ALSTOM UBUNYE

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

MANUFACTURER'S DELIVERY DOCUMENT

PRODUCT TYPE	MOTOR BOGIE MB1
	DTR0009706804
SERIAL NUMBER	MB1 1359

CONTENTS

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	06 March 2024
NAME	Kwababana Hlumisa
VISA	

I - Deviation / Derogation

II - Bogie configuration

B Bogie index

ALSTOM UBUNYE

PRODUCTS TRACEABILITY

Products Designation	Product Reference	Serial Number	Batch or Date Manufactured	Supplier
Motor Bogie MB1	DTR0009706804	1359		Alstom - Ubunye
Motor Bogie Frame	AR00000176080	1667		Alstom - Ubunye
Wheelset (Front)	AR000000177020	M03083		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	K3243		NGC
Wheel (Right)	AR00000174670	108	02-23	Bonatrans
Wheel (Left)	AR000000174670	022	02-23	Bonatrans
Wheelset (Rear)	AR00000178600	M3084		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	K3260		NGC
Wheel (Right)	AR00000174670	089	02-23	Bonatrans
Wheel (Left)	AR00000174670	090	02-23	Bonatrans
Pneumatic suspension (Right)	AR00000176127	2309080		Hutchinson
Pneumatic suspension (Left)	AR00000176127	2309061		Hutchinson
Brake unit with PB (Right rear)	AR00000174544	1623	02-24	WEBTEC
Brake unit without PB (Right front)	AR00000175185	4895	02-24	WEBTEC
Brake unit without PB (Left Front)	AR00000175185	4894	02-24	WEBTEC
Brake unit without PB (left rear)	AR00000175185	4891	02-24	WEBTEC
Motor (front)	AR00000168516	21288		GIBELA
Motor (Rear)	AR00000168516	21289		GIBELA

DATE		PRESSING REPORT	
3/6/2024			
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 33.00 MAX 39.00		37.22 ✓
SHIM THICK [mm]			
WEIGHT ON WHEEL [Kg]	Q2		5590

SECONDARY SUSPENSION ✓					
MEASURED [mm]	SHIM THICK [mm]		DIM. WITH SHIM[mm]	THEORETICAL [mm]	
584.30	+	3.00	= 587.30	MIN	585.00
				MAX	587.50

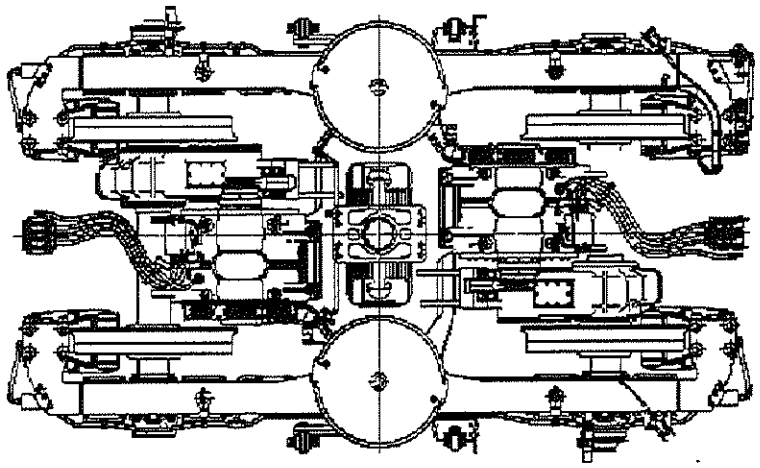
RIGHT JACK LOAD	
7377	Kg

	THEORETICAL		MEASURED
WHEEL DIAMETER [mm]	MIN MAX		
GAP PRIMARY SUSPENSION [mm]	MIN 33.00 MAX 39.00		37.68 ✓
SHIM THICK [mm]			
WEIGHT ON WHEEL [Kg]	Q4		5644

BOGIE SERIAL N°	MB1-1359
BOGIE TYPE	MB
BOGIE WEIGHT UNDER LOAD [Kg]	22379
COMPLETE BOGIE WEIGHT [Kg]	7282

OPERATOR	DATE
EDWARD	3/6/2024

OPERATOR STAMP
BFI-21



LEFT JACK LOAD	
7375	Kg

	THEORETICAL		MEASURED
WHEEL DIAMETER [mm]	MIN MAX		
GAP PRIMARY SUSPENSION [mm]	MIN 33.00 MAX 39.00		37.72 ✓
SHIM THICK [mm]			
WEIGHT ON WHEEL [Kg]	Q1		5583

SECONDARY SUSPENSION ✓					
MEASURED [mm]	SHIM THICK [mm]		DIM. WITH SHIM [mm]	THEORETICAL [mm]	
587.28	+	0.00	= 587.28	MIN	585.00
				MAX	587.50

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

	THEORETICAL		MEASURED
LOAD DIFFERENCE ON FRONT AXLE [%]	MIN 0.00 MAX 0.00		-0.06 ✓
LOAD DIFFERENCE ON REAR AXLE [%]	MIN 0.00 MAX 0.00		-0.72 ✓
LOAD DIFFERENCE FRONT AXLE AND REAR AXLE [%]	MIN 0.00 MAX 0.00		-0.15 ✓
LOAD DIFFERENCE ON RAILS [%]	MIN 0.00 MAX 0.00		-0.39 ✓
LOAD DIFFERENCE ON DIAGONAL WHEELS [%]	MIN 0.00 MAX 0.00		-0.33 ✓

	THEORETICAL		MEASURED
WHEEL DIAMETER [mm]	MIN MAX		
GAP PRIMARY SUSPENSION [mm]	MIN 33.00 MAX 39.00		36.96 ✓
SHIM THICK [mm]			
WEIGHT ON WHEEL [Kg]	Q3		5563

CERTIFICATION OF CONFORMITY

Inpection certificate according EN 10204-3.1

Product:	Traction Motors	6 ECA 3022 B
Serial Number:	N °	21288
Client / Customer:	ALSTOM UBUNYE (PTY) LTD	
Project:	PRASA	
P O Number:	76133593	
Status:	QC PASS	
Derogations / Concession / Waiver N °:	DR-GIB-044	
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: 2024/03/01

Function: Final Inspection

Perfomed and signed off by: Name_____ Dimakatso Mohoalali

Signature_____

GIBELA RAIL TRANSORT CONSORTIUM RF (PTY) LTD
Traction Motors Quality
2024 -03- 01
Name : Dimakatso
Signature :

Gibela Rail
02 Shosholoza Avenue
M07 Traction Motor
1590

21288

ALSTOM

GIBELG

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

Référence: TROS 916.216 Révision: 2

Documents de référence: AT00000325953 - AT00000325990

Assembly before test
Date: 14/11/2023
Name: Jacques

Assembly after test
Date: 24/10/24
Name: XOLANI THOMAS

ROTOR S/N	STATOR S/N	
MCB22-04-165	GIB-1315	

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°:
AUSTRIA : 237 W

(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

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):

0,05mm ☒ OK ☐ NOK

AJ CP14 Référence appareil

(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

GIBELG

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) 80mΩ ☒ OK ☐ NOK

OPERATOR				Quality verification	
Out of round at the end of the shaft drive end 0,05 max:	☒ OK ☐ NOK	AJ CP14 Device serial number		☐ OK	☐ NOK
Out of round on toothed wheel 0,1 max: 0,04mm	☒ OK ☐ NOK	AJ CP14 Device serial number		☐ OK	☐ NOK
sensor / toothed wheel play 0,7 (+/- 0,2): 0,75mm	☒ OK ☐ NOK	GIBF1002 Device serial number		☐ OK	☐ NOK

0,04mm

Sensor reference: DTR0000512252/DSD1830.19Q14HW	☒ OK ☐ NOK	Device serial number S224300832 8	☐ 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 motorized screwdriver) D2518	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 motorized screwdriver) D2518	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 motorized screwdriver) D2518	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 motorized screwdriver) D2518	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 motorized screwdriver) D2518	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 motorized screwdriver) N6855 77	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 -03- 01
Name : Dima
Signature :

CERTIFICATION OF CONFORMITY

Inpection certificate according EN 10204-3.1

Product:	Traction Motors	6 ECA 3022 B
Serial Number:	N °	21289
Client / Customer:	ALSTOM UBUNYE (PTY) LTD	
Project:	PRASA	
P O Number:	76149268	
Status:	QC PASS	
Derogations / Concession / Waiver N °:	DR-GIB-044	
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: 2024/03/01

Function: Final Inspection

Perfomed and signed off by: Name_____ Dimakatso Mohoalali

Signature_____

GIBELA RAIL TRANSORT CONSORTIUM RF (PTY) LTD
Traction Motors Quality
2024 -03- 01
Name : Dimakatso
Signature :

Gibela Rail
02 Shosholoza Avenue
M07 Traction Motor
1590

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

21289

ALSTOM GIBELG

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

Référence: TROS 916.216 Révision: 2

Documents de référence: AT00000325953 - AT00000325990

Assembly before test
Date: 14/11/2023
Name: Jacques

Assembly after test
Date: 14/02/24
Name: Godfroy

ROTOR S/N	STATOR S/N	
MCN22-8-007	GIB-292	

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°:
AUSTRIA : 237 W

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

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 : 0962W

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

S3 LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly
Min:159g Max: 169g

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

Référence apparell: ASCP14

ALSTOM GIBELG

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) 184 MΩ ☒ OK ☐ NOK

OPERATOR			Quality verification	
Out of round at the end of the shaft drive end 0,05 max: 0,01 mm	☒ OK ☐ NOK	Device serial number: ASCP14	☐ OK	☐ NOK
Out of round on toothed wheel 0,1 max: 0,04 mm	☒ OK ☐ NOK	Device serial number: ASCP14	☐ OK	☐ NOK
sensor / toothed wheel play 0,7 (+/- 0,2): 0,7 mm	☒ OK ☐ NOK	Device serial number: CAPFL0082	☐ OK	☐ NOK

Sensor reference: DTR0000512252/DSD1830.19Q14HW	☒ OK ☐ NOK	Device serial number S22436086 92	☐ 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 motorized 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 motorized 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 motorized 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 motorized 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 motorized 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 motorized screwdriver)	QC 1 X 22 Nm	☐ OK	☐ NOK

Grease protection transport

S3	18g (0/+4.5) CC	Mesured quantity: 18g	☒ OK	☐ OK	☐ NOK
S4	18g (0/+4.5) CC	Mesured quantity: 18g	☒ OK	☐ 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 -03- 01
Name : Dima
Signature :

ALSTOM UBUNYE

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 - 581

CONTENTS

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	05 March 2024
NAME	Kwababana Hlumisa
VISA	

I - Deviation / Derogation

II - Bogie configuration

B Bogie index

21314

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: 20-11-25
Name: R

Assembly after test
Date: 24/01/2024
Name: Ecaterina Tommas

ROTOR S/N	STATOR S/N	
MCRR-11-038	SIB-1318	

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 11/22 SN579 - 5747155

S2 Radial play after assembly (0,042 / 0,114): 0,08

[V] 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

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 X019-1008 01/23 SN0301

S1 Radial play after assembly (0,021 / 0,067): 0,05

[X] 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

Référence appareil
AMX914

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)	7,06 GΩ	[X] OK	[ ] NOK

ALSTOM UBUNYE

PRODUCTS TRACEABILITY

Products Designation	Product Reference	Serial Number	Batch or Date Manufactured	Supplier
Motor Bogie MB2	DTR0009706805	581		Alstom - Ubunye
Motor Bogie Frame	AR00000176080	M1672		Alstom - Ubunye
Wheelset (Front)	AR000000177020	M3073		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	K3237		NGC
Wheel (Right)	AR00000174670	141	04-23	Bonatrans
Wheel (Left)	AR000000174670	085	04-23	Bonatrans
Wheelset (Rear)	AR00000178600	M3074		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	K3249		NGC
Wheel (Right)	AR00000174670	116	04-23	Bonatrans
Wheel (Left)	AR00000174670	145	04-23	Bonatrans
Pneumatic suspension (Right)	AR00000176127	2309119		Hutchinson
Pneumatic suspension (Left)	AR00000176127	2309128		Hutchinson
Brake unit with PB (Right rear)	AR00000174544	1624	02-24	Wabtec
Brake unit without PB (Right front)	AR00000175185	4892	02-24	Wabtec
Brake unit without PB (Left Front)	AR00000175185	4896	02-24	Wabtec
Brake unit without PB (left rear)	AR00000175185	4893	02-24	Wabtec
Motor (front)	AR00000168516	21314		Alstom - Gibela
Motor (Rear)	AR00000168516	21300		Alstom - Gibela

QC: 018
Revision: 1.0

PRESSING REPORT

DATE	
3/4/2024	
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	38.31 ✓
SHIM THICK [mm]			
WEIGHT ON WHEEL [Kg]	Q2		5575

SECONDARY SUSPENSION ✓					
MEASURED [mm]	SHIM THICK [mm]		DIM. WITH SHIM[mm]	THEORETICAL [mm]	
583.95	+	3.00	= 586.95	MIN	585.00
				MAX	587.50

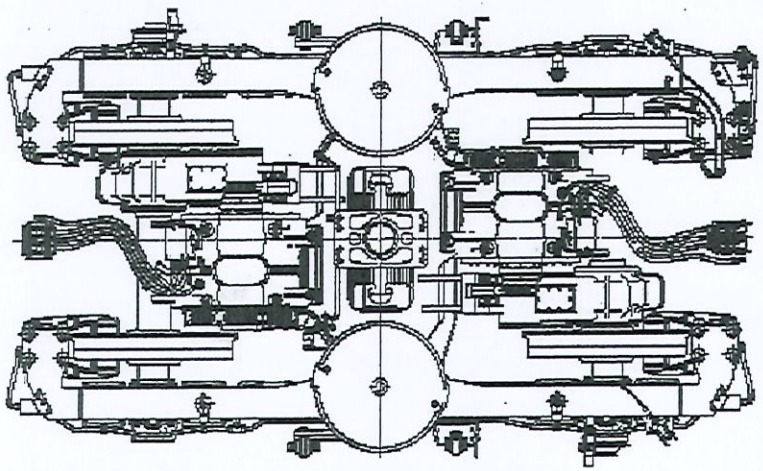
RIGHT JACK LOAD	
7376	Kg

	THEORETICAL		MEASURED
WHEEL DIAMETER [mm]	MIN MAX		
GAP PRIMARY SUSPENSION [mm]	MIN MAX	33.00 39.00	38.49 ✓
SHIM THICK [mm]			
WEIGHT ON WHEEL [Kg]	Q4		5530

BOGIE SERIAL N°	MB2-581
BOGIE TYPE	MB
BOGIE WEIGHT UNDER LOAD [Kg]	22339
COMPLETE BOGIE WEIGHT [Kg]	7276

OPERATOR	DATE
BAFANA	3/4/2024

OPERATOR STAMP
DC-3FI-6



	THEORETICAL		MEASURED
LOAD DIFFERENCE ON FRONT AXLE [%]	MIN MAX	0.00 0.00	-0.06 ✓
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	-0.24 ✓
LOAD DIFFERENCE ON RAILS [%]	MIN MAX	0.00 0.00	0.58 ✓
LOAD DIFFERENCE ON DIAGONAL WHEELS [%]	MIN MAX	0.00 0.00	0.64 ✓

LEFT JACK LOAD	
7376	Kg

	THEORETICAL		MEASURED
WHEEL DIAMETER [mm]	MIN MAX		
GAP PRIMARY SUSPENSION [mm]	MIN MAX	33.00 39.00	38.19 ✓
SHIM THICK [mm]			
WEIGHT ON WHEEL [Kg]	Q1		5568

SECONDARY SUSPENSION ✓					
MEASURED [mm]	SHIM THICK [mm]		DIM. WITH SHIM [mm]	THEORETICAL [mm]	
587.32	+	0.00	= 587.32	MIN	585.00
				MAX	587.50

DIFFERENCE IN RIGHT AND LEFT SUSPENSION HEIGHTS [mm] ✓	THEORETICAL [mm]	
-0.37	MIN	-1.00
	MAX	1.00

	THEORETICAL		MEASURED
WHEEL DIAMETER [mm]	MIN MAX		
GAP PRIMARY SUSPENSION [mm]	MIN MAX	33.00 39.00	37.85 ✓
SHIM THICK [mm]			
WEIGHT ON WHEEL [Kg]	Q3		5667

OPERATOR				Quality verification	
Out of round at the end of the shaft drive end 0,05 max: 0,01	X OK ☐ NOK	Device serial number MMX514		☐ OK	☐ NOK
Out of round on toothed wheel 0,1 max: 0,05	X OK ☐ NOK	Device serial number MMX514		☐ OK	☐ NOK
sensor / toothed wheel play 0,7 (+/- 0,2): 0,8	X OK ☐ NOK	Device serial number 9181L002		☐ OK	☐ NOK
Sensor reference: DTR0000512252/DSD1830.19Q14HW	X OK ☐ NOK	Device serial number 522430138913		☐ 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) D2862188	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) D2862188	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) D25-11039	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) N0052269	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) N0052269	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) N0052269	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 RDS.	

OBSERVATIONS

GIBELA RAIL TRANSORT CONSORTIUM RF (PTY) LTD
Traction Motors Quality
2024 -01- 25
Name : Dina
Signature : RDS.

MOT 21300

ALSTOM

GIBELA

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

Référence: TROS 916.216 Révision: 2

Documents de référence: AT00000325953 - AT00000325990

Assembly before test
Date: 17/11/23
Name: X. LAINE

Assembly after test
Date: 16/02/24
Name: Godfrey Kolani & Thomas

ROTOR S/N	STATOR S/N	
MCR22-10-055	CTAB-1305	

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°:
AUSTRIA : 237 W

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

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 : 094W

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

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

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

Référence appareil: AMXG14

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) 2,855Ω [X] OK [ ] NOK

OPERATOR			Device serial number	Quality verification	
Out of round at the end of the shaft drive end 0,05 max: 0mm	[X] OK	[ ] NOK	AMXG14	[ ] OK	[ ] NOK
Out of round on toothed wheel 0,1 max: 0,03mm	[X] OK	[ ] NOK	AMXG14	[ ] OK	[ ] NOK
sensor / toothed wheel play 0,7 (+/- 0,2): 0,7mm	[X] OK	[ ] NOK	CTEG005	[ ] OK	[ ] NOK

Sensor reference: DTR0000512252/DSD1830.19Q14HW	X OK	NOK	Device serial number 893/2003493		☐ OK	☐ NOK	

Prep. & Final Assembly

OPERATOR				wrench reference	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) NC05087	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) NC05087	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) NC05081	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) NC05088	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) NC05088	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) N007[illegible]	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: Kgasane [signature]	

OBSERVATIONS

GIBELA RAIL TRANSPORT CONSORTIUM RF (PTY) LTD
Traction Motors Quality
2024 -02- 21
Name : Dima
Signature : [signature]

CERTIFICATION OF CONFORMITY

Inpection certificate according EN 10204-3.1

Product:	Traction Motors	6 ECA 3022 B
Serial Number:	N °	21300
Client / Customer:	ALSTOM UBUNYE (PTY) LTD	
Project:	PRASA	
P O Number:	76158984	
Status:	QC PASS	
Derogations / Concession / Waiver N °:	N/A	
Customer modification:	N/A	
Missing parts:	N/A	

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

Date: 2024/02/21

Function: Final Inspection

Perfomed and signed off by: Name_____ Dimakatso Mohoalali

Signature_____

GIBELA RAIL TRANSORT CONSORTIUM RF (PTY) LTD
Traction Motors Quality
2024 -02- 21
Name : Dimakatso
Signature :

Gibela Rail
02 Shosholoza Avenue
M07 Traction Motor
1590

CERTIFICATION OF CONFORMITY

GIBELA

Inpection certificate according EN 10204-3.1

Product:	Traction Motors	6 ECA 3022 B
Serial Number:	N °	21314
Client / Customer:	ALSTOM UBUNYE (PTY) LTD	
Project:	PRASA	
P O Number:	76201809	
Status:	QC PASS	
Derogations / Concession / Waiver N °:	N/A	
Customer modification:	N/A	
Missing parts:	N/A	

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

Date: 2024/01/26

Function: Final Inspection

Perfomed and signed off by: Name_____ Dimakatso Mohoalali

Signature_____

GIBELA RAIL TRANSORT CONSORTIUM RF (PTY) LTD
Traction Motors Quality
2024 -01- 26
Name : Dimakatso
Signature :

Gibela Rail
02 Shosholoza Avenue
M07 Traction Motor
1590