

MANUFACTURER **ALSTOM Ubunye**
 Marievale Road, Vosterkroon, Nigel, 1490

CUSTOMER **Gibela**

CONTRACT

PROJECT **PRASA**

MANUFACTURER'S DELIVERY DOCUMENT

PRODUCT TYPE **MOTOR BOGIE type MB1**

DTR0009706804

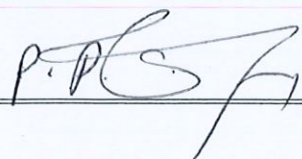
SERIAL NUMBER **MB1 - 1451**

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- 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	06 June 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 MB1	DTR0009706804	M 1451		Alstom - Ubunye
Motor Bogie Frame	AR00000176080	M 1793		Alstom - Ubunye
Wheelset (Front)	AR000000177020	M 3327		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	K 2986		NGC
Wheel (Right)	AR00000174670	148	07.23	Bonatrans
Wheel (Left)	AR000000174670	149	07.23	Bonatrans
Wheelset (Rear)	AR00000178600	M 3328		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	K 2984		NGC
Wheel (Right)	AR00000174670	029	07.23	Bonatrans
Wheel (Left)	AR00000174670	031	07.23	Bonatrans
Pneumatic suspension (Right)	AR00000176127	2312025		Hutchinson
Pneumatic suspension (Left)	AR00000176127	2311065		Hutchinson
Brake unit with PB (Right rear)	AR00000174544	989	05.24	Wabtec
Brake unit without PB (Right front)	AR00000175185	2946	05.24	Wabtec
Brake unit without PB (Left Front)	AR00000175185	2948	05.24	Wabtec
Brake unit without PB (left rear)	AR00000175185	2947	05.24	Wabtec
Motor (front)	AR00000168516	21607		Alstom Ornans
Motor (Rear)	AR00000168516	21722		Alstom Ornans

PRESSING REPORT

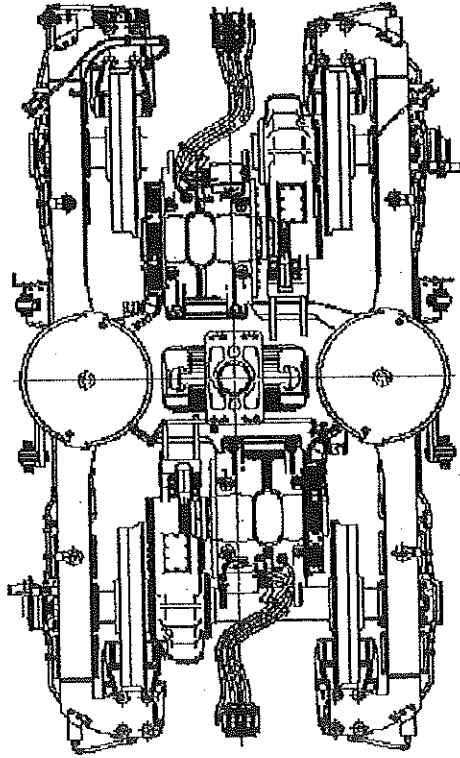
DATE 6/3/2024	RESPONSIBLE VALIDATION	PRASA	LOAD TEST : MOTOR BOGIE
		INSTRUCTION SHEET:	
		FAMILY:	

	THEORETICAL		MEASURED
	MIN	MAX	
WHEEL DIAMETER [mm]			
GAP PRIMARY SUSPENSION [mm]	MIN 33.00	MAX 39.00	36.45 ✓
SHIM THICK [mm]			
WEIGHT ON WHEEL [Kg]	Q4		5556

SECONDARY SUSPENSION			
MEASURED [mm]	SHIM THICK [mm]	DIM. WITH SHIM [mm]	THEORETICAL [mm]
585.70	+	0.00 =	MIN 585.00 MAX 587.50

RIGHT JACK LOAD
7376 Kg

BOGIE SERIAL N°	MB1-1451
BOGIE TYPE	MB
BOGIE WEIGHT UNDER LOAD [Kg]	22387
COMPLETE BOGIE WEIGHT [Kg]	7296
OPERATOR	EDWARD
DATE	6/3/2024



	THEORETICAL		MEASURED
	MIN	MAX	
LOAD DIFFERENCE ON FRONT AXLE [%]	0.00	0.00	-0.16 ✓
LOAD DIFFERENCE ON REAR AXLE [%]	0.00	0.00	1.00 ✓
LOAD DIFFERENCE FRONT AXLE AND REAR AXLE [%]	0.00	0.00	-0.27 ✓
LOAD DIFFERENCE ON RAILS [%]	0.00	0.00	0.42 ✓
LOAD DIFFERENCE ON DIAGONAL WHEELS [%]	0.00	0.00	0.58 ✓

OPERATOR STAMP
BFI-21

LEFT JACK LOAD
7375 Kg

	THEORETICAL		MEASURED
	MIN	MAX	
WHEEL DIAMETER [mm]			
GAP PRIMARY SUSPENSION [mm]	MIN 33.00	MAX 39.00	35.65 ✓
SHIM THICK [mm]			
WEIGHT ON WHEEL [Kg]	Q1		5573

SECONDARY SUSPENSION			
MEASURED [mm]	SHIM THICK [mm]	DIM. WITH SHIM [mm]	THEORETICAL [mm]
585.08	+	0.00 =	MIN 585.08 MAX 587.50
DIFFERENCE IN RIGHT AND LEFT SUSPENSION HEIGHTS [mm]			
0.62			
THEORETICAL [mm]			
MIN -1.00 MAX 1.00			

	THEORETICAL		MEASURED
	MIN	MAX	
WHEEL DIAMETER [mm]			
GAP PRIMARY SUSPENSION [mm]	MIN 33.00	MAX 39.00	35.36 ✓
SHIM THICK [mm]			
WEIGHT ON WHEEL [Kg]	Q3		5662



CERTIFICATION OF CONFORMITY

Inspection certificate according EN 10204-3.1

Product: Traction Motors 6 ECA 3022 B

Serial Number: N ° 21722

Client / Customer: ALSTOM UBUNYE (PTY) LTD

Project: PRASA

P O Number: 77293074

Status: QC PASS

Derogations / Concession / Waiver N °: N/A

Customer modification: N/A

Missing parts: N/A

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 completion of testing and verification, they completely satisfy all specified requirements, and applicable standards and regulations.

Date: 2024/05/16

Function: Final Inspection

Performed and signed off by: Name _____ Dimakatso Mohoalali

Signature _____



Gibela Rail
02 Shosholozwa Avenue
M07 Traction Motor
1590

GIBELA RAIL

Compiled by M Kola

Date: 22/2/2022

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ALSTOM

GIBELQ

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: 13/05/04
Name: XOUNI

Assembly after test

Date: 15/05/04
Name: XOUNI

ROTOR S/N BU900082-017		STATOR S/N GFB-1732	
<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°: AUSTRIA 237 N			
<p>S2 Radial play after assembly (0,042/0,114): 0,08mm</p> <p><input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>		<p>S4 LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly</p> <p>Min:144g - Max:149g</p> <p>Filter 1 (Name and signature): <i>[Signature]</i></p> <p>Filter 2 (Name and signature): <i>[Signature]</i></p> <p>Mesured quantity: <i>[Signature]</i></p> <p>Quality validation: <i>Dima</i></p>	
<p>S1 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°: AUSTRIA 094 W			
<p>S1 Radial play after assembly (0,021/0,067): 0,04mm</p> <p><input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>		<p>S3 LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly</p> <p>Min:159g Max:164g</p> <p>Filter 1 (Name and signature): <i>[Signature]</i></p> <p>Filter 2 (Name and signature): <i>[Signature]</i></p> <p>Mesured quantity: <i>[Signature]</i></p> <p>Quality validation: <i>Dima</i></p>	
Référence appareil: AMXG00			
FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA		TROS 916.216	
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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) 11,9 MΩ		<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 0,01mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	<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	<input type="checkbox"/> OK <input type="checkbox"/> NOK
sensor / toothed wheel play 0,7 (+/- 0,2): 0,8mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	<input type="checkbox"/> OK <input type="checkbox"/> NOK
Sensor reference: DTR0000512252/DSD1830.19Q14HW	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	<input type="checkbox"/> OK <input type="checkbox"/> NOK
Device serial number: AMXG00		
Device serial number: AMXG00		
Device serial number: GFB-1732		
Device serial number: 32-317000849		

Prep. & Final Assembly																			
OPERATOR				Quality Verification															
F1	Torque tightening to 8 x 76 Nm:	<input checked="" type="checkbox"/>	OK	<input type="checkbox"/>	NOK	search reference for the event of false / absence of the motorized search bar	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	search reference for the event of false / absence of the motorized search bar	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	search reference for the event of false / absence of the motorized search bar	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	search reference for the event of false / absence of the motorized search bar	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	search reference for the event of false / absence of the motorized search bar	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	search reference for the event of false / absence of the motorized search bar	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)																			
							Final Inspection		Comments										
							Quality Insp Name and Signature:												
							Dima												
OBSERVATIONS																			
<table border="1"> <tr> <td>FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA</td> <td>TROS 916.216</td> <td>2</td> <td>Page</td> </tr> <tr> <td></td> <td></td> <td></td> <td>2</td> </tr> </table>												FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA	TROS 916.216	2	Page				2
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			2																





CERTIFICATION OF CONFORMITY

Inspection certificate according EN 10204-3.1

Product: Traction Motors 6 ECA 3022 B

Serial Number: N ° 21607

Client / Customer: ALSTOM UBUNYE (PTY) LTD

Project: PRASA

P O Number: 76959933

Status: QC PASS

Derogations / Concession / Waiver N °: N/A

Customer modification: N/A

Missing parts: N/A

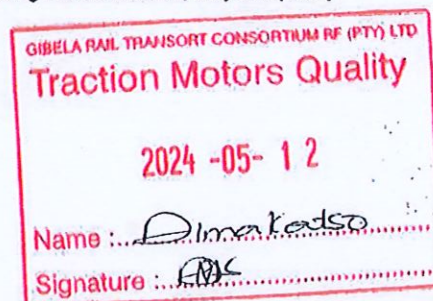
We hereby declare, barring exceptions, reservations or exemptions listed in this statement of conformity, that the listed supplies comply with the contract requirements and that, after completion of testing and verification, they completely satisfy all specified requirements, and applicable standards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

Date: 2024/05/12

Function: Final Inspection

Perfomed and signed off by: Name _____ Dimakatso Mohoalali

Signature _____



Gibela Rail
02 Shosholoza Avenue
M07 Traction Motor
1590

GIBELA RAIL

Compiled by M Kola

Date: 22/2/2022

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21607

ALSTOM

GIBEL

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: 25/05/24
Name: XOLUNT

Assembly after test

Date: 12/05/24
Name: Geoffrey Xolunt Thomas

ROTOR S/N MCR23-11-101		STATOR S/N GEB-1619	
<p>Bearing lubrication - Security operation</p> <p>Incorrect lubrication can lead to engine failure with a safety risk in service</p> <p>SRIL TROS 965.289</p>			
<p>INSULATED CERAMIC BEARING DRIVE END - Security operation</p> <p>Incorrect assembly can lead to engine failure with a safety risk in service</p> <p>SRIL TROS 965.289</p> <p>FAG: NU 214-E-XL-M1-P6-F1-H257A-J20AB-C4 or NU 214-E-M1-P6-F1-H257A-J20AA-C4</p> <p>SKE: NU 214-ECM/C4-VA3091</p> <p>(cross out the references that have not been fitted)</p>			
<p>N°: ROMANIA: -0097 09/23 SH92-13 SH0196</p>			
<p>Radial play after assembly (0,042 / 0,114): 0,06mm</p> <p><input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>		<p>LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly</p> <p>Mini: 144g - Max: 149g</p> <p>Filter 1 (Name and signature): [Signature]</p> <p>Filter 2 (Name and signature): [Signature]</p> <p>Mesured quantity: [Signature]</p> <p>Quality validation: [Signature]</p>	
<p>INSULATED CERAMIC BEARING OPPOSITE DRIVE END side - Security operation</p> <p>Incorrect assembly can lead to engine failure with a safety risk in service</p> <p>SRIL TROS 965.289</p> <p>FAG: 6214-M-P6-J20AB-H257A-C4 or 6214-M-P6-J20AA-H257-C4</p> <p>SKE: 6214-M/C4-VL-0241</p> <p>(cross out the references that have not been fitted)</p>			
<p>Serial N°: GERMANY: -0200 X116 -0912 04/23 SH0196</p>			
<p>Radial play after assembly (0,021 / 0,067): 0,05mm</p> <p><input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>		<p>LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly</p> <p>Mini: 159g - Max: 164g</p> <p>Filter 1 (Name and signature): [Signature]</p> <p>Filter 2 (Name and signature): [Signature]</p> <p>Mesured quantity: [Signature]</p> <p>Quality validation: [Signature]</p>	
<p>Reference appareil: ATZP14</p>			
FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA		TROS 916.216 2 Page 1	

ALSTOM

GIBEL

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)		17,7 MΩ		<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: 0,01mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number: ATZP14	<input type="checkbox"/> OK <input type="checkbox"/> NOK	
Out of round on toothed wheel 0,1 max: 0,03mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number: ATZP14	<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: CTRF1001	<input type="checkbox"/> OK <input type="checkbox"/> NOK	
Sensor reference: DTR0000512252/DSD1830.19C14HW	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number: 6031003319	<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	Wrench reference (in the event of failure / absence of the indicated wrenches): <i>NCCSD81</i>	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 indicated wrenches): <i>NCCSD81</i>	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 indicated wrenches): <i>NCCSD81</i>	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 indicated wrenches): <i>NCCSD81</i>	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 indicated wrenches): <i>NCCSD81</i>	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 indicated wrenches): <i>NCCSD81</i>	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	Measured quantity: <i>18g</i>		<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK			
<input checked="" type="checkbox"/> S4	18g (0/+4.5) CC	Measured quantity: <i>18g</i>		<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 Quality Insp Name and Signature: <i>Dima EDS</i>	Comments		
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- 12

Name : *Dima*

Signature : *EDS*



ALSTOM UBUNYE

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 - 614

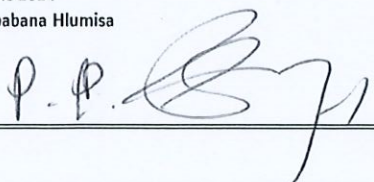
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- List of deviations and missing parts.....	Page 2/2	<input checked="" type="checkbox"/>
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- Load test report.....	1 page	<input checked="" type="checkbox"/>
- Motor certificate.....	8 pages	<input 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	06 June 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	614		Alstom - Ubunye
Motor Bogie Frame	AR00000176080	1791		Alstom - Ubunye
Wheelset (Front)	AR000000177020	3334		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	2966		NGC
Wheel (Right)	AR00000174670	099	10.23	Bonatrans
Wheel (Left)	AR000000174670	098	10.23	Bonatrans
Wheelset (Rear)	AR00000178600	3333		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	2881		NGC
Wheel (Right)	AR00000174670	071	10.23	Bonatrans
Wheel (Left)	AR00000174670	072	10.23	Bonatrans
Pneumatic suspension (Right)	AR00000176127	2312142		Hutchinson
Pneumatic suspension (Left)	AR00000176127	2312137		Hutchinson
Brake unit with PB (Right rear)	AR00000174544	1823	05.24	WEBTEC
Brake unit without PB (Right front)	AR00000175185	5491	05.24	WEBTEC
Brake unit without PB (Left Front)	AR00000175185	5492	05.24	WEBTEC
Brake unit without PB (left rear)	AR00000175185	5489	05.24	WEBTEC
Motor (front)	AR00000168516	21723		GIBELA
Motor (Rear)	AR00000168516	21649		GIBELA

PRESSING REPORT

DATE
6/5/2024

DATE VALIDATION

RESPONSABLE VALIDATION

PRASA

INSTRUCTION SHEET:

FAMILY:

LOAD TEST : MOTOR BOGIE

PROJECT:

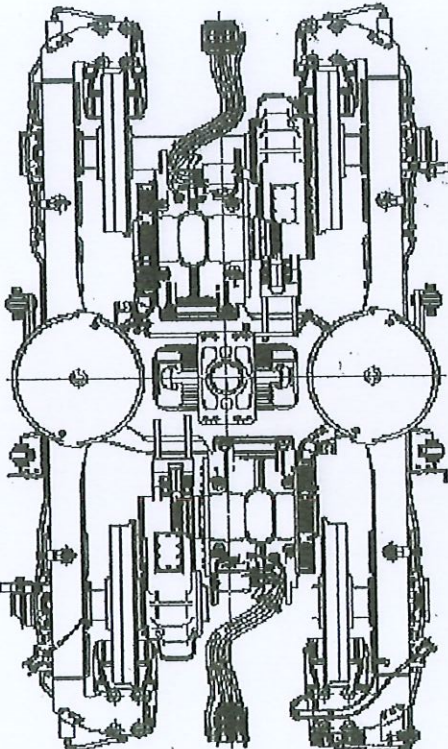
	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX	
GAP PRIMARY SUSPENSION [mm]	MIN 33.00 MAX 39.00	34.70 ✓
SHIM THICK [mm]		
WEIGHT ON WHEEL [Kg]	Q2	5584

SECONDARY SUSPENSION ✓			
MEASURED [mm]	SHIM THICK [mm]	DIM. WITH SHIM [mm]	THEORETICAL [mm]
586.04	+	0.00	586.04
			MIN 585.00 MAX 587.50

RIGHT JACK LOAD	
7374	Kg

	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX	
GAP PRIMARY SUSPENSION [mm]	MIN 33.00 MAX 39.00	34.80 ✓
SHIM THICK [mm]		
WEIGHT ON WHEEL [Kg]	Q4	5549

BOGIE SERIAL N°	MB2-614
BOGIE TYPE	MB
BOGIE WEIGHT UNDER LOAD [Kg]	22378
COMPLETE BOGIE WEIGHT [Kg]	7285
OPERATOR	DATE
SAFANA	6/5/2024



	THEORETICAL	MEASURED
LOAD DIFFERENCE ON FRONT AXLE [%]	MIN 0.00 MAX 0.00	-0.04 ✓
LOAD DIFFERENCE ON REAR AXLE [%]	MIN 0.00 MAX 0.00	1.03 ✓
LOAD DIFFERENCE FRONT AXLE AND REAR AXLE [%]	MIN 0.00 MAX 0.00	-0.22 ✓
LOAD DIFFERENCE ON RAILS [%]	MIN 0.00 MAX 0.00	0.50 ✓
LOAD DIFFERENCE ON DIAGONAL WHEELS [%]	MIN 0.00 MAX 0.00	0.54 ✓

OPERATOR STAMP

DC-271-6

LEFT JACK LOAD	
7376	Kg

	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX	
GAP PRIMARY SUSPENSION [mm]	MIN 33.00 MAX 39.00	34.30 ✓
SHIM THICK [mm]		
WEIGHT ON WHEEL [Kg]	Q1	5580

SECONDARY SUSPENSION ✓			
MEASURED [mm]	SHIM THICK [mm]	DIM. WITH SHIM [mm]	THEORETICAL [mm]
585.24	+	1.00	586.24
			MIN 585.00 MAX 587.50

	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX	
GAP PRIMARY SUSPENSION [mm]	MIN 33.00 MAX 39.00	34.01 ✓
SHIM THICK [mm]		
WEIGHT ON WHEEL [Kg]	Q3	5665

DIFFERENCE IN RIGHT AND LEFT SUSPENSION HEIGHTS [mm] ✓		THEORETICAL [mm]
-0.20		MIN -1.00 MAX 1.00

21723

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GIBELQ

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: 13/05/24
Name: Goodfey

Assembly after test

Date: 16-05/2024
Name: Tom & XOLANI

ROTOR S/N 54900282-057	STATOR S/N GIB-1730	
<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 SKE: NU 214 ECM/C4 VA3091 (cross out the references that have not been fitted)</p>		
N°: AUSTRIA 237 W		
<p>S2 Radial play after assembly (0,042 / 0,114): 0,07mm</p> <p><input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>	<p>S3 LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly</p> <p>Min: 144g - Max: 149g</p> <p>Filter 1 (Name and signature): <i>[Signature]</i></p> <p>Filter 2 (Name and signature): <i>[Signature]</i></p> <p>Measured quantity: <i>[Signature]</i></p> <p>Quality validation: <i>[Signature]</i></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 SKE 6214-M/C4-VL 0241 (cross out the references that have not been fitted)</p>		
Serial N°: AUSTRIA 094 W		
<p>S1 Radial play after assembly (0,021 / 0,067): 0,05mm</p> <p><input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>	<p>S3 LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly</p> <p>Min: 159g Max: 164g</p> <p>Filter 1 (Name and signature): <i>[Signature]</i></p> <p>Filter 2 (Name and signature): <i>[Signature]</i></p> <p>Measured quantity: <i>[Signature]</i></p> <p>Quality validation: <i>[Signature]</i></p>	
Référence appareil: AJZP14		
FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA		TROS 916.216 2 Page 1

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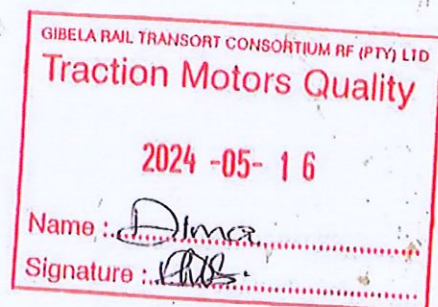
GIBELQ

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) 3.19 GΩ		<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: 0,01mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number: AJZP14 <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: AJZP14 <input type="checkbox"/> OK <input type="checkbox"/> NOK
sensor / toothed wheel play 0,7 (+/- 0,2): 0,185mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number: CLTSP100 <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: 8Q391003285 <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	search reference (in the event of failure) substance of the motorized screwdriver	QC 1 X 61 Nm	<input type="checkbox"/>	OK <input type="checkbox"/>	<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	search reference (in the event of failure) substance of the motorized screwdriver	QC 1 X 61 Nm	<input type="checkbox"/>	OK <input type="checkbox"/>	<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	search reference (in the event of failure) substance of the motorized screwdriver	QC 1 X 37 Nm	<input type="checkbox"/>	OK <input type="checkbox"/>	<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	search reference (in the event of failure) substance of the motorized screwdriver	QC 1 X 18 Nm	<input type="checkbox"/>	OK <input type="checkbox"/>	<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	search reference (in the event of failure) substance of the motorized screwdriver	QC 1 X 18 Nm	<input type="checkbox"/>	OK <input type="checkbox"/>	<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	search reference (in the event of failure) substance of the motorized screwdriver	QC 1 X 22 Nm	<input type="checkbox"/>	OK <input type="checkbox"/>	<input type="checkbox"/>	NOK
Grease protection transport									
<input checked="" type="checkbox"/> S3	18g (0/+4.5) CC	Mesured quantity:	18g			<input type="checkbox"/>	OK <input type="checkbox"/>	<input type="checkbox"/>	NOK
<input checked="" type="checkbox"/> S4	18g (0/+4.5) CC	Mesured quantity:	18g			<input type="checkbox"/>	OK <input type="checkbox"/>	<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 Quality Insp Name and Signature:		Comments			
				Dima MS					
OBSERVATIONS									

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



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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:

Name:

18/06/24
XOUANI

Assembly after test

Date:

Name:

13/05/24
Tom & AUBREY

ROTOR S/N		STATOR S/N	
MCR23-11-006		GIB-1654	
<p>Bearing lubrication - Security operation</p> <p>Incorrect lubrication can lead to engine failure with a safety risk in service</p> <p>SRIL TROS 965.289</p>			
<p>INSULATED CERAMIC BEARING DRIVE END - Security operation</p> <p>Incorrect assembly can lead to engine failure with a safety risk in service</p> <p>SRIL TROS 965.289</p> <p>FAG: NU 214-E-XL-M1-P6-F1-H257A-J20AB-C4 or NU-214-E-M1-P6-F1-H257A-J20AA-C4</p> <p>SKF: NU-214-ECM/C4-VA3091</p> <p>(cross out the references that have not been fitted)</p>			
<p>N°: Romania C097 09/23 SN58 - 1369794</p>			
<p>S2 Radial play after assembly (0,042 / 0,114): 0,07mm</p> <p><input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>		<p>S4 LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly</p> <p>Min: 144g - Max: 199g</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 Insp. Name and signature: <i>Dima</i></p>	
<p>S1 INSULATED CERAMIC BEARING OPPOSITE DRIVE END side - Security operation</p> <p>Incorrect assembly can lead to engine failure with a safety risk in service</p> <p>SRIL TROS 965.289</p> <p>FAG: 6214-M-P6-J20AB-H257A-C4 or 6214-M-P6-J20AA-H257-C4</p> <p>SKF: 6214-M/C4-VL0241-</p> <p>(cross out the references that have not been fitted)</p>			
<p>Serial N°: Germany C000 X116-0945 04/23 SN0233</p>			
<p>S1 Radial play after assembly (0,021 / 0,067): 0,06mm</p> <p><input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>		<p>S3 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 Insp. Name and signature: <i>Dima</i></p>	
<p>Référence appareil: AMXG200</p>			
FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA		TROS 916.216 2 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) 13,8MΩ		<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 0,01mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	<input type="checkbox"/> OK <input type="checkbox"/> NOK
Out of round on toothed wheel 0,1 max: 0,03mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	<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	<input type="checkbox"/> OK <input type="checkbox"/> NOK
Sensor reference: DTR0000512252/DSD1830.19Q14HW	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	<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	Wrench reference (in the event of failure absence of the motorised wrench)	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 motorised wrench)	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 motorised wrench)	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 motorised wrench)	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 motorised wrench)	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 motorised wrench)	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 Quality Insp Name and Signature:					Comments				
Dima									
OBSERVATIONS									

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





CERTIFICATION OF CONFORMITY

Inspection certificate according EN 10204-3.1

Product: Traction Motors 6 ECA 3022 B

Serial Number: N ° 21649

Client / Customer: ALSTOM UBUNYE (PTY) LTD

Project: PRASA

P O Number: 77125899

Status: QC PASS

Derogations / Concession / Waiver N °: N/A

Customer modification: N/A

Missing parts: N/A

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 completion of testing and verification, they completely satisfy all specified requirements, and applicable standards and regulations.

Date: 2024/05/15

Function: Final Inspection

Performed and signed off by: Name _____ Dimakatso Mohoalali

Signature _____



Gibela Rail
02 Shosholozo Avenue
M07 Traction Motor
1590

GIBELA RAIL

Compiled by M Kola

Date: 22/2/2022

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CERTIFICATION OF CONFORMITY

Inspection certificate according EN 10204-3.1

Product: Traction Motors 6 ECA 3022 B

Serial Number: N * 21723

Client / Customer: ALSTOM UBUNYE (PTY) LTD

Project: PRASA

P O Number: 77293070

Status: QC PASS

Derogations / Concession / Waiver N * : N/A

Customer modification: N/A


Missing parts: N/A

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 completion of testing and verification, they completely satisfy all specified requirements, and applicable standards and regulations.

Date: 2024/05/16

Function: Final Inspection

Performed and signed off by: Name _____ Dimakatso Mohoalali

Signature  _____



Gibela Rail
02 Shosholozu Avenue
M07 Traction Motor
1590

GIBELA RAIL

Compiled by M Kola

Date: 22/2/2022

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