Loopwheels™ for Wheelchairs: Loopwheels Classic and Carbon

User Manual

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Thank you for choosing Loopwheels™. We wish you much enjoyment on your wheels.

BEFORE using this product, read this manual and save for future reference. It contains important information for your safety and for the maintenance of your wheels

In particular, don't exceed 7 km/h. If you wish to travel faster, choose Loopwheels designed for power attachments such as the Urban or Extreme.

All our manuals are at https://loopwheels.com/technical/user-manual/

Distributors and Dealers:

This manual MUST be given to the user of the product.

Do NOT attempt to change bearings without specific advice from info@ loopwheels.com, as our bearings are fixed into the wheels.

Contents:

1. General Information and Warranty

1.1 Information about the User Manual

This User Manual contains important information about your new wheels, to ensure your safety and prevent damage when fitting your wheels to your chair, and to avoid invalidating your product warranty.

For the latest product information, please refer to our website at www.loopwheels.com, or contact a Loopwheels™ distributor in your country (see www.loopwheels.com/stockists).

1.2 Symbols in this manual

In this manual, safety warnings are indicated by symbols:

⚠ WARNING	Indicates a hazardous situation that could result in serious injury or death if it is not avoided.
⚠ CAUTION	Indicates a hazardous situation that could result in minor or slight injury if it is not avoided.
⚠ IMPORTANT	Indicates a hazardous situation that could result in damage to property if it is not avoided.

1.3 Warranty

Jelly Products Ltd guarantees that our products are free from defects and are fully functional. The warranty covers all faults and defects that are verifiably attributable to faulty construction, substandard materials or poor workmanship. Warranty claims should be made through the dealer or distributor from whom the product was bought. Claims should only be made to the manufacturer if the product was purchased directly from us. The warranty does not cover normal wear and tear, the consequences of improper handling or damage, poor maintenance and incorrect assembly or commissioning by the purchaser or a third person, or faults which are attributable to circumstances beyond our control. Wearing parts (eg tyres and tubes) are not covered by the guarantee. The warranty is voided if modifications are made to the product or if inappropriate accessories or spare parts are used. The warranty does not cover consequential costs arising from the rectification of defects such as freight and travel expenses, labour costs, fees etc. The term of the manufacturer's warranty is 12 months from the date of purchase. Your statutory rights are not affected.

1.4 Intended use

Loopwheels™ are intended to improve comfort and mobility for people who use a manual wheelchair. Loopwheels™ Classic and Carbon are wheels with integral suspension designed for use as an accessory to a manual wheelchair with the purposes of making it easier for a person in a manual wheelchair to pass over uneven surfaces and reducing the jolting and vibration felt by the person using a manual wheelchair.

Loopwheels™ Classic and Carbon are designed for use with a pneumatic tyre at speeds of up to 7km/h.

Suitable manual wheelchairs include those designed for active and semi- active use, and chairs designed to be pushed by an assistant.

If you use a power attachment and regularly travel at faster speeds, Loopwheels Classic and Carbon are NOT suitable. Choose a more suitable Loopwheel from our range for speeds greater than 7 km/h.

Indications: adolescents and adults who use a wheelchair and weigh between 50kg and 100kg [1].

Contra-indications: none associated with proper use.

1.5 Limitation of liability

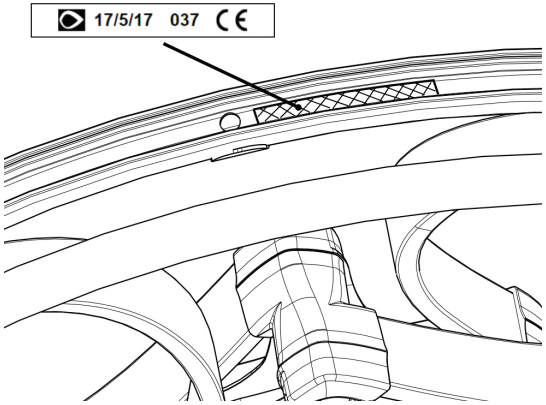
Jelly Products Ltd accepts no liability for damage arising from:

- Non-compliance with the User Manual
- Incorrect use
- Natural wear and tear
- Incorrect assembly or set-up by the purchaser or a third party
- Technical modifications
- The usage of unapproved 3rd party accessories.
- Unauthorised modifications and/or use of unsuitable spare parts
- Removal of bearings.

1 In stones and pounds, this is equivalent approximately to between 8 and 19 stone, or 110 and 220 lb

2. Product Identification

Each wheel has a label with unique identification number on the rim, underneath the tyre. Don't remove this label.



3. Safety

3.1 General Safety Information and Operating Limits

General safety advice for using a wheelchair applies. We recognise that people use their chairs in their own ways and we believe people should do what they have found to work best for them as individuals.

Nevertheless, this manual contains important safety information for the protection of the person using the wheelchair and any assistant, and for safe, trouble-free use of Loopwheels™ Classic and Carbon. Each section contains specific safety advice. In addition:

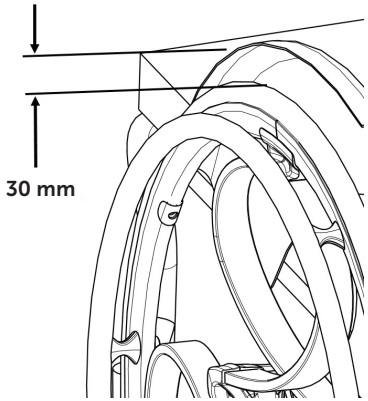
- Don't exceed the recommended load (user, chair and baggage) of 120kg
- Don't exceed the recommended speed of 7 km/h.
- Loopwheels are not intended for use for passenger transport in a motor vehicle: transfer into a fitted seat.
- Check the Loopwheels move freely and don't touch any part of the wheelchair when spinning.

⚠ WARNING

Risk of serious injury from unexpected wheel braking.

– Loopwheels™ must not be used with a rigid guard over the top of the tyres unless there is a gap of at least 30mm between the guard and the tyre. There is a risk that whilst moving the wheels could touch the guard and cause sudden braking .

– Check there is a space of at least 30mm above the tyre at all times.



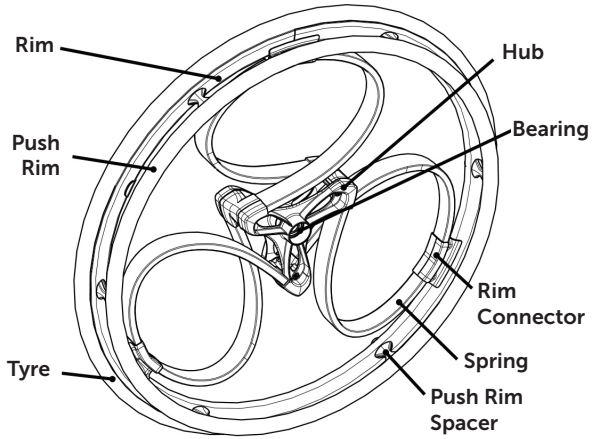
- Ensure you have the correct size wheels, wheel bearing, and quick release axle for your wheelchair. Check the axles are fully engaged in the wheelchair housing. See section 6.
- Fitting loopwheels™ to your chair changes the feel of the wheelchair compared with spoked wheels, and may change the centre of gravity. Before driving without assistance, you must accustom yourself to how the chair feels and behaves.
- Adjust your driving style and speed to the conditions and who and what is around you (weather, surface, individual ability and experience, people and obstacles). There is a risk of skidding on wet ground, gravel or uneven terrain.

- There's a risk of getting fingers, clothing or other items caught in the moving wheel, between the wheel and the chair, or in removable parts such as the axle. Take care when fitting and using Loopwheels that nothing becomes caught.
- **Camber**: Camber is the angle or slope at which your wheels are mounted to your chair. Each additional degree of camber adds 1 cm to the width at each side of your chair. The greater amber adds stability, better turning and more space for your hands. To some extent this is personal choice - BUT Loopwheels must not be mounted at a camber angle that exceeds 12 degrees and we recommend a maximum of 3 degrees for most customers.

4. Components and their Functions

4.1 Overview of components

Each wheel comprises the following components:

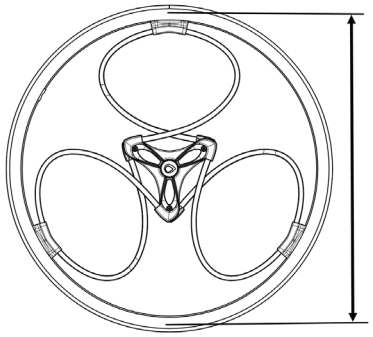


Your wheel may differ slightly from the diagram as each Loopwheel™ is manufactured individually to the specifications in the order.

Check you have the correct size Loopwheels™ for your wheelchair.

Loopwheels™ Classic and Carbon are available in two diameters:

- 24" or 540mm;
- 25" or 559mm.



⚠ WARNING

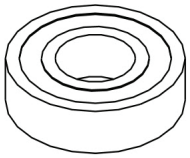
Risk due to using an incorrect size of Loopwheels™ being fitted to your wheelchair. The size of loopwheel must match the specification of your wheelchair for safe performance.

– Choose a wheel of the correct diameter for your wheelchair.

– Choose a loopwheel with the same axle diameter as your wheelchair axle housing.

4.2 Bearings

The bearings are fixed into the wheel hub and mustn't be removed by force.



⚠ IMPORTANT

– You may seriously damage your wheel if you remove the bearings by force.

Seek advice from us about the correct procedure for removing bearings from Loopwheels™.

If you wish to be able to change your bearings yourself, please specify when you order Loopwheels™ that you wish them to be supplied with unfixed bearings.

Your Loopwheels are supplied with bearings in either 12.7mm or 12mm diameters.

See 5.3.1 for information on bearing sizes.

5. ACCESSORIES

5.1 Tyres

DON'T use solid tyres. These will accelerate wear and tear on your wheels, causing damage.

We recommend Schwalbe® Marathon Plus tyres for use with Loopwheels™.

For a 24" Loopwheel Classic or Carbon, you need a tyre size ETRTO 25-540 or 24 x 1.00 inch

For a 25" Loopwheel Classic or Carbon, you need a tyre size ETRTO 25-559 or 26 x 1.00 inch

The size of the tyre is marked on the sidewall of the tyre.

The ideal pressure depends on the tyre type. The maximum pressure is shown on the sidewall of the tyre.

In case of a tyre puncture, see 9. 2 or consult a suitable workshop (e.g. bike repair shop, bicycle or mobility equipment dealer) to have the tube replaced by a skilled person.

⚠ CAUTION

The tyre pressure needs to be maintained at the recommended level in both wheels to avoid decreased driving comfort, to keep the parking brakes on your chair working properly, and to ease propelling of the wheels and your wheelchair. See 9.2 for our recommended maintenance schedule.

5.2 Spacers

We provide 2 stainless steel and 1 rubber spacer with each Loopwheel. These help ensure a snug fit of the wheels on your wheelchair and help prevent the wheels touching the chair. Depending on the model and specification of your chair, you may or may not need to use these.

Please refer to section 6 on how to fit Loopwheels™ to your chair for instructions on how to use the spacers.

5.3 Removable Axles

Loopwheels™ must be fitted to a wheelchair using a removable axle designed for use with a manual wheelchair, and which is the correct diameter and length for your wheelchair.

⚠ WARNING

RISK OF OVERTURNING! There is a risk of overturning your wheelchair due to using an incorrect size axle being used to fit Loopwheels™ to your wheelchair. The axle must be the correct length and diameter so that the loopwheel is firmly attached to your wheelchair for safe use.

5.3.1 Axle diameter

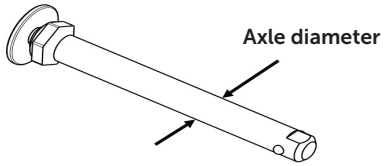
Wheelchair axles are available in two diameters: ½ inch (12.7mm) or 12mm, to suit the internal bearing diameter of the wheel bearing, and the axle housing on the wheelchair.

Internal Bearing Diameter

You must choose the diameter of axle that is right for your wheelchair and its axle housing:

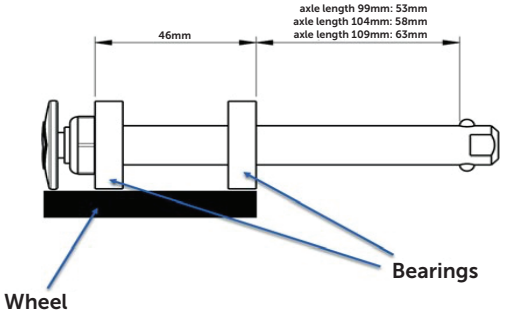
It is not possible to fit a ½ inch or 12.7mm removable axle shaft into a 12mm axle housing.

A 12mm axle shaft can be easily inserted into a 12.7mm axle housing but the 0.7mm difference in size will cause your wheels to wobble



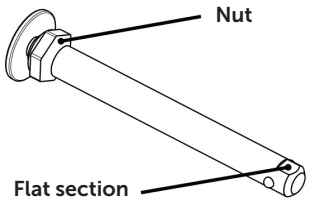
5.3.2 Axle length

Wheelchair axles are available in several lengths. You must choose the correct length of axle that will pass right through the Loopwheel into the wheelchair's axle housing, and engage so it holds the wheel firmly in place (see section 6).



Bearing Position in a Loopwheel

5.3.3 Loopwheels quick-release axles



Our axles are "quick-release": by pressing the button with the Loopwheels™ logo, the axle disengages.

You can make a minor adjustment to the length of our axles by rotating the nut, like this:

Step 1: Remove the axle from the wheel.

Step 2: Clamp the flat section to hold it still.

Step 3: Turn the nut using a spanner / wrench. Rotate clockwise to shorten the length of the axle or rotate counter-clockwise to lengthen the axle. The maximum total adjustment is 8mm.

6. FITTING LOOPWHEELS™ TO YOUR WHEELCHAIR

6.1 Fitting Loopwheels™ to your wheelchair for the first time

⚠ WARNING

Risk of serious injury from overturning the wheelchair.

– Always ensure that the removable axles are fully engaged whenever you fit a wheel– Check there is a space of at least 30mm above the tyre at all times.

Note: sit somewhere other than your wheelchair to remove your old wheels and to fit Loopwheels™ for the first time.

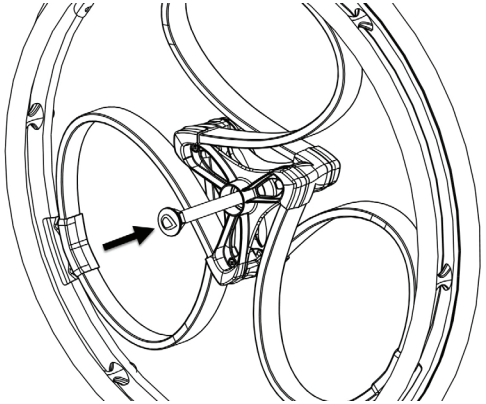
STEP 1. Release the brakes.

STEP 2. With one hand, hold the wheelchair upright.

STEP 3. With the other hand, remove your old wheels from the wheelchair by pressing the centre of the axle.

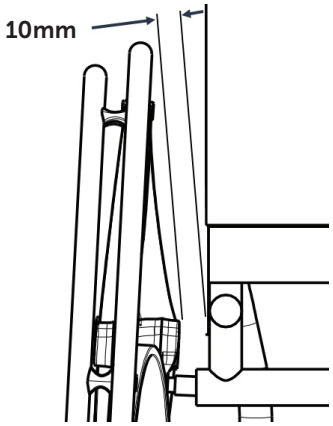
STEP 4. Remove the existing axles from your old wheels. You can choose to re-use these or use new axles with your Loopwheels™.

STEP 5: Push one axle into each Loopwheel from the outward facing side of the wheel.



STEP 6. Insert the axle (with the wheel on it) into the axle housing on your wheelchair, one side at a time.

STEP 7: Rotate the wheel slowly to check that no part of the Loopwheel touches or rubs the frame of the chair. We recommend a minimum clearance of 10mm at all points.



⚠ WARNING

Risk of serious injury from overturning the wheelchair.

– Loopwheels™ must NOT be used with a rigid guard over the top of the tyres unless there is a gap of at least 30mm between the guard and the tyre. There is a risk that whilst moving the wheels could touch the guard and cause sudden braking.

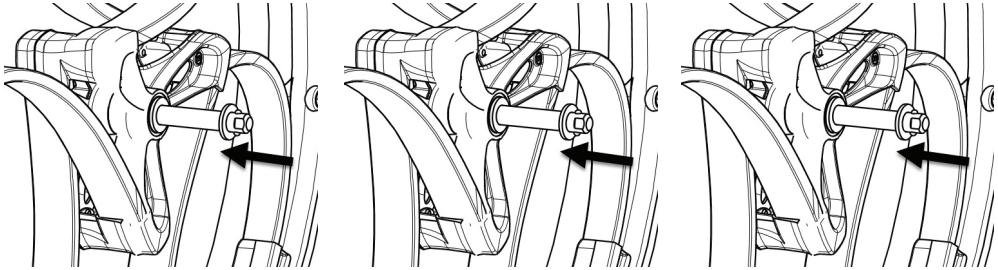
– Check there is a space of at least 30mm above the tyre at all times.

In addition, there must be a space of at least 30mm above the wheel, see 3.1.

If the clearance is good, move to STEP 11.

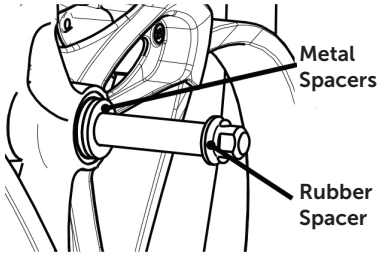
If there is a clash or not enough clearance, move to STEP 8.

STEP 8: Remove the Loopwheel from the chair, place one of the steel spacers onto the axle from the INNER side of the wheel. This will move the Loopwheel further away from the wheelchair frame.



Repeat Steps 7 and 8 up to a maximum of 3 times until there is the correct amount of clearance between the wheel and the frame of the chair.

STEP 9: Secure the steel washers in place by sliding the rubber washer onto the Loopwheel™ axle.



STEP 10: Replace the wheels onto the chair.

STEP 11: Check that the removable axles are fully engaged in the axle housing of the wheelchair.

⚠ WARNING

Always ensure that the removable axles are fully engaged whenever you fit a wheel.

STEP 12: Check that the brakes still engage properly with the tyre. If they do not, seek advice from your wheelchair supplier or therapist on repositioning the brakes.

6.2 Fitting and removing loopwheels™ in everyday use

⚠ CAUTION

Risk of injury.

– Before using the wheels, check their general condition, refer to 9.2 Maintenance Schedule.

6.2.1 Fitting Loopwheels™ on subsequent occasions

STEP 1. Release the brakes.
STEP 2. With one hand, hold the wheelchair upright.
STEP 3. With the other, hold the wheel around the wheel hub.
STEP 4. Using your thumb, press the removable axle button and hold it down.
STEP 5. Push the axle into the wheelchair axle housing up to the stop.
STEP 6. Release the removable axle button and make sure that the wheel is secure.

6.2.2 Removing Loopwheels™

STEP 1. Release the brakes.
STEP 2. With one hand, hold the wheelchair upright.
STEP 3. With the other, hold the wheel around the wheel hub.
STEP 4. Using your thumb, press the removable axle button and hold it down.
STEP 5. Pull the axle out of the wheelchair axle housing.

7. USING LOOPWHEELS™

7.1 Braking

Whilst you are moving, you brake by transferring force to the push rim with your hands. Hold the handrims and press evenly with both hands until the wheelchair stops

⚠ CAUTION

Risk of crushing

There may be a very small gap between the loopwheel and the mudguard or parking brake with the risk that you could trap your fingers

– Ensure that you always propel your wheelchair using the handrims only.

⚠ CAUTION

Risk of burning your hands

If you brake for a long time, a lot of frictional heat is produced at the push rims

– Wear suitable gloves.

7.2 Driving and steering a wheelchair fitted with loopwheels™

You drive and steer a wheelchair using the push rims. Fitting loopwheels™ to your chair changes the feel of the wheelchair compared with spoked wheels. Before driving without an assistant you must accustom yourself to how the chair feels and behaves.

Loopwheels are a suspension system. They are not rigid like spoked wheels and don't run as true as spoked wheels. Slight movement or lack of trueness is not a fault, but is a feature of the product.

⚠ WARNING

Risk of falling out of the wheelchair!

When using loopwheels™ on a wheelchair that you are used to using with rigid spoked wheels, the centre of gravity may change.

– Find your wheelchair's tipping point and use Loopwheels™ initially with an assistant.

– Adjust your driving style accordingly.

⚠ WARNING

Risk of accidents

Uneven tyre pressure can have a huge effect on handling. The pressure should be the same in both tyres.

– Check the tyre pressure before each journey.

8. TRANSPORT

8.1 Safety Information

⚠ WARNING

NEVER transport an occupied wheelchair fitted with loopwheels™ in a vehicle. It has not been designed for this purpose. ALWAYS transfer the wheelchair user to the vehicle seat with the seatbelt on.

⚠ WARNING

Injury or damage may occur from loopwheels™ or other wheelchair components or accessories loosened during a collision or sudden stop.

– Ensure your wheelchair, Loopwheels™ and accessories are securely stored in the vehicle.

8.2 Transporting a wheelchair fitted with Loopwheels™ in a vehicle

You must NOT travel in a vehicle seated in a wheelchair fitted with Loopwheels. Always transfer from your wheelchair into the vehicle seat, and store the wheelchair where it can't cause damage if the vehicle turns sharply or stops suddenly.

Remove loopwheels™ from your wheelchair to transport it more easily in a vehicle, by following the instructions in section 5 for removing and fitting loopwheels™.

9. MAINTENANCE

9.1 Safety Information

⚠ WARNING

Some materials deteriorate naturally over time. Wheelchair manufacturers recommend that your wheelchair should be checked by a specialist dealer at least once a year or if it has not been used for a long period. We recommend that your loopwheels™ are included in this annual check, and that you look over your wheels weekly and listen out for any unusual noises or changes whenever you use your wheels.

⚠ IMPORTANT

Loopwheels™ may sustain visibly undetectable damage as a result of a heavy collision or hard blow.

– It is essential to have your wheelchair and loopwheels™ checked by a specialist dealer after a heavy collision or hard blow.

9.2 Maintenance Schedule

To ensure safe and reliable operation, carry out the following checks and maintenance regularly, or have the checks carried out by another person.

	Weekly	Monthly	Annually
Visual Check	X		
Check loopwheel springs	X		
Have your wheelchair and wheels checked by a specialist dealer			X
Check the tyre pressure	X		
Check that Loopwheels™ are seated correctly and axles secure	X		
Check the parking brakes		X	

Visual check - weekly

1. Examine your wheels for loose parts, cracks or other defects.
2. If you find anything, have your wheels checked immediately by your Loopwheels™ dealer or contact info@loopwheels.com.

Check the springs of your Loopwheels™ - weekly

1. Examine the springs for any signs of wear, cracks, looseness or other defects.
2. Listen for any clicking or creaking sound from the wheels as they turn.
3. If you find anything, have your wheels checked immediately by your Loopwheels™ dealer or contact info@loopwheels.com.

Check the tyre pressure - weekly

1. Check the tyre pressure – see 5.1
2. Inflate the tyres to the required pressure.
3. Check the tyre tread at the same time.
4. If necessary, change the tyres.

⚠ WARNING

Risk of accidents

Uneven tyre pressure can have a huge effect on handling. The pressure should be the same in both tyres.

– Check the tyre pressure before each journey.

Check that the axles are secure - weekly

1. Pull on the loopwheel to check that the removable axle is seated correctly. The wheel should not come off.
2. If the loopwheels™ are not engaged properly, remove any dirt or deposits. If the problem persists, have the removable axles re-fitted by a specialist dealer.

Check that loopwheels™ are seated correctly - weekly

⚠ WARNING

Risk of accidents

The parking brakes may need to be repositioned after replacing your rear wheels with loopwheels™.

1. Check that the parking brakes are positioned correctly. The brake is set correctly if the brake shoe depresses the tyre by a few mm when the brake is applied.
2. If you find that the setting is not correct, have the brakes correctly set by a specialist wheelchair supplier.

9.3 Repairing or changing an inner tube

1. Remove the Loopwheel and release any air from the inner tube.
2. Lift one tyre wall away from the rim using a bicycle tyre lever. Do not use sharp objects such as a screwdriver which could damage the inner tube.
3. Pull the inner tube out of the tyre.
4. Repair the inner tube using a bicycle repair kit or, if necessary, replace the tube.
5. Inflate the tube slightly until it becomes round.
6. Insert the valve into the valve hole on the rim and place the tube inside the tyre (the tube should lie right round the tyre with no creases).

7. Lift the tyre wall over the edge of the rim. Start close to the valve and use a bicycle tyre lever. When doing this, check all the way round to ensure that the inner tube is not trapped between the tyre and the rim.
8. Inflate the tyre to the maximum operating pressure. Check that no air is escaping from the tyre.

9.4 Cleaning

Regular cleaning of your loopwheels™ will help them last well. Regular cleaning will reveal loose or worn parts and enhance the smooth operation of your wheels. To operate properly and safely, your wheels must be cared for just like any other vehicle wheels.

1. Clean the metal parts with a soft, damp cloth.
2. Dry the hub carefully with a cloth after using it in the rain.
3. If the wheels are dirty, wipe off the dirt as soon as possible with a damp cloth and dry them carefully.
4. Plastic surfaces on the springs may be cleaned with soft cloth, mild detergent and hot water.

⚠ IMPORTANT

Sand and seawater can damage the bearings, and steel parts can rust if the surface is damaged.

– Only expose your loopwheels™ to sand and seawater for short periods, and clean the hub after every trip to the beach.

10. TROUBLESHOOTING

10.1 Safety Information

⚠ CAUTION

Contact your loopwheels™ dealer immediately if you notice a fault with your wheels, e.g. a significant change in handling.

10.2 Identifying and repairing faults

Faults may arise as a result of daily use, adjustments or changing demands on the wheels. The table below shows how to identify faults and what action to take. If any doubt, stop using the wheels until the issue has been identified and put right.

Fault	Possible cause	Action
The wheelchair doesn't travel in a straight line	If this is slight and hasn't changed, it's a natural feature of the Loopwheel.	No action if the difference is +/- 5mm from true.
	Incorrect tyre pressure on one Loopwheel	Correct tyre pressure – see 5.1
	Wheel bearings are dirty or damaged	Return wheel for assessment via the supplier
The brakes are gripping poorly or assymetrically	Brake setting incorrect	Correct brake fitting by seeking advice from your wheelchair supplier
	Incorrect tyre pressure in one or both tyres	Correct tyre pressure – see 5.1
Rolling resistance is very high (the wheels feel hard to push)	Tyres pressure is too low	Correct tyre pressure – see 5.1
	Loopwheels aren't parallel	Seek advice from your specialist wheelchair supplier
The wheel makes a clicking noise	The push rim is loose	Check the push rim bolts are fixed firmly to the wheel rim with no looseness – seek advice via your supplier
	The axle pins aren't fitted correctly.	Check the size and fit of the axle pins in the wheel bearings and into the housing on the wheelchair – see 5.3. Seek advice via your supplier as required
	The wheel is touching the chair as it rotates.	Check clearance - see 6.1
The wheel makes a creaking noise	One or more spring is loose or broken	Return wheel for assessment, via your supplier.

11. AFTER USE

11.1 Safety

After long-term storage (more than three months) we recommend the wheels be inspected in accordance to chapter 9 Maintenance.

11.2 Disposal

It is not yet possible to recycle the composite materials of Loopwheels springs. Technology is developing in the recycling of carbon materials and we hope advances will happen soon!

Metal components can be recycled once removed.

For correct disposal, contact your specialist dealer or ask your town or district council about local waste management companies. Be environmentally aware and dispose of your Loopwheels™ properly. Disposal is subject to national and local regulations.

12. TECHNICAL DATA

12.1 Dimensions and weight

Dimension and weight may alter according to different configurations of push rims and tyres.

A	Wheel diameter	24" / 540mm (ETRTO 25-540mm) 25" / 559mm (ETRTO 25-559mm)
B	Wheel width at widest point (without push rim)	72mm
C	Wheel width at hub	65mm
D	Bearing width at faces	1.87" (46mm)
E	Weight (without push rim or tyre)	1.8 kg (24" diameter wheel) 1.85 kg (25" diameter wheel)
F	Push rim offset (distance between rim and push rim)	1.8 kg (24" diameter wheel) 1.85 kg (25" diameter wheel)
G	Maximum load	120 kg
H	Recommended Maximum Speed	7 km/h

12.2 Environmental conditions

Do not expose the wheels to temperatures below -20 °C or above 40 °C.

12.3 Materials

The components in Loopwheels™ Classic and Carbon are of these materials.

Springs ("loops")	Composite of Glass Fibre, Carbon Fibre and cured Epoxy resins
Spring coating (Loopwheels Classic only)	Polyolefin
Rim, hub and rim connectors	Aluminium
Bearings	Steel / Aluminium
Screws and bolts	Steel
Push rim[2]	Aluminium
Push rim spacer	Polyamide (nylon)

loopwheels.com

The information in this manual may be subject to change without notice. Latest updates are at https://loopwheels.com/technical/user-manual/

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CE

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