

## 12 Maintenance

The term „Maintenance“ means any task performed to ensure that a medical device is in good working order and ready for use as intended. Maintenance encompasses different areas, such as everyday care and cleaning, inspection checks, repair tasks and refurbishment.



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**NOTE:**

Have your vehicle checked once a year by an authorised Invacare® dealer in order to maintain it's driving safety and roadworthiness.

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### 12.1 Cleaning the mobility device

When cleaning the mobility device, pay attention to the following points:

- Only use a damp cloth and gentle detergent.
- Do not use any abrasive or scouring agents.
- Do not subject the electronic components to any direct contact with water.
- Do not use any high-pressure cleaning devices.

**Disinfection**

Spray or wipe disinfection using a tested and recognised product is permitted. A list of the current permitted disinfectants is available from the Robert Koch Institute at <http://www.rki.de>.

## 12.2 Inspection checks

The following table lists inspection checks that should be performed by the user and their intervals. If the mobility device fails to pass one of the inspection checks, please refer to the chapter indicated or contact your authorised Invacare® dealer. A more comprehensive list of inspection checks and instructions for maintenance work can be found in the Service Manual for this device, which can be obtained from Invacare®. That Manual, however, is intended to be used by trained and authorised service technicians, and describes tasks which are not intended to be performed by the user.

### 12.2.1 Before each use of the mobility device

Item	Inspection check	Action
<b>Signal horn</b>	<ul style="list-style-type: none"><li>• Check for correction function.</li></ul>	<ul style="list-style-type: none"><li>• Contact your dealer.</li></ul>
<b>Lighting system</b>	<ul style="list-style-type: none"><li>• Check that all lights, such as turn indicators, headlamps and tail lights, are functioning correctly.</li></ul>	<ul style="list-style-type: none"><li>• Contact your dealer.</li></ul>
<b>Batteries</b>	<ul style="list-style-type: none"><li>• Make sure the batteries are charged. See the User Manual provided with your remote for a description of the Battery Charge Indicator.</li></ul>	<ul style="list-style-type: none"><li>• Charge the batteries (see chapter "Charging the batteries" on page <b>116</b>).</li></ul>

## 12.2.2 Weekly

Item	Inspection check	Action
<b>Armrests /side parts</b>	<ul style="list-style-type: none"> <li>• Check that armrests are firmly attached in their holders and do not wobble.</li> </ul>	<ul style="list-style-type: none"> <li>• Tighten the screw or clamping lever that holds the armrest (see chapter "Adjusting the armrests and the " on page 47).</li> <li>• Contact your dealer.</li> </ul>
<b>Tyres (pneumatic)</b>	<ul style="list-style-type: none"> <li>• Check that the tyres are undamaged.</li> </ul>	<ul style="list-style-type: none"> <li>• Contact your dealer.</li> </ul>
	<ul style="list-style-type: none"> <li>• Check that the tyres are inflated to the correct pressure.</li> </ul>	<ul style="list-style-type: none"> <li>• Inflate the tyre to the correct pressure (see chapter "Technical specifications" on page 151).</li> <li>• Repair the inner tube if you have a flat tyre (see chapter "Repair Instructions" on page 127) or contact your dealer to have it repaired.</li> </ul>
<b>Tyres (puncture-proof)</b>	<ul style="list-style-type: none"> <li>• Check that the tyres are undamaged.</li> </ul>	<ul style="list-style-type: none"> <li>• Contact your dealer.</li> </ul>

### 12.2.3 Monthly

Item	Inspection check	Action
<b>All upholstered parts</b>	<ul style="list-style-type: none"> <li>• Check for damage and wear.</li> </ul>	<ul style="list-style-type: none"> <li>• Contact your dealer.</li> </ul>
<b>Removable legrests</b>	<ul style="list-style-type: none"> <li>• Check whether the legrests can be fixed securely and whether the loosening mechanism is properly operable (see chapter "<b>Adjusting footrests and legrests</b>" on page 77).</li> </ul>	<ul style="list-style-type: none"> <li>• Contact your dealer.</li> </ul>
	<ul style="list-style-type: none"> <li>• Check that all adjustment options function properly (see chapter "<b>Adjusting footrests and legrests</b>" on page 77).</li> </ul>	<ul style="list-style-type: none"> <li>• Contact your dealer.</li> </ul>
<b>Castors</b>	<ul style="list-style-type: none"> <li>• Check that castors rotate and swivel freely.</li> </ul>	<ul style="list-style-type: none"> <li>• Contact your dealer.</li> </ul>
<b>Drive wheels</b>	<ul style="list-style-type: none"> <li>• Check that the drive wheels rotate without wobbling. It is easiest to have someone stand behind the mobility device and observe the drive wheels as you drive away from them to do this.</li> </ul>	<ul style="list-style-type: none"> <li>• Contact your dealer.</li> </ul>
<b>Electronics and connectors</b>	<ul style="list-style-type: none"> <li>• Check all cables for damage and all connecting plugs for snug fit.</li> </ul>	<ul style="list-style-type: none"> <li>• Contact your dealer.</li> </ul>

## 12.3 Repair Instructions

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### **Important information about maintenance work tools!**

Some maintenance work which is described in this manual and can be carried out by the user without problems require the correct tools for proper work. If you do not have the correct tool available we do not recommend that you try to carry out the relevant work. In this case, we urgently recommend that you contact an authorised specialist workshop.

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The following are instructions on maintenance and repairs that can be performed by the user. For the specifications of spare parts please see "**Technical specifications**" on page **151**, or consult the Service Manual, available from Invacare® (in this connection please see the addresses and phone numbers in section "**How can you get in touch with Invacare®?**" on page **3**). In case you require assistance, please contact your Invacare® Dealer.

### 12.3.1 Repairing a flat tyre

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**WARNING: Danger of damage or injury if the vehicle is accidentally set into motion during repairs!**

- *Switch the power off (ON/OFF Button)!*
  - *Engage the motors!*
  - *Secure the vehicle against rolling away by placing wedges under the wheels!*
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### 12.3.1.1 Repairing a flat tyre (front)



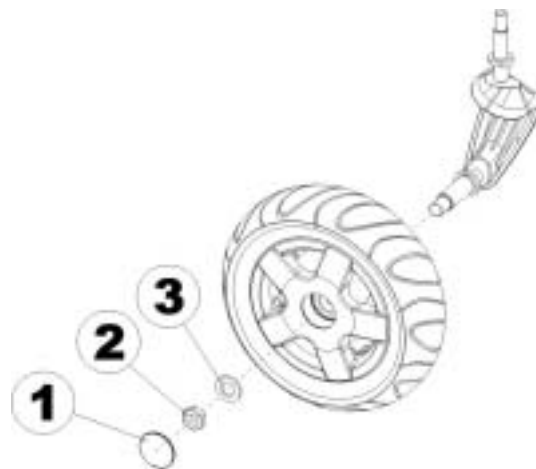
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#### Requirements:

- Allen key 5 mm
  - Open-end spanner 24 mm
  - Repair kit for inner tubes **or** a new inner tube.
  - Talcum powder
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#### Remove the wheel

- Jack the vehicle up and place a block of wood underneath it to prop it up.
- Remove the plastic cap (1).
- Loosen and remove the nut (2) using the open-end spanner.
- Remove the washer (3).
- Take the wheel off of the fork assembly.



#### NOTE

Re-assembly is done in reverse order. Make sure that the wheel is put back on the same side it was on, and that it runs in the same direction it did before it was removed.

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## Repair the flat tyre

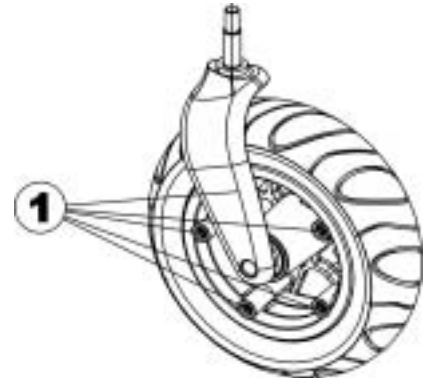
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### EXPLOSION HAZARD!

**The wheel explodes if the air is not left out before dismantling!**

- *It is imperative that you let the air out of the tyre before dismantling it (press the pin in the middle of the valve downwards)!*
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- Remove the valve cap.
  - Let the air out of the tyre completely by pressing the pin in the centre of the valve in.
  - Remove the 5 Allen screws (1)
  - Take the tyre and the inner tube off of the rim halves.
  - Repair the inner tube and re-fit, or replace it with a new one.



### NOTE

In case the old inner tube is to be repaired and used again, and it happens to get wet during repair, then it is easier to re-fit it if you powder it lightly with talcum powder.

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- Place the rim halves in the tyre from the outside.
- Pump up the tyre a little.
- Re-position the Allen screws in the rim and tighten them firmly. Make sure the inner tube does not get pinched between the rims halves!
- Check to make sure that the tyre is squarely in place on the rim.
- Pump up the tyre to the recommended tyre pressure.
- Check to make sure that the tyre is still squarely and snugly in place on the rim.
- Screw the valve cap back on.
- Refit the wheel.



## 12.3.2 Repairing a flat tyre at the front (tyre type 280/250-4)

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### Requirements:

- Allen key 5 mm
  - Open-end spanner 13 mm
  - Repair kit for inner tube tyres **or** a new inner tube
  - Talcum powder
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### Removing the wheel

- Jack up the mobility device (place a wooden wedge under the frame).
- Loosen and remove the screw (1) using the Allen key on one side and the open-ended spanner on the other side (for counterwing).
- Pull the wheel from the fork



### NOTE

Installation is carried out in reverse order. Please ensure that the wheel is re-fitted on the same side and in the same running direction as removed.

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## Repairing a flat tyre

- Remove the valve cap.
- Exhaust the air from the tyre by pressing the spring pin in the valve.
- Loosen and remove the 5 Allen screws (1).
- Remove the tyre with the inner tube from the rim halves.
- Repair the tube and re-fit or fit new tube



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### NOTE

If the old tube is to be repaired and re-fitted and has become wet during repair work, powdering the hose with some talcum powder can simplify the fitting procedure.

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- Re-insert the rim halves into the tyre from the outside.
- Inflate the tyre a little.
- Re-position the Allen screws and screw rim together tightly. Make sure the inner tube does not get pinched between the rims halves!
- Check the exact fit of the tyre.
- Inflate the tyre to the prescribed air pressure.
- Re-check the exact fit of the tyre.
- Screw on the valve cap.
- Refit the wheel.

### 12.3.2.1 Repairing tyre punctures (wheel rim type 3.00-8")



**Injury hazard! If the wheel has been insufficiently tightened during assembly, it can become loosened during driving!**

- *When reassembling the drive wheels, tighten the Allen screws at a torque of 30 Nm!*
- *Secure all screws using a suitable blocker (e.g. Loctite 243)!*



#### **Requirements:**

- Allen key – open-ended spanner 6 mm
- Torque wrench
- Repair kit for tyre repair **or** a new inner tube
- Talcum powder
- Screw blocker Loctite (e.g. Loctite 243)

#### **Removing the wheel**

- Block up the vehicle (place wooden blocks under frame).
- Unscrew the screw (1).
- Remove the wheel from the hub.





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**NOTE**

Re-assembly is done in reverse order. Ensure that the tyre is replaced on the same side and in the same travel direction as it was previously mounted.

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**Repairing the flat tyre**

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**EXPLOSION HAZARD!**

**The wheel will explode if you do not let the air out of the tyre before removing the wheel!**

- *Always let the air out of the tyre before removing it (press in the pin in the middle of the valve)!*
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- Unscrew valve cap.
- Depressurise tyre completely by pressing in the pin in the valve .
- Remove the 5 cylinder head screws (back of the wheel, 2).
- Remove the rim halves from the tyre.
- Remove the inner tube from the tyre.
- Repair inner tube and replace, or insert new.

**NOTE**

If the old inner tube is to be repaired and re-used, and has become wet during repair, you can make replacement easier by sprinkling the inner tube with a little talcum powder.

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- Insert the wheel rim halves from outside into the tyre.
- Pump a little air into the inner tube.
- Reinsert the cylinder head screws and tighten to 10 Nm. Avoid crushing the inner tube!
- Ensure that the tyre outer is seated correctly.
- Pump the tyre up to the prescribed pressure.
- Ensure that the tyre outer is seated correctly again.
- Screw the valve cap back on.
- Refit the wheel.