



ALSTOM UBUNYE

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 - 1479

#### 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	27 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	1479		Alstom - Ubunye
Motor Bogie Frame	AR00000176080	1842		Alstom - Ubunye
Wheelset (Front)	AR000000177020	3403		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	3489		NGC
Wheel (Right)	AR00000174670	120	03.24	Bonatrans
Wheel (Left)	AR000000174670	117	03.24	Bonatrans
Wheelset (Rear)	AR00000178600	3404		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	3541		NGC
Wheel (Right)	AR00000174670	088	03.24	Bonatrans
Wheel (Left)	AR00000174670	093	03.24	Bonatrans
Pneumatic suspension (Right)	AR00000176127	2403054		Hutchinson
Pneumatic suspension (Left)	AR00000176127	2312029		Hutchinson
Brake unit with PB (Right rear)	AR00000174544	1856	06.24	WEBTEC
Brake unit without PB (Right front )	AR00000175185	5585	06.24	WEBTEC
Brake unit without PB (Left Front)	AR00000175185	5591	06.24	WEBTEC
Brake unit without PB (left rear)	AR00000175185	5584	06.24	WEBTEC
Motor (front)	AR00000168516	21801		GIBELA
Motor (Rear)	AR00000168516	21829		GIBELA



DATE  
6/25/2024

DATE VALIDATION

RESPONSABLE VALIDATION

PRASA

INSTRUCTION SHEET:

FAMILY:

## PRESSING REPORT

LOAD TEST : MOTOR BOGIE

PROJECT:

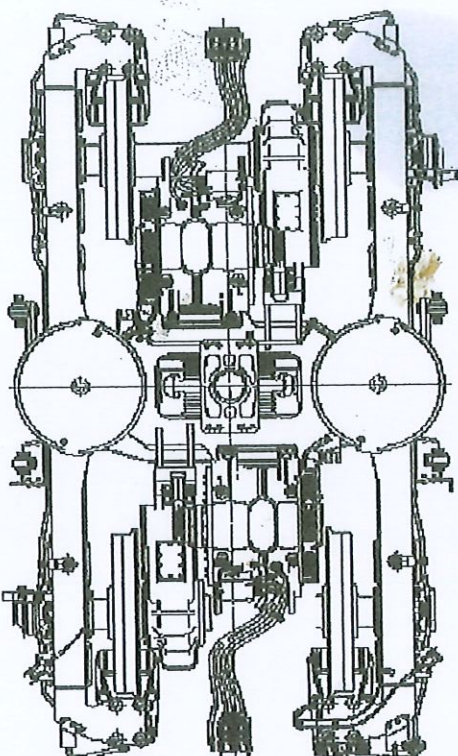
	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX	
GAP PRIMARY SUSPENSION [mm]	MIN 33.00 MAX 39.00	35.90 ✓
SHIM THICK [mm]		
WEIGHT ON WHEEL [kg]	Q2	5598

SECONDARY SUSPENSION			
MEASURED [mm]	SHIM THICK [mm]	DIM. WITH SHIM [mm]	THEORETICAL [mm]
585.18	+	1.00	= 586.18
			MIN 585.00 MAX 587.50

RIGHT JACK LOAD	
7376	Kg

	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]	Q4	5551

BOGIE SERIAL N°	M81-1479
BOGIE TYPE	MB
BOGIE WEIGHT UNDER LOAD [kg]	22396
COMPLETE BOGIE WEIGHT [kg]	7230
OPERATOR	DATE
BAFANA	6/25/2024



	THEORETICAL	MEASURED
LOAD DIFFERENCE ON FRONT AXLE [%]	MIN 0.00 MAX 0.00	-0.18 ✓
LOAD DIFFERENCE ON REAR AXLE [%]	MIN 0.00 MAX 0.00	1.05 ✓
LOAD DIFFERENCE FRONT AXLE AND REAR AXLE [%]	MIN 0.00 MAX 0.00	-0.20 ✓
LOAD DIFFERENCE ON RAILS [%]	MIN 0.00 MAX 0.00	0.44 ✓
LOAD DIFFERENCE ON DIAGONAL WHEELS [%]	MIN 0.00 MAX 0.00	0.62 ✓

OPERATOR STAMP	
DC-BFI-6	

LEFT JACK LOAD	
7376	Kg

	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX	
GAP PRIMARY SUSPENSION [mm]	MIN 33.00 MAX 39.00	36.20 ✓
SHIM THICK [mm]		
WEIGHT ON WHEEL [kg]	Q1	5578

SECONDARY SUSPENSION			
MEASURED [mm]	SHIM THICK [mm]	DIM. WITH SHIM [mm]	THEORETICAL [mm]
586.92	+	0.00	= 586.92
			MIN 585.00 MAX 587.50
DIFFERENCE IN RIGHT AND LEFT SUSPENSION HEIGHTS [mm]			✓
-0.74			MIN -1.00 MAX 1.00

	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX	
GAP PRIMARY SUSPENSION [mm]	MIN 33.00 MAX 39.00	35.70 ✓
SHIM THICK [mm]		
WEIGHT ON WHEEL [kg]	Q3	5669



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: 31/05/24  
Name: Godfrey

Assembly after test  
Date: 23/06/2024  
Name: Tom, Erick & Aubrey

ROTOR S/N <b>SU69683-029</b>	STATOR S/N <b>GIB-1817</b>		
<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 <b>FAG: NU 214-E-XL-M1-P6-F1-H257A-J20AB-C4 or NU 214-E-M1-P6-F1-H257A-J20AA-C4</b> <b>SKF: NU 214-ECM/C4-VA3091</b> (cross out the references that have not been fitted)</p>			
<p>N°: <b>Romania 0097 09/03 SN189-1369794</b></p>			
<p><b>S2</b> Radial play after assembly (0,042 / 0,114): <b>0,08mm</b></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: 144g - Max: 249g</p> <p>Measured quantity: <b>249g</b></p> <p>Filter 1 (Name and signature): <b>[Signature]</b></p> <p>Filter 2 (Name and signature): <b>[Signature]</b></p> <p>Quality Insp. Name and signature: <b>[Signature]</b></p>	
<p><b>INSULATED CERAMIC BEARING OPPOSITE DRIVE END side - Security operation</b> Incorrect assembly can lead to engine failure with a safety risk in service SRIL TROS 965.289 <b>FAG: 6214-M-P6-J20AB-H257A-C4 or 6214-M-P6-J20AA-H257-C4</b> <b>SKF 6214-M/C4-VL 0241</b> (cross out the references that have not been fitted)</p>			
<p>Serial N°: <b>Austria 0094 W</b></p>			
<p><b>S1</b> Radial play after assembly (0,021 / 0,067): <b>0,04mm</b></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: 264g</p> <p>Measured quantity: <b>264g</b></p> <p>Filter 1 (Name and signature): <b>[Signature]</b></p> <p>Filter 2 (Name and signature): <b>[Signature]</b></p> <p>Quality Insp. Name and signature: <b>[Signature]</b></p>	
<p>Référence appareil: <b>AJZP14</b></p>			
<p>FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA</p>		<p>TROS 916.216 2 Page 1</p>	

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)		<b>3.41 GΩ</b>		<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	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number	<input type="checkbox"/> OK <input type="checkbox"/> NOK	
Value: <b>0,01mm</b>		<b>AJZP14</b>		
Out of round on toothed wheel 0,1 max:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number	<input type="checkbox"/> OK <input type="checkbox"/> NOK	
<b>0,04mm</b>		<b>AJZP14</b>		
sensor / toothed wheel play 0,7 (+/- 0,2):	<input type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number	<input type="checkbox"/> OK <input type="checkbox"/> NOK	
Sensor reference: DTR0000512252/DSD1830.19Q14HW	<input type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number	<input type="checkbox"/> OK <input type="checkbox"/> NOK	

Missing speed sensor Deviation # 70.12



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 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	Wrench reference (in the event of failure absence of the motorised 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	Wrench reference (in the event of failure absence of the motorised 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	Wrench reference (in the event of failure absence of the motorised 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	Wrench reference (in the event of failure absence of the motorised 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	Wrench reference (in the event of failure absence of the motorised 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 type="checkbox"/>	OK	<input type="checkbox"/>	NOK
<input checked="" type="checkbox"/> S4	18g (0/+4.5 ) CC	Mesured quantity:	18g			<input 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:				
					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 -06- 24

Name : Dima

Signature : [Signature]



21829

ALSTOM

GIBEL

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

Référence: TROS 916.216

Révision: 2

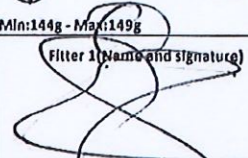
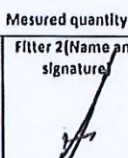
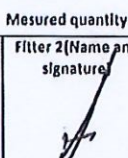
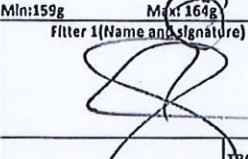
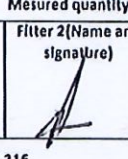
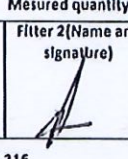
Documents de référence: AT00000325953 - AT00000325990

Assembly before test

Date: 13/06/2014  
Name: Novali

Assembly after test

Date: 24/06/2014  
Name: Jacques + Thomas + Novali

ROTOR S/N <b>BUE9683-CC8</b>		STATOR S/N <b>C113-1845</b>	
<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 <b>FAQ: NU 214-E-XL-M1-P6-F1-H257A-J20AB-C4 or NU 214-E-M1-P6-F1-H257A-J20AA-C4</b> <b>SKE: NU 214 ECM/C4 VA3091</b> (cross out the references that have not been fitted)</p>			
N°: <b>AUSTRIA 349W</b>			
<p><b>S2</b> Radial play after assembly (0,042 / 0,114): <b>0,07mm</b></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>Filter 1 (Name and signature): </p> <p>Filter 2 (Name and signature): </p> <p>Mesured quantity: </p> <p>Quality validation: <b>Ding</b></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 <b>FAQ: 6214-M-P6-J20AB-H257A-C4 or 6214-M-P6-J20AA-H257-C4</b> <b>SKE 6214-M/C4-VL 0241</b> (cross out the references that have not been fitted)</p>			
Serial N°: <b>AUSTRIA 094W</b>			
<p><b>S1</b> Radial play after assembly (0,021 / 0,067): <b>0,04mm</b></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>Filter 1 (Name and signature): </p> <p>Filter 2 (Name and signature): </p> <p>Mesured quantity: </p> <p>Quality validation: <b>Ding</b></p>	
<p>Référence appareil: <b>AMXG800</b></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

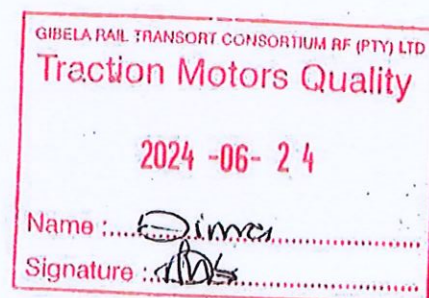
Record the value of the Insulation resistance of the bearings to TROS 915.069 (> 50 kΩ) <b>192 MΩ</b>		<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	
OPERATOR		Quality verification	
Out of round at the end of the shaft drive end, 0,05 max Value: <b>0,07mm</b>	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number: <b>AMXG800</b>	<input type="checkbox"/> OK <input type="checkbox"/> NOK
Out of round on toothed wheel 0,1 max: <b>0,07mm</b>	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number: <b>AMXG800</b>	<input type="checkbox"/> OK <input type="checkbox"/> NOK
sensor / toothed wheel play 0,7 ( +/- 0,2 ):	<input type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number:	<input type="checkbox"/> OK <input type="checkbox"/> NOK
Sensor reference: DTR0000512252/DSD1830.19Q14HW	<input type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number:	<input type="checkbox"/> OK <input type="checkbox"/> NOK

Missing speed sensor Deviation #: 7072



Prep. & Final Assembly									
OPERATOR				Quality verification					
F1	Torque tightening to 8 x 76 Nm:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	watch reference (in the event of false absence of the motorised 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	watch reference (in the event of false absence of the motorised 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	watch reference (in the event of false absence of the motorised 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	watch reference (in the event of false absence of the motorised 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	watch reference (in the event of false absence of the motorised 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	watch reference (in the event of false absence of the motorised 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				
				Final inspection	Comments				
				Quality Insp Name and Signature:					
				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 ° 21829

Client / Customer: ALSTOM UBUNYE (PTY) LTD

Project: PRASA

P O Number: 77554746

Status: QC PASS

Derogations / Concession / Waiver N °: 7072

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: 2024/06/25

Function: Final Inspection

Performed 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

Property of GIBELA RAIL, cannot be distributed or reproduced without authorization

**CERTIFICATION OF CONFORMITY**

Inspection certificate according EN 10204-3.1

Product: Traction Motors 6 ECA 3022 B

Serial Number: N° 21801

Client / Customer: ALSTOM UBUNYE (PTY) LTD

Project: PRASA

P O Number: 77419367

Status: QC PASS

Derogations / Concession / Waiver N°: 7072

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: 2024/06/25

Function: Final Inspection

Performed and signed off by: Name\_\_\_\_\_ Dimakatso Mohoalali

Signature \_\_\_\_\_



Gibela Rail  
02 Shosholola Avenue  
M07 Traction Motor  
1590

GIBELA RAIL

Compiled by M Kola

Date: 22/2/2022

Property of GIBELA RAIL, cannot be distributed or reproduced without authorization





ALSTOM UBUNYE

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

### MANUFACTURER'S DELIVERY DOCUMENT

**PRODUCT TYPE** MOTOR BOGIE MB2  
 DTR0009706805  
**SERIAL NUMBER** MB2 622

#### 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	25 June 2024
NAME	Kwababana Hlumisa
VISA	

**I - Deviation / Derogation****II - Bogie configuration**

B Bogie index



Products Designation	Product Reference	Serial Number	Batch or Date Manufactured	Supplier
Motor Bogie MB2	DTR0009706805	M 622		Alstom - Ubunye
Motor Bogie Frame	AR000000176080	M 1840		Alstom - Ubunye
Wheelset (Front)	AR0000000177020	M 03395		Alstom - Ubunye
Axle with fitted gearbox	AR000000177072	K 3474		NGC
Wheel (Right)	AR000000174670	169	03-24	Bonatrans
Wheel (Left)	AR0000000174670	168	03-24	Bonatrans
Wheelset (Rear)	AR000000178600	M 03396		Alstom - Ubunye
Axle with fitted gearbox	AR000000177072	K 3500		NGC
Wheel (Right)	AR000000174670	125	03-24	Bonatrans
Wheel (Left)	AR000000174670	126	03-24	Bonatrans
Pneumatic suspension (Right)	AR000000176127	2403001		Hutchinson
Pneumatic suspension (Left)	AR000000176127	2404024		Hutchinson
Brake unit with PB (Right rear)	AR000000174544	1867	06-24	Wabtec
Brake unit without PB (Right front)	AR000000175185	5622	06-24	Wabtec
Brake unit without PB (Left Front)	AR000000175185	5617	06-24	Wabtec
Brake unit without PB (left rear)	AR000000175185	5620	06-24	Wabtec
Motor (front)	AR000000168516	21741		Alstom Ornans
Motor (Rear)	AR000000168516	21687		Alstom Ornans

DATE  
6/24/2024

RESPONSABLE VALIDATION

PRASA  
INSTRUCTION SHEET:  
FAMILY:

LOAD TEST : MOTOR BOGIE  
PROJECT:

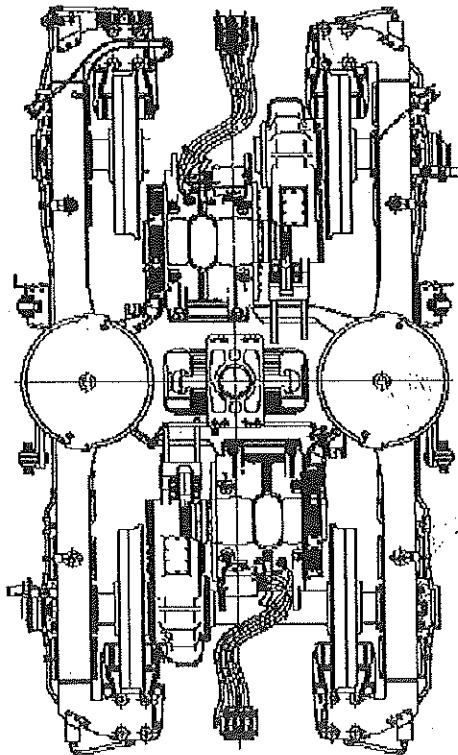
PRESSING REPORT

	THEORETICAL		MEASURED
	MIN	MAX	
WHEEL DIAMETER [mm]			
GAP PRIMARY SUSPENSION [mm]	33.00	39.00	37.00 ✓
SHIM THICK [mm]			
WEIGHT ON WHEEL [Kg]		Q2	5589

SECONDARY SUSPENSION ✓			
MEASURED [mm]	SHIM THICK [mm]	DIM. WITH SHIM[mm]	THEORETICAL [mm]
585.24	+	0.00 =	585.24 MIN 587.50 MAX

RIGHT JACK LOAD  
7376 Kg

BOGIE SERIAL N°	MB2-622
BOGIE TYPE	MB
BOGIE WEIGHT UNDER LOAD [kg]	22415
COMPLETE BOGIE WEIGHT [Kg]	7317
OPERATOR	DATE
BAFANA	6/24/2024



OPERATOR STAMP	DC-371-6
----------------	----------

	THEORETICAL		MEASURED
	MIN	MAX	
WHEEL DIAMETER [mm]			
GAP PRIMARY SUSPENSION [mm]	33.00	39.00	36.30 ✓
SHIM THICK [mm]			
WEIGHT ON WHEEL [Kg]		Q1	5589

SECONDARY SUSPENSION ✓			
MEASURED [mm]	SHIM THICK [mm]	DIM. WITH SHIM [mm]	THEORETICAL [mm]
585.62	+	0.00 =	585.62 MIN 587.50 MAX

DIFFERENCE IN RIGHT AND LEFT SUSPENSION HEIGHTS [mm] ✓		THEORETICAL [mm]
-0.38		MIN -1.00 MAX 1.00

	THEORETICAL		MEASURED
	MIN	MAX	
WHEEL DIAMETER [mm]			
GAP PRIMARY SUSPENSION [mm]	33.00	39.00	37.10 ✓
SHIM THICK [mm]			
WEIGHT ON WHEEL [Kg]		Q4	5569

	THEORETICAL		MEASURED
	MIN	MAX	
LOAD DIFFERENCE ON FRONT AXLE [%]	0.00	0.00	0.00 ✓
LOAD DIFFERENCE ON REAR AXLE [%]	0.00	0.00	0.89 ✓
LOAD DIFFERENCE FRONT AXLE AND REAR AXLE [%]	0.00	0.00	-0.27 ✓
LOAD DIFFERENCE ON RAILS [%]	0.00	0.00	0.45 ✓
LOAD DIFFERENCE ON DIAGONAL WHEELS [%]	0.00	0.00	0.45 ✓

	THEORETICAL		MEASURED
	MIN	MAX	
WHEEL DIAMETER [mm]			
GAP PRIMARY SUSPENSION [mm]	33.00	39.00	35.80 ✓
SHIM THICK [mm]			
WEIGHT ON WHEEL [Kg]		Q3	5669





# CERTIFICATION OF CONFORMITY

Inspection certificate according EN 10204-3.1

Product: Traction Motors 6 ECA 3022 B

Serial Number: N ° 21741

Client / Customer: ALSTOM UBUNYE (PTY) LTD

Project: PRASA

P O Number: 77324729

Status: QC PASS

Derogations / Concession / Waiver N °: 7072

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: 2024/06/20

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

Property of GIBELA RAIL, cannot be distributed or reproduced without authorization

21741

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: 16/05/24  
Name: Godfrey

Assembly after test

Date: 15/06/24  
Name: XOLANT THOMAS

ROTOR S/N <b>MCR23-11-120</b>		STATOR S/N <b>GIB-1765</b>	
<b>Bearing lubrication - Security operation</b> Incorrect lubrication can lead to engine failure with a safety risk in service SRIL TROS 965.289			
<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 <b>FAG: NU 214-E-XL-M1-P6-F1-H257A-J20AB-C4 or NU-214-E-M1-P6-F1-H257A-J20AA-C4</b> <b>SKE-NU-214-EGM/C4-VA3091</b> (cross out the references that have not been fitted)			
N°: <b>Romanica 0097 09/23 SN 451-1369794</b>			
<b>S2</b> Radial play after assembly (0,042 / 0,114): <b>0,06mm</b> <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK		<b>S3</b> LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly Min:144g - Max:149g Filter 1 (Name and signature): <b>[Signature]</b> Filter 2 (Name and signature): <b>[Signature]</b> Measured quantity: <b>[Signature]</b> Quality validation: <b>Ding</b> Quality Insp. Name and signature: <b>[Signature]</b>	
<b>INSULATED CERAMIC BEARING OPPOSITE DRIVE END side - Security operation</b> Incorrect assembly can lead to engine failure with a safety risk in service SRIL TROS 965.289 <b>FAG: 6214-M-P6-J20AB-H257A-C4 or 6214-M-P6-J20AA-H257-C4</b> <b>SKE 6214-M/C4-VL 0241</b> (cross out the references that have not been fitted)			
Serial N°: <b>Austria 0914 W</b>			
<b>S1</b> Radial play after assembly (0,021 / 0,067): <b>0,05mm</b> <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK		<b>S3</b> LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly Min:159g - Max:164g Filter 1 (Name and signature): <b>[Signature]</b> Filter 2 (Name and signature): <b>[Signature]</b> Measured quantity: <b>[Signature]</b> Quality validation: <b>Ding</b> Quality Insp. Name and signature: <b>[Signature]</b>	
Référence appareil: <b>A52P14</b>			
FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA		TROS 916.216 2	
		Page 1	

ALSTOM

GIBELTA

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

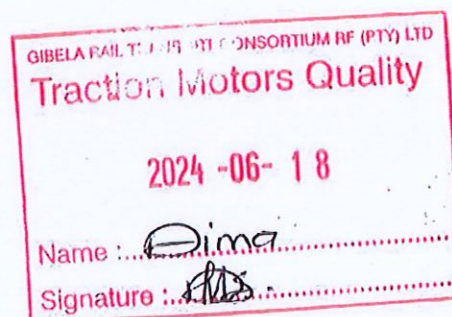
Record the value of the insulation resistance of the bearings to TROS 915.069 (> 50 kΩ)		<b>10.2 G Ω</b>		<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK
OPERATOR		Quality verification		
Out of round at the end of the shaft drive end, 0,05 max Value: <b>0,00mm</b>	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number <b>A52P14</b>	<input type="checkbox"/> OK <input type="checkbox"/> NOK	
Out of round on toothed wheel 0,1 max: <b>0,05mm</b>	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number <b>A52P14</b>	<input type="checkbox"/> OK <input type="checkbox"/> NOK	
sensor / toothed wheel play 0,7 (+/- 0,2):	<input type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number	<input type="checkbox"/> OK <input type="checkbox"/> NOK	
Sensor reference: DTR0000S12252/DSD1830.19Q14HW	<input type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number	<input type="checkbox"/> OK <input type="checkbox"/> NOK	

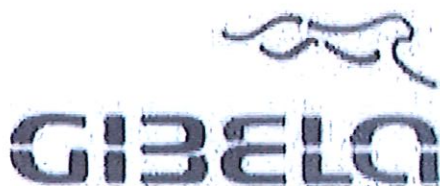
Missing speed sensor Deviation #: 7072.



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	stretch reference (in the event of failure / absence of the motorised 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	stretch reference (in the event of failure / absence of the motorised 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	stretch reference (in the event of failure / absence of the motorised 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	stretch reference (in the event of failure / absence of the motorised 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	stretch reference (in the event of failure / absence of the motorised 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	stretch reference (in the event of failure / absence of the motorised 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									

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 ° 21687

Client / Customer: ALSTOM UBUNYE (PTY) LTD

Project: PRASA

P O Number: 77223871

Status: QC PASS

Derogations / Concession / Waiver N °: 7072

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: 2024/06/20

Function: Final Inspection

Perfomed and signed off by: Name \_\_\_\_\_ Dimakatso Mohoalali

Signature \_\_\_\_\_



Gibela Rail  
02 Shosholora Avenue  
M07 Traction Motor  
1590

GIBELA RAIL

Compiled by M Kola

Date: 22/2/2022

Property of GIBELA RAIL, cannot be distributed or reproduced without authorization



21687

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: 27/04/24  
Name: Goeffrey

Assembly after test

Date: 15/06/24  
Name: XOLANT, THOMAS PRASA

ROTOR S/N <b>SUB9683-38</b>	STATOR S/N <b>GIB-1703</b>		
<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 <b>FAG: NU 214-E-XL-M1-P6-F1-H257A-J20AB-C4 or NU 214-E-M1-P6-F1-H257A-J20AA-C4</b> <b>SKF: NU-214 ECM/C4-VA3091</b> (cross out the references that have not been fitted)</p>			
<p>N°: <b>ROMANIA: 0097 09/23 SN 66 - 1369794</b></p>			
<p><b>S2</b> Radial play after assembly (0,042 / 0,114): <b>0,08mm</b></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 Measured quantity: <b>149g</b></p> <p>Filter 1 (Name and signature) <b>[Signature]</b> Filter 2 (Name and signature) <b>[Signature]</b></p> <p>Quality validation: <b>Dim [Signature]</b></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 <b>FAG: 6214-M-P6-J20AB-H257A-C4 or 6214-M-P6-J20AA-H257-C4</b> <b>SKF 6214-M/C4-VL-0241</b> (cross out the references that have not been fitted)</p>			
<p>Serial N°: <b>GERMANY: 0200 X024 - 1029 01/23 SN 0650</b></p>			
<p><b>S1</b> Radial play after assembly (0,021 / 0,067): <b>0,05mm</b></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 Measured quantity: <b>164g</b></p> <p>Filter 1 (Name and signature) <b>[Signature]</b> Filter 2 (Name and signature) <b>[Signature]</b></p> <p>Quality validation: <b>Dim [Signature]</b></p>	
<p>Référence appareil: <b>A52P14</b></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)		<b>3.53 GΩ</b>		<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: <b>0,02mm</b>	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number <b>A52P14</b>	<input type="checkbox"/> OK <input type="checkbox"/> NOK	
Out of round on toothed wheel 0,1 max: <b>0,07mm</b>	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number <b>A52P14</b>	<input type="checkbox"/> OK <input type="checkbox"/> NOK	
sensor / toothed wheel play 0,7 (+/- 0,2):	<input type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number	<input type="checkbox"/> OK <input type="checkbox"/> NOK	
Sensor reference: DTR0000512252/DSD1830.19Q14HW	<input type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number	<input type="checkbox"/> OK <input type="checkbox"/> NOK	

Missing speed sensor Deviation: #. 7070



Prep. & Final Assembly										
OPERATOR				Quality verification						
F1	Torque tightening to 8 x 76 Nm:	<input checked="" type="checkbox"/>	OK	<input type="checkbox"/>	NOK	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	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	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	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	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	QC 1 X 22 Nm	<input type="checkbox"/>	OK	<input type="checkbox"/>	NOK
Grease protection transport										
S3	18g (0/+4.5) CC	Mesured quantity: 13g				<input checked="" type="checkbox"/>	OK	<input type="checkbox"/>	<input type="checkbox"/>	NOK
S4	18g (0/+4.5) CC	Mesured quantity: 13g				<input checked="" 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	Comments			
						Quality Insp Name and Signature:				
						Dima				
OBSERVATIONS										

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

