

# D-Xbasic Foldable Wheelchair

By Diversability Development Organization



## USER MANUAL

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## SERVICE PROVIDER INFORMATION

The D-Xbasic is intended to be delivered by a qualified wheelchair service provider trained in accordance with or equivalent to World Health Organization's (WHO) Wheelchair Service Training Curriculum.

For repairs, adjustments and/or spare parts, please contact your qualified local service provider. Please record your service provider's information below:

Service provider name:	
Service provider address:	
Service provider telephone number:	
Service provider email address:	
Service provider contact person:	

## INTENDED USE AND BASIC SAFETY INSTRUCTIONS

The D-Xbasic is an adult active four-wheel folding frame wheelchair designed for urban environment in low resourced settings. D-Xbasic is compliant with WHO Guidelines and Training.

### Important!

Every user is unique and therefore the best instructions will be provided by the service provider based on their assessment of the user. We encourage the users to seek instructions from their service provider and in addition, to read through World Health Organization's Guidelines on the provision of Manual Wheelchairs in less resourced settings for more information.

The information in this user manual is not exhaustive. The responsibility for the interpretation and use of the material lies with the reader. In no event shall the Diversability Development Organization be liable for damages arising from its use.

The product has been designed for an average lifespan of approximately 3 - 5 years, provided that the product is used for its designated purpose and the product is maintained and serviced regularly. The product lifespan depends on the frequency of use, environment and maintenance. The use of spare parts when required positively affects the lifespan of the product.

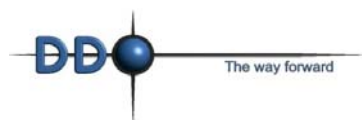
Please note that the indicated lifespan does not constitute additional product warranty.

## SAFETY CONSIDERATIONS

### Prior to use

Assemble the product, following the Assembly and Adjustment Manual. Perform the following safety checks before using the wheelchair for the first time:

- Rear wheel axles are securely locked to the frame
- Rear wheels spin freely
- Rear wheel axle sleeves are correctly located and securely tightened on the frame
- Castor wheels spin freely
- Castor fork spins freely in the castor barrel
- Footrest adjustment bolts are fully tight



- Footrests can be easily removed and safely secured to the frame, using the footrest locking mechanism
- Foot plates flip-up easily
- Side guards slide in and out easily
- Brakes are assembled, adjusted and operate correctly
- Seat fasteners are fully tight and seat strap is firmly fastened
- Cushion size and orientation is correct
- Backrest adjustment bolts are fully tight
- Backrest straps are firmly fastened together
- All straps are correctly located
- All fasteners are tight.

**Note:** Do not over-tighten the nuts and bolts.

### Transport

- Remove the quick-release rear wheels before transporting
- Remove the cushion
- Remove the footrests, if needed
- Remove the side guards, if needed
- Fold the frame
- Lift the wheelchair up by the frame. Do not lift the wheelchair by the upholstery.
- Before use, replace all the parts that have been removed

**Note:** Check that the rear wheel axles are clean before inserting into the frame, as dirt may get stuck on to the axles. Before use check that the rear wheel axles are securely locked to the frame.

### Ongoing

- Keep the wheelchair clean and dry
- Do not leave the product outside, exposed to elements, as this will damage the product and shorten the product lifespan.
- If any part of the product stops functioning properly, please consult a trained wheelchair technician of your local service provider.

## HANDLING YOUR WHEELCHAIR

### Folding the wheelchair



#### Folding

Remove the cushion

Fold the wheelchair frame by pulling up on the seat panel



#### Unfolding

Unfold the frame by pushing down on the seat panel and the seat tubes

Check that the seat tubes are correctly seated in the seat tube cups

Place the cushion on the seat panel

#### Note:

Please pay attention at the cushion orientation relative to the seat panel

### Removing/ placing the footrests





#### Placing the footrests on the frame

Insert the footrest plastic plug in the frame front upright tube  
Align the footrest bottom clamp with the frame front upright tube  
Rotate the footrest until it locks in place

#### Removing the footrest from the frame

Unlock the footrest using the footrest bottom clamp  
Rotate the footrest and push upwards, until the footrest plastic plug is released from the frame front upright tube.

#### Removing/ placing the side guards



Slide the side guard in and out of the side guard socket to place or remove the side guard on/from the frame.

#### Removing/ placing the rear wheels



Press the quick release axle button.

Pull outwards from the frame to remove the rear wheel or towards the frame in order to place the rear wheels on the frame.

#### Tilting the wheelchair

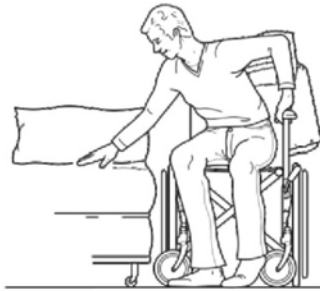


Push the bottom rail rear end down while pushing down and back on the push handles.

Tilt the wheelchair, as needed.

# USING YOUR WHEELCHAIR

## Moving to/ from the wheelchair



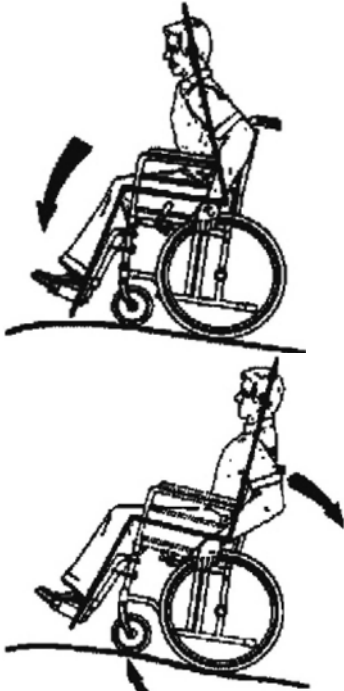
Propel the wheelchair as close as possible to the surface that you want to move to. Apply the brake. Remove the armrests, if needed, and detach the footrests or swing them outwards. Do not support yourself on the footplates as this may cause the chair to tip forwards.

## Stretching and leaning



Propel the wheelchair as close as possible. When stretching and bending, do always have full contact between the backrest and the back otherwise the wheelchair may tip over. Stretching behind the back is not recommended.

## Propelling up a slope



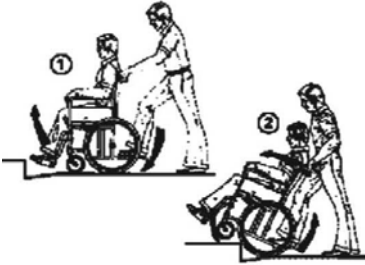
Many experienced users can propel themselves up a slope. In order not to lose control of the steering and to avoid tipping backwards, you should always lean forwards whilst propelling up a slope. Propel the wheelchair forwards using short, quick strokes applied to the hand rims, in order to maintain speed and steering control. Generally, help is needed on steep slopes. If you have to stop on a slope, it is particularly important to ensure that you do not make any sudden or unexpected backward movements when you start moving the wheelchair forwards again. As the wheelchair is already leaning backwards, such a movement may cause the wheelchair to tip backwards. The maximum gradient of slopes that can be attempted is varied between 3° and 13.5° depending on the user weight and the adjustments of the wheelchairs.

## Propelling down a slope



We recommend that you obtain the help of one or more assistants when going down steep and wet slopes. First check the slope to see if there are any particular hazards, potholes, slippery sections, etc. Never use the user-operated brake to slow down. When you apply the brake on a downward slope, the wheels lock and the wheelchair can suddenly pull to one side, tip sideways or stop immediately, which may cause you to be thrown out of the wheelchair. Always control the speed using the hand rims. Remember that the hand rims may become hot due to friction, and this may cause injury to your hands. Try to propel down the slope in a straight line as much as possible.

## Climbing a curb



This method is for situations when the assistant is always behind the wheelchair and it creates the greatest safety for the user.

The following advice is for the assistant

Illustration 1

Adjust the anti-tip devices upwards. Ensure that the user's feet rest securely on the footrests and cannot slide off. Then tilt the wheelchair backwards and push it forwards against the curb.

Illustration 2

Lower the front part of the wheelchair onto the pavement and place yourself as close to the chair as possible, before you lift up the whole wheelchair.

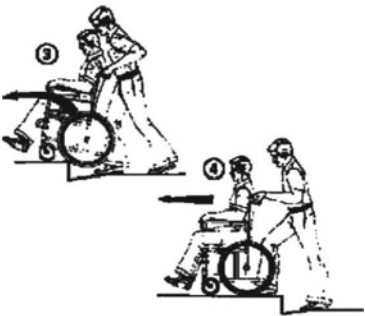


Illustration 3

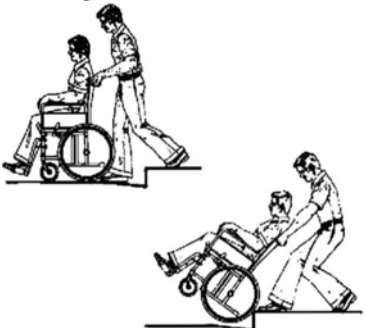
Lean forward and lift/roll the wheelchair over the pavement edge.

Illustration 4

Lower the wheelchair onto the pavement so that the weight is divided on all four wheels. Ensure that the wheelchair does not roll backwards.

To dismount curb, follow the procedure above, but in reverse order (step 4, 3, 2 and then 1) to move off a curb.

## Climbing a curb - alternative



This method is generally used by experienced assistants who are stronger than average. It can also be used when the curb or step is low and only constitutes a minimal obstacle.

The assistant steps backwards onto the pavement and pulls the wheelchair up onto the pavement. It is important for the assistant to use his or her body correctly to prevent injury. Tip the wheelchair backwards and roll the chair over the curb onto the pavement. Take particular care if the curb is wet or slippery.



## Stairs and escalators



Do not use escalators when you are in the wheelchair. Find out whether there is a lift nearby.

We recommend that you receive help from two assistants to get up and down stairs. One assistant walks in front of the chair holding the frame of the wheelchair, whilst the other assistant walks behind the chair, holding the push handles. Check that the push handles/push bar are securely fixed in place before you start. Fold the anti-tip devices upwards. Balance the wheelchair on the rear wheels until the balance point is found. The wheelchair is then rolled down the stairs, step by step, by letting the rear wheels roll over the edge of each step. Assistants must not lift by gripping the removable armrests or footrests. They must remember to lift the chair at the correct points, to use their legs and to keep their backs as straight as possible.

## PRESSURE RELIEF TECHNIQUES

Wheelchair service personnel need to train all wheelchair users who are at risk of developing a pressure sore at least one way to relieve pressure based on the user's strength and balance.

**Bending forward:** Suitable for most wheelchair users. This technique can be used independently or with assistance.

**Leaning side to side:** Suitable for wheelchair users with limited strength and balance. This technique can be used while the user hooks their arm over the push handle for additional support.

For more information on pressure relief management and techniques, please refer to World Health Organization's Guidelines on the provision of Manual Wheelchairs in less resourced settings.

## CARE AND MAINTENANCE

Taking care of your wheelchair and performing regular maintenance will increase the lifespan of the wheelchair and will ensure product performance.

### Rear wheels

- Check if the rear wheels turn smoothly. If the wheels do not turn freely, the rear wheel bearings may need to be changed
- Check spokes are tight at least once a month
- Check tyres are seated correctly in the wheel rim daily
- Check that the rear wheel axles quick release mechanism is functional and there is no corrosion or debris obstructing it once a week
- Clean and oil the rear wheel axles once a week
- Check the rear wheel quick-release axles are secure once a month

### Castors

- Check if the castor wheels and castor forks turn smoothly. If the castor wheels and/or forks do not turn freely, the castor wheel or castor fork bearings may need to be changed
- Check castor fork axles are tight once a month

- Check castor wheel axles are tight once a month

### **Frame**

- Check all frame fasteners are tight once a month
- Check the X-brace folding mechanism fasteners are tight once a week
- Check the frame paint for scratches/ damage once a month. Clean and apply paint in areas where paint has been removed due to damage.

### **Footrest**

- Check all footrest fasteners are tight once a month
- Check that the wheelchair can be removed and mounted on the frame correctly, using the footrest locking mechanism
- Check the heel strap for any damage

### **Brakes**

- Check all brake fasteners are tight once a month
- Check the brake adjustment once a month, readjust as needed

### **Seat and backrest upholstery**

- Check the seat and backrest upholstery condition at least once a month
- Keep the upholstery clean and dry
- Wash cushion cover and upholstery whenever it is unclean or if it comes in contact with urine

### **Cushion and cushion cover**

- Check the cushion and cover condition once a week
- Wash the cushion and cushion with soapy water, as needed
- Do not dry in direct sunlight



**OTHER INSTRUCTIONS GIVEN BY THE WHEELCHAIR SERVICE PROVIDER**

A large, empty rectangular box with a black border, intended for handwritten or typed instructions from a wheelchair service provider.