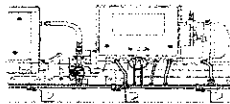
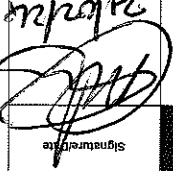


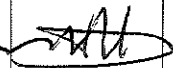

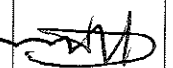

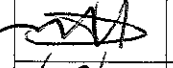
	SELF INSPECTION		Date: 2022/05/31	Project: PRASA	SI.FT1140.52
	INDUSTRIAL QUALITY				

II - Self Inspection - Items to Check

Item	Picture/Sketch	Description	Critical/Record	OK	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		✓		21/02/24
02		Check underframe pipe system air tightness. Test performance according to VDI 3840, PT 1130, 15.	The test was performed and no leak was observed. Initial pressure (IP): 1.80 bar Final pressure (FP): 1.78 bar FP - IP = 0.02 bar APPROVAL CRITERIA: After 5 minutes the pressure cannot drops more than 0.2 bar	✓		21/02/24
03		Movement performed at least 50m to shoulder the car. And position on the leveled load cell, with wheels on the center.		✓		22/02/24
04		Measurement inspection was done with car on condition AWD and the rail leveled. (The load cells system must be leveled and calibrated)	Calibration Validation Date _/_/			22/02/24
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 GANGWAY WEIGHT 360 kg	✓		21/02/24
06		The pressure difference between air spring on each bogie when raise the pressure was maintained < 0.3 bar.		✓		22/02/24
07		Measurement recorded with empty suspension and loaded are in conformity with tolerances of the project.		✓		22/02/24
08		All leveling measurements are according to the reference. (Values out of reference must be recorded on "Description of defects")		✓		22/02/24

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Item	Picture/Sketch	Description	Criteria/Record	OK	Signature	Date
09		Check that the leveling rods are torqued and have torque marker.		✓		22/02/24
10		The difference of weight between the left and right wheels of each axle, must be $\leq 4\%$. (Verify on the T&C equipment if all arrows are in green).		✓		22/02/24
11		Remove the car, move back onto the load cells and repeat the step 09. Confirm if both are in the tolerance of $\pm 4\%$.		✓		22/02/24
12		1 - Record shim thickness used on rod. 2 - All screws were torqued and have torque marker.	THICKNESS (mm) I II III IV	✓		22/02/24
13		Pivot fixation	1- M20 x 90 screws with application of torque according to PRA.FT1140.04 / 05	✓		22/02/24
14		FOR TC CARS F = Height of the center of automatic coupler (Using leveled rail) F = 895mm (+5 / -10mm)	TC CAB #1 = _____ mm		N/A	
15		FOR TC CARS Height of Eurobalise Antenna = 205mm(+/-10mm) (Using leveled rail)	TC CAB #1 = _____ mm		N/A	
16		Check pantograph piping air tightness. Test performance according to VI 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)	✓		22/02/24
17		Pantograph does not come in contact with the higher height gauge when passing through.	No Contact with Pantograph and Gauge -GO			
18		Car does not come into contact with the gauge.	No Contact with Car and Gauge -GO			

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COMPARISON EACH TOLERANCE WITH THE TOLERANCE AND IDENTIFY EACH MEASURE AS FOLLOWS		GOOD		LOWER		HIGHER	
WEIGHT		↑		↓			
COMPENSATION							
EQUIPMENT							
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	SELF INSPECTION INDUSTRIAL QUALITY		Date: 2022/05/31	Project: PRASA	SI.FTT1140.52
			Rev: 09		

DRAFT TO MEASUREMENTS DURING LEVELLING (ALL UNITS MUST BE IN mm/bar/kg)									
END#1									
LEFT SIDE					RIGHT SIDE				
DESCRIPTION	TOLERANCE	A.I	A.II	A.III	A.IV	E.V	C.V	D.V	D.VI
AIR SPRING HEIGHT (EMPTY)	N/A	/	/	/	/	/	/	/	/
AIR SPRING HEIGHT (FULL)	min 254 max 261	A.III	/	/	/	/	/	/	/
FLOOR COVERING	min 1096 max 1116	E.II	/	/	/	/	/	/	/
AIR SPRING PRESSURE (CI - CI)	5 0.3	C.II	/	/	/	/	/	/	/
PRIMARY SUSPENSION	SEE TABLE (ONLY REF)	D.I	/	/	/	/	/	/	/
PRIMARY SUSPENSION	SEE TABLE (ONLY REF)	D.II	/	/	/	/	/	/	/
PIVOT VERTICAL GAP	min 25 max 32	K.II	/	/	/	/	/	/	/
PIVOT LATERAL STOP	5.4	J.II	/	/	/	/	/	/	/
GAPS DIFFERENCE (I - II)		I.II	/	/	/	/	/	/	/
QTY OF TURNS OF LEVELLING ROD	N/A	X.II	/	/	/	/	/	/	/
SHIMS OF ANTI-ROLL BAR	N/A	Y.II	/	/	/	/	/	/	/
DESCRIPTION	TOLERANCE	6	5	4	3	2	1	6	5
AIR SPRING HEIGHT (EMPTY)	N/A	A.III	/	/	/	/	/	/	/
AIR SPRING HEIGHT (FULL)	min 254 max 261	A.III	/	/	/	/	/	/	/
FLOOR COVERING	min 1096 max 1116	E.III	/	/	/	/	/	/	/
AIR SPRING PRESSURE (CI - CI)	5 0.3	C.III	/	/	/	/	/	/	/
PRIMARY SUSPENSION	SEE TABLE (ONLY REF)	D.II	/	/	/	/	/	/	/
PRIMARY SUSPENSION	SEE TABLE (ONLY REF)	D.II	/	/	/	/	/	/	/
PIVOT VERTICAL GAP	min 25 max 32	K.III	/	/	/	/	/	/	/
PIVOT LATERAL STOP	5.4	J.III	/	/	/	/	/	/	/
GAPS DIFFERENCE (I - II)		I.III	/	/	/	/	/	/	/
QTY OF TURNS OF LEVELLING ROD	N/A	X.III	/	/	/	/	/	/	/
SHIMS OF ANTI-ROLL BAR	N/A	Y.III	/	/	/	/	/	/	/
DESCRIPTION	TOLERANCE	6	5	4	3	2	1	6	5
END#2									
LEFT SIDE					RIGHT SIDE				
DESCRIPTION	TOLERANCE	A.II	A.III	A.IV	A.IV	E.V	C.V	D.V	D.VI
AIR SPRING HEIGHT (EMPTY)	N/A	/	/	/	/	/	/	/	/
AIR SPRING HEIGHT (FULL)	min 254 max 261	A.III	/	/	/	/	/	/	/
FLOOR COVERING	min 1096 max 1116	E.II	/	/	/	/	/	/	/
AIR SPRING PRESSURE (CI - CI)	5 0.3	C.II	/	/	/	/	/	/	/
PRIMARY SUSPENSION	SEE TABLE (ONLY REF)	D.I	/	/	/	/	/	/	/
PRIMARY SUSPENSION	SEE TABLE (ONLY REF)	D.II	/	/	/	/	/	/	/
PIVOT VERTICAL GAP	min 25 max 32	K.II	/	/	/	/	/	/	/
PIVOT LATERAL STOP	5.4	J.II	/	/	/	/	/	/	/
GAPS DIFFERENCE (I - II)		I.II	/	/	/	/	/	/	/
QTY OF TURNS OF LEVELLING ROD	N/A	X.II	/	/	/	/	/	/	/
SHIMS OF ANTI-ROLL BAR	N/A	Y.II	/	/	/	/	/	/	/
DESCRIPTION	TOLERANCE	6	5	4	3	2	1	6	5
THE TOLERANCE AND IDENTITY EACH MEASURE AS BELOW									
GOOD	↑	↓							
LOWER	↗	↘							
WEIGHT COMPENSATION									
EQUIPMENT	WEIGHT								
EQUIPMENT	WEIGHT								
WEIGHT	WEIGHT								
EQUIPMENT	WEIGHT								
COMPARE EACH TENTATIVE WITH EACH MEASURE AS BELOW									
ANTENNA HEIGHT									
AUTOMATIC COUPLER HEIGHT									
SECONDARY MEASUREMENTS (ONLY TC CARS)									
WEIGHT									
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Table 1 - Reference Values and Measurement Tolerances for the Car Levelling.

ITEM		THEORETICAL VALUES											
		TCL CAR		ML CAR		ML CAR		ML CAR		ML CAR		TCL CAR	
		TBext	TBint	MB1	MB1	MB1	MB2	MB2	MB1	MB1	MB1	TBint	TBext
Pivot lateral stop gap difference (mm)	J_{n-Jn+1} (+/-0)	Fig. 4	≤4	≤4	≤4	≤4	≤4	≤4	≤4	≤4	≤4	≤4	≤4
Air spring height (mm)	A_n (+/-0)	Fig. 5	255 ⁺⁴ ₋₁	255 ⁺⁴ ₋₁	255 ⁺⁴ ₋₁	255 ⁺⁴ ₋₁	255 ⁺⁴ ₋₁	255 ⁺⁴ ₋₁	255 ⁺⁴ ₋₁	255 ⁺⁴ ₋₁	255 ⁺⁴ ₋₁	255 ⁺⁴ ₋₁	255 ⁺⁴ ₋₁
			3,76	2,82	2,87	2,83	3,02	2,91	3,07	2,85	2,83	2,83	3,76
Air spring pressure at AVO (Bar)	$C_{n(+m)}$	Fig. 5	(Ref.)	(Ref.)	(Ref.)	(Ref.)	(Ref.)	(Ref.)	(Ref.)	(Ref.)	(Ref.)	(Ref.)	(Ref.)
	$C_n - C_{n-1}$		0,3 Mlx.	0,3 Mlx.	0,3 Mlx.	0,3 Mlx.	0,3 Mlx.	0,3 Mlx.	0,3 Mlx.	0,3 Mlx.	0,3 Mlx.	0,3 Mlx.	0,3 Mlx.
	$C_{n-1} - C_{n-2}$		0,3 Mlx.	0,3 Mlx.	0,3 Mlx.	0,3 Mlx.	0,3 Mlx.	0,3 Mlx.	0,3 Mlx.	0,3 Mlx.	0,3 Mlx.	0,3 Mlx.	0,3 Mlx.
Primary Suspension gaps (mm)	$D_1; D_2$	Fig. 6	35 ⁺¹² ₋₅	35 ⁺¹² ₋₅	35 ⁺¹² ₋₅	35 ⁺¹² ₋₅	35 ⁺¹² ₋₅	35 ⁺¹² ₋₅	35 ⁺¹² ₋₅	35 ⁺¹² ₋₅	35 ⁺¹² ₋₅	35 ⁺¹² ₋₅	35 ⁺¹² ₋₅
	$D_2; D_3$		35 ⁺¹² ₋₅	35 ⁺¹² ₋₅	35 ⁺¹² ₋₅	35 ⁺¹² ₋₅	35 ⁺¹² ₋₅	35 ⁺¹² ₋₅	35 ⁺¹² ₋₅	35 ⁺¹² ₋₅	35 ⁺¹² ₋₅	35 ⁺¹² ₋₅	35 ⁺¹² ₋₅
	$D_3; D_4$		35 ⁺¹² ₋₅	35 ⁺¹² ₋₅	35 ⁺¹² ₋₅	35 ⁺¹² ₋₅	35 ⁺¹² ₋₅	35 ⁺¹² ₋₅	35 ⁺¹² ₋₅	35 ⁺¹² ₋₅	35 ⁺¹² ₋₅	35 ⁺¹² ₋₅	35 ⁺¹² ₋₅
	$D_4; D_5$		35 ⁺¹² ₋₅	35 ⁺¹² ₋₅	35 ⁺¹² ₋₅	35 ⁺¹² ₋₅	35 ⁺¹² ₋₅	35 ⁺¹² ₋₅	35 ⁺¹² ₋₅	35 ⁺¹² ₋₅	35 ⁺¹² ₋₅	35 ⁺¹² ₋₅	35 ⁺¹² ₋₅
Carbody Floor height (mm)	$E_{n(+m)}$	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
Booster height (mm)	$N_{n(+m)}$	Fig. 7	850 ⁺¹³ ₋₇	850 ⁺¹³ ₋₇	850 ⁺¹³ ₋₇	850 ⁺¹³ ₋₇	850 ⁺¹³ ₋₇	850 ⁺¹³ ₋₇	850 ⁺¹³ ₋₇	850 ⁺¹³ ₋₇	850 ⁺¹³ ₋₇	850 ⁺¹³ ₋₇	850 ⁺¹³ ₋₇
			895 (Ref.)	760 (Ref.)	760 (Ref.)	760 (Ref.)	760 (Ref.)	760 (Ref.)	760 (Ref.)	760 (Ref.)	760 (Ref.)	895 (Ref.)	850 ⁺¹³ ₋₇
Coupling End height (mm)	F_1	Fig. 8	760 (Ref.)	760 (Ref.)	760 (Ref.)	760 (Ref.)	760 (Ref.)	760 (Ref.)	760 (Ref.)	760 (Ref.)	760 (Ref.)	760 (Ref.)	760 (Ref.)
	F_2	Fig. 9											
Pivot Vertical gap (mm)	K_n	Fig. 10	30 ⁺¹³ ₋₅	30 ⁺¹³ ₋₅	30 ⁺¹³ ₋₅	30 ⁺¹³ ₋₅	30 ⁺¹³ ₋₅	30 ⁺¹³ ₋₅	30 ⁺¹³ ₋₅	30 ⁺¹³ ₋₅	30 ⁺¹³ ₋₅	30 ⁺¹³ ₋₅	30 ⁺¹³ ₋₅


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CIBELQ	SELF INSPECTION		INDUSTRIAL QUALITY	Date: 2022/05/31	Project: PRASA	SI.FT1140.52
	Rev:09					

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

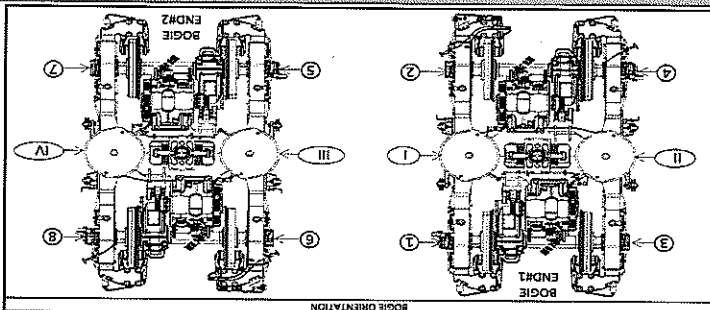
References for secondary suspension empty
A'n Air spring height empty
References for secondary suspension full
An Air spring height
Bn Difference between measurement A'n and An
En Floor covering height
Cn Air spring pressure
Dn Primary suspension
Kn Pivot Vertical gap
Jn Pivot Lateral stop gaps difference

Item	Reference [mm]	Right Side	Left Side	END#1	END#2
A'n	N/A	238	240		
An	254 to 261	256	260		
Bn = An - A'n	N/A	18	20		
En	1105 ±10 mm	1104	1116		
Item	Reference [bar]	Right Side	Left Side	END#1	END#2
Cn	Table 02 (*)	3.03	2.87		
Cn - Cn+1	Difference ≤ 0,3	Cn - Cn+1	Cn - Cn+1		
Gauge serial number	N/A	91B05875	91B05875		
Item	Reference [mm]	Right Side	Left Side	END#1	END#2
Dn	Table 01 (*)	43.74	44.72		
Kn	25 to 45	33.28	32.56		
Jn	Difference ≤ 4	23.25	27.50		

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

Table 01		D =	
Theoretical Values		Theoretical Values	
TC1	TC2	TC1	TC2
M4	M3	M4	M3
MB1	MB1	MB1	MB1
Tbex	Tbex	Tbex	Tbex
35+12	35+12	35+12	35+12
35-5	35-5	35-5	35-5

Table 02		C =	
Theoretical Values		Theoretical Values	
TC1	TC2	TC1	TC2
M4	M3	M4	M3
MB1	MB1	MB1	MB1
Tbex	Tbex	Tbex	Tbex
3.76	3.76	3.76	3.76
2.82	2.82	2.82	2.82
2.87	2.87	2.87	2.87
2.83	2.83	2.83	2.83
3.02	3.02	3.02	3.02
2.91	2.91	2.91	2.91
3.07	3.07	3.07	3.07
2.85	2.85	2.85	2.85
2.83	2.83	2.83	2.83
2.87	2.87	2.87	2.87
2.83	2.83	2.83	2.83
3.76	3.76	3.76	3.76



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

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Faculty		YES / NO	Comments
Computer			Plenty of staff
PTSDs			Nkeoma Kigomso
IGN	Yes		Management Team, Faculty Staff & Students Forum
MS	Yes		Microsoft Subsidio

NO GO	
	FINAL STATUS