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 - 1461**

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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 1461		Alstom - Ubunye
Motor Bogie Frame	AR00000176080	M 1816		Alstom - Ubunye
Wheelset (Front)	AR000000177020	M 3355		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	K 3493		NGC
Wheel (Right)	AR00000174670	171	03.24	Bonatrans
Wheel (Left)	AR000000174670	141	03.24	Bonatrans
Wheelset (Rear)	AR00000178600	M 3356		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	K 3505		NGC
Wheel (Right)	AR00000174670	097	03.24	Bonatrans
Wheel (Left)	AR00000174670	092	03.24	Bonatrans
Pneumatic suspension (Right)	AR00000176127	2812067		Hutchinson
Pneumatic suspension (Left)	AR00000176127	2311079		Hutchinson
Brake unit with PB (Right rear)	AR00000174544	1836	06.24	Wabtec
Brake unit without PB (Right front)	AR00000175185	5463	05.24	Wabtec
Brake unit without PB (Left Front)	AR00000175185	5461	05.24	Wabtec
Brake unit without PB (left rear)	AR00000175185	5462	05.24	Wabtec
Motor (front)	AR00000168516	21753		Alstom Ornans
Motor (Rear)	AR00000168516	21489		Alstom Ornans

PRESSING REPORT

DATE VALIDATION	RESPONSABLE VALIDATION
6/11/2024	

PRASA

INSTRUCTION SHEET:	LOAD TEST : MOTOR BOGIE
FAMILY:	PROJECT:

	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX	
GAP PRIMARY SUSPENSION [mm]	MIN 33.00 MAX 39.00	36.30 ✓
SHIM THICK [mm]		
WEIGHT ON WHEEL [Kg]	Q2	5636

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

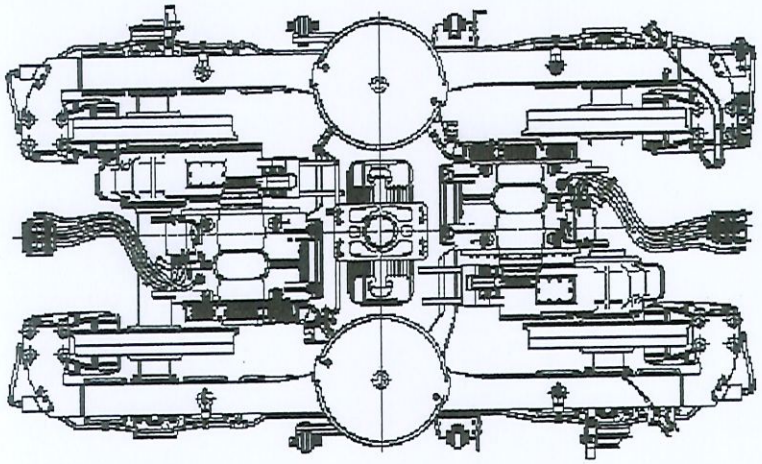
RIGHT JACK LOAD
7376 Kg

	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX	
GAP PRIMARY SUSPENSION [mm]	MIN 33.00 MAX 39.00	36.80 ✓
SHIM THICK [mm]		
WEIGHT ON WHEEL [Kg]	Q4	5545

BOGIE SERIAL N°	MB1-1461
BOGIE TYPE	MB
BOGIE WEIGHT UNDER LOAD [Kg]	22383
COMPLETE BOGIE WEIGHT [Kg]	7293

OPERATOR	DATE
BAFANA	6/11/2024

OPERATOR STAMP
DC-BFI-6



	THEORETICAL	MEASURED
LOAD DIFFERENCE ON FRONT AXLE [%]	MIN 0.00 MAX 0.00	-0.85 ✓
LOAD DIFFERENCE ON REAR AXLE [%]	MIN 0.00 MAX 0.00	1.04 ✓
LOAD DIFFERENCE FRONT AXLE AND REAR AXLE [%]	MIN 0.00 MAX 0.00	-0.13 ✓
LOAD DIFFERENCE ON RAILS [%]	MIN 0.00 MAX 0.00	0.10 ✓
LOAD DIFFERENCE ON DIAGONAL WHEELS [%]	MIN 0.00 MAX 0.00	0.95 ✓

LEFT JACK LOAD
7376 Kg

	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX	
GAP PRIMARY SUSPENSION [mm]	MIN 33.00 MAX 39.00	35.90 ✓
SHIM THICK [mm]		
WEIGHT ON WHEEL [Kg]	Q1	5541

SECONDARY SUSPENSION ✓			
MEASURED [mm]	SHIM THICK [mm]	DIM. WITH SHIM [mm]	THEORETICAL [mm]
586.80	+ 0.00	= 586.80	MIN 585.00 MAX 587.50

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

	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX	
GAP PRIMARY SUSPENSION [mm]	MIN 33.00 MAX 39.00	35.69 ✓
SHIM THICK [mm]		
WEIGHT ON WHEEL [Kg]	Q3	5662

21753

ALSTOM

GIBELA

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

Référence: TROS 916.216 Révision: 2

Documents de référence: AT00000325953 - AT00000325990

Assembly before test
Date: 20/05/24
Name: X OURNI

Assembly after test
Date: 01/06/24
Name: Y. LANIT, GODFREY, THOMAS & EMMA

ROTOR S/N	STATOR S/N	
6U9000282-079	GIB-1775	

Bearing lubrification - Security operation
Incorrect lubrication can lead to engine failure with a safety risk in service
SRIL TROS 965.289

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

N°: ROMANIA:- 0097 09/23 SH 456 - 1369794

S2 Radial play after assembly (0,042 / 0,114): 0,08mm
[X] OK [ ] NOK

S2 LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly
Min:144g - Max:149g

Mesured quantity:	Quality validation
Fitter 1(Name and signature)	Fitter 2(Name and signature) / Quality Insp. Name and signature
	Dima

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°: AUSTRIA:- 094 W

S1 Radial play after assembly (0,021 / 0,067): 0,05mm
[X] OK [ ] NOK

Référence appareil: AMXG00

S3 LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly
Min:159g Max:164g

Mesured quantity:	Quality verification
Fitter 1(Name and signature)	Fitter 2(Name and signature) / Quality Insp. Name and signature
	Dima

ALSTOM

GIBELA

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) 118MΩ [X] OK [ ] NOK

OPERATOR		Quality verification
Out of round at the end of the shaft drive end, 0,05 max Value 0,01mm	[X] OK [ ] NOK — Device serial number: AMXG00	[ ] OK [ ] NOK
Out of round on toothed wheel 0,1 max: 0,05mm	[X] OK [ ] NOK — Device serial number: AMXG00	[ ] OK [ ] NOK
sensor / toothed wheel play 0,7 (+/- 0,2):	[ ] OK [ ] NOK — Device serial number:	[ ] OK [ ] NOK
Sensor reference: DTR0000512252/DSD1830.19Q14HW	[ ] OK [ ] NOK — Device serial number:	[ ] OK [ ] NOK

Missing speed sensor Deviation n°: 7072

Prep. & Final Assembly

OPERATOR				Quality verification		
F1	Torque tightening to 8 x 76 Nm:	X OK ☐ NOK	wrench reference (in the event of failure / absence of the motorized screwdriver) N00E0987	QC 1 X 61 Nm	☐ OK	☐ NOK
F2	Torque tightening to 8 x 76 Nm:	X OK ☐ NOK	wrench reference (in the event of failure / absence of the motorized screwdriver) N00E0987	QC 1 X 61 Nm	☐ OK	☐ NOK
F3	Torque tightening to 4 x 44 Nm: Fold locking plate	X OK ☐ NOK	wrench reference (in the event of failure / absence of the motorized screwdriver) N00E0981	QC 1 X 37 Nm	☐ OK	☐ NOK
F4	Torque tightening to 4 x 22 Nm:	X OK ☐ NOK	wrench reference (in the event of failure / absence of the motorized screwdriver) N00E0968	QC 1 X 18 Nm	☐ OK	☐ NOK
F5	Torque tightening to 6 x 22 Nm:	X OK ☐ NOK	wrench reference (in the event of failure / absence of the motorized screwdriver) N00E0968	QC 1 X 18 Nm	☐ OK	☐ NOK
	Finishing					
F1	Torque tightening to 4 x 22 Nm:	X OK ☐ NOK	wrench reference (in the event of failure / absence of the motorized screwdriver) N00E0977	QC 1 X 22 Nm	☐ OK	☐ NOK
	Grease protection transport					
S3	18g (0/+4.5) CC Mesured quantity: 18g				X OK	☐ NOK
S4	18g (0/+4.5) CC Mesured quantity: 18g				X OK	☐ NOK

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

Final Inspection	Comments
Quality Insp Name and Signature: Dina	

OBSERVATIONS

GIBELA RAIL TRANSORT CONSORTIUM RF (PTY) LTD
Traction Motors Quality
2024 -06- 01
Name : Dina
Signature :

21489

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: 13/02/2024
Name: Jacques

Assembly after test
Date: 22/05/24
Name: IOANI

ROTOR S/N	STATOR S/N
MCR23-10-069	GIB-1497

Bearing lubrification - Security operation
Incorrect lubrication can lead to engine failure with a safety risk in service
SRIL TROS 965 289

S2 **INSULATED CERAMIC BEARING DRIVE END – Security operation**
Incorrect assembly can lead to engine failure with a safety risk in service
SRIL TROS 965 289
FAG : NU 214-E-XL-M1-P6-F1-H257A-J20AB-C4 or NU 214-E-M1-P6-F1-H257A-J20AA-C4
SKF: NU 214 ECM/C4 VA3091
(cross out the references that have not been fitted)

N°: ROMANIA:- 0097 09/23 SN112-1369794

S2 Radial play after assembly (0,042 / 0,114):
0,08mm ☒ OK ☐ NOK

S4 LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly
Min:144g - Max:149g

Mesured quantity:	Quality validation
Fitter 1(Name and signature)	Fitter 2(Name and signature)
	Quality Insp. Name and signature: Dima

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/C4VL 0241
(cross out the references that have not been fitted)

Serial N°: GERMANY:- 0200 X 116-1001 04/23 SN0269

S1 Radial play after assembly (0,021 / 0,067):
0,06mm ☒ OK ☐ NOK

S3 LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly
Min:159g Max:164g

Mesured quantity:	Quality verification
Fitter 1(Name and signature)	Fitter 2(Name and signature)
	Quality Insp. Name and signature: Dima

AJ 214 Référence appareil

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) : 1,139 GΩ ☒ OK ☐ NOK

OPERATOR			Device serial number	Quality verification	
Out of round at the end of the shaft drive end, 0,05 max Value 0,02mm	☒ OK	☐ NOK	AJ214	☐ OK	☐ NOK
Out of round on toothed wheel 0,1 max: 0,06mm	☒ OK	☐ NOK	AJ214	☐ OK	☐ NOK
sensor / toothed wheel play 0,7 (+/- 0,2): 0,8 mm	☒ OK	☐ NOK	GIBL000	☐ OK	☐ NOK
Sensor reference: DTR0000512252/DSD1830.19Q14HW	☒ OK	☐ NOK	S224100B390	☐ OK	☐ NOK

Prep. & Final Assembly

OPERATOR				Quality verification		
F1	Torque tightening to 8 x 76 Nm:	☒ OK ☐ NOK	wrench reference (in the event of failure / absence of the material screwdriver)	QC 1 X 61 Nm	☐ OK	☐ NOK
F2	Torque tightening to 8 x 76 Nm:	☒ OK ☐ NOK	wrench reference (in the event of failure / absence of the material screwdriver)	QC 1 X 61 Nm	☐ OK	☐ NOK
F3	Torque tightening to 4 x 44 Nm: Fold locking plate	☒ OK ☐ NOK	wrench reference (in the event of failure / absence of the material screwdriver)	QC 1 X 37 Nm	☐ OK	☐ NOK
F4	Torque tightening to 4 x 22 Nm:	☒ OK ☐ NOK	wrench reference (in the event of failure / absence of the material screwdriver)	QC 1 X 18 Nm	☐ OK	☐ NOK
F5	Torque tightening to 6 x 22 Nm:	☒ OK ☐ NOK	wrench reference (in the event of failure / absence of the material screwdriver)	QC 1 X 18 Nm	☐ OK	☐ NOK
Finishing						
F1	Torque tightening to 4 x 22 Nm:	☒ OK ☐ NOK	wrench reference (in the event of failure / absence of the material screwdriver) NC0582717	QC 1 X 22 Nm	☐ OK	☐ NOK
Grease protection transport						
S3	18g (0/+4.5) CC Mesured quantity: 18g				☒ OK	☐ NOK
S4	18g (0/+4.5) CC Mesured quantity: 18g				☒ OK	☐ 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: Dima	

OBSERVATIONS

GIBELA RAIL TRANSORT CONSORTIUM RF (PTY) LTD
Traction Motors Quality
2024 -05- 23
Name : Dima
Signature : DMS.

GIBELA

CERTIFICATION OF CONFORMITY

Inpection certificate according EN 10204-3.1

Product:	Traction Motors	6 ECA 3022 B
Serial Number:	N °	21753
Client / Customer:	ALSTOM UBUNYE (PTY) LTD	
Project:	PRASA	
P O Number:	77334095	
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

Perfomed and signed off by: Name_____ Dimakatso Mohoalali

Signature_____

GIBELA RAIL TRANSORT CONSORTIUM RF (PTY) LTD
Traction Motors Quality
2024 -06- 0 3
Name : Dimakatso
Signature :

Gibela Rail
02 Shosholoza Avenue
M07 Traction Motor
1590

CERTIFICATION OF CONFORMITY

Inpection certificate according EN 10204-3.1

Product:	Traction Motors	6 ECA 3022 B
Serial Number:	N °	21489
Client / Customer:	ALSTOM UBUNYE (PTY) LTD	
Project:	PRASA	
P O Number:	76687737	
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

Perfomed and signed off by: Name_____ Dimakatso Mohoalali

Signature_____

GIBELA RAIL TRANSORT CONSORTIUM RF (PTY) LTD
Traction Motors Quality
2024 -05- 23
Name : Dimakatso
Signature :

Gibela Rail
02 Shosholoza Avenue
M07 Traction Motor
1590

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 - 1462

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- Compliance certificate..... Page 1/2 [X]
- List of deviations and missing parts..... Page 2/2 [X]
- Products traceability..... 1 page [X]
- Load test report..... 1 page [X]
- Motor certificate..... 8 pages [X]

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	14 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 1462		Alstom - Ubunye
Motor Bogie Frame	AR00000176080	M K08		Alstom - Ubunye
Wheelset (Front)	AR000000177020	M 3357		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	K 3427		NGC
Wheel (Right)	AR00000174670	082	07.23	Bonatrans
Wheel (Left)	AR000000174670	032	10.23	Bonatrans
Wheelset (Rear)	AR00000178600	M 3358		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	K 3120		NGC
Wheel (Right)	AR00000174670	089	03.24	Bonatrans
Wheel (Left)	AR00000174670	090	03.24	Bonatrans
Pneumatic suspension (Right)	AR00000176127	2312039		Hutchinson
Pneumatic suspension (Left)	AR00000176127	2312135		Hutchinson
Brake unit with PB (Right rear)	AR00000174544	1827	06.24	Wabtec
Brake unit without PB (Right front)	AR00000175185	5504	06.24	Wabtec
Brake unit without PB (Left Front)	AR00000175185	5506	06.24	Wabtec
Brake unit without PB (left rear)	AR00000175185	5505	06.24	Wabtec
Motor (front)	AR00000168516	21620		Alstom Ornans
Motor (Rear)	AR00000168516	21737		Alstom Ornans

PRESSING REPORT

DATE	
6/11/2024	

DATE VALIDATION	RESPONSABLE VALIDATION

PRASA

INSTRUCTION SHEET:	LOAD TEST : MOTOR BOGIE
FAMILY:	PROJECT:

	THEORETICAL		MEASURED
WHEEL DIAMETER [mm]	MIN MAX		
GAP PRIMARY SUSPENSION [mm]	MIN MAX	33.00 39.00	35.71 ✓
SHIM THICK [mm]			
WEIGHT ON WHEEL [Kg]	Q2		5546

SECONDARY SUSPENSION ✓					
MEASURED [mm]	SHIM THICK [mm]		DIM. WITH SHIM[mm]	THEORETICAL [mm]	
584.84	+	1.00	= 585.84	MIN MAX	585.00 587.50

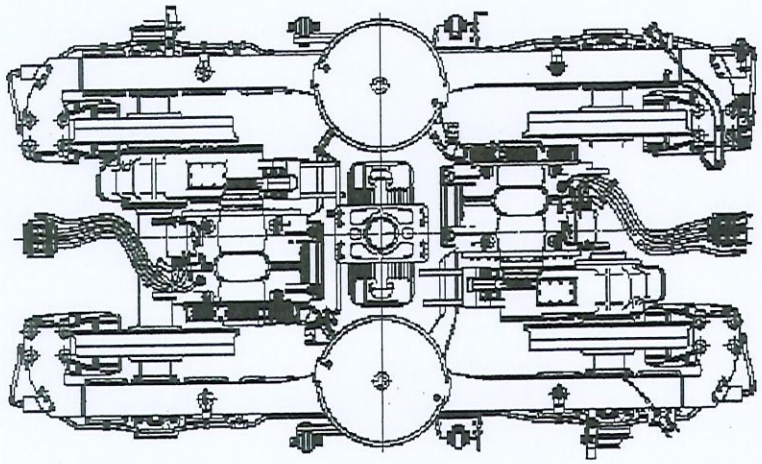
RIGHT JACK LOAD	
7376	Kg

	THEORETICAL		MEASURED
WHEEL DIAMETER [mm]	MIN MAX		
GAP PRIMARY SUSPENSION [mm]	MIN MAX	33.00 39.00	35.60 ✓
SHIM THICK [mm]			
WEIGHT ON WHEEL [Kg]	Q4		5671

BOGIE SERIAL N°	MB1-1462
BOGIE TYPE	MB
BOGIE WEIGHT UNDER LOAD [Kg]	22381
COMPLETE BOGIE WEIGHT [Kg]	7293

OPERATOR	DATE
BAFANA	6/11/2024

OPERATOR STAMP
DC-BFI-6



	THEORETICAL		MEASURED
LOAD DIFFERENCE ON FRONT AXLE [%]	MIN MAX	0.00 0.00	0.75 ✓
LOAD DIFFERENCE ON REAR AXLE [%]	MIN MAX	0.00 0.00	-1.22 ✓
LOAD DIFFERENCE FRONT AXLE AND REAR AXLE [%]	MIN MAX	0.00 0.00	-0.13 ✓
LOAD DIFFERENCE ON RAILS [%]	MIN MAX	0.00 0.00	-0.24 ✓
LOAD DIFFERENCE ON DIAGONAL WHEELS [%]	MIN MAX	0.00 0.00	-0.99 ✓

LEFT JACK LOAD	
7376	Kg

	THEORETICAL		MEASURED
WHEEL DIAMETER [mm]	MIN MAX		
GAP PRIMARY SUSPENSION [mm]	MIN MAX	33.00 39.00	35.80 ✓
SHIM THICK [mm]			
WEIGHT ON WHEEL [Kg]	Q1		5630

SECONDARY SUSPENSION ✓					
MEASURED [mm]	SHIM THICK [mm]		DIM. WITH SHIM [mm]	THEORETICAL [mm]	
586.47	+	0.00	= 586.47	MIN MAX	585.00 587.50

DIFFERENCE IN RIGHT AND LEFT SUSPENSION HEIGHTS [mm] ✓	THEORETICAL [mm]	
-0.63	MIN MAX	-1.00 1.00

	THEORETICAL		MEASURED
WHEEL DIAMETER [mm]	MIN MAX		
GAP PRIMARY SUSPENSION [mm]	MIN MAX	33.00 39.00	36.12 ✓
SHIM THICK [mm]			
WEIGHT ON WHEEL [Kg]	Q3		5534

CERTIFICATION OF CONFORMITY

GIBELA

Inpection certificate according EN 10204-3.1

Product:	Traction Motors 6 ECA 3022 B
Serial Number:	N ° 21737
Client / Customer:	ALSTOM UBUNYE (PTY) LTD
Project:	PRASA
P O Number:	77324724
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.

GIBELA RAIL TRANSORT CONSORTIUM RF (PTY) LTD
Traction Motors Quality
2024 -05- 18
Name : Dimakatso
Signature : MM

Date: 2024/05/18

Function: Final Inspection

Perfomed and signed off by: Name_____. Dimakatso Mohoalali

Signature MM_____

Gibela Rail
02 Shosholoza Avenue
M07 Traction Motor
1590

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

CERTIFICATION OF CONFORMITY

GIBELA

Inpection certificate according EN 10204-3.1

Product:	Traction Motors 6 ECA 3022 B
Serial Number:	N ° 21620
Client / Customer:	ALSTOM UBUNYE (PTY) LTD
Project:	PRASA
P O Number:	77028290
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

Perfomed and signed off by: Name_____ Dimakatso Mohoalali

Signature_____

GIBELA RAIL TRANSORT CONSORTIUM RF (PTY) LTD
Traction Motors Quality
2024 -05- 2 3
Name : Dimakatso
Signature :

Gibela Rail
02 Shosholoza Avenue
M07 Traction Motor
1590

21620

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: 08/04/2024
Name: Jacques

Assembly after test
Date: 03/05/24
Name: YOLANDE

ROTOR S/N	STATOR S/N	
MCB23-11-103	GIB-1645	

Bearing lubrification - Security operation
Incorrect lubrication can lead to engine failure with a safety risk in service
SRIL TROS 965.289

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

N°: ROMANIA 0097 09/23 SNZ19 - 1369794

S2 Radial play after assembly (0,042 / 0,114):
0,09mm ☒ OK ☐ NOK

S4 LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly
Min:144g - Max:149g Mesured quantity:

Filter 1(Name and signature)	Filter 2(Name and signature)	Quality validation Quality Insp. Name and signature
		Dima

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

Serial N°: GERMANY 0200 X116 - 0723 04/23 SN0085

S1 Radial play after assembly (0,021 / 0,067):
0,06mm ☒ OK ☐ NOK

Référence appareil: AMXG20

S3 LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly
Min:159g Max: 164g Mesured quantity:

Filter 1(Name and signature)	Filter 2(Name and signature)	Quality verification Quality Insp. Name and signature
		Dima

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) 666MΩ ☒ OK ☐ NOK

OPERATOR		Device serial number	Quality verification
Out of round at the end of the shaft drive end, 0,05 max Value 0,01mm	☒ OK ☐ NOK	AMXG20	☐ OK ☐ NOK
Out of round on toothed wheel 0,1 max: 0,03mm	☒ OK ☐ NOK	AMXG20	☐ OK ☐ NOK
sensor / toothed wheel play 0,7 (+/- 0,2): 0,7mm	☒ OK ☐ NOK	Device serial number C11BFL002	☐ OK ☐ NOK
Sensor reference: DTR0000512252/DSD1830.19Q14HW	☒ OK ☐ NOK	Device serial number S232100333	☐ OK ☐ NOK

Prep. & Final Assembly

OPERATOR				Quality verification		
F1	Torque tightening to 8 x 76 Nm:	X OK ☐ NOK	wrench reference (in the event of failure / absence of the motorized screwdriver)	QC 1 X 61 Nm	☐ OK	☐ NOK
F2	Torque tightening to 8 x 76 Nm:	X OK ☐ NOK	wrench reference (in the event of failure / absence of the motorized screwdriver)	QC 1 X 61 Nm	☐ OK	☐ NOK
F3	Torque tightening to 4 x 44 Nm: Fold locking plate	X OK ☐ NOK	wrench reference (in the event of failure / absence of the motorized screwdriver)	QC 1 X 37 Nm	☐ OK	☐ NOK
F4	Torque tightening to 4 x 22 Nm:	X OK ☐ NOK	wrench reference (in the event of failure / absence of the motorized screwdriver)	QC 1 X 18 Nm	☐ OK	☐ NOK
F5	Torque tightening to 6 x 22 Nm:	X OK ☐ NOK	wrench reference (in the event of failure / absence of the motorized screwdriver)	QC 1 X 18 Nm	☐ OK	☐ NOK
Finishing						
F1	Torque tightening to 4 x 22 Nm:	X OK ☐ NOK	wrench reference (in the event of failure / absence of the motorized screwdriver)	QC 1 X 22 Nm	☐ OK	☐ NOK
Grease protection transport						
S3	18g (0/+4.5) CC Mesured quantity: 18g				X OK	☐ NOK
S4	18g (0/+4.5) CC Mesured quantity: 18g				X OK	☐ 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: Dima MS.	

OBSERVATIONS

GIBELA RAIL TRANSORT CONSORTIUM RF (PTY) LTD
Traction Motors Quality
2024 -05- 23
Name : Dima
Signature : MS.

21737

ALSTOM

GIBELA

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

Référence: TROS 916.216 Révision: 2

Documents de référence: AT00000325953 - AT00000325990

Assembly before test
Date: 15/05/24
Name: XOLANI

Assembly after test
Date: 16/05/24
Name: XOLANI & THOMAS

ROTOR S/N	STATOR S/N	
SU900872-009	GIB-175 1	

Bearing lubrification - 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

S2
Incorrect assembly can lead to engine failure with a safety risk in service
SRIL TROS 965.289
FAG : NU 214-E-XL-M1-P6-F1-H257A-J20AB-C4 or ~~NU 214-E-M1-P6-F1-H257A-J20AA-C4~~
~~SKF: NU 214 ECM/C4 VA3091~~
(cross out the references that have not been fitted)

N°: ROMANIA 0097 09/23 SH 406 - 1369794

S2 Radial play after assembly (0,042 / 0,114): 0,07 mm
[X] OK [ ] NOK

S4 LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly
Min:144g - Max: 149g

Mesured quantity:	Quality validation
Filter 1(Name and signature)	Filter 2(Name and signature) / Quality Insp. Name and signature
	Dima KMS

INSULATED CERAMIC BEARING OPPOSITE DRIVE END side – Security operation

S1
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°: AUSTRIA 094W

S1 Radial play after assembly (0,021 / 0,067): 0,04 mm
[X] OK [ ] NOK

S3 LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly
Min:159g Max: 164g

Mesured quantity:	Quality verification
Filter 1(Name and signature)	Filter 2(Name and signature) / Quality Insp. Name and signature
	Dima KMS

Référence appareil: AMXG120

ALSTOM

GIBELA

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) 41,4 MΩ [X] OK [ ] NOK

OPERATOR		Device serial number	Quality verification
Out of round at the end of the shaft drive end, 0,05 max Value 0,01 mm	[X] OK [ ] NOK	AMXG120	[ ] OK [ ] NOK
Out of round on toothed wheel 0,1 max: 0,04 mm	[X] OK [ ] NOK	AMXG120	[ ] OK [ ] NOK
sensor / toothed wheel play 0,7 (+/- 0,2): 0,85 mm	[X] OK [ ] NOK	GIB-175 1	[ ] OK [ ] NOK
Sensor reference: DTR0000512252/DSD1830.19Q14HW	[X] OK [ ] NOK	6238100 4241	[ ] OK [ ] NOK

Prep. & Final Assembly

OPERATOR				Quality verification		
F1	Torque tightening to 8 x 76 Nm:	[X] OK [ ] NOK	wrench reference (in the event of failure / absence of the motorized screwdriver) NCC5357	QC 1 X 61 Nm	[ ] OK	[ ] NOK
F2	Torque tightening to 8 x 76 Nm:	[X] OK [ ] NOK	wrench reference (in the event of failure / absence of the motorized screwdriver) NCC5357	QC 1 X 61 Nm	[ ] OK	[ ] NOK
F3	Torque tightening to 4 x 44 Nm: Fold locking plate	[X] OK [ ] NOK	wrench reference (in the event of failure / absence of the motorized screwdriver) NCC5358	QC 1 X 37 Nm	[ ] OK	[ ] NOK
F4	Torque tightening to 4 x 22 Nm:	[X] OK [ ] NOK	wrench reference (in the event of failure / absence of the motorized screwdriver) NCC5363	QC 1 X 18 Nm	[ ] OK	[ ] NOK
F5	Torque tightening to 6 x 22 Nm:	[X] OK [ ] NOK	wrench reference (in the event of failure / absence of the motorized screwdriver) NCC5365	QC 1 X 18 Nm	[ ] OK	[ ] NOK

Finishing

F1	Torque tightening to 4 x 22 Nm:	[X] OK [ ] NOK	wrench reference (in the event of failure / absence of the motorized screwdriver) NCC5377	QC 1 X 22 Nm	[ ] OK	[ ] NOK

Grease protection transport

S3	18g (0/+4.5) CC	Mesured quantity: 18g		[X] OK	[ ] NOK
S4	18g (0/+4.5) CC	Mesured quantity: 18g		[X] OK	[ ] NOK

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

Final Inspection	Comments
Quality Insp Name and Signature: Dima	

OBSERVATIONS

GIBELA RAIL TRANSPORT CONSORTIUM RF (PTY) LTD
Traction Motors Quality
2024 -05- 16
Name : Dima
Signature : MDS