

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 1438

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

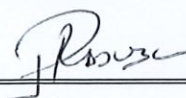
COMPLIANCE CERTIFICATE

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
 NAME
 VISA

21 May 2024
 Kwababana Hlumisa



I - Deviation / Derogation

II - Bogie configuration

B Bogie index



ALSTOM UBUNYE

PRODUCTS TRACEABILITY

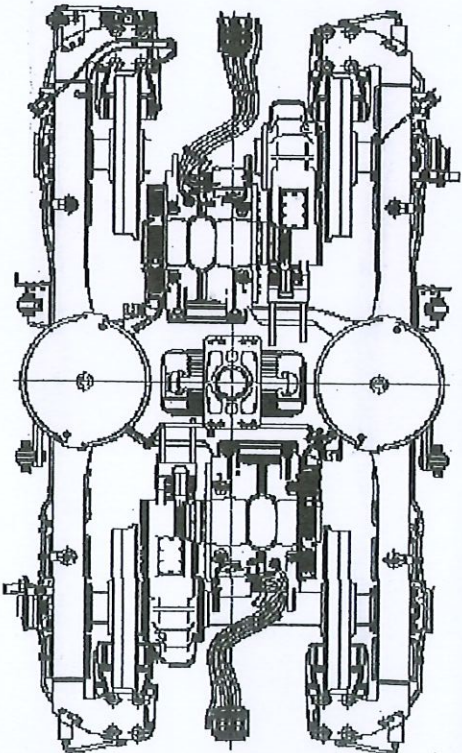
Products Designation	Product Reference	Serial Number	Batch or Date Manufactured	Supplier
Motor Bogie MB1	DTR0009706804	1438		Alstom - Ubunye
Motor Bogie Frame	AR00000176080	M1777		Alstom - Ubunye
Wheelset (Front)	AR000000177020	M03293		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	K3121		NGC
Wheel (Right)	AR00000174670	015	10-22	Bonatrans
Wheel (Left)	AR000000174670	170	02-23	Bonatrans
Wheelset (Rear)	AR00000178600	M03294		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	K3141		NGC
Wheel (Right)	AR00000174670	166	07-23	Bonatrans
Wheel (Left)	AR00000174670	079	10-23	Bonatrans
Pneumatic suspension (Right)	AR00000176127	2312126		Hutchinson
Pneumatic suspension (Left)	AR00000176127	2312125		Hutchinson
Brake unit with PB (Right rear)	AR00000174544	1785	05-24	WEBTEC
Brake unit without PB (Right front)	AR00000175185	5382	05-24	WEBTEC
Brake unit without PB (Left Front)	AR00000175185	5383	05-24	WEBTEC
Brake unit without PB (left rear)	AR00000175185	5380	05-24	WEBTEC
Motor (front)	AR00000168516	21601		GIBELA
Motor (Rear)	AR00000168516	21619		GIBELA

DATE 5/20/2024		RESPONSABLE VALIDATION		PRASA		LOAD TEST: MOTOR BOGIE	
DATE 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]	Q2 5568

SECONDARY SUSPENSION	
MEASURED [mm]	SHIM THICK [mm]
587.49	+
	0.00
	=
	587.49
	MIN 585.00 MAX 587.50

RIGHT JACK LOAD	
	7376 Kg



BOGIE SERIAL N°	MB1-1438
BOGIE TYPE	MB
BOGIE WEIGHT UNDER LOAD [Kg]	22369
COMPLETE BOGIE WEIGHT [Kg]	7267
OPERATOR	DATE
EDWARD	5/20/2024

OPERATOR STAMP	
BFI-21	

THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX
GAP PRIMARY SUSPENSION [mm]	MIN 33.00 MAX 39.00
SHIM THICK [mm]	
WEIGHT ON WHEEL [Kg]	Q1 5595

SECONDARY SUSPENSION	
MEASURED [mm]	SHIM THICK [mm]
586.99	+
	0.00
	=
	586.99
	MIN 585.00 MAX 587.50

LEFT JACK LOAD	
	7376 Kg

PRESSING REPORT	
THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX
GAP PRIMARY SUSPENSION [mm]	MIN 33.00 MAX 39.00
SHIM THICK [mm]	
WEIGHT ON WHEEL [Kg]	Q4 5580

SECONDARY SUSPENSION	
MEASURED [mm]	SHIM THICK [mm]
586.99	+
	0.00
	=
	586.99
	MIN 585.00 MAX 587.50

LEFT JACK LOAD	
	7376 Kg

THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX
GAP PRIMARY SUSPENSION [mm]	MIN 33.00 MAX 39.00
SHIM THICK [mm]	
WEIGHT ON WHEEL [Kg]	Q3 5626

SECONDARY SUSPENSION	
MEASURED [mm]	SHIM THICK [mm]
586.99	+
	0.00
	=
	586.99
	MIN 585.00 MAX 587.50

LEFT JACK LOAD	
	7376 Kg

THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX
GAP PRIMARY SUSPENSION [mm]	MIN 33.00 MAX 39.00
SHIM THICK [mm]	
WEIGHT ON WHEEL [Kg]	Q1 5595

SECONDARY SUSPENSION	
MEASURED [mm]	SHIM THICK [mm]
586.99	+
	0.00
	=
	586.99
	MIN 585.00 MAX 587.50

LEFT JACK LOAD	
	7376 Kg



CERTIFICATION OF CONFORMITY

Inspection certificate according to EN 10204-3.1

Product: Traction Motors 6 ECA 3022 B

Serial Number: N° 21601

Client / Customer: ALSTOM UBUNYE (PTY) LTD

Project: PRASA

P O Number: 76951130

Status: QC PASS

Derogations / Concession / Waiver N°: N/A

Customer modification: N/A

Missing parts: N/A

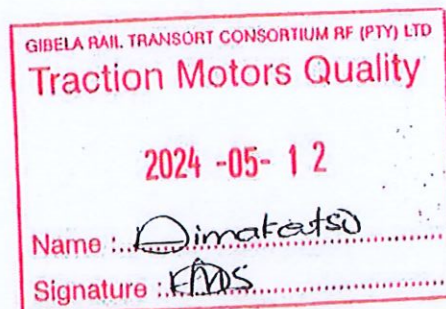
We hereby declare, barring exceptions, reservations or exemptions listed in this statement of conformity, that the listed supplies comply with the contract requirements and that, after completion of testing and verification, they completely satisfy all specified requirements, and applicable standards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

Date: 2024/05/12

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

ALSTOM

MOT 21601

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: 22/03/24
Name: G. GOFREY

Assembly after test

Date: 14/05/24
Name: Tom, XOLANI & GOFREY

ROTOR S/N MCR23-11-081		STATOR S/N GIB-1612	
<p>Bearing lubrication - Security operation Incorrect lubrication can lead to engine failure with a safety risk in service SRIL TROS 965.289</p>			
<p>INSULATED CERAMIC BEARING DRIVE END - Security operation Incorrect assembly can lead to engine failure with a safety risk in service SRIL TROS 965.289 FAG: NU 214-E-XL-M1-P6-F1-H257A-J20AB-C4 or NU-214-E-M1-P6-F1-H257A-J20AA-C4- SKF-NU-214-ECM/C4-VA3091- (cross out the references that have not been fitted)</p>			
N°: ROMANIA- 0097 09/23 81491-1369794			
<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>S3 LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly</p> <p>Mln:144g - Max:149g</p> <p>Filter 1 (Name and signature) <i>[Signature]</i></p> <p>Filter 2 (Name and signature) <i>[Signature]</i></p> <p>Mesured quantity: <i>[Signature]</i></p> <p>Quality validation: <i>[Signature]</i></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 X116-0713 04/23 8140060			
<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>Mln:159g - Max: 164g</p> <p>Filter 1 (Name and signature) <i>[Signature]</i></p> <p>Filter 2 (Name and signature) <i>[Signature]</i></p> <p>Mesured quantity: <i>[Signature]</i></p> <p>Quality verification: <i>[Signature]</i></p>	
Référence appareil: AMXG14		TROS 916.216	
FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA		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)		1.30 GΩ		<input checked="" type="checkbox"/> OK	<input type="checkbox"/> NOK
OPERATOR			Quality verification		
Out of round at the end of the shaft drive end, 0,05 max Value: 0,02mm	<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): 0,7mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number GIBFL002	<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 52236001552	<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: 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
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)								<input checked="" type="checkbox"/>	OK	<input type="checkbox"/>	NOK
							Final Inspection	Comments			
							Quality Insp Name and Signature:				
							Gasane R				
OBSERVATIONS											

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

Inspection certificate according EN 10204-3.1

Product: Traction Motors 6 ECA 3022 B

Serial Number: N ° 21619

Client / Customer: ALSTOM UBUNYE (PTY) LTD

Project: PRASA

P O Number: 77028288

Status: QC PASS

Derogations / Concession / Waiver N °: N/A

Customer modification: N/A

Missing parts: N/A

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

Date: 2024/05/18

Function: Final Inspection

Performed and signed off by: Name _____ Dimakatso Mohoalali

Signature _____



Gibela Rail
02 Shosholozwa Avenue
M07 Traction Motor
1590

GIBELA RAIL

Compiled by M Kola

Date: 22/2/2022

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216/9

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: 03/04/24

Name: XOLANI

Assembly after test

Date: 10/05/24

Name: XOLANI & GOUFFREY

ROTOR S/N		STATOR S/N	
CETB-1633		MCPB3-11-093	
<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-VA9091</p> <p>(cross out the references that have not been fitted)</p>			
N°: ROMANIA: 0097 09/23 SN 42-1369794			
<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>S4</p> <p>LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly</p> <p>Min: 144g - Max: 149g</p> <p>Measured 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>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 X116-0746 04/23 SN 0118			
<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>LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly</p> <p>Min: 159g - Max: 164g</p> <p>Measured 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>	
Référence appareil: AMX650			
FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA		TROS 916.216 2 Page 1	

ALSTOM

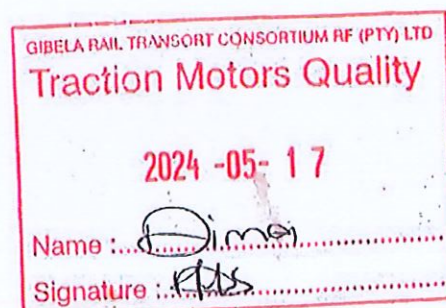
GIBEL

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)		11,7 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	
Value: 0,01mm		AMX650		
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	
0,06mm		AMX650		
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	
0,7mm		CETB-1633		
Sensor reference: DTR0000512252/DSD1830.19Q14HW	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number	<input type="checkbox"/> OK <input type="checkbox"/> NOK	
		62301008439		

Prep. & Final Assembly									
OPERATOR					Quality verification				
F1	Torque tightening to 8 x 76 Nm:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	interch reference in the event of failure / absence of the 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	interch 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: Fold locking plate	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	interch reference in the event of failure / absence of the motorized screwdriver		QC 1 X 37 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK			
F4	Torque tightening to 4 x 22 Nm:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	interch reference in the event of failure / absence of the 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	interch 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	interch 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 type="checkbox"/> OK <input type="checkbox"/> NOK			
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	Comments			
					Quality Insp Name and Signature:				
					Dima				
OBSERVATIONS									

FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA	TROS 916.216	2	Page
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MANUFACTURER **ALSTOM** Ubunye
 Marievale Road, Vosterkroon, Nigel, 1490

CUSTOMER **Gibela**

CONTRACT

PROJECT **PRASA**

MANUFACTURER'S DELIVERY DOCUMENT

PRODUCT TYPE **MOTOR BOGIE MB1**

DTR0009706804

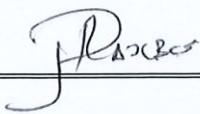
SERIAL NUMBER **MB1 1439**

CONTENTS

- Compliance certificate.....	Page 1/2	<input checked="" type="checkbox"/>
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- Products traceability.....	1 page	<input checked="" type="checkbox"/>
- Load test report.....	1 page	<input checked="" type="checkbox"/>
- Motor certificate.....	8 pages	<input checked="" type="checkbox"/>

COMPLIANCE CERTIFICATE

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

CONSTRUCTOR APPROVAL	
DATE	21 May 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	1439		Alstom - Ubunye
Motor Bogie Frame	AR00000176080	M1750		Alstom - Ubunye
Wheelset (Front)	AR000000177020	M03295		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	K3145		NGC
Wheel (Right)	AR00000174670	120	10-23	Bonatrans
Wheel (Left)	AR000000174670	114	10-23	Bonatrans
Wheelset (Rear)	AR00000178600	M03296		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	K3111		NGC
Wheel (Right)	AR00000174670	073	10-23	Bonatrans
Wheel (Left)	AR00000174670	021	10-23	Bonatrans
Pneumatic suspension (Right)	AR00000176127	2311124		Hutchinson
Pneumatic suspension (Left)	AR00000176127	2311121		Hutchinson
Brake unit with PB (Right rear)	AR00000174544	1787	05-24	WEBTEC
Brake unit without PB (Right front)	AR00000175185	5388	05-24	WEBTEC
Brake unit without PB (Left Front)	AR00000175185	5381	05-24	WEBTEC
Brake unit without PB (left rear)	AR00000175185	5387	05-24	WEBTEC
Motor (front)	AR00000168516	21612		GIBELA
Motor (Rear)	AR00000168516	21647		GIBELA

PRESSING REPORT

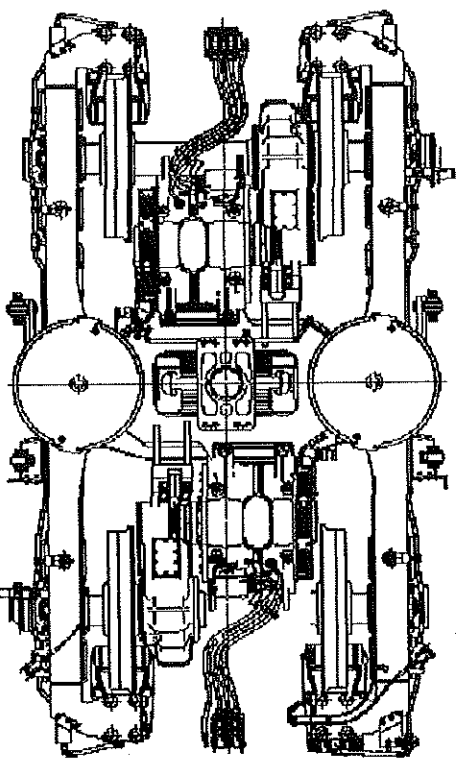
DATE 5/21/2024	RESPONSABLE VALIDATION	PRASA	LOAD TEST : MOTOR BOGIE
DATE VALIDATION		INSTRUCTION SHEET:	PROJECT:
		FAMILY:	

	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX	
GAP PRIMARY SUSPENSION [mm]	MIN 33.00 MAX 39.00	36.55 ✓
SHIM THICK [mm]		
WEIGHT ON WHEEL [Kg]	Q2	5599

SECONDARY SUSPENSION ✓			
MEASURED [mm]	SHIM THICK [mm]	DIM. WITH SHIM [mm]	THEORETICAL [mm]
585.21	+	0.00	= 585.21
			MIN 585.00 MAX 587.50

RIGHT JACK LOAD
7376 Kg

	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX	
GAP PRIMARY SUSPENSION [mm]	MIN 33.00 MAX 39.00	36.90 ✓
SHIM THICK [mm]		
WEIGHT ON WHEEL [Kg]	Q4	5570



	THEORETICAL	MEASURED
LOAD DIFFERENCE ON FRONT AXLE [%]	MIN 0.00 MAX 0.00	-0.30 ✓
LOAD DIFFERENCE ON REAR AXLE [%]	MIN 0.00 MAX 0.00	0.54 ✓
LOAD DIFFERENCE FRONT AXLE AND REAR AXLE [%]	MIN 0.00 MAX 0.00	-0.16 ✓
LOAD DIFFERENCE ON RAILS [%]	MIN 0.00 MAX 0.00	0.12 ✓
LOAD DIFFERENCE ON DIAGONAL WHEELS [%]	MIN 0.00 MAX 0.00	0.42 ✓

BOGIE SERIAL N°	MB1-1439
BOGIE TYPE	MB
BOGIE WEIGHT UNDER LOAD [Kg]	22364
COMPLETE BOGIE WEIGHT [Kg]	7288
OPERATOR	DATE 5/21/2024
BAFANA	
OPERATOR STAMP	00-07143

LEFT JACK LOAD
7376 Kg

	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX	
GAP PRIMARY SUSPENSION [mm]	MIN 33.00 MAX 39.00	36.19 ✓
SHIM THICK [mm]		
WEIGHT ON WHEEL [Kg]	Q1	5565

SECONDARY SUSPENSION ✓			
MEASURED [mm]	SHIM THICK [mm]	DIM. WITH SHIM [mm]	THEORETICAL [mm]
585.75	+	0.00	= 585.75
			MIN 585.00 MAX 587.50

DIFFERENCE IN RIGHT AND LEFT SUSPENSION HEIGHTS [mm]	✓	THEORETICAL [mm]
-0.54		MIN -1.00 MAX 1.00

	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX	
GAP PRIMARY SUSPENSION [mm]	MIN 33.00 MAX 39.00	35.90 ✓
SHIM THICK [mm]		
WEIGHT ON WHEEL [Kg]	Q3	5630



CERTIFICATION OF CONFORMITY

Inspection certificate according EN 10204-3.1

Product: Traction Motors 6 ECA 3022 B

Serial Number: N ° 21612

Client / Customer: ALSTOM UBUNYE (PTY) LTD

Project: PRASA

P O Number: 76977406

Status: QC PASS

Derogations / Concession / Waiver N °: N/A

Customer modification: N/A

Missing parts: N/A

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

Date: 2024/05/18

Function: Final Inspection

Perfomed and signed off by: Name _____ Dimakatso Mohoalali

Signature EPDS



Gibela Rail
02 Shosholoza Avenue
M07 Traction Motor
1590

GIBELA RAIL

Compiled by M Kola

Date: 22/2/2022

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

Référence: TROS 916.216

Révision: 2

Documents de référence: AT00000325953 - AT00000325990

Assembly before test

Date:

Name:

Assembly after test

Date:

Name:

ROTOR S/N		STATOR S/N	
MCEB3-11-065		GEB-1606	
<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 SN 49-1369794			
<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>S4</p> <p>LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly</p> <p>Min: 144g - Max: 149g</p> <p>Measured 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: 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-VL 0241</p> <p>(cross out the references that have not been fitted)</p>			
Serial N°: GERMANY: 0200 X116-0806 04/23 SN 0143			
<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>LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly</p> <p>Min: 159g Max: 164g</p> <p>Measured 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: Dima</p>	
Référence appareil: ATZP14			
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) 4,33GΩ		<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	
OPERATOR		Quality verification	
Out of round at the end of the shaft drive end, 0,05 max Value: 0,01mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number: ATZP14	<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	Device serial number: ATZP14	<input type="checkbox"/> OK <input type="checkbox"/> NOK
sensor / toothed wheel play 0,7 (+/- 0,2): 0,17mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number: GEB1606	<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: 8037000117	<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 indicated procedure) <i>NCC 8587</i>	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 indicated procedure) <i>NCC 8587</i>	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 indicated procedure) <i>NCC 8587</i>	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 indicated procedure) <i>NCC 8587</i>	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 indicated procedure) <i>NCC 8587</i>	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 indicated procedure) <i>NCC 8587</i>	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:	<i>18g</i>			<input checked="" type="checkbox"/>	OK	<input type="checkbox"/>	NOK
<input checked="" type="checkbox"/> S4	18g (0/+4.5) CC	Mesured quantity:	<i>18g</i>			<input checked="" type="checkbox"/>	OK	<input type="checkbox"/>	NOK
Final inspection following the check-list DTR0000452909 and DTR0000452910 (in the case of 100% inspection of the production)						<input checked="" type="checkbox"/>	OK	<input type="checkbox"/>	NOK
					Final Inspection	Comments			
					Quality Insp Name and Signature:				
					<i>Dima</i> <i>MD8</i>				
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 ° 21647

Client / Customer: ALSTOM UBUNYE (PTY) LTD

Project: PRASA

P O Number: 77125897

Status: QC PASS

Derogations / Concession / Waiver N °: N/A

Customer modification: N/A

Missing parts: N/A

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

Date: 2024/05/15

Function: Final Inspection

Performed and signed off by: Name _____ Dimakatso Mohoalali

Signature _____



Gibela Rail
02 Shosholozwa Avenue
M07 Traction Motor
1590

GIBELA RAIL	Compiled by M Kola	Date: 22/2/2022
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21647

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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: 18/04/24

Name: Godfrey

Assembly after test

Date: 16/05/24

Name: Tom AUBREY









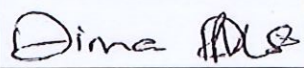
ROTOR S/N MCR23-11-004		STATOR S/N GIB-1662	
<p>Bearing lubrication - Security operation Incorrect lubrication can lead to engine failure with a safety risk in service SRIL TROS 965.289</p>			
<p>INSULATED CERAMIC BEARING DRIVE END - Security operation Incorrect assembly can lead to engine failure with a safety risk in service SRIL TROS 965.289 FAG: NU 214-E-XL-M1-P6-F1-H257A-J20AB-C4 or NU 214-E-M1-P6-F1-H257A-J20AA-C4 SKF: NU 214-ECM/C4-VA3091 (cross out the references that have not been fitted)</p>			
N°: ROMANIA: 0097 09/23 SN325-1369794			
<p>S2 Radial play after assembly (0,042 / 0,114): 0,05mm</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>Filter 1 (Name and signature): <i>[Signature]</i></p> <p>Measured quantity: <i>[Signature]</i></p> <p>Filter 2 (Name and signature): <i>[Signature]</i></p> <p>Quality validation: <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-VL0241 (cross out the references that have not been fitted)</p>			
Serial N°: GERMANY: 0200 X 116 -1008 04/23 SN0283			
<p>S1 Radial play after assembly (0,021 / 0,067): 0,06mm</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>Filter 1 (Name and signature): <i>[Signature]</i></p> <p>Measured quantity: <i>[Signature]</i></p> <p>Filter 2 (Name and signature): <i>[Signature]</i></p> <p>Quality validation: <i>[Signature]</i></p>	
Référence appareil: AJZP14			
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)		579 MΩ		<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK
OPERATOR			Quality verification	
Out of round at the end of the shaft drive end, 0,05 max Value: 0,01mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number AJZP14	<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	Device serial number AJZP14	<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 GIBFL002	<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 5232-1003444	<input type="checkbox"/> OK <input type="checkbox"/> NOK	

Prep. & Final Assembly									
OPERATOR				Quality verification					
	Torque tightening to 8 x 76 Nm:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	<small>in the event of failure / absence of the motorised screwdriver</small> 02862188	QC 1 X 61 Nm	<input type="checkbox"/>	OK	<input type="checkbox"/>	NOK	
	Torque tightening to 8 x 76 Nm:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	<small>in the event of failure / absence of the motorised screwdriver</small> 02862188	QC 1 X 61 Nm	<input type="checkbox"/>	OK	<input type="checkbox"/>	NOK	
	Torque tightening to 4 x 44 Nm: Fold locking plate	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	<small>in the event of failure / absence of the motorised screwdriver</small> 02541039	QC 1 X 37 Nm	<input type="checkbox"/>	OK	<input type="checkbox"/>	NOK	
	Torque tightening to 4 x 22 Nm:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	<small>in the event of failure / absence of the motorised screwdriver</small> 02862188	QC 1 X 18 Nm	<input type="checkbox"/>	OK	<input type="checkbox"/>	NOK	
	Torque tightening to 6 x 22 Nm:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	<small>in the event of failure / absence of the motorised screwdriver</small> 02862188	QC 1 X 18 Nm	<input type="checkbox"/>	OK	<input type="checkbox"/>	NOK	
Finishing									
	Torque tightening to 4 x 22 Nm:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	<small>in the event of failure / absence of the motorised screwdriver</small> 02862188	QC 1 X 22 Nm	<input type="checkbox"/>	OK	<input type="checkbox"/>	NOK	
Grease protection transport									
	18g (0/+4.5) CC	Mesured quantity: 18g			<input type="checkbox"/>	OK	<input type="checkbox"/>	NOK	
	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: 	Comments				
OBSERVATIONS									

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

GIBELA RAIL TRANSPORT CONSORTIUM RF (PTY) LTD

Traction Motors Quality

2024 -05- 15

Name : 

Signature : 