



ALSTOM UBUNYE

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

CUSTOMER **Gibela**

CONTRACT

PROJECT **PRASA**

MANUFACTURER'S DELIVERY DOCUMENT

PRODUCT TYPE **MOTOR BOGIE type MB1**

DTR0009706804

SERIAL NUMBER **MB1 - 1343**

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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	24 February 2024
NAME	Kwababana Hlumisa
VISA	

I - Deviation / Derogation

II - Bogie configuration

B Bogie index



ALSTOM UBUNYE PRODUCTS TRACEABILITY

Products Designation	Product Reference	Serial Number	Batch or Date Manufactured	Supplier
Motor Bogie MB1	DTR0009706804	M1343		Alstom - Ubunye
Motor Bogie Frame	AR000000176080	M1635		Alstom - Ubunye
Wheelset (Front)	AR0000000177020	M3035		Alstom - Ubunye
Axle with fitted gearbox	AR000000177072	K3062		NGC
Wheel (Right)	AR000000174670	008	07-23	Bonatrans
Wheel (Left)	AR0000000174670	012	07-23	Bonatrans
Wheelset (Rear)	AR000000178600	M3036		Alstom - Ubunye
Axle with fitted gearbox	AR000000177072	K3158		NGC
Wheel (Right)	AR000000174670	019	07-23	Bonatrans
Wheel (Left)	AR000000174670	122	11-22	Bonatrans
Pneumatic suspension (Right)	AR000000176127	2311040		Hutchinson
Pneumatic suspension (Left)	AR000000176127	2401066		Hutchinson
Brake unit with PB (Right rear)	AR000000174544	1583	01-24	Wabtec
Brake unit without PB (Right front)	AR000000175185	4775	01-24	Wabtec
Brake unit without PB (Left Front)	AR000000175185	4778	01-24	Wabtec
Brake unit without PB (left rear)	AR000000175185	4776	01-24	Wabtec
Motor (front)	AR000000168516	21404		Alstom Ornans
Motor (Rear)	AR000000168516	21460		Alstom Ornans

PRESSING REPORT

DATE
2/24/2024

DATE VALIDATION

PRASA

INSTRUCTION SHEET:

FAMILY:

LOAD TEST : MOTOR BOGIE

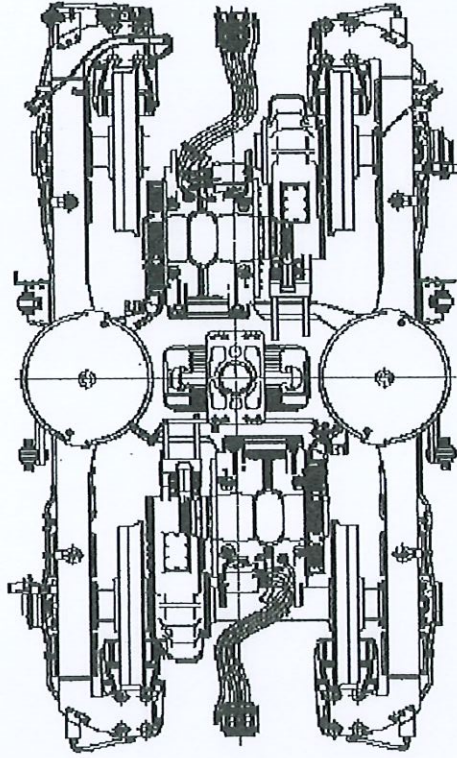
PROJECT:

	THEORETICAL		MEASURED
	MIN	MAX	
WHEEL DIAMETER [mm]			
GAP PRIMARY SUSPENSION [mm]	33.00	39.00	38.08 ✓
SHIM THICK [mm]			
WEIGHT ON WHEEL [Kg]		Q2	5562

SECONDARY SUSPENSION			
MEASURED [mm]	SHIM THICK [mm]	DIM. WITH SHIM [mm]	THEORETICAL [mm]
586.65	+	0.00	
			MIN 585.00
			MAX 587.50

RIGHT JACK LOAD	
7376	Kg

BOGIE SERIAL N°	MB1-1343
BOGIE TYPE	MB
BOGIE WEIGHT UNDER LOAD [Kg]	22361
COMPLETE BOGIE WEIGHT [Kg]	7276
OPERATOR	BAFANA
DATE	2/24/2024
OPERATOR STAMP	DC-3FI-6



THEORETICAL		MEASURED
MIN	MAX	
LOAD DIFFERENCE ON FRONT AXLE [%]	0.00	0.25 ✓
LOAD DIFFERENCE ON REAR AXLE [%]	0.00	0.29 ✓
LOAD DIFFERENCE FRONT AXLE AND REAR AXLE [%]	0.00	-0.25 ✓
LOAD DIFFERENCE ON RAILS [%]	0.00	0.27 ✓
LOAD DIFFERENCE ON DIAGONAL WHEELS [%]	0.00	0.02 ✓

LEFT JACK LOAD	
7376	Kg

THEORETICAL		MEASURED
MIN	MAX	
WHEEL DIAMETER [mm]		
GAP PRIMARY SUSPENSION [mm]	33.00	37.30 ✓
SHIM THICK [mm]		
WEIGHT ON WHEEL [Kg]	Q1	5590

SECONDARY SUSPENSION			
MEASURED [mm]	SHIM THICK [mm]	DIM. WITH SHIM [mm]	THEORETICAL [mm]
586.71	+	0.00	
			MIN 585.00
			MAX 587.50

DIFFERENCE IN RIGHT AND LEFT SUSPENSION HEIGHTS [mm]		THEORETICAL [mm]
MIN	MAX	
-0.06		-1.00
		1.00

THEORETICAL		MEASURED
MIN	MAX	
WHEEL DIAMETER [mm]		
GAP PRIMARY SUSPENSION [mm]	33.00	37.41 ✓
SHIM THICK [mm]		
WEIGHT ON WHEEL [Kg]	Q3	5621

21404

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: 16/01/24

Name: XOLANT

Assembly after test

Date: 05/02/24

Name: XOLANT

ROTOR S/N MCR22-11-004		STATOR S/N GIB-1408	
<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 SN287-1369794			
<p>S2 Radial play after assembly (0,042 / 0,114): 0,07mm</p> <p><input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>		<p>S3 LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly</p> <p>Min:144g - Max:149g Measured quantity: Quality validation</p> <p>Fitter 1(Name and signature) Fitter 2(Name and signature) Quality Insp. Name and signature</p> <p><i>[Signature]</i> <i>[Signature]</i> Dima</p>	
<p>INSULATED CERAMIC BEARING OPPOSITE DRIVE END-side - Security operation Incorrect assembly can lead to engine failure with a safety risk in service SRIL TROS 965.289 FAG : 6214-M-P6-J20AB-H257A-C4 or 6214-M-P6-J20AA-H257-C4 SKF-6214-M/C4-VL-0241 (cross out the references that have not been fitted)</p>			
Serial N°: Germany 0200 1116-0722 04/23 SN0081			
<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>Fitter 1(Name and signature) Fitter 2(Name and signature) Quality Insp. Name and signature</p> <p><i>[Signature]</i> <i>[Signature]</i> Dima</p>	
Référence appareil AT2P14			
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)		566 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	AT2P14	<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	AT2P14	<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	GIBELCO	<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 50316015357	<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) NCC5087	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) NCC5087	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) NCC5087	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) NCC5087	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) NCC5087	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) NCC5087	QC 1 X 22 Nm <input type="checkbox"/> OK <input type="checkbox"/> NOK
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Grease protection transport

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

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

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

Final inspection

Quality Insp Name and Signature:

Dima

Comments

OBSERVATIONS

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

TROS 916.216

2

Page

2

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

2024 -02- 06

Name :

Signature :

21460

ALSTOM

GIBELQ

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: 29/01/04

Name: XOLANT

Assembly after test

Date: 09/02/04

Name: XOLANT & THOMAS

ROTOR S/N	STATOR S/N		
MCR02-11-105	GIB-1467		
<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 EGM/C4-VA3091</p> <p>(cross out the references that have not been fitted)</p>			
<p>N°: ROMANIA: -0097 09/23 SN321 - B69794</p>			
<p>S2 Radial play after assembly (0,042 / 0,114): 0,06mm</p> <p><input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>		<p>S4 LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly</p> <p>Min: 144g - Max: 149g</p> <p>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: <i>[Signature]</i></p>	
<p>S1 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>			
<p>Serial N°: GERMANY: -0200 X 272-1231 09/23 SN0028</p>			
<p>S1 Radial play after assembly (0,021 / 0,067): 0,05mm</p> <p><input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>		<p>S3 LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly</p> <p>Min: 159g - Max: 164g</p> <p>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: <i>[Signature]</i></p>	
<p>Reference apparell: AJZP14</p>			
FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA		TROS 916.216 2 Page 1	

ALSTOM

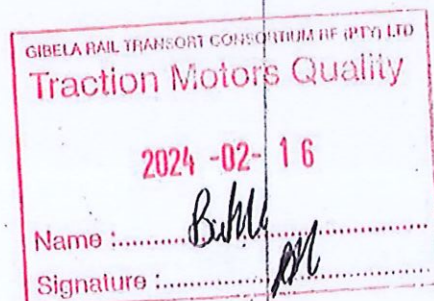
GIBELQ

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)		7,62232	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK
OPERATOR		Quality verification	
Out of round at the end of the shaft drive end 0,09mm max:	<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): 0,7mm	<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: <u>803100035</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 material screwdriver) <u>NCC087</u> wrench reference (in the event of failure / absence of the material screwdriver) <u>NCC087</u> wrench reference (in the event of failure / absence of the material screwdriver) <u>NCC081</u> wrench reference (in the event of failure / absence of the material screwdriver) <u>NCC088</u> wrench reference (in the event of failure / absence of the material screwdriver) <u>NCC088</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		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		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		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		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	QC 1 X 22 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK			
Grease protection transport							
<input checked="" type="checkbox"/> S3	18g (0/+4.5) CC	Mesured quantity: <u>18g</u>		<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK			
<input checked="" type="checkbox"/> S4	18g (0/+4.5) CC	Mesured quantity: <u>18g</u>		<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK			
Final inspection following the check-list DTR0000452909 and DTR0000452910 (in the case of 100% inspection of the production)						<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	
				Final Inspection		Comments	
				Quality Insp Name and Signature: <u>Bulu</u>			
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 ° 21460

Client / Customer: ALSTOM UBUNYE (PTY) LTD

Project: PRASA

P O Number: 76618082

Status: QC PASS

Derogations / Concession / Waiver N °: N/A

Customer modification: N/A

Missing parts: N/A

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

Date: 2024/02/17

Function: Final Inspection

Performed and signed off by: Name _____ Dimakatso Mohoalali

Signature _____



Gibela Rail
02 Shosholozwa Avenue
M07 Traction Motor
1590

GIBELA RAIL

Compiled by M Kola

Date: 22/2/2022

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CERTIFICATION OF CONFORMITY

Inspection certificate according EN 10204-3.1

Product: Traction Motors 6 ECA 3022 B

Serial Number: N ° 21404

Client / Customer: ALSTOM UBUNYE (PTY) LTD

Project: PRASA

P O Number: 76506093

Status: QC PASS

Derogations / Concession / Waiver N °: N/A

Customer modification: N/A


Missing parts: N/A

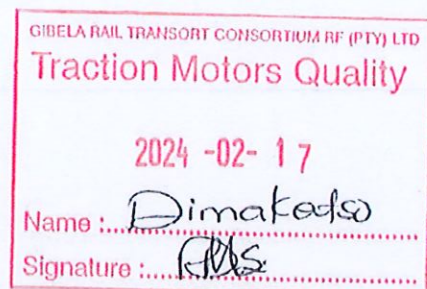
We hereby declare, barring exceptions, reservations or exemptions listed in this statement of conformity, that the listed supplies comply with the contract requirements and that, after completion of testing and verification, they completely satisfy all specified requirements, and applicable standards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

Date: 2024/02/17

Function: Final Inspection

Perfomed and signed off by: Name_____ Dimakatso Mohoalali

Signature_____ 



Gibela Rail
02 Shosholozza 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

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 1344**

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
VISA

26 February 2024
Kwababana Hlumisa

PP J. R. R. R.

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	1344		Alstom - Ubunye
Motor Bogie Frame	AR00000176080	1659		Alstom - Ubunye
Wheelset (Front)	AR000000177020	M03043		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	K2904		NGC
Wheel (Right)	AR00000174670	118	07-23	Bonatrans
Wheel (Left)	AR000000174670	128	11-22	Bonatrans
Wheelset (Rear)	AR00000178600	M3046		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	K2919		NGC
Wheel (Right)	AR00000174670	153	04-23	Bonatrans
Wheel (Left)	AR00000174670	154	04-23	Bonatrans
Pneumatic suspension (Right)	AR00000176127	2401119		Hutchinson
Pneumatic suspension (Left)	AR00000176127	2312024		Hutchinson
Brake unit with PB (Right rear)	AR00000174544	1606	02-24	WEBTEC
Brake unit without PB (Right front)	AR00000175185	4831	02-24	WEBTEC
Brake unit without PB (Left Front)	AR00000175185	4852	02-24	WEBTEC
Brake unit without PB (left rear)	AR00000175185	4848	02-24	WEBTEC
Motor (front)	AR00000168516	21413		GIBELA
Motor (Rear)	AR00000168516	21153		GIBELA

DATE VALIDATION

RESPONSABLE VALIDATION

PRASA

INSTRUCTION SHEET:

FAMILY:

LOAD TEST : MOTOR BOGIE

PROJECT:

	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX	
GAP PRIMARY SUSPENSION [mm]	MIN 33.00 MAX 39.00	38.90 ✓
SHIM THICK [mm]		
WEIGHT ON WHEEL [Kg]	Q2	5498

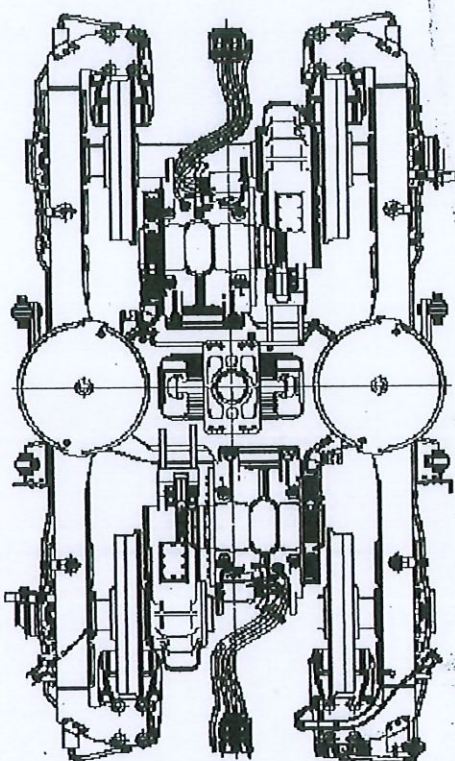
SECONDARY SUSPENSION			
MEASURED [mm]	SHIM THICK [mm]	DIM. WITH SHIM [mm]	THEORETICAL [mm]
585.84	+	1.00	= 586.84
			MIN 585.00 MAX 587.50

RIGHT JACK LOAD	
7376	Kg

	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX	
GAP PRIMARY SUSPENSION [mm]	MIN 33.00 MAX 39.00	38.97 ✓
SHIM THICK [mm]		
WEIGHT ON WHEEL [Kg]	Q4	5571

BOGIE SERIAL N°	MB1-1344
BOGIE TYPE	MB
BOGIE WEIGHT UNDER LOAD [Kg]	22343
COMPLETE BOGIE WEIGHT [Kg]	7268
OPERATOR	DATE
BAFANA	2/26/2024

OPERATOR STAMP	
DC-3F1-6	



LEFT JACK LOAD	
7377	Kg

	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX	
GAP PRIMARY SUSPENSION [mm]	MIN 33.00 MAX 39.00	38.50 ✓
SHIM THICK [mm]		
WEIGHT ON WHEEL [Kg]	Q1	5646

SECONDARY SUSPENSION			
MEASURED [mm]	SHIM THICK [mm]	DIM. WITH SHIM [mm]	THEORETICAL [mm]
586.62	+	0.00	= 586.62
			MIN 585.00 MAX 587.50
DIFFERENCE IN RIGHT AND LEFT SUSPENSION HEIGHTS [mm]			0.22
			MIN -1.00 MAX 1.00

	THEORETICAL	MEASURED
LOAD DIFFERENCE ON FRONT AXLE [%]	MIN 0.00 MAX 0.00	1.33 ✓
LOAD DIFFERENCE ON REAR AXLE [%]	MIN 0.00 MAX 0.00	0.50 ✓
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	0.91 ✓
LOAD DIFFERENCE ON DIAGONAL WHEELS [%]	MIN 0.00 MAX 0.00	-0.41 ✓

	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX	
GAP PRIMARY SUSPENSION [mm]	MIN 33.00 MAX 39.00	38.09 ✓
SHIM THICK [mm]		
WEIGHT ON WHEEL [Kg]	Q3	5627



CERTIFICATION OF CONFORMITY

Inspection certificate according EN 10204-3.1

Product: Traction Motors 6 ECA 3022 B

Serial Number: N ° 21413

Client / Customer: ALSTOM UBUNYE (PTY) LTD

Project: PRASA

P O Number: 76539184

Status: QC PASS

Derogations / Concession / Waiver N °: DR-GIB-048

Customer modification: N/A

Missing parts: N/A

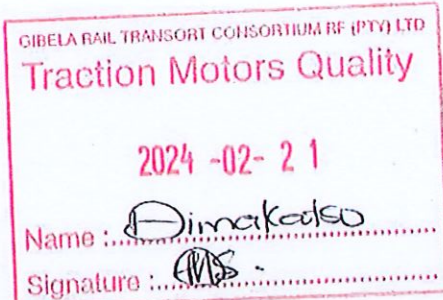
We hereby declare, barring exceptions, reservations or exemptions listed in this statement of conformity, that the listed supplies comply with the contract requirements and that, after completion of testing and verification, they completely satisfy all specified requirements, and applicable standards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

Date: 2024/02/21

Function: Final Inspection

Performed and signed off by: Name _____ Dimakatso Mohoalali

Signature _____



Gibela Rail
02 Shosholozza 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

214B

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: 17/01/2024
Name: Jacques

Assembly after test

Date: 20/02/24
Name: Geoffrey Kolari & Thomas

ROTOR S/N MCE22-4-121	STATOR S/N GIB-1424		
<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 VA3090 (cross out the references that have not been fitted)</p>			
N°: ROMANIA: 0097 09/23 82296-1369794			
<p>S2 Radial play after assembly (0,042 / 0,114):</p> <p>0,08mm <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>	<p>S4 LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly</p> <p>Min:144g - Max:149g Measured quantity: <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p> <p>Fitter 1 (Name and signature) <i>[Signature]</i> Fitter 2 (Name and signature) <i>[Signature]</i></p> <p>Quality validation: <i>Dima</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-VL0241 (cross out the references that have not been fitted)</p>			
Serial N°: GERMANY: 0200 X116-0904 04/23 820199			
<p>S1 Radial play after assembly (0,021 / 0,067):</p> <p>0,05mm <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: <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p> <p>Fitter 1 (Name and signature) <i>[Signature]</i> Fitter 2 (Name and signature) <i>[Signature]</i></p> <p>Quality verification: <i>Dima</i></p>		
<p>Référence appareil: A5EP14</p>			
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)		2,1792	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK
OPERATOR		Quality verification	
Out of round at the end of the shaft drive end 0,05 max: 0,01mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number: A5EP14	<input type="checkbox"/> OK <input type="checkbox"/> NOK
Out of round on toothed wheel 0,1 max: 0,05mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number: A5EP14	<input type="checkbox"/> OK <input type="checkbox"/> NOK
sensor / toothed wheel play 0,7 (+/- 0,2): 0,76mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number: GEFLE002	<input type="checkbox"/> OK <input type="checkbox"/> NOK

Sensor reference: DTR0000512252/DSD1830.19Q14HW

Device serial number
2216007658☒ 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	QC 1 X 61 Nm
F2	Torque tightening to 8 x 76 Nm:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	QC 1 X 61 Nm
F3	Torque tightening to 4 x 44 Nm: Fold locking plate	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	QC 1 X 37 Nm
F4	Torque tightening to 4 x 22 Nm:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	QC 1 X 18 Nm
F5	Torque tightening to 6 x 22 Nm:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	QC 1 X 18 Nm

Finishing

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

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

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

☒ OK ☐ NOK

Final inspection

Quality Insp Name and Signature:

Dima WS

Comments

OBSERVATIONS

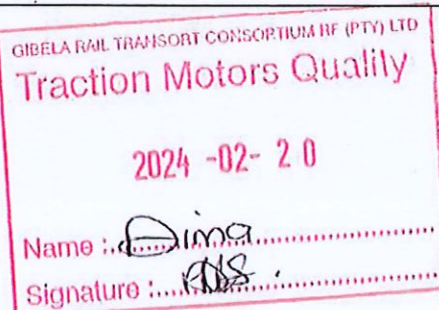
FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA

TROS 916.216

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Page

2





CERTIFICATION OF CONFORMITY

Inspection certificate according to EN 10204-3.1

Product: Traction Motors 6 ECA 3022 B

Serial Number: N ° 21153

Client / Customer: ALSTOM UBUNYE (PTY) LTD

Project: PRASA

P O Number: 75844909

Status: QC PASS

Derogations / Concession / Waiver N °: N/A

Customer modification: N/A

Missing parts: N/A

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

Date: 2024/02/17

Function: Final Inspection

Performed and signed off by: Name _____ Dimakatso Mohoalali

Signature _____



Gibela Rail
02 Shosholozwa Avenue
M07 Traction Motor
1590

GIBELA RAIL

Compiled by M Kola

Date: 22/2/2022

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

Référence: TROS 916.216

Révision: 2

Documents de référence: AT00000325953 - AT00000325990

Assembly before test

Date: 23/07/2023

Name: Jacek

Assembly after test

Date: 10/08/24

Name: Xolani, Godfrey & Thomas

ROTOR S/N MCR22-11-167		STATOR S/N GIB-1158			
<p>Bearing lubrication - Security operation Incorrect lubrication can lead to engine failure with a safety risk in service SRIL TROS 965.289</p>					
<p>INSULATED CERAMIC BEARING DRIVE END - Security operation Incorrect assembly can lead to engine failure with a safety risk in service SRIL TROS 965.289 FAG: NU 214-E-XL-M1-P6-F1-H257A-J20AB-C4 or NU 214-E-M1-P6-F1-H257A-J20AA-C4 SKE-NU 214-ECM/C4-VA3091 (cross out the references that have not been fitted)</p>					
N°: ROMANIA : 0097 03/23 SN30-6202949					
<p>S2 Radial play after assembly (0,042 / 0,114): 0,09mm <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>		<p>S4 LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly Min:144g - Max:149g Measured quantity: Filter 1 (Name and signature) Filter 2 (Name and signature) Quality Insp. Name and signature Buku</p>			
<p>S1 INSULATED CERAMIC BEARING OPPOSITE DRIVE END side - Security operation Incorrect assembly can lead to engine failure with a safety risk in service SRIL TROS 965.289 FAG: 6214-M-P6-J20AB-H257A-C4 or 6214-M-P6-J20AA-H257-C4 SKE-6214-M/C4-VL0241 (cross out the references that have not been fitted)</p>					
Serial N°: GERMANY : 0200 X019-0804 01/23 SN0068					
<p>S1 Radial play after assembly (0,021 / 0,067): 0,06mm <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK Reference appareil</p>		<p>S3 LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly Min:159g Max: 164g Measured quantity: Filter 1 (Name and signature) Filter 2 (Name and signature) Quality Insp. Name and signature Buku</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)		2,04 GΩ <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	
OPERATOR		Quality verification	
Out of round at the end of the shaft drive end 0,05 max:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number	<input type="checkbox"/> OK <input type="checkbox"/> NOK
Out of round on toothed wheel 0,1 max: 0,05mm	<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): 0,7mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number	<input type="checkbox"/> OK <input type="checkbox"/> NOK

Sensor reference: DTR0000512252/OSD1830.19Q14HW

☒ OK ☐ NOK Device serial number 92312003862☐ 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)	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
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Grease protection transport

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

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

☒ OK ☐ NOK

Final inspection

Quality Insp Name and Signature:

Buhle

Comments

OBSERVATIONS

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

TROS 916.216

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GIBELA RAIL TRANSPORT CONSORTIUM RF (PTY) LTD

Traction Motors Quality

2024-02-16

Name :

Signature :