

Information Sheet

Guide to wheelchair maintenance

A well-maintained wheelchair should perform well for a number of years. Just as a car should be serviced on a regular basis, so should there be a regular maintenance program for a manual wheelchair. The frequency with which maintenance should be carried out will vary according to how the wheelchair is used (or abused), the environment in which the wheelchair is used, and also the relative age of the wheelchair. Most wheelchairs should be supplied with manufacturer's instructions for regular maintenance, and these may specify certain lubricants that should be used, as well as outlining a regular maintenance program. The manufacturers of some wheelchairs will specify the tools required for efficient maintenance, and some may actually provide a small tool kit! In all of these cases, adherence to the manufacturer's recommendations is extremely important.

On the pages that follow are some simple recommendations for maintenance of manual wheelchairs. Many procedures are simple, requiring no prior mechanical experience. However, it is important to recognise that some of these tasks require a degree of mechanical skill, and only an experienced professional should carry out some. You should recognise your limitations, and where appropriate, refer the task to someone with the necessary qualifications. You should be well versed in the terms and conditions of the warranty, as some actions on your part may jeopardise any future claims made under the warranty. Funding bodies and manufacturers will often have preferred repairers - check with them before having any work done. In some instances, simple jobs may be able to be carried out by a bicycle repairer. Costs involved in maintaining a wheelchair are usually borne by, you.

This guide discusses the components of manual wheelchair that require regular maintenance. These include:

1. Upholstery
2. Frame
3. Rear Wheels
4. Castors
5. Tyres
6. Brakes
7. Footplates

Upholstery

- Cloth upholstery fabrics and vinyl upholstery should be cleaned weekly by wiping with a damp cloth and mild detergent. Take care to dry it properly to avoid rusting of the screws.
- Cloth upholstery fabrics may be treated every six months or so with a commercially available upholstery protectant
- Vinyl upholstery should be treated monthly with a commercial upholstery protectant such as

those used for car seats.

- Upholstery should be checked regularly for wear and tear. Sagging or torn upholstery in the backrest or seat sling can cause significant deterioration in posture, and in the effectiveness of pressure relieving cushions. Upholstery should be replaced or repaired only by someone qualified to do so, usually a wheelchair manufacturer or repairer.

Frame

- Chrome or painted surfaces should be wiped over weekly with a chamois or cloth to remove dirt and maintain the finish. Commercially available 'spray on - wipe off' surface cleaners (like those used in the kitchens) are usually suitable as the moisture evaporates off the frame quickly. Take care not to use anything harsh or abrasive, as this may damage the finish.
- Chrome surfaces should be treated with a silicone loaded car polish to inhibit the formation of rust.
- The frame should be checked monthly for early signs of rust and any evidence of metal fatigue or cracks in the welds. If these are caught early, they can usually be repaired more easily and inexpensively than if they are left to worsen. Any repair of the frame should be carried out by a qualified person recommended by the manufacturer or funding body.
- In folding frame wheelchairs, the folding mechanism should be checked for ease of use. Any stiffness may be alleviated by using a small amount of silicone spray.
- If the wheelchair becomes difficult to fold, or begins to veer in one direction, the frame may be bent or warped. This will require attention from a qualified person - check with the manufacturer.

Rear Wheels

- Check the wheels monthly to see if they spin freely and stop smoothly. There should be little sideways movement present. If there is some movement present or the wheel does not spin well the bearings may be loose or worn. Repairs such as these must be referred to someone qualified.
- Loose nuts holding the axle may also cause excessive sideways movement of the wheel or axle block in place. The tension of these nuts should be checked and tightened if necessary.
- Spoke tension should be checked every few months, more frequently if you are particularly active. Loose, broken or bent spokes may cause the wheel to buckle or warp, leading to deterioration in performance. Tensioning and replacing spokes requires skill and this task should not be attempted unless you are experienced at the task. For those who are not, any bicycle repair shop should be able to assist.

Castors

- Lint and hair can build up quickly around the inside and outside of castors. This may restrict free movement, making it harder to push and turn the wheelchair. The hair should be removed by removing the castor from the castor fork assembly. Take care not to overtighten the nuts when replacing the castor, as this too may restrict the free movement of the castor. A degree of mechanical experience may be desirable to perform this task.
- Grinding noises or excessive sideways movement may be due to worn bearings. Replacement may be necessary by a qualified person.
- Excessive castor wobble may also be due to the loosening of the nuts on the castor fork or stem bolt. Check these nuts for tension, but take care not to overtighten them as this may restrict free movement of the castor.

Tyres

- Tyre pressure should be checked weekly and kept inflated to the manufacturer's recommended levels. Flat tyres will make the wheelchair significantly harder to push and turn. Take care not to overinflate tyres as this can be dangerous. **Manufacturer's recommended maximum pressures are usually printed on the sidewall of the tyre itself.** It may be worthwhile investing in a tyre pressure gauge or even a pump with one built in. Pressure gauges at service stations are often inaccurate.
- Tyres should be replaced if worn. If fabric or canvas is showing through, it should be replaced immediately. Worn tread may result in poor traction, particularly in the wet and may affect the efficiency of the brakes. The tyre will also be more susceptible to puncture. Replacement of tyres will not be covered under the warranty.

Brakes

- Brakes should be checked weekly to ensure that they are operating at their best. As brakes are a safety feature of the wheelchair, malfunction may result in injury. The mechanism should not be excessively loose, but should not be so tight that it makes them difficult to operate.
- Ensure that the brakes are operating effectively. Some manufacturers build in adjustability so that the brakes can be moved closer to or further away from the wheel. There must be a balance between how difficult the brakes are to engage/disengage and how well they hold the wheel in various situations.
- Remember that tread and inflation can affect the efficiency of brakes.

Footplates

The position and alignment of the footplates should be checked regularly. The position of the footplates may need to be adjusted if.

- You are growing
- There is a change in the cushion being used
- The upholstery is sagging or has been replaced
- There is a substantial change in the type of shoes being worn

Remember that small changes in footplate height can adversely affect the condition of the skin.

Repairs

Always consult the user manual before attempting any repairs on a manual wheelchair. Carrying out certain repairs yourself may void your warranty, and this may result in considerable expense at a later time. You should also be aware of any further conditions placed on repair of the wheelchair by the agency that provided it. If in doubt – investigate.