

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

<b>MANUFACTURER'S DELIVERY DOCUMENT</b>	
<b>PRODUCT TYPE</b>	<b>MOTOR BOGIE MB1</b>
	<b>DTR0009706804</b>
<b>SERIAL NUMBER</b>	<b>MB1 1413</b>

**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.

<b>CONSTRUCTOR APPROVAL</b>	
<b>DATE</b>	25 April 2024
<b>NAME</b>	Kwababana Hlumisa
<b>VISA</b>	

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	1413		Alstom - Ubunye
Motor Bogie Frame	AR00000176080	M1746		Alstom - Ubunye
Wheelset (Front)	AR000000177020	M03225		Alstom - Ubunye
Axle with fitted gearbox	AR000000177072	K3214		NGC
Wheel (Right)	AR000000174670	173	10-23	Bonatrans
Wheel (Left)	AR0000000174670	171	10-23	Bonatrans
Wheelset (Rear)	AR000000178600	M03226		Alstom - Ubunye
Axle with fitted gearbox	AR000000177072	K3203		NGC
Wheel (Right)	AR000000174670	122	10-23	Bonatrans
Wheel (Left)	AR000000174670	121	10-23	Bonatrans
Pneumatic suspension (Right)	AR000000176127	2308088		Hutchinson
Pneumatic suspension (Left)	AR000000176127	2308094		Hutchinson
Brake unit with PB (Right rear)	AR000000174544	1742	04-24	WEBTEC
Brake unit without PB (Right front )	AR000000175185	5250	04-24	WEBTEC
Brake unit without PB (Left Front)	AR000000175185	5248	04-24	WEBTEC
Brake unit without PB (left rear)	AR000000175185	5249	04-24	WEBTEC
Motor (front)	AR000000168516	21528		GIBELA
Motor (Rear)	AR000000168516	21591		GIBELA

# PRESSING REPORT

DATE 4/25/2024	RESPONSABLE VAUDATION	PRASA	LOAD TEST : MOTOR BOGIE
DATE VALIDATION		INSTRUCTION SHEET:	PROJECT:
		FAMILY:	

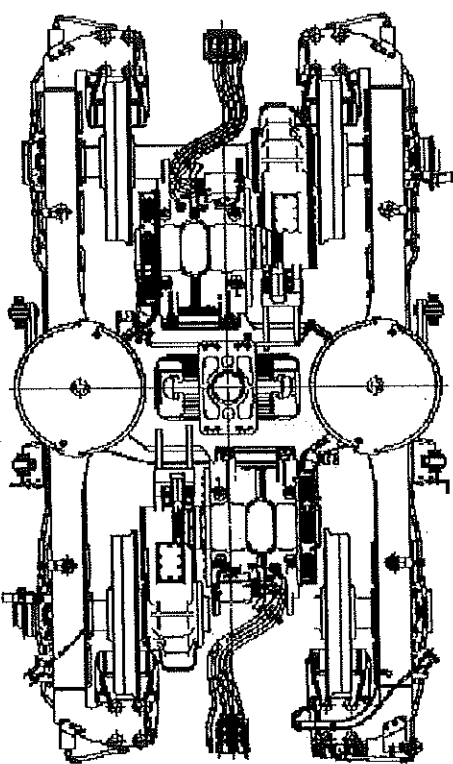
	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX	
GAP PRIMARY SUSPENSION [mm]	MIN 33.00 MAX 39.00	37.71 ✓
SHIM THICK [mm]		
WEIGHT ON WHEEL [kg]	Q2	5573

SECONDARY SUSPENSION			
MEASURED [mm]	SHIM THICK [mm]	DIM. WITH SHIM [mm]	THEORETICAL [mm]
587.18	+	0.00	= 587.18
			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	37.60 ✓
SHIM THICK [mm]		
WEIGHT ON WHEEL [kg]	Q4	5596

BOGIE SERIAL N°	M81-1413
BOGIE TYPE	M8
BOGIE WEIGHT UNDER LOAD [kg]	22381
COMPLETE BOGIE WEIGHT [kg]	7288
OPERATOR	DATE
BARANA	4/25/2024



	THEORETICAL	MEASURED
LOAD DIFFERENCE ON FRONT AXLE [%]	MIN 0.00 MAX 0.00	0.12 ✓
LOAD DIFFERENCE ON REAR AXLE [%]	MIN 0.00 MAX 0.00	0.27 ✓
LOAD DIFFERENCE FRONT AXLE AND REAR AXLE [%]	MIN 0.00 MAX 0.00	-0.28 ✓
LOAD DIFFERENCE ON RAILS [%]	MIN 0.00 MAX 0.00	0.19 ✓
LOAD DIFFERENCE ON DIAGONAL WHEELS [%]	MIN 0.00 MAX 0.00	0.08 ✓

OPERATOR STAMP

BFI-21

LEFT JACK LOAD  
7376 Kg

SECONDARY SUSPENSION			
MEASURED [mm]	SHIM THICK [mm]	DIM. WITH SHIM [mm]	THEORETICAL [mm]
587.33	+	0.00	= 587.33
			MIN 585.00 MAX 587.50

DIFFERENCE IN RIGHT AND LEFT SUSPENSION HEIGHTS [mm]	✓	THEORETICAL [mm]
-0.15		MIN -1.00 MAX 1.00

	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]	Q1	5586

	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX	
GAP PRIMARY SUSPENSION [mm]	MIN 33.00 MAX 39.00	36.88 ✓
SHIM THICK [mm]		
WEIGHT ON WHEEL [kg]	Q3	5626



21528

ALSTOM

GIBELCO

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

Référence: TROS 916.216

Révision: 2

Documents de référence: AT00000325953 - AT00000325990

Assembly before test

Date: 28/02/24  
Name: XOLANI

Assembly after test

Date: 11/04/2024  
Name: Jacques Xdani & Touma AS

ROTOR S/N MCP23-10-092	STATOR S/N C113-1549
---------------------------	-------------------------

**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-EGM/C4-VA3091~~  
(cross out the references that have not been fitted)

N°: Romanin 0207 10/23 SN 2009-1982233

<p><b>S2</b> Radial play after assembly (0,042 / 0,114): 0,07mm</p> <p><input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>	<p><b>S9</b> LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly</p> <p>Min:144g - Max:149g</p>		<p>Mesured quantity:</p>	<p>Quality validation</p>
	<p>Fitter 1 (Name and signature)</p>	<p>Fitter 2 (Name and signature)</p>	<p>Quality Insp. Name and signature</p>	<p>Signature: Dima</p>

**INSULATED CERAMIC BEARING OPPOSITE DRIVE-END side - Security operation**  
Incorrect assembly can lead to engine failure with a safety risk in service  
SRIL TROS 965.289  
**FAG: 6214-M-P6-J20AB-H257A-C4 or 6214-M-P6-J20AA-H257-C4**  
~~SKF-6214-M/C4-VL-0241~~  
(cross out the references that have not been fitted)

Serial N°: Gramon 0200 X272-1003 07/23 SN 0017

<p><b>S1</b> Radial play after assembly (0,021 / 0,067): 0,05mm</p> <p><input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>	<p><b>S3</b> LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly</p> <p>Min:159g - Max:164g</p>		<p>Mesured quantity:</p>	<p>Quality verification</p>
	<p>Fitter 1 (Name and signature)</p>	<p>Fitter 2 (Name and signature)</p>	<p>Quality Insp. Name and signature</p>	<p>Signature: Dima</p>

FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA	TROS 916.216	2	Page
			1

ALSTOM

GIBELCO

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

Record the value of the Insulation resistance of the bearings to TROS 915.069 (> 50 kΩ) 7,61GΩ	<input checked="" type="checkbox"/> OK	<input type="checkbox"/> NOK
<b>OPERATOR</b>	<b>Quality verification</b>	
Out of round at the end of the shaft drive end 0,05mm <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number	<input type="checkbox"/> OK <input type="checkbox"/> NOK
Out of round on toothed wheel 0,1 max: 0,03mm <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number	<input type="checkbox"/> OK <input type="checkbox"/> NOK
sensor / toothed wheel play 0,7 (+/- 0,2): 0,8mm <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number	<input type="checkbox"/> OK <input type="checkbox"/> NOK

Sensor reference: DTR0000512252/DSD1830.19Q14HW  OK  NOK 5231000431 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	wrench reference (in the event of failure / absence of the motorised screwdriver) <u>NCCS087</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>NCCS087</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>NCCS087</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>NCCS087</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>NCCS087</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>NCCS087</u>	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:	<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 ADS</u>	

**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 -04- 11  
 Name : Dima  
 Signature : ADS




# CERTIFICATION OF CONFORMITY

Inspection certificate according EN 10204-3.1

Product: Traction Motors 6 ECA 3022 B  
Serial Number: N ° 21591  
Client / Customer: ALSTOM UBUNYE (PTY) LTD  
Project: PRASA  
P O Number: 76950610  
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  
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

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

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: 14-03-2024  
Name: *[Signature]*

Assembly after test

Date: 10/04/2024  
Name: *Jacques + Yolani + Tommasis*

ROTOR S/N <i>MUR23-11-068</i>		STATOR S/N <i>813-1552</i>	
<b>Bearing lubrication - Security operation</b> Incorrect lubrication can lead to engine failure with a safety risk in service SRIL TROS 965.289			
(S2) <b>INSULATED CERAMIC BEARING DRIVE END - Security operation</b> Incorrect assembly can lead to engine failure with a safety risk in service SRIL TROS 965.289 <b>FAG: NU 214-E-XL-M1-P6-F1-H257A-J20AB-C4 or NU 214-E-M1-P6-F1-H257A-J20AA-C4</b> <b>SKE: NU 214 EEM/C4-VA3091</b> (cross out the references that have not been fitted)			
N°: <i>ROMANIA: 0097 09/23 5133 1369794</i>			
(S2) Radial play after assembly (0,042 / 0,114): <i>0,07</i> <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK		(S4) LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly Min: 144g - Max: 149g Measured quantity: <i>[Signature]</i> Filter 1 (Name and signature): <i>[Signature]</i> Filter 2 (Name and signature): <i>[Signature]</i> Quality validation: <i>Dina</i> Quality Insp. Name and signature: <i>[Signature]</i>	
(S1) <b>INSULATED CERAMIC BEARING OPPOSITE DRIVE END side - Security operation</b> Incorrect assembly can lead to engine failure with a safety risk in service SRIL TROS 965.289 <b>FAG: 6214-M-P6-J20AB-H257A-C4 or 6214-M-P6-J20AA-H257-C4</b> <b>SKE 6214-M/C4-VL0241</b> (cross out the references that have not been fitted)			
Serial N°: <i>GERMANY: 0200 X116-0652 04/23 510018</i>			
(S1) Radial play after assembly (0,021 / 0,067): <i>0,05</i> <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK		(S3) LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly Min: 159g - Max: 164g Measured quantity: <i>[Signature]</i> Filter 1 (Name and signature): <i>[Signature]</i> Filter 2 (Name and signature): <i>[Signature]</i> Quality verification: <i>Dina</i> Quality Insp. Name and signature: <i>[Signature]</i>	
Référence appareil: <i>A32P14</i>			
FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA		TROS 916.216	Page 2
			1

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)		<i>2,549 Ω</i>	<input checked="" type="checkbox"/> OK	<input type="checkbox"/> NOK
<b>OPERATOR</b>				
Out of round at the end of the shaft drive end, 0,05 max Value <i>0,01</i>	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number <i>A32P14</i>	<input type="checkbox"/> OK	<input type="checkbox"/> NOK
Out of round on toothed wheel 0,1 max: <i>0,06</i>	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number <i>A32P14</i>	<input type="checkbox"/> OK	<input type="checkbox"/> NOK
sensor / toothed wheel play 0,7 (+/- 0,2): <i>0,75</i>	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number <i>A.1.5247000818 P.001</i>	<input type="checkbox"/> OK	<input type="checkbox"/> NOK
Sensor reference: DTR0000512252/OSD1830.19Q14HW	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number <i>S.2247220 7993</i>	<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"/>	<input type="checkbox"/> OK <input type="checkbox"/> NOK	interch reference (in the event of failure / absence of the motorised screwdriver) D2862188	QC 1 X 61 Nm	<input type="checkbox"/>	<input type="checkbox"/> OK <input type="checkbox"/> NOK
<input checked="" type="checkbox"/> F2	Torque tightening to 8 x 76 Nm:	<input checked="" type="checkbox"/>	<input type="checkbox"/> OK <input type="checkbox"/> NOK	interch reference (in the event of failure / absence of the motorised screwdriver) D2862188	QC 1 X 61 Nm	<input type="checkbox"/>	<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"/>	<input type="checkbox"/> OK <input type="checkbox"/> NOK	interch reference (in the event of failure / absence of the motorised screwdriver) D2511637	QC 1 X 37 Nm	<input type="checkbox"/>	<input type="checkbox"/> OK <input type="checkbox"/> NOK
<input checked="" type="checkbox"/> F4	Torque tightening to 4 x 22 Nm:	<input checked="" type="checkbox"/>	<input type="checkbox"/> OK <input type="checkbox"/> NOK	interch reference (in the event of failure / absence of the motorised screwdriver) M0031584	QC 1 X 18 Nm	<input type="checkbox"/>	<input type="checkbox"/> OK <input type="checkbox"/> NOK
<input checked="" type="checkbox"/> F5	Torque tightening to 6 x 22 Nm:	<input checked="" type="checkbox"/>	<input type="checkbox"/> OK <input type="checkbox"/> NOK	interch reference (in the event of failure / absence of the motorised screwdriver) M0032624	QC 1 X 18 Nm	<input type="checkbox"/>	<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"/>	<input type="checkbox"/> OK <input type="checkbox"/> NOK	interch reference (in the event of failure / absence of the motorised screwdriver) M0031584	QC 1 X 22 Nm	<input type="checkbox"/>	<input type="checkbox"/> OK <input type="checkbox"/> NOK
--	---------------------------------	-------------------------------------	--	--	--------------	--------------------------	--

**Grease protection transport**

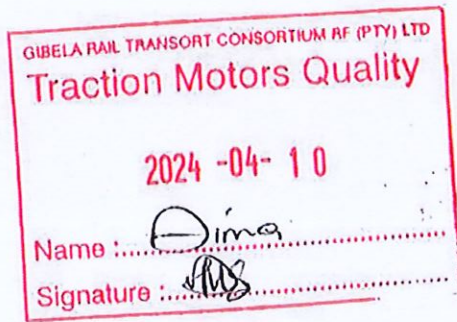
<input checked="" type="checkbox"/> S3	18g (0/+4.5) CC	Mesured quantity:	18g	<input checked="" type="checkbox"/>	<input type="checkbox"/> OK <input type="checkbox"/> NOK
<input checked="" type="checkbox"/> S4	18g (0/+4.5) CC	Mesured quantity:	18g	<input checked="" type="checkbox"/>	<input type="checkbox"/>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

**OBSERVATIONS**

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



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


MANUFACTURER'S DELIVERY DOCUMENT	
PRODUCT TYPE	MOTOR BOGIE type MB2
	DTR0009706805
SERIAL NUMBER	MB2 - 599

**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	24 April 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	599		Alstom - Ubunye
Motor Bogie Frame	AR00000176080	1744		Alstom - Ubunye
Wheelset (Front)	AR000000177020	3217		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	3257		NGC
Wheel (Right)	AR00000174670	199	12.23	Bonatrans
Wheel (Left)	AR000000174670	033	12.23	Bonatrans
Wheelset (Rear)	AR00000178600	3218		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	3294		NGC
Wheel (Right)	AR00000174670	006	12.23	Bonatrans
Wheel (Left)	AR00000174670	004	12.23	Bonatrans
Pneumatic suspension (Right)	AR00000176127	2312049		Hutchinson
Pneumatic suspension (Left)	AR00000176127	2311112		Hutchinson
Brake unit with PB (Right rear)	AR00000174544	1730	04.24	WEBTEC
Brake unit without PB (Right front )	AR00000175185	5211	04.24	WEBTEC
Brake unit without PB (Left Front)	AR00000175185	5212	04.24	WEBTEC
Brake unit without PB (left rear)	AR00000175185	5209	04.24	WEBTEC
Motor (front)	AR00000168516	21472		GIBELA
Motor (Rear)	AR00000168516	21559		GIBELA

# PRESSING REPORT

DATE  
4/23/2024

RESPONSIBLE VALIDATION

PRASA

INSTRUCTION SHEET:

LOAD TEST : MOTOR BOGIE

FAMILY:

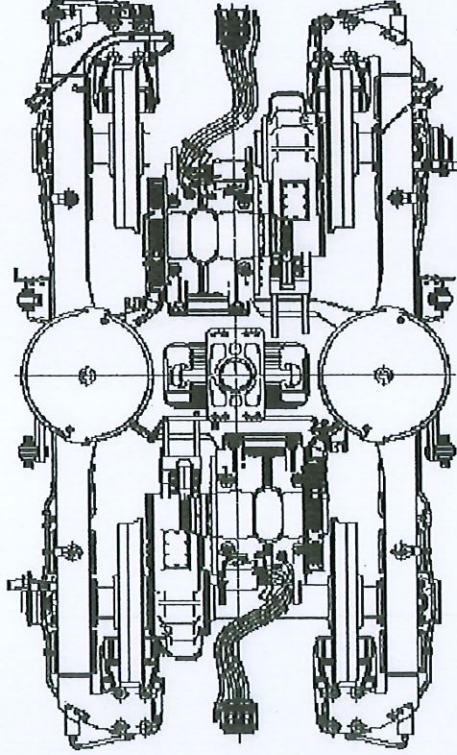
PROJECT:

	THEORETICAL		MEASURED
	MIN	MAX	
WHEEL DIAMETER [mm]	33.00	39.00	38.63 ✓
GAP PRIMARY SUSPENSION [mm]	33.00	39.00	✓
SHIM THICK [mm]			
WEIGHT ON WHEEL [Kg]	Q2		5520

MEASURED [mm]	SECONDARY SUSPENSION		DIM. WITH SHIM [mm]	THEORETICAL [mm]
	SHIM THICK [mm]			
586.44	+	1.00	587.44	MIN 585.00 MAX 587.50

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

BOGIE SERIAL N°	MB2-599
BOGIE TYPE	MB
BOGIE WEGHT UNDER LOAD [Kg]	22381
COMPLETE BOGIE WEIGHT [Kg]	7286
OPERATOR	EDWARD
DATE	4/23/2024



LEFT JACK LOAD	7375	Kg
----------------	------	----

OPERATOR STAMP  
**BFI-21**

	THEORETICAL		MEASURED
	MIN	MAX	
WHEEL DIAMETER [mm]	33.00	39.00	37.77 ✓
GAP PRIMARY SUSPENSION [mm]	33.00	39.00	✓
SHIM THICK [mm]			
WEIGHT ON WHEEL [Kg]	Q1		5647

MEASURED [mm]	SECONDARY SUSPENSION		DIM. WITH SHIM [mm]	THEORETICAL [mm]
	SHIM THICK [mm]			
587.18	+	0.00	587.18	MIN 585.00 MAX 587.50
DIFFERENCE IN RIGHT AND LEFT SUSPENSION HEIGHTS [mm]				
0.26				
THEORETICAL [mm]				
MIN -1.00 MAX 1.00				

WHEEL DIAMETER [mm]	THEORETICAL		MEASURED
	MIN	MAX	
GAP PRIMARY SUSPENSION [mm]	33.00	39.00	38.46 ✓
SHIM THICK [mm]			
WEIGHT ON WHEEL [Kg]	Q4		5642

	THEORETICAL		MEASURED
	MIN	MAX	
LOAD DIFFERENCE ON FRONT AXLE [%]	0.00	0.00	1.14 ✓
LOAD DIFFERENCE ON REAR AXLE [%]	0.00	0.00	-0.62 ✓
LOAD DIFFERENCE FRONT AXLE AND REAR AXLE [%]	0.00	0.00	-0.21 ✓
LOAD DIFFERENCE ON RAILS [%]	0.00	0.00	0.25 ✓
LOAD DIFFERENCE ON DIAGONAL WHEELS [%]	0.00	0.00	-0.88 ✓

WHEEL DIAMETER [mm]	THEORETICAL		MEASURED
	MIN	MAX	
GAP PRIMARY SUSPENSION [mm]	33.00	39.00	37.80 ✓
SHIM THICK [mm]			
WEIGHT ON WHEEL [Kg]	Q3		5572



# CERTIFICATION OF CONFORMITY

Inspection certificate according EN 10204-3.1

Product: Traction Motors 6 ECA 3022 B  
Serial Number: N ° 21559  
Client / Customer: ALSTOM UBUNYE (PTY) LTD  
Project: PRASA  
P O Number: 76871888  
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: 2024/04/11  
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

MOT 21559

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: 11/03/24

Name: Godfrey Exbolani

Assembly after test

Date: 06/04/24

Name: Nolane, Aurely, Thomas

ROTOR S/N MCR23-11-039		STATOR S/N GIB-1576	
<p><b>Bearing lubrication - Security operation</b> Incorrect lubrication can lead to engine failure with a safety risk in service SRIL TROS 965289</p>			
<p><b>INSULATED CERAMIC BEARING DRIVE END - Security operation</b> Incorrect assembly can lead to engine failure with a safety risk in service SRIL TROS 965289 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 10/03 SN307-1988233</p>			
<p><b>S2</b> Radial play after assembly (0,042 / 0,114): 008mm</p> <p><input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>		<p><b>S4</b> 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): <i>[Signature]</i></p> <p>Filter 2 (Name and signature): <i>[Signature]</i></p> <p>Quality validation: <i>[Signature]</i></p>	
<p><b>INSULATED CERAMIC BEARING OPPOSITE DRIVE END side - Security operation</b> Incorrect assembly can lead to engine failure with a safety risk in service SRIL TROS 965289 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 X116-0646 04/23 SN0008</p>			
<p><b>S1</b> Radial play after assembly (0,021 / 0,067): 005mm</p> <p><input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>		<p><b>S3</b> 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): <i>[Signature]</i></p> <p>Filter 2 (Name and signature): <i>[Signature]</i></p> <p>Quality validation: <i>[Signature]</i></p>	
<p>Reference appareil: AMXG14</p>		<p>TROS 916.216</p>	
<p>FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA</p>		<p>Page 1</p>	

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)		8.02 G.52		<input checked="" type="checkbox"/> OK	<input type="checkbox"/> NOK
OPERATOR			Quality verification		
Out of round at the end of the shaft drive end, 0,05 max. Value: 0,03mm	<input checked="" type="checkbox"/> OK	<input type="checkbox"/> NOK	Device serial number AMXG14	<input type="checkbox"/> OK	<input type="checkbox"/> NOK
Out of round on toothed wheel 0,1 max: 0,05mm	<input checked="" type="checkbox"/> OK	<input type="checkbox"/> NOK	Device serial number AMXG14	<input type="checkbox"/> OK	<input type="checkbox"/> NOK
sensor / toothed wheel play 0,7 (+/- 0,2): 0,7mm	<input checked="" type="checkbox"/> OK	<input type="checkbox"/> NOK	Device serial number GIB11-001	<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 52252005476	<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	search reference for the event of failure / absence of the motorised screwdriver D2862188	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	search reference for the event of failure / absence of the motorised screwdriver D2862188	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	search reference for the event of failure / absence of the motorised screwdriver D2511099	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	search reference for the event of failure / absence of the motorised screwdriver N002249	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	search reference for the event of failure / absence of the motorised screwdriver N006009	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	search reference for the event of failure / absence of the motorised screwdriver N002249	QC 1 X 22 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK	
Grease protection transport						
<input checked="" type="checkbox"/> S3	18g (0/+4.5) CC	Mesured quantity: 18g			<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	
<input checked="" type="checkbox"/> S4	18g (0/+4.5) CC	Mesured quantity: 18g			<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	
Final inspection following the check-list DTR0000452909 and DTR0000452910 (in the case of 100% inspection of the production)					<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	
			Final inspection	Comments		
			Quality Insp Name and Signature:	Kasave R		
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 -04- 07  
 Name: Kasave  
 Signature: *Kasave R*




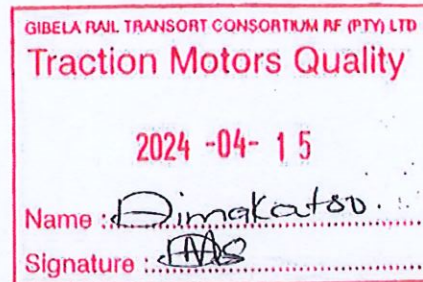
# CERTIFICATION OF CONFORMITY

Inspection certificate according EN 10204-3.1

Product: Traction Motors 6 ECA 3022 B  
Serial Number: N \* 21472  
Client / Customer: ALSTOM UBUNYE (PTY) LTD  
Project: PRASA  
P O Number: 76659599  
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: 2024/04/15  
Function: Final Inspection  
Perfomed and signed off by: Name \_\_\_\_\_ Dimakatso Mohoalali  
Signature 



Gibela Rail  
02 Shosholoz 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

21472

ALSTOM

GIBELI

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: XOLANE

Assembly after test  
Date: 09/04/04  
Name: XOLANE & THOMAS

ROTOR S/N MCR22-11-090		STATOR S/N GIB-1483	
<p><b>Bearing lubrication - Security operation</b> Incorrect lubrication can lead to engine failure with a safety risk in service SRIL TROS 965 289</p>			
<p><b>INSULATED CERAMIC BEARING DRIVE END - Security operation</b> 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 <del>NU 214-E-M1-P6-F1-H257A-J20AA-C4</del> <del>SKF-NU 214-ECM/C4-VA3091</del> (cross out the references that have not been fitted)</p>			
N°: Romania 0097 09/23 9115-1369794			
<p><b>S2</b> Radial play after assembly ( 0,042 / 0,114 ): 0,07mm</p> <p><input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>		<p><b>S3</b> LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly</p> <p>Min: 144g - Max: 149g</p> <p>Measured quantity:</p> <p>Filter 1 (Name and signature) <i>[Signature]</i></p> <p>Filter 2 (Name and signature) <i>[Signature]</i></p> <p>Quality validation Quality Insp. Name and signature <i>Dima FRS</i></p>	
<p><b>INSULATED CERAMIC BEARING OPPOSITE DRIVE END side - Security operation</b> 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 <del>6214-M-P6-J20AA-H257-C4</del> <del>SKF 6214-M/C4-VL 0241</del> (cross out the references that have not been fitted)</p>			
Serial N°: Germany 0200 1272-1233 09/23 SN0036			
<p><b>S1</b> Radial play after assembly ( 0,021 / 0,067 ): 0,05mm</p> <p><input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>		<p><b>S3</b> LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly</p> <p>Min: 159g Max: 164g</p> <p>Measured quantity:</p> <p>Filter 1 (Name and signature) <i>[Signature]</i></p> <p>Filter 2 (Name and signature) <i>[Signature]</i></p> <p>Quality verification Quality Insp. Name and signature <i>Dima FRS</i></p>	
Référence appareil <i>AJZP14</i>		TROs 916.216 2 Page 1	

ALSTOM

GIBELI

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) 10,8 MΩ		<input checked="" type="checkbox"/> OK	<input type="checkbox"/> NOK
OPERATOR		Quality verification	
Out of round at the end of the shaft drive end 0,07mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	<i>AJZP14</i>	<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	<i>AJZP14</i>	<input type="checkbox"/> OK <input type="checkbox"/> NOK
sensor / toothed wheel play 0,7 (+/- 0,2): 0,8mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	<i>GIBELI</i>	<input type="checkbox"/> OK <input type="checkbox"/> NOK

Sensor reference: DTR0000512252/DSD1830.19Q14HW  OK  NOK 3024 1008 399 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	<small>torque reference (in the event of failure / absence of the motorised screwdriver)</small> NCCSS-87	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>torque reference (in the event of failure / absence of the motorised screwdriver)</small> NCCSS-87	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>torque reference (in the event of failure / absence of the motorised screwdriver)</small> NCCSS-8	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>torque reference (in the event of failure / absence of the motorised screwdriver)</small> NCCSS-8	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>torque reference (in the event of failure / absence of the motorised screwdriver)</small> NCCSS-8	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>torque reference (in the event of failure / absence of the motorised screwdriver)</small> NCCSS-77	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)  OK  NOK

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

**OBSERVATIONS**

