋₅	
	D ₂₁ D ₆	35 ⁺¹⁵ ₋₅	35 ⁺¹⁵ ₋₅	35 ⁺¹⁵ ₋₅	35 ⁺¹⁵ ₋₅	35 ⁺¹⁵ ₋₅	35 ⁺¹⁵ ₋₅	35 ⁺¹⁵ ₋₅	35 ⁺¹⁵ ₋₅	35 ⁺¹⁵ ₋₅	35 ⁺¹⁵ ₋₅	35 ⁺¹⁵ ₋₅	35 ⁺¹⁵ ₋₅	35 ⁺¹⁵ ₋₅	35 ⁺¹⁵ ₋₅	35 ⁺¹⁵ ₋₅	
	D ₃₁ D ₇	35 ⁺¹⁵ ₋₅	35 ⁺¹⁵ ₋₅	35 ⁺¹⁵ ₋₅	35 ⁺¹⁵ ₋₅	35 ⁺¹⁵ ₋₅	35 ⁺¹⁵ ₋₅	35 ⁺¹⁵ ₋₅	35 ⁺¹⁵ ₋₅	35 ⁺¹⁵ ₋₅	35 ⁺¹⁵ ₋₅	35 ⁺¹⁵ ₋₅	35 ⁺¹⁵ ₋₅	35 ⁺¹⁵ ₋₅	35 ⁺¹⁵ ₋₅	35 ⁺¹⁵ ₋₅	
	D ₄₁ D ₈	35 ⁺¹⁵ ₋₅	35 ⁺¹⁵ ₋₅	35 ⁺¹⁵ ₋₅	35 ⁺¹⁵ ₋₅	35 ⁺¹⁵ ₋₅	35 ⁺¹⁵ ₋₅	35 ⁺¹⁵ ₋₅	35 ⁺¹⁵ ₋₅	35 ⁺¹⁵ ₋₅	35 ⁺¹⁵ ₋₅	35 ⁺¹⁵ ₋₅	35 ⁺¹⁵ ₋₅	35 ⁺¹⁵ ₋₅	35 ⁺¹⁵ ₋₅	35 ⁺¹⁵ ₋₅	
Carbody Floor height [mm]	Fig. 7	1106 ⁺¹⁰ ₋₁₀	1106 ⁺¹⁰ ₋₁₀	1106 ⁺¹⁰ ₋₁₀	1106 ⁺¹⁰ ₋₁₀	1106 ⁺¹⁰ ₋₁₀	1106 ⁺¹⁰ ₋₁₀	1106 ⁺¹⁰ ₋₁₀	1106 ⁺¹⁰ ₋₁₀	1106 ⁺¹⁰ ₋₁₀	1106 ⁺¹⁰ ₋₁₀	1106 ⁺¹⁰ ₋₁₀	1106 ⁺¹⁰ ₋₁₀	1106 ⁺¹⁰ ₋₁₀	1106 ⁺¹⁰ ₋₁₀	1106 ⁺¹⁰ ₋₁₀	
Bolster height [mm]	Fig. 7	850 ⁺⁵ ₋₇	850 ⁺⁵ ₋₇	850 ⁺⁵ ₋₇	850 ⁺⁵ ₋₇	850 ⁺⁵ ₋₇	850 ⁺⁵ ₋₇	850 ⁺⁵ ₋₇	850 ⁺⁵ ₋₇	850 ⁺⁵ ₋₇	850 ⁺⁵ ₋₇	850 ⁺⁵ ₋₇	850 ⁺⁵ ₋₇	850 ⁺⁵ ₋₇	850 ⁺⁵ ₋₇	850 ⁺⁵ ₋₇	
Coupling End height [mm]	F ₁	895 (Ref.)	760 (Ref.)	760 (Ref.)	760 (Ref.)	760 (Ref.)	760 (Ref.)	760 (Ref.)	760 (Ref.)	760 (Ref.)	760 (Ref.)	760 (Ref.)	760 (Ref.)	895 (Ref.)	760 (Ref.)	895 (Ref.)	
	F ₂	760 (Ref.)	760 (Ref.)	760 (Ref.)	760 (Ref.)	760 (Ref.)	760 (Ref.)	760 (Ref.)	760 (Ref.)	760 (Ref.)	760 (Ref.)	760 (Ref.)	760 (Ref.)	760 (Ref.)	760 (Ref.)	760 (Ref.)	
Pivot Vertical gap [mm]	Fig. 10	30 ⁺¹⁵ ₋₅	30 ⁺¹⁵ ₋₅	30 ⁺¹⁵ ₋₅	30 ⁺¹⁵ ₋₅	30 ⁺¹⁵ ₋₅	30 ⁺¹⁵ ₋₅	30 ⁺¹⁵ ₋₅	30 ⁺¹⁵ ₋₅	30 ⁺¹⁵ ₋₅	30 ⁺¹⁵ ₋₅	30 ⁺¹⁵ ₋₅	30 ⁺¹⁵ ₋₅	30 ⁺¹⁵ ₋₅	30 ⁺¹⁵ ₋₅	30 ⁺¹⁵ ₋₅	

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Leveling report from Production (Final measurements after Levelling and Weighting fine)

References for secondary suspension empty
A'n Air spring height empty

References for secondary suspension full

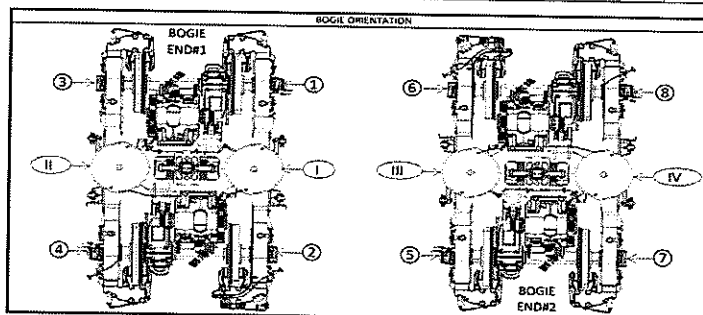
An Air spring height
Bn Difference between measurement A'n and An
En Floor covering height
Cn Air spring pressure
Dn Primary suspension
Kn Pivot Vertical gap
Jn Pivot Lateral stop gaps difference

Item	Reference [mm]	END#1		END#2	
		Right Side	Left Side	Left Side	Right Side
A'n	N/A	A'i 240	A'ii 241	A'iii 243	A'iv 244
An	254 to 261	Ai 256	Aii 256	Aiii 257	Aiv 258
Bn = An - A'n	N/A	Bi 16	Bii 15	Biii 14	Biv 14
En	1105 ±10 mm	Ei 1108	Eii 1109	Eiii 1107	Eiv 1109
Item	Reference [bar]	END#1		END#2	
		Right Side	Left Side	Left Side	Right Side
Cn	Table 02 (*)	Ci 2,98	Cii 2,96	Ciii 2,83	Civ 2,69
Cn - Cn+1	Difference ≤ 0,3	Ci - Cii 0,02		Ciii - Civ 0,14	
Gauge serial number	N/A	CIB05873		CIB05873	
Item	Reference [mm]	END#1		END#2	
		Right Side	Left Side	Left Side	Right Side
Dn	Table 01 (*)	D1 43,02	D3 44,14	D6 44,81	D8 46,40
		D2 45,02	D4 44,08	D5 45,96	D7 46,17
Kn	25 to 45	Ki 32,52		Kii 37,46	
Jn	Difference ≤ 4	Ji 24,99	Jii 26,11	Jiii 24,50	Jiv 25,71

(*) Reference, only include values, isn't approval criteria.

Table 01 D Theoretical Values	TC1		M4		M1		M2		M3		TC2	
	Tbex	TBin	Mb1	Mb1	Mb1	Mb2	Mb1	Mb1	Mb1	Mb1	Tbin	Tbex
D=	$35 \pm \frac{+12}{-5}$	$35 \pm \frac{+12}{-5}$	$35 \pm \frac{+12}{-5}$	$35 \pm \frac{+12}{-5}$	$35 \pm \frac{+12}{-5}$	$35 \pm \frac{+12}{-5}$	$35 \pm \frac{+12}{-5}$	$35 \pm \frac{+12}{-5}$	$35 \pm \frac{+12}{-5}$	$35 \pm \frac{+12}{-5}$	$35 \pm \frac{+12}{-5}$	$35 \pm \frac{+12}{-5}$

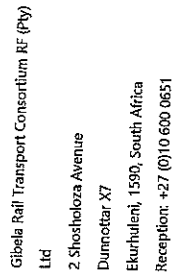
Table 02 C Theoretical Values	TC1		M4		M1		M2		M3		TC2	
	Tbex	TBin	Mb1	Mb1	Mb1	Mb2	Mb1	Mb1	Mb1	Mb1	Tbin	Tbex
C=	3.76	2.82	2.87	2.83	3.02	2.91	3.07	2.85	2.83	2.87	2.83	3.76



Weighting report from Test and Commissioning (Final measurements after Levelling and Weighting fine)





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	Front Bogie [Tons]	Rear Bogie [Tons]	Longitudinal Imbalance %	Criteria Longitudinal Imbalance s %
M2	18.60	17.87	2.00%	PASS
	Weight Measured [Tons]	Weight Predicted [Tons]	Weight Difference [%]	Criteria Min/Diff/s/Max
	36.47	37.06	1.60%	1.37%

[illegible]

Company Gibela	Name of the requester Joshua Nemanashe	Function PME	Date 7 May 2024	Visa 	Request N° PRASA-DERSU-1096																																										
			Plant Country Gibela South Africa																																												
Project PRASA PROJECT			Customer PRASA																																												
Product name Reference	TS161 to TS210 TC1,M4,M1,M2,M3,TC2		Drawing number and Revision	DT00000207673																																											
Temporary <input checked="" type="checkbox"/> Until : TS161 to TS210	Quantity : 80 Train sets	Serial Numbers / Batch: TS211 to TS290			Permanent <input type="checkbox"/>																																										
Requirement: According to GIB0000001672 prasa weight balance EN . TC1/TC2:The weighing report specification requires the weight difference (weight measured vs predicted weight) tolerance to be 1.62%. M1/M2:The weighing report specification requires the weight difference (weight measured vs predicted weight) tolerance to be 1.37%. M3/M4:The weighing report specification requires the weight difference (weight measured vs predicted weight) tolerance to be 1.36%.				Anteriority: Impact on: Environment..... <input type="checkbox"/> Safety (people)..... <input type="checkbox"/> Contract clauses..... <input type="checkbox"/> Economic..... <input type="checkbox"/> Development.. <input type="checkbox"/> Product Safety..... <input type="checkbox"/> Reliability..... <input type="checkbox"/> Performances..... <input checked="" type="checkbox"/> Delivery..... <input type="checkbox"/> Cost..... <input type="checkbox"/> Documentation..... <input type="checkbox"/> Resources..... <input type="checkbox"/> Others..... <input type="checkbox"/>																																											
Non-conformity description: The average weights measured from TS120 up to 162 has shown a deviation from the acceptance criteria. However, after discussions with BARRABES-PRADAL Daniel an additional 0.5% deviation from the acceptance criteria will not have an impact. Should we had this to the acceptance tolerance then all the cars will pass. "these trains are equivalent in terms of mass (we have seen a gap around 0,5)" See below min and max weight measured for TS120-162 and the average tolerances (We expect the same deviation for the next 80 train sets):																																															
<table border="1"> <thead> <tr> <th></th> <th>Min</th> <th>Max</th> </tr> </thead> <tbody> <tr> <td>TC2</td> <td>33.9</td> <td>34.6</td> </tr> <tr> <td>M3</td> <td>35.4</td> <td>35.9</td> </tr> <tr> <td>M2</td> <td>36</td> <td>37.1</td> </tr> <tr> <td>M1</td> <td>36.6</td> <td>37</td> </tr> <tr> <td>M4</td> <td>35.3</td> <td>36.6</td> </tr> <tr> <td>TC1</td> <td>33.9</td> <td>34.4</td> </tr> </tbody> </table>							Min	Max	TC2	33.9	34.6	M3	35.4	35.9	M2	36	37.1	M1	36.6	37	M4	35.3	36.6	TC1	33.9	34.4																					
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Cause of the non-conformity / reasons for request: Weight balance document was revised from J to K by engineering and the following was removed from the weight calculations: -Main Reservoir Tank Removal -Brake Reservoir Resizing -CPU bloc is combined with the screen - Closure of Air Extractor Opening						
Attached documents: REF: GIB0000001672_KO PRASA WEIGHT BALANCE EN report  RE TS Weight is failing .msg						
Containment action: Each train is evaluated by engineering and based on risk it will be approved or declined. A new version of GIB0000001672 will be created to align the sub system actual weight with the theoretical weight which will reduce the error percentage.						
Corrective & Preventive action: Engineering to revise car weights per baseline.		Use or assignment limitations of the non-conforming product:				
Function	Entity	Name	Date	Visa	Observations / Conditions	Decision
Process Manufacturing Engineering	GIB	Junior MAGADA	14/05/2024	<i>JFK</i>		<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK
Train System Engineering	GIB	Mpho LELALA-MNGUNI		<i>Selab-mnguni</i>		<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK
Industrial Quality	GIB	Lucy MAKOFANE	14/05/2024	<i>LM</i>		<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK
Project Engineering Manager	GIB	Tshepo NKODI	15/05/2024	<i>Tshepo</i>		<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK
Project Quality Safety Manager	GIB	Solani MALIBONGWE	16/05/2024	<i>R.M.C. Malibongwe</i> (pp. Reitumetseng Mphuthi)		<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK
Project Manager	GIB	Devendran GOVENDER	17/05/2024	<i>Devendran</i>	Engineering to update the test procedure with new targets	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK