



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

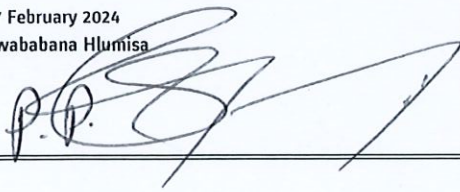
SERIAL NUMBER MB1 - 1345

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	27 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	M1345		Alstom - Ubunye
Motor Bogie Frame	AR00000176080	M1657		Alstom - Ubunye
Wheelset (Front)	AR000000177020	M3953		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	K2931		NGC
Wheel (Right)	AR00000174670	051	04-23	Bonatrans
Wheel (Left)	AR000000174670	021	04-23	Bonatrans
Wheelset (Rear)	AR00000178600	M3054		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	K2936		NGC
Wheel (Right)	AR00000174670	049	04-23	Bonatrans
Wheel (Left)	AR00000174670	048	04-23	Bonatrans
Pneumatic suspension (Right)	AR00000176127	2401086		Hutchinson
Pneumatic suspension (Left)	AR00000176127	2312115		Hutchinson
Brake unit with PB (Right rear)	AR00000174544	1605	02-24	Wabtec
Brake unit without PB (Right front)	AR00000175185	4850	02-24	Wabtec
Brake unit without PB (Left Front)	AR00000175185	4849	02-24	Wabtec
Brake unit without PB (left rear)	AR00000175185	4851	02-24	Wabtec
Motor (front)	AR00000168516	21443		Alstom Ornans
Motor (Rear)	AR00000168516	21376		Alstom Ornans

2/26/2024

DATE VALIDATION

RESPONSIBLE VALIDATION

PRESSING REPORT

PRASA

INSTRUCTION SHEET:

FAMILY:

LOAD TEST : MOTOR BOGIE

PROJECT:

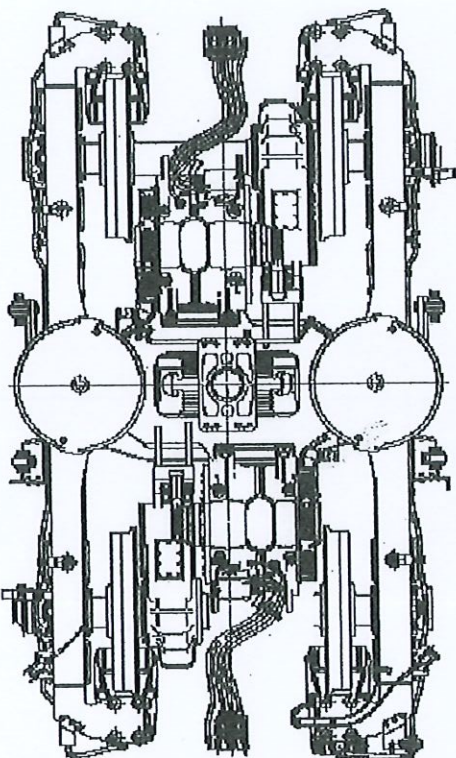
	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX	
GAP PRIMARY SUSPENSION [mm]	MIN MAX	37.75 39.00
SHIM THICK [mm]		
WEIGHT ON WHEEL [Kg]	Q2	5591

SECONDARY SUSPENSION			
MEASURED [mm]	SHIM THICK [mm]	DIM. WITH SHIM [mm]	THEORETICAL [mm]
587.41	+	0.00	= 587.41
			MIN 585.00 MAX 587.50

RIGHT JACK LOAD	
7376	Kg

	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX	
GAP PRIMARY SUSPENSION [mm]	MIN MAX	37.83 39.00
SHIM THICK [mm]		
WEIGHT ON WHEEL [Kg]	Q4	5557

BOGIE SERIAL N°	MB1-1345
BOGIE TYPE	MB
BOGIE WEIGHT UNDER LOAD [Kg]	22353
COMPLETE BOGIE WEIGHT [Kg]	7283
OPERATOR	DATE
EDWARD	2/26/2024



	THEORETICAL	MEASURED
LOAD DIFFERENCE ON FRONT AXLE [%]	MIN 0.00 MAX 0.00	-0.19 0
LOAD DIFFERENCE ON REAR AXLE [%]	MIN 0.00 MAX 0.00	0.71 0
LOAD DIFFERENCE FRONT AXLE AND REAR AXLE [%]	MIN 0.00 MAX 0.00	-0.14 0
LOAD DIFFERENCE ON RAILS [%]	MIN 0.00 MAX 0.00	0.26 0
LOAD DIFFERENCE ON DIAGONAL WHEELS [%]	MIN 0.00 MAX 0.00	0.45 0

OPERATOR STAMP

BF1-21

LEFT JACK LOAD	
7375	Kg

SECONDARY SUSPENSION			
MEASURED [mm]	SHIM THICK [mm]	DIM. WITH SHIM [mm]	THEORETICAL [mm]
587.28	+	0.00	= 587.28
			MIN 585.00 MAX 587.50

	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX	
GAP PRIMARY SUSPENSION [mm]	MIN MAX	37.87 39.00
SHIM THICK [mm]		
WEIGHT ON WHEEL [Kg]	Q1	5570

DIFFERENCE IN RIGHT AND LEFT SUSPENSION HEIGHTS [mm]	0.13	THEORETICAL [mm]
		MIN -1.00 MAX 1.00

	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX	
GAP PRIMARY SUSPENSION [mm]	MIN MAX	37.96 39.00
SHIM THICK [mm]		
WEIGHT ON WHEEL [Kg]	Q3	5636

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: 26/01/2024

Name: JACQUES

Assembly after test

Date: 05/02/24

Name: NOUANE

ROTOR S/N		STATOR S/N	
MCR22-11-043		CAB-1453	
Bearing lubrication - Security operation Incorrect lubrication can lead to engine failure with a safety risk in service SRIL TROS 965.289			
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)			
N°:			
S2 Radial play after assembly (0,042 / 0,114) : 0,08mm <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK		S4 LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly Min: 144g - Max: 149g Measured quantity: <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK Filter 1 (Name and signature) <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK Filter 2 (Name and signature) <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK Quality validation: <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK Quality Insp. Name and signature: <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	
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)			
Serial N°:			
S1 Radial play after assembly (0,021 / 0,067) : 0,06mm <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK Référence appareil: 158714		S3 LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly Min: 159g - Max: 164g Measured quantity: <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK Filter 1 (Name and signature) <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK Filter 2 (Name and signature) <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK Quality validation: <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK Quality Insp. Name and signature: <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	
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)				63M 52 <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				<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK Device serial number: 158714			
Out of round on toothed wheel 0,1 max: 0,06mm <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK				<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK Device serial number: 158714			
sensor / toothed wheel play 0,7 (+/- 0,2) : 0,75mm <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK				<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK Device serial number: 158714			

Sensor reference: DTR0000512252/DSD1830.19Q14HW

<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number 52316013349	<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 motorised screwdriver)	QC 1 X 61 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK
F2	Torque tightening to 8 x 76 Nm:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	wrench reference (in the event of failure / absence of the motorised screwdriver)	QC 1 X 61 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK
F3	Torque tightening to 4 x 44 Nm: Fold locking plate	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	wrench reference (in the event of failure / absence of the motorised screwdriver)	QC 1 X 37 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK
F4	Torque tightening to 4 x 22 Nm:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	wrench reference (in the event of failure / absence of the motorised screwdriver)	QC 1 X 18 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK
F5	Torque tightening to 6 x 22 Nm:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	wrench reference (in the event of failure / absence of the motorised screwdriver)	QC 1 X 18 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK

Finishing

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

Grease protection transport

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

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

2024 -02- 06

Name : Dima
Signature : Dima

ALSTOM

MOT 21376

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: 08/12/2023

Name: Jacques

Assembly after test

Date: 11/01/24

Name: Geoffrey, Kolani, Jag & Thomas

ROTOR S/N MCR02-11-187	STATOR S/N GIB-1389		
<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 VA3001 (cross out the references that have not been fitted)</p>			
N°: ROMANIA: 0097 09/23 SN271-1369794			
<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 type="text"/></p> <p>Filter 1(Name and signature) <input type="text"/> Filter 2(Name and signature) <input type="text"/></p> <p>Quality validation: <input type="text"/></p>	
<p>INSULATED CERAMIC BEARING OPPOSITE DRIVE END side - Security operation Incorrect assembly can lead to engine failure with a safety risk in service SRIL TROS 965.289 FAG: 6214-M-P6-J20AB-H257A-C4 or 6214-M-P6-J20AA-H257-C4 SKE-6214-M/C4-VL-0241 (cross out the references that have not been fitted)</p>			
Serial N°: GERMANY: - 0200 X116-0713 09/23 SN0062			
<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:169g Measured quantity: <input type="text"/></p> <p>Filter 1(Name and signature) <input type="text"/> Filter 2(Name and signature) <input type="text"/></p> <p>Quality verification: <input type="text"/></p>	
<p>Reference appareil: <u>AS 814</u></p>			
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)		501 m.Ω	<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	AS 814	<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	AS 814	<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	GIB-1389	<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 5031-100-105	<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 motorised screwdriver)	QC 1 X 61 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK
F2	Torque tightening to 8 x 76 Nm:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	wrench reference (in the event of failure / absence of the motorised screwdriver)	QC 1 X 61 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK
F3	Torque tightening to 4 x 44 Nm: Fold locking plate	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	wrench reference (in the event of failure / absence of the motorised screwdriver)	QC 1 X 37 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK
F4	Torque tightening to 4 x 22 Nm:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	wrench reference (in the event of failure / absence of the motorised screwdriver)	QC 1 X 18 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK
F5	Torque tightening to 6 x 22 Nm:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	wrench reference (in the event of failure / absence of the motorised screwdriver)	QC 1 X 18 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK

Finishing

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

Grease protection transport

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

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 -01- 12

Name

Signature



CERTIFICATION OF CONFORMITY

Inspection certificate according EN 10204-3.1

Product: Traction Motors 6 ECA 3022 B

Serial Number: N ° 21443

Client / Customer: ALSTOM UBUNYE (PTY) LTD

Project: PRASA

P O Number: 76617622

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 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



CERTIFICATION OF CONFORMITY

Inspection certificate according EN 10204-3.1

Product: Traction Motors 6 ECA 3022 B

Serial Number: N ° 21376

Client / Customer: ALSTOM UBUNYE (PTY) LTD

Project: PRASA

P O Number: 76320106

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: 2024/01/24

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

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 MB2**

DTR0009706805

SERIAL NUMBER **MB2 578**

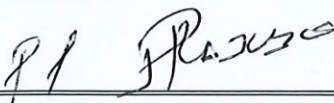
CONTENTS

- 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	26 February 2024
NAME	Kwababana Hlumisa
VISA	

I - Deviation / Derogation

II - Bogie configuration

B Bogie index


ALSTOM UBUNYE

PRODUCTS TRACEABILITY

Products Designation	Product Reference	Serial Number	Batch or Date Manufactured	Supplier
Motor Bogie MB2	DTR0009706805	578		Alstom - Ubunye
Motor Bogie Frame	AR00000176080	M1655		Alstom - Ubunye
Wheelset (Front)	AR000000177020	M03044		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	K2905		NGC
Wheel (Right)	AR00000174670	088	11-22	Bonatrans
Wheel (Left)	AR000000174670	090	11-22	Bonatrans
Wheelset (Rear)	AR00000178600	M03045		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	K2935		NGC
Wheel (Right)	AR00000174670	100	11-22	Bonatrans
Wheel (Left)	AR00000174670	089	11-22	Bonatrans
Pneumatic suspension (Right)	AR00000176127	2401110		Hutchinson
Pneumatic suspension (Left)	AR00000176127	2401094		Hutchinson
Brake unit with PB (Right rear)	AR00000174544	1602	02-24	WEBTEC
Brake unit without PB (Right front)	AR00000175185	4826	02-24	WEBTEC
Brake unit without PB (Left Front)	AR00000175185	4828	02-24	WEBTEC
Brake unit without PB (left rear)	AR00000175185	4828	02-24	WEBTEC
Motor (front)	AR00000168516	21471		GIBELA
Motor (Rear)	AR00000168516	21315		GIBELA

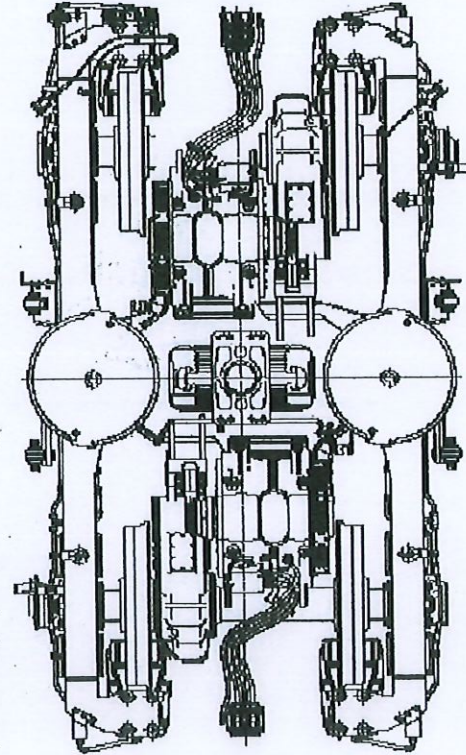
PRESSING REPORT

DATE 2/26/2024	DATE VALIDATION	RESPONSABLE VALIDATION	PRASA INSTRUCTION SHEET:	LOAD TEST : MOTOR BOGIE
			FAMILY:	PROJECT:

SECONDARY SUSPENSION		THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX		
GAP PRIMARY SUSPENSION [mm]	MIN MAX	33.00 39.00	38.59
SHIM THICK [mm]			
WEIGHT ON WHEEL [Kg]		Q4	5604

SECONDARY SUSPENSION			
MEASURED [mm]	SHIM THICK [mm]	DIM. WITH SHIM [mm]	THEORETICAL [mm]
583.90	+	2.00	585.90
			MIN MAX
			585.00 587.50

RIGHT JACK LOAD	7376	Kg
-----------------	------	----



BOGIE SERIAL N°	MB2-578
BOGIE TYPE	MB
BOGIE WEIGHT UNDER LOAD [Kg]	22358
COMPLETE BOGIE WEIGHT [Kg]	7282
OPERATOR	BAFANA
DATE	2/26/2024

OPERATOR STAMP	DC-BFI-6
----------------	----------

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

LEFT JACK LOAD	7376	Kg
----------------	------	----

SECONDARY SUSPENSION			
MEASURED [mm]	SHIM THICK [mm]	DIM. WITH SHIM [mm]	THEORETICAL [mm]
586.73	+	0.00	586.73
			MIN MAX
			585.00 587.50

DIFFERENCE IN RIGHT AND LEFT SUSPENSION HEIGHTS [mm]	THEORETICAL [mm]
-0.83	MIN MAX
	-1.00 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]	Q3	5603

THEORETICAL		MEASURED
WHEEL DIAMETER [mm]	MIN MAX	
GAP PRIMARY SUSPENSION [mm]	MIN MAX	33.00 39.00
SHIM THICK [mm]		
WEIGHT ON WHEEL [Kg]	Q1	5653



CERTIFICATION OF CONFORMITY

Inspection certificate according to EN 10204-3.1

Product: Traction Motors 6 ECA 3022 B

Serial Number: N ° 21315

Client / Customer: ALSTOM UBUNYE (PTY) LTD

Project: PRASA

P O Number: 76201807

Status: QC PASS

Derogations / Concession / Waiver N °: N/A

Customer modification: N/A

Missing parts: N/A

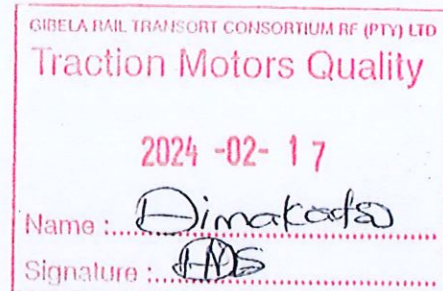
We hereby declare, barring exceptions, reservations or exemptions listed in this statement of conformity, that the listed supplies comply with the contract requirements and that, after completion of testing and verification, they completely satisfy all specified requirements, and applicable standards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

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

21315

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: 20/11/23

Name: XOUANI

Assembly after test

Date: 30/01/2024

Name: Jacques & Thomas

ROTOR S/N MCR02-1108	STATOR S/N GFB-1319		
<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>			
<p>N°: ROMANIA: 0097 11/22 SN 702 - 5747155</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 LUBRICATION WITH MOBILITH SHC 100 before cover assembly</p> <p>Min:144g - Max:149g</p> <p>Measured quantity: 148g</p> <p>Filter 1 (Name and signature): [Signature]</p> <p>Filter 2 (Name and signature): [Signature]</p> <p>Quality validation: Bukle</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-VL 0241 (cross out the references that have not been fitted)</p>			
<p>Serial N°: GERMANY: 0200 X019-0931 01/23 SN 0212</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 LUBRICATION WITH MOBILITH SHC 100 before cover assembly</p> <p>Min:159g - Max:164g</p> <p>Measured quantity: 161g</p> <p>Filter 1 (Name and signature): [Signature]</p> <p>Filter 2 (Name and signature): [Signature]</p> <p>Quality validation: Bukle</p>	
<p>Référence appareil: AMXG14</p>			
FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA		TROS 916.216	2
			Page 1

ALSTOM

GIBEL

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

Record the value of the insulation resistance of the bearings to TROS 915.069 (> 50 kΩ)

7,69GΩ



OK



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 <input type="checkbox"/>	Device serial number: <u>AMX6714</u>	<input type="checkbox"/>	OK <input type="checkbox"/>	NOK <input type="checkbox"/>
Out of round on toothed wheel 0,1 max:	<input checked="" type="checkbox"/>	OK <input type="checkbox"/>	NOK <input type="checkbox"/>	Device serial number: <u>AMX6714</u>	<input type="checkbox"/>	OK <input type="checkbox"/>	NOK <input type="checkbox"/>
sensor / toothed wheel play 0,7 (+/- 0,2):	<input checked="" type="checkbox"/>	OK <input type="checkbox"/>	NOK <input type="checkbox"/>	Device serial number: <u>01351001</u>	<input type="checkbox"/>	OK <input type="checkbox"/>	NOK <input type="checkbox"/>
Sensor reference: DTR0000512252/DSD1830.19Q14HW	<input checked="" type="checkbox"/>	OK <input type="checkbox"/>	NOK <input type="checkbox"/>	Device serial number: <u>800-34013606</u>	<input type="checkbox"/>	OK <input type="checkbox"/>	NOK <input type="checkbox"/>

Prep. & Final Assembly

OPERATOR				Quality verification				
F1 Torque tightening to 8 x 76 Nm:	<input checked="" type="checkbox"/>	OK <input type="checkbox"/>	NOK <input type="checkbox"/>	wrench reference (in the event of failure / absence of the motorized screwdriver): <u>NCC5587</u>	QC 1 X 61 Nm	<input type="checkbox"/>	OK <input type="checkbox"/>	NOK <input type="checkbox"/>
F2 Torque tightening to 8 x 76 Nm:	<input checked="" type="checkbox"/>	OK <input type="checkbox"/>	NOK <input type="checkbox"/>	wrench reference (in the event of failure / absence of the motorized screwdriver): <u>NCC5587</u>	QC 1 X 61 Nm	<input type="checkbox"/>	OK <input type="checkbox"/>	NOK <input type="checkbox"/>
F3 Torque tightening to 4 x 44 Nm: Fold locking plate:	<input checked="" type="checkbox"/>	OK <input type="checkbox"/>	NOK <input type="checkbox"/>	wrench reference (in the event of failure / absence of the motorized screwdriver): <u>NCC5587</u>	QC 1 X 37 Nm	<input type="checkbox"/>	OK <input type="checkbox"/>	NOK <input type="checkbox"/>
F4 Torque tightening to 4 x 22 Nm:	<input checked="" type="checkbox"/>	OK <input type="checkbox"/>	NOK <input type="checkbox"/>	wrench reference (in the event of failure / absence of the motorized screwdriver): <u>NCC5587</u>	QC 1 X 18 Nm	<input type="checkbox"/>	OK <input type="checkbox"/>	NOK <input type="checkbox"/>
F5 Torque tightening to 6 x 22 Nm:	<input checked="" type="checkbox"/>	OK <input type="checkbox"/>	NOK <input type="checkbox"/>	wrench reference (in the event of failure / absence of the motorized screwdriver): <u>NCC5587</u>	QC 1 X 18 Nm	<input type="checkbox"/>	OK <input type="checkbox"/>	NOK <input type="checkbox"/>

Finishing

F1 Torque tightening to 4 x 22 Nm:	<input checked="" type="checkbox"/>	OK <input type="checkbox"/>	NOK <input type="checkbox"/>	wrench reference (in the event of failure / absence of the motorized screwdriver): <u>NCC5587</u>	QC 1 X 22 Nm	<input type="checkbox"/>	OK <input type="checkbox"/>	NOK <input type="checkbox"/>
------------------------------------	-------------------------------------	-----------------------------	------------------------------	---	--------------	--------------------------	-----------------------------	------------------------------

Grease protection transport

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

☒ 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

2

Page

2

GIBELA RAIL TRANSPORT CONSORTIUM RP (PTY) LTD

Traction Motors Quality

2024 -02- 16

Name : Buhle

Signature : [Signature]



CERTIFICATION OF CONFORMITY

Inspection certificate according EN 10204-3.1

Product: Traction Motors 6 ECA 3022 B

Serial Number: N ° 21471

Client / Customer: ALSTOM UBUNYE (PTY) LTD

Project: PRASA

P O Number: 76659593

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

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

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

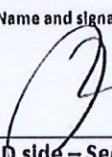

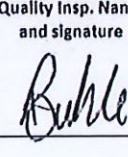
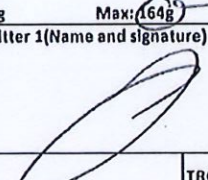
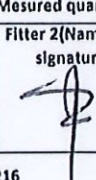
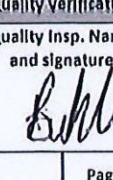
Date: 05/06/2024

Name: Jacques

Assembly after test

Date: 06/02/24

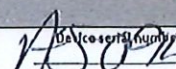
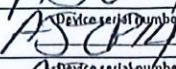
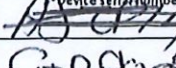
Name: Godfrey Xolani & Thomas

ROTOR S/N MCR22-11-095		STATOR S/N CIB-1480	
<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 SN299-1369714			
<p>S2 Radial play after assembly (0,042 / 0,114): 0,08mm <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>		<p>S3 LUBRICATION WITH MOBILITH SHC 100 before cover assembly Min: 144g - Max: 149g Measured quantity: <input type="text"/> Filter 1 (Name and signature):  Filter 2 (Name and signature):  Quality validation: </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 X116-0959 04/23 SN0263			
<p>S1 Radial play after assembly (0,021 / 0,067): 0,06mm <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>		<p>S3 LUBRICATION WITH MOBILITH SHC 100 before cover assembly Min: 159g - Max: 164g Measured quantity: <input type="text"/> Filter 1 (Name and signature):  Filter 2 (Name and signature):  Quality validation: </p>	
Référence appareil: AS-CP14			
FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA		TROS 916.216 2 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)		121 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		<input type="checkbox"/> OK <input type="checkbox"/> NOK
Out of round on toothed wheel 0,1 max: 0,06mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK		<input type="checkbox"/> OK <input type="checkbox"/> NOK
sensor / toothed wheel play 0,7 (+/- 0,2): 0,75mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK		<input type="checkbox"/> OK <input type="checkbox"/> NOK

CIBR0002

Sensor reference: DTR0000512252/DSD1830.19Q14HW		<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK Device serial number: <u>52314ccc814</u>		<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: <u>18g</u>			<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	
S4	18g (0/+4.5) CC Mesured quantity: <u>18g</u>			<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	
Final Inspection following the check-list DTR0000452909 and DTR0000452910 (in the case of 100% inspection of the production) <div style="float: right;"> <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK </div>					
			Final Inspection	Comments	
			Quality Insp Name and Signature:	<div style="font-family: cursive; font-size: 1.2em;">Buhle</div>	
OBSERVATIONS					
FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA				TROS 916.216	2
					Page 2

