



ALSTOM UBUNYE

**MANUFACTURER**            **ALSTOM Ubunye**  
 Marievale Road, Vosterkroon, Nigel, 1490  
**CUSTOMER**                **Gibela**  
**CONTRACT**  
**PROJECT**                    **PRASA**

MANUFACTURER'S DELIVERY DOCUMENT	
<b>PRODUCT TYPE</b>	<b>MOTOR BOGIE type MB1</b>
	<b>DTR0009706804</b>
<b>SERIAL NUMBER</b>	<b>MB1 - 1434</b>

**CONTENTS**

- Compliance certificate.....	Page 1/2	<input checked="" type="checkbox"/>
- List of deviations and missing parts.....	Page 2/2	<input checked="" type="checkbox"/>
- Products traceability.....	1 page	<input checked="" type="checkbox"/>
- Load test report.....	1 page	<input checked="" type="checkbox"/>
- Motor certificate.....	8 pages	<input checked="" type="checkbox"/>

**COMPLIANCE CERTIFICATE**

We hereby declare, barring exceptions, reservations, or exemptions listed in this statement of conformity, that the listed supplies comply with the contract requirements and that, after completions of testing and verification, they completely satisfy all specified requirements and applicable standards and regulations.

CONSTRUCTOR APPROVAL	
<b>DATE</b>	20 May 2024
<b>NAME</b>	Kwababana Hlumisa
<b>VISA</b>	

**I - Deviation / Derogation**

**II - Bogie configuration**

B Bogie index



ALSTOM UBUNYE

# PRODUCTS TRACEABILITY

Products Designation	Product Reference	Serial Number	Batch or Date Manufactured	Supplier
Motor Bogie MB1	DTR0009706804	1434		Alstom - Ubunye
Motor Bogie Frame	AR00000176080	1774		Alstom - Ubunye
Wheelset (Front)	AR000000177020	3285		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	2851		NGC
Wheel (Right)	AR00000174670	088	07.23	Bonatrans
Wheel (Left)	AR000000174670	086	07.23	Bonatrans
Wheelset (Rear)	AR00000178600	3286		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	3297		NGC
Wheel (Right)	AR00000174670	016	10.23	Bonatrans
Wheel (Left)	AR00000174670	018	10.23	Bonatrans
Pneumatic suspension (Right)	AR00000176127	2401123		Hutchinson
Pneumatic suspension (Left)	AR00000176127	2312143		Hutchinson
Brake unit with PB (Right rear)	AR00000174544	1781	05.24	WEBTEC
Brake unit without PB (Right front )	AR00000175185	5364	05.24	WEBTEC
Brake unit without PB (Left Front)	AR00000175185	5367	05.24	WEBTEC
Brake unit without PB (left rear)	AR00000175185	5366	05.24	WEBTEC
Motor (front)	AR00000168516	21641		GIBELA
Motor (Rear)	AR00000168516	21639		GIBELA

# PRESSING REPORT

5/17/2024

DATE VALIDATION

RESPONSIBLE VALIDATION

PRASA

INSTRUCTION SHEET:

FAMILY:

LOAD TEST : MOTOR BOGIE

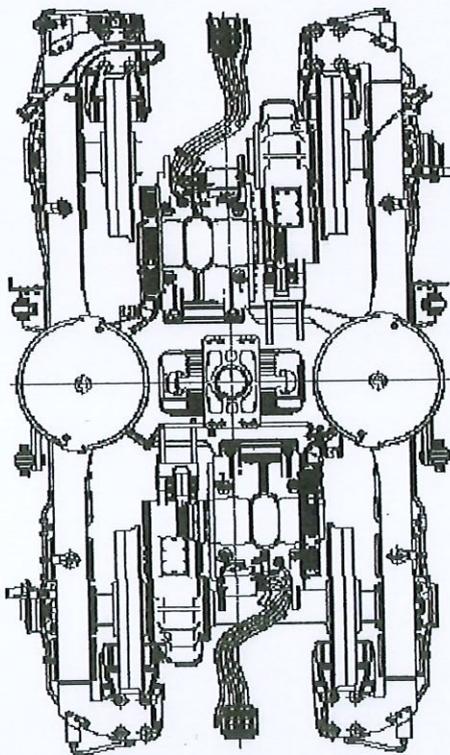
PROJECT:

	THEORETICAL		MEASURED
	MIN	MAX	
WHEEL DIAMETER [mm]			
GAP PRIMARY SUSPENSION [mm]	33.00	39.00	38.50 ✓
SHIM THICK [mm]			
WEIGHT ON WHEEL [Kg]	Q4		5569

MEASURED [mm]	SECONDARY SUSPENSION		THEORETICAL [mm]
	SHIM THICK [mm]	DIM. WITH SHIM [mm]	
586.45	+	0.00 =	586.43
			MIN 585.00
			MAX 587.50

RIGHT JACK LOAD	7376	Kg
-----------------	------	----

BOGIE SERIAL N°	MB1-1434
BOGIE TYPE	MB
BOGIE WEIGHT UNDER LOAD [Kg]	22350
COMPLETE BOGIE WEIGHT [Kg]	7253
OPERATOR	BAFANA
DATE	5/17/2024



LEFT JACK LOAD	7376	Kg
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OPERATOR STAMP	DC-BFI-6
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	THEORETICAL	MEASURED
LOAD DIFFERENCE ON FRONT AXLE [%]	MIN 0.00	-0.13 ✓
	MAX 0.00	
LOAD DIFFERENCE ON REAR AXLE [%]	MIN 0.00	0.47 ✓
	MAX 0.00	
LOAD DIFFERENCE FRONT AXLE AND REAR AXLE [%]	MIN 0.00	-0.14 ✓
	MAX 0.00	
LOAD DIFFERENCE ON RAILS [%]	MIN 0.00	0.17 ✓
	MAX 0.00	
LOAD DIFFERENCE ON DIAGONAL WHEELS [%]	MIN 0.00	0.30 ✓
	MAX 0.00	

MEASURED [mm]	SECONDARY SUSPENSION		THEORETICAL [mm]
	SHIM THICK [mm]	DIM. WITH SHIM [mm]	
587.24	+	0.00 =	587.24
			MIN 585.00
			MAX 587.50

	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN	
	MAX	
GAP PRIMARY SUSPENSION [mm]	33.00	38.20 ✓
	MAX 39.00	
SHIM THICK [mm]		
WEIGHT ON WHEEL [Kg]	Q1	5572

DIFFERENCE IN RIGHT AND LEFT SUSPENSION HEIGHTS [mm]	-0.81
	MIN -1.00
	MAX 1.00

	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN	
	MAX	
GAP PRIMARY SUSPENSION [mm]	33.00	37.40 ✓
	MAX 39.00	
SHIM THICK [mm]		
WEIGHT ON WHEEL [Kg]	Q3	5622



21641

ALSTOM

GIBELTA

FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA

Référence: TROS 916.216

Révision: 2

Documents de référence: AT00000325953 - AT00000325990

Assembly before test

Date: 15/04/24  
Name: Xouanti

Assembly after test

Date: 11/05/24  
Name: Geoffrey Kolawi Thomas

ROTOR S/N MCP02-11-05/		STATOR S/N GIB - 164/	
<p>Bearing lubrication - Security operation Incorrect lubrication can lead to engine failure with a safety risk in service SRIL TROS 965.289</p>			
<p>INSULATED CERAMIC BEARING DRIVE END - Security operation Incorrect assembly can lead to engine failure with a safety risk in service SRIL TROS 965.289 FAG: NU 214-E-XL-M1-P6-F1-H257A-J20AB-C4 or NU 214-E-M1-P6-F1-H257A-J20AA-C4 SKF: NU 214-ECM/C4-VA3091 (cross out the references that have not been fitted)</p>			
N°: ROMANIA: 0097 09/23 SN38-1369794			
<p>Radial play after assembly (0,042 / 0,114): 0,07mm <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>		<p>LUBRICATION WITH MOBILITH SHC 100 before cover assembly Min: 144g - Max: 149g Measured quantity:  Filter 1 (Name and signature)  Filter 2 (Name and signature)</p>	
		<p>Quality validation Quality Insp. Name and signature Dima FMS</p>	
<p>INSULATED CERAMIC BEARING OPPOSITE DRIVE END side - Security operation Incorrect assembly can lead to engine failure with a safety risk in service SRIL TROS 965.289 FAG: 6214-M-P6-J20AB-H257A-C4 or 6214-M-P6-J20AA-H257-C4 SKF: 6214-M/C4-VL-0241 (cross out the references that have not been fitted)</p>			
Serial N°: GERMANY: 0200 X116-0815 04/23 SN0163			
<p>Radial play after assembly (0,021 / 0,067): 0,06mm <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>		<p>LUBRICATION WITH MOBILITH SHC 100 before cover assembly Min: 159g - Max: 164g Measured quantity:  Filter 1 (Name and signature)  Filter 2 (Name and signature)</p>	
		<p>Quality validation Quality Insp. Name and signature Dima FMS</p>	
Référence appareil AMX700		TROSP16.216	
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FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA

Record the value of the Insulation resistance of the bearings to TROS 915.069 (> 50 kΩ)		15M.2		<input checked="" type="checkbox"/> OK	<input type="checkbox"/> NOK
OPERATOR			Quality verification		
Out of round at the end of the shaft drive end, 0,05 max Value 0,07mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number AMXG00	<input type="checkbox"/> OK <input type="checkbox"/> NOK	<input type="checkbox"/> OK <input type="checkbox"/> NOK	<input type="checkbox"/> NOK
Out of round on toothed wheel 0,1 max: 0,04mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number AMXG00	<input type="checkbox"/> OK <input type="checkbox"/> NOK	<input type="checkbox"/> OK <input type="checkbox"/> NOK	<input type="checkbox"/> NOK
sensor / toothed wheel play 0,7 (+/- 0,2): 0,8mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number GIBALCO	<input type="checkbox"/> OK <input type="checkbox"/> NOK	<input type="checkbox"/> OK <input type="checkbox"/> NOK	<input type="checkbox"/> NOK
Sensor reference: DTR0000512252/DSD1830.19Q14HW	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number BQ3D1003487	<input type="checkbox"/> OK <input type="checkbox"/> NOK	<input type="checkbox"/> OK <input type="checkbox"/> NOK	<input type="checkbox"/> NOK

**Prep. & Final Assembly**

OPERATOR			Quality verification			
<input checked="" type="checkbox"/> F1	Torque tightening to 8 x 76 Nm:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	wrench reference (in the event of failure / absence of the motor screwdriver) <b>NCC5587</b>	QC 1 X 61 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK	
<input checked="" type="checkbox"/> F2	Torque tightening to 8 x 76 Nm:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	wrench reference (in the event of failure / absence of the motor screwdriver) <b>NCC5587</b>	QC 1 X 61 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK	
<input checked="" type="checkbox"/> F3	Torque tightening to 4 x 44 Nm: Fold locking plate	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	wrench reference (in the event of failure / absence of the motor screwdriver) <b>NCC5587</b>	QC 1 X 37 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK	
<input checked="" type="checkbox"/> F4	Torque tightening to 4 x 22 Nm:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	wrench reference (in the event of failure / absence of the motor screwdriver) <b>NCC5587</b>	QC 1 X 18 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK	
<input checked="" type="checkbox"/> F5	Torque tightening to 6 x 22 Nm:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	wrench reference (in the event of failure / absence of the motor screwdriver) <b>NCC5587</b>	QC 1 X 18 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK	

**Finishing**

<input checked="" type="checkbox"/> F1	Torque tightening to 4 x 22 Nm:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	wrench reference (in the event of failure / absence of the motor screwdriver) <b>NCC5587</b>	QC 1 X 22 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK	
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**Grease protection transport**

<input checked="" type="checkbox"/> S3	18g (0/+4.5) CC	Mesured quantity: <b>18g</b>	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK
<input checked="" type="checkbox"/> S4	18g (0/+4.5) CC	Mesured quantity: <b>18g</b>	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK

Final inspection following the check-list DTR0000452909 and DTR0000452910 (in the case of 100% inspection of the production)  OK  NOK

Final Inspection	Comments
Quality Insp Name and Signature: <b>Dima</b>	

**OBSERVATIONS**

**GIRELA RAIL TRANSPORT CONSORTIUM RF (PTY) LTD**  
**Traction Motors Quality**  
**2024 -05- 12**  
 Name : **Dima**  
 Signature : **[Signature]**



21639

ALSTOM

GIBELD

FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA

Référence: TROS 916.216

Révision: 2

Documents de référence: AT00000325953 - AT00000325990

Assembly before test

Date: 5/04/24  
Name: Xoulant

Assembly after test

Date: 11/05/24  
Name: Groffmeyer

ROTOR S/N MCR23-11-083		STATOR S/N GFRZ-16M	
<p><b>Bearing lubrication - Security operation</b> Incorrect lubrication can lead to engine failure with a safety risk in service SRIL TROS 965.289</p>			
<p><b>INSULATED CERAMIC BEARING DRIVE END - Security operation</b> Incorrect assembly can lead to engine failure with a safety risk in service SRIL TROS 965.289 FAG: NU 214-E-XL-M1-P6-F1-H257A-J20AB-C4 or NU-214-E-M1-P6-F1-H257A-J20AA-C4 SKE: NU 214-ECM/C4-VA8091 (cross out the references that have not been fitted)</p>			
<p>N°: ROMANIA 0097 09/23 SH 151 - 1369794</p>			
<p><b>S2</b> Radial play after assembly (0,042 / 0,114): 0,07mm</p> <p><input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>		<p><b>S4</b> LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly</p> <p>Min: 144g - Max: 149g</p> <p>Measured quantity: <input type="checkbox"/> OK <input type="checkbox"/> NOK</p> <p>Filter 1 (Name and signature): <i>[Signature]</i></p> <p>Filter 2 (Name and signature): <i>[Signature]</i></p> <p>Quality validation: <i>[Signature]</i></p>	
<p><b>S1</b> INSULATED CERAMIC BEARING OPPOSITE DRIVE END side - Security operation Incorrect assembly can lead to engine failure with a safety risk in service SRIL TROS 965.289 FAG: 6214-M-P6-J20AB-H257A-C4 or 6214-M-P6-J20AA-H257-C4 SKE: 6214-M/C4-VL 0241 (cross out the references that have not been fitted).</p>			
<p>Serial N°: GERMANY: 0200 X116-094 04/23 SNO226</p>			
<p><b>S1</b> Radial play after assembly (0,021 / 0,067): 0,04mm</p> <p><input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>		<p><b>S3</b> LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly</p> <p>Min: 159g - Max: 164g</p> <p>Measured quantity: <input type="checkbox"/> OK <input type="checkbox"/> NOK</p> <p>Filter 1 (Name and signature): <i>[Signature]</i></p> <p>Filter 2 (Name and signature): <i>[Signature]</i></p> <p>Quality validation: <i>[Signature]</i></p>	
<p>référence appareill AMX6100</p>			
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GIBELD

FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA

Record the value of the Insulation resistance of the bearings to TROS 915.069 (> 50 kΩ) 10,9MΩ		<input checked="" type="checkbox"/> OK	<input type="checkbox"/> NOK
OPERATOR		Quality verification	
Out of round at the end of the shaft drive end, 0,05 max Value: 0,03mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number: AMX6100	<input type="checkbox"/> OK <input type="checkbox"/> NOK
Out of round on toothed wheel 0,1 max: 0,04mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number: AMX6100	<input type="checkbox"/> OK <input type="checkbox"/> NOK
sensor / toothed wheel play 0,7 (+/- 0,2): 0,7mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number: GFRZ-16M	<input type="checkbox"/> OK <input type="checkbox"/> NOK
Sensor reference: DTR0000512252/DSD1830.19Q14HW	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number: 602200376	<input type="checkbox"/> OK <input type="checkbox"/> NOK

Prep. & Final Assembly							
OPERATOR				Quality verification			
<input checked="" type="checkbox"/> F1	Torque tightening to 8 x 76 Nm:	<input checked="" type="checkbox"/> OK	<input type="checkbox"/> NOK	no reference for the extent of failure / absence of the modified screwdriver	QC 1 X 61 Nm	<input type="checkbox"/> OK	<input type="checkbox"/> NOK
<input checked="" type="checkbox"/> F2	Torque tightening to 8 x 76 Nm:	<input checked="" type="checkbox"/> OK	<input type="checkbox"/> NOK	no reference for the extent of failure / absence of the modified screwdriver	QC 1 X 61 Nm	<input type="checkbox"/> OK	<input type="checkbox"/> NOK
<input checked="" type="checkbox"/> F3	Torque tightening to 4 x 44 Nm: Fold locking plate	<input checked="" type="checkbox"/> OK	<input type="checkbox"/> NOK	no reference for the extent of failure / absence of the modified screwdriver	QC 1 X 37 Nm	<input type="checkbox"/> OK	<input type="checkbox"/> NOK
<input checked="" type="checkbox"/> F4	Torque tightening to 4 x 22 Nm:	<input checked="" type="checkbox"/> OK	<input type="checkbox"/> NOK	no reference for the extent of failure / absence of the modified screwdriver	QC 1 X 18 Nm	<input type="checkbox"/> OK	<input type="checkbox"/> NOK
<input checked="" type="checkbox"/> F5	Torque tightening to 6 x 22 Nm:	<input checked="" type="checkbox"/> OK	<input type="checkbox"/> NOK	no reference for the extent of failure / absence of the modified screwdriver	QC 1 X 18 Nm	<input type="checkbox"/> OK	<input type="checkbox"/> NOK
Finishing							
<input checked="" type="checkbox"/> F1	Torque tightening to 4 x 22 Nm:	<input checked="" type="checkbox"/> OK	<input type="checkbox"/> NOK	no reference for the extent of failure / absence of the modified screwdriver	QC 1 X 22 Nm	<input type="checkbox"/> OK	<input type="checkbox"/> NOK
Grease protection transport							
<input checked="" type="checkbox"/> S3	18g (0/+4.5) CC	Mesured quantity:	18g			<input checked="" type="checkbox"/> OK	<input type="checkbox"/> NOK
<input checked="" type="checkbox"/> S4	18g (0/+4.5) CC	Mesured quantity:	18g			<input checked="" type="checkbox"/> OK	<input type="checkbox"/> NOK
Final inspection following the check-list DTR0000452909 and DTR0000452910 (in the case of 100% inspection of the production)						<input checked="" type="checkbox"/> OK	<input type="checkbox"/> NOK
				Final inspection	Comments		
				Quality Insp Name and Signature:			
				Dima			
OBSERVATIONS							

GIBELA RAIL TRANSPORT CONSORTIUM RF (PTY) LTD  
**Traction Motors Quality**  
 2024 -05- 12  
 Name : Dima  
 Signature : [Signature]

**MANUFACTURER** ALSTOM Ubunye  
 Marievale Road, Vosterkroon, Nigel, 1490  
**CUSTOMER** Gibela  
**CONTRACT**  
**PROJECT** PRASA

MANUFACTURER'S DELIVERY DOCUMENT	
PRODUCT TYPE	MOTOR BOGIE type MB2 DTR0009706805
SERIAL NUMBER	MB2 - 607

**CONTENTS**

- Compliance certificate.....	Page 1/2	<input checked="" type="checkbox"/>
- List of deviations and missing parts.....	Page 2/2	<input checked="" type="checkbox"/>
- Products traceability.....	1 page	<input checked="" type="checkbox"/>
- Load test report.....	1 page	<input checked="" type="checkbox"/>
- Motor certificate.....	8 pages	<input checked="" type="checkbox"/>

**COMPLIANCE CERTIFICATE**

We hereby declare, barring exceptions, reservations, or exemptions listed in this statement of conformity, that the listed supplies comply with the contract requirements and that, after completions of testing and verification, they completely satisfy all specified requirements and applicable standards and regulations.

CONSTRUCTOR APPROVAL	
DATE	17 May 2024
NAME	Kwababana Hlumisa
VISA	

**I - Deviation / Derogation**

**II - Bogie configuration**

B Bogie index



ALSTOM UBUNYE

# PRODUCTS TRACEABILITY

Products Designation	Product Reference	Serial Number	Batch or Date Manufactured	Supplier
Motor Bogie MB2	DTR0009706805	607		Alstom - Ubunye
Motor Bogie Frame	AR00000176080	1780		Alstom - Ubunye
Wheelset (Front)	AR000000177020	3281		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	2849		NGC
Wheel (Right)	AR00000174670	113	07.23	Bonatrans
Wheel (Left)	AR000000174670	150	10.23	Bonatrans
Wheelset (Rear)	AR00000178600	3282		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	2858		NGC
Wheel (Right)	AR00000174670	158	10.23	Bonatrans
Wheel (Left)	AR00000174670	156	07.23	Bonatrans
Pneumatic suspension (Right)	AR00000176127	2402016		Hutchinson
Pneumatic suspension (Left)	AR00000176127	2312150		Hutchinson
Brake unit with PB (Right rear)	AR00000174544	1793	05.24	WEBTEC
Brake unit without PB (Right front )	AR00000175185	5365	05.24	WEBTEC
Brake unit without PB (Left Front)	AR00000175185	5359	05.24	WEBTEC
Brake unit without PB (left rear)	AR00000175185	5363	05.24	WEBTEC
Motor (front)	AR00000168516	21602		GIBELA
Motor (Rear)	AR00000168516	21613		GIBELA

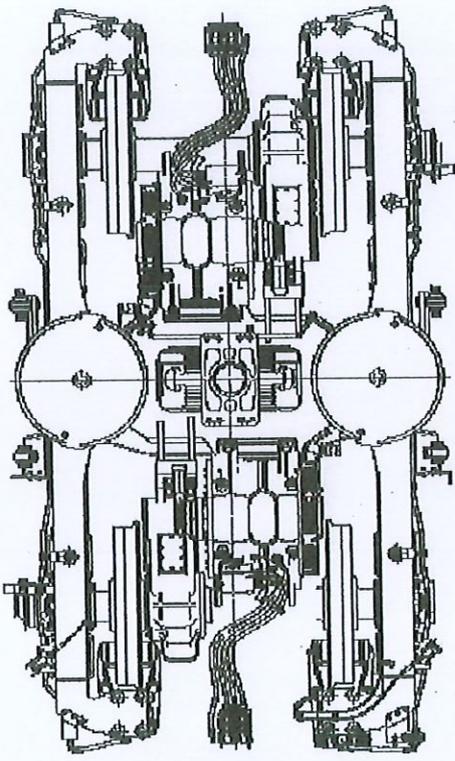
# PRESSING REPORT

DATE	5/17/2024	RESPONSABLE VALIDATION	PRASA
DATE VALIDATION			INSTRUCTION SHEET:
			FAMILY:
			LOAD TEST : MOTOR BOGIE
			PROJECT:

	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX	
GAP PRIMARY SUSPENSION [mm]	MIN 33.00 MAX 39.00	36.80 ✓
SHIM THICK [mm]		
WEIGHT ON WHEEL [KG]	Q2	5580

SECONDARY SUSPENSION ✓			
MEASURED [mm]	SHIM THICK [mm]	DIM. WITH SHIM [mm]	THEORETICAL [mm]
586.95	+	0.00	= 586.95
			MIN 585.00 MAX 587.50

RIGHT JACK LOAD  
7376 Kg



BOGIE SERIAL N°	72-607
BOGIE TYPE	M/S
BOGIE WEIGHT UNDER LOAD [KG]	22386
COMPLETE BOGIE WEIGHT [KG]	7309
OPERATOR	EDWARD
DATE	5/17/2024
OPERATOR STAMP	
BFI-21	

LEFT JACK LOAD  
7376 Kg

	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX	
GAP PRIMARY SUSPENSION [mm]	MIN 33.00 MAX 39.00	36.93 ✓
SHIM THICK [mm]		
WEIGHT ON WHEEL [KG]	Q1	5589

SECONDARY SUSPENSION ✓			
MEASURED [mm]	SHIM THICK [mm]	DIM. WITH SHIM [mm]	THEORETICAL [mm]
587.11	+	0.00	= 587.11
			MIN 585.00 MAX 587.50
DIFFERENCE IN RIGHT AND LEFT SUSPENSION HEIGHTS [mm]			THEORETICAL [mm]
-0.16			MIN -1.00 MAX 1.00

	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX	
GAP PRIMARY SUSPENSION [mm]	MIN 33.00 MAX 39.00	37.37 ✓
SHIM THICK [mm]		
WEIGHT ON WHEEL [KG]	Q4	5585

	THEORETICAL	MEASURED
LOAD DIFFERENCE ON FRONT AXLE [%]	MIN 0.00 MAX 0.00	0.08 ✓
LOAD DIFFERENCE ON REAR AXLE [%]	MIN 0.00 MAX 0.00	0.42 ✓
LOAD DIFFERENCE FRONT AXLE AND REAR AXLE [%]	MIN 0.00 MAX 0.00	-0.21 ✓
LOAD DIFFERENCE ON RAILS [%]	MIN 0.00 MAX 0.00	0.25 ✓
LOAD DIFFERENCE ON DIAGONAL WHEELS [%]	MIN 0.00 MAX 0.00	0.17 ✓

	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX	
GAP PRIMARY SUSPENSION [mm]	MIN 33.00 MAX 39.00	36.65 ✓
SHIM THICK [mm]		
WEIGHT ON WHEEL [KG]	Q3	5632

FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA

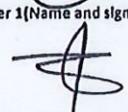
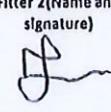
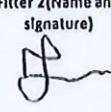
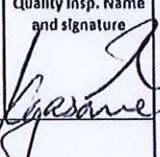
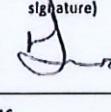
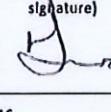
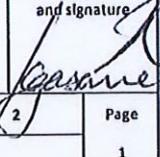
Référence: TROS 916.216

Révision: 2

Documents de référence: AT00000325953 - AT00000325990

Assembly before test  
Date: 22/03/24  
Name: Godfrey

Assembly after test  
Date: 11/05/24  
Name: Godfrey Kolani & Thomas

ROTOR S/N MCR23-11-053		STATOR S/N GIB-1617	
Bearing lubrication - Security operation Incorrect lubrication can lead to engine failure with a safety risk in service SRIL TROS 965.289			
INSULATED CERAMIC BEARING DRIVE END - Security operation Incorrect assembly can lead to engine failure with a safety risk in service SRIL TROS 965.289 FAG: NU 214-E-XL-M1-P6-F1-H257A-J20AB-C4 or NU 214-E-M1-P6-F1-H257A-J20AA-C4- SKF: NU 214 ECM/C4-VA3091 (cross out the references that have not been fitted)			
N°: ROMANIA: 0097 09/23 SN 205 - 1369794			
S2 Radial play after assembly (0,042 / 0,114): 0,07mm <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK		S4 LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly Min: 144g - Max: 149g Filter 1 (Name and signature):  Filter 2 (Name and signature):  Measured quantity:  Quality validation: 	
INSULATED CERAMIC BEARING OPPOSITE DRIVE END side - Security operation Incorrect assembly can lead to engine failure with a safety risk in service SRIL TROS 965.289 FAG: 6214-M-P6-J20AB-H257A-C4 or 6214-M-P6-J20AA-H25Z-C4. SKF: 6214-M/C4-VL-0241 (cross out the references that have not been fitted)			
Serial N°: GERMANY: 0200 X116-0939 04/23 SN 0220			
S1 Radial play after assembly (0,021 / 0,067): 0,05mm <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK		S3 LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly Min: 159g - Max: 164g Filter 1 (Name and signature):  Filter 2 (Name and signature):  Measured quantity:  Quality validation: 	
Référence appareil: AMXG14			
FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA		TROS 916.216	
		Page 1	

FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA

Record the value of the Insulation resistance of the bearings to TROS 915.069 (> 50 kΩ) 7.32 GΩ  OK  NOK

OPERATOR	Quality verification		
Out of round at the end of the shaft drive end, 0,05 max Value: 0,02mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number AMXG14	<input type="checkbox"/> OK <input type="checkbox"/> NOK
Out of round on toothed wheel 0,1 max: 0,08mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number AMXG14	<input type="checkbox"/> OK <input type="checkbox"/> NOK
sensor / toothed wheel play 0,7 (+/- 0,2): 0,7mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number GIBFL002	<input type="checkbox"/> OK <input type="checkbox"/> NOK
Sensor reference: DTR000512252/DSB1830.19Q14HW	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number 52317000260	<input type="checkbox"/> OK <input type="checkbox"/> NOK

**Prep. & Final Assembly**

OPERATOR				Quality verification			
<input checked="" type="checkbox"/> F1	Torque tightening to 8 x 76 Nm:	<input checked="" type="checkbox"/>	OK <input type="checkbox"/> NOK	interch reference (in the event of failure / absence of the motorized screwdriver) D2511039	QC 1 X 61 Nm	<input type="checkbox"/>	OK <input type="checkbox"/> NOK
<input checked="" type="checkbox"/> F2	Torque tightening to 8 x 76 Nm:	<input checked="" type="checkbox"/>	OK <input type="checkbox"/> NOK	interch reference (in the event of failure / absence of the motorized screwdriver) D2511039	QC 1 X 61 Nm	<input type="checkbox"/>	OK <input type="checkbox"/> NOK
<input checked="" type="checkbox"/> F3	Torque tightening to 4 x 44 Nm: Fold locking plate	<input checked="" type="checkbox"/>	OK <input type="checkbox"/> NOK	interch reference (in the event of failure / absence of the motorized screwdriver) D2511039	QC 1 X 37 Nm	<input type="checkbox"/>	OK <input type="checkbox"/> NOK
<input checked="" type="checkbox"/> F4	Torque tightening to 4 x 22 Nm:	<input checked="" type="checkbox"/>	OK <input type="checkbox"/> NOK	interch reference (in the event of failure / absence of the motorized screwdriver) N005047	QC 1 X 18 Nm	<input type="checkbox"/>	OK <input type="checkbox"/> NOK
<input checked="" type="checkbox"/> F5	Torque tightening to 6 x 22 Nm:	<input checked="" type="checkbox"/>	OK <input type="checkbox"/> NOK	interch reference (in the event of failure / absence of the motorized screwdriver) N005047	QC 1 X 18 Nm	<input type="checkbox"/>	OK <input type="checkbox"/> NOK

**Finishing**

<input checked="" type="checkbox"/> F1	Torque tightening to 4 x 22 Nm:	<input checked="" type="checkbox"/>	OK <input type="checkbox"/> NOK	interch reference (in the event of failure / absence of the motorized screwdriver) N005047	QC 1 X 22 Nm	<input type="checkbox"/>	OK <input type="checkbox"/> NOK
--	---------------------------------	-------------------------------------	---------------------------------	---	--------------	--------------------------	---------------------------------

**Grease protection transport**

<input checked="" type="checkbox"/> S3	18g (0/+4.5) CC	Mesured quantity:	18g	<input checked="" type="checkbox"/>	OK <input type="checkbox"/> NOK
<input checked="" type="checkbox"/> S4	18g (0/+4.5) CC	Mesured quantity:	18g	<input checked="" type="checkbox"/>	OK <input type="checkbox"/> NOK

Final inspection following the check-list DTR0000452909 and DTR0000452910 (in the case of 100% inspection of the production)  OK  NOK

Final Inspection	Comments
Quality Insp Name and Signature: <i>Jessane A</i>	

**OBSERVATIONS**

FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA	TROS 916.216	2	Page
			2

GIBELA RAIL TRANSPORT CONSORTIUM RF (PTY) LTD  
Traction Motors Quality

2024 -05- 11

Name: *Jessane*

Signature: *Jessane A*

21613

ALSTOM

GIBELCO

FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA

Référence: TROS 916.216 Révision: 2

Documents de référence: AT00000325953 - AT00000325990

Assembly before test  
Date: 28/03/04  
Name: Jacques

Assembly after test  
Date: 12/05/04  
Name: PLANT, GODFREY THOMAS

ROTOR S/N MCR23-11-095	STATOR S/N CIB-1609								
<p><b>Bearing lubrication - Security operation</b> Incorrect lubrication can lead to engine failure with a safety risk in service SRIL TROS 965.289</p>									
<p><b>INSULATED CERAMIC BEARING BEARING DRIVE END - Security operation</b> Incorrect assembly can lead to engine failure with a safety risk in service SRIL TROS 965.289 FAG: NU 214-E-XL-M1-P6-F1-H257A-J20AB-C4 or NU 214-E-M1-P6-F1-H257A-J20AA-C4 <del>SKF: NU 214 ECM/C4 VA3091</del> (cross out the references that have not been fitted)</p>									
<p>N°: ROMANIA: 0097 09/23 SN83 - 1369794</p>									
<p><b>S2</b> Radial play after assembly ( 0,042 / 0,114 ): 0,08mm <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOX</p>	<p><b>S3</b> LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly Min: 144g - Max: 149g Mesured quantity: <input type="checkbox"/> OK <input type="checkbox"/> NOX</p> <table border="1"> <tr> <td>Filter 1 (Name and signature)</td> <td>Filter 2 (Name and signature)</td> <td>Quality validation</td> </tr> <tr> <td><i>[Signature]</i></td> <td><i>[Signature]</i></td> <td>Quality Insp. Name and signature Dima MS</td> </tr> </table>			Filter 1 (Name and signature)	Filter 2 (Name and signature)	Quality validation	<i>[Signature]</i>	<i>[Signature]</i>	Quality Insp. Name and signature Dima MS
Filter 1 (Name and signature)	Filter 2 (Name and signature)	Quality validation							
<i>[Signature]</i>	<i>[Signature]</i>	Quality Insp. Name and signature Dima MS							
<p><b>S1</b> INSULATED CERAMIC BEARING OPPOSITE DRIVE END side - Security operation Incorrect assembly can lead to engine failure with a safety risk in service SRIL TROS 965.289 FAG: 6214-M-P6-J20AB-H257A-C4 or 6214-M-P6-J20AA-H257-C4 <del>SKF 6214-M/C4-VL-0241</del> (cross out the references that have not been fitted)</p>									
<p>Serial N°: GERMANY: 0200 X116-0806 04/23 SN0144</p>									
<p><b>S1</b> Radial play after assembly ( 0,021 / 0,067 ): 0,06mm <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOX</p>	<p><b>S3</b> LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly Min: 159g - Max: 164g Mesured quantity: <input type="checkbox"/> OK <input type="checkbox"/> NOX</p> <table border="1"> <tr> <td>Filter 1 (Name and signature)</td> <td>Filter 2 (Name and signature)</td> <td>Quality validation</td> </tr> <tr> <td><i>[Signature]</i></td> <td><i>[Signature]</i></td> <td>Quality Insp. Name and signature Dima MS</td> </tr> </table>			Filter 1 (Name and signature)	Filter 2 (Name and signature)	Quality validation	<i>[Signature]</i>	<i>[Signature]</i>	Quality Insp. Name and signature Dima MS
Filter 1 (Name and signature)	Filter 2 (Name and signature)	Quality validation							
<i>[Signature]</i>	<i>[Signature]</i>	Quality Insp. Name and signature Dima MS							
<p>Reference appareil: AMX920</p>									
FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA		TROS 916.216	Page 1						

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FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA

Record the value of the Insulation resistance of the bearings to TROS 915.069 (> 50 kΩ)	1,2972	<input checked="" type="checkbox"/> OK	<input type="checkbox"/> NOX
OPERATOR		Quality verification	
Out of round at the end of the shaft drive end, 0,05 max Value 0,01mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOX	AMX920 Device serial number	<input type="checkbox"/> OK <input type="checkbox"/> NOX
Out of round on toothed wheel, 0,1 max: 0,04mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOX	AMX920 Device serial number	<input type="checkbox"/> OK <input type="checkbox"/> NOX
sensor / toothed wheel play 0,7 ( +/- 0,2 ): 0,7mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOX	CIB1609 Device serial number	<input type="checkbox"/> OK <input type="checkbox"/> NOX
Sensor reference: DTR0000512252/DSD1830.19Q14HW	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOX	S2041001469 Device serial number	<input type="checkbox"/> OK <input type="checkbox"/> NOX

Prep. & Final Assembly													
OPERATOR				Quality verification									
F1	Torque tightening to 8 x 76 Nm:	<input checked="" type="checkbox"/>	OK <input type="checkbox"/>	NOK <input type="checkbox"/>	Check reference (in the event of false absence of the motorized screwdriver)	QC 1 X 61 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK						
F2	Torque tightening to 8 x 76 Nm:	<input checked="" type="checkbox"/>	OK <input type="checkbox"/>	NOK <input type="checkbox"/>	Check reference (in the event of false absence of the motorized screwdriver)	QC 1 X 61 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK						
F3	Torque tightening to 4 x 44 Nm: Fold locking plate	<input checked="" type="checkbox"/>	OK <input type="checkbox"/>	NOK <input type="checkbox"/>	Check reference (in the event of false absence of the motorized screwdriver)	QC 1 X 37 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK						
F4	Torque tightening to 4 x 22 Nm:	<input checked="" type="checkbox"/>	OK <input type="checkbox"/>	NOK <input type="checkbox"/>	Check reference (in the event of false absence of the motorized screwdriver)	QC 1 X 18 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK						
F5	Torque tightening to 6 x 22 Nm:	<input checked="" type="checkbox"/>	OK <input type="checkbox"/>	NOK <input type="checkbox"/>	Check reference (in the event of false absence of the motorized screwdriver)	QC 1 X 18 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK						
Finishing													
F1	Torque tightening to 4 x 22 Nm:	<input checked="" type="checkbox"/>	OK <input type="checkbox"/>	NOK <input type="checkbox"/>	Check reference (in the event of false absence of the motorized screwdriver)	QC 1 X 22 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK						
Grease protection transport													
S3	18g (0/+4,5) CC	Mesured quantity:	18g				<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK						
S4	18g (0/+4,5) CC	Mesured quantity:	18g				<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK						
Final inspection following the check-list DTR0000452909 and DTR0000452910 (In the case of 100% inspection of the production)							<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK						
					<table border="1"> <thead> <tr> <th>Final Inspection</th> <th>Comments</th> </tr> </thead> <tbody> <tr> <td>Quality Insp Name and Signature:</td> <td></td> </tr> <tr> <td>Dima</td> <td>MS</td> </tr> </tbody> </table>		Final Inspection	Comments	Quality Insp Name and Signature:		Dima	MS	
Final Inspection	Comments												
Quality Insp Name and Signature:													
Dima	MS												
OBSERVATIONS													

**GIBELA RAIL TRANSPORT CONSORTIUM RF (PTY) LTD**  
**Traction Motors Quality**  
  
**2024 -05- 13**  
 Name : Dima  
 Signature : MS



