

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	X	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	1	PRA.FT1140.05	YES
<input type="checkbox"/>	DTR3-PROCE-17	LEVELLING, WEIGHTING AND BALANCING TC CAR	FT1140	1	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 223	TC1	GIBELO GOODMESS	16/05/24	SI.FT1140.52	01/08

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# SELF INSPECTION INDUSTRIAL QUALITY

Rev:09

Date:

5/31/2022

Projet:  
PRASA

SI.FT1140.52

Cet:

NCR:

Work Station

FT1140



Safety Related

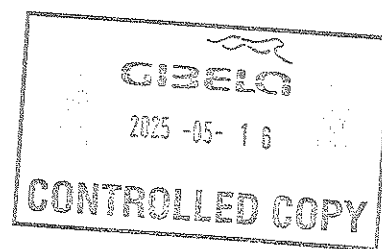
## I - Document and Instrument Control

### I.1 - Documents control

Document	TC	SE	EC	MS	PK	TCC	Revision	Remark	OK	Signature/Date
PRA.FT1140.04	X								✓	<i>[Signature]</i> 16/05/24
PRA.FT1140.05										
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	Signature/Date
Measuring Tape	GIBTA 0276	26/10/23	✓	
Vernier Caliper	GIRVF 0056	06/06/23	✓	
Torque Wrench 30MM	D281023	19/12/23	✓	<i>[Signature]</i> 16/05/24
Torque Wrench 150MM	D28622009	19/12/23	✓	
Torque Wrench 30MM	A9650053	21/12/23	✓	
Torque Wrench 320MM	A9650027	21/12/23	✓	
Torque Wrench 17MM	D2861617	19/12/23	✓	





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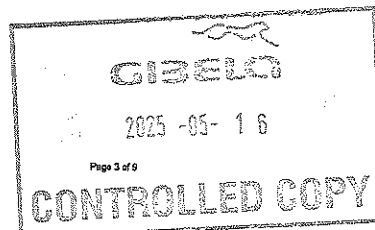
Project:  
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SI.FT1140.52

## II - Self Inspection - Items to Check

### II.1 - Items to Check

Item	Picture/Sketch	Description	Criteria/Record	OK	NO	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		✓		 16/05/24
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): 10.0 bar Final pressure (FP): 9.5 bar FP - IP = 0.5 bar  APPROVAL CRITERIA: After 5 minutes the pressure cannot drop more than 0.2 bar	✓		 16/05/24
03		Movement performed at least 50m to shudder the car. And position on the leveled load cell, with wheels on the center.		✓		 16/05/24
04		Measurement inspection was done with car on condition AW0 and the rail levelled.  (The load cells system must be levelled and calibrated)	Calibration Validation Date  19/12/23	✓		 16/05/24
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)	EQUIPMENT DESCRIPTION Drive Seat WEIGHT (kg) 60	✓		 16/05/24
06		The pressure difference between air spring on each bogie when raise the pressure was maintained < 0.3 bar.		✓		 16/05/24
07		Measurement recorded with empty suspension and loaded are in conformity with tolerances of the project.		✓		 16/05/24
08		All leveling measurements are according to the reference.  (Values out of reference must be recorded on "Description of defects")		✓		 16/05/24





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Item	Pictures/Photos	Description	Criteria/Record	Signature/Date
09		Check that the levelling rods are torqued and have torque marker.		 16/05/24
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).		 16/05/24
11		Remove the car, move back onto the load cells and repeat the step 09. Confirm if both are in the tolerance of $\leq 4\%$ .		 16/05/24
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	 16/05/24
13		Pivot fixation	1- M20 x 90 screws with application of torque according to PRA.FT1140.04 / D5	 16/05/24
14		FOR TC CARS F= Height of the center of Automatic coupler F = 895mm (+5/-10mm) (Using levelled rail)	TC CAB #1= <u>897</u> mm	 16/05/24
15		FOR TC CARS Height of Eurobalise Antenna = 205mm(+/-10mm) (Using levelled rail)	TC CAB #1= <u>196</u> mm	 16/05/24
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)	M/A
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	M/A
18		Car does not come into contact with the gauge.	No Contact with Car and Gauge -GO Contact with Car and Gauge - NO GO	 16/05/24

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2025-05-16

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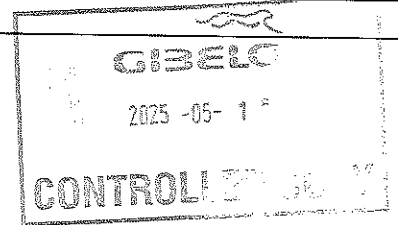
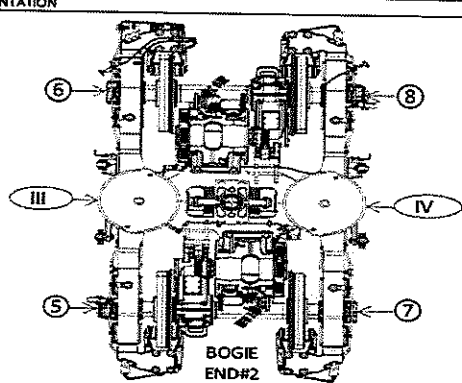
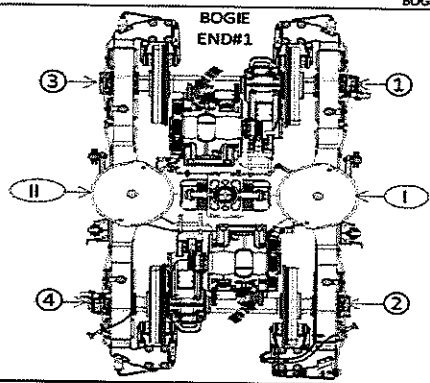
Projet:  
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## DRAFT TO MEASUREMENTS DURING LEVELLING (ALL UNITS MUST BE IN mm/bar/kg)

DESCRIPTION	TOLERANCE	LEFTSIDE						RIGHTSIDE						
		6	5	4	3	2	1	1	2	3	4	5	6	
AIR SPRING HEIGHT (EMPTY)	N/A	A`i	/	/	/	/	/	/	/	/	/	/	/	A`i
AIR SPRING HEIGHT (FULL)	min 254 max 261	Aii	/	/	/	959	254	254	260	/	/	/	/	Ai
FLOOR COVERING HEIGHT	min 1096 max 1116	Eii	/	/	/	/	/	/	/	/	/	/	/	Ei
AIR SPRING PRESSURE	≤ 0.3 (Qi - Qi)	Cii	/	/	/	3.73	3.63	3.74	3.50	/	/	/	/	Ci
PRIMARY SUSPENSION	SEE TABLE (ONLY REF)	D3	/	/	/	/	/	/	/	/	/	/	/	D1
PRIMARY SUSPENSION	SEE TABLE (ONLY REF)	D4	/	/	/	/	/	/	/	/	/	/	/	D2
PIVOT VERTICAL GAP	min 25 max 32	Kii	/	/	/	/	/	/	/	/	/	/	/	Ki
PIVOT LATERAL STOP GAPS DIFFERENCE	≤ 4 (Ai - Ai)	Jii	/	/	/	/	/	/	/	/	/	/	/	Ji
QTY OF TURNS OF LEVELLING ROD	N/A	Xii	/	/	/	1 1/2	1 1/2	1 1/2	1 1/2	/	/	/	/	Xi
SHIMS OF ANTI-ROLL BAR	N/A	Yii	/	/	/	/	/	/	/	/	/	/	/	Yi
AIR SPRING HEIGHT (EMPTY)	N/A	A`iii	/	/	/	/	/	/	/	/	/	/	/	A`iv
AIR SPRING HEIGHT (FULL)	min 254 max 261	Aiii	/	/	/	254	263	265	257	/	/	/	/	Aiv
FLOOR COVERING HEIGHT	min 1096 max 1116	Eiii	/	/	/	/	/	/	/	/	/	/	/	Eiv
AIR SPRING PRESSURE	≤ 0.3 (Qv - Qi)	Ciii	/	/	/	2.84	2.90	2.93	2.87	/	/	/	/	Civ
PRIMARY SUSPENSION	SEE TABLE (ONLY REF)	D5	/	/	/	/	/	/	/	/	/	/	/	D7
PRIMARY SUSPENSION	SEE TABLE (ONLY REF)	D6	/	/	/	/	/	/	/	/	/	/	/	D8
PIVOT VERTICAL GAP	min 25 max 32	Kiii	/	/	/	/	/	/	/	/	/	/	/	Kv
PIVOT LATERAL STOP GAPS DIFFERENCE	≤ 4 (Iv - Iii)	Jiii	/	/	/	/	/	/	/	/	/	/	/	Jv
QTY OF TURNS OF LEVELLING ROD	N/A	Xiii	/	/	/	1 1/2	1 1/2	1 1/2	1 1/2	/	/	/	/	Xiv
SHIMS OF ANTI-ROLL BAR	N/A	Yiii	/	/	/	/	/	/	/	/	/	/	/	Yiv

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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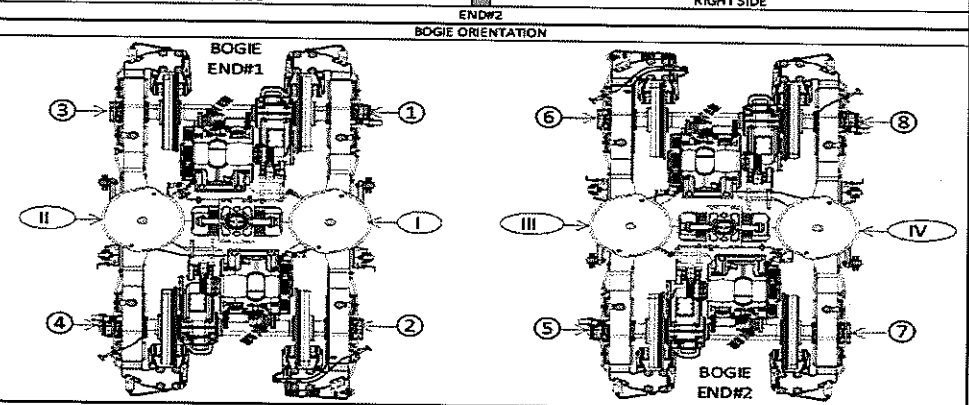
Proj:  
PRASA

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

DESCRIPTION	TOLERANCE	LEFTSIDE						RIGHTSIDE						
		6	5	4	3	2	1	1	2	3	4	5	6	
AIR SPRING HEIGHT (EMPTY)	N/A	A <sup>II</sup>												A <sup>I</sup>
AIR SPRING HEIGHT (FULL)	min 254 max 261	A <sup>II</sup>												A <sup>I</sup>
FLOOR COVERING HEIGHT	min 1096 max 1116	E <sup>II</sup>												E <sup>I</sup>
AIR SPRING PRESSURE	≤ 0.3 (Q <sub>i</sub> - Q <sub>j</sub> )	C <sup>II</sup>												C <sup>I</sup>
PRIMARY SUSPENSION	SEE TABLE (ONLY REF)	D <sub>3</sub>												D <sub>1</sub>
PRIMARY SUSPENSION	SEE TABLE (ONLY REF)	D <sub>4</sub>												D <sub>2</sub>
PIVOT VERTICAL GAP	min 25 max 32	K <sup>II</sup>												K <sup>I</sup>
PIVOT LATERAL STOP GAPS DIFFERENCE	≤ 4 (J <sub>i</sub> - J <sub>j</sub> )	J <sup>II</sup>												J <sup>I</sup>
QTY OF TURNS OF LEVELLING ROD	N/A	X <sup>II</sup>												X <sup>I</sup>
SHIMS OF ANTI-ROLL BAR	N/A	Y <sup>II</sup>												Y <sup>I</sup>
DESCRIPTION	TOLERANCE	6	5	4	3	2	1	1	2	3	4	5	6	
AIR SPRING HEIGHT (EMPTY)	N/A	A <sup>III</sup>												A <sup>IV</sup>
AIR SPRING HEIGHT (FULL)	min 254 max 261	A <sup>III</sup>												A <sup>IV</sup>
FLOOR COVERING HEIGHT	min 1096 max 1116	E <sup>III</sup>												E <sup>IV</sup>
AIR SPRING PRESSURE	≤ 0.3 (Q <sub>v</sub> - Q <sub>ii</sub> )	C <sup>III</sup>												C <sup>IV</sup>
PRIMARY SUSPENSION	SEE TABLE (ONLY REF)	D <sub>5</sub>												D <sub>7</sub>
PRIMARY SUSPENSION	SEE TABLE (ONLY REF)	D <sub>6</sub>												D <sub>8</sub>
PIVOT VERTICAL GAP	min 25 max 32	K <sup>III</sup>												K <sup>IV</sup>
PIVOT LATERAL STOP GAPS DIFFERENCE	≤ 4 (J <sub>v</sub> - J <sub>ii</sub> )	J <sup>III</sup>												J <sup>IV</sup>
QTY OF TURNS OF LEVELLING ROD	N/A	X <sup>III</sup>												X <sup>IV</sup>
SHIMS OF ANTI-ROLL BAR	N/A	Y <sup>III</sup>												Y <sup>IV</sup>

COMPARE EACH TENTATIVE WITH THE TOLERANCE AND IDENTIFY EACH MEASURE AS BELOW		
GOOD	LOWER	HIGHER
✓	↓	↑
WEIGHT COMPENSATION		
EQUIPMENT		
WEIGHT		
EQUIPMENT		
WEIGHT		
SECONDARY MEASUREMENTS (ONLY TO CARS)		
AUTOMATIC COUPLER HEIGHT		
ANTENNA HEIGHT		



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2025-05-11  
CONTROL



# SELF INSPECTION INDUSTRIAL QUALITY

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SI.FT1140.52

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

ITEM	THEORETICAL VALUES													
	TCL CAR		M4 CAR		M1 CAR		M2 CAR		M3 CAR		M5 CAR		TCL CAR	
	TBext	TBint	MB1	MB2	MB1	MB2	MB1	MB2	MB1	MB2	MB1	MB2	TBint	TBext
Pivot lateral stop gaps difference [mm]	≤4	≤4	≤4	≤4	≤4	≤4	≤4	≤4	≤4	≤4	≤4	≤4	≤4	≤4
Air Spring height [mm]	Fig. 4	Fig. 5	Fig. 5	Fig. 5	Fig. 5	Fig. 5	Fig. 5	Fig. 5	Fig. 5	Fig. 5	Fig. 5	Fig. 5	Fig. 5	Fig. 5
	$255^{+6}_{-4}$	$255^{+6}_{-4}$	$255^{+6}_{-4}$	$255^{+6}_{-4}$	$255^{+6}_{-4}$	$255^{+6}_{-4}$	$255^{+6}_{-4}$	$255^{+6}_{-4}$	$255^{+6}_{-4}$	$255^{+6}_{-4}$	$255^{+6}_{-4}$	$255^{+6}_{-4}$	$255^{+6}_{-4}$	$255^{+6}_{-4}$
Air spring pressure at AAV0 [bar]	Fig. 5	Fig. 5	Fig. 5	Fig. 5	Fig. 5	Fig. 5	Fig. 5	Fig. 5	Fig. 5	Fig. 5	Fig. 5	Fig. 5	Fig. 5	Fig. 5
	3,76 (Ref.)	2,82 (Ref.)	2,87 (Ref.)	2,83 (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.)	2,83 (Ref.)	3,76 (Ref.)
Primary Suspension gaps [mm]	$C_1 - C_4$	$C_1 - C_4$	$C_1 - C_4$	$C_1 - C_4$	$C_1 - C_4$	$C_1 - C_4$	$C_1 - C_4$	$C_1 - C_4$	$C_1 - C_4$	$C_1 - C_4$	$C_1 - C_4$	$C_1 - C_4$	$C_1 - C_4$	$C_1 - C_4$
	$C_1 - C_4$	$C_1 - C_4$	$C_1 - C_4$	$C_1 - C_4$	$C_1 - C_4$	$C_1 - C_4$	$C_1 - C_4$	$C_1 - C_4$	$C_1 - C_4$	$C_1 - C_4$	$C_1 - C_4$	$C_1 - C_4$	$C_1 - C_4$	$C_1 - C_4$
	$C_1 - C_4$	$C_1 - C_4$	$C_1 - C_4$	$C_1 - C_4$	$C_1 - C_4$	$C_1 - C_4$	$C_1 - C_4$	$C_1 - C_4$	$C_1 - C_4$	$C_1 - C_4$	$C_1 - C_4$	$C_1 - C_4$	$C_1 - C_4$	$C_1 - C_4$
	$C_1 - C_4$	$C_1 - C_4$	$C_1 - C_4$	$C_1 - C_4$	$C_1 - C_4$	$C_1 - C_4$	$C_1 - C_4$	$C_1 - C_4$	$C_1 - C_4$	$C_1 - C_4$	$C_1 - C_4$	$C_1 - C_4$	$C_1 - C_4$	$C_1 - C_4$
Carbody Floor height [mm]	Fig. 6	Fig. 6	Fig. 6	Fig. 6	Fig. 6	Fig. 6	Fig. 6	Fig. 6	Fig. 6	Fig. 6	Fig. 6	Fig. 6	Fig. 6	Fig. 6
	$35^{+15}_{-5}$	$35^{+15}_{-5}$	$35^{+15}_{-5}$	$35^{+15}_{-5}$	$35^{+15}_{-5}$	$35^{+15}_{-5}$	$35^{+15}_{-5}$	$35^{+15}_{-5}$	$35^{+15}_{-5}$	$35^{+15}_{-5}$	$35^{+15}_{-5}$	$35^{+15}_{-5}$	$35^{+15}_{-5}$	$35^{+15}_{-5}$
	$35^{+15}_{-5}$	$35^{+15}_{-5}$	$35^{+15}_{-5}$	$35^{+15}_{-5}$	$35^{+15}_{-5}$	$35^{+15}_{-5}$	$35^{+15}_{-5}$	$35^{+15}_{-5}$	$35^{+15}_{-5}$	$35^{+15}_{-5}$	$35^{+15}_{-5}$	$35^{+15}_{-5}$	$35^{+15}_{-5}$	$35^{+15}_{-5}$
	$35^{+15}_{-5}$	$35^{+15}_{-5}$	$35^{+15}_{-5}$	$35^{+15}_{-5}$	$35^{+15}_{-5}$	$35^{+15}_{-5}$	$35^{+15}_{-5}$	$35^{+15}_{-5}$	$35^{+15}_{-5}$	$35^{+15}_{-5}$	$35^{+15}_{-5}$	$35^{+15}_{-5}$	$35^{+15}_{-5}$	$35^{+15}_{-5}$
Coupling End height [mm]	Fig. 7	Fig. 7	Fig. 7	Fig. 7	Fig. 7	Fig. 7	Fig. 7	Fig. 7	Fig. 7	Fig. 7	Fig. 7	Fig. 7	Fig. 7	Fig. 7
	$1106^{+10}_{-10}$	$1106^{+10}_{-10}$	$1106^{+10}_{-10}$	$1106^{+10}_{-10}$	$1106^{+10}_{-10}$	$1106^{+10}_{-10}$	$1106^{+10}_{-10}$	$1106^{+10}_{-10}$	$1106^{+10}_{-10}$	$1106^{+10}_{-10}$	$1106^{+10}_{-10}$	$1106^{+10}_{-10}$	$1106^{+10}_{-10}$	$1106^{+10}_{-10}$
Bolster height [mm]	Fig. 7	Fig. 7	Fig. 7	Fig. 7	Fig. 7	Fig. 7	Fig. 7	Fig. 7	Fig. 7	Fig. 7	Fig. 7	Fig. 7	Fig. 7	Fig. 7
	$850^{+5}_{-7}$	$850^{+5}_{-7}$	$850^{+5}_{-7}$	$850^{+5}_{-7}$	$850^{+5}_{-7}$	$850^{+5}_{-7}$	$850^{+5}_{-7}$	$850^{+5}_{-7}$	$850^{+5}_{-7}$	$850^{+5}_{-7}$	$850^{+5}_{-7}$	$850^{+5}_{-7}$	$850^{+5}_{-7}$	$850^{+5}_{-7}$
Coupling End height [mm]	Fig. 8	Fig. 9	Fig. 9	Fig. 9	Fig. 9	Fig. 9	Fig. 9	Fig. 9	Fig. 9	Fig. 9	Fig. 9	Fig. 9	Fig. 9	Fig. 9
	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.)
Pivot Vertical gap [mm]	Fig. 10	Fig. 10	Fig. 10	Fig. 10	Fig. 10	Fig. 10	Fig. 10	Fig. 10	Fig. 10	Fig. 10	Fig. 10	Fig. 10	Fig. 10	Fig. 10
	$30^{+5}_{-5}$	$30^{+5}_{-5}$	$30^{+5}_{-5}$	$30^{+5}_{-5}$	$30^{+5}_{-5}$	$30^{+5}_{-5}$	$30^{+5}_{-5}$	$30^{+5}_{-5}$	$30^{+5}_{-5}$	$30^{+5}_{-5}$	$30^{+5}_{-5}$	$30^{+5}_{-5}$	$30^{+5}_{-5}$	$30^{+5}_{-5}$

  
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PRASA

SI.FT1140.52

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

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

References for secondary suspension full

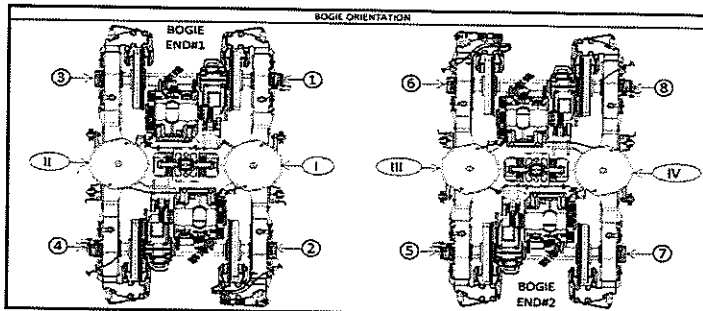
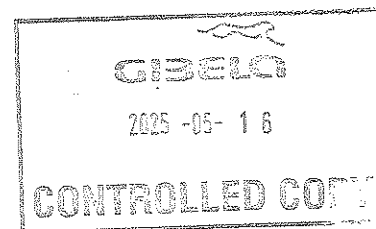
- An Air spring height
- Bn Difference between measurement A'n and An
- En Floor covering height
- Cn Air spring pressure
- Dn Primary suspension
- Kn Pivot Vertical gap
- Jn Pivot Lateral stop gaps difference

Item	Reference [mm]	END#1		END#2	
		Right Side	Left Side	Left Side	Right Side
A'n	N/A	A'i 233	A'ii 231	A'iii 240	A'iv 241
An	254 to 261	Ai 258	Aii 260	Aiii 259	Aiv 258
Bn = An - A'n	N/A	Bi 25	Bii 29	Biii 19	Biv 17
En	1106 ±10 mm	Ei 1112	Eii 1110	Eiii 1115	Eiv 1109
Item	Reference [bar]	END#1		END#2	
Cn	Table 02 (*)	Ci 3.53	Cii 3.61	Ciii 2.88	Civ 2.85
Cn - Cn+1	Difference ≤ 0,3	Ci - Cii 0.08		Ciii - Civ 0.03	
Gauge serial number	N/A	91805873		91805873	
Item	Reference [mm]	END#1		END#2	
Dn	Table 01 (*)	Di 44.17	Ds 44.68	De 45.15	Df 44.36
		Dz 44.11	Dt 44.34	Du 45.48	Dv 44.94
Kn	25 to 45	Ki 30.25		Kii 30.33	
Jn	Difference ≤ 4	Ji 26.27	Jii 25.46	Jiii 25.83	Jiv 25.94

(\*) 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	Mb2	Mb1	Mb1	Mb1	Tbin	Tbex
D=	$35 \frac{+12}{-5}$	$35 \frac{+12}{-5}$	$35 \frac{+12}{-5}$	$35 \frac{+12}{-5}$	$35 \frac{+12}{-5}$	$35 \frac{+12}{-5}$	$35 \frac{+12}{-5}$	$35 \frac{+12}{-5}$	$35 \frac{+12}{-5}$	$35 \frac{+12}{-5}$	$35 \frac{+12}{-5}$	$35 \frac{+12}{-5}$

Table 02 C Theoretical Values	TC1		M4		M1		M2		M3		TC2	
	Tbex	TBin	Mb1	Mb1	Mb1	Mb2	Mb2	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 Weighing fine)





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TRAIN SET 223      REF: GIB000001672\_JO PRASA WEIGHT BALANCE EN  
PCO9 WEIGHING REPORT

	Front Bogie [Tons]	Rear Bogie [Tons]	Longitudinal Imbalance [%]	Criteria Longitudinal Imbalance ≤ 10%
TC1	18,45	15,52	9,63%	PASS
	Weight Measured vs Predicted	Weight Predicted [Tons]	Weight Difference [%]	Tolerance [%]
	33,97	34,42	1,32%	1,62%
				Criteria Min/5/5/Max
				PASS

Test Participants	
Company	Department
Gibela	EOS
Signature	Date
<i>[Signature]</i>	16/10/2011