



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 - 1456

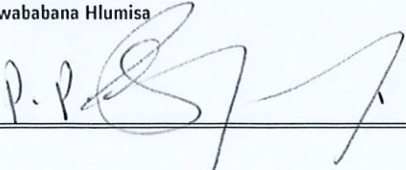
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- List of deviations and missing parts.....	Page 2/2	<input checked="" type="checkbox"/>
- Products traceability.....	1 page	<input checked="" type="checkbox"/>
- Load test report.....	1 page	<input checked="" type="checkbox"/>
- Motor certificate.....	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	11 June 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 1456		Alstom - Ubunye
Motor Bogie Frame	AR00000176080	M 1781		Alstom - Ubunye
Wheelset (Front)	AR000000177020	M 3341		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	K 3008		NGC
Wheel (Right)	AR00000174670	125	07.23	Bonatrans
Wheel (Left)	AR000000174670	116	07.23	Bonatrans
Wheelset (Rear)	AR00000178600	M 3342		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	K 3041		NGC
Wheel (Right)	AR00000174670	045	10.23	Bonatrans
Wheel (Left)	AR00000174670	020	10.23	Bonatrans
Pneumatic suspension (Right)	AR00000176127	2404012		Hutchinson
Pneumatic suspension (Left)	AR00000176127	2404013		Hutchinson
Brake unit with PB (Right rear)	AR00000174544	988	05.24	Wabtec
Brake unit without PB (Right front)	AR00000175185	2953	05.24	Wabtec
Brake unit without PB (Left Front)	AR00000175185	2952	05.24	Wabtec
Brake unit without PB (left rear)	AR00000175185	2954	05.24	Wabtec
Motor (front)	AR00000168516	21751		Alstom Ornans
Motor (Rear)	AR00000168516	21668		Alstom Ornans

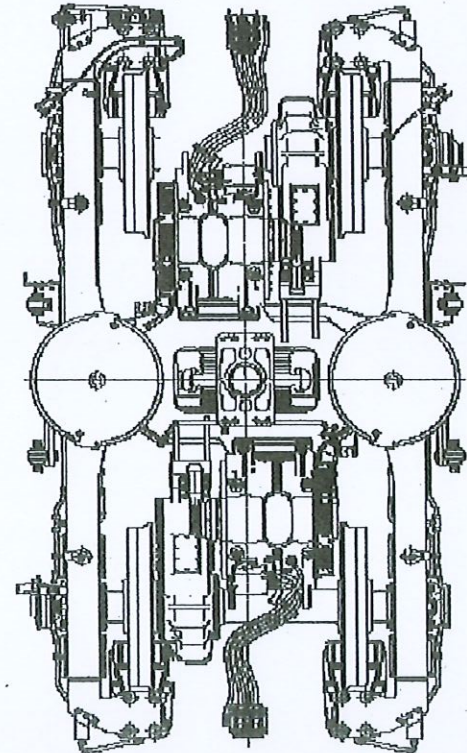
PRESSING REPORT

DATE 6/6/2024	PRASA		LOAD TEST : MOTOR BOGIE
DATE VALIDATION	INSTRUCTION SHEET:		PROJECT:
RESPONSABLE VALIDATION		FAMILY:	

	SECONDARY SUSPENSION		THEORETICAL	MEASURED
	MEASURED [mm]	SHIM THICK [mm]		
WHEEL DIAMETER [mm]	583.86	3.00	MIN MAX	MIN MAX
GAP PRIMARY SUSPENSION [mm]			MIN MAX	MIN MAX
SHIM THICK [mm]				
WEIGHT ON WHEEL [Kg]			Q4	5566

	SECONDARY SUSPENSION		THEORETICAL [mm]
	MEASURED [mm]	SHIM THICK [mm]	
	583.86	3.00	MIN MAX
			MIN MAX

RIGHT JACK LOAD	7376	Kg
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	SECONDARY SUSPENSION		THEORETICAL	MEASURED
	MEASURED [mm]	SHIM THICK [mm]		
WHEEL DIAMETER [mm]	583.86	3.00	MIN MAX	MIN MAX
GAP PRIMARY SUSPENSION [mm]			MIN MAX	MIN MAX
SHIM THICK [mm]				
WEIGHT ON WHEEL [Kg]			Q4	5566

BOGIE SERIAL N°	MB1-1456
BOGIE TYPE	MB
BOGIE WEIGHT UNDER LOAD [Kg]	22381
COMPLETE BOGIE WEIGHT [Kg]	7270
OPERATOR	EDWARD
DATE	6/6/2024

OPERATOR STAMP	BFI-21
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LEFT JACK LOAD	7376	Kg
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	SECONDARY SUSPENSION		THEORETICAL	MEASURED
	MEASURED [mm]	SHIM THICK [mm]		
WHEEL DIAMETER [mm]	587.22	0.00	MIN MAX	MIN MAX
GAP PRIMARY SUSPENSION [mm]			MIN MAX	MIN MAX
SHIM THICK [mm]				
WEIGHT ON WHEEL [Kg]			Q3	5650

	SECONDARY SUSPENSION		THEORETICAL [mm]
	MEASURED [mm]	SHIM THICK [mm]	
	587.22	0.00	MIN MAX
			MIN MAX

DIFFERENCE IN RIGHT AND LEFT SUSPENSION HEIGHTS [mm]	-0.36	THEORETICAL [mm]	MIN MAX
			MIN MAX

	SECONDARY SUSPENSION		THEORETICAL	MEASURED
	MEASURED [mm]	SHIM THICK [mm]		
WHEEL DIAMETER [mm]	587.22	0.00	MIN MAX	MIN MAX
GAP PRIMARY SUSPENSION [mm]			MIN MAX	MIN MAX
SHIM THICK [mm]				
WEIGHT ON WHEEL [Kg]			Q1	5609



CERTIFICATION OF CONFORMITY

Inspection certificate according EN 10204-3.1

Product: Traction Motors 6 ECA 3022 B

Serial Number: N ° 21668

Client / Customer: ALSTOM UBUNYE (PTY) LTD

Project: PRASA

P O Number: 77164034

Status: QC PASS

Derogations / Concession / Waiver N °: 7072

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: 2024/06/03

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



CERTIFICATION OF CONFORMITY

Inspection certificate according EN 10204-3.1

Product: Traction Motors 6 ECA 3022 B

Serial Number: N ° 21751

Client / Customer: ALSTOM UBUNYE (PTY) LTD

Project: PRASA

P O Number: 77333979

Status: QC PASS

Derogations / Concession / Waiver N °: 7072

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: 2024/06/03

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

21751

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:

Assembly after test

Date:

Name:

ROTOR S/N SU900872-019		STATOR S/N GIR-1780	
<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 SH124-1369794</p>			
<p>S2 Radial play after assembly (0,042 / 0,114): 0,05mm</p> <p><input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>		<p>S4 LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly</p> <p>Min: 144g - Max: 149g</p> <p>Measured quantity: 149g</p> <p>Filter 1 (Name and signature): [Signature]</p> <p>Filter 2 (Name and signature): [Signature]</p> <p>Quality validation: Dima</p>	
<p>S1 INSULATED CERAMIC BEARING OPPOSITE DRIVE END side - Security operation Incorrect assembly can lead to engine failure with a safety risk in service SRIL TROS 965.289 FAG: 6214-M-P6-J20AB-H257A-C4 or 6214-M-P6-J20AA-H257-C4 SKF 6214-M/C4-VL 0241 (cross out the references that have not been fitted)</p>			
<p>Serial N°: AUSTRIA: 095W</p>			
<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: 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 validation: Dima</p>	
<p>Reference appareil: AMX680</p>		<p>TROS 916.216 2 Page 1</p>	

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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) 127MS2		<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 0mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number AMX680	<input type="checkbox"/> OK <input type="checkbox"/> NOK
Out of round on toothed wheel 0,1 max: 0,04mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number AMX680	<input type="checkbox"/> OK <input type="checkbox"/> NOK
sensor / toothed wheel play 0,7 (+/- 0,2):	<input type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number	<input type="checkbox"/> OK <input type="checkbox"/> NOK
Sensor reference: DTR0000512252/OSD1830.19Q14HW	<input type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number	<input type="checkbox"/> OK <input type="checkbox"/> NOK

Missing speed sensor Deviation # 7072

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	<small>interference (in the event of force / absence of the motorised screwdriver)</small> NOC587		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	<small>interference (in the event of force / absence of the motorised screwdriver)</small> NOC587		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	<small>interference (in the event of force / absence of the motorised screwdriver)</small> NOC587		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	<small>interference (in the event of force / absence of the motorised screwdriver)</small> NOC587		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	<small>interference (in the event of force / absence of the motorised screwdriver)</small> NOC587		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	<small>interference (in the event of force / absence of the motorised screwdriver)</small> NOC587		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: Dima		Comments	
OBSERVATIONS									

FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA	TROS 916.216	2	Page
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21668

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

Référence: TROS 916.216

Révision: 2

Documents de référence: AT00000325953 - AT00000325990

Assembly before test

Date: 23/04/24

Name: Godfrey

Assembly after test

Date: 01/06/24

Name: Youane, Godfrey, Thomas & Zama

ROTOR S/N SU900282-090		STATOR S/N GIB-1663	
<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 SN311-1369-194</p>			
<p>S2 Radial play after assembly (0,042 / 0,114): 0,06mm</p> <p><input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>		<p>S3 LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly</p> <p>Min: 144g - Max: 149g Mesured quantity: <input type="checkbox"/> OK <input type="checkbox"/> NOK</p> <p>Filter 1 (Name and signature) <i>[Signature]</i> Filter 2 (Name and signature) <i>[Signature]</i></p> <p>Quality validation: <i>[Signature]</i></p>	
<p>S1 INSULATED CERAMIC BEARING OPPOSITE DRIVE END side - Security operation Incorrect assembly can lead to engine failure with a safety risk in service SRIL TROS 965.289 FAG: 6214-M-P6-J20AB-H257A-C4 or 6214-M-P6-J20AA-H257-C4 SKF 6214-M/C4-VL 0241 (cross out the references that have not been fitted)</p>			
<p>Serial N°: Germany 0200 X116-0913 01/23 SN0199</p>			
<p>S1 Radial play after assembly (0,021 / 0,067): 0,05</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 Mesured quantity: <input type="checkbox"/> OK <input type="checkbox"/> NOK</p> <p>Filter 1 (Name and signature) <i>[Signature]</i> Filter 2 (Name and signature) <i>[Signature]</i></p> <p>Quality validation: <i>[Signature]</i></p>	
<p>Référence appareil AJZP14</p>			
FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA		TROS 916.216 2 Page 1	

ALSTOM

GIBELQ

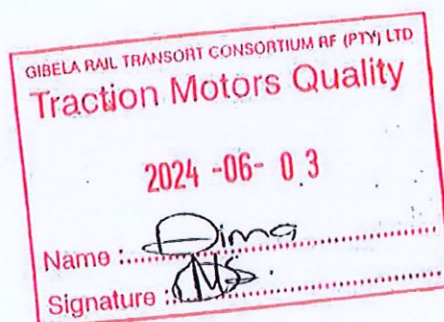
FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA

Record the value of the insulation resistance of the bearings to TROS 915.069 (> 50 kΩ)		9.86 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 AJZP14	<input type="checkbox"/> OK <input type="checkbox"/> NOK
Out of round on toothed wheel 0,1 max: 0,07mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number AJZP14	<input type="checkbox"/> OK <input type="checkbox"/> NOK
sensor / toothed wheel play 0,7 (+/- 0,2):	<input type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number	<input type="checkbox"/> OK <input type="checkbox"/> NOK
Sensor reference: DTR0000512252/DS1830.19Q14HW	<input type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number	<input type="checkbox"/> OK <input type="checkbox"/> NOK

Missing speed sensor Deviation #: 7072

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
Grease protection transport							
<input checked="" type="checkbox"/> S3	18g (0/+4.5) CC	Mesured quantity: 18g	<input checked="" type="checkbox"/>	OK	<input type="checkbox"/>	<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"/>	<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		
			Dima [Signature]				
OBSERVATIONS							

FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA	TROS 916.216	2	Page 2
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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 - 1458**

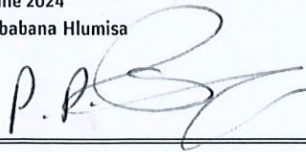
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- List of deviations and missing parts.....	Page 2/2	<input checked="" type="checkbox"/>
- Products traceability.....	1 page	<input checked="" type="checkbox"/>
- Load test report.....	1 page	<input checked="" type="checkbox"/>
- Motor certificate.....	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	13 June 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 1453		Alstom - Ubunye
Motor Bogie Frame	AR00000176080	M 1790		Alstom - Ubunye
Wheelset (Front)	AR000000177020	M 3353		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	K 3100		NGC
Wheel (Right)	AR00000174670	113	03.24	Bonatrans
Wheel (Left)	AR000000174670	114	03.24	Bonatrans
Wheelset (Rear)	AR00000178600	M 3354		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	K 3375		NGC
Wheel (Right)	AR00000174670	142	03.24	Bonatrans
Wheel (Left)	AR00000174670	170	03.24	Bonatrans
Pneumatic suspension (Right)	AR00000176127	2404019		Hutchinson
Pneumatic suspension (Left)	AR00000176127	2403033		Hutchinson
Brake unit with PB (Right rear)	AR00000174544	1824	05.24	Wabtec
Brake unit without PB (Right front)	AR00000175185	5500	05.24	Wabtec
Brake unit without PB (Left Front)	AR00000175185	5499	05.24	Wabtec
Brake unit without PB (left rear)	AR00000175185	5497	05.24	Wabtec
Motor (front)	AR00000168516	21627		Alstom Ornans
Motor (Rear)	AR00000168516	21690		Alstom Ornans

DATE VALIDATION

RESPONSABLE VALIDATION

PRASA

INSTRUCTION SHEET:

FAMILY:

PRESSING REPORT

LOAD TEST : MOTOR BOGIE

PROJECT:

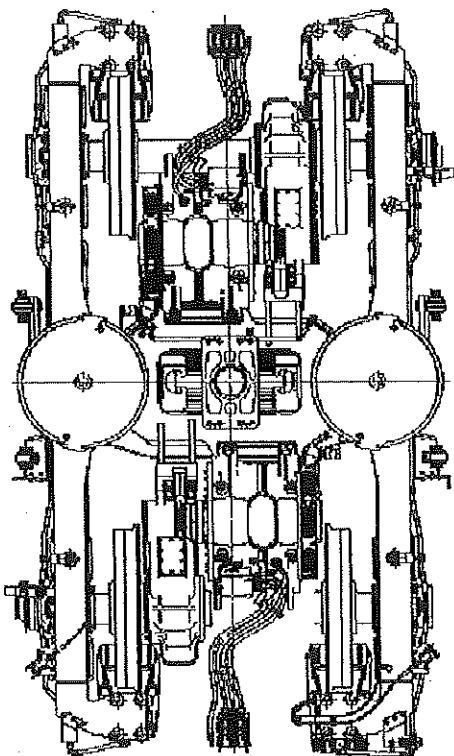
	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX	
GAP PRIMARY SUSPENSION [mm]	MIN 33.00 MAX 39.00	37.02 \varnothing
SHIM THICK [mm]		
WEIGHT ON WHEEL [Kg]	Q2	5568

SECONDARY SUSPENSION \varnothing			
MEASURED [mm]	SHIM THICK [mm]	DIM. WITH SHIM [mm]	THEORETICAL [mm]
585.58	+	1.00	= 586.58 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	36.60 \varnothing
SHIM THICK [mm]		
WEIGHT ON WHEEL [Kg]	Q4	5603

BOGIE SERIAL N°	MB1-1458
BOGIE TYPE	MB
BOGIE WEIGHT UNDER LOAD [Kg]	22378
COMPLETE BOGIE WEIGHT [Kg]	7281
OPERATOR	DATE
EDWARD	6/10/2024



	THEORETICAL	MEASURED
LOAD DIFFERENCE ON FRONT AXLE [%]	MIN 0.00 MAX 0.00	0.27 \varnothing
LOAD DIFFERENCE ON REAR AXLE [%]	MIN 0.00 MAX 0.00	0.06 \varnothing
LOAD DIFFERENCE FRONT AXLE AND REAR AXLE [%]	MIN 0.00 MAX 0.00	-0.21 \varnothing
LOAD DIFFERENCE ON RAILS [%]	MIN 0.00 MAX 0.00	0.17 \varnothing
LOAD DIFFERENCE ON DIAGONAL WHEELS [%]	MIN 0.00 MAX 0.00	-0.10 \varnothing

OPERATOR STAMP

BF1-21

LEFT JACK LOAD
7375 Kg

	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX	
GAP PRIMARY SUSPENSION [mm]	MIN 33.00 MAX 39.00	36.79 \varnothing
SHIM THICK [mm]		
WEIGHT ON WHEEL [Kg]	Q1	5596

SECONDARY SUSPENSION \varnothing			
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]			\varnothing THEORETICAL [mm]
-0.11			MIN -1.00 MAX 1.00

	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX	
GAP PRIMARY SUSPENSION [mm]	MIN 33.00 MAX 39.00	35.89 \varnothing
SHIM THICK [mm]		
WEIGHT ON WHEEL [Kg]	Q3	5610

21627

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: 12/04/2004

Name: Jacques

Assembly after test

Date: 22/05/04

Name: YOLANT

ROTOR S/N		STATOR S/N	
MCB23-11-062		GIB-1650	
<p>Bearing lubrication - Security operation</p> <p>Incorrect lubrication can lead to engine failure with a safety risk in service</p> <p>SRIL TROS 965.289</p>			
<p>INSULATED CERAMIC BEARING DRIVE END - Security operation</p> <p>Incorrect assembly can lead to engine failure with a safety risk in service</p> <p>SRIL TROS 965.289</p> <p>FAG: NU 214-E-XL-M1-P6-F1-H257A-J20AB-C4 or NU 214-E-M1-P6-F1-H257A-J20AA-C4</p> <p>SKE: NU 214 ECM/C4 VA3091</p> <p>(cross out the references that have not been fitted)</p>			
N°: ROMANIA: 0097 09/23 SN 154-1369794			
<p>Radial play after assembly (0,042 / 0,114):</p> <p>0,08mm <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>		<p>LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly</p> <p>Min: 144g - Max: 149g</p> <p>Measured quantity: <input type="checkbox"/> OK <input type="checkbox"/> NOK</p> <p>Filter 1 (Name and signature) <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p> <p>Filter 2 (Name and signature) <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p> <p>Quality Insp. Name and signature: Dima</p>	
<p>INSULATED CERAMIC BEARING OPPOSITE DRIVE END side - Security operation</p> <p>Incorrect assembly can lead to engine failure with a safety risk in service</p> <p>SRIL TROS 965.289</p> <p>FAG: 6214-M-P6-J20AB-H257A-C4 or 6214-M-P6-J20AA-H257-C4</p> <p>SKE: 6214-M/C4-VL-0241</p> <p>(cross out the references that have not been fitted)</p>			
Serial N°: GERMANY: 0200 X116-0951 04/23 SN 0247			
<p>Radial play after assembly (0,021 / 0,067):</p> <p>0,06mm <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>		<p>LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly</p> <p>Min: 159g - Max: 164g</p> <p>Measured quantity: <input type="checkbox"/> OK <input type="checkbox"/> NOK</p> <p>Filter 1 (Name and signature) <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p> <p>Filter 2 (Name and signature) <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p> <p>Quality Insp. Name and signature: Dima</p>	
<p>Reference assembly: AMX420</p>			
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Record the value of the Insulation resistance of the bearings to TROS 915.069 (> 50 kΩ)		2,02 GΩ		<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK
OPERATOR			Quality verification	
Out of round at the end of the shaft drive end, 0,05 max	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number	<input type="checkbox"/> OK <input type="checkbox"/> NOK	
Value: 0,01mm		AMX420		
Out of round on toothed wheel 0,1 max:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number	<input type="checkbox"/> OK <input type="checkbox"/> NOK	
0,04mm		AMX420		
sensor / toothed wheel play 0,7 (+/- 0,2):	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number	<input type="checkbox"/> OK <input type="checkbox"/> NOK	
0,7mm		GIBFL002		
Sensor reference: DTR0000512252/DSD1830.19Q14HW	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number	<input type="checkbox"/> OK <input type="checkbox"/> NOK	
		92321003075		

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) (DTR0000452909)	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) (DTR0000452909)	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) (DTR0000452909)	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) (DTR0000452909)	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) (DTR0000452909)	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) (DTR0000452909)	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			
OBSERVATIONS							

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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:

Name:

27/04/24
PUE

Assembly after test

Date:

Name:

01/06/24
XOLANT, THOMAS, GEDREY / KANA

ROTOR S/N SU 900282-014	STATOR S/N SIB - 1692		
<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 09/23 SN 360-1369794			
<p>Radial play after assembly (0,042 / 0,114): 0,05</p> <p><input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>		<p>LUBRICATION 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>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 X116-0904 04/23 SN 0180			
<p>Radial play after assembly (0,021 / 0,067): 0,05</p> <p><input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>		<p>LUBRICATION 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>	
Référence appareil: <u>AMR 920</u>			
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Record the value of the Insulation resistance of the bearings to TROS 915.069 (> 50 kΩ)		10,28 Ω	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK
OPERATOR		Quality verification	
Out of round at the end of the shaft drive end, 0,05 max Value: <u>0,01</u>	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number: <u>AMR 920</u>	<input type="checkbox"/> OK <input type="checkbox"/> NOK
Out of round on toothed wheel 0,1 max: <u>0,04</u>	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number: <u>AMR 920</u>	<input type="checkbox"/> OK <input type="checkbox"/> NOK
sensor / toothed wheel play 0,7 (+/- 0,2):	<input type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number:	<input type="checkbox"/> OK <input type="checkbox"/> NOK
Sensor reference: DTR0000512252/DSD1830.19Q14HW	<input type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number:	<input type="checkbox"/> OK <input type="checkbox"/> NOK

Missing speed sensor Deviation #: 7072

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 for the event of failure / absence of the motorised system	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 for the event of failure / absence of the motorised system	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 for the event of failure / absence of the motorised system	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 for the event of failure / absence of the motorised system	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 for the event of failure / absence of the motorised system	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 for the event of failure / absence of the motorised system	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		
				Dima			
OBSERVATIONS							

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**CERTIFICATION OF CONFORMITY**

Inspection certificate according EN 10204-3.1

Product: Traction Motors 6 ECA 3022 B

Serial Number: N ° 21690

Client / Customer: ALSTOM UBUNYE (PTY) LTD

Project: PRASA

P O Number: 77223944

Status: QC PASS

Derogations / Concession / Waiver N °: 7072

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: 2024/06/03

Function: Final Inspection

Performed and signed off by: Name _____ Dimakatso Mohoalali

Signature _____



Gibela Rail
02 Shosholana Avenue
M07 Traction Motor
1590

GIBELA RAIL

Compiled by M Kola

Date: 22/2/2022

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CERTIFICATION OF CONFORMITY

Inspection certificate according EN 10204-3.1

Product: Traction Motors 6 ECA 3022 B

Serial Number: N ° 21627

Client / Customer: ALSTOM UBUNYE (PTY) LTD

Project: PRASA

P O Number: 77075658

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: 2024/05/23

Function: Final Inspection

Performed 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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