



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 - 1372

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- Load test report.....	1 page	<input checked="" type="checkbox"/>
- Motor certificate.....	8 pages	<input checked="" type="checkbox"/>

COMPLIANCE CERTIFICATE

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

CONSTRUCTOR APPROVAL

DATE	18 March 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	1372 ^M		Alstom - Ubunye
Motor Bogie Frame	AR00000176080	1681 ^M		Alstom - Ubunye
Wheelset (Front)	AR000000177020	3116 ^M		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	3272 ^K		NGC
Wheel (Right)	AR00000174670	160	11-23	Bonatrans
Wheel (Left)	AR000000174670	181	11-23	Bonatrans
Wheelset (Rear)	AR00000178600	3117 ^M		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	3289 ^K		NGC
Wheel (Right)	AR00000174670	177	12-23	Bonatrans
Wheel (Left)	AR00000174670	178	12-23	Bonatrans
Pneumatic suspension (Right)	AR00000176127	231143		Hutchinson
Pneumatic suspension (Left)	AR00000176127	2312002		Hutchinson
Brake unit with PB (Right rear)	AR00000174544	1660	03-24	WEBTEC
Brake unit without PB (Right front)	AR00000175185	4999	03-24	WEBTEC
Brake unit without PB (Left Front)	AR00000175185	5000	03-24	WEBTEC
Brake unit without PB (left rear)	AR00000175185	5001	03-24	WEBTEC
Motor (front)	AR00000168516	21408		GIBELA
Motor (Rear)	AR00000168516	21285		GIBELA

DATE
3/18/2024

DATE VALIDATION

RESPONSABLE VALIDATION

PRESSING REPORT

PRASA 150 0000000000

INSTRUCTION SHEET:

FAMILY:

LOAD TEST : MOTOR BOGIE

PROJECT:

	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX	
GAP PRIMARY SUSPENSION [mm]	MIN MAX	38.06 39.00
SHIM THICK [mm]		38.06
WEIGHT ON WHEEL [Kg]	Q2	5571

SECONDARY SUSPENSION			
MEASURED [mm]	SHIM THICK [mm]	DIM. WITH SHIM [mm]	THEORETICAL [mm]
583.46	+	4.00	587.46
			MIN MAX
			585.00 587.50

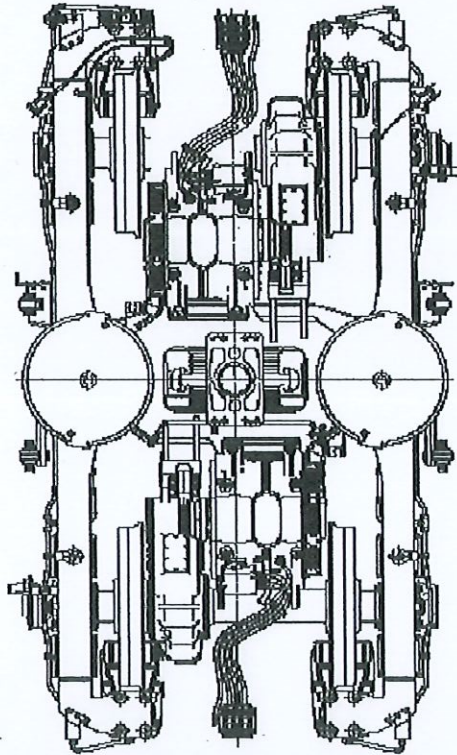
RIGHT JACK LOAD

7376 Kg

BOGIE SERIAL N°	MB1-1372
BOGIE TYPE	MB
BOGIE WEIGHT UNDER LOAD [Kg]	22337
COMPLETE BOGIE WEIGHT [Kg]	7251
OPERATOR	EDWARD
DATE	3/18/2024

OPERATOR STAMP

BFI-21



	THEORETICAL	MEASURED
LOAD DIFFERENCE ON FRONT AXLE [%]	MIN MAX	0.00 0.10
LOAD DIFFERENCE ON REAR AXLE [%]	MIN MAX	0.00 0.73
LOAD DIFFERENCE FRONT AXLE AND REAR AXLE [%]	MIN MAX	0.00 -0.14
LOAD DIFFERENCE ON RAILS [%]	MIN MAX	0.00 0.42
LOAD DIFFERENCE ON DIAGONAL WHEELS [%]	MIN MAX	0.00 0.32

	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX	
GAP PRIMARY SUSPENSION [mm]	MIN MAX	37.61 39.00
SHIM THICK [mm]		37.61
WEIGHT ON WHEEL [Kg]	Q1	5582

SECONDARY SUSPENSION			
MEASURED [mm]	SHIM THICK [mm]	DIM. WITH SHIM [mm]	THEORETICAL [mm]
587.05	+	0.00	587.05
			MIN MAX
			585.00 587.50

DIFFERENCE IN RIGHT AND LEFT SUSPENSION HEIGHTS [mm]		0.41
	MIN MAX	-1.00 1.00

	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX	
GAP PRIMARY SUSPENSION [mm]	MIN MAX	33.00 39.00
SHIM THICK [mm]		37.87
WEIGHT ON WHEEL [Kg]	Q3	5633

LEFT JACK LOAD

7376 Kg

ALSTOM

GIBELG

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: 13/11/2003

Name: Siquero

Assembly after test

Date: 24/10/04

Name: X. L. L. Thomas

ROTOR S/N MCR 02-11-149	STATOR S/N CEB-1307		
<p>Bearing lubrication - Security operation Incorrect lubrication can lead to engine failure with a safety risk in service SRIL TROS 965.289</p>			
<p>INSULATED CERAMIC BEARING DRIVE END - Security operation Incorrect assembly can lead to engine failure with a safety risk in service SRIL TROS 965.289 FAG: NU 214-E-XL-M1-P6-F1-H257A-J20AB-C4 or NU 214-E-M1-P6-F1-H257A-J20AA-C4 SKF: NU 214 ECM/C4 VA3091 (cross out the references that have not been fitted)</p>			
N°: AUSTRIA: 037W			
<p>S2 Radial play after assembly (0,042 / 0,114): 0,06mm <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>		<p>S4 LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly Min: 144g - Max: 149g Measured quantity: 148g Fitter 1 (Name and signature): [Signature] Fitter 2 (Name and signature): [Signature] Quality validation: Dima</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: 094W			
<p>S1 Radial play after assembly (0,021 / 0,067): 0,04mm <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>		<p>S3 LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly Min: 159g - Max: 164g Measured quantity: 162g Fitter 1 (Name and signature): [Signature] Fitter 2 (Name and signature): [Signature] Quality verification: Dima</p>	
<p>Reference appareil: AS 2014</p>			
FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA		TROS 916.216 2 Page 1	

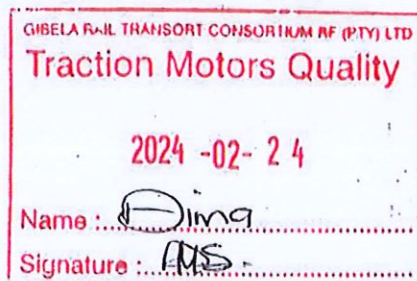
ALSTOM

GIBELG

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) 104 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: 0,01mm <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	AS 2014 <input type="checkbox"/> OK <input type="checkbox"/> NOK
Out of round on toothed wheel 0,1 max: 0,04mm <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	AS 2014 <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	GIBELG <input type="checkbox"/> OK <input type="checkbox"/> NOK

Sensor reference: DTR0000512252/DSD1830.19Q14HW		<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK <u>32243008218</u>		<input type="checkbox"/> OK <input type="checkbox"/> NOK	
Prep. & Final Assembly					
OPERATOR				Quality verification	
<input checked="" type="checkbox"/> F1	Torque tightening to 8 x 76 Nm:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	wrench reference (in the event of failure / absence of the motorized 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 motorized 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 motorized 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 motorized 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 motorized 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 motorized 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: <u>18g</u>		<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	
<input checked="" type="checkbox"/> S4	18g (0/+4.5) CC	Mesured quantity: <u>18g</u>		<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: <u>Dima</u>	Comments	
OBSERVATIONS					
FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA				TROS 916.216	2 Page 2



2408

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:

Name:

16/01/24

XOIANI

Assembly after test

Date:

Name:

22/02/24

XOIANI THOMAS

ROTOR S/N MCP22-10-143		STATOR S/N GIB-1409	
<p>Bearing lubrication - Security operation Incorrect lubrication can lead to engine failure with a safety risk in service SRIL TROS 965.289</p>			
<p>INSULATED CERAMIC BEARING DRIVE END - Security operation Incorrect assembly can lead to engine failure with a safety risk in service SRIL TROS 965.289 FAG: NU 214-E-XL-M1-P6-F1-H257A-J20AB-C4 or NU 214-E-M1-P6-F1-H257A-J20AA-C4 SKE N11214 ECM/C4 V03091 (cross out the references that have not been fitted)</p>			
N°: ROMANIA: 0097 09/23 SN162-1369794			
<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 LUBRICATION WITH MOBILITH SHC 100 before cover assembly</p> <p>Min:144g - Max:149g</p> <p>Mesured 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>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 SKE 6214-M/C4-VL0244 (cross out the references that have not been fitted)</p>			
Serial N°: GERMANY: 0200 X116-0917 04/23 SN0209			
<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 LUBRICATION WITH MOBILITH SHC 100 before cover assembly</p> <p>Min:159g Max:164g</p> <p>Mesured 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: A52P14			
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) 289M.Ω		<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK
OPERATOR		Quality verification
Out of round at the end of the shaft drive end 0,05mm max: <i>Optimum</i>	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	<i>A52P14</i>
Out of round on toothed wheel 0,1 max: 0,05mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	<i>A52P14</i>
sensor / toothed wheel play 0,7 (+/- 0,2): 0,7mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	<i>GIBEL</i>

Sensor reference: DTR0000512252/DSD1830.19Q14HW		<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK		Device serial number 50020003768		<input type="checkbox"/> OK <input type="checkbox"/> NOK	
Prep. & Final Assembly							
OPERATOR					Quality verification		
<input checked="" type="checkbox"/> F1	Torque tightening to 8 x 76 Nm:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	wrench reference (in the event of failure / absence of the material screwdriver) NCC5987		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 material screwdriver) NCC5987		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 material screwdriver) NCC5987		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 material screwdriver) NCC5987		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 material screwdriver) NCC5987		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 material screwdriver) NCC5987		QC 1 X 22 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK	
Grease protection transport							
<input checked="" type="checkbox"/> S3	18g (0/+4.5) CC	Mesured quantity: 18g			<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK		
<input checked="" type="checkbox"/> S4	18g (0/+4.5) CC	Mesured quantity: 18g			<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK		
Final inspection following the check-list DTR0000452909 and DTR0000452910 (in the case of 100% inspection of the production)						<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	
					Final Inspection Quality Insp Name and Signature: 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 ° 21285

Client / Customer: ALSTOM UBUNYE (PTY) LTD

Project: PRASA

P O Number: 76092439

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: 2024/03/01

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 ° 21408

Client / Customer: ALSTOM UBUNYE (PTY) LTD

Project: PRASA

P O Number: 76526486

Status: QC PASS

Derogations / Concession / Waiver N °: N/A

Customer modification: N/A

Missing parts: N/A

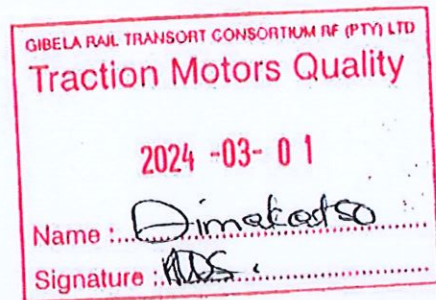
We hereby declare, barring exceptions, reservations or exemptions listed in this statement of conformity, that the listed supplies comply with the contract requirements and that, after completion of testing and verification, they completely satisfy all specified requirements, and applicable standards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

Date: 2024/03/01

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

CUSTOMER **Gibela**

CONTRACT

PROJECT **PRASA**

MANUFACTURER'S DELIVERY DOCUMENT

PRODUCT TYPE **MOTOR BOGIE MB1**

DTR0009706804

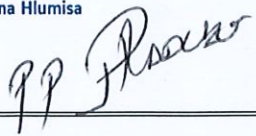
SERIAL NUMBER **MB1 1374**

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	20 March 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	1374		Alstom - Ubunye
Motor Bogie Frame	AR000000176080	M1702		Alstom - Ubunye
Wheelset (Front)	AR000000177020	M03125		Alstom - Ubunye
Axle with fitted gearbox	AR000000177072	K2962		NGC
Wheel (Right)	AR000000174670	068	11-23	Bonatrans
Wheel (Left)	AR000000174670	006	11-23	Bonatrans
Wheelset (Rear)	AR000000178600	M03126		Alstom - Ubunye
Axle with fitted gearbox	AR000000177072	K2941		NGC
Wheel (Right)	AR000000174670	022	12-23	Bonatrans
Wheel (Left)	AR000000174670	023	12-23	Bonatrans
Pneumatic suspension (Right)	AR000000176127	2310207		Hutchinson
Pneumatic suspension (Left)	AR000000176127	2312007		Hutchinson
Brake unit with PB (Right rear)	AR000000174544	1668	03-24	WEBTEC
Brake unit without PB (Right front)	AR000000175185	5030	03-24	WEBTEC
Brake unit without PB (Left Front)	AR000000175185	5029	03-24	WEBTEC
Brake unit without PB (left rear)	AR000000175185	5033	03-24	WEBTEC
Motor (front)	AR000000168516	21309		GIBELA
Motor (Rear)	AR000000168516	21392		GIBELA

DATE
3/19/2024

DATE VALIDATION

RESPONSABLE VALIDATION

PRESSING REPORT

PRASA

INSTRUCTION SHEET:

FAMILY:

LOAD TEST : MOTOR BOGIE

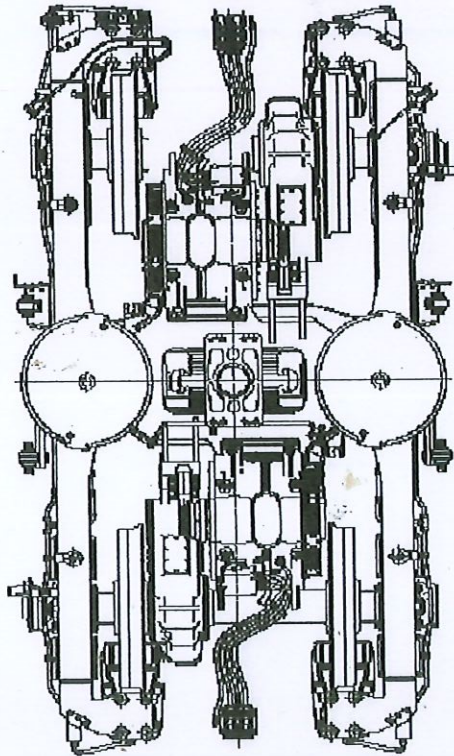
PROJECT:

WHEEL DIAMETER [mm]	THEORETICAL		MEASURED
	MIN	MAX	
GAP PRIMARY SUSPENSION [mm]	MIN	33.00	38.56
	MAX	39.00	
SHIM THICK [mm]			
WEIGHT ON WHEEL [Kg]	Q2		5615

SECONDARY SUSPENSION			
MEASURED [mm]	SHIM THICK [mm]	DIM. WITH SHIM [mm]	THEORETICAL [mm]
586.90	+	0.00	MIN 585.00
			MAX 587.50

RIGHT JACK LOAD
7377 Kg

BOGIE SERIAL N°	MBL-1374
BOGIE TYPE	MB
BOGIE WEIGHT UNDER LOAD [Kg]	22358
COMPLETE BOGIE WEIGHT [Kg]	7282
OPERATOR	DATE
BAFANA	3/19/2024



OPERATOR STAMP

DC-3FI-6

WHEEL DIAMETER [mm]	THEORETICAL		MEASURED
	MIN	MAX	
GAP PRIMARY SUSPENSION [mm]	MIN	33.00	38.87
	MAX	39.00	
SHIM THICK [mm]			
WEIGHT ON WHEEL [Kg]	Q1		5537

SECONDARY SUSPENSION			
MEASURED [mm]	SHIM THICK [mm]	DIM. WITH SHIM [mm]	THEORETICAL [mm]
586.16	+	0.00	MIN 585.00
			MAX 587.50

DIFFERENCE IN RIGHT AND LEFT SUSPENSION HEIGHTS [mm]			
		0.74	
		MIN	-1.00
		MAX	1.00

WHEEL DIAMETER [mm]	THEORETICAL		MEASURED
	MIN	MAX	
GAP PRIMARY SUSPENSION [mm]	MIN	33.00	38.77
	MAX	39.00	
SHIM THICK [mm]			
WEIGHT ON WHEEL [Kg]	Q4		5554

LOAD DIFFERENCE ON FRONT AXLE [%]	THEORETICAL		MEASURED
	MIN	MAX	
LOAD DIFFERENCE ON REAR AXLE [%]	MIN	0.00	-0.70
	MAX	0.00	
LOAD DIFFERENCE ON RAILS [%]	MIN	0.00	0.87
	MAX	0.00	
LOAD DIFFERENCE ON FRONT AXLE AND REAR AXLE [%]	MIN	0.00	-0.24
	MAX	0.00	
LOAD DIFFERENCE ON RAILS [%]	MIN	0.00	0.08
	MAX	0.00	
LOAD DIFFERENCE ON DIAGONAL WHEELS [%]	MIN	0.00	0.78
	MAX	0.00	

LEFT JACK LOAD
7375 Kg

WHEEL DIAMETER [mm]	THEORETICAL		MEASURED
	MIN	MAX	
GAP PRIMARY SUSPENSION [mm]	MIN	33.00	37.95
	MAX	39.00	
SHIM THICK [mm]			
WEIGHT ON WHEEL [Kg]	Q3		5651



CERTIFICATION OF CONFORMITY

Inspection certificate according EN 10204-3.1

Product: Traction Motors 6 ECA 3022 B

Serial Number: N ° 21309

Client / Customer: ALSTOM UBUNYE (PTY) LTD

Project: PRASA

P O Number: 76196176

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: 2024/02/05

Function: Final Inspection

Perfomed 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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21309

ALSTOM

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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: 20/11/23

Name: XOLANI

Assembly after test

Date: 29/01/24

Name: XOLANI / TIRELO / MEUSI

ROTOR S/N MCROB-11-069	STATOR S/N GIB-1313		
<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 12/22 SN184 -5977246			
<p>S2 Radial play after assembly (0,042 / 0,114): 0,07mm</p> <p><input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>	<p>S3 LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly</p> <p>Min:144g - Max:149g Mesured quantity: 160g</p> <p>Fitter 1 (Name and signature) [Signature] Fitter 2 (Name and signature) [Signature]</p> <p>Quality validation: Dima FMS</p>		
<p>INSULATED CERAMIC BEARING OPPOSITE DRIVE END side - Security operation Incorrect assembly can lead to engine failure with a safety risk in service SRIL TROS 965.289 FAG: 6214-M-P6-J20AB-H257A-C4 or 6214-M-P6-J20AA-H257-C4 SKF 6214-M/C4-VL 0241 (cross out the references that have not been fitted)</p>			
Serial N°: GERMANY: 0200 X019-0931 01/23 6N0211			
<p>S1 Radial play after assembly (0,021 / 0,067): 0,05mm</p> <p><input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>	<p>S3 LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly</p> <p>Min:159g - Max:164g Mesured quantity: 160g</p> <p>Fitter 1 (Name and signature) [Signature] Fitter 2 (Name and signature) [Signature]</p> <p>Quality validation: Dima FMS</p>		
<p>Reference appareil: AMX0714</p>			
FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA		TROS 916.216	2
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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)

506MΩ



OK



NOK

OPERATOR				Quality verification					
Out of round at the end of the shaft drive end 0,05 max:	<input checked="" type="checkbox"/>	OK	NOK	Device serial number	AMXG14	<input type="checkbox"/>	OK	<input type="checkbox"/>	NOK
Out of round on toothed wheel 0,1 max:	<input checked="" type="checkbox"/>	OK	NOK	Device serial number	AMXG14	<input type="checkbox"/>	OK	<input type="checkbox"/>	NOK
sensor / toothed wheel play 0,7 (+/- 0,2):	<input checked="" type="checkbox"/>	OK	NOK	Device serial number	C113FLE02	<input type="checkbox"/>	OK	<input type="checkbox"/>	NOK
Sensor reference: DTR0000512252/DSD1830.19Q14HW	<input checked="" type="checkbox"/>	OK	NOK	Device serial number	60034002371	<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	wrench reference (in the event of failure / absence of the motorized screwdriver)	QC 1 X 61 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK
F2	Torque tightening to 8 x 76 Nm:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	wrench reference (in the event of failure / absence of the motorized screwdriver)	QC 1 X 61 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK
F3	Torque tightening to 4 x 44 Nm:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	wrench reference (in the event of failure / absence of the motorized 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	wrench reference (in the event of failure / absence of the motorized screwdriver)	QC 1 X 18 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK
F5	Torque tightening to 6 x 22 Nm:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	wrench reference (in the event of failure / absence of the motorized screwdriver)	QC 1 X 18 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK

Finishing

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

Grease protection transport

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

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

☒ OK ☐ NOK

Final inspection

Quality Insp Name and Signature:

Dina RBS

Comments

OBSERVATIONS

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

TROS 916.216

2

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2

GIBELA RAIL TRANSPORT CONSORTIUM RF (PTY) LTD

Traction Motors Quality

2024 -01- 30

Name : Dina

Signature : RBS



CERTIFICATION OF CONFORMITY

Inspection certificate according EN 10204-3.1

Product: Traction Motors 6 ECA 3022 B

Serial Number: N ° 21392

Client / Customer: ALSTOM UBUNYE (PTY) LTD

Project: PRASA

P O Number: 76336937

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: 2024/02/17

Function: Final Inspection

Perfomed 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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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: 01/10/23

Name: YOUTANE

Assembly after test

Date: 05/08/24

Name: YOUTANE

ROTOR S/N		STATOR S/N	
MER22-10-132		PUB-1405	
<p>Bearing lubrication - Security operation</p> <p>Incorrect lubrication can lead to engine failure with a safety risk in service</p> <p>SRIL TROS 965.289</p>			
<p>INSULATED CERAMIC BEARING DRIVE END - Security operation</p> <p>Incorrect assembly can lead to engine failure with a safety risk in service</p> <p>SRIL TROS 965.289</p> <p>FAG: NU 214-E-XL-M1-P6-F1-H257A-J20AB-C4 or NU 214-E-M1-P6-F1-H257A-J20AA-C4</p> <p>SKE-NU 214-ECM/C4-VA3091</p> <p>(cross out the references that have not been fitted)</p>			
N°: ROMANIA: 0097 - 09/23 SN297-1309794			
<p>S2 Radial play after assembly (0,042 / 0,114): 0,06mm</p> <p><input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>		<p>S4 LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly</p> <p>Min:144g - Max:149g</p> <p>Mesured quantity: <input type="checkbox"/> OK <input type="checkbox"/> NOK</p> <p>Quality validation: <input type="checkbox"/> OK <input type="checkbox"/> NOK</p> <p>Quality Insp. Name and signature: Dima</p>	
<p>INSULATED CERAMIC BEARING OPPOSITE DRIVE END-side - Security operation</p> <p>Incorrect assembly can lead to engine failure with a safety risk in service</p> <p>SRIL TROS 965.289</p> <p>FAG: 6214-M-P6-J20AB-H257A-C4 or 6214-M-P6-J20AA-H257-C4</p> <p>SKE-6214-M/C4-VC0241</p> <p>(cross out the references that have not been fitted)</p>			
Serial N°: GERMANY: 0200 X116 - 09/53 04/23 SN0251			
<p>S1 Radial play after assembly (0,021 / 0,067): 0,05mm</p> <p><input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>		<p>S3 LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly</p> <p>Min:159g - Max:164g</p> <p>Mesured quantity: <input type="checkbox"/> OK <input type="checkbox"/> NOK</p> <p>Quality verification: <input type="checkbox"/> OK <input type="checkbox"/> NOK</p> <p>Quality Insp. Name and signature: Dima</p>	
<p>Reference appareil: AJEP14</p>		<p>FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA</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)		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 0,05 max:	<input checked="" type="checkbox"/> OK	<input type="checkbox"/> NOK	AJEP14	<input type="checkbox"/> OK	<input type="checkbox"/> NOK
Out of round on toothed wheel 0,1 max:	<input checked="" type="checkbox"/> OK	<input type="checkbox"/> NOK	AJEP14	<input type="checkbox"/> OK	<input type="checkbox"/> NOK
sensor / toothed wheel play 0,7 (+/- 0,2):	<input checked="" type="checkbox"/> OK	<input type="checkbox"/> NOK	0,8mm	<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 <u>60458005391</u>	<input type="checkbox"/> OK <input type="checkbox"/> NOK
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Prep. & Final Assembly

OPERATOR				Quality verification	
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 motorized screwdriver) <u>NCC05087</u>	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	wrench reference (in the event of failure / absence of the motorized screwdriver) <u>NCC05087</u>	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	wrench reference (in the event of failure / absence of the motorized screwdriver) <u>NCC05087</u>	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	wrench reference (in the event of failure / absence of the motorized screwdriver) <u>NCC05087</u>	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	wrench reference (in the event of failure / absence of the motorized screwdriver) <u>NCC05087</u>	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	wrench reference (in the event of failure / absence of the motorized screwdriver) <u>NCC05087</u>	QC 1 X 22 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK
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Grease protection transport

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

Dima

Comments

OBSERVATIONS

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

TROS 916.216

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

2024 -02- 06

Name : DimaSignature : [Signature]