

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 1403

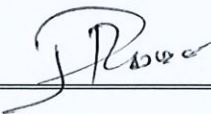
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- List of deviations and missing parts.....	Page 2/2	<input checked="" type="checkbox"/>
- Products traceability.....	1 page	<input checked="" type="checkbox"/>
- Load test report.....	1 page	<input checked="" type="checkbox"/>
- Motor certificate.....	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	18 April 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	1403		Alstom - Ubunye
Motor Bogie Frame	AR00000176080	M1735		Alstom - Ubunye
Wheelset (Front)	AR000000177020	M03200		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	K3359		NGC
Wheel (Right)	AR00000174670	010	10-23	Bonatrans
Wheel (Left)	AR000000174670	012	10-23	Bonatrans
Wheelset (Rear)	AR00000178600	M03199		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	K3348		NGC
Wheel (Right)	AR00000174670	029	10-23	Bonatrans
Wheel (Left)	AR00000174670	020	10-23	Bonatrans
Pneumatic suspension (Right)	AR00000176127	2309045		Hutchinson
Pneumatic suspension (Left)	AR00000176127	2310145		Hutchinson
Brake unit with PB (Right rear)	AR00000174544	1721	04-23	WEBTEC
Brake unit without PB (Right front)	AR00000175185	5189	04-23	WEBTEC
Brake unit without PB (Left Front)	AR00000175185	5190	04-23	WEBTEC
Brake unit without PB (left rear)	AR00000175185	5187	04-23	WEBTEC
Motor (front)	AR00000168516	21478		GIBELA
Motor (Rear)	AR00000168516	21479		GIBELA

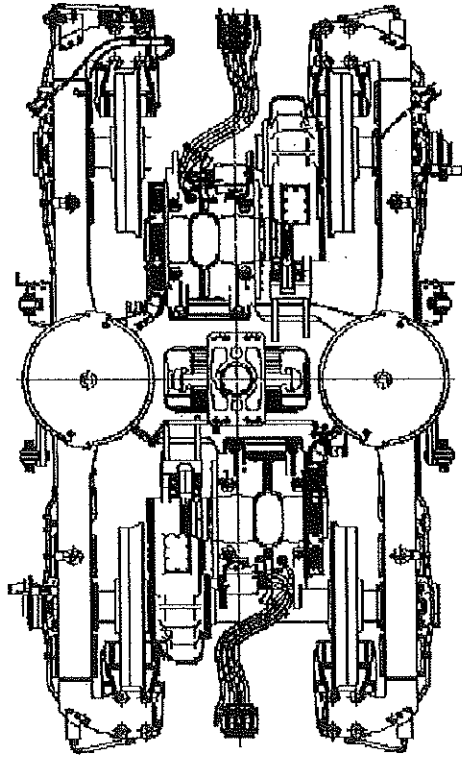
PRESSING REPORT

DATE 4/17/2024	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]		36.90
WEIGHT ON WHEEL [Kg]	Q4	5527

SECONDARY SUSPENSION				✓
MEASURED [mm]	SHIM THICK [mm]	DIM. WITH SHIM[mm]		THEORETICAL [mm]
586.88	+	0.00	=	MIN 585.00
				MAX 587.50

RIGHT JACK LOAD	
7376	Kg



BOGIE SERIAL N°	MB1-1403
BOGIE TYPE	MB
BOGIE WEIGHT UNDER LOAD [Kg]	22408
COMPLETE BOGIE WEIGHT [Kg]	7308
OPERATOR	BAFANA
DATE	4/17/2024

OPERATOR STAMP	
DC-2716	

	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN	36.70
	MAX	
GAP PRIMARY SUSPENSION [mm]	MIN	36.70
	MAX	
SHIM THICK [mm]		
WEIGHT ON WHEEL [Kg]	Q2	5640

	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN	36.00
	MAX	
GAP PRIMARY SUSPENSION [mm]	MIN	36.00
	MAX	
SHIM THICK [mm]		
WEIGHT ON WHEEL [Kg]	Q3	5704

SECONDARY SUSPENSION			
MEASURED [mm]	SHIM THICK [mm]	DIM. WITH SHIM [mm]	THEORETICAL [mm]
586.97	+	0.00	MIN
			586.97
		=	MAX
			587.50

DIFFERENCE IN RIGHT AND LEFT SUSPENSION HEIGHTS [mm]	
-0.09	
	THEORETICAL [mm]
	MIN
	MAX
	-1.00
	1.00

LEFT JACK LOAD	
7377	Kg

	THEORETICAL	MEASURED		
WHEEL DIAMETER [mm]	MIN	33.00	36.61	
	MAX			
GAP PRIMARY SUSPENSION [mm]	MIN	39.00	36.00	
	MAX			
SHIM THICK [mm]				
WEIGHT ON WHEEL [Kg]		Q1		
		5536		

DIFFERENCE IN RIGHT AND LEFT SUSPENSION HEIGHTS [mm]		-0.09	
		THEORETICAL [mm]	
		MIN	
		MAX	
		-1.00	
		1.00	



CERTIFICATION OF CONFORMITY

Inspection certificate according EN 10204-3.1

Product: Traction Motors 6 ECA 3022 B

Serial Number: N ° 21478

Client / Customer: ALSTOM UBUNYE (PTY) LTD

Project: PRASA

P O Number: 76671677

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: 2024/04/11

Function: Final Inspection

Perfomed and signed off by: Name _____ Dimakatso Mohoalali

Signature _____



Gibela Rail
02 Shosholoza Avenue
M07 Traction Motor
1590

GIBELA RAIL

Compiled by M Kola

Date: 22/2/2022

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

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: 07/02/04

Name: XOLANT

Assembly after test

Date: 19/03/04

Name: XOLANT & GODFREY

ROTOR S/N		STATOR S/N	
MCP23-10-066		GIB-1487	
<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 SN89-1369774			
<p>S2</p> <p>Radial play after assembly (0,042 / 0,114): 0,06mm</p> <p><input 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>Dina</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-VL 0241</p> <p>(cross out the references that have not been fitted)</p>			
Serial N°: GERMANY: 0200 XII6-1016 04/23 SN0300			
<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>Dina</p>	
<p>Reference appareil</p> <p>AJZP14</p>			
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)		8,50 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:	<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: 0006200500☐ 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 motorized screwdriver) NCCS087	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) NCCS087	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) NCCS087	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) NCCS087	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) NCCS087	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) NCCS087	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:

Dima DS

Comments

OBSERVATIONS

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

TROS 916.216

2

Page

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

2024 -03- 20

Name : Dima

Signature : DS



CERTIFICATION OF CONFORMITY

Inspection certificate according EN 10204-3.1

Product: Traction Motors 6 ECA 3022 B

Serial Number: N ° 21479

Client / Customer: ALSTOM UBUNYE (PTY) LTD

Project: PRASA

P O Number: 76671678

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: 2024/04/17

Function: Final Inspection

Perfomed and signed off by: Name _____ Dimakatso Mohoalali

Signature _____



Gibela Rail
02 Shosholoza Avenue
M07 Traction Motor
1590

GIBELA RAIL

Compiled by M Kola

Date: 22/2/2022

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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

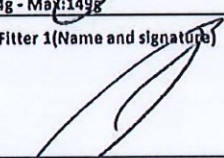
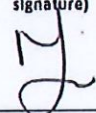
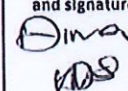
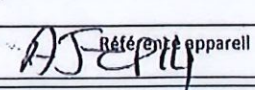
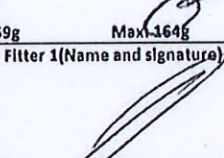
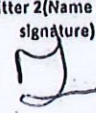
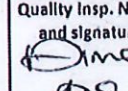
Date: 01/04/2024

Name: Jacques

Assembly after test

Date: 01/04/2024

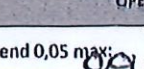
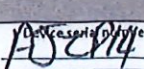
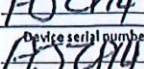
Name: Jacques d'Xolani & Tammis

ROTOR S/N MCB23-11-016		STATOR S/N CIB-1491	
<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-E6M/C4-VA3091 (cross out the references that have not been fitted)</p>			
N°: Romania: 0097 09/23 SN97 - 1369794			
<p>S2 Radial play after assembly (0,042 / 0,114): 0,08mm <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>		<p>S3 LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly Min: 144g - Max: 149g Mesured quantity: <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK Filter 1 (Name and signature):  Filter 2 (Name and signature):  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 SKE-6214-M/G4-VL-0241 (cross out the references that have not been fitted)</p>			
Serial N°: Germany: 0200 X116-0957 04/23 SN0258			
<p>S1 Radial play after assembly (0,021 / 0,067): 0,05mm <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK Réf. app. </p>		<p>S3 LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly Min: 159g - Max: 164g Mesured quantity: <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK Filter 1 (Name and signature):  Filter 2 (Name and signature):  Quality Insp. Name and signature: </p>	
FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA		TROS 916.216 2 Page 1	

ALSTOM

GIBEL

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

Record the value of the Insulation resistance of the bearings to TROS 915.069 (> 50 KΩ)		2,5292 <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: 0,06mm	<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): 0,75mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number: CIB-1491	<input type="checkbox"/> OK <input type="checkbox"/> NOK

Sensor reference: DTR0000512252/DSD1830.19Q14HW

☒ OK ☐ NOK

Device serial number

20241008357

☐ OK ☐ 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: 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)

☒ OK ☐ NOK

Final Inspection

Quality Insp Name and Signature:

Dima

Comments

OBSERVATIONS

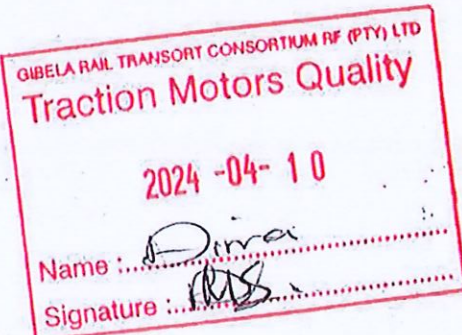
FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA

TROS 916.216

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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 1404**

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
NAME

19 April 2024
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 1404		Alstom - Ubunye
Motor Bogie Frame	AR00000176080	M 1733		Alstom - Ubunye
Wheelset (Front)	AR000000177020	M 03207		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	K 3307		NGC
Wheel (Right)	AR00000174670	062	10-23	Bonatrans
Wheel (Left)	AR000000174670	049	10-23	Bonatrans
Wheelset (Rear)	AR00000178600	M 03208		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	K 3274		NGC
Wheel (Right)	AR00000174670	149	12-23	Bonatrans
Wheel (Left)	AR00000174670	146	12-23	Bonatrans
Pneumatic suspension (Right)	AR00000176127	2311105		Hutchinson
Pneumatic suspension (Left)	AR00000176127	2311115		Hutchinson
Brake unit with PB (Right rear)	AR00000174544	1723	04-24	Wabtec
Brake unit without PB (Right front)	AR00000175185	5197	04-24	Wabtec
Brake unit without PB (Left Front)	AR00000175185	5196	04-24	Wabtec
Brake unit without PB (left rear)	AR00000175185	5191	04-24	Wabtec
Motor (front)	AR00000168516	21569		Alstom Ornans
Motor (Rear)	AR00000168516	21575		Alstom Ornans

PRESSING REPORT

DATE
4/19/2024

RESPONSABLE VALIDATION

PRASA

INSTRUCTION SHEET:

LOAD TEST : MOTOR BOGIE

FAMILY:

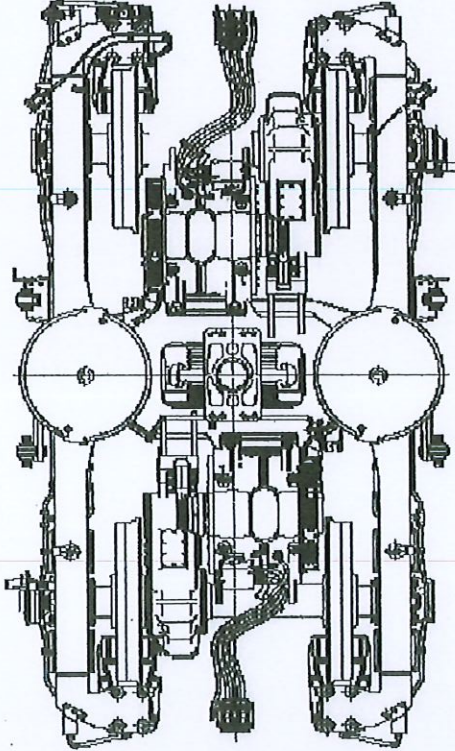
PROJECT:

	THEORETICAL		MEASURED
	MIN	MAX	
WHEEL DIAMETER [mm]			
GAP PRIMARY SUSPENSION [mm]	33.00	39.00	37.19
SHIM THICK [mm]			
WEIGHT ON WHEEL [Kg]	Q2		5486

SECONDARY SUSPENSION			
MEASURED [mm]	SHIM THICK [mm]	DIM. WITH SHIM [mm]	THEORETICAL [mm]
			MIN MAX
587.01	+	0.00	587.01 587.50

RIGHT JACK LOAD	Kg
7376	

BOGIE SERIAL N°	MB1-1404
BOGIE TYPE	MB
BOGIE WEIGHT UNDER LOAD [Kg]	22365
COMPLETE BOGIE WEIGHT [Kg]	7296
OPERATOR	EDWARD
DATE	4/19/2024



OPERATOR STAMP	BFI-21
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	THEORETICAL		MEASURED
	MIN	MAX	
LOAD DIFFERENCE ON FRONT AXLE [%]	0.00	0.00	1.68
LOAD DIFFERENCE ON REAR AXLE [%]	0.00	0.00	-1.22
LOAD DIFFERENCE FRONT AXLE AND REAR AXLE [%]	0.00	0.00	-0.21
LOAD DIFFERENCE ON RAILS [%]	0.00	0.00	0.22
LOAD DIFFERENCE ON DIAGONAL WHEELS [%]	0.00	0.00	-1.45

LEFT JACK LOAD	Kg
7376	

	THEORETICAL		MEASURED
	MIN	MAX	
WHEEL DIAMETER [mm]			
GAP PRIMARY SUSPENSION [mm]	33.00	39.00	36.63
SHIM THICK [mm]			
WEIGHT ON WHEEL [Kg]	Q1		5673

SECONDARY SUSPENSION			
MEASURED [mm]	SHIM THICK [mm]	DIM. WITH SHIM [mm]	THEORETICAL [mm]
			MIN MAX
585.73	+	1.00	586.73 587.50

DIFFERENCE IN RIGHT AND LEFT SUSPENSION HEIGHTS [mm]		
0.28		
THEORETICAL [mm]	MIN MAX	-1.00 1.00

	THEORETICAL		MEASURED
	MIN	MAX	
WHEEL DIAMETER [mm]			
GAP PRIMARY SUSPENSION [mm]	33.00	39.00	37.27
SHIM THICK [mm]			
WEIGHT ON WHEEL [Kg]	Q3		5535



CERTIFICATION OF CONFORMITY

Inspection certificate according EN 10204-3.1

Product: Traction Motors 6 ECA 3022 B

Serial Number: N ° 21575

Client / Customer: ALSTOM UBUNYE (PTY) LTD

Project: PRASA

P O Number: 76923534

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: 2024/04/11

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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MOT 21575

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: 14/03/24

Name: Geoffrey

Assembly after test

Date:

Name:

ROTOR S/N MCR23-11-076		STATOR S/N GIB-1593	
<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 10/23 SN227 - 1988233			
<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 Measured quantity: Quality validation</p> <p>Filter 1 (Name and signature) Filter 2 (Name and signature) Quality Insp. Name and signature</p> <p><i>[Signature]</i> <i>[Signature]</i> <i>[Signature]</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 SKF 6214-M/C4-VE 0241 (cross out the references that have not been fitted)</p>			
Serial N°: GERMANY: 0200X116-0918 04/23 8N0212			
<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 Measured quantity: Quality verification</p> <p>Filter 1 (Name and signature) Filter 2 (Name and signature) Quality Insp. Name and signature</p> <p><i>[Signature]</i> <i>[Signature]</i> <i>[Signature]</i></p>	
Référence appareil AMXG14			
FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA		TROS 916.216 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)		7.09 G.SZ		<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: 0,02mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number AMXG14	<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 AMXG14	<input type="checkbox"/> OK <input type="checkbox"/> NOK	
sensor / toothed wheel play 0,7 (+/- 0,2): 0,8mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number GIBFL001	<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 52316013633	<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	<small>torque reference (in the event of failure / absence of the motorized screwdriver)</small> D2862188	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	<small>torque reference (in the event of failure / absence of the motorized screwdriver)</small> D2862188	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	<small>torque reference (in the event of failure / absence of the motorized screwdriver)</small> D2511039	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	<small>torque reference (in the event of failure / absence of the motorized screwdriver)</small> N008269	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	<small>torque reference (in the event of failure / absence of the motorized screwdriver)</small> N008269	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	<small>torque reference (in the event of failure / absence of the motorized screwdriver)</small> N008269	QC 1 X 22 Nm	<input type="checkbox"/>	OK	<input type="checkbox"/>	NOK	
Grease protection transport									
<input checked="" type="checkbox"/> S3	18g (0/+4.5) CC	Mesured quantity: 18g			<input type="checkbox"/>	OK	<input type="checkbox"/>	NOK	
<input checked="" type="checkbox"/> S4	18g (0/+4.5) CC	Mesured quantity: 18g			<input type="checkbox"/>	OK	<input type="checkbox"/>	NOK	
Final inspection following the check-list DTR0000452909 and DTR0000452910 (in the case of 100% inspection of the production)					<input checked="" type="checkbox"/>	OK	<input type="checkbox"/>	NOK	
				Final Inspection Quality Insp Name and Signature: <i>Gasane A</i>	Comments				
OBSERVATIONS									

FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA	TROS 916.216	2	Page 2
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GIBELA RAIL TRANSPORT CONSORTIUM RF (PT) LTD

Traction Motors Quality

2024 -04- 07

Name : *Gasane*

Signature: *Gasane*



CERTIFICATION OF CONFORMITY

Inspection certificate according EN 10204-3.1

Product: Traction Motors 6 ECA 3022 B

Serial Number: N ° 21569

Client / Customer: ALSTOM UBUNYE (PTY) LTD

Project: PRASA

P O Number: 76892099

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: 2024/04/11

Function: Final Inspection

Performed and signed off by: Name _____ Dimakatso Mohoalali

Signature EDS



Gibela Rail
02 Shosholoza Avenue
M07 Traction Motor
1590

GIBELA RAIL

Compiled by M Kola

Date: 22/2/2022

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

Référence: TROS 916.216

Révision: 2

Documents de référence: AT00000325953 - AT00000325990

Assembly before test

Date: 13/03/2024

Name: J. C. Gues

Assembly after test

Date: 06/04/24

Name: YOLANNE, AUBREY & THOMAS

ROTOR S/N MCR23-11-064	STATOR S/N CAB-1586		
<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 11/23 SN 882 - 1888219</p>			
<p>Radial play after assembly (0,042 / 0,114): 0,09mm <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>		<p>LUBRICATION WITH MOBILITH SHC 100 before cover assembly Min: 144g - Max: 149g Measured quantity: <input type="text"/> Filter 1 (Name and signature) <input type="text"/> Filter 2 (Name and signature) <input type="text"/> Quality Insp. Name and signature: <input type="text"/></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-VE0241 (cross out the references that have not been fitted)</p>			
<p>Serial N°: GERMANY: - 0200 X 116 - 0949 04/23 SN 0242</p>			
<p>Radial play after assembly (0,021 / 0,067): 0,06mm <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>		<p>LUBRICATION WITH MOBILITH SHC 100 before cover assembly Min: 159g - Max: 164g Measured quantity: <input type="text"/> Filter 1 (Name and signature) <input type="text"/> Filter 2 (Name and signature) <input type="text"/> Quality Insp. Name and signature: <input type="text"/></p>	
<p>Reference: <input type="text"/></p>		<p>Reference: <input type="text"/></p>	
<p>FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA</p>		<p>TROS 916.216 Page 1</p>	

ALSTOM

GIBEL

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

Record the value of the Insulation resistance of the bearings to TROS 915.069 (> 50 kΩ)		<input 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: 0,06mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	<input type="checkbox"/> OK	<input type="checkbox"/> NOK
sensor / toothed wheel play 0,7 (+/- 0,2): 0,75mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	<input type="checkbox"/> OK	<input type="checkbox"/> NOK
Sensor reference: DTR0000512252/DSD1830.19Q14HW	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	<input type="checkbox"/> OK	<input type="checkbox"/> NOK

Prep. & Final Assembly									
OPERATOR				Quality verification					
<input checked="" type="checkbox"/> F1	Torque tightening to 8 x 76 Nm:	<input checked="" type="checkbox"/> OK	<input type="checkbox"/> NOK	search 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	search 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	search 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	search 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	search 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	search 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:	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
<div style="border: 1px solid black; padding: 5px; display: inline-block;"> Final Inspection Quality Insp Name and Signature: <i>Gasane</i> </div>					Comments				
OBSERVATIONS									

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