

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 - 1418

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	07 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	1418		Alstom - Ubunye
Motor Bogie Frame	AR00000176080	1722		Alstom - Ubunye
Wheelset (Front)	AR000000177020	3241		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	3304		NGC
Wheel (Right)	AR00000174670	081	11.23	Bonatrans
Wheel (Left)	AR000000174670	018	11.23	Bonatrans
Wheelset (Rear)	AR00000178600	3242		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	3253		NGC
Wheel (Right)	AR00000174670	030	11.23	Bonatrans
Wheel (Left)	AR00000174670	043	11.23	Bonatrans
Pneumatic suspension (Right)	AR00000176127	2311093		Hutchinson
Pneumatic suspension (Left)	AR00000176127	2312045		Hutchinson
Brake unit with PB (Right rear)	AR00000174544	1750	04.24	WEBTEC
Brake unit without PB (Right front)	AR00000175185	5279	04.24	WEBTEC
Brake unit without PB (Left Front)	AR00000175185	5275	04.24	WEBTEC
Brake unit without PB (left rear)	AR00000175185	21475	04.24	WEBTEC
Motor (front)	AR00000168516	21475		GIBELA
Motor (Rear)	AR00000168516	21501		GIBELA

PRESSING REPORT

DATE
5/6/2024

RESPONSABLE VALIDATION

PRASA

LOAD TEST : MOTOR BOGIE

INSTRUCTION SHEET:

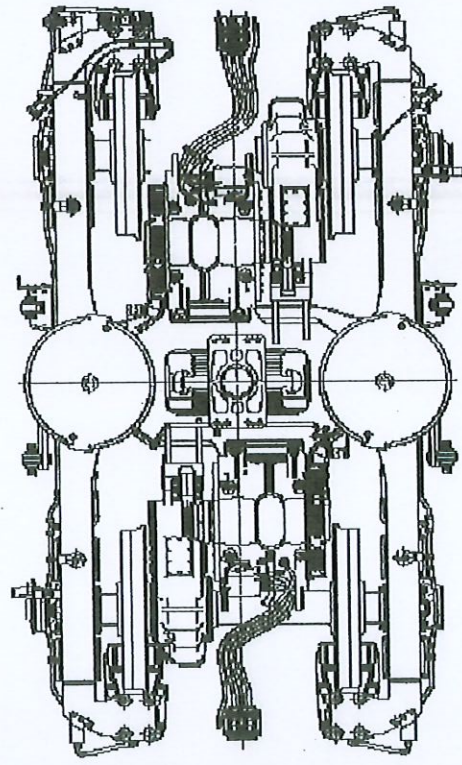
FAMILY:

		THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN		
	MAX		
GAP PRIMARY SUSPENSION [mm]	MIN	33.00	37.75
	MAX	39.00	
SHIM THICK [mm]			
WEIGHT ON WHEEL [Kg]		Q4	5594

SECONDARY SUSPENSION			
MEASURED [mm]	SHIM THICK [mm]	DIM. WITH SHIM [mm]	THEORETICAL [mm]
587.22	+	0.00	=
		587.22	MIN 585.00
			MAX 587.50

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

BOGIE SERIAL N°	MB1-1418
BOGIE TYPE	MB
BOGIE WEIGHT UNDER LOAD [Kg]	22387
COMPLETE BOGIE WEIGHT [Kg]	7283
OPERATOR	EDWARD
DATE	5/6/2024



OPERATOR STAMP	BFI-21
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LEFT JACK LOAD	7376	Kg
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		THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN		
	MAX		
GAP PRIMARY SUSPENSION [mm]	MIN	33.00	38.48
	MAX	39.00	
SHIM THICK [mm]			
WEIGHT ON WHEEL [Kg]		Q1	5579

SECONDARY SUSPENSION			
MEASURED [mm]	SHIM THICK [mm]	DIM. WITH SHIM [mm]	THEORETICAL [mm]
587.38	+	0.00	=
		587.38	MIN 585.00
			MAX 587.50

DIFFERENCE IN RIGHT AND LEFT SUSPENSION HEIGHTS [mm]	-0.16
	THEORETICAL [mm]
	MIN -1.00
	MAX 1.00

		THEORETICAL	MEASURED
LOAD DIFFERENCE ON FRONT AXLE [%]	MIN	0.00	-0.04
	MAX	0.00	
LOAD DIFFERENCE ON REAR AXLE [%]	MIN	0.00	0.33
	MAX	0.00	
LOAD DIFFERENCE ON FRONT AXLE AND REAR AXLE [%]	MIN	0.00	-0.28
	MAX	0.00	
LOAD DIFFERENCE ON RAILS [%]	MIN	0.00	0.15
	MAX	0.00	
LOAD DIFFERENCE ON DIAGONAL WHEELS [%]	MIN	0.00	0.18
	MAX	0.00	

		THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN		
	MAX		
GAP PRIMARY SUSPENSION [mm]	MIN	33.00	37.40
	MAX	39.00	
SHIM THICK [mm]			
WEIGHT ON WHEEL [Kg]		Q3	5631

ALSTOM

GIBELTA

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: 06/02/04
Name: XOUANT

Assembly after test

Date: 10/02/04
Name: XOUANT, THOUINS, JAQUES

21475

ROTOR S/N MCR22-4-066		STATOR S/N GIEF3-1486	
<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>			
<p>N°: ROMANIA: 0097 09/23 SN 84-1369794</p>			
<p>S2 Radial play after assembly (0,042 / 0,114): 0,07 mm</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): [Signature]</p> <p>Filter 2 (Name and signature): [Signature]</p> <p>Mesured quantity: [Signature]</p> <p>Quality validation: [Signature]</p>	
<p>INSULATED CERAMIC BEARING OPPOSITE DRIVE END side -- Security operation Incorrect assembly can lead to engine failure with a safety risk in service SRIL TROS 965 289 FAG: 6214-M-P6-J20AB-H257A-C4 or 6214-M-P6-J20AA-H257-C4 SKE-6214-M/C4-VL0241 (cross out the references that have not been fitted)</p>			
<p>Serial N°: GERMANY: 0200 X116-1016 09/23 SN 0302</p>			
<p>S1 Radial play after assembly (0,021 / 0,067): 0,06 mm</p> <p><input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>		<p>S3 LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly</p> <p>Min: 159g Max: 164g</p> <p>Filter 1 (Name and signature): [Signature]</p> <p>Filter 2 (Name and signature): [Signature]</p> <p>Mesured quantity: [Signature]</p> <p>Quality verification: [Signature]</p>	
<p>Référence appareil: ATEPI4</p>			
FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA		TROS 916 216	
		Page 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)		20,7 MΩ		<input checked="" type="checkbox"/> OK	<input type="checkbox"/> NOK
OPERATOR			Quality verification		
Out of round at the end of the shaft drive end 0,05 max:	<input checked="" type="checkbox"/> OK	<input type="checkbox"/> NOK	AJEP14	<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	AJEP14	<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	GIEF3-1486	<input type="checkbox"/> OK	<input type="checkbox"/> NOK

Sensor reference: DTR0000512252/DSD1830.19Q14HW OK NOK 39292005417 Device serial number OK 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	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	
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Grease protection transport

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

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

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

OBSERVATIONS

GIBÉLA RAIL TRANSPORT CONSORTIUM RF (PTY) LTD
Traction Motors Quality
 2024-04-10
 Name: Dima
 Signature: [Signature]

MOT 21501

ALSTOM

GIBELA

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

Référence: TROS 916.216

Révision: 2

Documents de référence: AT00000325953 - AT00000325990

Assembly before test

Date: 17/02/24
Name: Godfrey Xolani

Assembly after test

Date: 17/04/24
Name: XOLANI THOMAS

ROTOR S/N MCR22-11-202		STATOR S/N GTB-1508										
<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-EGM/C4-VA30Q1 (cross out the references that have not been fitted)</p>												
N°: ROMANIA: -0097 09/23 5456-1369794												
<p>S2 Radial play after assembly (0,042 / 0,114): 0,06mm</p> <p><input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>		<p>S4 LUBRICATION WITH MOBILITH SHC 100 before cover assembly</p> <p>Min: 144g - Max: 149g</p> <table border="1"> <tr> <td>Filter 1 (Name and signature)</td> <td>Filter 2 (Name and signature)</td> <td>Quality validation</td> </tr> <tr> <td></td> <td></td> <td>Quality Insp. Name and signature</td> </tr> <tr> <td></td> <td></td> <td></td> </tr> </table>		Filter 1 (Name and signature)	Filter 2 (Name and signature)	Quality validation			Quality Insp. Name and signature			
Filter 1 (Name and signature)	Filter 2 (Name and signature)	Quality validation										
		Quality Insp. Name and signature										
<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-024T (cross out the references that have not been fitted)</p>												
Serial N°: GERMANY: 0200 X 272 -1232 09/23 SNO032												
<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> <table border="1"> <tr> <td>Filter 1 (Name and signature)</td> <td>Filter 2 (Name and signature)</td> <td>Quality verification</td> </tr> <tr> <td></td> <td></td> <td>Quality Insp. Name and signature</td> </tr> <tr> <td></td> <td></td> <td></td> </tr> </table>		Filter 1 (Name and signature)	Filter 2 (Name and signature)	Quality verification			Quality Insp. Name and signature			
Filter 1 (Name and signature)	Filter 2 (Name and signature)	Quality verification										
		Quality Insp. Name and signature										
Référence appareil: AMXG14												
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FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA

Record the value of the insulation resistance of the bearings to TROS 915.069 (> 50 kΩ)	2.45 GΩ	<input checked="" type="checkbox"/> OK	<input type="checkbox"/> NOK
OPERATOR		Quality verification	

Out of round at the end of the shaft drive end, 0,05 max Value <u>0,01mm</u>	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number <u>AMXG14</u>	<input type="checkbox"/> OK <input type="checkbox"/> NOK
Out of round on toothed wheel 0,1 max: <u>0,05mm</u>	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number <u>AMXG14</u>	<input type="checkbox"/> OK <input type="checkbox"/> NOK
sensor / toothed wheel play 0,7 (+/- 0,2): <u>0,8mm</u>	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number <u>GIBFL001</u>	<input type="checkbox"/> OK <input type="checkbox"/> NOK
Sensor reference: DTR0000512252/DSD1830.19Q14HW	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number <u>S2317000361</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	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
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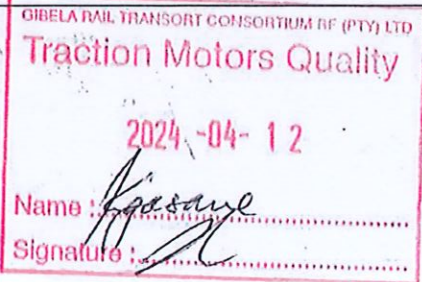
Grease protection transport

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

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

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

OBSERVATIONS



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

MANUFACTURER'S DELIVERY DOCUMENT	
PRODUCT TYPE	MOTOR BOGIE MB2
	DTR0009706804
SERIAL NUMBER	MB2 601

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	03 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 MB2	DTR0009706805	601		Alstom - Ubunye
Motor Bogie Frame	AR00000176080	M1752		Alstom - Ubunye
Wheelset (Front)	AR000000177020	M03233		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	K338		NGC
Wheel (Right)	AR00000174670	045	11-23	Bonatrans
Wheel (Left)	AR000000174670	050	11-23	Bonatrans
Wheelset (Rear)	AR00000178600	M03234		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	K3350		NGC
Wheel (Right)	AR00000174670	024	11-23	Bonatrans
Wheel (Left)	AR00000174670	014	11-23	Bonatrans
Pneumatic suspension (Right)	AR00000176127	2309200		Hutchinson
Pneumatic suspension (Left)	AR00000176127	2310007		Hutchinson
Brake unit with PB (Right rear)	AR00000174544	1741	04-24	WEBTEC
Brake unit without PB (Right front)	AR00000175185	S245	04-24	WEBTEC
Brake unit without PB (Left Front)	AR00000175185	S246	04-24	WEBTEC
Brake unit without PB (left rear)	AR00000175185	S243	04-24	WEBTEC
Motor (front)	AR00000168516	21490		GIBELA
Motor (Rear)	AR00000168516	21505		GIBELA

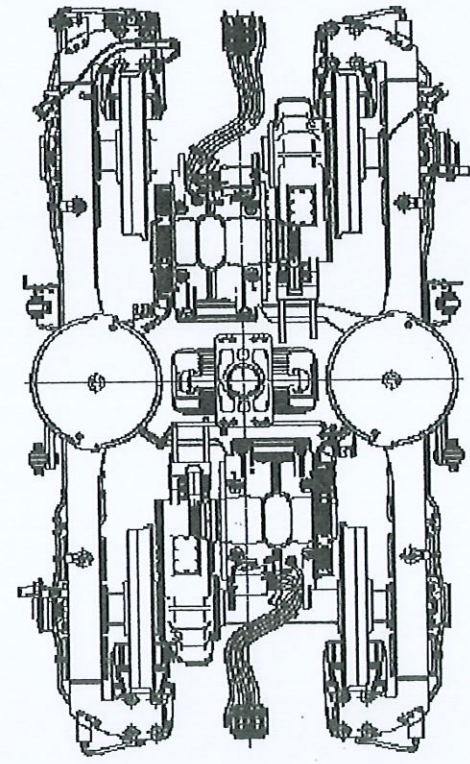
PRESSING REPORT

DATE 5/3/2024	RESPONSIBLE VALIDATION	PRASA	LOAD TEST : MOTOR BOGIE
DATE VALIDATION		INSTRUCTION SHEET:	PROJECT:
		FAMILY:	

	THEORETICAL		MEASURED
	MIN	MAX	
WHEEL DIAMETER [mm]			
GAP PRIMARY SUSPENSION [mm]	MIN 33.00	MAX 39.00	35.47 ✓
SHIM THICK [mm]			
WEIGHT ON WHEEL [Kg]		Q4	5573

SECONDARY SUSPENSION ✓			
MEASURED [mm]	SHIM THICK [mm]	DIM. WITH SHIM [mm]	THEORETICAL [mm]
585.44	+	0.00 =	585.44
			MIN 585.00
			MAX 587.50

RIGHT JACK LOAD	7375 Kg
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LEFT JACK LOAD	7376 Kg
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BOGIE SERIAL N°	MB2-601
BOGIE TYPE	MB
BOGIE WEIGHT UNDER LOAD [kg]	22363
COMPLETE BOGIE WEIGHT [kg]	7304
OPERATOR	EDWARD
DATE	5/3/2024

OPERATOR STAMP	BFI-21
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	THEORETICAL		MEASURED
	MIN	MAX	
LOAD DIFFERENCE ON FRONT AXLE [%]	0.00	0.00	-0.47 ✓
LOAD DIFFERENCE ON REAR AXLE [%]	0.00	0.00	0.56 ✓
LOAD DIFFERENCE FRONT AXLE AND REAR AXLE [%]	0.00	0.00	-0.15 ✓
LOAD DIFFERENCE ON RAILS [%]	0.00	0.00	0.04 ✓
LOAD DIFFERENCE ON DIAGONAL WHEELS [%]	0.00	0.00	0.52 ✓

SECONDARY SUSPENSION ✓			
MEASURED [mm]	SHIM THICK [mm]	DIM. WITH SHIM [mm]	THEORETICAL [mm]
585.43	+	0.00 =	585.43
			MIN 585.00
			MAX 587.50

DIFFERENCE IN RIGHT AND LEFT SUSPENSION HEIGHTS [mm]	0.01	THEORETICAL [mm]	MIN -1.00	MAX 1.00
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	THEORETICAL		MEASURED
	MIN	MAX	
WHEEL DIAMETER [mm]			
GAP PRIMARY SUSPENSION [mm]	MIN 33.00	MAX 39.00	35.10 ✓
SHIM THICK [mm]			
WEIGHT ON WHEEL [Kg]		Q1	5561

	THEORETICAL		MEASURED
	MIN	MAX	
WHEEL DIAMETER [mm]			
GAP PRIMARY SUSPENSION [mm]	MIN 33.00	MAX 39.00	34.76 ✓
SHIM THICK [mm]			
WEIGHT ON WHEEL [Kg]		Q3	5636




CERTIFICATION OF CONFORMITY

Inspection certificate according EN 10204-3.1

Product: Traction Motors 6 ECA 3022 B
Serial Number: N * 21490
Client / Customer: ALSTOM UBUNYE (PTY) LTD
Project: PRASA
P O Number: 76687739
Status: QC PASS
Derogations / Concession / Waiver N * : N/A
Customer modification: N/A
Missing parts: N/A

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

Date: 2024/04/17
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

21490

ALSTOM

GIBELG

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

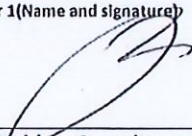
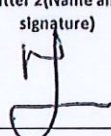
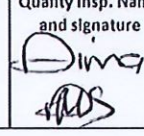
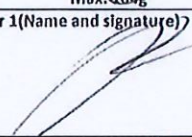
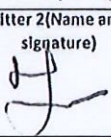
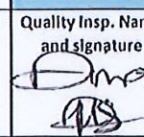
Référence: TROS 916.216

Révision: 2

Documents de référence: AT00000325953 - AT00000325990

Assembly before test
Date: 13/09/2024
Name: Jacques

Assembly after test
Date: 11/09/2024
Name: Jacques & Kolani & Thomas

ROTOR S/N MCB23-11-015		STATOR S/N GIB-1502	
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-VA3092 (cross out the references that have not been fitted)			
N°: ROMANIA:- 0097 09/23 8146-1369794			
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 Mesured quantity:	
		Fitter 1 (Name and signature) 	Fitter 2 (Name and signature) 
		Quality validation Quality Insp. Name and signature 	
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)			
Serial N°: GERMANY:- 0200 X 272-1281 09/23 8140029			
S1 Radial play after assembly (0,021 / 0,067): 0,06mm <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK		S3 LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly Min:159g Max:164g Mesured quantity:	
		Fitter 1 (Name and signature) 	Fitter 2 (Name and signature) 
		Quality validation Quality Insp. Name and signature 	
Référence appareil ASEPHY			
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)	2,67952	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK
OPERATOR	Quality verification	

Out of round at the end of the shaft drive end, 0,05 max Value <u>0,02mm</u>	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number <u>A52P14</u>	<input type="checkbox"/> OK <input type="checkbox"/> NOK
Out of round on toothed wheel 0,1 max: <u>0,07mm</u>	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number <u>A52P14</u>	<input type="checkbox"/> OK <input type="checkbox"/> NOK
sensor / toothed wheel play 0,7 (+/- 0,2): <u>0,6mm</u>	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number <u>C12FLOO2</u>	<input type="checkbox"/> OK <input type="checkbox"/> NOK
Sensor reference: DTR0000512252/DSD1830.19Q14HW	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number <u>0247008264</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 motorized 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	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
<input checked="" type="checkbox"/> F3	Torque tightening to 4 x 44 Nm: Fold locking plate	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	wrench reference (in the event of failure/absence of the motorized screwdriver)	QC 1 X 37 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK
<input checked="" type="checkbox"/> F4	Torque tightening to 4 x 22 Nm:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	wrench reference (in the event of failure/absence of the motorized screwdriver)	QC 1 X 18 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK
<input checked="" type="checkbox"/> F5	Torque tightening to 6 x 22 Nm:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	wrench reference (in the event of failure/absence of the motorized screwdriver)	QC 1 X 18 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK

Finishing

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

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

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

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

OBSERVATIONS






CERTIFICATION OF CONFORMITY

Inspection certificate according EN 10204-3.1

Product: Traction Motors 6 ECA 3022 B
Serial Number: N * 21505
Client / Customer: ALSTOM UBUNYE (PTY) LTD
Project: PRASA
P O Number: 76754146
Status: QC PASS
Derogations / Concession / Waiver N * : N/A
Customer modification: N/A
Missing parts: N/A

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

Date: 2024/04/17
Function: Final Inspection
Perfomed and signed off by: Name _____ Dimakatso Mohoalali
Signature  _____



Gibela Rail
02 Shosholozu Avenue
M07 Traction Motor
1590

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

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21505

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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: 19-02-24

Name: Godfrey & Xolani

Assembly after test

Date: 10/04/2024

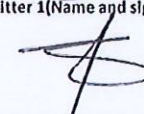
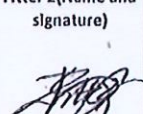
Name: Jacques & Xolani & Thomas

ROTOR S/N MCR22-11-083	STATOR S/N GIB-1523
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Bearing lubrication - Security operation
 Incorrect lubrication can lead to engine failure with a safety risk in service
 SRIL TROS 965.289

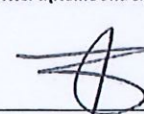
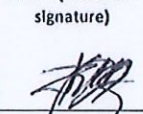
INSULATED CERAMIC BEARING DRIVE END - Security operation
 Incorrect assembly can lead to engine failure with a safety risk in service
 SRIL TROS 965.289
 FAG: NU 214-E-XL-M1-P6-F1-H257A-J20AB-C4 or NU 214-E-M1-P6-F1-H257A-J20AA-C4
 SKF: NU 214-ECM/C4-VA3091
 (cross out the references that have not been fitted)

N°: ROMANIA: - ~~0200 X 272~~ 0097 09/23 8N29-1369794

S2 Radial play after assembly (0,042 / 0,114): 0,07mm <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly Min: 144g - Max: 149g Measured quantity:		Quality validation
	Fitter 1 (Name and signature) 	Fitter 2 (Name and signature) 	Quality Insp. Name and signature Dima ADS

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)

Serial N°: GERMANY: - 0200 X 272 - 0959 09/23 8N0004

S1 Radial play after assembly (0,021 / 0,067): 0,05mm <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly Min: 159g - Max: 164g Measured quantity:		Quality verification
	Fitter 1 (Name and signature) 	Fitter 2 (Name and signature) 	Quality Insp. Name and signature Dima ADS

Référence appareil: AMXG14

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)	2.76 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 <u>0,01 mm</u>	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number <u>AMXG14</u>	<input type="checkbox"/> OK <input type="checkbox"/> NOK
Out of round on toothed wheel 0,1 max: <u>0,06 mm</u>	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number <u>AMXG14</u>	<input type="checkbox"/> OK <input type="checkbox"/> NOK
sensor / toothed wheel play 0,7 (+/- 0,2): <u>0,7 mm</u>	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number	<input type="checkbox"/> OK <input type="checkbox"/> NOK
Sensor reference: DTR0000512252/DSD1830.19Q14HW	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number <u>S2317000437</u>	<input type="checkbox"/> OK <input type="checkbox"/> NOK

Prep. & Final Assembly

OPERATOR		Quality verification	
<input checked="" type="checkbox"/> F1 Torque tightening to 8 x 76 Nm:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	wrench reference (in the event of failure / absence of the motorised screwdriver) <u>D2862183</u>	QC 1 X 61 Nm <input type="checkbox"/> OK <input type="checkbox"/> NOK
<input checked="" type="checkbox"/> F2 Torque tightening to 8 x 76 Nm:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	wrench reference (in the event of failure / absence of the motorised screwdriver) <u>D2862183</u>	QC 1 X 61 Nm <input type="checkbox"/> OK <input type="checkbox"/> NOK
<input checked="" type="checkbox"/> F3 Torque tightening to 4 x 44 Nm: Fold locking plate	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	wrench reference (in the event of failure / absence of the motorised screwdriver) <u>D2511039</u>	QC 1 X 37 Nm <input type="checkbox"/> OK <input type="checkbox"/> NOK
<input checked="" type="checkbox"/> F4 Torque tightening to 4 x 22 Nm:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	wrench reference (in the event of failure / absence of the motorised screwdriver) <u>N005061</u>	QC 1 X 18 Nm <input type="checkbox"/> OK <input type="checkbox"/> NOK
<input checked="" type="checkbox"/> F5 Torque tightening to 6 x 22 Nm:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	wrench reference (in the event of failure / absence of the motorised screwdriver) <u>N005061</u>	QC 1 X 18 Nm <input type="checkbox"/> OK <input type="checkbox"/> NOK

Finishing

<input checked="" type="checkbox"/> F1 Torque tightening to 4 x 22 Nm:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	wrench reference (in the event of failure / absence of the motorised screwdriver) <u>N005061</u>	QC 1 X 22 Nm <input type="checkbox"/> OK <input type="checkbox"/> NOK
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Grease protection transport

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

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

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

OBSERVATIONS

