



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 - 1454**

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- 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**

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**ALSTOM UBUNYE**

## PRODUCTS TRACEABILITY

Products Designation	Product Reference	Serial Number	Batch or Date Manufactured	Supplier
Motor Bogie MB1	DTR0009706804	1454		Alstom - Ubunye
Motor Bogie Frame	AR00000176080	1813		Alstom - Ubunye
Wheelset (Front)	AR000000177020	3337		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	3200		NGC
Wheel (Right)	AR00000174670	024	07.23	Bonatrans
Wheel (Left)	AR000000174670	013	07.23	Bonatrans
Wheelset (Rear)	AR00000178600	3338		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	3177		NGC
Wheel (Right)	AR00000174670	023	07.24	Bonatrans
Wheel (Left)	AR00000174670	021	07.24	Bonatrans
Pneumatic suspension (Right)	AR00000176127	2404020		Hutchinson
Pneumatic suspension (Left)	AR00000176127	2404015		Hutchinson
Brake unit with PB (Right rear)	AR00000174544	990	05.24	WEBTEC
Brake unit without PB (Right front )	AR00000175185	2934	05.24	WEBTEC
Brake unit without PB (Left Front)	AR00000175185	2935	05.24	WEBTEC
Brake unit without PB (left rear)	AR00000175185	2936	05.24	WEBTEC
Motor (front)	AR00000168516	21622		GIBELA
Motor (Rear)	AR00000168516	21706		GIBELA



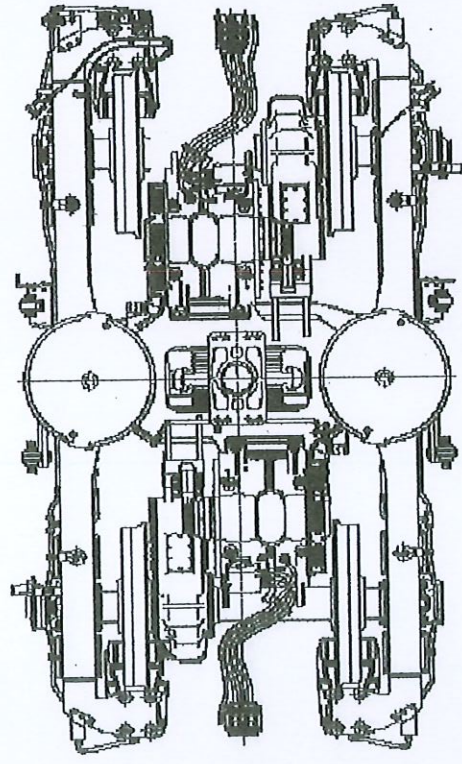
DATE  
5/6/2024

DATE 5/5/2024	RESPONSIBLE VALIDATION	PRASA JACOB WILSON	LOAD TEST : MOTOR BOGIE
		INSTRUCTION SHEET:	PROJECT:
		FAMILY:	

	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]	Q4	5610

SECONDARY SUSPENSION				$\phi$
MEASURED [mm]	SHIM THICK [mm]	DIM. WITH SHIM[mm]		THEORETICAL [mm]
596.22	+	0.00	=	MIN 585.00
				MAX 587.50

RIGHT JACK LOAD
7375 Kg



BOGIE SERIAL N°	MB1-1454
BOGIE TYPE	MB
BOGIE WEIGHT UNDER LOAD [Kg]	22376
COMPLETE BOGIE WEIGHT [Kg]	7288
OPERATOR	DATE
BAFANA	6/6/2024

	THEORETICAL	MEASURED
LOAD DIFFERENCE ON FRONT AXLE [%]	MIN 0.00 MAX 0.00	0.75
LOAD DIFFERENCE ON REAR AXLE [%]	MIN 0.00 MAX 0.00	-0.01
LOAD DIFFERENCE FRONT AXLE AND REAR AXLE [%]	MIN 0.00 MAX 0.00	-0.27
LOAD DIFFERENCE ON RAILS [%]	MIN 0.00 MAX 0.00	0.37
LOAD DIFFERENCE ON DIAGONAL WHEELS [%]	MIN 0.00 MAX 0.00	-0.38

	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX	
GAP PRIMARY SUSPENSION [mm]	MIN MAX	35.80 39.00
SHIM THICK [mm]		
WEIGHT ON WHEEL [Kg]	Q3	5609

SECONDARY SUSPENSION			
MEASURED [mm]	SHIM THICK [mm]	DIM. WITH SHIM [mm]	THEORETICAL [mm]
586.32	+	0.00	586.32
		=	585.00
			587.50

DIFFERENCE IN RIGHT AND LEFT SUSPENSION HEIGHTS [mm]	THEORETICAL [mm]
-0.10	MIN -1.00
	MAX 1.00

	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX	
GAP PRIMARY SUSPENSION [mm]	MIN 33.00 MAX 39.00	35.80 ✓
SHIM THICK [mm]		
WEIGHT ON WHEEL [Kg]	Q1	5621



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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: 08/04/24

Name: XOUANT

Assembly after test

Date: 13/05/24

Name: XOUANT

ROTOR S/N MCP03-11-094		STATOR S/N CTE3-1631	
<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-VA3091 (cross out the references that have not been fitted)</p>			
N°: ROMANIA: -0097 09/23 SN40-1369794			
<p><b>S2</b> Radial play after assembly (0,042 / 0,114): 0,06mm</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: 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>Dima</i></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 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°: GERMANY: -0200 X116-0648 04/23 SN0012			
<p><b>S1</b> Radial play after assembly (0,021 / 0,067): 0,06mm</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>Dima</i></p>	
Référence appareil: AMXG000			
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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)		5,83 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: 0,05mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number AMXG000	<input type="checkbox"/> OK <input type="checkbox"/> NOK	
Out of round on toothed wheel 0,1 max: 0,05mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number AMXG000	<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 CTE3-1631	<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 0201003408	<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 interch reference of the motor (DTR0000452909)	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 interch reference of the motor (DTR0000452909)	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:	<input checked="" type="checkbox"/> OK	<input type="checkbox"/> NOK	interch reference in the event of failure / absence of the motor (DTR0000452909)	QC 1 X 37 Nm	<input type="checkbox"/> OK	<input type="checkbox"/> NOK		
	Fold locking plate								
<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 interch reference of the motor (DTR0000452909)	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 interch reference of the motor (DTR0000452909)	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 interch reference of the motor (DTR0000452909)	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: 18g				<input checked="" type="checkbox"/> OK	<input type="checkbox"/> NOK		
<input checked="" type="checkbox"/> S4	18g (0/+4.5) CC	Measured 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									

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21706

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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: 30/04/24  
Name: Geoffrey

Assembly after test

Date: 02/05/24  
Name: XOLANT

ROTOR S/N S4900082-051	STATOR S/N GJB-1711		
<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 SKF: NU 214 ECM/C4 VA3091 (cross out the references that have not been fitted)</p>			
<p>N°: ROMANIA - 0097 09/23 SN334 - 1369794</p>			
<p><b>Radial play after assembly (0,042 / 0,114):</b> 0,06mm</p> <p><input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>		<p><b>LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly</b></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 verification: </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 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>			
<p>Serial N°: GERMANY 0200 X116 - 09/18 04/23 SN0211</p>			
<p><b>Radial play after assembly (0,021 / 0,067):</b> 0,04mm</p> <p><input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>		<p><b>LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly</b></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 verification: </p>	
<p>Référence appareil: A52P14</p>			
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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)		9.89 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: A52P14	<input type="checkbox"/> OK <input type="checkbox"/> NOK
Out of round on toothed wheel 0,1 max: 0,06mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number: A52P14	<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	Device serial number: GJB1001	<input type="checkbox"/> OK <input type="checkbox"/> NOK
Sensor reference: DTR0000512252/DS1830.19Q14HW	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number: 80301003017	<input type="checkbox"/> OK <input type="checkbox"/> NOK



Prep. & Final Assembly									
OPERATOR				Quality Verification					
F1	Torque tightening to 8 x 76 Nm:	4	OK	NOK	wrench reference for the event of false / absence of the correct torque	QC 1 X 61 Nm	<input type="checkbox"/>	OK	NOK
F2	Torque tightening to 8 x 76 Nm:	4	OK	NOK	wrench reference for the event of false / absence of the correct torque	QC 1 X 61 Nm	<input type="checkbox"/>	OK	NOK
F3	Torque tightening to 4 x 44 Nm: Fold locking plate	4	OK	NOK	wrench reference for the event of false / absence of the correct torque	QC 1 X 37 Nm	<input type="checkbox"/>	OK	NOK
F4	Torque tightening to 4 x 22 Nm:	4	OK	NOK	wrench reference for the event of false / absence of the correct torque	QC 1 X 18 Nm	<input type="checkbox"/>	OK	NOK
F5	Torque tightening to 6 x 22 Nm:	4	OK	NOK	wrench reference for the event of false / absence of the correct torque	QC 1 X 18 Nm	<input type="checkbox"/>	OK	NOK
Finishing									
F1	Torque tightening to 4 x 22 Nm:	X	OK	NOK	wrench reference for the event of false / absence of the correct torque	QC 1 X 22 Nm	<input type="checkbox"/>	OK	NOK
Grease protection transport									
S3	18g (0/+4.5) CC	Mesured quantity:	18g				<input checked="" type="checkbox"/>	OK	NOK
S4	18g (0/+4.5) CC	Mesured quantity:	18g				<input checked="" type="checkbox"/>	OK	NOK
Final inspection following the check-list DTR0000452909 and DTR0000452910 (in the case of 100% inspection of the production)							<input checked="" type="checkbox"/>	OK	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
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GIBELA RAIL TRANSPORT CONSORTIUM RF (PTY) LTD

Traction Motors Quality

2024 -05- 23

Name : Dima

Signature : [Signature]





## CERTIFICATION OF CONFORMITY

Inspection certificate according EN 10204-3.1

Product: Traction Motors 6 ECA 3022 B

Serial Number: N ° 21622

Client / Customer: ALSTOM UBUNYE (PTY) LTD

Project: PRASA

P O Number: 77058025

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 Shosholoza Avenue  
Mor 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° 21706

Client / Customer: ALSTOM UBUNYE (PTY) LTD

Project: PRASA

P O Number: 77236522

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: 2024/05/23

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





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

### MANUFACTURER'S DELIVERY DOCUMENT

**PRODUCT TYPE** **MOTOR BOGIE MB1**  
**DTR0009706804**  
**SERIAL NUMBER** **MB1 1455**

### 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	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 1455		Alstom - Ubunye
Motor Bogie Frame	AR00000176080	M 1798		Alstom - Ubunye
Wheelset (Front)	AR000000177020	M 03339		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	K 3394		NGC
Wheel (Right)	AR00000174670	128	07-23	Bonatrans
Wheel (Left)	AR000000174670	127	07-23	Bonatrans
Wheelset (Rear)	AR00000178600	M 03340		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	K 3409		NGC
Wheel (Right)	AR00000174670	132	10-23	Bonatrans
Wheel (Left)	AR00000174670	073	07-23	Bonatrans
Pneumatic suspension (Right)	AR00000176127	2403048		Hutchinson
Pneumatic suspension (Left)	AR00000176127	2403043		Hutchinson
Brake unit with PB (Right rear)	AR00000174544	986	05-2024	Wabtec Poci
Brake unit without PB (Right front)	AR00000175185	2941	05-2024	Wabtec Poci
Brake unit without PB (Left Front)	AR00000175185	2942	05-2024	Wabtec Poci
Brake unit without PB (left rear)	AR00000175185	2940	05-2024	Wabtec Poci
Motor (front)	AR00000168516	21618		Alstom Ornans
Motor (Rear)	AR00000168516	21616		Alstom Ornans



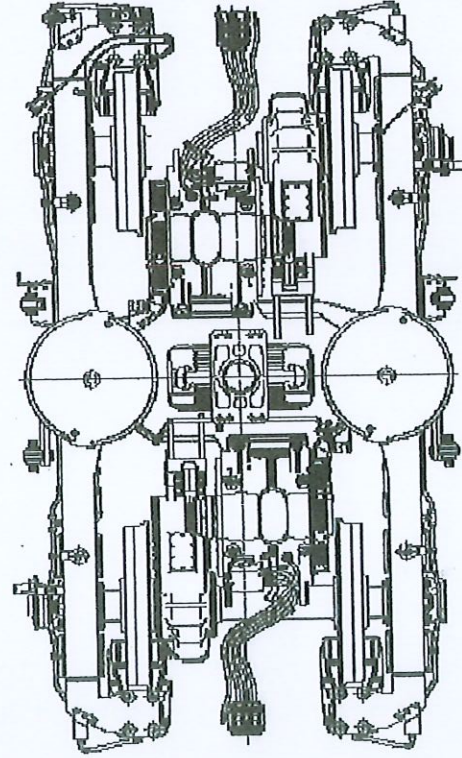
PRESSING REPORT

DATE 6/6/2024	PRASA	LOAD TEST : MOTOR BOGIE
DATE VALIDATION	INSTRUCTION SHEET:	PROJECT:
RESPONSABLE VALIDATION	FAMILY:	

	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN	
	MAX	
GAP PRIMARY SUSPENSION [mm]	MIN	35.40
	MAX	
SHIM THICK [mm]		
WEIGHT ON WHEEL [kg]	Q4	5606

SECONDARY SUSPENSION			
MEASURED [mm]	SHIM THICK [mm]	DIM. WITH SHIM [mm]	THEORETICAL [mm]
586.15	+	0.00	MIN 585.00
			MAX 587.50

RIGHT JACK LOAD
7374 Kg



BOGIE SERIAL N°	MB1-1455
BOGIE TYPE	MB
BOGIE WEIGHT UNDER LOAD [Kg]	22390
COMPLETE BOGIE WEIGHT [Kg]	7288
OPERATOR	DATE
BAFANA	6/6/2024

OPERATOR STAMP
DC-BFI-6

THEORETICAL		MEASURED	
LOAD DIFFERENCE ON FRONT AXLE [%]	MIN	0.00	0.38
	MAX		
LOAD DIFFERENCE ON REAR AXLE [%]	MIN	0.00	0.03
	MAX		
LOAD DIFFERENCE FRONT AXLE AND REAR AXLE [%]	MIN	0.00	-0.17
	MAX		
LOAD DIFFERENCE ON RAILS [%]	MIN	0.00	0.20
	MAX		
LOAD DIFFERENCE ON DIAGONAL WHEELS [%]	MIN	0.00	-0.17
	MAX		

LEFT JACK LOAD
7376 Kg

SECONDARY SUSPENSION			
MEASURED [mm]	SHIM THICK [mm]	DIM. WITH SHIM [mm]	THEORETICAL [mm]
583.83	+	2.00	MIN 585.83
			MAX 587.50

DIFFERENCE IN RIGHT AND LEFT SUSPENSION HEIGHTS [mm]		0.32	THEORETICAL [mm]
		MIN	-1.00
		MAX	1.00

	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN	35.30
	MAX	
GAP PRIMARY SUSPENSION [mm]	MIN	35.30
	MAX	
SHIM THICK [mm]		
WEIGHT ON WHEEL [Kg]	Q1	5610

	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN	35.00 ✓
	MAX	
GAP PRIMARY SUSPENSION [mm]	MIN	35.00
	MAX	
SHIM THICK [mm]		
WEIGHT ON WHEEL [Kg]	Q3	5609





## CERTIFICATION OF CONFORMITY

Inspection certificate according EN 10204-3.1

Product: Traction Motors 6 ECA 3022 B

Serial Number: N ° 21618

Client / Customer: ALSTOM UBUNYE (PTY) LTD

Project: PRASA

P O Number: 77020339

Status: QC PASS

Derogations / Concession / Waiver N °: N/A

Customer modification: N/A

Missing parts: N/A

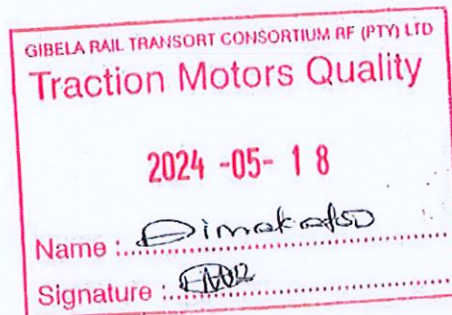
We hereby declare, barring exceptions, reservations or exemptions listed in this statement of conformity, that the listed supplies comply with the contract requirements and that, after completion of testing and verification, they completely satisfy all specified requirements, and applicable standards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

Date: 2024/05/18

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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2/6/18

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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:

Assembly after test

Date:

Name:

ROTOR S/N		STATOR S/N	
MCR23-11-114		GEB-1632	
<p><b>Bearing lubrication - Security operation</b></p> <p>Incorrect lubrication can lead to engine failure with a safety risk in service</p> <p>SRIL TROS 965.289</p>			
<p><b>INSULATED CERAMIC BEARING DRIVE END - Security operation</b></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>			
N°: ROMANIA: 0097 09/23 SN 215-1369794			
<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>S3</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>Dina</i></p>	
<p><b>INSULATED CERAMIC BEARING OPPOSITE DRIVE END side - Security operation</b></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-VL 0241</p> <p>(cross out the references that have not been fitted)</p>			
Serial N°: GERMANY: 0200 X116-0702 04/23 SN 0038			
<p><b>S1</b> Radial play after assembly (0,021 / 0,067): 0,05mm</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>Dina</i></p>	
Référence appareil: AMXC700			
FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA		TROS 916.216 2 Page 1	

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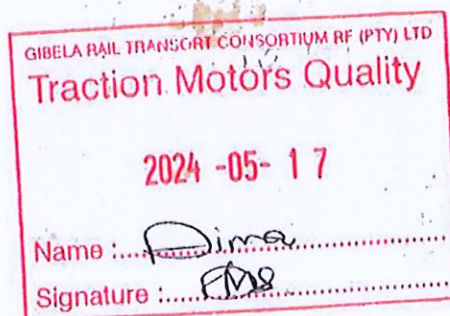
## FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA

Record the value of the Insulation resistance of the bearings to TROS 915.069 (> 50 kΩ) 12,1 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: 0,05mm	<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					
F1	Torque tightening to 8 x 76 Nm:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	interference (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	interference (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:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	interference (in the event of false absence of the motorised screwdriver)	QC 1 X 37 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK				
	Fold locking plate								
F4	Torque tightening to 4 x 22 Nm:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	interference (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	interference (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	interference (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 AMS					
OBSERVATIONS									

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

Inspection certificate according EN 10204-3.1

Product: Traction Motors 6 ECA 3022 B

Serial Number: N ° 21616

Client / Customer: ALSTOM UBUNYE (PTY) LTD

Project: PRASA

P O Number: 77020335

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

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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## 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:

Assembly after test

Date: 13/05/2024

Name: TOM &amp; AUBREY

ROTOR S/N MCPD3-11-112		STATOR S/N G113-1634	
<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 SKF: NU 214-ECM/C4-VA3091 (cross out the references that have not been fitted)</p>			
N°: ROMANIA: 0097 09/23 SN101-1369794			
<p><b>Radial play after assembly (0,042 / 0,114): 0,06mm</b></p> <p><input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>		<p><b>LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly</b></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: </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 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 A 04/23 SN0103			
<p><b>Radial play after assembly (0,021 / 0,067): 0,05mm</b></p> <p><input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>		<p><b>LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly</b></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 verification: </p>	
Référence appareil: AMXG500			
FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA		TROS 916.216 2 Page 1	









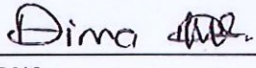
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## FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA

Record the value of the Insulation resistance of the bearings to TROS 915.069 (> 50 kΩ) 17,1 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: 0,06mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number: AMXG500 <input type="checkbox"/> OK <input type="checkbox"/> NOK
Out of round on toothed wheel 0,1 max: 0,05mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number: AMXG500 <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: G113-1634 <input type="checkbox"/> OK <input type="checkbox"/> NOK
Sensor reference: DTR0000512252/OSD1830.19Q14HW	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number: 82321008906 <input type="checkbox"/> OK <input type="checkbox"/> NOK



Prep. & Final Assembly									
OPERATOR				Quality verification					
	Torque tightening to 8 x 76 Nm:	<input checked="" type="checkbox"/>	<input type="checkbox"/> OK <input type="checkbox"/> NOK	interch reference (in the event of failure / absence of the interch reference of the motorized screwdriver)	QC 1 X 61 Nm	<input type="checkbox"/>	<input type="checkbox"/> OK <input type="checkbox"/> NOK		
	Torque tightening to 8 x 76 Nm:	<input checked="" type="checkbox"/>	<input type="checkbox"/> OK <input type="checkbox"/> NOK	interch reference (in the event of failure / absence of the interch reference of the motorized screwdriver)	QC 1 X 61 Nm	<input type="checkbox"/>	<input type="checkbox"/> OK <input type="checkbox"/> NOK		
	Torque tightening to 4 x 44 Nm: Fold locking plate	<input checked="" type="checkbox"/>	<input type="checkbox"/> OK <input type="checkbox"/> NOK	interch reference (in the event of failure / absence of the motorized screwdriver)	QC 1 X 37 Nm	<input type="checkbox"/>	<input type="checkbox"/> OK <input type="checkbox"/> NOK		
	Torque tightening to 4 x 22 Nm:	<input checked="" type="checkbox"/>	<input type="checkbox"/> OK <input type="checkbox"/> NOK	interch reference (in the event of failure / absence of the interch reference of the motorized screwdriver)	QC 1 X 18 Nm	<input type="checkbox"/>	<input type="checkbox"/> OK <input type="checkbox"/> NOK		
	Torque tightening to 6 x 22 Nm:	<input checked="" type="checkbox"/>	<input type="checkbox"/> OK <input type="checkbox"/> NOK	interch reference (in the event of failure / absence of the interch reference of the motorized screwdriver)	QC 1 X 18 Nm	<input type="checkbox"/>	<input type="checkbox"/> OK <input type="checkbox"/> NOK		
Finishing									
	Torque tightening to 4 x 22 Nm:	<input checked="" type="checkbox"/>	<input type="checkbox"/> OK <input type="checkbox"/> NOK	interch reference (in the event of failure / absence of the interch reference of the motorized screwdriver)	QC 1 X 22 Nm	<input type="checkbox"/>	<input type="checkbox"/> OK <input type="checkbox"/> NOK		
Grease protection transport									
	18g (0/+4.5 ) CC	Mesured quantity:	18g			<input checked="" type="checkbox"/>	<input type="checkbox"/> OK <input type="checkbox"/> NOK		
	18g (0/+4.5 ) CC	Mesured quantity:	18g			<input checked="" type="checkbox"/>	<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									
				<b>Final Inspection</b> Quality Insp Name and Signature:		<b>Comments</b>			
									
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- 1 5

Name : 

Signature : 