

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

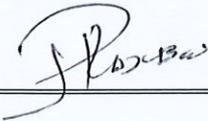
MANUFACTURER'S DELIVERY DOCUMENT	
PRODUCT TYPE	MOTOR BOGIE MB1
	DTR0009706804
SERIAL NUMBER	MB1 1401

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	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	1401		Alstom - Ubunye
Motor Bogie Frame	AR00000176080	M1731		Alstom - Ubunye
Wheelset (Front)	AR000000177020	M03198		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	K3312		NGC
Wheel (Right)	AR00000174670	008	10-23	Bonatrans
Wheel (Left)	AR000000174670	037	10-23	Bonatrans
Wheelset (Rear)	AR00000178600	M03197		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	K3357		NGC
Wheel (Right)	AR00000174670	048	10-23	Bonatrans
Wheel (Left)	AR00000174670	044	10-23	Bonatrans
Pneumatic suspension (Right)	AR00000176127	2401052		Hutchinson
Pneumatic suspension (Left)	AR00000176127	2401074		Hutchinson
Brake unit with PB (Right rear)	AR00000174544	1717	04-24	WEBTEC
Brake unit without PB (Right front)	AR00000175185	5172	04-24	WEBTEC
Brake unit without PB (Left Front)	AR00000175185	5177	04-24	WEBTEC
Brake unit without PB (left rear)	AR00000175185	5178	04-24	WEBTEC
Motor (front)	AR00000168516	21395		GIBELA
Motor (Rear)	AR00000168516	21499		GIBELA

PRESSING REPORT

DATE VALIDATION	4/17/2024	RESPONSIBLE VALIDATION	
PRASA		LOAD TEST : MOTOR BOGIE	
INSTRUCTION SHEET:		PROJECT:	
FAMILY:			

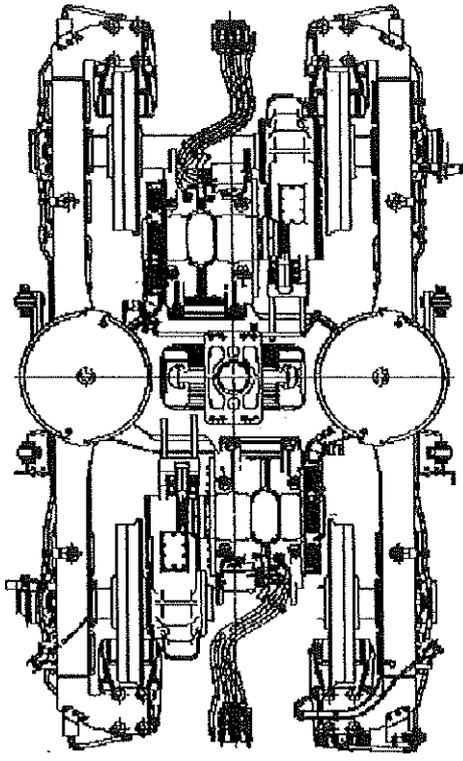
	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX	
GAP PRIMARY SUSPENSION [mm]	MIN 33.00 MAX 39.00	37.49 ✓
SHIM THICK [mm]		
WEIGHT ON WHEEL [kg]	Q2	5623

SECONDARY SUSPENSION			
MEASURED [mm]	SHIM THICK [mm]	DIM. WITH SHIM [mm]	THEORETICAL [mm]
586.36	+	0.00	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	37.90 ✓
SHIM THICK [mm]		
WEIGHT ON WHEEL [kg]	Q4	5555

BOGIE SERIAL N°	MB1-1401
BOGIE TYPE	MB
BOGIE WEIGHT UNDER LOAD [kg]	22385
COMPLETE BOGIE WEIGHT [kg]	7288
OPERATOR	DATE
BAFANA	4/17/2024
OPERATOR STAMP	
DC-3-F-1-6	



LEFT JACK LOAD
7376 Kg

	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX	
GAP PRIMARY SUSPENSION [mm]	MIN 33.00 MAX 39.00	37.80 ✓
SHIM THICK [mm]		
WEIGHT ON WHEEL [kg]	Q1	5544

SECONDARY SUSPENSION			
MEASURED [mm]	SHIM THICK [mm]	DIM. WITH SHIM [mm]	THEORETICAL [mm]
587.18	+	0.00	MIN 585.00 MAX 587.50

DIFFERENCE IN RIGHT AND LEFT SUSPENSION HEIGHTS [mm] ✓

	THEORETICAL [mm]
MIN	-1.00
MAX	1.00

	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX	
GAP PRIMARY SUSPENSION [mm]	MIN 33.00 MAX 39.00	36.70 ✓
SHIM THICK [mm]		
WEIGHT ON WHEEL [kg]	Q3	5664

	THEORETICAL	MEASURED
LOAD DIFFERENCE ON FRONT AXLE [%]	MIN 0.00 MAX 0.00	-0.71 ✓
LOAD DIFFERENCE ON REAR AXLE [%]	MIN 0.00 MAX 0.00	0.97 ✓
LOAD DIFFERENCE FRONT AXLE AND REAR AXLE [%]	MIN 0.00 MAX 0.00	-0.23 ✓
LOAD DIFFERENCE ON RAILS [%]	MIN 0.00 MAX 0.00	0.13 ✓
LOAD DIFFERENCE ON DIAGONAL WHEELS [%]	MIN 0.00 MAX 0.00	0.84 ✓

21499

ALSTOM

GIBELG

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

Référence: TROS 916.216

Révision: 2

Documents de référence: AT00000325953 - AT00000325990

Assembly before test

Date: 17/02/24

Name: XAVANT

Assembly after test

Date: 11/04/2024

Name: Jacques d'Almeida d'Almeida

ROTOR S/N MCP22-11-162		STATOR S/N GIB-1516	
<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 SN50-1369794			
<p>Radial play after assembly (0,042 / 0,114): 0,06mm <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>		<p>LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly Min:144g - Max:149g Measured quantity: <input type="checkbox"/> OK <input type="checkbox"/> NOK</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 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 X272-1311 09/23 SN0101			
<p>Radial play after assembly (0,021 / 0,067): 0,04mm <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>		<p>LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly Min:159g Max:164g Measured quantity: <input type="checkbox"/> OK <input type="checkbox"/> NOK</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>Référence appareil AIZP14</p>		<p>TROS 916.216 2</p>	
<p>FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA</p>		<p>Page 1</p>	

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

Record the value of the Insulation resistance of the bearings to TROS 915.069 (> 50 kΩ)	0,9 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 <u>0,02mm</u>	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number <u>AJZPI4</u>	<input type="checkbox"/> OK <input type="checkbox"/> NOK
Out of round on toothed wheel 0,1 max: <u>0,02mm</u>	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number <u>AJZPI4</u>	<input type="checkbox"/> OK <input type="checkbox"/> NOK
sensor / toothed wheel play 0,7 (+/- 0,2): <u>0,7mm</u>	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number <u>C115F1001</u>	<input type="checkbox"/> OK <input type="checkbox"/> NOK
Sensor reference: DTR0000512252/DSD1830.19Q14HW	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number <u>BS316013084</u>	<input type="checkbox"/> OK <input type="checkbox"/> NOK

Prep. & Final Assembly

OPERATOR		Quality verification			
<input checked="" type="checkbox"/> F1	Torque tightening to 8 x 76 Nm:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	wrench reference (in the event of failure/absence of the motorised screwdriver) <u>NCC05087</u>	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 motorised screwdriver) <u>NCC05087</u>	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 motorised screwdriver) <u>NCC05087</u>	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 motorised screwdriver) <u>NCC05087</u>	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 motorised screwdriver) <u>NCC05087</u>	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 motorised screwdriver) <u>NCC05087</u>	QC 1 X 22 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK
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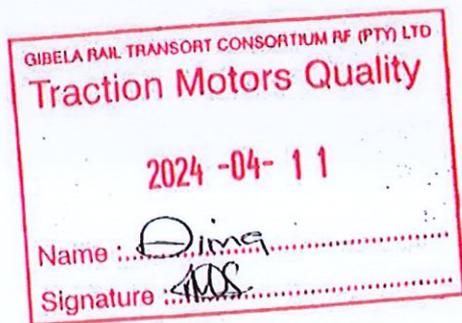
Grease protection transport

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

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

Final Inspection	Comments
Quality Insp Name and Signature: <u>Dima ADS</u>	

OBSERVATIONS





CERTIFICATION OF CONFORMITY

Inspection certificate according EN 10204-3.1

Product: Traction Motors 6 ECA 3022 B
Serial Number: N ° 21395
Client / Customer: ALSTOM UBUNYE (PTY) LTD
Project: PRASA
P O Number: 7633/6938
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 Shosholozwa Avenue
M07 Traction Motor
1590

MOT 21395

ALSTOM

GIBELCO

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

Référence: TROS 916.216

Révision: 2

Documents de référence: AT00000325953 - AT00000325990

Assembly before test
Date: 11/10/03
Name: YOLANI

Assembly after test
Date: 04/04/04
Name: YOLANI, AUBREY THOMAS

ROTOR S/N MCPD2-11-047		STATOR S/N GIBS-1371	
Bearing lubrication - Security operation Incorrect lubrication can lead to engine failure with a safety risk in service SRIL TROS 965.289			
(S2) 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)			
N°: ROMANIA :- 0097 09/03 SN283 -1369794			
(S2) Radial play after assembly (0,042 / 0,114): 0,07mm <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK		(S4) LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly Min:144g - Max:149g Measured quantity: Fitter 1 (Name and signature) Fitter 2 (Name and signature) Quality validation: Quality Insp. Name and signature: Gasave	
(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)			
Serial N°: GERMANY :- 0200 X116-0723 04/03 SN0083			
(S1) Radial play after assembly (0,021 / 0,067): 0,04mm <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK		(S3) LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly Min:159g Max:164g Measured quantity: Fitter 1 (Name and signature) Fitter 2 (Name and signature) Quality verification: Quality Insp. Name and signature: Gasave	
Référence appareil: ATR14			
FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA		TROS 916.216	
		Page 1	

ALSTOM

GIBELCO

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

Record the value of the insulation resistance of the bearings to TROS 915.069 (> 50 kΩ) 5,11 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: 0,05mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	ATR14	
Out of round on toothed wheel 0,1 max: 0,07mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	ATR14	
sensor / toothed wheel play 0,7 (+/- 0,2): 0,8mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	GIBS10001	

Sensor reference: DTR0000512252/DSD1830.19Q.14HW

<input checked="" type="checkbox"/> OK	<input type="checkbox"/> NOK	Device serial number: 0231100903	<input type="checkbox"/> OK	<input type="checkbox"/> NOK
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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) NCC5857	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) NCC5857	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) NCC5857	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) NCC5857	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) NCC5857	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) NCC5857	QC 1 X 22 Nm	<input type="checkbox"/> OK	<input type="checkbox"/> NOK
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Grease protection transport

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

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

<input checked="" type="checkbox"/> OK	<input type="checkbox"/> NOK
--	------------------------------

Final Inspection

Quality Insp Name and Signature:

Gasane M

Comments

OBSERVATIONS

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

TROS 916.216

2

Page

2

GIBELA RAIL TRANSPORT CONSORTIUM (IPY) LTD

Traction Motors Quality

2024-04-07

Name: Gasane

Signature: *Gasane M*

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

MANUFACTURER'S DELIVERY DOCUMENT	
PRODUCT TYPE	MOTOR BOGIE MB2
	DTR0009706805
SERIAL NUMBER	MB2 597

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	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 MB2	DTR0009706805	597		Alstom - Ubunye
Motor Bogie Frame	AR00000176080	M 1740		Alstom - Ubunye
Wheelset (Front)	AR000000177020	M 03201		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	K 3354		NGC
Wheel (Right)	AR00000174670	006	10-23	Bonatrans
Wheel (Left)	AR000000174670	089	10-23	Bonatrans
Wheelset (Rear)	AR00000178600	M 03202		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	K 3334		NGC
Wheel (Right)	AR00000174670	010	10-23	Bonatrans
Wheel (Left)	AR00000174670	040	10-23	Bonatrans
Pneumatic suspension (Right)	AR00000176127	2309048		Hutchinson
Pneumatic suspension (Left)	AR00000176127	2310026		Hutchinson
Brake unit with PB (Right rear)	AR00000174544	1722	04-24	Wabtec
Brake unit without PB (Right front)	AR00000175185	5188	04-24	Wabtec
Brake unit without PB (Left Front)	AR00000175185	5185	04-24	Wabtec
Brake unit without PB (left rear)	AR00000175185	5186	04-24	Wabtec
Motor (front)	AR00000168516	21586		Alstom - Gibela
Motor (Rear)	AR00000168516	21552		Alstom - Gibela

PRESSING REPORT

DATE
4/18/2024

DATE VALIDATION
RESPONSIBLE VALIDATION

PRASA
INSTRUCTION SHEET:
FAMILY:

LOAD TEST : MOTOR BOGIE
PROJECT:

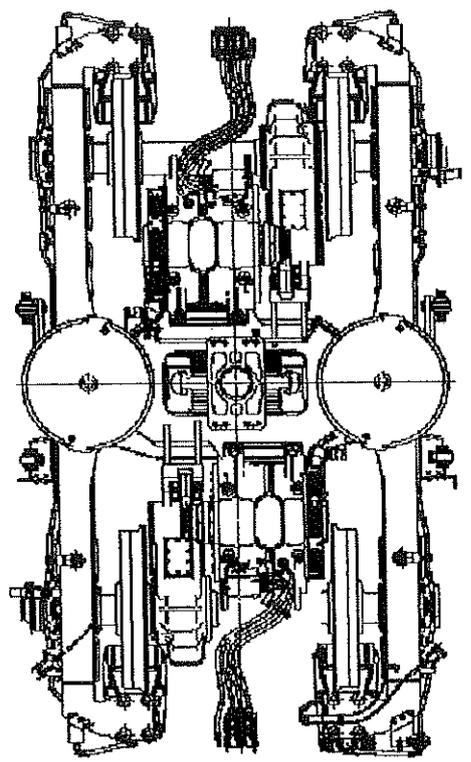
	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX	
GAP PRIMARY SUSPENSION [mm]	MIN MAX	33.00 39.00
SHIM THICK [mm]		
WEIGHT ON WHEEL [Kg]		5590

SECONDARY SUSPENSION			
MEASURED [mm]	SHIM THICK [mm]	DIM. WITH SHIM [mm]	THEORETICAL [mm]
584.65	+	2.00	= 586.65
			MIN 585.00 MAX 587.50

RIGHT JACK LOAD
7376 Kg

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

BOGIE SERIAL N°	MBZ-597
BOGIE TYPE	MB
BOGIE WEIGHT UNDER LOAD [Kg]	22389
COMPLETE BOGIE WEIGHT [Kg]	7293
OPERATOR	EDWARD
DATE	4/18/2024



	THEORETICAL	MEASURED
LOAD DIFFERENCE ON FRONT AXLE [%]	MIN 0.00 MAX 0.00	-0.11
LOAD DIFFERENCE ON REAR AXLE [%]	MIN 0.00 MAX 0.00	0.51
LOAD DIFFERENCE FRONT AXLE AND REAR AXLE [%]	MIN 0.00 MAX 0.00	-0.24
LOAD DIFFERENCE ON RAILS [%]	MIN 0.00 MAX 0.00	0.20
LOAD DIFFERENCE ON DIAGONAL WHEELS [%]	MIN 0.00 MAX 0.00	0.31

BF1-21

OPERATOR STAMP

LEFT JACK LOAD
7376 Kg

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

SECONDARY SUSPENSION			
MEASURED [mm]	SHIM THICK [mm]	DIM. WITH SHIM [mm]	THEORETICAL [mm]
586.13	+	0.00	= 586.13
			MIN 585.00 MAX 587.50

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

	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX	
GAP PRIMARY SUSPENSION [mm]	MIN MAX	33.00 39.00
SHIM THICK [mm]		
WEIGHT ON WHEEL [Kg]		5639



CERTIFICATION OF CONFORMITY

Inspection certificate according EN 10204-3.1

Product: Traction Motors 6 ECA 3022 B
Serial Number: N * 21586
Client / Customer: ALSTOM UBUNYE (PTY) LTD
Project: PRASA
P O Number: 76940752
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 Shosholozwa Avenue
M07 Traction Motor
1590

MOT 21586

ALSTOM

GIBELG

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

Référence: TROS 916.216

Révision: 2

Documents de référence: AT00000325953 - AT00000325990

Assembly before test
Date: 16/03/24
Name: Xoulvi

Assembly after test
Date: 20/03/24
Name: Godfrey & Xolcani

ROTOR S/N MCP03-11-075	STATOR S/N GIB-1590		
<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 filled)</p>			
<p>N°: ROMANIA:- 0097 09/23 SN71-1369794</p>			
<p>Radial play after assembly (0,042 / 0,114): 0,07mm</p> <p><input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>	<p>LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly</p> <p>Min:144g - Max:149g</p> <p>Measured quantity: <input type="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 Quality Insp. Name and signature <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 filled)</p>			
<p>Serial N°: GERMANY:- 0200 x 116 - 0723 . 04/23 SN0084</p>			
<p>Radial play after assembly (0,021 / 0,067): 0,04mm</p> <p><input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>	<p>LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly</p> <p>Min:159g Max:164g</p> <p>Measured quantity: <input type="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 Quality Insp. Name and signature <i>[Signature]</i></p>		
<p>Référence approval <i>AJEP14</i></p>			
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FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA

Record the value of the Insulation resistance of the bearings to TROS 915.069 (> 50 kΩ)	7,6 / M.S.C	<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 <u>0,01mm</u>	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number <u>AJEP14</u>	<input type="checkbox"/> OK <input type="checkbox"/> NOK
Out of round on toothed wheel 0,1 max: <u>0,01mm</u>	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number <u>AJEP14</u>	<input type="checkbox"/> OK <input type="checkbox"/> NOK
sensor / toothed wheel play 0,7 (+/- 0,2): <u>0,7mm</u>	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number <u>CIT-ES1001</u>	<input type="checkbox"/> OK <input type="checkbox"/> NOK
Sensor reference: DTR0000512252/DSD1830.19Q.14HW	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number <u>60317CCX301</u>	<input type="checkbox"/> OK <input type="checkbox"/> NOK

Prep. & Final Assembly									
OPERATOR				Quality verification					
<input checked="" type="checkbox"/> F1	Torque tightening to 8 x 76 Nm:	<input checked="" type="checkbox"/>	OK <input type="checkbox"/> NOK <input type="checkbox"/>	search reference (in the event of failure / absence of the motorised screwdriver) NOC5087	QC 1 X 61 Nm	<input type="checkbox"/>	OK <input type="checkbox"/>	NOK <input type="checkbox"/>	
<input checked="" type="checkbox"/> F2	Torque tightening to 8 x 76 Nm:	<input checked="" type="checkbox"/>	OK <input type="checkbox"/> NOK <input type="checkbox"/>	search reference (in the event of failure / absence of the motorised screwdriver) NOC5087	QC 1 X 61 Nm	<input type="checkbox"/>	OK <input type="checkbox"/>	NOK <input type="checkbox"/>	
<input checked="" 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"/>	search reference (in the event of failure / absence of the motorised screwdriver) NOC5087	QC 1 X 37 Nm	<input type="checkbox"/>	OK <input type="checkbox"/>	NOK <input type="checkbox"/>	
<input checked="" type="checkbox"/> F4	Torque tightening to 4 x 22 Nm:	<input checked="" type="checkbox"/>	OK <input type="checkbox"/> NOK <input type="checkbox"/>	search reference (in the event of failure / absence of the motorised screwdriver) NOC5087	QC 1 X 18 Nm	<input type="checkbox"/>	OK <input type="checkbox"/>	NOK <input type="checkbox"/>	
<input checked="" type="checkbox"/> F5	Torque tightening to 6 x 22 Nm:	<input checked="" type="checkbox"/>	OK <input type="checkbox"/> NOK <input type="checkbox"/>	search reference (in the event of failure / absence of the motorised screwdriver) NOC5087	QC 1 X 18 Nm	<input type="checkbox"/>	OK <input type="checkbox"/>	NOK <input type="checkbox"/>	
Finishing									
<input checked="" type="checkbox"/> F1	Torque tightening to 4 x 22 Nm:	<input checked="" type="checkbox"/>	OK <input type="checkbox"/> NOK <input type="checkbox"/>	search reference (in the event of failure / absence of the motorised screwdriver) NOC5087	QC 1 X 22 Nm	<input type="checkbox"/>	OK <input type="checkbox"/>	NOK <input type="checkbox"/>	
Grèase 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 type="checkbox"/>	
<input checked="" 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 type="checkbox"/>	OK <input type="checkbox"/>	NOK <input type="checkbox"/>	
					Final inspection		Comments		
					Quality Insp Name and Signature:				
					<i>Gasane</i>				
OBSERVATIONS									

GIBELA RAIL TRANSPORT CONSORTIUM RF (PTY) 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 ° 21552
Client / Customer: ALSTOM UBUNYE (PTY) LTD
Project: PRASA
P O Number: 76862738
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: 2024/04/15
Function: Final Inspection
Performed and signed off by: Name _____ Dimakatso Mohoalali
Signature  _____



Gibela Rail
02 Shosholozza Avenue
M07 Traction Motor
1590

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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: 07/03/24

Name: Godfrey

Assembly after test

Date: 21/04/2024

Name: Jacques + Xolani + Tommas

ROTOR S/N MCR23-10-046		STATOR S/N GIB-1558							
<p>Bearing lubrication - Security operation Incorrect lubrication can lead to engine failure with a safety risk in service SRIL TROS 965289</p>									
<p>INSULATED CERAMIC BEARING DRIVE END - Security operation Incorrect assembly can lead to engine failure with a safety risk in service SRIL TROS 965289 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 SN 248-1988233									
<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</p> <table border="1"> <tr> <th>Filter 1 (Name and signature)</th> <th>Filter 2 (Name and signature)</th> <th>Quality validation</th> </tr> <tr> <td><i>[Signature]</i></td> <td><i>[Signature]</i></td> <td>Quality Insp. Name and signature <i>[Signature]</i></td> </tr> </table>		Filter 1 (Name and signature)	Filter 2 (Name and signature)	Quality validation	<i>[Signature]</i>	<i>[Signature]</i>	Quality Insp. Name and signature <i>[Signature]</i>
Filter 1 (Name and signature)	Filter 2 (Name and signature)	Quality validation							
<i>[Signature]</i>	<i>[Signature]</i>	Quality Insp. Name and signature <i>[Signature]</i>							
<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 965289 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 X116-1019 04/23 SN 0308									
<p>S3 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> <table border="1"> <tr> <th>Filter 1 (Name and signature)</th> <th>Filter 2 (Name and signature)</th> <th>Quality verification</th> </tr> <tr> <td><i>[Signature]</i></td> <td><i>[Signature]</i></td> <td>Quality Insp. Name and signature <i>[Signature]</i></td> </tr> </table>		Filter 1 (Name and signature)	Filter 2 (Name and signature)	Quality verification	<i>[Signature]</i>	<i>[Signature]</i>	Quality Insp. Name and signature <i>[Signature]</i>
Filter 1 (Name and signature)	Filter 2 (Name and signature)	Quality verification							
<i>[Signature]</i>	<i>[Signature]</i>	Quality Insp. Name and signature <i>[Signature]</i>							
Référence appareil AMXG114									
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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)		2.45 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: 0,02 mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number AMXG114	<input type="checkbox"/> OK <input type="checkbox"/> NOK
Out of round on toothed wheel 0,1 max: 0,05 mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number AMXG114	<input type="checkbox"/> OK <input type="checkbox"/> NOK
sensor / toothed wheel play 0,7 (+/- 0,2): 0,8 mm	<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	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number 52347008431	<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>check reference for the event of failure / absence of the motorised screwdriver</small> D2562188	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>check reference for the event of failure / absence of the motorised screwdriver</small> D2562188	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>check reference for the event of failure / absence of the motorised screwdriver</small> D25611089	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>check reference for the event of failure / absence of the motorised screwdriver</small> D2562188	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>check reference for the event of failure / absence of the motorised screwdriver</small> D2562188	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>check reference for the event of failure / absence of the motorised screwdriver</small> D2562188	QC 1 X 22 Nm	<input type="checkbox"/>	OK	<input type="checkbox"/> NOK
Grease protection transport									
<input checked="" type="checkbox"/> S3	18g (0/+4.5) CC	Mesured quantity:	18g				<input checked="" type="checkbox"/>	OK	<input type="checkbox"/> NOK
<input checked="" type="checkbox"/> S4	18g (0/+4.5) CC	Mesured quantity:	18g				<input checked="" type="checkbox"/>	OK	<input type="checkbox"/> NOK
Final inspection following the check-list DTR0000452909 and DTR0000452910 (In the case of 100% inspection of the production)							<input checked="" type="checkbox"/>	OK	<input type="checkbox"/> NOK
						Final Inspection	Comments		
						Quality Insp Name and Signature:			
						Dima	[Signature]		
OBSERVATIONS									
FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA						TROS 916.216	2	Page 2	

GIBELA RAIL TRANSPORT CONSORTIUM AF (PTY) LTD
Traction Motors Quality
 2024 -04- 09
 Name : Dima
 Signature : [Signature]