

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 1441**

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- List of deviations and missing parts.....	Page 2/2	<input checked="" type="checkbox"/>
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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	23 May 2024
NAME	Kwababana Hlumisa
VISA	

I - Deviation / Derogation

II - Bogie configuration

B Bogie index



ALSTOM UBUNYE

PRODUCTS TRACEABILITY

Products Designation	Product Reference	Serial Number	Batch or Date Manufactured	Supplier
Motor Bogie MB1	DTR0009706804	1441		Alstom - Ubunye
Motor Bogie Frame	AR00000176080	M1789		Alstom - Ubunye
Wheelset (Front)	AR000000177020	M03301		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	K3414		NGC
Wheel (Right)	AR00000174670	026	07-23	Bonatrans
Wheel (Left)	AR000000174670	031	10-23	Bonatrans
Wheelset (Rear)	AR00000178600	M03302		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	K3104		NGC
Wheel (Right)	AR00000174670	028	07-23	Bonatrans
Wheel (Left)	AR00000174670	016	07-23	Bonatrans
Pneumatic suspension (Right)	AR00000176127	2401021		Hutchinson
Pneumatic suspension (Left)	AR00000176127	2402006		Hutchinson
Brake unit with PB (Right rear)	AR00000174544	1796	05-24	WEBTEC
Brake unit without PB (Right front)	AR00000175185	5409	05-24	WEBTEC
Brake unit without PB (Left Front)	AR00000175185	5408	05-24	WEBTEC
Brake unit without PB (left rear)	AR00000175185	5407	05-24	WEBTEC
Motor (front)	AR00000168516	21656		GIBELA
Motor (Rear)	AR00000168516	21642		GIBELA

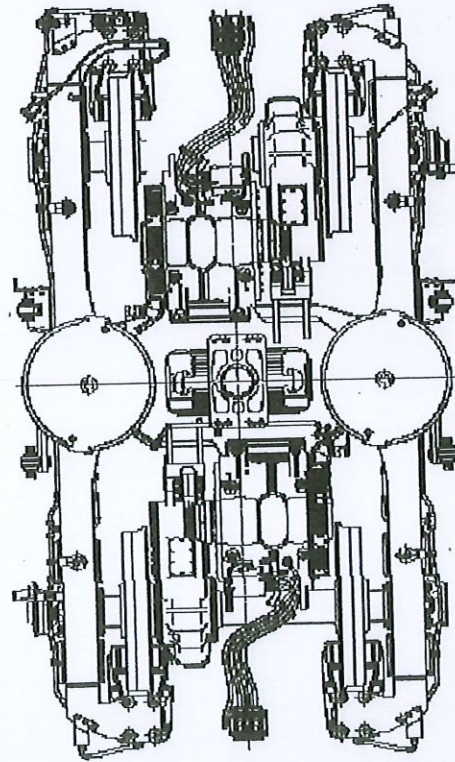
PRESSING REPORT

DATE 5/22/2024	RESPONSABLE VALIDATION
PRASA <i>PLA M. LEUNWE</i>	
INSTRUCTION SHEET:	
FAMILY:	
LOAD TEST : MOTOR BOGIE	
PROJECT:	

	THEORETICAL		MEASURED
	MIN	MAX	
WHEEL DIAMETER [mm]			
GAP PRIMARY SUSPENSION [mm]	MIN 33.00 MAX 39.00		38.40 ✓
SHIM THICK [mm]			
WEIGHT ON WHEEL [Kg]		Q4	5533

SECONDARY SUSPENSION			
MEASURED [mm]	SHIM THICK [mm]	DIM. WITH SHIM [mm]	THEORETICAL [mm]
586.38	+	1.00	MIN 585.00 MAX 587.50

RIGHT JACK LOAD	7376 Kg
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BOGIE SERIAL N°	MB1-1441
BOGIE TYPE	MB
BOGIE WEIGHT UNDER LOAD [Kg]	22355
COMPLETE BOGIE WEIGHT [Kg]	7271
OPERATOR	EDWARD
DATE	5/22/2024

OPERATOR STAMP	BFI-21
----------------	--------

	THEORETICAL		MEASURED
	MIN	MAX	
LOAD DIFFERENCE ON FRONT AXLE [%]	0.00	0.00	0.16 ✓
LOAD DIFFERENCE ON REAR AXLE [%]	0.00	0.00	1.24 ✓
LOAD DIFFERENCE FRONT AXLE AND REAR AXLE [%]	0.00	0.00	-0.25 ✓
LOAD DIFFERENCE ON RAILS [%]	0.00	0.00	0.70 ✓
LOAD DIFFERENCE ON DIAGONAL WHEELS [%]	0.00	0.00	0.54 ✓

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

SECONDARY SUSPENSION			
MEASURED [mm]	SHIM THICK [mm]	DIM. WITH SHIM [mm]	THEORETICAL [mm]
587.45	+	0.00	MIN 585.00 MAX 587.50

DIFFERENCE IN RIGHT AND LEFT SUSPENSION HEIGHTS [mm]		THEORETICAL [mm]	
	-0.07	MIN	MAX
		-1.00	1.00

	THEORETICAL		MEASURED
	MIN	MAX	
WHEEL DIAMETER [mm]			
GAP PRIMARY SUSPENSION [mm]	MIN 33.00 MAX 39.00		37.67 ✓
SHIM THICK [mm]			
WEIGHT ON WHEEL [Kg]		Q3	5672

	THEORETICAL		MEASURED
	MIN	MAX	
WHEEL DIAMETER [mm]			
GAP PRIMARY SUSPENSION [mm]	MIN 33.00 MAX 39.00		38.48 ✓
SHIM THICK [mm]			
WEIGHT ON WHEEL [Kg]		Q1	5584



CERTIFICATION OF CONFORMITY

Inspection certificate according EN 10204-3.1

Product: Traction Motors 6 ECA 3022 B

Serial Number: N ° 21656

Client / Customer: ALSTOM UBUNYE (PTY) LTD

Project: PRASA

P O Number: 77147315

Status: QC PASS

Derogations / Concession / Waiver N °: N/A

Customer modification: N/A

Missing parts: N/A

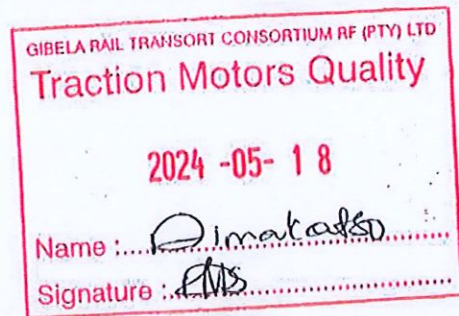
We hereby declare, barring exceptions, reservations or exemptions listed in this statement of conformity, that the listed supplies comply with the contract requirements and that, after completion of testing and verification, they completely satisfy all specified requirements, and applicable standards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

Date: 2024/05/18

Function: Final Inspection

Performed and signed off by: Name _____ Dimakatso Mohoalali

Signature _____



Gibela Rail
02 Shosholozwa Avenue
M07 Traction Motor
1590

GIBELA RAIL

Compiled by M Kola

Date: 22/2/2022

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

21656

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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: 19/04/24

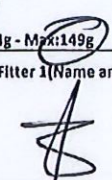
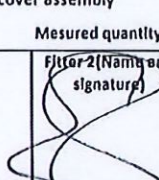
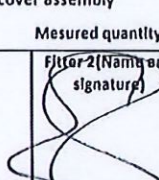
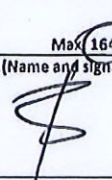
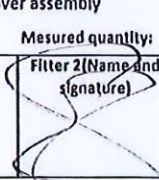
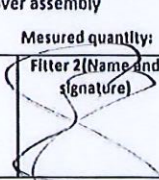
Name: Godfrey

Assembly after test

Date: 16/05/24

Name: XOLANT

THOMAS

ROTOR S/N Su900282-045 AGER		STATOR S/N GIB-1680	
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°: Romania 0097 09/03 SN93-1369-194			
S2 Radial play after assembly (0,042 / 0,114): 0,06mm <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK		S4 LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly Min:144g - Max:149g Filter 1 (Name and signature) 	
		Mesured quantity:  Filter 2 (Name and signature) 	
		Quality validation Quality Insp. Name and signature Dina MS	
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°: Germany 0200 X116-0108 04/03 SN0189			
S1 Radial play after assembly (0,021 / 0,067): 0,05mm <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK		S3 LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly Min:159g Max:164g Filter 1 (Name and signature) 	
		Mesured quantity:  Filter 2 (Name and signature) 	
		Quality verification Quality Insp. Name and signature Dina MS	
Référence appareil AJZPI4		TROS 916.216 2	
FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA		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)		7.35 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 0,01mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number AJZPI4	<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 AJZPI4	<input type="checkbox"/> OK <input type="checkbox"/> NOK		
sensor / toothed wheel play 0,7 (+/- 0,2): 0,8mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number GIBFL002	<input type="checkbox"/> OK <input type="checkbox"/> NOK		
Sensor reference: DTR0000512252/DSD1830.19Q14HW	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number 52321003394	<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	interch reference (in the event of failure / absence of the motor / 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	interch reference (in the event of failure / absence of the motor / 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	interch reference (in the event of failure / absence of the motor / 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	interch reference (in the event of failure / absence of the motor / 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	interch reference (in the event of failure / absence of the motor / 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	interch reference (in the event of failure / absence of the motor / 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	Comments			
							Quality Insp Name and Signature:				
							Dima MS				
OBSERVATIONS											

FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA	TRO5 916.216	2	Page
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CERTIFICATION OF CONFORMITY

Inspection certificate according EN 10204-3.1

Product: Traction Motors 6 ECA 3022 B

Serial Number: N ° 21642

Client / Customer: ALSTOM UBUNYE (PTY) LTD

Project: PRASA

P O Number: 77125892

Status: QC PASS

Derogations / Concession / Waiver N °: N/A

Customer modification: N/A

Missing parts: N/A

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

Date: 2024/05/12

Function: Final Inspection

Performed and signed off by: Name _____ Dimakatso Mohoalali

Signature _____



Gibela Rail
02 Shosholoza Avenue
M07 Traction Motor
1590

GIBELA RAIL

Compiled by M Kola

Date: 22/2/2022

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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: 16/04/2024
Name: Jacques

Assembly after test

Date: 12/05/24
Name: Godfrey Xolani Thomas

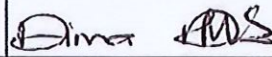
ROTOR S/N MCE03-11-057		STATOR S/N CIB-1666	
<p>Bearing lubrication - Security operation Incorrect lubrication can lead to engine failure with a safety risk in service SRIL TROS 965.289</p>			
<p>INSULATED CERAMIC BEARING DRIVE END - Security operation Incorrect assembly can lead to engine failure with 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 8N44-1369794			
<p>S2 Radial play after assembly (0,042 / 0,114): 0,08mm <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>		<p>S4 LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly Min: 144g - Max: 149g Filter 1 (Name and signature) <i>[Signature]</i> Filter 2 (Name and signature) <i>[Signature]</i> Measured quantity: <i>[Signature]</i> Quality validation: Dima <i>[Signature]</i></p>	
<p>S1 INSULATED CERAMIC BEARING OPPOSITE DRIVE END side - Security operation Incorrect assembly can lead to engine failure with a safety risk in service SRIL TROS 965.289 FAG: 6214-M-P6-J20AB-H257A-C4 or 6214-M-P6-J20AA-H257-C4- SKF: 6214-M/C4-VL-0241 (cross out the references that have not been fitted)</p>			
Serial N°: GERMANY: 0200 X116-0940 04/23 8N0224			
<p>S1 Radial play after assembly (0,021 / 0,067): 0,06mm <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK Reference apparatus: AMX 620</p>		<p>S3 LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly Min: 159g - Max: 164g Filter 1 (Name and signature) <i>[Signature]</i> Filter 2 (Name and signature) <i>[Signature]</i> Measured quantity: <i>[Signature]</i> Quality validation: Dima <i>[Signature]</i></p>	
FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA		TROS 916.216	Page 2
			Page 1

ALSTOM

GIBEL

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

Record the value of the Insulation resistance of the bearings to TROS 915.069 (> 50 kΩ)				2,42 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: 0,01mm	<input checked="" type="checkbox"/> OK	<input type="checkbox"/> NOK	AMX 620	<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	AMX 620	<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	GTBFL 602	<input type="checkbox"/> OK	<input type="checkbox"/> NOK	
Sensor reference: DTR000512252/DSD1830.19Q14HW	<input checked="" type="checkbox"/> OK	<input type="checkbox"/> NOK	30321003307	<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 motor (screws))		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 motor (screws))		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 motor (screws))		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 motor (screws))		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 motor (screws))		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 motor (screws))		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 Quality Insp Name and Signature: 		Comments 			
OBSERVATIONS									

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

CUSTOMER **Gibela**

CONTRACT

PROJECT **PRASA**

MANUFACTURER'S DELIVERY DOCUMENT

PRODUCT TYPE **MOTOR BOGIE MB2**

DTR0009706805

SERIAL NUMBER **MB2 609**

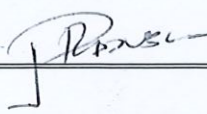
CONTENTS

- Compliance certificate.....	Page 1/2	<input checked="" type="checkbox"/>
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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	22 May 2024
NAME	Kwababana Hlumisa
VISA	

I - Deviation / Derogation

II - Bogie configuration

B Bogie index



ALSTOM UBUNYE

PRODUCTS TRACEABILITY

Products Designation	Product Reference	Serial Number	Batch or Date Manufactured	Supplier
Motor Bogie MB1	DTR0009706805	609		Alstom - Ubunye
Motor Bogie Frame	AR00000176080	M1773		Alstom - Ubunye
Wheelset (Front)	AR000000177020	M03297		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	K3153		NGC
Wheel (Right)	AR00000174670	083	10-23	Bonatrans
Wheel (Left)	AR000000174670	008	10-23	Bonatrans
Wheelset (Rear)	AR00000178600	M03298		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	K3135		NGC
Wheel (Right)	AR00000174670	157	07-23	Bonatrans
Wheel (Left)	AR00000174670	161	07-23	Bonatrans
Pneumatic suspension (Right)	AR00000176127	2312034		Hutchinson
Pneumatic suspension (Left)	AR00000176127	2312040		Hutchinson
Brake unit with PB (Right rear)	AR00000174544	1779	05-24	WEBTEC
Brake unit without PB (Right front)	AR00000175185	5368	05-24	WEBTEC
Brake unit without PB (Left Front)	AR00000175185	5370	05-24	WEBTEC
Brake unit without PB (left rear)	AR00000175185	5369	05-24	WEBTEC
Motor (front)	AR00000168516	21725		GIBELA
Motor (Rear)	AR00000168516	21640		GIBELA

PRESSING REPORT

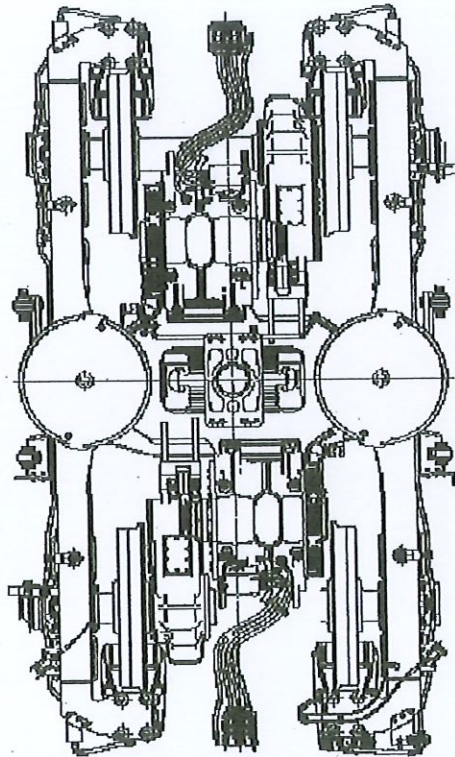
DATE 5/21/2024	RESPONSABLE VALIDATION	PRASA PLANT IN DELHI	LOAD TEST : MOTOR BOGIE
DATE VALIDATION		INSTRUCTION SHEET:	PROJECT:
		FAMILY:	

	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX	
GAP PRIMARY SUSPENSION [mm]	MIN 33.00 MAX 39.00	38.30 ✓
SHIM THICK [mm]		
WEIGHT ON WHEEL [Kg]	Q2	5561

SECONDARY SUSPENSION ✓			
MEASURED [mm]	SHIM THICK [mm]	DIM. WITH SHIM [mm]	THEORETICAL [mm]
585.78	+	1.00	= 586.78 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	38.40 ✓
SHIM THICK [mm]		
WEIGHT ON WHEEL [Kg]	Q4	5579



	THEORETICAL	MEASURED
LOAD DIFFERENCE ON FRONT AXLE [%]	MIN 0.00 MAX 0.00	0.20 ✓
LOAD DIFFERENCE ON REAR AXLE [%]	MIN 0.00 MAX 0.00	0.37 ✓
LOAD DIFFERENCE FRONT AXLE AND REAR AXLE [%]	MIN 0.00 MAX 0.00	-0.25 ✓
LOAD DIFFERENCE ON RAILS [%]	MIN 0.00 MAX 0.00	0.28 ✓
LOAD DIFFERENCE ON DIAGONAL WHEELS [%]	MIN 0.00 MAX 0.00	0.09 ✓

BOGIE SERIAL N°	MB2-609
BOGIE TYPE	MB
BOGIE WEIGHT UNDER LOAD [Kg]	22343
COMPLETE BOGIE WEIGHT [Kg]	7276
OPERATOR	DATE
BAFANA	5/21/2024
OPERATOR STAMP	
DC-371-6	

LEFT JACK LOAD
7377 Kg

	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX	
GAP PRIMARY SUSPENSION [mm]	MIN 33.00 MAX 39.00	38.20 ✓
SHIM THICK [mm]		
WEIGHT ON WHEEL [Kg]	Q1	5583

SECONDARY SUSPENSION ✓			
MEASURED [mm]	SHIM THICK [mm]	DIM. WITH SHIM [mm]	THEORETICAL [mm]
586.86	+	0.00	= 586.86 MIN 585.00 MAX 587.50

DIFFERENCE IN RIGHT AND LEFT SUSPENSION HEIGHTS [mm]	✓	THEORETICAL [mm]
-0.08		MIN -1.00 MAX 1.00

	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX	
GAP PRIMARY SUSPENSION [mm]	MIN 33.00 MAX 39.00	38.00 ✓
SHIM THICK [mm]		
WEIGHT ON WHEEL [Kg]	Q3	5620



CERTIFICATION OF CONFORMITY

Inspection certificate according EN 10204-3.1

Product: Traction Motors 6 ECA 3022 B

Serial Number: N ° 21725

Client / Customer: ALSTOM UBUNYE (PTY) LTD

Project: PRASA

P O Number: 77293077

Status: QC PASS

Derogations / Concession / Waiver N °: N/A

Customer modification: N/A

Missing parts: N/A

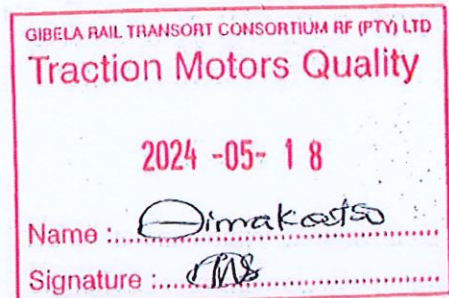
We hereby declare, barring exceptions, reservations or exemptions listed in this statement of conformity, that the listed supplies comply with the contract requirements and that, after completion of testing and verification, they completely satisfy all specified requirements, and applicable standards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

Date: 2024/05/17

Function: Final Inspection

Performed and signed off by: Name _____ Dimakatso Mohoalali

Signature _____



Gibela Rail
02 Shosholoza Avenue
M07 Traction Motor
1590

GIBELA RAIL

Compiled by M Kola

Date: 22/2/2022

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

21725

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:

Name:

13/05/24
GODFREY

Assembly after test

Date:

Name:

16/05/24
QUANT & THOMAS

ROTOR S/N S1900282-070		STATOR S/N GIB-1739	
<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 09/03 SN367-1369794			
<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>S4 LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly</p> <p>Min: 144g - Max: 149g</p> <p>Filter 1 (Name and signature): </p> <p>Filter 2 (Name and signature): </p> <p>Mesured quantity: </p> <p>Quality validation: </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-VL 0241 (cross out the references that have not been fitted)</p>			
Serial N°: Austria 095 W			
<p>S1 Radial play after assembly (0,021 / 0,067): 0,04mm</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: 169g</p> <p>Filter 1 (Name and signature): </p> <p>Filter 2 (Name and signature): </p> <p>Mesured quantity: </p> <p>Quality verification: </p>	
Référence appareil: A52P14			
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)		3.93 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: 0,00mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number A52P14	<input type="checkbox"/> OK <input type="checkbox"/> NOK	
Out of round on toothed wheel 0,1 max: 0,06mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number A52P14	<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 C113F1001	<input type="checkbox"/> OK <input type="checkbox"/> NOK	
Sensor reference: DTR0000512252/DS01830.19Q14HW	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number 6231700035	<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	interch reference for the event of failure / absence of the motorised screwdriver	QC 1 X 61 Nm	<input type="checkbox"/>	OK	<input type="checkbox"/>	NOK
<input checked="" type="checkbox"/> F2	Torque tightening to 8 x 76 Nm:	<input checked="" type="checkbox"/> OK	<input type="checkbox"/> NOK	interch reference for the event of failure / absence of the motorised screwdriver	QC 1 X 61 Nm	<input type="checkbox"/>	OK	<input type="checkbox"/>	NOK
<input checked="" type="checkbox"/> F3	Torque tightening to 4 x 44 Nm: Fold locking plate	<input checked="" type="checkbox"/> OK	<input type="checkbox"/> NOK	interch reference for the event of failure / absence of the motorised screwdriver	QC 1 X 37 Nm	<input type="checkbox"/>	OK	<input type="checkbox"/>	NOK
<input checked="" type="checkbox"/> F4	Torque tightening to 4 x 22 Nm:	<input checked="" type="checkbox"/> OK	<input type="checkbox"/> NOK	interch reference for the event of failure / absence of the motorised screwdriver	QC 1 X 18 Nm	<input type="checkbox"/>	OK	<input type="checkbox"/>	NOK
<input checked="" type="checkbox"/> F5	Torque tightening to 6 x 22 Nm:	<input checked="" type="checkbox"/> OK	<input type="checkbox"/> NOK	interch reference for the event of failure / absence of the motorised screwdriver	QC 1 X 18 Nm	<input type="checkbox"/>	OK	<input type="checkbox"/>	NOK
Finishing									
<input checked="" type="checkbox"/> F1	Torque tightening to 4 x 22 Nm:	<input checked="" type="checkbox"/> OK	<input type="checkbox"/> NOK	interch reference for 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									
<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				
OBSERVATIONS									

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

GIBELA RAIL TRANSPORT CONSORTIUM RF (PTY) LTD

Traction Motors Quality

2024 -05- 17

Name : Dima

Signature : [Signature]



CERTIFICATION OF CONFORMITY

Inspection certificate according EN 10204-3.1

Product: Traction Motors 6 ECA 3022 B

Serial Number: N ° 21640

Client / Customer: ALSTOM UBUNYE (PTY) LTD

Project: PRASA

P O Number: 77125896

Status: QC PASS

Derogations / Concession / Waiver N °: N/A

Customer modification: N/A

Missing parts: N/A

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

Date: 2024/05/12

Function: Final Inspection

Performed and signed off by: Name _____ Dimakatso Mohoalali

Signature _____



Gibela Rail
02 Shosholoza Avenue
M07 Traction Motor
1590

GIBELA RAIL

Compiled by M Kola

Date: 22/2/2022

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21640

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: 15/04/2024

Name: Saegmas

Assembly after test

Date: 12/05/2024

Name: XOLANI, GODFREY & THOMAS









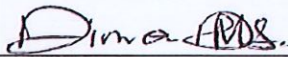
ROTOR S/N MCR03-11-108		STATOR S/N CTB-1667	
<p>Bearing lubrication - Security operation Incorrect lubrication can lead to engine failure with a safety risk in service SRIL TROS 965.289</p>			
<p>INSULATED CERAMIC BEARING DRIVE END - Security operation Incorrect assembly can lead to engine failure with 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 SN/77 -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>S3 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"/> Quality Insp. Name and signature: <input type="text"/></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>			
Serial N°: GERMANY 0200 X116 -0750 04/23 SN0127			
<p>S1 Radial play after assembly (0,021 / 0,067):</p> <p>0,06mm <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p> <p>Reference approval: <input type="text"/></p>		<p>S3 LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly</p> <p>Min: 159g - Max: 164g 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"/> Quality Insp. Name and signature: <input type="text"/></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)		4,1952 <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	
OPERATOR		Quality verification	
Out of round at the end of the shaft drive end, 0,05 max Value: 0,01mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	AMX420	<input type="checkbox"/> OK <input type="checkbox"/> NOK
Out of round on toothed wheel 0,1 max: 0,03mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	AMX420	<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	AMX420	<input type="checkbox"/> OK <input type="checkbox"/> NOK
Sensor reference: DTR0000512252/DSD1830.19Q14HW	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	22321003537	<input type="checkbox"/> OK <input type="checkbox"/> NOK

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

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