



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 - 1376

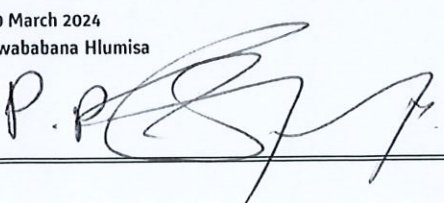
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- Load test report.....	1 page	<input checked="" type="checkbox"/>
- Motor certificate.....	8 pages	<input checked="" type="checkbox"/>

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	20 March 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	M 1876		Alstom - Ubunye
Motor Bogie Frame	AR00000176080	M 1675		Alstom - Ubunye
Wheelset (Front)	AR000000177020	M 3129		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	K 3174		NGC
Wheel (Right)	AR00000174670	075	11.23	Bonatrans
Wheel (Left)	AR000000174670	152	11.23	Bonatrans
Wheelset (Rear)	AR00000178600	M 3130		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	K 3192		NGC
Wheel (Right)	AR00000174670	074	11.23	Bonatrans
Wheel (Left)	AR00000174670	076	11.23	Bonatrans
Pneumatic suspension (Right)	AR00000176127	2312166		Hutchinson
Pneumatic suspension (Left)	AR00000176127	2311148		Hutchinson
Brake unit with PB (Right rear)	AR00000174544	1654	03.24	Wabtec
Brake unit without PB (Right front)	AR00000175185	4989	03.24	Wabtec
Brake unit without PB (Left Front)	AR00000175185	4987	03.24	Wabtec
Brake unit without PB (left rear)	AR00000175185	4983	03.24	Wabtec
Motor (front)	AR00000168516	21399		Alstom Ornans
Motor (Rear)	AR00000168516	21447		Alstom Ornans

PRESSING REPORT

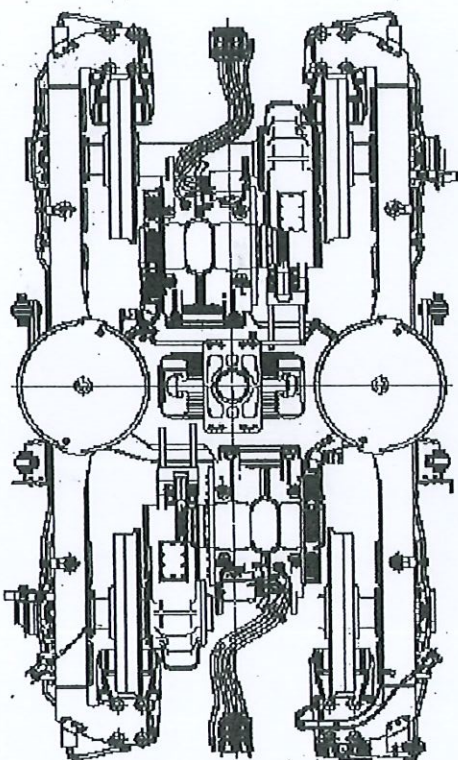
DATE 3/20/2024	RESPONSABLE VALIDATION	PRASA ALIST MURDINE	LOAD TEST : MOTOR BOGIE
DATE VALIDATION		INSTRUCTION SHEET:	PROJECT:
		FAMILY:	

	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX	
GAP PRIMARY SUSPENSION [mm]	MIN 33.00 MAX 39.00	38.70 ✓
SHIM THICK [mm]		
WEIGHT ON WHEEL [Kg]	Q2	5540

SECONDARY SUSPENSION ✓			
MEASURED [mm]	SHIM THICK [mm]	DIM. WITH SHIM [mm]	THEORETICAL [mm]
587.35	+	0.00 =	587.35
			MIN 585.00 MAX 587.50

RIGHT JACK LOAD
7375 Kg

	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX	
GAP PRIMARY SUSPENSION [mm]	MIN 33.00 MAX 39.00	38.89 ✓
SHIM THICK [mm]		
WEIGHT ON WHEEL [Kg]	Q4	5532



	THEORETICAL	MEASURED
LOAD DIFFERENCE ON FRONT AXLE [%]	MIN 0.00 MAX 0.00	0.57 ✓
LOAD DIFFERENCE ON REAR AXLE [%]	MIN 0.00 MAX 0.00	1.16 ✓
LOAD DIFFERENCE FRONT AXLE AND REAR AXLE [%]	MIN 0.00 MAX 0.00	-0.22 ✓
LOAD DIFFERENCE ON RAILS [%]	MIN 0.00 MAX 0.00	0.87 ✓
LOAD DIFFERENCE ON DIAGONAL WHEELS [%]	MIN 0.00 MAX 0.00	0.30 ✓

OPERATOR STAMP
DC-BFI-6

LEFT JACK LOAD
7376 Kg

SECONDARY SUSPENSION ✓			
MEASURED [mm]	SHIM THICK [mm]	DIM. WITH SHIM [mm]	THEORETICAL [mm]
586.69	+	0.00 =	586.69
			MIN 585.00 MAX 587.50

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

	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]	Q3	5662

	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]	Q1	5604

21399

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: 13/10/23

Name: XOLANE

Assembly after test

Date: 28/01/24

Name: Godfrey Malansi & Thomas

ROTOR S/N MCEB-10-027		STATOR S/N C113-1413	
<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°: Ramaria: 00917 09/23 SN336 -1369794			
<p>S2 Radial play after assembly (0,042 / 0,114): 0,09mm</p> <p><input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>		<p>S3 LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly</p> <p>Min:144g - Max:149g</p> <p>Mesured quantity: <input type="checkbox"/> OK <input type="checkbox"/> NOK</p> <p>Quality validation: <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p> <p>Quality Insp. Name and signature: Ding</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.X116-0806 04/23 SN 0145			
<p>S1 Radial play after assembly (0,021 / 0,067): 0,06mm</p> <p><input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>		<p>S3 LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly</p> <p>Min:159g Max:164g</p> <p>Mesured quantity: <input type="checkbox"/> OK <input type="checkbox"/> NOK</p> <p>Quality verification: <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p> <p>Quality Insp. Name and signature: Ding</p>	
Référence appareil: A-JEP13			
FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA		TROS 916.216 2 Page 1	

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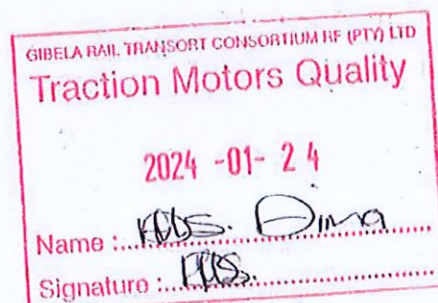
GIBELQ

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)		602M.2		<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	A-JEP13		<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	A-JEP13		<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	C113-1413		<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>32.316013541</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	<small>wrench reference (in the event of failure / absence of the motorised screwdriver)</small> <u>NCCSSB1</u>	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	<small>wrench reference (in the event of failure / absence of the motorised screwdriver)</small> <u>NCCSSB1</u>	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	<small>wrench reference (in the event of failure / absence of the motorised screwdriver)</small> <u>NCCSSB1</u>	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	<small>wrench reference (in the event of failure / absence of the motorised screwdriver)</small> <u>NCCSSB1</u>	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	<small>wrench reference (in the event of failure / absence of the motorised screwdriver)</small> <u>NCCSSB1</u>	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	<small>wrench reference (in the event of failure / absence of the motorised screwdriver)</small> <u>NCCSSB1</u>	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)					<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	
			Final Inspection Quality Insp Name and Signature: <u>Dima</u>	Comments		
OBSERVATIONS						

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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: 26/01/2024

Name: Jacques

Assembly after test

Date: 10/02/24

Name: Godfrey Xolani & Thobane

ROTOR S/N MCB02-11-099	STATOR S/N CIB-1455		
<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 289-1369794			
<p>S2 Radial play after assembly (0,042 / 0,114): 0,06 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): <i>[Signature]</i></p> <p>Filter 2 (Name and signature): <i>[Signature]</i></p> <p>Mesured quantity: <i>[Signature]</i></p> <p>Quality validation: <i>Buhle</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 X272-1311 09/23 SN 0100			
<p>S1 Radial play after assembly (0,021 / 0,067): 0,05 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): <i>[Signature]</i></p> <p>Filter 2 (Name and signature): <i>[Signature]</i></p> <p>Mesured quantity: <i>[Signature]</i></p> <p>Quality validation: <i>Buhle</i></p>	
Référence appareil: AS 4714			
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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:	<i>0,05 mm</i> <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	<i>AS 4714</i>	<input type="checkbox"/> OK <input type="checkbox"/> NOK
Out of round on toothed wheel 0,1 max:	<i>0,05 mm</i> <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	<i>AS 4714</i>	<input type="checkbox"/> OK <input type="checkbox"/> NOK
sensor / toothed wheel play 0,7 (+/- 0,2):	<i>0,85 mm</i> <input type="checkbox"/> OK <input type="checkbox"/> NOK	<i>GIBEL 002</i>	<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: 90317000814	<input type="checkbox"/> OK <input type="checkbox"/> NOK
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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 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
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Grease protection transport

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

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

☒ OK ☐ NOK

Final Inspection	Comments
Quality Insp Name and Signature: <i>Buhle</i>	

OBSERVATIONS

FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA	TROS 916.216	2	Page
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GIBELA RAIL TRANSPORT CONSORTIUM RE (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 ° 21399

Client / Customer: ALSTOM UBUNYE (PTY) LTD

Project: PRASA

P O Number: 76348016

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: 2024/01/26

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



CERTIFICATION OF CONFORMITY

Inspection certificate according EN 10204-3.1

Product: Traction Motors 6 ECA 3022 B

Serial Number: N° 21447

Client / Customer: ALSTOM UBUNYE (PTY) LTD

Project: PRASA

P O Number: 76596480

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 Shosholozza Avenue
M07 Traction Motor
1590

GIBELA RAIL

Compiled by M Kola

Date: 22/2/2022

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

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

CUSTOMER **Gibela**

CONTRACT

PROJECT **PRASA**

MANUFACTURER'S DELIVERY DOCUMENT

PRODUCT TYPE **MOTOR BOGIE MB2**

DTR0009706805

SERIAL NUMBER **MB2 587**

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- 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"/>

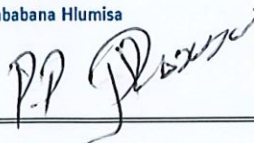
COMPLIANCE CERTIFICATE

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CONSTRUCTOR APPROVAL

DATE
NAME
VISA

26 March 2024
Kwababana Hlumisa



I - Deviation / Derogation

II - Bogie configuration

B Bogie index

PRODUCTS TRACEABILITY

Products Designation	Product Reference	Serial Number	Batch or Date Manufactured	Supplier
Motor Bogie MB2	DTR0009706805	587		Alstom - Ubunye
Motor Bogie Frame	AR00000176080	M 1696		Alstom - Ubunye
Wheelset (Front)	AR000000177020	M 3123		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	K 3089		NGC
Wheel (Right)	AR00000174670	020	12.23	Bonatrans
Wheel (Left)	AR000000174670	133	12.23	Bonatrans
Wheelset (Rear)	AR00000178600	M 3124		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	K 3066		NGC
Wheel (Right)	AR00000174670	015	12.23	Bonatrans
Wheel (Left)	AR00000174670	080	11.23	Bonatrans
Pneumatic suspension (Right)	AR00000176127	2310209		Hutchinson
Pneumatic suspension (Left)	AR00000176127	2312009		Hutchinson
Brake unit with PB (Right rear)	AR00000174544	1662	03.24	Wabtec
Brake unit without PB (Right front)	AR00000175185	5009	03.24	Wabtec
Brake unit without PB (Left Front)	AR00000175185	5008	03.24	Wabtec
Brake unit without PB (left rear)	AR00000175185	5010	03.24	Wabtec
Motor (front)	AR00000168516	21432		Alstom - Gibela
Motor (Rear)	AR00000168516	20389		Alstom - Gibela

PRESSING REPORT

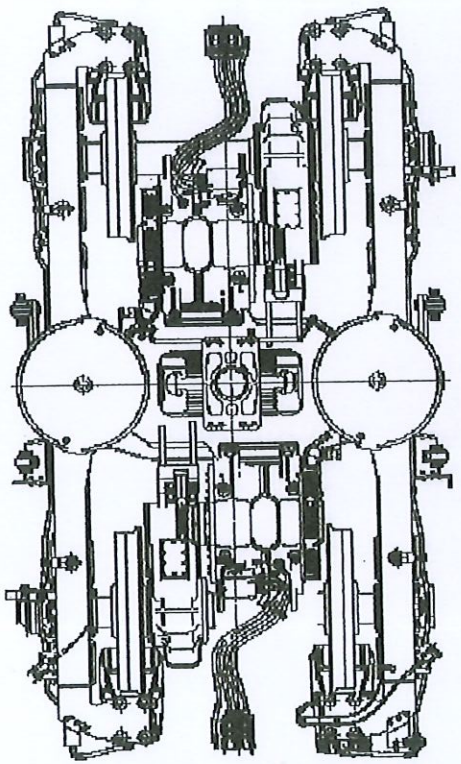
DATE 3/25/2024		RESPONSABLE VALIDATION		PRASA ALSTOM URBAN	
DATE VALIDATION				INSTRUCTION SHEET:	
				FAMILY:	
				LOAD TEST : MOTOR BOGIE	
				PROJECT:	

	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX	
GAP PRIMARY SUSPENSION [mm]	MIN 33.00 MAX 39.00	37.48 ✓
SHIM THICK [mm]		
WEIGHT ON WHEEL [Kg]	Q2	5556

SECONDARY SUSPENSION ✓			
MEASURED [mm]	SHIM THICK [mm]	DIM. WITH SHIM [mm]	THEORETICAL [mm]
584.40	+	3.00	= 587.40
			MIN 585.00 MAX 587.50

RIGHT JACK LOAD
7376 Kg

	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX	
GAP PRIMARY SUSPENSION [mm]	MIN 33.00 MAX 39.00	37.59 ✓
SHIM THICK [mm]		
WEIGHT ON WHEEL [Kg]	Q4	5524



	THEORETICAL	MEASURED
LOAD DIFFERENCE ON FRONT AXLE [%]	MIN 0.00 MAX 0.00	0.25 ✓
LOAD DIFFERENCE ON REAR AXLE [%]	MIN 0.00 MAX 0.00	1.37 ✓
LOAD DIFFERENCE FRONT AXLE AND REAR AXLE [%]	MIN 0.00 MAX 0.00	-0.27 ✓
LOAD DIFFERENCE ON RAILS [%]	MIN 0.00 MAX 0.00	0.51 ✓
LOAD DIFFERENCE ON DIAGONAL WHEELS [%]	MIN 0.00 MAX 0.00	0.56 ✓

DC-BFI-6

OPERATOR STAMP

LEFT JACK LOAD
7376 Kg

SECONDARY SUSPENSION ✓			
MEASURED [mm]	SHIM THICK [mm]	DIM. WITH SHIM [mm]	THEORETICAL [mm]
587.46	+	0.00	= 587.46
			MIN 585.00 MAX 587.50

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

	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX	
GAP PRIMARY SUSPENSION [mm]	MIN 33.00 MAX 39.00	37.50 ✓
SHIM THICK [mm]		
WEIGHT ON WHEEL [Kg]	Q1	5584

	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX	
GAP PRIMARY SUSPENSION [mm]	MIN 33.00 MAX 39.00	37.07 ✓
SHIM THICK [mm]		
WEIGHT ON WHEEL [Kg]	Q3	5677



CERTIFICATION OF CONFORMITY

Inspection certificate according EN 10204-3.1

Product: Traction Motors 6 ECA 3022 B

Serial Number: N ° 21432

Client / Customer: ALSTOM UBUNYE (PTY) LTD

Project: PRASA

P O Number: 76568544

Status: QC PASS

Derogations / Concession / Waiver N °: N/A

Customer modification: N/A

Missing parts: N/A

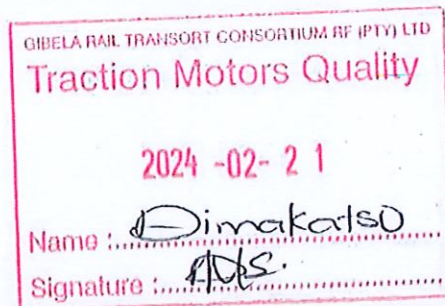
We hereby declare, barring exceptions, reservations or exemptions listed in this statement of conformity, that the listed supplies comply with the contract requirements and that, after completion of testing and verification, they completely satisfy all specified requirements, and applicable standards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

Date: 2024/02/21

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

21432

ALSTOM

GIBELIN

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: 03/01/24

Name: XOLANE

Assembly after test

Date: 01/08/24

Name: XOLANE & THOMAS

ROTOR S/N MCRDD-10-134	STATOR S/N GERB-1438		
<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 09/23 SN 349-1369794</p>			
<p>S2 Radial play after assembly (0,042 / 0,114): 0,08mm</p> <p><input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>		<p>S4 LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly</p> <p>Mln:144g - Max:148g</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 Quality Insp. Name and signature Dima ROS.</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-G4 SKF 6214-M/C4-VL 0241 (cross out the references that have not been fitted)</p>			
<p>Serial N°: GERMANY : 0200 X272-1232 09/23 SN 0033</p>			
<p>S1 Radial play after assembly (0,021 / 0,067): 0,05mm</p> <p><input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>		<p>S3 LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly</p> <p>Mln:159g Max:164g</p> <p>Measured quantity: 164g</p> <p>Filter 1 (Name and signature) [Signature]</p> <p>Filter 2 (Name and signature) [Signature]</p> <p>Quality verification Quality Insp. Name and signature Dima ROS.</p>	
<p>Référence appareil AJEP14</p>			
<p>FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA</p>		<p>TROS 916.216 2 Page 1</p>	

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

Record the value of the Insulation resistance of the bearings to TROS 915.069 (> 50 kΩ) 6,72GΩ		<input checked="" type="checkbox"/> OK	<input type="checkbox"/> NOK
OPERATOR		Quality verification	
Out of round at the end of the shaft drive end 0,05 max: 0,01mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	AJEP14	<input type="checkbox"/> OK <input type="checkbox"/> NOK
Out of round on toothed wheel 0,1 max: 0,02mm	<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): 0,7mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	GLISCO 1	<input type="checkbox"/> OK <input type="checkbox"/> NOK

Sensor reference: DTR0000512252/DSD1830.19Q14HW

☒ OK ☐ NOK 803150025560☐ OK ☐ NOK

Prep. & Final Assembly

OPERATOR			Quality verification		
F1	Torque tightening to 8 x 76 Nm:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	QC 1 X 61 Nm	<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	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	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	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	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	QC 1 X 22 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK	
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Grease protection transport

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

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

Final Inspection

Quality Insp Name and Signature:

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- 21

Name : Dima
Signature : Dima



CERTIFICATION OF CONFORMITY

Inspection certificate according EN 10204-3.1

Product: Traction Motors 6 ECA 3022 B

Serial Number: N * 20389

Client / Customer: ALSTOM UBUNYE (PTY) LTD

Project: PRASA

P O Number: 74390530

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: 07/03/2023

Function: Final Inspection

Performed and signed off by: Name____ Kgasane Manyama

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

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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: 18/11/22

Name:

XOLANT & SURPRISE

Assembly after test

Date: 12/01/2023

Name:

NORDIC & DUMISANE

ROTOR S/N MC22-9-060		STATOR S/N GIB-0883	
<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-VA3091 (cross out the references that have not been fitted)</p>			
N°: Romania 0097 08/22 SN38-5508244			
<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>Mix: 149g - 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°: Germany 0200 W279-0681 10/22 SN0010			
<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>Mix: 159g - Max: 164g</p> <p>Filter 1 (Name and signature): </p> <p>Filter 2 (Name and signature): </p> <p>Mesured quantity: </p> <p>Quality validation: </p>	
<p>AXX08 Référence appareil</p>		<p>TROS 916.216 2</p>	
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FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA

Record the value of the Insulation resistance of the bearings to TROS 915.069 (> 50 kΩ)		2,41 GΩ <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	
OPERATOR		Quality verification	
Out of round at the end of the shaft drive end 0,05 max: <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK		AXX08 <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	

0,03mm

Out of round on toothed wheel 0,1 max: <u>0,05mm</u>	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	<u>AXXV 23</u>	<input checked="" 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	<u>N/A</u>	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK
Sensor reference: DTR0000512252/DSD1830.19Q14HW	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	<u>62403000005</u>	<input checked="" 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 strand trolleys) <u>NCC5581</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 strand trolleys) <u>NCC5581</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 strand trolleys) <u>NCC5581</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 strand trolleys) <u>NCC5581</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 strand trolleys) <u>NCC5581</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 strand trolleys) <u>NCC5581</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	Measured quantity: <u>18g</u>	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK
<input checked="" type="checkbox"/> S4	18g (0/+4.5) CC	Measured quantity: <u>18g</u>	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK

Final inspection following the check-list DTR0000452909 and DTR0000452910 (In the case of 100% inspection of the production)	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK
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Final Inspection
Quality Insp Name and Signature: <u>Karame</u>

Comments

OBSERVATIONS

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