Manual Wheelchair Maintenance Guide

Available in pdf format at https://techowlpa.org/wheeled-repair-alliance

Disclaimer

This guide is provided for educational purposes. It offers one example of the types of maintenance needs that you might encounter. Please also consult the owner's manual for your specific wheelchair. If you do not have a copy of the manual, you may be able to find it online (search the make and model of your chair) or by contacting the manufacturer.

Always defer to the guidelines provided by your wheelchair vendor or manufacturer. TechOWL is not responsible for errors, damages, or failure to comply with your manufacturer's warranty conditions.

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Introduction

The goals of TechOWL's Wheeled Repair Alliance are to:

1) Increase the capacity of wheelchair users to conduct and/or direct their own equipment maintenance.
    - We recognize the importance of preventative maintenance!
        - ✓ Regular upkeep of your wheelchair increases mechanical efficiency, decreasing fatigue and strain.
        - ✓ Keeping a maintenance routine helps identify problems before they become a safety hazard or large expense. This can prevent the myriad consequences of breakdowns, such as missing work and medical appointments and negative health effects like pressure sores from prolonged loss of mobility.
        - ✓ It's also empowering to have the tools you need to support yourself and your neighbors.
2) Create timely and affordable alternatives to traditional avenues of repair.
    - We have witnessed the barriers!
        - ✓ The service options available to you differ depending on how your wheelchair was acquired (eg paid through insurance, out of pocket, or obtained second-hand) and can be confusing to navigate.
        - ✓ It is common to have long delays in service time, particularly if you go through insurance. We don't think it's acceptable for people to have to make do without their mobility aids for weeks or months.

Thank you for joining us in this initiative!

Manual Wheelchair Overview

Types of Manual Wheelchairs

There are many different models and styles of wheelchairs. Three of the main types are:

Standard

- Typically for short-term, indoor use ("hospital" or transport chair)
- Assembled in standardized sizes, offer minimal adjustments
- Seat and back are fabric
- Folding frame

Ultralight

- Designed for an active, full-time wheelchair user
- Dimensions are customized to your body
- Rigid frame that folds forward or disassembles
- Quick release wheels

Tilt-in-Space

- Solid frame
- May have special seating, trunk and head supports
- Provides pressure relief and serves other positional needs

Know what type of wheelchair you have and identify any special features (camber angle, footrest elevation, anti-tippers, pressure-relief cushioning, etc.) that are important to the way you use it. You might find these details on your invoice or in the owner's manual.

My Chair

Manufacturer:

Model:

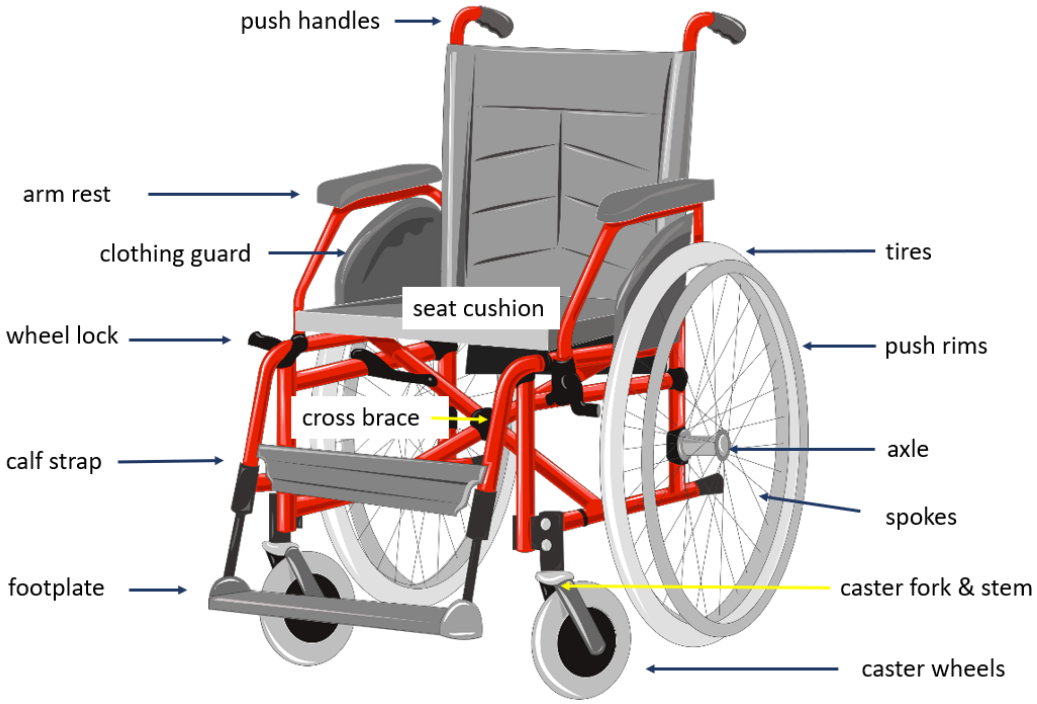
Year:

Vendor (if chair was not purchased directly from the manufacturer):

Notes and features:

Parts of a Manual Wheelchair

Getting to know the parts of your wheelchair will help you navigate this guide and direct your wheelchair's care. Here is a brief outline to get you started. Your wheelchair may have additional or different parts, such as a headrest, lateral supports, or anti-tippers.



Supply List

You may need some of the below supplies to care for your wheelchair.

- □ Tools – allen or hex wrenches, socket wrenches, screwdriver
- □ Bicycle tire pump
- □ Tire patch kit or spare inner tube
- □ Silicone-based lubricant
- □ Cleaning solution – mild dish detergent, a spray product like Simple Green, or other soap
- □ Soft cloth and/or car wash mitt

Routine Maintenance

Insurance does not cover routine servicing, cleaning, and checking of your equipment. However, these tasks are critical to prevent long-term damages and injury.

Keep your wheelchair running smoothly by setting aside time to:

- □ Check tire inflation. The tire should not sink more than 0.2 inches when pressed.
- □ Check cushion texture. If you are noticing flat spots or a change in the supportiveness of your seat, you may need to replace the foam. Gel cushions can be kneaded back to the desired shape or air-based cushions inflated.
- □ Inspect the frame and supports (footrests, arm rests, head rest and/or trunk supports) for signs of damage. Check nuts and bolts – should be fitted snugly but not over-tightened.
- □ Spin wheels. Wheels should turn smoothly. Also check wheel locks; they should make full contact with the tires and wheels should not turn when locks are on.
- □ Every few months, clean and oil the moving parts - joints, hinges, pivot points, and axle - on your wheelchair to reduce friction and prevent seizing and breakage.

Decide what aspects of wheelchair care you, a family member, or a support person are comfortable doing at home. If you need help with these routine maintenance tasks, consider visiting a local bike shop!

Cleaning

While you are doing wheelchair maintenance, don't forget about cleaning. Disinfect the high-touch areas of your chair frequently and spot clean other portions as needed. Keeping your chair clean can help it perform better and reduce the amount of dirt and germs that you're bringing into your home.

- □ Remove any debris such as twigs and leaves from the wheels and casters. If you have off-road tires with a deep tread, you may find a stiff-bristled tire brush or even just a toothbrush helpful.
- □ Wipe down the frame, spokes, and wheels with a mild cleaner and soft cloth.
- □ Removable upholstery (zippered seat covers, velcro back rests) can be hand washed or put in the washing machine on a gentle cycle. Air dry.
- □ If you cannot easily remove a portion of the upholstery (like sling-style seats that are screwed in), wipe it down with a damp cloth and mild soap.

Avoid cleaners that contain bleach or ammonia. Allow the upholstery to dry completely before sitting in the chair. Note that it is not recommended to use a pressure washer on your wheelchair.

Painting

Scratches or dings on your wheelchair can be hidden with some careful color-matching. Some manufacturers sell paint pens for this purpose. If the original paint is not available – or if you are trying to completely change the look of a secondhand chair – look for paint products that are labelled as effective for cars or bicycles. Some vendors recommend Rustoleum spray paint.

- Work in a well-ventilated area. Put down tarps or newspaper if needed to protect other surfaces.
- Wipe down and thoroughly dry the portions of the frame you intend to paint.
- Cover any areas that you do not want to paint. Use painters' tape and/or plastic trash bags as needed. For bigger projects you may want to remove the wheels and upholstery completely. Be mindful not to paint stuck any hinges or screws.
- Use fine-grain sandpaper to prepare the surface, paying special attention to any rough edges where the original paint has chipped.
- Apply paint according to the directions on the packaging.

Repair and Replacement

Know who can service your chair. Ask the seating clinic where you were fitted, the wheelchair manufacturer, or the vendor that you purchased from. The vendor might require your chair to be serviced by one of their own experts. They will give you instructions on scheduling repairs.

Important note: If you choose to do repairs yourself or have them done elsewhere, it may void any warrantees included with your wheelchair purchase.

Potential signs of damage include:

- Your chair gets suddenly difficult to propel or feels wobbly.
- Knocking or squealing noise when moving.
- Cracks in the frame or separation of welded joints.

If you have concerns about your wheelchair, make an appointment with a technician.

Is your wheelchair beyond fixing or otherwise not meeting your needs? Some insurance policies will cover a replacement chair up to once every five years. Get a referral from your primary care or other physician to visit your local wheelchair / seating clinic.

Contact information for seating clinics in my area:

Funding

For assistance with finding a low-cost wheelchair or navigating alternative funding options, contact your state's Assistive Technology Act Program (https://at3center.net/state-at-programs). TechOWL is the federally designated assistive technology act program for the state of Pennsylvania. Pennsylvania Assistive Technology Foundation can also help with financing.

Parts

When you cannot get replacement parts directly from your wheelchair manufacturer, try local DME shops. You may also be able to order what you need online from places like:

Spinlife - www.spinlife.com

DME Hub - www.dmehub.net

Wheelchair Parts - wheelchairparts.net

Enable Your Life - enableyourlife.com

Wheelchair parts come in a variety of sizes. Some manufacturers use SAE measurements; others use metric. If you are using a local bike shop to install tires or replace bearings, be prepared for them to request you bring the parts with you. They may be able to help you identify what you need, but there are too many variables for them to keep everything on hand.

Additional Resources

Training and Information

Download the My Wheelchair Guide app from the University of Pittsburgh and United Spinal Association to stay on track with routine maintenance.

Complete short (90-130 minutes) courses on Manual Wheelchair or Power Wheelchair maintenance from the MSKTC, a national resource center for patients with spinal cord injury, traumatic brain injury, and burn injury.

View materials in University of Pittsburgh's Wheelchair Maintenance Training Program.

Check out the vendor or manufacturer's webpage for tips, such as this Maintaining Your Ride blog series from Permobil.

For Professionals

If you are interested in learning more about wheelchair provision, consider Wheelchair Service Training modules from the World Health Organization and the associated knowledge test from ISWP. Paid courses are also available from U.S. Rehab, covering common repair needs for the specific equipment you work with.

Maintenance Task Flipbook

The attached card ring is provided with thanks to the University of Pittsburgh Model Center on Spinal Cord Injury. Download additional materials from UPMC-SCI at http://www.upmc-sci.pitt.edu/wmtp-landing.

Manual Wheelchair Maintenance

Card deck courtesy of
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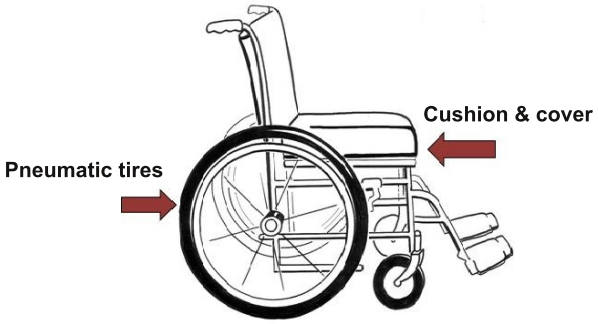
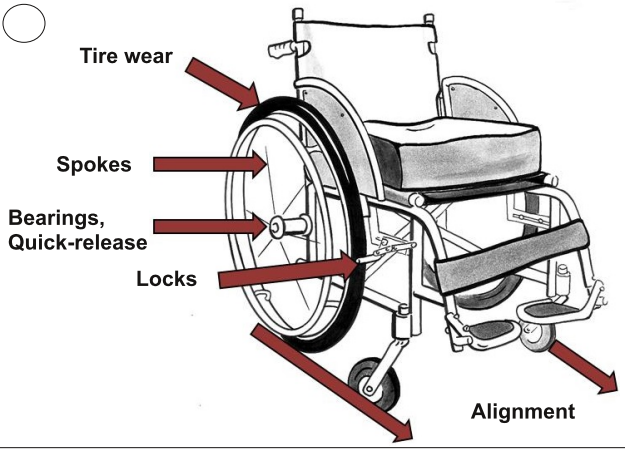
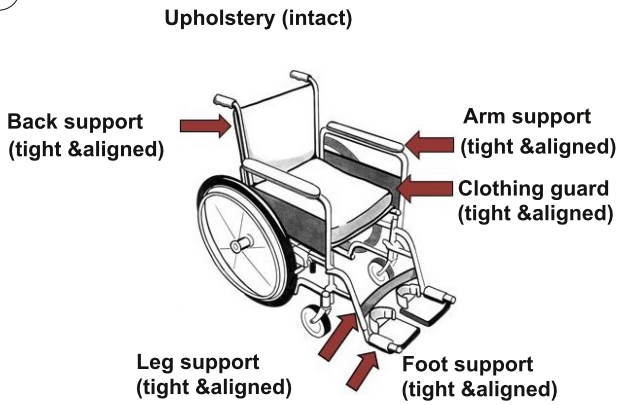


Weekly Inspection

Weekly



Monthly Inspection



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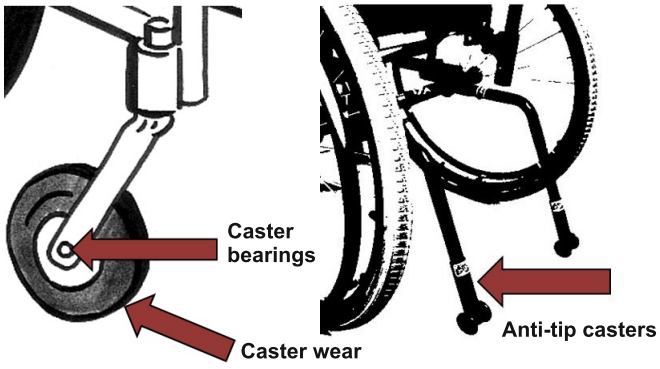

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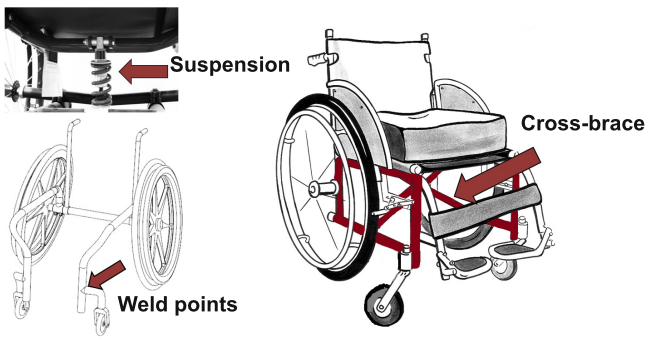
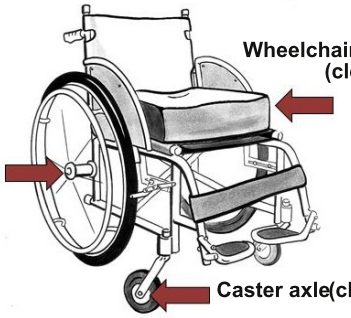


Monthly Inspection

Monthly Actions



Monthly

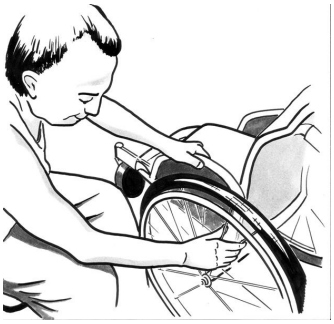
Quarterly Actions

Lubricate moving parts

Quarterly

Yearly Action

Have wheelchair professionally serviced



Yearly