



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

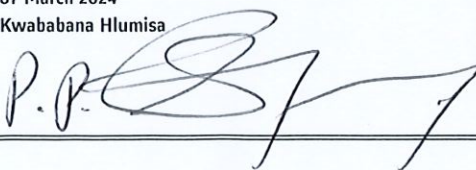
SERIAL NUMBER **MB1 - 1360**

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- 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	07 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	M1360		Alstom - Ubunye
Motor Bogie Frame	AR00000176080	M1654		Alstom - Ubunye
Wheelset (Front)	AR000000177020	M3087		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	K3233		NGC
Wheel (Right)	AR00000174670	099	02-23	Bonatrans
Wheel (Left)	AR000000174670	085	02-23	Bonatrans
Wheelset (Rear)	AR00000178600	M3088		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	K3187		NGC
Wheel (Right)	AR00000174670	055	02-23	Bonatrans
Wheel (Left)	AR00000174670	164	10-23	Bonatrans
Pneumatic suspension (Right)	AR00000176127	2309022		Hutchinson
Pneumatic suspension (Left)	AR00000176127	2309024		Hutchinson
Brake unit with PB (Right rear)	AR00000174544	1630	02-24	Wabtec
Brake unit without PB (Right front)	AR00000175185	4915	02-24	Wabtec
Brake unit without PB (Left Front)	AR00000175185	4906	02-24	Wabtec
Brake unit without PB (left rear)	AR00000175185	4909	02-24	Wabtec
Motor (front)	AR00000168516	21414		Alstom Ornans
Motor (Rear)	AR00000168516	21208		Alstom Ornans

DATE 3/6/2024	RESPONSABLE VALIDATION	PRASA ALBERT M. GILBERT	PRESSING REPORT	
DATE VALIDATION			INSTRUCTION SHEET:	LOAD TEST : MOTOR BOGIE
			PROJECT:	

SECONDARY SUSPENSION			THEORETICAL [mm]
MEASURED [mm]	SHIM THICK [mm]	DIM. WITH SHIM[mm]	
586.59	+	0.00	MIN 586.59 MAX 587.50

RIGHT JACK LOAD
7376 K9

This technical drawing illustrates the chassis of a vehicle, viewed from above. The central component is the engine, which is connected to a transmission. The rear axle assembly is shown with two large circular wheels. The chassis is supported by a frame with various suspension components. The drawing is a detailed line drawing, showing the intricate details of the mechanical parts.


	THEORETICAL	MEASURED
LOAD DIFFERENCE ON FRONT AXLE [%]	MIN 0.00 MAX 0.00	0.57 ↙
LOAD DIFFERENCE ON REAR AXLE [%]	MIN 0.00 MAX 0.00	0.23 ↙
LOAD DIFFERENCE ON FRONT AXLE AND REAR AXLE [%]	MIN 0.00 MAX 0.00	-0.36 ↙
LOAD DIFFERENCE ON RAILS [%]	MIN 0.00 MAX 0.00	0.40 ↙
LOAD DIFFERENCE ON DIAGONAL WHEELS [%]	MIN 0.00 MAX 0.00	-0.17 ↙

OPERATOR STAMP

BFI-21

LEFT JACK LOAD	
7376	Kg

SECONDARY SUSPENSION				ρ
MEASURED [mm]	SHIM THICK [mm]	DIM. WITH SHIM [mm]	THEORETICAL [mm]	
586.98	+	0.00	586.98	MIN 585.00 MAX 587.50

	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX	
GAP PRIMARY SUSPENSION [mm]	MIN MAX	35.77 
SHIM THICK [mm]		
WEIGHT ON WHEEL [kg]	Q3	5629

DIFFERENCE IN RIGHT AND LEFT SUSPENSION HEIGHTS [mm]		∅	THEORETICAL [mm]
			MIN -1.00
	-0.39		MAX 1.00

21208

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: 17/10/23

Name: YOUNE

Assembly after test

Date: 18/02/24

Name: Geoffrey & Xdani & Thomas

ROTOR S/N MCR02-10-101	STATOR S/N GIB-1208		
<p>Bearing lubrication - Security operation Incorrect lubrication can lead to engine failure with a safety risk in service SRIL TROS 965.289</p>			
<p>INSULATED CERAMIC BEARING DRIVE END - Security operation Incorrect assembly can lead to engine failure with a safety risk in service SRIL TROS 965.289 FAG: NU 214-E-XL-M1-P6-F1-H257A-J20AB-C4 or NU 214-E-M1-P6-F1-H257A-J20AA-C4 SKF: NU 214 ECM/C4 VA3091 (cross out the references that have not been fitted)</p>			
N°: ROMANA 0097 05/23 SN 440-1085122			
<p>S2 Radial play after assembly (0,042 / 0,114): 0,07mm</p> <p><input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>	<p>S3 LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly</p> <p>Min: 144g - Max: 149g Mesured quantity: Quality validation</p> <p>Fitter 1 (Name and signature) Fitter 2 (Name and signature) Quality Insp. Name and signature</p> <p>Dima</p>		
<p>INSULATED CERAMIC BEARING OPPOSITE DRIVE END side - Security operation Incorrect assembly can lead to engine failure with a safety risk in service SRIL TROS 965.289 FAG: 6214-M-P6-J20AB-H257A-C4 or 6214-M-P6-J20AA-H257-C4 SKF 6214-M/C4-VL 0241 (cross out the references that have not been fitted)</p>			
Serial N°: GIBELCO 0200 8624-1051 01/23 SN 0724			
<p>S1 Radial play after assembly (0,021 / 0,067): 0,06mm</p> <p><input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>	<p>S3 LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly</p> <p>Min: 159g Max: 164g Mesured quantity: Quality verification</p> <p>Fitter 1 (Name and signature) Fitter 2 (Name and signature) Quality Insp. Name and signature</p> <p>Dima</p>		
Référence appareil: GIBELCO			
FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA		TROS 916.216	2
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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)		7,79G.Ω	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK
OPERATOR		Quality verification	
Out of round at the end of the shaft drive end 0,05 max:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number: GIBELCO	<input type="checkbox"/> OK <input type="checkbox"/> NOK
Out of round on toothed wheel 0,1 max: 0,08mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number: GIBELCO	<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: GIBELCO	<input type="checkbox"/> OK <input type="checkbox"/> NOK

Sensor reference: DTR0000512252/D5D1830.19Q14HW

☒ OK ☐ NOK 60043013160 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>wrench reference (in the event of failure / absence of the motorised screwdriver)</small> <u>NCC6587</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	<small>wrench reference (in the event of failure / absence of the motorised screwdriver)</small> <u>NCC6587</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	<small>wrench reference (in the event of failure / absence of the motorised screwdriver)</small> <u>NCC6587</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	<small>wrench reference (in the event of failure / absence of the motorised screwdriver)</small> <u>NCC6587</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	<small>wrench reference (in the event of failure / absence of the motorised screwdriver)</small> <u>NCC6587</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	<small>wrench reference (in the event of failure / absence of the motorised screwdriver)</small> <u>NCC6587</u>	QC 1 X 22 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK
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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

Quality Insp Name and Signature:

Dima KRS

Comments

OBSERVATIONS

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

TROS 916.216

2

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GIBELA RAIL TRANSPORT CONSORTIUM RF (PTY) LTD

Traction Motors Quality

2024 -02- 19

Name: DimaSignature: KRS

21208

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: 17/10/23

Name: XOLANE

Assembly after test

Date: 30/10/24

Name: Geoffrey & Xolani & Thomas

ROTOR S/N MCR02-10-101		STATOR S/N CT13-1208	
<p>Bearing lubrication - Security operation Incorrect lubrication can lead to engine failure with a safety risk in service SRIL TROS 965.289</p>			
<p>INSULATED CERAMIC BEARING DRIVE END - Security operation Incorrect assembly can lead to engine failure with a safety risk in service SRIL TROS 965.289 FAG: NU 214-E-XL-M1-P6-F1-H257A-J20AB-C4 or NU 214-E-M1-P6-F1-H257A-J20AA-C4 SKF: NU 214 ECM/C4 VA3091 (cross out the references that have not been fitted)</p>			
N°: ROMMAN 0097 05/23 SN 440-1085122			
<p>S2 Radial play after assembly (0,042 / 0,114): 0,07mm</p> <p><input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>		<p>S4 LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly</p> <p>Mln: 144g - Max: 149g</p> <p>Measured quantity: <input type="checkbox"/> OK <input type="checkbox"/> NOK</p> <p>Filter 1 (Name and signature): </p> <p>Filter 2 (Name and signature): </p> <p>Quality validation: </p>	
<p>S1 INSULATED CERAMIC BEARING OPPOSITE DRIVE END side - Security operation Incorrect assembly can lead to engine failure with a safety risk in service SRIL TROS 965.289 FAG: 6214-M-P6-J20AB-H257A-C4 or 6214-M-P6-J20AA-H257-C4 SKF 6214-M/C4-VL 0241 (cross out the references that have not been fitted)</p>			
Serial N°: ROMMAN 0200 1024-1051 01/23 SN 0724			
<p>S1 Radial play after assembly (0,021 / 0,067): 0,06mm</p> <p><input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>		<p>S3 LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly</p> <p>Mln: 159g Max: 164g</p> <p>Measured quantity: <input type="checkbox"/> OK <input type="checkbox"/> NOK</p> <p>Filter 1 (Name and signature): </p> <p>Filter 2 (Name and signature): </p> <p>Quality validation: </p>	
Référence appareil: CT13-1208			
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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) 7,79G.Ω		<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK
OPERATOR		Quality verification
Out of round at the end of the shaft drive end 0,05 max:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number: CT13-1208 <input type="checkbox"/> OK <input type="checkbox"/> NOK
Out of round on toothed wheel 0,1 max: 0,08mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number: CT13-1208 <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: CT13-1208 <input type="checkbox"/> OK <input type="checkbox"/> NOK

Sensor reference: DTR0000512252/DSD1830.19Q14HW

☒ OK
 ☐ NOK

Device serial number
 6004301340

☐ OK
 ☐ NOK

Prep. & Final Assembly

OPERATOR			Quality verification		
F1	Torque tightening to 8 x 76 Nm:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	<small>wrench reference (in the event of failure / absence of the motorised screwdriver)</small> QC 1 X 61 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK	
F2	Torque tightening to 8 x 76 Nm:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	<small>wrench reference (in the event of failure / absence of the motorised screwdriver)</small> QC 1 X 61 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK	
F3	Torque tightening to 4 x 44 Nm: Fold locking plate	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	<small>wrench reference (in the event of failure / absence of the motorised screwdriver)</small> QC 1 X 37 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK	
F4	Torque tightening to 4 x 22 Nm:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	<small>wrench reference (in the event of failure / absence of the motorised screwdriver)</small> QC 1 X 18 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK	
F5	Torque tightening to 6 x 22 Nm:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	<small>wrench reference (in the event of failure / absence of the motorised screwdriver)</small> QC 1 X 18 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK	

Finishing

F1	Torque tightening to 4 x 22 Nm:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	<small>wrench reference (in the event of failure / absence of the motorised screwdriver)</small> QC 1 X 22 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK	
----	---------------------------------	---	--	--	--

Grease protection transport

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

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

☒ OK
 ☐ NOK

Final Inspection

Quality Insp Name and Signature:

Dimas KRS

Comments

OBSERVATIONS

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

TROS 916.216

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GIBELA RAIL TRANSPORT CONSORTIUM RF (PTY) LTD

Traction Motors Quality

2024 -02- 19

Name :

Dimas

Signature :

KRS



CERTIFICATION OF CONFORMITY

Inspection certificate according EN 10204-3.1

Product: Traction Motors 6 ECA 3022 B

Serial Number: N ° 21414

Client / Customer: ALSTOM UBUNYE (PTY) LTD

Project: PRASA

P O Number: 76539185

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: 2024/03/01

Function: Final Inspection

Performed and signed off by: Name _____ Dimakatso Mohoalali

Signature _____



Gibela Rail
02 Shosholozwa Avenue
M07 Traction Motor
1590

GIBELA RAIL

Compiled by M Kola

Date: 22/2/2022

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



CERTIFICATION OF CONFORMITY

Inspection certificate according EN 10204-3.1

Product: Traction Motors 6 ECA 3022 B

Serial Number: N ° 21208

Client / Customer: ALSTOM UBUNYE (PTY) LTD

Project: PRASA

P O Number: 75985832

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

Performed and signed off by: Name _____ Dimakatso Mohoalali
Signature _____



Gibela Rail
02 Shosholozwa Avenue
M07 Traction Motor
1590

GIBELA RAIL

Compiled by M Kola

Date: 22/2/2022

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

Référence: TROS 916.216

Révision: 2

Documents de référence: AT00000325953 - AT00000325990

Assembly before test

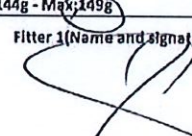
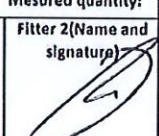
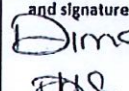
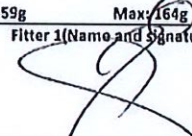

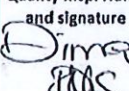
Date: 17/01/24

Name: KOLANI

Assembly after test

Date: 29/02/24




Name: Geoffrey Kolani & Thomas

ROTOR S/N MCP23-10-006	STATOR S/N GIB-1421		
<p>Bearing lubrication - Security operation Incorrect lubrication can lead to engine failure with a safety risk in service SRIL TROS 965.289</p>			
<p>INSULATED CERAMIC BEARING DRIVE END - Security operation Incorrect assembly can lead to engine failure with a safety risk in service SRIL TROS 965.289 FAG : NU 214-E-XL-M1-P6-F1-H257A-J20AB-C4 or NU 214-E-M1-P6-F1-H257A-J20AA-C4 SKF-NU 214-ECM/C4-VA3091 (cross out the references that have not been fitted)</p>			
<p>N°: Romania: 0097 09/23 SN 291-1369794</p>			
<p>S2 Radial play after assembly (0,042 / 0,114): 0,07mm <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>		<p>S3 LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly Min: 144g - Max: 149g Filter 1 (Name and signature)  Filter 2 (Name and signature)  Measured quantity: Quality validation: Quality Insp. Name and signature: </p>	
<p>S1 INSULATED CERAMIC BEARING OPPOSITE DRIVE END side - Security operation Incorrect assembly can lead to engine failure with a safety risk in service SRIL TROS 965.289 FAG : 6214-M-P6-J20AB-H257A-C4 or 6214-M-P6-J20AA-H257-C4 SKF-6214-M/C4-VL 0241 (cross out the references that have not been fitted)</p>			
<p>Serial N°: GERMANY: 0200 0116-0898 04/23 SN 0149</p>			
<p>S1 Radial play after assembly (0,021 / 0,067): 0,05mm <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>		<p>S3 LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly Min: 159g Max: 164g Filter 1 (Name and signature)  Filter 2 (Name and signature)  Measured quantity: Quality verification: Quality Insp. Name and signature: </p>	
<p>Référence appareil: ATER 14</p>			
<p>FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA</p>		<p>TROS 916.216 2 Page 1</p>	

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)		4,88 G.Ω		<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK
OPERATOR		Quality verification		
Out of round at the end of the shaft drive end 0,03 max:	 <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	A. J. 2. P. 14 <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	A. J. 2. P. 14 <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	C. J. 1. P. 14 <input type="checkbox"/> OK <input type="checkbox"/> NOK		

Sensor reference: DTR0000512252/DSD1830.19Q14HW

☒ OK ☐ NOK 6001601607☐ OK ☐ NOK

Prep. & Final Assembly

OPERATOR			Quality verification			
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 motorized screwdriver)	QC 1 X 61 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK	
F2	Torque tightening to 8 x 76 Nm:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	wrench reference (in the event of failure / absence of the motorized screwdriver)	QC 1 X 61 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK	
F3	Torque tightening to 4 x 44 Nm: Fold locking plate	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	wrench reference (in the event of failure / absence of the motorized screwdriver)	QC 1 X 37 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK	
F4	Torque tightening to 4 x 22 Nm:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	wrench reference (in the event of failure / absence of the motorized screwdriver)	QC 1 X 18 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK	
F5	Torque tightening to 6 x 22 Nm:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	wrench reference (in the event of failure / absence of the motorized screwdriver)	QC 1 X 18 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK	

Finishing

F1	Torque tightening to 4 x 22 Nm:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	wrench reference (in the event of failure / absence of the motorized screwdriver)	QC 1 X 22 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK	
----	---------------------------------	---	---	--------------	--	--

Grease protection transport

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

Quality Insp Name and Signature:

Dima

Comments

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 -02- 28

Name : DimaSignature : [Signature]

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 - 584**

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	07 March 2024
NAME	Kwababana Hlomisa
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	584		Alstom - Ubunye
Motor Bogie Frame	AR00000176080	M1679		Alstom - Ubunye
Wheelset (Front)	AR000000177020	M3091		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	K3242		NGC
Wheel (Right)	AR00000174670	138	10-23	Bonatrans
Wheel (Left)	AR000000174670	139	10-23	Bonatrans
Wheelset (Rear)	AR00000178600	M3092		Alstom - Ubunye
Axle with fitted gearbox	AR00000177072	K3300		NGC
Wheel (Right)	AR00000174670	141	10-23	Bonatrans
Wheel (Left)	AR00000174670	018	10-23	Bonatrans
Pneumatic suspension (Right)	AR00000176127	2312111		Hutchinson
Pneumatic suspension (Left)	AR00000176127	2311151		Hutchinson
Brake unit with PB (Right rear)	AR00000174544	1648	02-24	Wabtec
Brake unit without PB (Right front)	AR00000175185	4941	02-24	Wabtec
Brake unit without PB (Left Front)	AR00000175185	4939	02-24	Wabtec
Brake unit without PB (left rear)	AR00000175185	4940	02-24	Wabtec
Motor (front)	AR00000168516	21452		Alstom - Gibela
Motor (Rear)	AR00000168516	21511		Alstom - Gibela

PRESSING REPORT

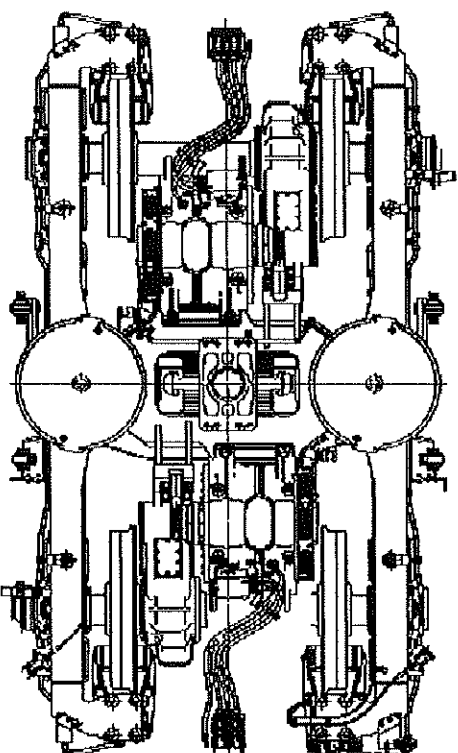
DATE 3/7/2024	RESPONSABLE VALIDATION		PRASA INSTRUCTION SHEET:		LOAD TEST : MOTOR BOGIE
DATE VALIDATION			FAMILY:		PROJECT:

	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX	
GAP PRIMARY SUSPENSION [mm]	MIN 33.00 MAX 39.00	36.70 ✓
SHIM THICK [mm]		
WEIGHT ON WHEEL [Kg]	Q2	5566

SECONDARY SUSPENSION			
MEASURED [mm]	SHIM THICK [mm]	DIM. WITH SHIM [mm]	THEORETICAL [mm]
585.41	+	2.00	= 587.41
			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	36.90 ✓
SHIM THICK [mm]		
WEIGHT ON WHEEL [Kg]	Q4	5571



	THEORETICAL	MEASURED
LOAD DIFFERENCE ON FRONT AXLE [%]	MIN 0.00 MAX 0.00	0.11 ✓
LOAD DIFFERENCE ON REAR AXLE [%]	MIN 0.00 MAX 0.00	0.54 ✓
LOAD DIFFERENCE FRONT AXLE AND REAR AXLE [%]	MIN 0.00 MAX 0.00	-0.26 ✓
LOAD DIFFERENCE ON RAILS [%]	MIN 0.00 MAX 0.00	0.32 ✓
LOAD DIFFERENCE ON DIAGONAL WHEELS [%]	MIN 0.00 MAX 0.00	0.21 ✓

OPERATOR STAMP

BF1-21

LEFT JACK LOAD
7376 Kg

	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX	
GAP PRIMARY SUSPENSION [mm]	MIN 33.00 MAX 39.00	36.22 ✓
SHIM THICK [mm]		
WEIGHT ON WHEEL [Kg]	Q1	5578

SECONDARY SUSPENSION			
MEASURED [mm]	SHIM THICK [mm]	DIM. WITH SHIM [mm]	THEORETICAL [mm]
587.44	+	0.00	= 587.44
			MIN 585.00 MAX 587.50
DIFFERENCE IN RIGHT AND LEFT SUSPENSION HEIGHTS [mm]			THEORETICAL [mm]
-0.03			MIN -1.00 MAX 1.00

	THEORETICAL	MEASURED
WHEEL DIAMETER [mm]	MIN MAX	
GAP PRIMARY SUSPENSION [mm]	MIN 33.00 MAX 39.00	36.50 ✓
SHIM THICK [mm]		
WEIGHT ON WHEEL [Kg]	Q3	5631

ALSTOM

GIBELQ

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: 07/01/04

Name: XOLANI

Assembly after test

Date: 09/03/04

Name: XOLANI / Trpoune

ROTOR S/N MCR02-11-09/4		STATOR S/N GTB-14/60	
<p>Bearing lubrication - Security operation Incorrect lubrication can lead to engine failure with a safety risk in service SRIL TROS 965.289</p>			
<p>INSULATED CERAMIC BEARING DRIVE END - Security operation Incorrect assembly can lead to engine failure with a safety risk in service SRIL TROS 965.289 FAG: NU 214-E-XL-M1-P6-F1-H257A-J20AB-C4 or NU 214-E-M1-P6-F1-H257A-J20AA-C4 SKF-NU 214-EGM/C4-VA3091 (cross out the references that have not been fitted)</p>			
N°: Romania 0097 09/03 SN217-1369794			
<p>S2 Radial play after assembly (0,042 / 0,114): 0,08mm <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>		<p>S4 LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly Min: 144g - Max: 149g Filter 1 (Name and signature): [Signature] Filter 2 (Name and signature): [Signature] Measured quantity: [Signature] Quality validation: [Signature]</p>	
<p>INSULATED CERAMIC BEARING OPPOSITE DRIVE END side - Security operation Incorrect assembly can lead to engine failure with a safety risk in service SRIL TROS 965.289 FAG: 6214-M-P6-J20AB-H257A-C4 or 6214-M-P6-J20AA-H257-C4 SKF 6214-M/C4-VL 0241 (cross out the references that have not been fitted)</p>			
Serial N°: Germania 0200 4272-1229 09/03 SN0002			
<p>S1 Radial play after assembly (0,021 / 0,067): 0,05mm <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>		<p>S3 LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly Min: 159g - Max: 164g Filter 1 (Name and signature): [Signature] Filter 2 (Name and signature): [Signature] Measured quantity: [Signature] Quality validation: [Signature]</p>	
Référence appareil: AJEP14			
FINAL ASSEMBLY REPORT FOR THE MOTOR 6 ECA 3022 B - PRASA		TROS 916.216 2 Page 1	

ALSTOM

GIBELQ

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

Record the value of the Insulation resistance of the bearings to TROS 915.069 (> 50 KΩ): 10,4 GΩ		<input checked="" type="checkbox"/> OK	<input type="checkbox"/> NOK
OPERATOR			
Out of round at the end of the shaft drive en 0,05mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	AJEP14	
Out of round on toothed wheel 0,1 max: 0,04mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	AJEP14	
sensor / toothed wheel play 0,7 (+/- 0,2): 0,7mm	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	AJEP14	

Sensor reference: DTR0000512252/DSD1830.19Q14HW	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number: 6031000466	<input type="checkbox"/> OK <input type="checkbox"/> NOK
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Prep. & Final Assembly

OPERATOR				Quality verification	
F1	Torque tightening to 8 x 76 Nm:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	QC 1 X 61 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK	
F2	Torque tightening to 8 x 76 Nm:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	QC 1 X 61 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK	
F3	Torque tightening to 4 x 44 Nm: Fold locking plate	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	QC 1 X 37 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK	
F4	Torque tightening to 4 x 22 Nm:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	QC 1 X 18 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK	
F5	Torque tightening to 6 x 22 Nm:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	QC 1 X 18 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK	

Finishing

F1	Torque tightening to 4 x 22 Nm:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	QC 1 X 22 Nm	<input type="checkbox"/> OK <input type="checkbox"/> NOK
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Grease protection transport

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

Final inspection following the check-list DTR0000452909 and DTR0000452910 (in the case of 100% inspection of the production)

<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK

Final Inspection

Quality Insp Name and Signature:

Dina RDS

Comments

OBSERVATIONS

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

TROS 916.216

2

Page

2

GIBELA RAIL TRANSPORT CONSORTIUM AF (PTY) LTD

Traction Motors Quality

2024 -02- 26

Name : Dina

Signature : RDS



CERTIFICATION OF CONFORMITY

Inspection certificate according to EN 10204-3.1

Product: Traction Motors 6 ECA 3022 B

Serial Number: N° 21452

Client / Customer: ALSTOM UBUNYE (PTY) LTD

Project: PRASA

P O Number: 76618042

Status: QC PASS

Derogations / Concession / Waiver N°: N/A

Customer modification: N/A

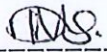
Missing parts: N/A

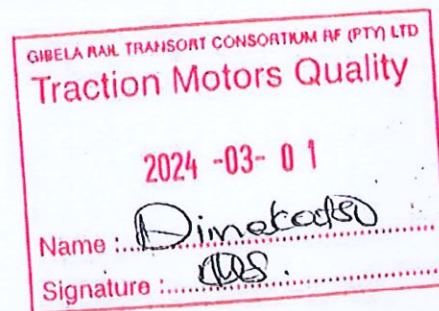
We hereby declare, barring exceptions, reservations or exemptions listed in this statement of conformity, that the listed supplies comply with the contract requirements and that, after completion of testing and verification, they completely satisfy all specified requirements, and applicable standards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

Date: 2024/03/01

Function: Final Inspection

Performed and signed off by: Name _____ Dimakatso Mohoalali

Signature _____ 



Gibela Rail
02 Shosholozu Avenue
M07 Traction Motor
1590

GIBELA RAIL

Compiled by M Kola

Date: 22/2/2022

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21511

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: 22-02-24

Name: Godfrey & Kolari

Assembly after test

Date: 26-02-24

Name: Godfrey

ROTOR S/N MCRB-10-050		STATOR S/N G113-1526	
<p>Bearing lubrication - Security operation Incorrect lubrication can lead to engine failure with a safety risk in service SRIL TROS 965.289</p>			
<p>INSULATED CERAMIC BEARING DRIVE END - Security operation Incorrect assembly can lead to engine failure with a safety risk in service SRIL TROS 965.289 FAG : NU 214-E-XL-M1-P6-F1-H257A-J20AB-C4 or NU 214-E-M1-P6-F1-H257A-J20AA-C4 SKF: NU 214-ECM/C4 VA3091 (cross out the references that have not been fitted)</p>			
N°: Romania 0094 09/23 SN81-1369794			
<p>S2 Radial play after assembly (0,042 / 0,114) : 0,05mm</p> <p><input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>		<p>S4 LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly</p> <p>Mln:144g - Max:149g</p> <p>Filter 1 (Name and signature) </p> <p>Filter 2 (Name and signature) </p> <p>Mesured quantity: </p> <p>Quality validation: </p>	
<p>INSULATED CERAMIC BEARING OPPOSITE DRIVE END side - Security operation Incorrect assembly can lead to engine failure with a safety risk in service SRIL TROS 965.289 FAG : 6214-M-P6-J20AB-H257A-C4 or 6214-M-P6-J20AA-H257-C4 SKF 6214-M/C4-VI-0241 (cross out the references that have not been fitted)</p>			
Serial N°: Germany 0000 1272-1238 09/23 SN0048			
<p>S1 Radial play after assembly (0,021 / 0,067) : 0,06mm</p> <p><input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK</p>		<p>S3 LUBRIFICATION WITH MOBILITH SHC 100 before cover assembly</p> <p>Mln:159g Max:164g</p> <p>Filter 1 (Name and signature) </p> <p>Filter 2 (Name and signature) </p> <p>Mesured quantity: </p> <p>Quality validation: </p>	
Référence appareil AMX6714			
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)

1.35 GΩ



OK



NOK

OPERATOR

Quality verification

Out of round at the end of the shaft drive end, 0,05 max Value <u>0,03mm</u>	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number <u>AMXG14</u>	<input type="checkbox"/> OK <input type="checkbox"/> NOK
Out of round on toothed wheel 0,1 max: <u>0,07mm</u>	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number <u>AMXG14</u>	<input type="checkbox"/> OK <input type="checkbox"/> NOK
sensor / toothed wheel play 0,7 (+/- 0,2): <u>0,7mm</u>	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	Device serial number <u>G1B12007</u>	<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 <u>S2216009522</u>	<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	wrench reference (in the event of failure absence of the motorized screw driver) <u>N005287</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 motorized screw driver) <u>N005287</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 motorized screw driver) <u>N005281</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 motorized screw driver) <u>N005281</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 motorized screw driver) <u>N005281</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 motorized screw driver) <u>N005287</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)	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK	
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Final Inspection	Comments
Quality Insp Name and Signature: <u>Dima KMS</u>	

OBSERVATIONS

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

Inspection certificate according to EN 10204-3.1

Product:	Traction Motors	6 ECA 3022 B
Serial Number:	N °	21511
Client / Customer:	ALSTOM UBUNYE (PTY) LTD	
Project:	PRASA	
P O Number:	76765516	
Status:	QC PASS	
Derogations / Concession / Waiver N °:	N/A	
Customer modification:	N/A	
Missing parts:	N/A	

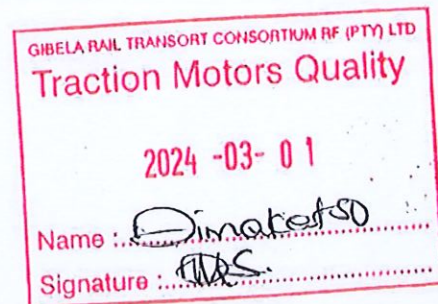
We hereby declare, barring exceptions, reservations or exemptions listed in this statement of conformity, that the listed supplies comply with the contract requirements and that, after completion of testing and verification, they completely satisfy all specified requirements, and applicable standards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

Date: 2024/03/01

Function: Final Inspection

Performed and signed off by: Name _____ Dimakatso Mohoalali

Signature _____



Gibela Rail
02 Shosholozwa Avenue
M07 Traction Motor
1590

GIBELA RAIL

Compiled by M Kola

Date: 22/2/2022

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