

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 - 1464**

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	21 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 1464		Alstom - Ubunye
Motor Bogie Frame	AR00000176080	M 1826		Alstom - Ubunye
Wheelset (Front)	AR000000177020	M 3367		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	K 3506		NGC
Wheel (Right)	AR00000174670	024	03.24	Bonatrans
Wheel (Left)	AR000000174670	001	03.24	Bonatrans
Wheelset (Rear)	AR00000178600	M 3368		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	K 3498		NGC
Wheel (Right)	AR00000174670	110	07.23	Bonatrans
Wheel (Left)	AR00000174670	090	07.23	Bonatrans
Pneumatic suspension (Right)	AR00000176127	231134		Hutchinson
Pneumatic suspension (Left)	AR00000176127	2311098		Hutchinson
Brake unit with PB (Right rear)	AR00000174544	1825	05.24	Wabtec
Brake unit without PB (Right front)	AR00000175185	5472	05.24	Wabtec
Brake unit without PB (Left Front)	AR00000175185	5467	05.24	Wabtec
Brake unit without PB (left rear)	AR00000175185	5471	05.24	Wabtec
Motor (front)	AR00000168516	21757		Alstom Ornans
Motor (Rear)	AR00000168516	21681		Alstom Ornans

DATE VALIDATION

RESPONSABLE VALIDATION

PRASA

INSTRUCTION SHEET:

FAMILY:

LOAD TEST : MOTOR BOGIE

PROJECT:

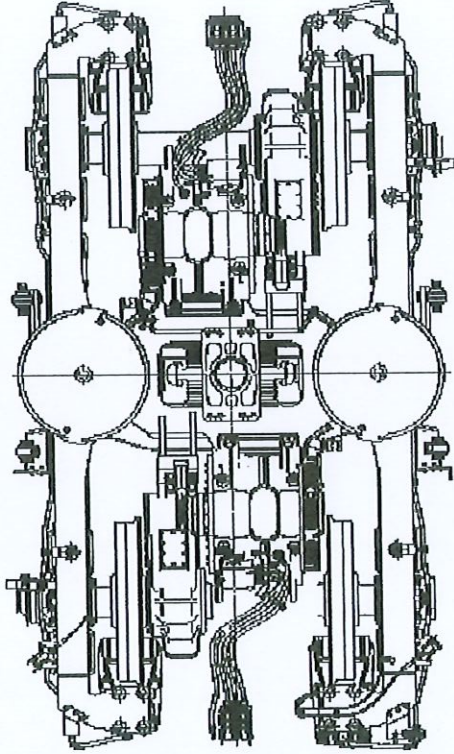
	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX	
GAP PRIMARY SUSPENSION [mm]	MIN 33.00 MAX 39.00	36.90 ✓
SHIM THICK [mm]		
WEIGHT ON WHEEL [Kg]	Q2	5582

SECONDARY SUSPENSION ✓			
MEASURED [mm]	SHIM THICK [mm]	DIM. WITH SHIM[mm]	THEORETICAL [mm]
586.41	+	0.00	= 586.41
			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	36.90 ✓
SHIM THICK [mm]		
WEIGHT ON WHEEL [Kg]	Q4	5554

BOGIE SERIAL N°	MB1-1464
BOGIE TYPE	MB
BOGIE WEIGHT UNDER LOAD [Kg]	22357
COMPLETE BOGIE WEIGHT [Kg]	7281
OPERATOR	DATE
BAFANA	6/13/2024



	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	0.79 ✓
LOAD DIFFERENCE FRONT AXLE AND REAR AXLE [%]	MIN 0.00 MAX 0.00	-0.17 ✓
LOAD DIFFERENCE ON RAILS [%]	MIN 0.00 MAX 0.00	0.38 ✓
LOAD DIFFERENCE ON DIAGONAL WHEELS [%]	MIN 0.00 MAX 0.00	0.42 ✓

LEFT JACK LOAD

7377 Kg

SECONDARY SUSPENSION ✓			
MEASURED [mm]	SHIM THICK [mm]	DIV. WITH SHIM [mm]	THEORETICAL [mm]
586.30	+	0.00	= 586.30
			MIN 585.00 MAX 587.50

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

	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX	
GAP PRIMARY SUSPENSION [mm]	MIN 33.00 MAX 39.00	36.78 ✓
SHIM THICK [mm]		
WEIGHT ON WHEEL [Kg]	Q1	5578

	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]	Q3	5643



CERTIFICATION OF CONFORMITY

Inspection certificate according EN 10204-3.1

Product:	Traction Motors	6 ECA 3022 B
Serial Number:	N °	21681
Client / Customer:	ALSTOM UBUNYE (PTY) LTD	
Project:	PRASA	
P O Number:	77174165	
Status:	QC PASS	
Derogations / Concession / Waiver N °:	7072	
Customer modification:	N/A	
Missing parts:	N/A	

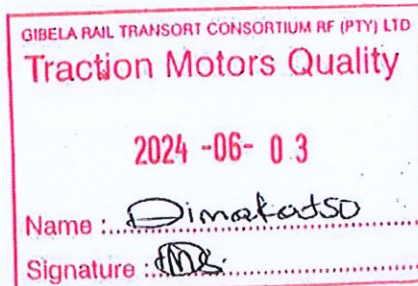
We hereby declare, barring exceptions, reservations or exemptions listed in this statement of conformity, that the listed supplies comply with the contract requirements and that, after completion of testing and verification, they completely satisfy all specified requirements, and applicable standards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

Date: 2024/06/03

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

21681

ALSTOM

GIBELCO

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

Référence: TROS 916.216

Révision: 2

Documents de référence: AT00000325953 - AT00000325990

Assembly before test

Date:

Name:

28/04/24
Goodfrey

Assembly after test

Date:

Name:

03/06/24
Xolant

ROTOR S/N 5969683-34		STATOR S/N GIB-1696	
Bearing lubrication - Security operation Incorrect lubrication can lead to engine failure with a safety risk in service SRIL TROS 965.289			
INSULATED CERAMIC BEARING DRIVE END - Security operation Incorrect assembly can lead to engine failure with a safety risk in service SRIL TROS 965.289 FAG: NU 214-E-XL-M1-P6-F1-H257A-J20AB-C4 or NU 214-E-M1-P6-F1-H257A-J20AA-C4 SKF: NU 214-ECM/C4-VA3091 (cross out the references that have not been fitted)			
N°: ROMANIA: 0097 09/23 8N320-1369794			
S2 Radial play after assembly (0,042 / 0,114): 0,06mm <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK		S4 LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly Min: 144g - Max: 149g Measured quantity: 149g Filter 1 (Name and signature): Filter 2 (Name and signature): Quality validation: Quality Insp. Name and signature:	
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)			
Serial N°: GERMANY: 0200 X116-0754 04/23 8N0134			
S1 Radial play after assembly (0,021 / 0,067): 0,06mm <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK		S3 LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly Min: 159g - Max: 164g Measured quantity: 164g Filter 1 (Name and signature): Filter 2 (Name and signature): Quality validation: Quality Insp. Name and signature:	
Référence appareil A52P14			
FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA		TROS 916.216 2 Page 1	

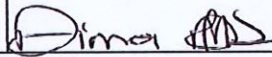
ALSTOM

GIBELCO

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) 4.67 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):	<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"/>	<input type="checkbox"/>	<input type="checkbox"/>	OK	NOK	QC 1 X 61 Nm	<input type="checkbox"/>	<input type="checkbox"/>	OK	NOK		
F2	Torque tightening to 8 x 76 Nm:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	OK	NOK	QC 1 X 61 Nm	<input type="checkbox"/>	<input type="checkbox"/>	OK	NOK		
F3	Torque tightening to 4 x 44 Nm: Fold locking plate	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	OK	NOK	QC 1 X 37 Nm	<input type="checkbox"/>	<input type="checkbox"/>	OK	NOK		
F4	Torque tightening to 4 x 22 Nm:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	OK	NOK	QC 1 X 18 Nm	<input type="checkbox"/>	<input type="checkbox"/>	OK	NOK		
F5	Torque tightening to 6 x 22 Nm:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	OK	NOK	QC 1 X 18 Nm	<input type="checkbox"/>	<input type="checkbox"/>	OK	NOK		
Finishing													
F1	Torque tightening to 4 x 22 Nm:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	OK	NOK	QC 1 X 22 Nm	<input type="checkbox"/>	<input type="checkbox"/>	OK	NOK		
Grease protection transport													
S3	18g (0/+4.5) CC	Mesured quantity:	18g					<input checked="" type="checkbox"/>	<input type="checkbox"/>	OK	NOK		
S4	18g (0/+4.5) CC	Mesured quantity:	18g					<input checked="" type="checkbox"/>	<input 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"/>	<input type="checkbox"/>	OK	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





CERTIFICATION OF CONFORMITY

Inspection certificate according EN 10204-3.1

Product: Traction Motors 6 ECA 3022 B

Serial Number: N ° 21757

Client / Customer: ALSTOM UBUNYE (PTY) LTD

Project: PRASA

P O Number: 77342387

Status: QC PASS

Derogations / Concession / Waiver N °: 7072

Customer modification: N/A

Missing parts: N/A

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Date: 2024/06/03

Function: Final Inspection

Performed and signed off by: Name _____ Dimakatso Mohoalali

Signature _____



Gibela Rail
02 Shosholozza Avenue
M07 Traction Motor
1590

GIBELA RAIL

Compiled by M Kola

Date: 22/2/2022

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21757

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: 03/06/24
Name: Jacques

Assembly after test

Date: 03/06/24
Name: XOLANT

ROTOR S/N 0900282-001	STATOR S/N CIB-1783		
<p>Bearing lubrication - Security operation Incorrect lubrication can lead to engine failure with a safety risk in service SRIL TROS 965.289</p>			
<p>INSULATED CERAMIC BEARING DRIVE END - Security operation Incorrect assembly can lead to engine failure with a safety risk in service SRIL TROS 965.289 FAG: NU 214-E-XL-M1-P6-F1-H257A-J20AB-C4 or NU 214-E-M1-P6-F1-H257A-J20AA-C4 SKF: NU 214-ECM/C4-VA3091 (cross out the references that have not been fitted)</p>			
N°: ROMANIA: 0097 09/23 81416-1369794			
<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>Mln: 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>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: 095W			
<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>Reference approval: AMK980</p>		<p>S3 LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly</p> <p>Mln: 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: </p>	
FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA		TROS 916.216	Page 2
			Page 1

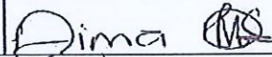
ALSTOM

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)		3,16 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: 0,05mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number AMK980	<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 AMK980	<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					
<input checked="" type="checkbox"/> F1	Torque tightening to 8 x 76 Nm:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	misalignment (in the event of false absence of the motor 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	misalignment (in the event of false absence of the motor 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	misalignment (in the event of false absence of the motor 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	misalignment (in the event of false absence of the motor 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	misalignment (in the event of false absence of the motor 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	misalignment (in the event of false absence of the motor 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	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 Quality Insp Name and Signature: 		Comments			
OBSERVATIONS									

FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA	TROS 916.216	2	Page 2
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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 - 1465

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"/>

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CONSTRUCTOR APPROVAL

DATE	21 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 1465		Alstom - Ubunye
Motor Bogie Frame	AR00000176080	M 1821		Alstom - Ubunye
Wheelset (Front)	AR000000177020	M 3369		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	K 3217		NGC
Wheel (Right)	AR00000174670	029	03.24	Bonatrans
Wheel (Left)	AR000000174670	030	03.24	Bonatrans
Wheelset (Rear)	AR00000178600	M 3370		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	K 3382		NGC
Wheel (Right)	AR00000174670	029	10.23	Bonatrans
Wheel (Left)	AR00000174670	027	10.23	Bonatrans
Pneumatic suspension (Right)	AR00000176127	2311089		Hutchinson
Pneumatic suspension (Left)	AR00000176127	2311114		Hutchinson
Brake unit with PB (Right rear)	AR00000174544	1840	06.24	Wabtec
Brake unit without PB (Right front)	AR00000175185	5547	06.24	Wabtec
Brake unit without PB (Left Front)	AR00000175185	5548	06.24	Wabtec
Brake unit without PB (left rear)	AR00000175185	5545	06.24	Wabtec
Motor (front)	AR00000168516	21748		Alstom Ornans
Motor (Rear)	AR00000168516	21749		Alstom Ornans

PRESSING REPORT

DATE VALIDATION

RESPONSABLE VALIDATION

PRASA
INSTRUCTION SHEET:

FAMILY:

LOAD TEST : MOTOR BOGIE

PROJECT:

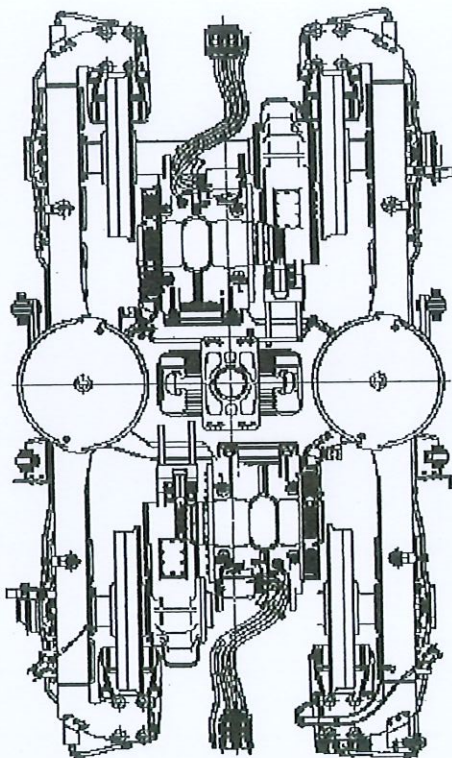
	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX	
GAP PRIMARY SUSPENSION [mm]	MIN 33.00 MAX 39.00	37.30 ✓
SHIM THICK [mm]		
WEIGHT ON WHEEL [Kg]	Q2	5567

SECONDARY SUSPENSION			
MEASURED [mm]	SHIM THICK [mm]	DIM. WITH SHIM[mm]	THEORETICAL [mm]
586.19	+	1.00	= 587.19
			MIN 585.00 MAX 587.50

RIGHT JACK LOAD
7377 Kg

	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX	
GAP PRIMARY SUSPENSION [mm]	MIN 33.00 MAX 39.00	37.02 ✓
SHIM THICK [mm]		
WEIGHT ON WHEEL [Kg]	Q4	5575

BOGIE SERIAL N°	MB1-1465
BOGIE TYPE	MB
BOGIE WEIGHT UNDER LOAD [Kg]	22388
COMPLETE BOGIE WEIGHT [Kg]	7293
OPERATOR	DATE
BAFANA	6/13/2024



	THEORETICAL	MEASURED
LOAD DIFFERENCE ON FRONT AXLE [%]	MIN 0.00 MAX 0.00	0.33 ✓
LOAD DIFFERENCE ON REAR AXLE [%]	MIN 0.00 MAX 0.00	0.61 ✓
LOAD DIFFERENCE FRONT AXLE AND REAR AXLE [%]	MIN 0.00 MAX 0.00	-0.21 ✓
LOAD DIFFERENCE ON RAILS [%]	MIN 0.00 MAX 0.00	0.47 ✓
LOAD DIFFERENCE ON DIAGONAL WHEELS [%]	MIN 0.00 MAX 0.00	0.14 ✓

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	37.40 ✓
SHIM THICK [mm]		
WEIGHT ON WHEEL [Kg]	Q1	5604

SECONDARY SUSPENSION			
MEASURED [mm]	SHIM THICK [mm]	DIM. WITH SHIM [mm]	THEORETICAL [mm]
587.23	+	0.00	= 587.23
			MIN 585.00 MAX 587.50
DIFFERENCE IN RIGHT AND LEFT SUSPENSION HEIGHTS [mm]			THEORETICAL [mm]
-0.04			MIN -1.00 MAX 1.00

	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX	
GAP PRIMARY SUSPENSION [mm]	MIN 33.00 MAX 39.00	37.00 ✓
SHIM THICK [mm]		
WEIGHT ON WHEEL [Kg]	Q3	5643

21748

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: 18/05/04

Name: Xerant

Assembly after test

Date: 01/06/04

Name: Geoffrey Xolani Thomas & Zanna

ROTOR S/N 6UR00872-015		STATOR S/N GIBS-1789	
<p>Bearing lubrication - Security operation Incorrect lubrication can lead to engine failure with a safety risk in service SRIL TROS 965.289</p>			
<p>INSULATED CERAMIC BEARING DRIVE END - Security operation Incorrect assembly can lead to engine failure with a safety risk in service SRIL TROS 965.289 FAG: NU 214-E-XL-M1-P6-F1-H257A-J20AB-C4 or NU 214-E-M1-P6-F1-H257A-J20AA-C4 SKF: NU-214-ECM/C4-VA3091 (cross out the references that have not been fitted)</p>			
N°: Romania 0097 09/03 SN453-1369794			
<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 - MMax:149g</p> <p>Measured quantity: Filter 1 (Name and signature) Filter 2 (Name and signature)</p> <p>Quality validation: Quality Insp. Name and signature</p>	
<p>INSULATED CERAMIC BEARING OPPOSITE DRIVE END side - Security operation Incorrect assembly can lead to engine failure with a safety risk in service SRIL TROS 965.289 FAG: 6214-M-P6-J20AB-H257A-C4 or 6214-M-P6-J20AA-H257-C4 SKF 6214-M/C4-VL 0241 (cross out the references that have not been fitted)</p>			
Serial N°: 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 - MMax:164g</p> <p>Measured quantity: Filter 1 (Name and signature) Filter 2 (Name and signature)</p> <p>Quality validation: Quality Insp. Name and signature</p>	
Référence appareil: AMXG20			
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) 47,4 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: 0,03mm	<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):	<input type="checkbox"/> OK <input type="checkbox"/> NOK	<input type="checkbox"/> OK <input type="checkbox"/> NOK
Sensor reference: DTR0000512252/DSD1830.19Q14HW	<input type="checkbox"/> OK <input type="checkbox"/> NOK	<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	<small>search reference for the event of failure seizure of the motorised screwdriver</small> NOC 6887	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	<small>search reference for the event of failure seizure of the motorised screwdriver</small> NOC 6887	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	<small>search reference for the event of failure seizure of the motorised screwdriver</small> NOC 6887	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	<small>search reference for the event of failure seizure of the motorised screwdriver</small> NOC 6887	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	<small>search reference for the event of failure seizure of the motorised screwdriver</small> NOC 6887	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	<small>search reference for the event of failure seizure of the motorised screwdriver</small> NOC 6887	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: 			
OBSERVATIONS							

FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA	TRO5 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:

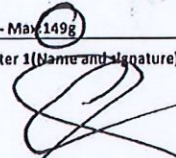

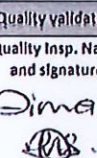
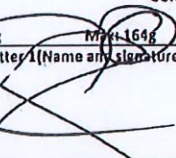

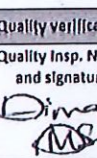
18/05/24
XOIANE

Assembly after test

Date:

Name:

31/05/24
XOIANE, ZAMBA, THOMAS

ROTOR S/N		STATOR S/N	
SU900872-013		GIB-1767	
<p>Bearing lubrication - Security operation Incorrect lubrication can lead to engine failure with a safety risk in service SRIL TROS 965.289</p>			
<p>INSULATED CERAMIC BEARING DRIVE END - Security operation Incorrect assembly can lead to engine failure with a safety risk in service SRIL TROS 965.289 FAG: NU 214-E-XL-M1-P6-F1-H257A-J20AB-C4 or NU 214-E-M1-P6-F1-H257A-J20AA-C4 SKF: NU 214 ECM/C4 VA3091 (cross out the references that have not been fitted)</p>			
N°: Romania 0097 05/23 SN253-1085120			
<p>Radial play after assembly (0,042 / 0,114): 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>Min: 144g - Max: 149g</p> <p>Measured quantity: <input type="text"/></p> <p>Quality validation: <input type="text"/></p> <p>Filter 1 (Name and signature): </p> <p>Filter 2 (Name and signature): </p> <p>Quality Insp. Name and signature: Dima </p>	
<p>INSULATED CERAMIC BEARING OPPOSITE DRIVE END side - Security operation Incorrect assembly can lead to engine failure with a safety risk in service SRIL TROS 965.289 FAG: 6214-M-P6-J20AB-H257A-C4 or 6214-M-P6-J20AA-H257-C4 SKF 6214-M/C4-VL 0241 (cross out the references that have not been fitted)</p>			
Serial N°: Austria 094W			
<p>Radial play after assembly (0,021 / 0,067): 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>Min: 159g - Max: 164g</p> <p>Measured quantity: <input type="text"/></p> <p>Quality validation: <input type="text"/></p> <p>Filter 1 (Name and signature): </p> <p>Filter 2 (Name and signature): </p> <p>Quality Insp. Name and signature: Dima </p>	
Référence appareil: AMXG50			
FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA		TROS 916.216 2 Page 1	










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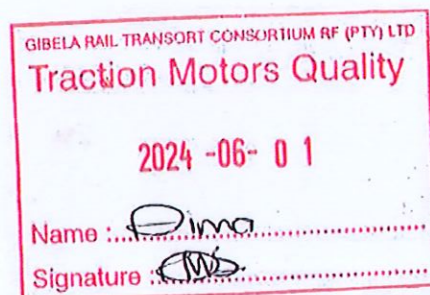
FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA

Record the value of the Insulation resistance of the bearings to TROS 915.069 (> 50 kΩ) 90,2 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: 0mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number: AMXG00	<input type="checkbox"/> OK <input type="checkbox"/> NOK
Out of round on toothed wheel 0,1 max: 0,04mm	<input type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number: AMXG50	<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/OSD1830.19Q14HW	<input type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number:	<input type="checkbox"/> OK <input type="checkbox"/> NOK

Deviation # 7072 - Missing speed sensor

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	wrench reference (in the event of failure / absence of the motorised 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	wrench reference (in the event of failure / absence of the motorised 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	wrench reference (in the event of failure / absence of the motorised 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	wrench reference (in the event of failure / absence of the motorised 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	wrench reference (in the event of failure / absence of the motorised 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	wrench reference (in the event of failure / absence of the motorised 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"/>	<input type="checkbox"/> OK <input type="checkbox"/> NOK	
				Final inspection Quality Insp Name and Signature: Dima 		Comments			
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° 21749

Client / Customer: ALSTOM UBUNYE (PTY) LTD

Project: PRASA

P O Number: 77333977

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: 2024/06/03

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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CERTIFICATION OF CONFORMITY

Inspection certificate according EN 10204-3.1

Product: Traction Motors 6 ECA 3022 B

Serial Number: N ° 21748

Client / Customer: ALSTOM UBUNYE (PTY) LTD

Project: PRASA

P O Number: 77333003

Status: QC PASS

Derogations / Concession / Waiver N °: 7072

Customer modification: N/A

Missing parts: N/A

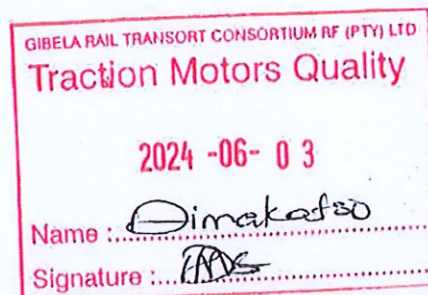
We hereby declare, barring exceptions, reservations or exemptions listed in this statement of conformity, that the listed supplies comply with the contract requirements and that, after completion of testing and verification, they completely satisfy all specified requirements, and applicable standards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

Date: 2024/06/03

Function: Final Inspection

Perfomed and signed off by: Name _____ Dimakatso Mohoalali

Signature _____



Gibela Rail
02 Shosholoz Avenue
M07 Traction Motor
1590

GIBELA RAIL

Compiled by M Kola

Date: 22/2/2022

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