

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

CUSTOMER **Gibela**

CONTRACT

PROJECT **PRASA**

MANUFACTURER'S DELIVERY DOCUMENT

PRODUCT TYPE **MOTOR BOGIE MB1**

DTR0009706804

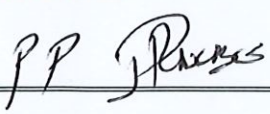
SERIAL NUMBER **MB1 1352**

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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	29 February 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	1352		Alstom - Ubunye
Motor Bogie Frame	AR00000176080	1666		Alstom - Ubunye
Wheelset (Front)	AR000000177020	M03065		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	K2903		NGC
Wheel (Right)	AR00000174670	100	07-23	Bonatrans
Wheel (Left)	AR000000174670	109	04-23	Bonatrans
Wheelset (Rear)	AR00000178600	M3066		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	K2929		NGC
Wheel (Right)	AR00000174670	113	04-23	Bonatrans
Wheel (Left)	AR00000174670	136	04-23	Bonatrans
Pneumatic suspension (Right)	AR00000176127	2312065		Hutchinson
Pneumatic suspension (Left)	AR00000176127	2312072		Hutchinson
Brake unit with PB (Right rear)	AR00000174544	1618	02-24	WEBTEC
Brake unit without PB (Right front)	AR00000175185	4866	02-24	WEBTEC
Brake unit without PB (Left Front)	AR00000175185	4885	02-24	WEBTEC
Brake unit without PB (left rear)	AR00000175185	4877	02-24	WEBTEC
Motor (front)	AR00000168516	21461		GIBELA
Motor (Rear)	AR00000168516	21469		GIBELA

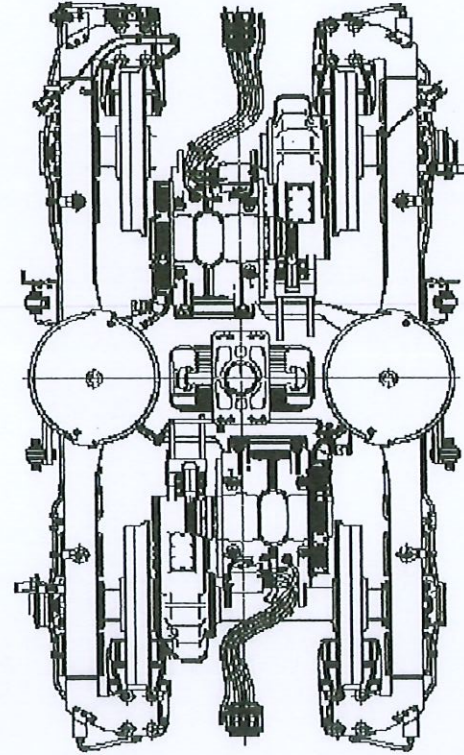
PRESSING REPORT

DATE 2/29/2024	PRASA	LOAD TEST : MOTOR BOGIE
RESPONSABLE VALIDATION	INSTRUCTION SHEET:	PROJECT:
	FAMILY:	

THEORETICAL		MEASURED
WHEEL DIAMETER [mm]	MIN	
	MAX	
GAP PRIMARY SUSPENSION [mm]	MIN	33.00
	MAX	39.00
SHIM THICK [mm]		
WEIGHT ON WHEEL [Kg]		5511

SECONDARY SUSPENSION			
MEASURED [mm]	SHIM THICK [mm]	DIM. WITH SHIM [mm]	THEORETICAL [mm]
584.18	+	2.00	MIN 585.00
			MAX 587.50

RIGHT JACK LOAD
7376 Kg



BOGIE SERIAL N°	MB1-1352
BOGIE TYPE	MB
BOGIE WEIGHT UNDER LOAD [Kg]	22338
COMPLETE BOGIE WEIGHT [Kg]	7260
OPERATOR	DATE
BAFANA	2/29/2024

OPERATOR STAMP
DC-3FI-6

THEORETICAL		MEASURED
LOAD DIFFERENCE ON FRONT AXLE [%]	MIN	0.00
	MAX	0.00
LOAD DIFFERENCE ON REAR AXLE [%]	MIN	0.00
	MAX	0.00
LOAD DIFFERENCE FRONT AXLE AND REAR AXLE [%]	MIN	0.00
	MAX	0.00
LOAD DIFFERENCE ON RAILS [%]	MIN	0.00
	MAX	0.00
LOAD DIFFERENCE ON DIAGONAL WHEELS [%]	MIN	0.00
	MAX	0.00

LEFT JACK LOAD
7375 Kg

SECONDARY SUSPENSION			
MEASURED [mm]	SHIM THICK [mm]	DIM. WITH SHIM [mm]	THEORETICAL [mm]
587.11	+	0.00	MIN 585.00
			MAX 587.50

DIFFERENCE IN RIGHT AND LEFT SUSPENSION HEIGHTS [mm]		THEORETICAL [mm]
-0.93		MIN -1.00
		MAX 1.00

THEORETICAL		MEASURED
WHEEL DIAMETER [mm]	MIN	
	MAX	
GAP PRIMARY SUSPENSION [mm]	MIN	33.00
	MAX	39.00
SHIM THICK [mm]		
WEIGHT ON WHEEL [Kg]		5677

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

THEORETICAL		MEASURED
WHEEL DIAMETER [mm]	MIN	
	MAX	
GAP PRIMARY SUSPENSION [mm]	MIN	33.00
	MAX	39.00
SHIM THICK [mm]		
WEIGHT ON WHEEL [Kg]		5536



CERTIFICATION OF CONFORMITY

Inspection certificate according EN 10204-3.1

Product: Traction Motors 6 ECA 3022 B

Serial Number: N ° 21461

Client / Customer: ALSTOM UBUNYE (PTY) LTD

Project: PRASA

P O Number: 76018081

Status: QC PASS

Derogations / Concession / Waiver N °: N/A

Customer modification: N/A

Missing parts: N/A

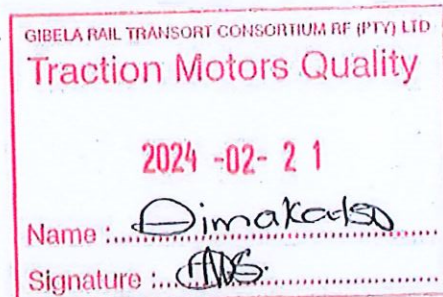
We hereby declare, barring exceptions, reservations or exemptions listed in this statement of conformity, that the listed supplies comply with the contract requirements and that, after completion of testing and verification, they completely satisfy all specified requirements, and applicable standards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

Date: 2024/02/21

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

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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:

Assembly after test

Date:

Name:

ROTOR S/N MCD22-11-109		STATOR S/N CIB-1470	
<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-VA3094 (cross out the references that have not been fitted)</p>			
N°: ROMANIA: 0097 09/23 SN426-1369794			
<p>S2 Radial play after assembly (0,042 / 0,114):</p> <p>0,08mm <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 Measured quantity: 145g</p> <p>Filter 1 (Name and signature) [Signature] Filter 2 (Name and signature) [Signature]</p> <p>Quality validation: Quality Insp. Name and signature Dimitrie</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-G4 SKF: 6214-M/C4-VL-0241 (cross out the references that have not been fitted)</p>			
Serial N°: GERMANY: 0200 X272-1242 09/23 SN0058			
<p>S1 Radial play after assembly (0,021 / 0,067):</p> <p>0,06mm <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p> <p>Reference appareil</p>		<p>S3 LUBRICATION WITH MOBILITH SHC 100 before cover assembly</p> <p>Min: 159g Max: 164g Measured quantity: 164g</p> <p>Filter 1 (Name and signature) [Signature] Filter 2 (Name and signature) [Signature]</p> <p>Quality validation: Quality Insp. Name and signature Dimitrie</p>	
FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA		TROS 916.216 2 Page 1	

ALSTOM

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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)		1,75 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: 0,04mm <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	[Signature]	<input type="checkbox"/> OK <input type="checkbox"/> NOK	[Signature]
Out of round on toothed wheel 0,1 max: 0,06mm <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	[Signature]	<input type="checkbox"/> OK <input type="checkbox"/> NOK	[Signature]
sensor / toothed wheel play 0,7 (+/- 0,2): 0,15mm <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	[Signature]	<input type="checkbox"/> OK <input type="checkbox"/> NOK	[Signature]

Sensor reference: DTR0000512252/DSD1830.19Q14HW

<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number: <u>50312013482</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 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	Wrench reference (in the event of false / absence of the motorised screwdriver)	QC 1 X 61 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK
F3	Torque tightening to 4 x 44 Nm: Fold locking plate	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Wrench reference (in the event of false / absence of the motorised screwdriver)	QC 1 X 37 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK
F4	Torque tightening to 4 x 22 Nm:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Wrench reference (in the event of false / absence of the motorised screwdriver)	QC 1 X 18 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK
F5	Torque tightening to 6 x 22 Nm:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Wrench reference (in the event of false / absence of the motorised screwdriver)	QC 1 X 18 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK

Finishing

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

Grease protection transport

S3	18g (0/+4.5) CC	Mesured quantity: <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)

☒ OK ☐ NOK

Final Inspection

Quality Insp Name and Signature:

Dima MS

Comments

OBSERVATIONS

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

TROS 916.216

2

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

2024 -02- 20

Name:

Dima

Signature:

MS



CERTIFICATION OF CONFORMITY

Inspection certificate according to EN 10204-3.1

Product: Traction Motors 6 ECA 3022 B

Serial Number: N ° 21469

Client / Customer: ALSTOM UBUNYE (PTY) LTD

Project: PRASA

P O Number: 76634794

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

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

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21469

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:

Name:

31/01/04
XOUMNE

Assembly after test

Date:

Name:

09/03/04
XOUMNE TMOUAS

ROTOR S/N		STATOR S/N	
MCROD-10-098		CITZ-1481	
<p>Bearing lubrication - Security operation</p> <p>Incorrect lubrication can lead to engine failure with a safety risk in service</p> <p>SRIL TROS 965.289</p>			
<p>INSULATED CERAMIC BEARING DRIVE END - Security operation</p> <p>Incorrect assembly can lead to engine failure with a safety risk in service</p> <p>SRIL TROS 965.289</p> <p>FAG: NU 214-E-XL-M1-P6-F1-H257A-J20AB-C4 or NU 214-E-M1-P6-F1-H257A-J20AA-C4</p> <p>SKF: NU 214-ECM/C4-VA3001</p> <p>(cross out the references that have not been fitted)</p>			
N°: Romarin: - 0097 09/03 SN200-1269794			
<p>S2</p> <p>Radial play after assembly (0,042 / 0,114): 0,06mm</p> <p><input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>		<p>S3</p> <p>LUBRICATION WITH MOBILITH SHC 100 before cover assembly</p> <p>Min:144g - Max:149g</p> <p>Mesured quantity:</p> <p>Filter 1 (Name and signature)</p> <p>Filter 2 (Name and signature)</p> <p>Quality validation</p> <p>Quality Insp. Name and signature</p> <p>Bulle</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>SKF: 6214-M/C4-VL 0241</p> <p>(cross out the references that have not been fitted)</p>			
Serial N°: GERMANY: 0200 X272-1246 09/03 SN0066			
<p>S1</p> <p>Radial play after assembly (0,021 / 0,067): 0,05mm</p> <p><input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>		<p>S3</p> <p>LUBRICATION WITH MOBILITH SHC 100 before cover assembly</p> <p>Min:159g Max:164g</p> <p>Mesured quantity:</p> <p>Filter 1 (Name and signature)</p> <p>Filter 2 (Name and signature)</p> <p>Quality verification</p> <p>Quality Insp. Name and signature</p> <p>Bulle</p>	
Référence appareil			
ATZP/4			
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)		7,23.0		<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK
OPERATOR		Quality verification		
Out of round at the end of the shaft drive end 0,05 max:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number	<input type="checkbox"/> OK <input type="checkbox"/> NOK	
Out of round on toothed wheel 0,1 max:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number	<input type="checkbox"/> OK <input type="checkbox"/> NOK	
sensor / toothed wheel play 0,7 (+/- 0,2):	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number	<input type="checkbox"/> OK <input type="checkbox"/> NOK	

Sensor reference: DTR0000512252/DSD1830.19Q14HW

☒ OK ☐ NOK

Device serial number: 50-314-CC-181

☐ OK ☐ 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 motorised screwdriver) NCCS 5287	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 motorised screwdriver) NCCS 5287	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 motorised screwdriver) NCCS 5281	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 motorised screwdriver) NCCS 5281	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 motorised screwdriver) NCCS 5281	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 motorised screwdriver) NCCS 5277	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:

Buhle M

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- 16

Name :

Signature :

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

MANUFACTURER'S DELIVERY DOCUMENT

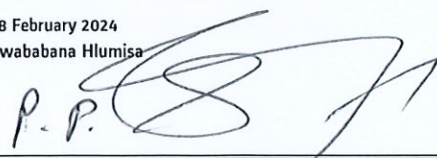
PRODUCT TYPE MOTOR BOGIE type MB2
 DTR0009706805
SERIAL NUMBER MB2 - 579

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	28 February 2024
NAME	Kwababana Hlumisa
VISA	

I - Deviation / Derogation

II - Bogie configuration

B Bogie index



ALSTOM UBUNYE

PRODUCTS TRACEABILITY

Products Designation	Product Reference	Serial Number	Batch or Date Manufactured	Supplier
Motor Bogie MB2	DTR0009706805	579		Alstom - Ubunye
Motor Bogie Frame	AR00000176080	M1658		Alstom - Ubunye
Wheelset (Front)	AR000000177020	M3057		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	K2880		NGC
Wheel (Right)	AR00000174670	092	11-22	Bonatrans
Wheel (Left)	AR000000174670	087	11-22	Bonatrans
Wheelset (Rear)	AR00000178600	M3058		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	K2886		NGC
Wheel (Right)	AR00000174670	091	11-22	Bonatrans
Wheel (Left)	AR00000174670	086	11-22	Bonatrans
Pneumatic suspension (Right)	AR00000176127	2401084		Hutchinson
Pneumatic suspension (Left)	AR00000176127	2401095		Hutchinson
Brake unit with PB (Right rear)	AR00000174544	1611	02-24	Wabtec
Brake unit without PB (Right front)	AR00000175185	4859	02-24	Wabtec
Brake unit without PB (Left Front)	AR00000175185	4857	02-24	Wabtec
Brake unit without PB (left rear)	AR00000175185	4860	02-24	Wabtec
Motor (front)	AR00000168516	21322		Alstom - Gibela
Motor (Rear)	AR00000168516	21429		Alstom - Gibela

PRESSING REPORT

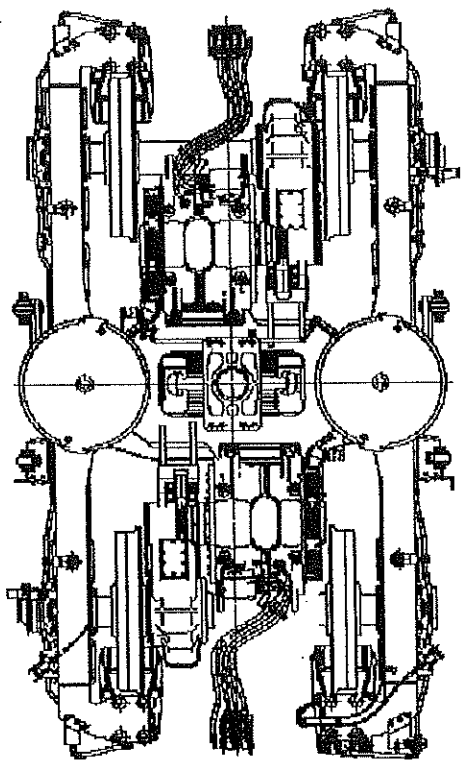
DATE 2/28/2024	RESPONSABLE VALIDATION	PRASA INSTRUCTION SHEET:	LOAD TEST : MOTOR BOGIE
DATE VALIDATION		FAMILY:	PROJECT:

	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX	
GAP PRIMARY SUSPENSION [mm]	MIN 33.00 MAX 39.00	36.88 ✓
SHIM THICK [mm]		
WEIGHT ON WHEEL [Kg]	Q2	5667

SECONDARY SUSPENSION			
MEASURED [mm]	SHIM THICK [mm]	DIM. WITH SHIM [mm]	THEORETICAL [mm]
587.47	+	0.00	= 587.47
			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	37.40 ✓
SHIM THICK [mm]		
WEIGHT ON WHEEL [Kg]	Q4	5551



BOGIE SERIAL N°	MB2-579
BOGIE TYPE	MB
BOGIE WEIGHT UNDER LOAD [Kg]	22396
COMPLETE BOGIE WEIGHT [Kg]	7297
OPERATOR	DATE
BAFANA	2/28/2024

OPERATOR STAMP
DC-3FI-6

LEFT JACK LOAD
7375 Kg

	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX	
GAP PRIMARY SUSPENSION [mm]	MIN 33.00 MAX 39.00	37.08 ✓
SHIM THICK [mm]		
WEIGHT ON WHEEL [Kg]	Q1	5511

SECONDARY SUSPENSION			
MEASURED [mm]	SHIM THICK [mm]	DIM. WITH SHIM [mm]	THEORETICAL [mm]
586.63	+	0.00	= 586.63
			MIN 585.00 MAX 587.50

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

	THEORETICAL	MEASURED
LOAD DIFFERENCE ON FRONT AXLE [%]	MIN 0.00 MAX 0.00	-1.40 ✓
LOAD DIFFERENCE ON REAR AXLE [%]	MIN 0.00 MAX 0.00	1.04 ✓
LOAD DIFFERENCE FRONT AXLE AND REAR AXLE [%]	MIN 0.00 MAX 0.00	-0.18 ✓
LOAD DIFFERENCE ON RAILS [%]	MIN 0.00 MAX 0.00	-0.17 ✓
LOAD DIFFERENCE ON DIAGONAL WHEELS [%]	MIN 0.00 MAX 0.00	1.22 ✓

	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX	
GAP PRIMARY SUSPENSION [mm]	MIN 33.00 MAX 39.00	36.31 ✓
SHIM THICK [mm]		
WEIGHT ON WHEEL [Kg]	Q3	5668

21322

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: 22/11/2023

Name: Jacques

Assembly after test

Date: 19/02/24

Name: XOLANI, GODFREY & THOMAS

ROTOR S/N MCR22-11-072	STATOR S/N GIB-1304		
<p>Bearing lubrication - Security operation Incorrect lubrication can lead to engine failure with a safety risk in service SRIL TROS 965.289</p>			
<p>INSULATED CERAMIC BEARING DRIVE END - Security operation Incorrect assembly can lead to engine failure with a safety risk in service SRIL TROS 965.289 FAG: NU 214-E-XL-M1-P6-F1-H257A-J20AB-C4 or NU 214-E-M1-P6-F1-H257A-J20AA-C4 SKE: NU 214-ECM/C4 VA3091 (cross out the references that have not been fitted)</p>			
<p>N°: Romania: 0097 09/23 SN245-1369794</p>			
<p>S2 Radial play after assembly (0,042 / 0,114):</p> <p>0,08mm <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 Measured quantity: <input type="text"/></p> <p>Filter 1 (Name and signature) <input type="text"/> Filter 2 (Name and signature) <input type="text"/></p> <p>Quality validation: <input type="text"/></p> <p>Quality Insp. Name and signature: 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 SKE 6214-M/C4 VL 0241 (cross out the references that have not been fitted)</p>			
<p>Serial N°: Germany: 0200 X019-0956 01/23 SN0270</p>			
<p>S1 Radial play after assembly (0,021 / 0,067):</p> <p>0,06mm <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p> <p>Référence: <input type="text"/></p>	<p>S3 LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly</p> <p>Min: 159g Max: 168g Measured quantity: <input type="text"/></p> <p>Filter 1 (Name and signature) <input type="text"/> Filter 2 (Name and signature) <input type="text"/></p> <p>Quality verification: <input type="text"/></p> <p>Quality Insp. Name and signature: Dima</p>		
FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA		TROS 916.216	Page 1

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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)

258m.2 ☒ OK ☐ NOK

0,01mm

OPERATOR				Quality verification				
Out of round at the end of the shaft drive end 0,05 max:	<input checked="" type="checkbox"/>	OK <input type="checkbox"/>	NOK <input type="checkbox"/>	Device serial number	AS-2P14	<input type="checkbox"/>	OK <input type="checkbox"/>	NOK <input type="checkbox"/>
Out of round on toothed wheel 0,1 max: 0,04mm	<input checked="" type="checkbox"/>	OK <input type="checkbox"/>	NOK <input type="checkbox"/>	Device serial number	AS-2P14	<input type="checkbox"/>	OK <input type="checkbox"/>	NOK <input type="checkbox"/>
sensor / toothed wheel play 0,7 (+/- 0,2): 0,7mm	<input checked="" type="checkbox"/>	OK <input type="checkbox"/>	NOK <input type="checkbox"/>	Device serial number	CIT-3-LEO-2	<input type="checkbox"/>	OK <input type="checkbox"/>	NOK <input type="checkbox"/>
Sensor reference: DTR0000512252/DSD1830.19Q14HW	<input checked="" type="checkbox"/>	OK <input type="checkbox"/>	NOK <input type="checkbox"/>	Device serial number	S2312003695	<input type="checkbox"/>	OK <input type="checkbox"/>	NOK <input type="checkbox"/>

Prep. & Final Assembly

OPERATOR			Quality verification						
F1	Torque tightening to 8 x 76 Nm:	<input checked="" type="checkbox"/>	OK <input type="checkbox"/>	NOK <input type="checkbox"/>	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 type="checkbox"/>
F2	Torque tightening to 8 x 76 Nm:	<input checked="" type="checkbox"/>	OK <input type="checkbox"/>	NOK <input type="checkbox"/>	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 type="checkbox"/>
F3	Torque tightening to 4 x 44 Nm: Fold locking plate	<input checked="" type="checkbox"/>	OK <input type="checkbox"/>	NOK <input type="checkbox"/>	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 type="checkbox"/>
F4	Torque tightening to 4 x 22 Nm:	<input checked="" type="checkbox"/>	OK <input type="checkbox"/>	NOK <input type="checkbox"/>	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 type="checkbox"/>
F5	Torque tightening to 6 x 22 Nm:	<input checked="" type="checkbox"/>	OK <input type="checkbox"/>	NOK <input type="checkbox"/>	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 type="checkbox"/>

Finishing

F1	Torque tightening to 4 x 22 Nm:	<input checked="" type="checkbox"/>	OK <input type="checkbox"/>	NOK <input type="checkbox"/>	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 <input type="checkbox"/>
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Grease protection transport

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

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 <input type="checkbox"/>
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Final Inspection

Quality Insp Name and Signature:

Dima KWS.

Comments

OBSERVATIONS

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

TROS 916.216

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Page

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GIBELA RAIL TRANSPORT CONSORTIUM RF (PTY) LTD

Traction Motors Quality

2024 -02- 19

Name :

Dima

Signature :

KWS.

ALSTOM

GIBALDI

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: 02/01/04
Name: XOUANT

Assembly after test

Date: 01/02/04
Name: XOUANT / THOMAS

ROTOR S/N MCP02-11-012		STATOR S/N GIB-1437	
<p>Bearing lubrication - Security operation Incorrect lubrication can lead to engine failure with a safety risk in service SRIL TROS 965,289</p>			
<p>INSULATED CERAMIC BEARING DRIVE END - Security operation Incorrect assembly can lead to engine failure with a safety risk in service SRIL TROS 965,289 FAG: NU 214-E-XL-M1-P6-F1-H257A-J20AB-C4 or NU-214-E-M1-P6-F1-H257A-J20AA-C4- SKE: NU 214 ECM/C4 VA3091 (cross out the references that have not been fitted)</p>			
N°: Romania: 00917 09/23 SN343-1369794			
<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 - 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: 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 SKE: 6214-M/C4-VL-0241 (cross out the references that have not been fitted)</p>			
Serial N°: Germany: 0200 X116-0818 04/23 SN0171			
<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>Filter 1 (Name and signature): <i>[Signature]</i></p> <p>Filter 2 (Name and signature): <i>[Signature]</i></p> <p>Quality verification: Dima</p>	
Référence appareil: AJEP14			
FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA		TROS 916.216 2 Page 1	

ALSTOM

GIBALDI

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)		6,25 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:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number: 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	Device serial number: 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	Device serial number: GIBALDI	<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: 602300107	<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	QC 1 X 61 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK	
F2	Torque tightening to 8 x 76 Nm:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	QC 1 X 61 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK	
F3	Torque tightening to 4 x 44 Nm: Fold locking plate	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	QC 1 X 37 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK	
F4	Torque tightening to 4 x 22 Nm:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	QC 1 X 18 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK	
F5	Torque tightening to 6 x 22 Nm:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	QC 1 X 18 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK	

Finishing

F1	Torque tightening to 4 x 22 Nm:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	QC 1 X 22 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK
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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

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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Page

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CERTIFICATION OF CONFORMITY

Inspection certificate according EN 10204-3.1

Product: Traction Motors 6 ECA 3022 B

Serial Number: N ° 21322

Client / Customer: ALSTOM UBUNYE (PTY) LTD

Project: PRASA

P O Number: 76213869

Status: QC PASS

Derogations / Concession / Waiver N °: N/A

Customer modification: N/A

Missing parts: N/A

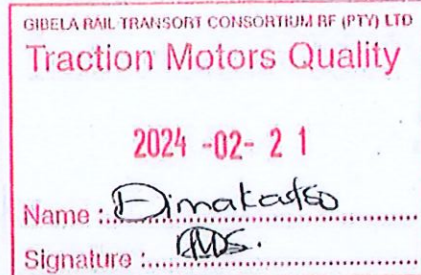
We hereby declare, barring exceptions, reservations or exemptions listed in this statement of conformity, that the listed supplies comply with the contract requirements and that, after completion of testing and verification, they completely satisfy all specified requirements, and applicable standards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

Date: 2024/02/21

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 ° 21429

Client / Customer: ALSTOM UBUNYE (PTY) LTD

Project: PRASA

P O Number: 76545473

Status: QC PASS

Derogations / Concession / Waiver N °: N/A

Customer modification: N/A

Missing parts: N/A

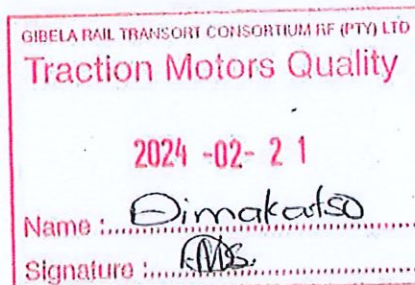
We hereby declare, barring exceptions, reservations or exemptions listed in this statement of conformity, that the listed supplies comply with the contract requirements and that, after completion of testing and verification, they completely satisfy all specified requirements, and applicable standards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

Date: 2024/02/21

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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