

Royal Gazelle

Repair and Maintenance Information

Service handbook / Technical manual

Eclipse Speed
VIN numbers starting with
XRGA6xxxxxxxxxxxx



Introduction

This Repair Manual will help you to perform all the main maintenance and repair work correctly and efficiently. It should be consulted regularly by workshop personnel as an addition to the practical and theoretical knowledge obtained in courses. It is a contribution towards achieving a higher quality of service.

A new issue of this repair manual will be published if amendments or supplements are needed. The latest issue date is shown in the header. All information in both text and illustrations refer to speed pedelecs in standard condition or with genuine Gazelle accessories installed.

In some cases, repair instructions are also issued in the form of Service Information. This information will be incorporated into the next issue of the Repair and Maintenance Manual.

Royal Gazelle N.V.

After Sales

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1. Maintenance and general instructions

For general information about service and maintenance, refer to the Gazelle User Manual:

NL: https://www.gazelle.nl/media/gene-cms/a//algemene_handleiding_gazelle_fietsen_2.pdf

EN: https://www.gazellebikes.com/media/gene-cms/g/a/gaz_alg_en_17.1_1.pdf

2. General work units

	AVERAGE MINUTES		AVERAGE MINUTES		AVERAGE MINUTES
TYRES		BRAKES		LIGHTING	
Repairing front or rear inner tyre	15	Replacing or adjusting:		Replacing:	
Replacing of:		Disc for disc brake front	15	Front bulb	n.a.
Inner or outer front tyre – ordinary hub	15	Disc for disc brake rear	60	Rear bulb	n.a.
Inner or outer front tyre – drum hub	20	Front or rear brake pads disc brake	15	Headlight	75
Inner or outer rear tyre	25	Mounting front and rear cantilever brakes	n.a.	Tail light	60
Inner or outer rear tyre – aluminium frame	35	Mounting front and rear hydraulic brakes	120	Dynamo	n.a.
BAGGAGE		LOCKS		Hub dynamo	n.a.
Replacing rear carrier	60	Replacing ring lock	15	Headlight cable	75
Mounting basket rack on handlebar	n.a.	Mounting carrier for U-lock or cable lock	10	Headlight cable (within handlebar)	30
Mounting carrier for buggy or briefcase	n.a.	ART ring lock	25	Tail light cable	60
Mounting cycle bags	5	REAR CARRIER STRAPS		Light clamp on head tube	n.a.
COMPUTER		Replacing straps (on axis)	n.a.	WHEELS	
Mounting computer	n.a.	MUDGUARDS		Hub cleaning, adjusting, replacing traces of wear:	
Replacing computer and holder (e-bike)	90	Replacing front mudguard rod	15	Front wheel	25
FRAME		Replacing rear mudguard rods	15	Rear wheel – freewheel or brake hub	35
Replacing	180	Completely replacing front mudguard	15	Rear wheel – gear hub	60
COAT GUARD		Completely replacing rear mudguard	90	Wheel weaving:	
Replacing (set)	n.a.	STAND		Equal flange height	45
CABLES		Replacing	10	Unequal flange height	50

	AVERAGE MINUTES		AVERAGE MINUTES		AVERAGE MINUTES
Replacing and adjusting:		HANDLEBAR		Eccentric	60
Front brake	120	Replacing and adjusting:		Mounting and demounting:	
Rear brake	120	Handlebar without handle grip, brake grip etc.	25	Front wheel	10
Gear hub	90	Handlebar with handle grip, brake grip etc.	45	Rear wheel (including chain guard)	20
CHAIN		Mounting brake grip	20	Rear wheel	20
Tightening and lubricating	n.a.	Headset	50	Wheel calibration (e-bike)	n.a.
Replacing, making fit, tightening – gear hub	30	Front fork	60	Adjusting hub gear	10
Replacing, making fit, tightening – derailleur	n.a.	Handle grip	5	CHILD SEAT	
Replacing pinion or cassette	n.a.	CRANKSHAFT		Mounting front child seat	n.a.
CHAIN GUARD		Replacing:		Mounting rear child seat	n.a.
Replacing:		Left crank	15	ELECTRIC MOTOR	
Varnished cloth	n.a.	Right crank (incl. demounting chain guard)	35	Installing or removing electric motor	60
Closed chain guard – plastic	n.a.	Crankshaft	45	Measuring and charging battery	10
Chain guard	20	Pedals (pair)	10	Installing or removing battery	10



3. Torque table

If a torque is marked permanently on a component, this value must be used instead of the following values in the tables.

Table 1: Standard tightening torques [Nm]

	STEEL AND STAINLESS STEEL COMBINATION	STEEL OR STAINLESS STEEL IN COMBINATION WITH ALUMINIUM
	[Nm]	[Nm]
M4	1.5 - 2	1.5 - 2
M5	3 - 4	3 - 4
M6	6 - 7	5 - 6
M8	12 - 15	7 - 9
M10	30 - 35	10 - 12

Table 2: Torque overview for bike specific parts [Nm]

Front wheel Tru axle	8 - 10
Rear wheel bolts hub	30 - 40
Pedals	12 - 15
Front mudguard stay	3
Mudguard assembly to fork and to carrier + frame	4
Brake levers	4
Bosch remote + horn button to handlebar	1
Stem clamps to handlebar	5
Seatpost clamp	6 - 8
Saddle to seatpost bolts	12
Frame dropout assembly	6 - 7
Bosch motor bolts M8	18 - 22
Chainring nut (left hand thread)	25 - 30
Crank arms	57 - 64
Battery strip to frame 6	6
Battery holders M5 to strip 5	5

4. Fork Maintenance guide

For information regarding front fork maintenance, refer to SR Suntour General Fork Manual:

<https://www.srsuntour.com/nl/general-fork-manual-22/>

5. List of interchangeable parts

Guidelines for replacement of speed e-bike/pedelec parts up to a pedal assist of 45 km/h (28 mph)

CATEGORY 1 Important basic information	CATEGORY 2 Components which may only be replaced upon presentation of valid test report (parts approval (ABE*, EC, ECE) or part certificate <small>*ABE: GENERAL TYPE APPROVAL</small>
<ul style="list-style-type: none"> - Speed e-bikes with a motor assistance of up to 45 km/h (28 mph) are considered motor vehicles and subject to EU Directive 2002/24/EC or EU Regulation No. 168/2013. - Depending on the vehicle there may be different requirements which must be strictly observed when replacing a component. Therefore, always check the indications given in the vehicle documents prior to doing any work on the vehicles. - Note: At present, vehicles with an individual operating licence are mainly subject to the regulations of the EU Directive 2002/24/EC. - All components which are not included in the list may only be replaced by original spare parts of the vehicle and/or component manufacturer. 	<p>Handlebar-stem unit Provided that there is no need to change the lengths of cables and/or hoses, modification of the seating position to suit the user should be possible within the original cable lengths. Any further modification results in a significantly changed load distribution on the bicycle and entails potentially critical steering properties.</p> <p>Seat post Provided that the offset to the rear does not exceed 20 mm with regard to the series/original field of use, note that a modified load distribution beyond the intended setting range may possibly lead to critical steering properties. The length of the saddle rails at the saddle structure as well as the saddle shape are also important.</p> <p>Headlight With valid type approval, identical mounting position as well as EMC proof only.</p> <p>Rear light with brake light and licence plate light, if applicable With valid type approval and identical mounting position only, if tested in accordance with ECE-R 50 as well as EMC proof.</p> <p>Reflector With valid type approval only.</p> <p>Rear view mirror Only if tested in accordance with ECE-R 81 and identical mounting position.</p> <p>Acoustic signalling device (horn) Only if tested in accordance with ECE-R 28 and identical mounting position.</p> <p>Pedals Vehicles with 168/2013 approval.</p>



CATEGORY 3

Components which may be replaced under the conditions described below

Pedals

Including approved reflectors, provided the pedal is not wider than the series/original pedal (vehicle with 2002/24/EC approval).

Tyres

As specified in vehicle documents, either in accordance with ECE-R 75 or with approval of tyre manufacturer.

Grips with screw clamps

In this case, the vehicle width must not be modified.

Headset**Bottom bracket****Rear and front derailleur**

All gear change parts must be suitable for the number of gears and mutually compatible.

Shift levers / Twist grip

Provided that the position on the handlebar remains unchanged.

Cables and housings**Chain wheels / Belt sprockets / Cassette sprocket**

Provided that the number of teeth and the diameter is identical to the series/original field of use.

Chain guard

Provided that it is free of sharp outer edges and complies with the Delegated Regulation No.44/2014, Annex VIII. The clearance to the tyre, which should be 10mm at least, must also be taken into account.

Spokes

Provided that the dimensions correspond to the original part..

CATEGORY 4

Special notes for mounting accessories

- Additional battery/rechargeable battery-operated headlights are not permitted.
- Trailers are only permitted, if a trailer load is entered under no.17 of the certificate of conformity and a coupling device under no. 43.1.
Note: The maximum permissible trailer load is 50% of the tractor vehicle's empty weight (without batteries). There are only 50mm ball coupling devices possible.
- Transporting children in a trailer is forbidden in general.
- For safety reasons, it is strongly recommended not to mount child seats.
- Due to the undefined load and load distribution, it is strongly recommended not to use baskets.
- Bags without permanent attachment are considered cargo and permitted. However, an adequate load distribution must be observed in this case.

CATEGORY 3

Components which may be replaced under the conditions described below

CATEGORY 4

Special notes for mounting accessories

Inner tube

Provided that the dimensions correspond to the original part.

Crank arm

Provided that the length and the dimensions, e.g. crank arms/frame centre (Q-factor) are observed.

Chain / Toothed belt

Provided that the original width is observed.

Rim tape

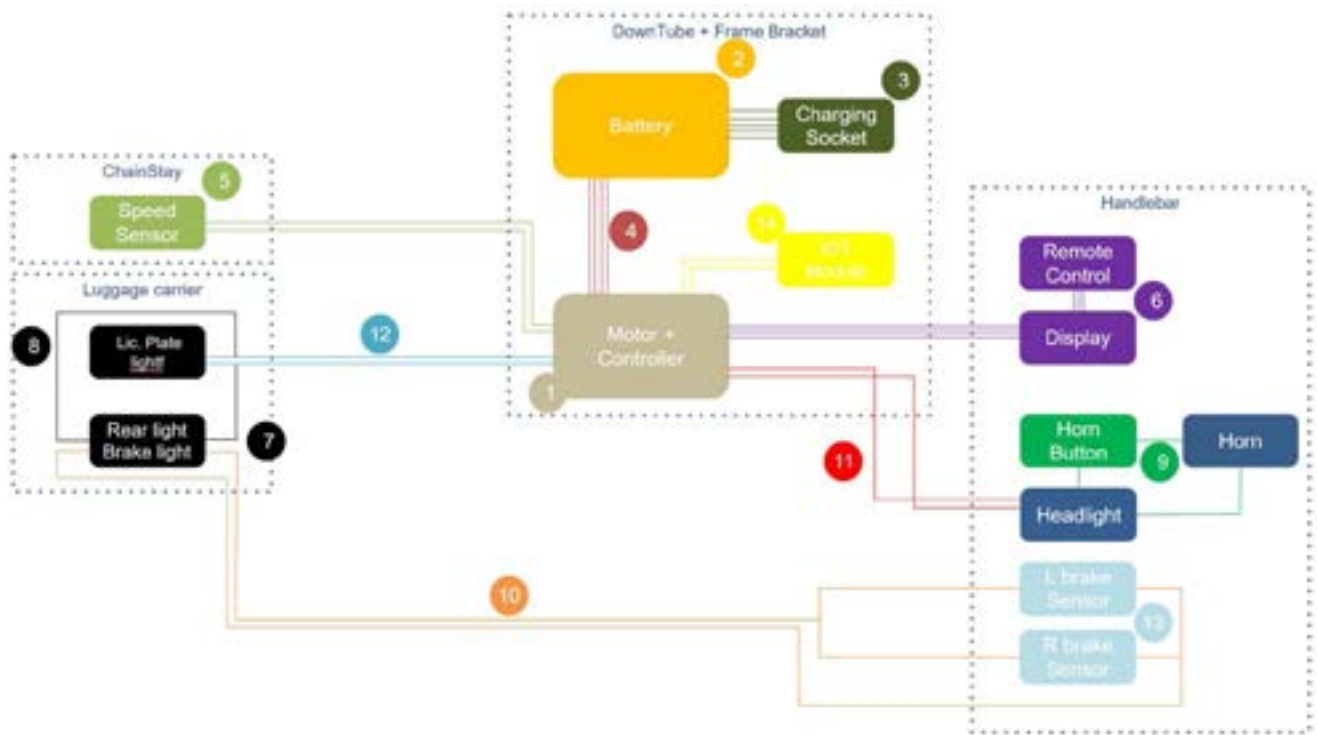
Rim tapes and rims must be compatible. Modified combinations may result in rim tape shifting and thus defective inner tubes.

Saddle

Provided that the offset to the rear does not exceed 20 mm with regard to the series/original field of use, note that a modified load distribution beyond the intended setting range may possibly lead to critical steering properties. The length of the saddle rails at the saddle



6. Wiring diagrams



Number	Description	Gazelle Article numbers
1	Bosch Performance Line Speed Drive Unit <small> Bosch_18B1100202</small>	998706300
2	PowerTube 750Wh Horizontal Black	998033500
3	Plug in Charging Socket 1200mm <small> Bosch_18B1100302</small>	998112200
4	PowerTube Cable 1100mm <small> Bosch_18B1100201</small>	998110700
5	Speed Sensor Cable 615mm <small> Bosch_18B1100201</small>	998111600
6	Display Kiox 300 and Remote <small> Bosch_18B1100001 & 18B1100202</small>	998505400 & 998505900
7	Rear light/ Brake light combination	447192400
8	License plate light	447181400
9	Horn Button	444412700 <small> (L Headlight + Horn + Button)</small>
10	Headlight Horn combination	444412700 <small> (L Headlight + Horn + Button)</small>
11	Light cable front	444412700 <small> (L Headlight + Horn + Button)</small>
12	Light Cable Rear 1400mm <small> Bosch_18B1100302</small>	998109600
13	Brake sensors on Magura disc brake levers	448330900
14	IOT Module	998806800

7. Component & diagnostic information

Diagnostic information is available after training at one of the Bosch training facilities. Dealers in Germany, Switzerland, Denmark, Finland, Norway, Sweden, Belgium, the Netherlands, Italy, the UK, Spain, France and Austria can register for training sessions via their service partner's web shop at www.bosch-ebike.com/webshop (all countries except Switzerland) and www.bosch-ebike.ch/webshop (Switzerland).

For more information about the Bosch system and diagnostic information see Bosch manual https://a.storyblok.com/f/249415/x/3b7396b92d/bosch_electric_bike_manual.pdf

8. Diagnostic fault-codes

For more information about the Bosch diagnostic fault codes see Bosch manual: https://a.storyblok.com/f/249415/x/3b7396b92d/bosch_electric_bike_manual.pdf

9. Software versions

For more information about Bosch software versions see: <https://www.bosch-ebike.com/en/service/software-update/>

10. Special tools and equipment

Special diagnostic software and equipment can be applied for after the training by Bosch has been followed. See paragraph 7.

11. Customer technical support

For customer technical support call:

The Netherlands	0900-707 07 07
Belgium:	+32 (0)7 848 23 52
Germany:	+49 (0)21 619 183 318
Denmark:	+45 (0)36 880 152
Austria:	+43 (0)72 088 0615
France:	+33 (0)80 508 4199
Sweden:	+46 (0)8 52 50 05 44
Italy:	+39 (0)457 860102

12. Royal Gazelle Maintenance schedule

CUSTOMER NAME	VIN NUMBER
ORDER NUMBER	DEALER SIGNATURE

	BEFORE EVERY RIDE	EACH 250-500KM	EACH 3000 OR ONCE A YEAR
Check tyre pressures & add air if needed. The tyre pressure should at all times be in the range indicated on the tyre. Tyre pressure can influence the electric support range and the riding comfort.	x		
Check the tyre tread for wear and embedded debris that could cause a flat. A replacement tyre should be of the ETRTO dimension that is mentioned in the certificate of compliance (COC) for the vehicle.	x		
Check safety-related accessories: horn, headlight, rear light, brake light, reflectors.	x		
Check that the hub nuts and tru axle are tight (see torque table in chapter 3) and that the wheels are secure. Spin wheels looking for wobbles.	x		
Test brakes to make sure they are gripping and check to see that the brake pads are in good condition. If the brake pads are worn, they should be replaced with original spare parts.	x		
Check belt and sprockets for wear and replace worn parts as required. Replacement parts should be compatible with the drivetrain and have the same number of teeth as those fitted originally.		x	
Clean the drive train belt and sprockets.		x	
Check the wheels for loose spokes.		x	
Clean the bike and inspect the frame and components for signs of wear such as cracks.		x	
Use a torque wrench to check the tightness of the: motor bolts, crank arm bolts, pedals, tru axle bolt, hub nuts, saddle bolts, seat post bolts, stem bolts, handlebar bolts, frame splitter and all accessory mounting bolts/screws. Refer to the tightening torque table for the correct tightening torques.			x
Check for excessive play on head tube bearings. Hold the front wheel blocked with the brakes and push the vehicle forwards and backwards to ensure there is no excessive play in the front fork. If needed, adjust the front fork play as described in Gazelle maintenance guide.			x
Check all bearing systems: hubs and pedals: adjust and/or overhaul as needed.			x
Clean and check wheels carefully for signs of wear or cracks at the spoke nipples.			x
Check fork maintenance instructions		x	x

13. Royal Gazelle Maintenance Record

CUSTOMER NAME	VIN NUMBER
ORDER NUMBER	DEALER SIGNATURE

Service/repair date: _____ km: _____ Type of service: maintenance / repair Work done, parts replaced: _____ _____ _____ Dealer/service operator stamp & signature:	Service/repair date: _____ km: _____ Type of service: maintenance / repair Work done, parts replaced: _____ _____ _____ Dealer/service operator stamp & signature:
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14. Version history

VERSION	CHANGE DESCRIPTIONS	DATE
1.00	First version	25-01-2024



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ROYAL DUTCH Gazelle N.V.

Wilhelminaweg 8
6951 BP Dieren
The Netherlands

www.gazellebikes.com

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