CityQ GmbH

Short User Service Manual

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1 Introduction

This guide provides detailed procedures for various maintenance tasks on the vehicle. It is essential to strictly follow all instructions and warnings during execution.

Although the instructions are comprehensive, they do not cover every single step in detail. Therefore, it is crucial that maintenance tasks are carried out only by personnel with appropriate prior experience. The following general precautions should always be observed:

- Always double-secure the vehicle when lifting it, for example, in case the jack fails.
- Follow all workplace safety guidelines and wear appropriate protective equipment.
- Keep the workspace clean and organized.
- Replace self-locking nuts after disassembly.

2 Daily Maintenance

To ensure that the CityQ vehicle works as safely, long and trouble-free as long as possible, regular checks, maintenance, repairs and care are necessary. Damage must be repaired professionally before further use. Only use the CityQ vehicle when it is in perfect technical condition! Damage can lead to accidents with lead to life-threatening injuries. Therefore, have it serviced regularly by a specialist workshop. The maintenance intervals and maintenance work specified in this chapter must be observed and carried out correctly. Missing or insufficient maintenance can lead to increased wear and tear and limits safe operation.

before every ride

to be checked	check	in case of malfunction
Overall condition	Cleanliness damaged, bent or cracked parts	Clean the bike for less wear Contact your service team
Batteries	Battery charge status	Charge batteries if current charge is too low
Brake functionality	Test brakes; ensure both axles stop the vehicle independently	Stop riding and contact service team
Wheels	Cracks or wobble in tire or rim Tire pressure	Contact service team fill up the tire
Lights, turn signals, horn	Functionality and visibility	Clean or contact service team
Reflector, bell	Functionality and visibility	Clean or contact service team
Windshield	Cracks and adequate visibility Wiper and wiper blade function properly Washer fluid tank level	Clean or contact service team Refill if necessary

3 Service intervals

There are two types of service. The small service consists only of the essentials to ensure smooth operation. The large service is a more comprehensive check of the vehicle for complete functionality. The small service is included in the large one.
The intervals must be strictly adhered to avoid additional costs and ensure a safe drive!

Small service - every 6 months or 2500km

category	section	check for	[min]/part check	[min]/part change
Cleanliness	overall	Clean especially moving parts	-	10
Brakes	Pad thickness	Replace if thickness is to low	¼	5
	Discs warping / wear	Replace if to much wear or damage	¼	8
	Caliper alignment	No grinding noises should occur	¼	6
	Hoses in wheelhouse	Damage caused by friction	¼	30
	Brake lever position	Adjust lever or bleed brakes	¼	10
	Parking brake	One axle securing against rolling away	4	-
	Brake test	wheels should lock in emergency	4	-
Wheels	Tire pressure	Fill up to correct pressure	-	4
	Tire condition	Maintain pressure, no cracks, enough tire tread or else replace	2	10
	Rim	Replace if too much lateral runout	¼	12
	Wheel bearing	Replace if too much wear or play	½	5
	Crown Nut / Fastener	Retighten or replace	½	3
Suspension	McPherson bushing	Replace if too much wear or play	¼	3
Test Drive	Unusual noises or poor handling	If this occurs, the cause must be investigated	5	-
Documentation	-	Document service and replaced parts	-	¼

Big service - after 3 month and then every 12 months or 5000km

category	section	check for	[min]/part check	change
Cleanliness	overall	Clean especially moving parts	-	10
Brakes	Pad thickness	Replace if thickness is to low	¼	5
	Discs warping / wear	Replace if to much wear or damage	¼	8
	Caliper alignment	No grinding noises should occur	¼	6
	Hoses in wheelhouse	Damage caused by friction	¼	30
	Brake lever position	Adjust lever or bleed brakes	¼	10
	Parking brake	One axle securing against rolling away	4	-
	Brake test	wheels should lock in emergency	4	-
Wheels	Tire pressure	Fill up to correct pressure	-	4
	Tire condition	Maintain pressure, no cracks, enough tire tread or else replace	2	10
	Rim	Replace if too much lateral runout	¼	12
	Wheel bearing	Replace if too much wear or play	½	5
	Crown Nut / Fastener	Retighten or replace	½	3
Suspension	McPherson bushing	Replace if too much wear or play	¼	3
	Control arm bushing	Replace if too much wear or play	½	15
	Tie rod bushing	Replace if too much wear or play	¼	5
	Steering u-joint	Replace if too much wear or play	¼	15
	Dampers	Replace if no damping or oil leaking	1	12
Exterior	Windshield	Cracks and adequate visibility	1	13
	Windshield-whiper	Soft and undamaged rubber	¼	2
	Washer fluid	Refill tank to maximum level	-	1
	Mirror	Should adjust evenly	¼	10
	Bell, pedals, grips,	Replace in case of damage	¼	2
	seat		½	10
	Frame	Cracks or bends	2	-
Electronics	Lights, turn signals,	Functionality and visibility	¼	10
	horn	Functionality	¼	8
	Motor	Oil tightness, cable tie, motor cable	¼	15
Test Drive	Unusual noises or poor handling	If this occurs, the cause must be investigated	5	-
Documentation	-	Document service and replaced parts	-	¼

4 Tool List

FIGURE	Label	Details
	Combination wrench	8 , 10 , 12 , 13 , 15 , 17 , 19
	Ratchet	1/4´ ´ 1/2´ ´
	Torque wrench	¼“ : until 25Nm ½“ : until 60Nm
	Square driver	1/4´ ´ for fast hand screw turning
	square adapter	square 1/4´ ´ to bit for machinell screw turning Caution: always use torque limited mode while using a drill
	outer hex socket	¼“ : 8 / 10 / 13 / ½“ : 17 / 19 / 21 /
	inner hex socket	¼“ : 2,5 / 3 / 4 / 5 / 6 / 8 ½“ : 5 / 6 / 8

	Torx socket	¼“ : T20 / T25
	Socket for wheel hub	BGS 8327-7
	Allen Key Set	
	small flat screwdriver	
	Phillips screwdriver	
	utility knive	
	wire cutter	**Important**: with a flattened side to cut cable ties flush For example: Knipex 78 61 123
	combination pliers	to fasten metal zippties

	circlip pliers for outer rings	19-60
	circlip pliers for outer rings	10-25mm
	parallel pliers	for universal use around the bike and straightening up bend material
	Riveting pliers	for rivet 4,0mm and 4,8m
	Cordless Drill	Not to big, so you can get into thight spaces Optional: Angle Attachment like Bosch 12v35 FC
	Drillbit	4 & 4,8 for removing rivets
	Rubber Mullet	for losening corroded parts
	Pin punch	for corroded screws

	Work light	
	Screw lock medium	Loctite 242
	Tape	Tesa 51608
	Multi purpose grease	
	jack	
	jack stand	

5 Brakes

5.1 Brake pads

Checking

Brake pads should only be used within the wear limits specified by Tektro. Therefore, their thickness should be checked regularly. New brake pads of a Tektro Auriga Twin+ have a thickness of 5 mm and should be replaced if they are less than 3,3mm thick. At 2,5mm there is only steel left, so if the vehicle is likely to exceed it before the next service, the brake pads must be replaced.

Replacing

Front - First, the front parking brake is released, and the steering is turned so that the brake caliper is accessible. If this is not possible with the installed brake caliper, or if grinding noises occur after replacement, the caliper must be removed and realigned.

Rear - Take of the brake caliper, replace the brake pads and install the caliper back on. Check for realignment.

Replacement - The required replacement part is shown in the images, and no other parts are permitted. No other components should be used.

Tektro 203-17

5.2 Brake Disc

Checking

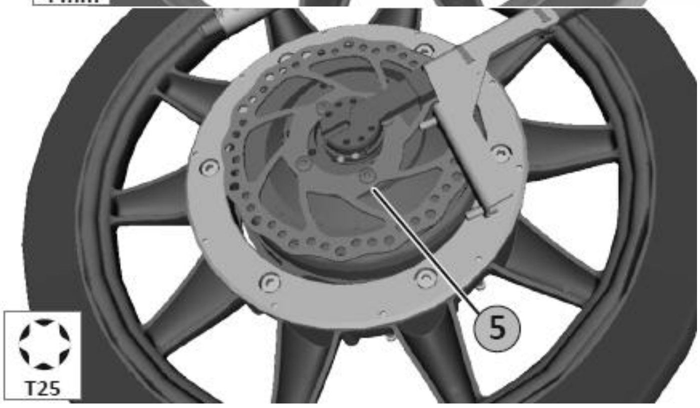
Brake discs should only be used within the wear limits specified by Tektro. New brake discs have a thickness of 2.3 mm and should be replaced if they fall below 1.9 mm. If this limit is not maintained, or if the vehicle is likely to exceed it before the next service, the brake discs must be replaced.

Replacing

Front

Remove the wheel with the hub so you can detach the brake disc form the rim. Use a T25 Bit to lose the six screw **1** and swap the brake disc for a new one. Ensure the correct orientation of the brake disc. Insert the screws with thread locking compound and rotate the disc against the direction of travel before tightening the screws to a torque of 3 Nm.

Rear



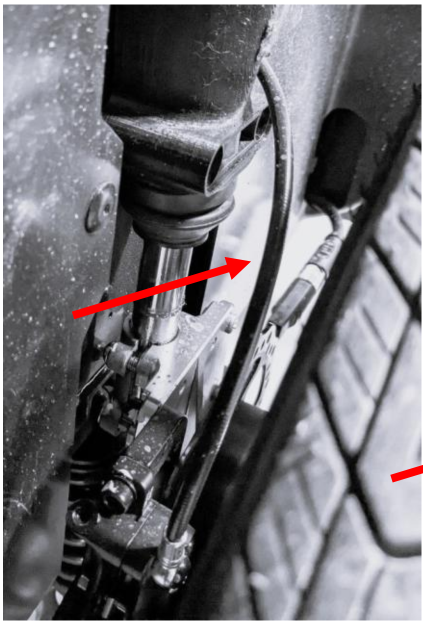
Tilt the rear wheel to the side and remove the brake caliper. Then remove 6 screws **4**, cut the cable strips off the motor cable and detach the wheel carrier from the motor. Then, loosen the 4 screws **5** on the brake disc and replace the disc with a new one. Ensure the correct orientation of the new brake disc. Next, insert the 4 screws with thread locking compound and rotate the brake disc against the direction of travel before tightening the screws to a torque of 3 Nm. The wheel carrier can now be reattached and the motor cable secured with a new metal cable tie (RP: 1-B-40-420). Afterwards the wheel can be reassembled.

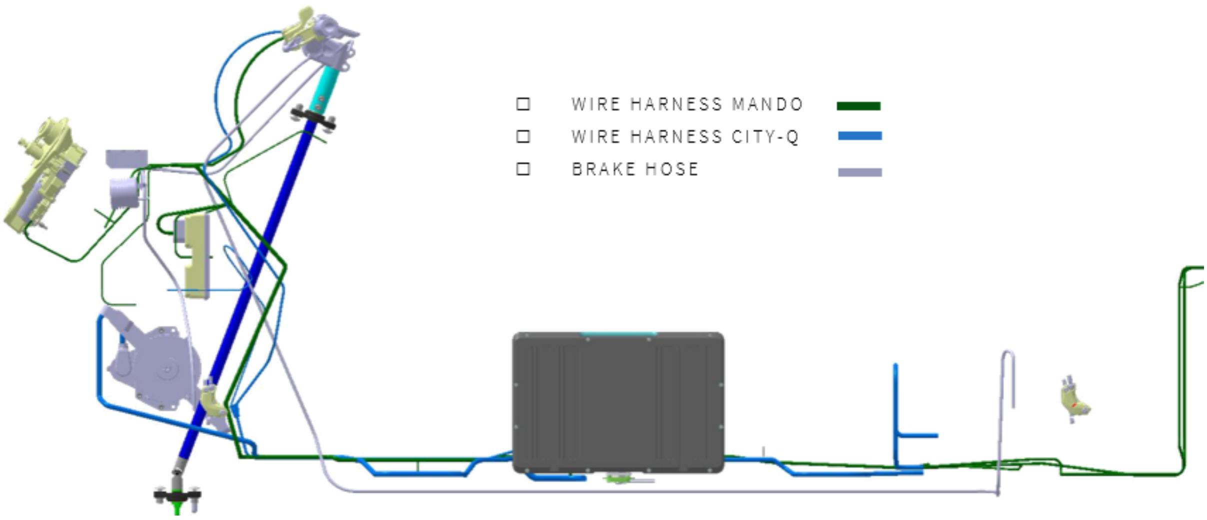
The required replacement parts are shown in the images, and no other parts are permitted. Rear brake discs can only be purchased directly from CityQ. No other components should be used.

Front: *Tektro 203-17* (RP: 1-B-140-001) **Rear:** *CityQ Brake Disc (RP: 1-B-140-033)*

5.3 Brake hoses

The brake lines in the wheelhouse can rub against trim parts or the tire if improperly routed. Damage may lead to brake system failure. Therefore, even in the case of minor damage, the brake line must be replaced, and the brake system must be bled.





5.4 General brake check

The brake caliper must be aligned, so now grinding noises occur. Additionally, the brake lever has to be in a comfortable position. If not, it must be realigned, or the rake system has to be bled

To ensure that both brake circuits function independently, a brake test is performed. One person observes the vehicle while another applies strong braking using only the front brake and then only the rear brake. The respective front or rear wheels should lock up, and the vehicle should decelerate sharply. If this does not occur, the brake components should be inspected, or the brake system should be bled.

Furthermore, it must be checked that the handbrake stops the vehicle.
For this purpose, the handbrake is activated independently, and the brake lever is pulled up to the third click. The vehicle must not roll with the brake engaged, even on a steep incline.

6 Wheels

6.1 Rim & tire

Checking

Lift the vehicle and rotate the wheels to check the runout of the rim. If it has too much runout or other damage, it has to be replaced. Also, inspect the tire for any damage. Next, measure the tread depth. It should not fall below 0,5mm, otherwise the tire needs to be replaced. Finally, the tire pressure should be set to 3.5 bar.
Also, check that the wheel bolts are securely tightened. The crown nut should be firmly seated according to wheel attachment infos.

Replacing

First the wheel is removed from the vehicle. Then the tire casing is taken off using sturdy tire levers. **Caution!** Only use plastic tire levers to avoid scratching the rim.
Now the inner tube or tire can be replaced. Additionally, inspect the rim for damage and replace it if defects are found.
When mounting a new tire, it is recommended to use tire mounting paste, as the casings are very stiff. With the appropriate tire levers and mounting paste, installation should be possible without excessive force. Before inflating the tire to the mounting pressure of 5 bar, ensure that the tire is aligned centrally on the rim. Once inflated, check that the tire sits evenly on the rim.
Important! Do not exceed the maximum air pressure!
Afterwards, the wheel can be reinstalled.

Replacement

tire:	Vredestein Cargo 55 x 406	RP: 1-B-40-003
tube:	20” inner tubes with a width of 24-65 mm.	RP: 1-B-40-372

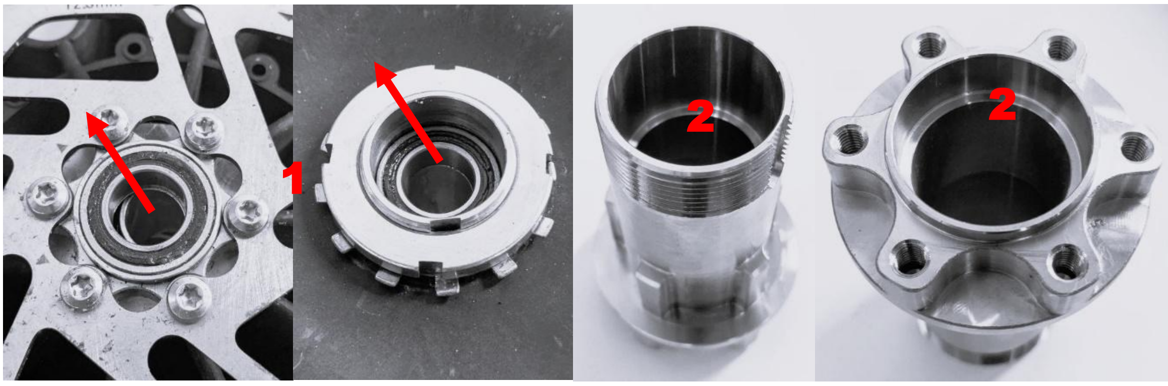
6.2 Wheel bearing

Checking

The front wheel bearing should have no play and move freely. If not, it must be replaced.

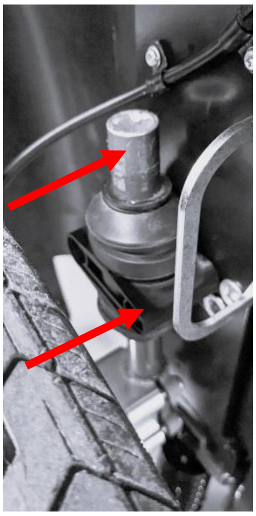
Replacing

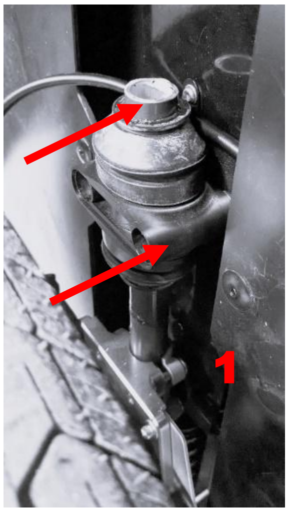
To replace the front wheel bearing, first, the wheel is removed with the hub, and then the bearings are pushed outwards **1** on a workbench. Both bearings have a shoulder **2** on the inside. When installing the bearings, make sure that they are not misaligned during insertion. Do not forget the spacer sleeve between the bearings. Bearing (RP: 1-B-40-382)



7 Suspension

7.1 McPherson shaft bearing

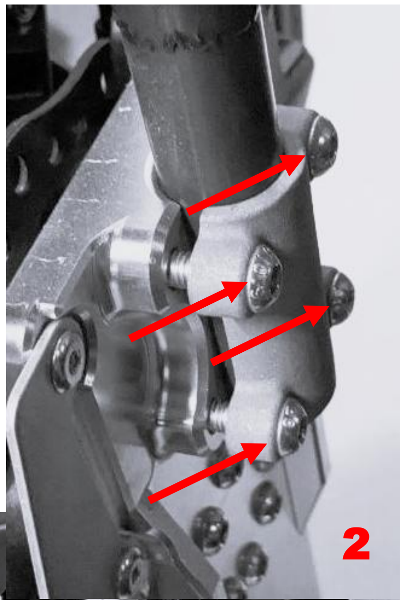




Checking

To measure the play of the bearing, the vehicle is placed unloaded on a level surface. Then, the top of the wheel is alternately loaded inward and outward. If the wheel exhibits a small play of about 5mm at the top in the camber direction, this is normal. If the play exceeds this, the bearing **1** must be replaced. It can be pulled off the tube, when the wheel is tilted to the side.

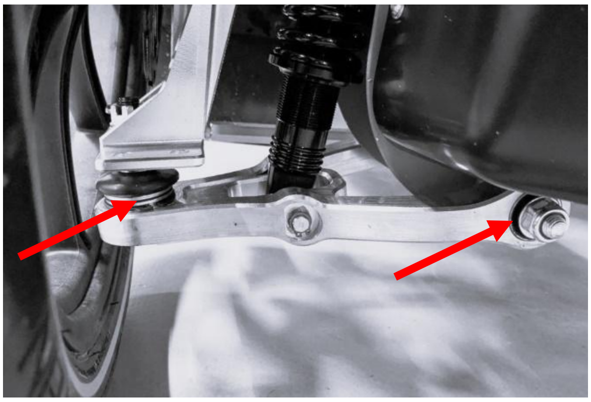
For a more detailed analysis, the dust boot can be removed, and the stanchion inspected. The anodized layer of the stanchion must not be damaged. If this is the case, both the stanchion and the bearing must be replaced.

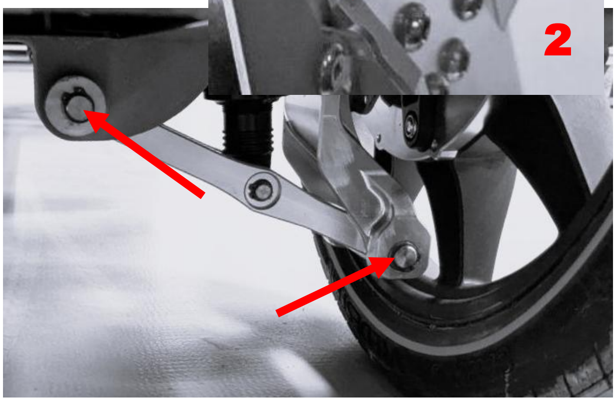


7.2 Control arm bushing

Checking

The control arms of the vehicle always have a slight amount of play. However, if the play worsens driving dynamics or causes the wheels to collapse during directional changes or other





driving manoeuvres, the respective control arms must be replaced.

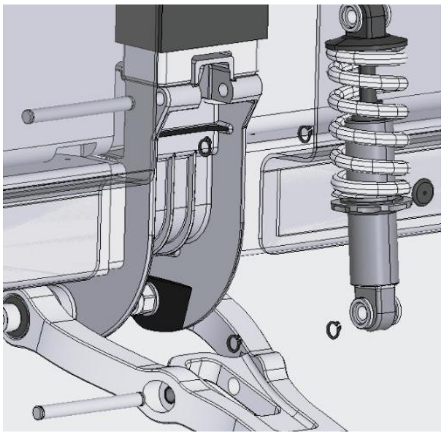
Front bushing

Rear bushing

7.3 Dampers

Checking

There are three types of defects in dampers. Either the dampers are leaking oil, the damping effect is insufficient, which becomes noticeable when the vehicle continues to bounce after hitting a pothole instead of compressing only once. Or the bushings of the shock absorber are worn. This can be detected when the vehicle is lifted, and the wheel is moved slightly up and down, revealing play between the shock absorber and its mounting or control arm. In either way the shock absorber must be replaced.



8 Exterior

8.1 Mirrors

Checking

Mirrors should neither be too loose nor too tight, allowing them to be adjusted or folded with light force while ensuring they do not move on their own during the ride.

8.2 Windshield

The windshield must not have any cracks or scratches that significantly reduce visibility, as this can impair driving safety, especially at night. The windshield wiper must be functional, and the wiper blade should not be hard or worn. If necessary, it must be replaced. The windshield washer fluid should be refilled until the reservoir is full. Only approved windshield washer fluid should be used. The tank lid is at the front under the windshield wiper (red arrow)

8.3 General Exterior

In general, no fairing parts should be loose or rattling. The seat should not compress unexpectedly, and the seat rail should adjust smoothly.
Handles and pedals should not be excessively worn, and the bell must be functional.

9 Electronics

9.1 Electrical components

Checking

If the lights, turn signals, or horn are not working, there could be various causes. First, the fuses should be checked and replaced if necessary. Otherwise, the connector of the relevant component can be unplugged and inspected. If the connector is fine, the relevant component can be removed and replaced with a new one. If the new component works, only the original component was defective and can be replaced. If the new component also does not work, the issue is more complex, and the CityQ service team should be contacted.

9.2 Motor

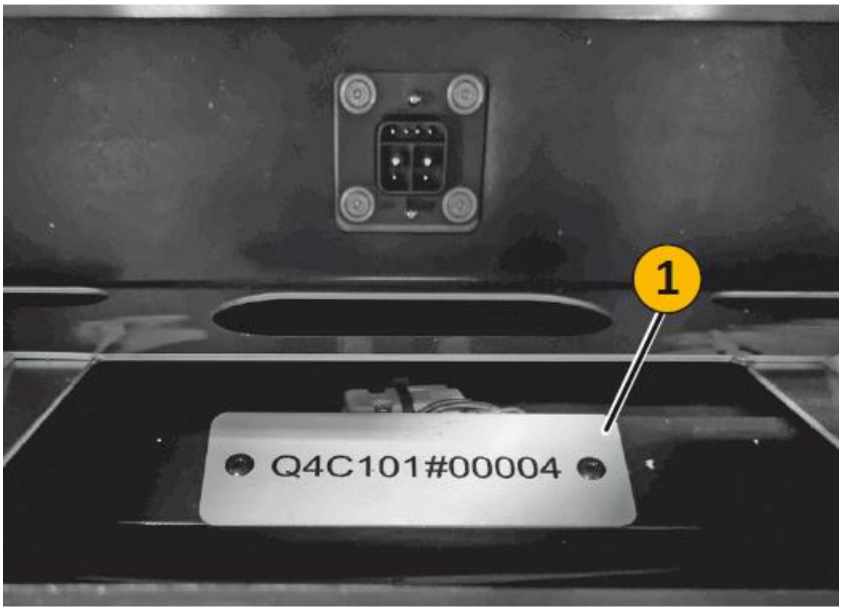
Checking

The engine must be operational and checked for leaks. If only a small amount of oil has leaked, this could be due to improper storage. When the engine is lying flat, oil can leak and spread during use. To verify, the oil can be removed, and the engine can be rechecked after some running time. If the engine does not function, too much oil leaks or the motor cable is damaged, it has to be replaced. The cable tie must be checked for damage. If the cable is routed incorrectly, it may rub against moving parts or the wheel and get damaged

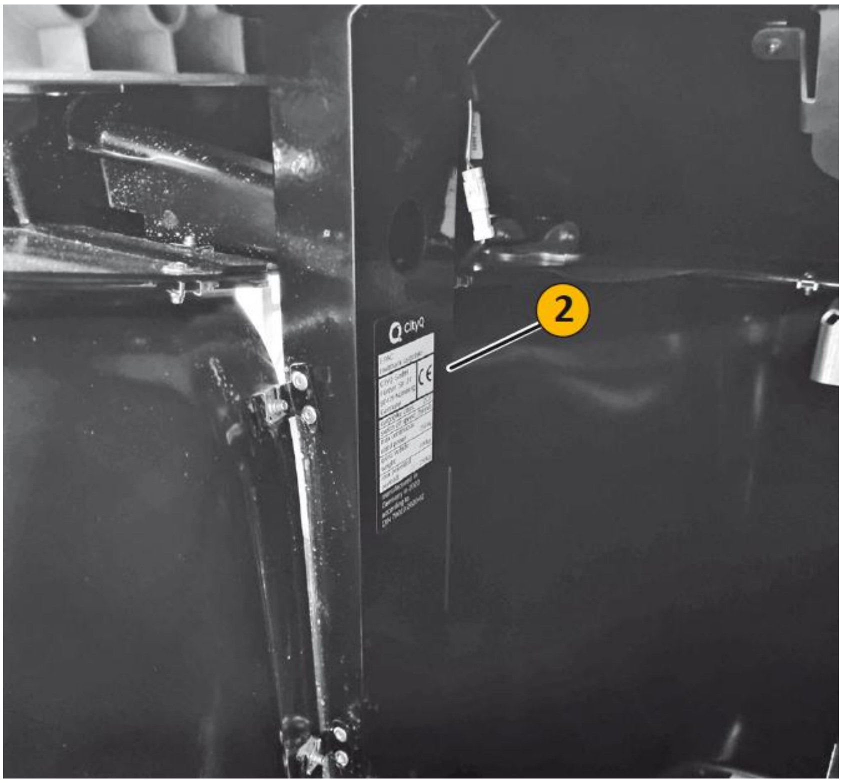
10 Instructions

10.1 Vehicle Identification

The specific model can be identified by the vehicle identification number. This is important for figuring out the right replacement parts or while communicating with the CityQ customer service. It can be found under the seat, in the battery compartment on the frame, as shown in the following illustration (1).



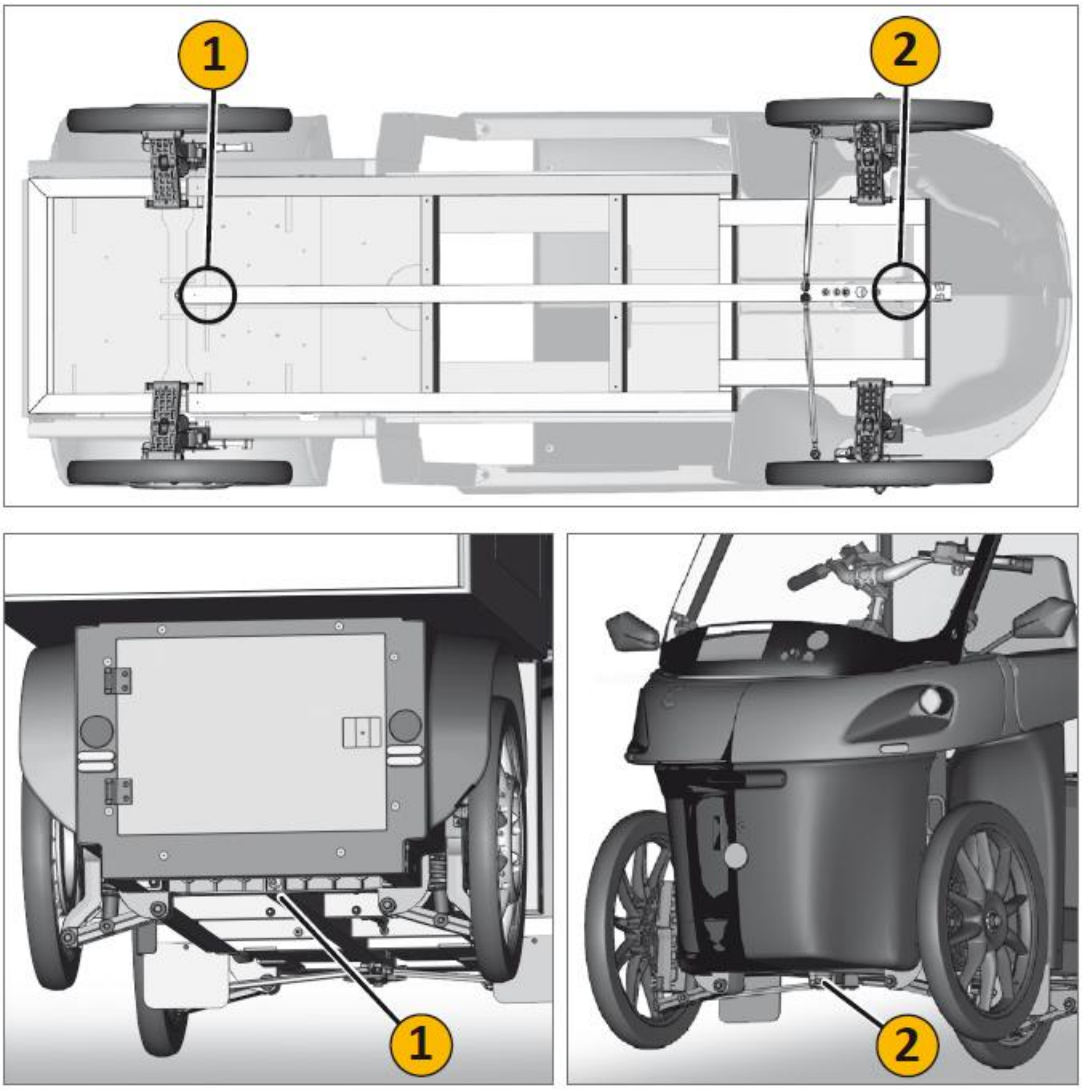
Additionally, there is a nameplate that lists the most important vehicle parameters. These are also detailed in this manual. The nameplate can be found in the location shown below.



10.2 Lifting the Vehicle

For most of the repair work performed on the wheels and brakes, it will be necessary to lift the vehicle. To lift the vehicle, it should be placed on a flat, stable surface, and the parking brake should be engaged. Then, the vehicle can be lifted either at the front or the rear using a jack. The jack must be positioned at the points shown in the following illustration. The Jack shouldn't be higher than 40-50mm.
For additional stability, place axle stands under the frame on the right and left sides beside the jack. Carefully lower the jack until the entire weight of the vehicle is resting on the axle stands.

If it is necessary to lift the vehicle to an ergonomic working height for more extensive repairs, it is important to lift it only by the frame. The contact surface must not be too small and should be soft enough to avoid damaging the paint.



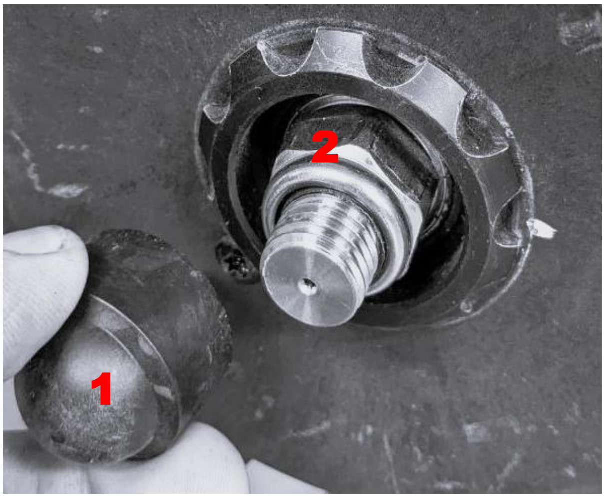
10.3 Removal and Installation of the Wheels

The two Front Wheels can be removed with or without the hub. If the wheel is removed along with the hub, the brake caliper must first be dismounted. The hub does not need to be opened for this. Especially when working on the brakes, it is recommended to remove the hub as well. However, for a simple wheel change, this is not necessary, and the brake caliper does not need to be realigned.

Front Wheel with Hub

First take of the brake caliper. Then remove the central nut cover **1** followed by the removal of the nut itself **2**. The wheel, including the hub and brake disc, can then be pulled outward.

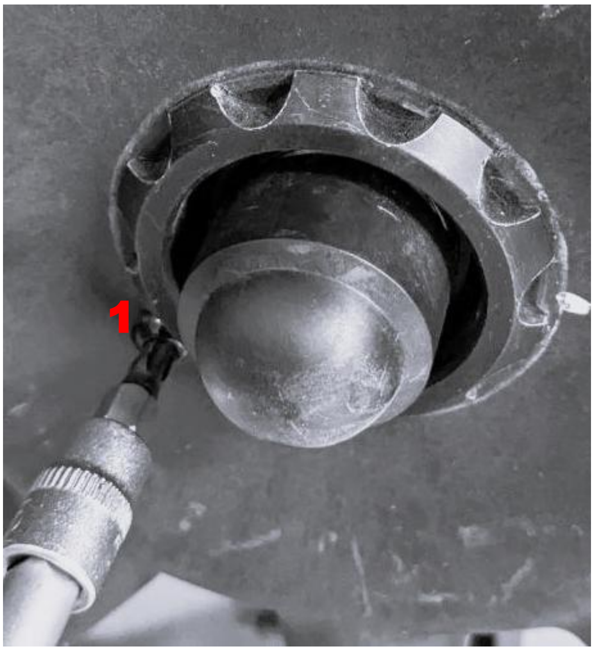
Afterward, the tire, rim, or brake disc can be replaced or repaired. The wheel can then be reassembled by reversing the steps described earlier. The central M16 (in newer Versions M14) nut must be replaced and tightened to a torque of 20 Nm.
After that, reinstall the brake caliper and check the brake for full functionality.



Front Wheel without Hub

To remove the wheel without the hub, first lift the vehicle up as described in chapter Lifting the Vehicle. After that the hub can be taken apart. There are two types of wheel bearings. First, the old version will be explained, followed by the new version.

For the **old version**, the locking screw **1** is removed, and the hub is unscrewed using a specialized tool **2**. The rim can then be separated from the hub. During reassembly, ensure that



the aluminium threads of the hub are clean and lightly lubricated. Caution! Small contaminants can damage the hub during reassembly. The locking screw is secured using medium-strength Loctite.

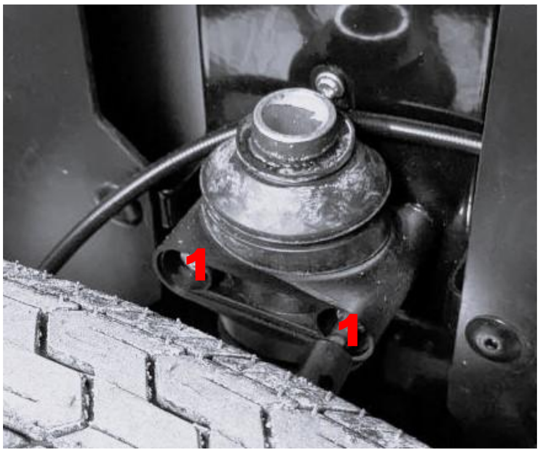
For the **new version**, the locking plate **3** is first bent open with a screwdriver. The nut is then removed using the appropriate tool **4** (BGS 8327-7). The rim can now be separated from the hub. During reassembly, the nut is tightened to 60 Nm and aligned so that the locking plate can be bent back into place to prevent loosening.

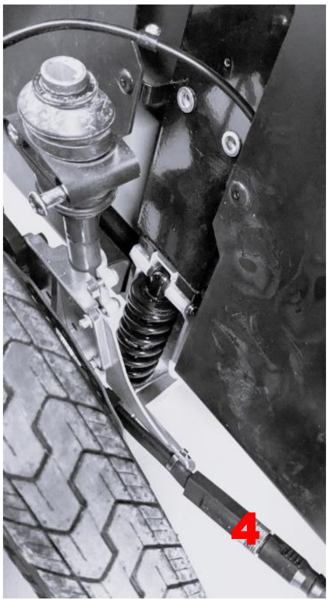
Rear Wheel

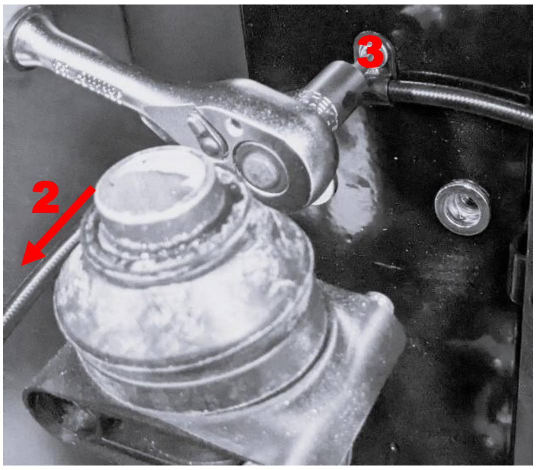
To remove the rear wheel, first lift the vehicle up as described in chapter Lifting the Vehicle. After that loosen the 10 mounting screws **1**. Now you can remove the wheel and perform repairs or maintenance work. During reassembly, first clean the contact surface between rim and motor **2** and apply medium-strength Loctite and tighten the screws to 4.5 Nm.

10.4 Tilting the rear wheel

First, lift the vehicle with a jack. Then, remove screws **1**. Caution! The wheel must be held in place to prevent it from tipping outward uncontrollably. After removing the screws, carefully tilt the wheel outward and pull the brake line in the direction to the brake caliper **2** so the retaining clip is accessible. Remove the clip **3** and disconnect the motor cable **4**. Then secure the wheel, so there is no stress on the brake hose. Don't keep the motor tilted permanently; instead, straighten it during longer operations, as oil may leak otherwise. During reassembly, carefully reposition the brake hose and tighten the screws with thread locking compound to a torque of 4.5 Nm.







on individual wear.