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 1437

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	21 May 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	1437		Alstom - Ubunye
Motor Bogie Frame	AR00000176080	M1782		Alstom - Ubunye
Wheelset (Front)	AR000000177020	M03291		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	K3421		NGC
Wheel (Right)	AR00000174670	140	10-23	Bonatrans
Wheel (Left)	AR000000174670	080	10-23	Bonatrans
Wheelset (Rear)	AR00000178600	M03292		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	K2889		NGC
Wheel (Right)	AR00000174670	163	07-23	Bonatrans
Wheel (Left)	AR00000174670	057	10-23	Bonatrans
Pneumatic suspension (Right)	AR00000176127	2311087		Hutchinson
Pneumatic suspension (Left)	AR00000176127	2312054		Hutchinson
Brake unit with PB (Right rear)	AR00000174544	1791	05-24	WEBTEC
Brake unit without PB (Right front)	AR00000175185	5399	05-24	WEBTEC
Brake unit without PB (Left Front)	AR00000175185	5395	05-24	WEBTEC
Brake unit without PB (left rear)	AR00000175185	5397	05-24	WEBTEC
Motor (front)	AR00000168516	21632		GIBELA
Motor (Rear)	AR00000168516	21657		GIBELA

PRESSING REPORT

DATE	
5/20/2024	
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		38.25 ✓
SHIM THICK [mm]			
WEIGHT ON WHEEL [Kg]	Q2		5538

SECONDARY SUSPENSION ✓			
MEASURED [mm]	SHIM THICK [mm]	DIM. WITH SHIM[mm]	THEORETICAL [mm]
586.79	+ 0.00	= 586.79	MIN 585.00 MAX 587.50

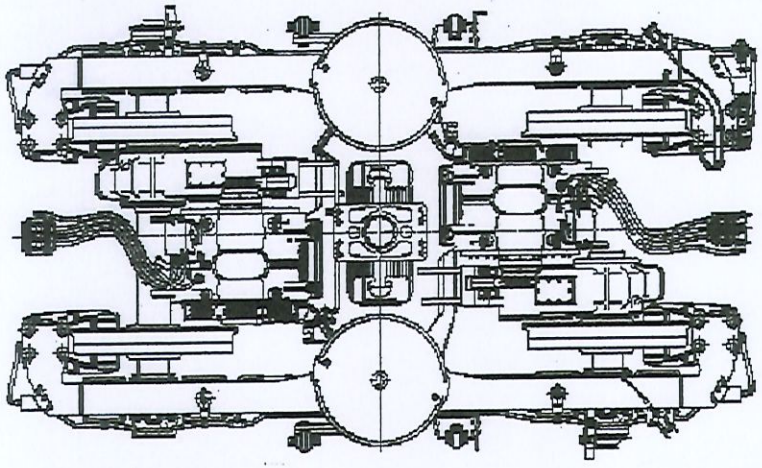
RIGHT JACK LOAD
7376 Kg

	THEORETICAL		MEASURED
WHEEL DIAMETER [mm]	MIN MAX		
GAP PRIMARY SUSPENSION [mm]	MIN 33.00 MAX 39.00		38.42 ✓
SHIM THICK [mm]			
WEIGHT ON WHEEL [Kg]	Q4		5584

BOGIE SERIAL N°	MB1-1437
BOGIE TYPE	MB
BOGIE WEIGHT UNDER LOAD [Kg]	22367
COMPLETE BOGIE WEIGHT [Kg]	7278

OPERATOR	DATE
EDWARD	5/20/2024

OPERATOR STAMP
BFI-21



	THEORETICAL		MEASURED
LOAD DIFFERENCE ON FRONT AXLE [%]	MIN 0.00 MAX 0.00		0.71 ✓
LOAD DIFFERENCE ON REAR AXLE [%]	MIN 0.00 MAX 0.00		0.39 ✓
LOAD DIFFERENCE FRONT AXLE AND REAR AXLE [%]	MIN 0.00 MAX 0.00		-0.25 ✓
LOAD DIFFERENCE ON RAILS [%]	MIN 0.00 MAX 0.00		0.55 ✓
LOAD DIFFERENCE ON DIAGONAL WHEELS [%]	MIN 0.00 MAX 0.00		-0.16 ✓

LEFT JACK LOAD
7376 Kg

	THEORETICAL		MEASURED
WHEEL DIAMETER [mm]	MIN MAX		
GAP PRIMARY SUSPENSION [mm]	MIN 33.00 MAX 39.00		37.79 ✓
SHIM THICK [mm]			
WEIGHT ON WHEEL [Kg]	Q1		5617

SECONDARY SUSPENSION ✓			
MEASURED [mm]	SHIM THICK [mm]	DIM. WITH SHIM [mm]	THEORETICAL [mm]
585.89	+ 1.00	= 586.89	MIN 585.00 MAX 587.50

DIFFERENCE IN RIGHT AND LEFT SUSPENSION HEIGHTS [mm] ✓	THEORETICAL [mm]
-0.10	MIN -1.00 MAX 1.00

	THEORETICAL		MEASURED
WHEEL DIAMETER [mm]	MIN MAX		
GAP PRIMARY SUSPENSION [mm]	MIN 33.00 MAX 39.00		37.94 ✓
SHIM THICK [mm]			
WEIGHT ON WHEEL [Kg]	Q3		5628

CERTIFICATION OF CONFORMITY

Inpection certificate according EN 10204-3.1

Product:	Traction Motors 6 ECA 3022 B
Serial Number:	N ° 21632
Client / Customer:	ALSTOM UBUNYE (PTY) LTD
Project:	PRASA
P O Number:	77075743
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: 2024/05/12

Function: Final Inspection

Perfomed and signed off by: Name_____ Dimakatso Mohoalali

Signature_____

GIBELA RAIL TRANSORT CONSORTIUM RF (PTY) LTD
Traction Motors Quality
2024 -05- 12
Name : Dimakatso
Signature :

Gibela Rail
02 Shosholoza Avenue
M07 Traction Motor
1590

21632

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: 13/04/2024
Name: Jacques

Assembly after test
Date: 12/05/24
Name: Godfrey Yoland & Thomas

ROTOR S/N	STATOR S/N	
MCR23-11-056	GTB-1658	

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 0200 X116 – 0740 04/23 SN0106

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:169g 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 – 0740 04/23 SN0106

S1 Radial play after assembly (0,021 / 0,067): 0,05mm ☒ OK ☐ NOK

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

Référence appareil: AMXG20

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) 286MΩ ☒ OK ☐ NOK

OPERATOR			Quality verification
Out of round at the end of the shaft drive end, 0,05 max Value 0,01mm	☒ OK ☐ NOK	Device serial number: AMXG20	☐ OK ☐ NOK
Out of round on toothed wheel 0,1 max: 0,04mm	☒ OK ☐ NOK	Device serial number: AMXG20	☐ OK ☐ NOK
sensor / toothed wheel play 0,7 (+/- 0,2): 0,75mm	☒ OK ☐ NOK	Device serial number: GTBFL002	☐ OK ☐ NOK
Sensor reference: DTR0000512252/DSD1830.19Q14HW	☒ OK ☐ NOK	Device serial number: S0.3160138147	☐ 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) X OK ☐ NOK

Final Inspection	Comments
Quality Insp Name and Signature: Dima	

OBSERVATIONS

GIBELA RAIL TRANSORT CONSORTIUM RF (PTY) LTD
Traction Motors Quality
2024 -05- 12
Name : Dima
Signature :

CERTIFICATION OF CONFORMITY

Inpection certificate according EN 10204-3.1

Product:	Traction Motors 6 ECA 3022 B
Serial Number:	N ° 21657
Client / Customer:	ALSTOM UBUNYE (PTY) LTD
Project:	PRASA
P O Number:	77163837
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: 2024/05/12

Function: Final Inspection

Perfomed and signed off by: Name_____ Dimakatso Mohoalali

Signature_____

GIBELA RAIL TRANSORT CONSORTIUM RF (PTY) LTD
Traction Motors Quality
2024 -05- 12
Name : Dimakatso
Signature :

Gibela Rail
02 Shosholoza Avenue
M07 Traction Motor
1590

21657

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: 19/04/24
Name: Godfrey

Assembly after test
Date: 12/05/24
Name: Godfrey Xolani & Thomas

ROTOR S/N	STATOR S/N	
MCR23-11-027	GTB-1668	

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-VA3001~~
(cross out the references that have not been fitted)

N°: ROMANIA - 0097 09/23 SN386 - 1369794

S2 Radial play after assembly (0,042 / 0,114): 0,06mm

[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

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°: GERMANY - 0200 X116 - 0707 04/23 SN0049

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 Max:164g

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

Référence appareil: AZJP14

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) 8.16 GΩ [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: AZJP14	[ ] OK [ ] NOK
Out of round on toothed wheel 0,1 max: 0,05mm	[X] OK [ ] NOK	Device serial number: AZJP14	[ ] OK [ ] NOK
sensor / toothed wheel play 0,7 (+/- 0,2): 0,6mm	[X] OK [ ] NOK	Device serial number: GTBFL002	[ ] OK [ ] NOK
Sensor reference: DTR0000512252/DSD1830.19Q14HW	[X] OK [ ] NOK	Device serial number: 5232100353	[ ] 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) D0860188	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) D0860188	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) D0511039	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) N0052269	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) N0052269	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) N0052269	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 [signature]	

OBSERVATIONS

GIBELA RAIL TRANSORT CONSORTIUM RF (PTY) LTD
Traction Motors Quality
2024 -05- 12
Name : Dima
Signature : [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 MB1
	DTR0009706804
SERIAL NUMBER	MB1 - 1440

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	23 May 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	1440		Alstom - Ubunye
Motor Bogie Frame	AR00000176080	1785		Alstom - Ubunye
Wheelset (Front)	AR000000177020	3303		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	3130		NGC
Wheel (Right)	AR00000174670	100	1023	Bonatrans
Wheel (Left)	AR000000174670	119	10.23	Bonatrans
Wheelset (Rear)	AR00000178600	3168		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	3304		NGC
Wheel (Right)	AR00000174670	030	07.23	Bonatrans
Wheel (Left)	AR00000174670	015	07.23	Bonatrans
Pneumatic suspension (Right)	AR00000176127	2312044		Hutchinson
Pneumatic suspension (Left)	AR00000176127	2311104		Hutchinson
Brake unit with PB (Right rear)	AR00000174544	1764	05.24	WEBTEC
Brake unit without PB (Right front)	AR00000175185	5406	05.24	WEBTEC
Brake unit without PB (Left Front)	AR00000175185	5402	05.24	WEBTEC
Brake unit without PB (left rear)	AR00000175185	5392	05.24	WEBTEC
Motor (front)	AR00000168516	21717		GIBELA
Motor (Rear)	AR00000168516	21597		GIBELA

PRESSING REPORT

DATE	
5/22/2024	

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	36.40 ✓
SHIM THICK [mm]			
WEIGHT ON WHEEL [Kg]	Q2		5584

SECONDARY SUSPENSION ✓					
MEASURED [mm]	SHIM THICK [mm]		DIM. WITH SHIM[mm]	THEORETICAL [mm]	
585.52	+	1.00	= 586.52	MIN	585.00
				MAX	587.50

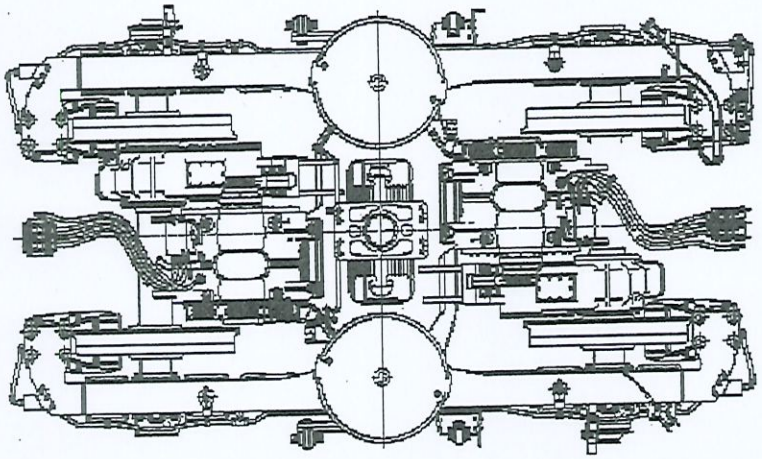
RIGHT JACK LOAD	
7376	Kg

	THEORETICAL		MEASURED
WHEEL DIAMETER [mm]	MIN MAX		
GAP PRIMARY SUSPENSION [mm]	MIN MAX	33.00 39.00	37.10 ✓
SHIM THICK [mm]			
WEIGHT ON WHEEL [Kg]	Q4		5583

BOGIE SERIAL N°	MB1-1440
BOGIE TYPE	MB
BOGIE WEIGHT UNDER LOAD [Kg]	22376
COMPLETE BOGIE WEIGHT [Kg]	7274

OPERATOR	DATE
BAFANA	5/22/2024

OPERATOR STAMP
DC-BFI-6



	THEORETICAL		MEASURED
LOAD DIFFERENCE ON FRONT AXLE [%]	MIN MAX	0.00 0.00	-0.11 ✓
LOAD DIFFERENCE ON REAR AXLE [%]	MIN MAX	0.00 0.00	0.48 ✓
LOAD DIFFERENCE FRONT AXLE AND REAR AXLE [%]	MIN MAX	0.00 0.00	-0.29 ✓
LOAD DIFFERENCE ON RAILS [%]	MIN MAX	0.00 0.00	0.19 ✓
LOAD DIFFERENCE ON DIAGONAL WHEELS [%]	MIN MAX	0.00 0.00	0.29 ✓

LEFT JACK LOAD	
7377	Kg

	THEORETICAL		MEASURED
WHEEL DIAMETER [mm]	MIN MAX		
GAP PRIMARY SUSPENSION [mm]	MIN MAX	33.00 39.00	36.80 ✓
SHIM THICK [mm]			
WEIGHT ON WHEEL [Kg]	Q1		5572

SECONDARY SUSPENSION ✓					
MEASURED [mm]	SHIM THICK [mm]		DIM. WITH SHIM [mm]	THEORETICAL [mm]	
587.43	+	0.00	= 587.43	MIN	585.00
				MAX	587.50

DIFFERENCE IN RIGHT AND LEFT SUSPENSION HEIGHTS [mm] ✓	THEORETICAL [mm]	
-0.91	MIN	-1.00
	MAX	1.00

	THEORETICAL		MEASURED
WHEEL DIAMETER [mm]	MIN MAX		
GAP PRIMARY SUSPENSION [mm]	MIN MAX	33.00 39.00	36.59 ✓
SHIM THICK [mm]			
WEIGHT ON WHEEL [Kg]	Q3		5637

MOT 21717

ALSTOM

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: 08/05/2024
Name: Jacques

Assembly after test
Date: 11/05/24
Name: Godfrey Xolani Thomas

ROTOR S/N	STATOR S/N	
MCB23-11-043	GIB-1733	

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 SN 435-1369794

Radial play after assembly (0,042 / 0,114): (S2)		LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly (S4)		
0,08mm [X] OK	[ ] NOK	Min:144g - Max:149g	Mesured quantity:	Quality validation
		Fitter 1(Name and signature): [signature]	Fitter 2(Name and signature): [signature]	Quality Insp. Name and signature: Dima [signature]

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

Radial play after assembly (0,021 / 0,067): (S1)		LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly (S3)		
0,06mm [X] OK	[ ] NOK	Min:159g Max:164g	Mesured quantity:	Quality verification
Référence appareil: AMXG20		Fitter 1(Name and signature): [signature]	Fitter 2(Name and signature): [signature]	Quality Insp. Name and signature: Dima [signature]

ALSTOM

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)		3,10 GΩ	[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: AMXG20	[ ] OK	[ ] NOK
Out of round on toothed wheel 0,1 max: 0,04mm	[X] OK [ ] NOK	Device serial number: AMXG20	[ ] OK	[ ] NOK
sensor / toothed wheel play 0,7 (+/- 0,2): 0,85mm	[X] OK [ ] NOK	Device serial number: GIBF001	[ ] OK	[ ] NOK
Sensor reference: DTR0000512252/DSD1830.19Q14HW	[X] OK [ ] NOK	Device serial number: SD2210005591	[ ] 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 X 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) X OK ☐ NOK

Final Inspection	Comments
Quality Insp Name and Signature: Gasane R	

OBSERVATIONS

GIBELA RAIL TRANSORT CONSORTIUM RF (PTY) LTD
Traction Motors Quality
2024 -05- 11
Name : Gasane
Signature R

21597

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: 19/03/24
Name: Godfrey

Assembly after test
Date: 12/05/24
Name: Godfrey Xolani Thomas

ROTOR S/N	STATOR S/N	
MCR23-11-024	GIB-1607	

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 SN 69 - 1369794

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
	PRAS 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 X116-0811 04/23 SN 0154

S1 Radial play after assembly (0,021 / 0,067): 0,04mm
[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 PRAS

Référence appareil: AMXG14

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) 1.51 GΩ [X] OK [ ] NOK

OPERATOR			Quality verification
Out of round at the end of the shaft drive end, 0,05 max Value 0,02 mm	[X] OK [ ] NOK	Device serial number AMXG14	[ ] OK [ ] NOK
Out of round on toothed wheel 0,1 max: 0,07 mm	[X] OK [ ] NOK	Device serial number AMXG14	[ ] OK [ ] NOK
sensor / toothed wheel play 0,7 (+/-0,2): 0,7 mm	[X] OK [ ] NOK	Device serial number GIBSH-002	[ ] OK [ ] NOK
Sensor reference: DTR0000512252/DSD1830.19Q14HW	[X] OK [ ] NOK	Device serial number S231200404041	[ ] 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 torque measuring) 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 torque measuring) 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) D2511039	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 torque measuring) N0052469	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 torque measuring) N0052469	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 torque measuring) N0052469	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 FMS.	

OBSERVATIONS

GIBELA RAIL TRANSORT CONSORTIUM RF (PTY) LTD
Traction Motors Quality
2024 -05- 12
Name : Dima
Signature : FMS.

CERTIFICATION OF CONFORMITY

Inpection certificate according EN 10204-3.1

Product:	Traction Motors	6 ECA 3022 B
Serial Number:	N °	21717
Client / Customer:	ALSTOM UBUNYE (PTY) LTD	
Project:	PRASA	
P O Number:	77252403	
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: 2024/05/12

Function: Final Inspection

Perfomed and signed off by: Name_____ Dimakatso Mohoalali

Signature_____

GIBELA RAIL TRANSORT CONSORTIUM RF (PTY) LTD
Traction Motors Quality
2024 -05- 12
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 ° 21597
Client / Customer:	ALSTOM UBUNYE (PTY) LTD
Project:	PRASA
P O Number:	76950618
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: 2024/05/12

Function: Final Inspection

Perfomed and signed off by: Name_____ Dimakatso Mohoalali

Signature_____

GIBELA RAIL TRANSORT CONSORTIUM RF (PTY) LTD
Traction Motors Quality
2024 -05- 1 2
Name : Dimakatso
Signature :

Gibela Rail
02 Shosholoza Avenue
M07 Traction Motor
1590