

# RETRACTABLE DOCKING PIN USER GUIDE



## Contents

About this manual .....	3
1 Travelling in a vehicle while seated in your powerchair .....	3
1.1 Securing the wheelchair in the Docking Station .....	4
1.2 Releasing the wheelchair from the Docking Station .....	5
1.3 Manual release in case of electric failure .....	5
1.4 Wheelchair inhibits .....	5
1.5 Stabiliser Kits .....	5
1.6 Restraint and Positioning Instructions .....	6
Contact Magic Mobility if you require further information .....	8

## About this manual



Figure 1 - Powerchair Owner's Manual

This User Guide should be read in conjunction with your Powerchair Owner's Manual.

The Powerchair Owner's Manual contains information for using a strap restraint system along with positioning belts and harnesses.

The Frontier V4/V6 and Magic 360 have been successfully tested with the Retractable Docking Pin according to ISO 7176-19.

The Retractable Docking Pin is compatible with aftermarket docks that receive a Ø16mm or 5/8" pin. The docking system must be crash tested and certified to ISO 7176-19.

**The maximum user weight limit for Magic Wheelchairs with a docking system is 136kg**

Magic Mobility is not responsible for any sales, support, or installation of the vehicle-mounted docking systems. Vehicle-mounted docks are distributed directly to car adaptation workshops, who will be responsible for installing the system.

For installation of the Retractable Docking Pin on the Magic Mobility wheelchairs refer to the following PCPs: **3801 Retractable Docking Pin Full Assy, 5175 360 Retractable Docking Pin Kit, and 6963 360 Retractable Docking Pin Retrofit Kit**. Installation should be performed by an authorised technician.



- Ensure that the vehicle is suitably equipped to transport a passenger in a wheelchair and access is suitable for your wheelchair type
- The vehicle should have the floor strength to take the combined weight of the occupant, the wheelchair and its accessories.

## 1 Travelling in a vehicle while seated in your powerchair

Magic Mobility powerchairs comply with the requirements of ISO 7176-19 and as such have been designed and tested for use only as a forward-facing seat in motor vehicles. The powerchair has not been tested in other positions.

The Retractable Docking Pin should only be used with powerchair tie down and occupant restraint systems suitable for the powerchair weight including options that have been installed in accordance with the manufacturer's instructions. The restraint system must conform to SAE J2249 (USA) or ISO10542 (International).



Powerchairs secured in a vehicle don't provide the same safety and security as vehicle seating. Magic Mobility recommends that users transfer to the vehicle seat and use the vehicle-installed restraint system whenever possible. The unoccupied powerchair should then be stored as cargo or secured in the vehicle as described in Section 5.1 of your Powerchair Owner's Manual.

When seat positioning options are fitted the following should be followed whenever feasible:

**Seat elevator** - fully DOWN with the seat at its lowest level

**Seat tilt** - fully DOWN with the seat parallel to the ground

**Legrest** - fully DOWN with feet close to the floor and knees bent to 90°

**Backrest** - upright, at or as close to 90° to the seat.

### 1.1 Securing the wheelchair in the Docking Station

Using the joystick or controller, drive the Docking Pin into the 'down' position.



**Figure 2 Docking Pin on Controllers**

Manoeuvre the wheelchair slowly and in a uniform direction over the docking station. The vee-shaped opening in most dock units help guide the wheelchair into place in the docking station. When the pin is fully engaged in the docking station, a spring-action pawl should automatically secure the docking pin.

The docking station must be equipped with a control switch that indicates whether the docking pin is correctly secured in the docking station.

Do not forget to fit the occupant restraint system.



Do not move the vehicle:

- Whilst the wheelchair is being manoeuvred into position in the docking station
- If the wheelchair and user are not correctly secured



Always check if the docking pin is properly engaged in the docking station by trying to reverse the wheelchair out of the docking station before moving the vehicle. (It must not be possible to reverse out of the docking station without pressing the release button in the control panel).

## 1.2 Releasing the wheelchair from the Docking Station

When the vehicle has been brought to a halt, remove the occupant restraint.

To unlock, commence by driving the wheelchair forward to release pressure on the docking pin.

Press the release button in the control panel.



Attempting to reverse the wheelchair before the docking system pawl has been released will result in blocking the docking stations locking mechanism, which makes it impossible to reverse. If this happens repeat above unlocking procedure.

## 1.3 Manual release in case of electric failure

The aftermarket docking station must have manual emergency release located at the front of the docking station.

Move the wheelchair forward to remove the pressure on the docking pin and push the release arm to one side and hold it there while the wheelchair moves away.



Figure 3 - Emergency release lever

## 1.4 Wheelchair inhibits

When the Retractable Docking Pin is in the 'down' position the maximum drive speed of the wheelchair is restricted to 1.2 km/h.

When the Retractable Docking Pin is in the 'down' position the seat elevator (if fitted) cannot be fully raised.

When the seat elevator (when fitted) is raised, the Retractable Docking Pin cannot be driven down.

## 1.5 Stabiliser Kits

Some docking station manufacturers require an additional Stabiliser Bracket to be fitted when a user is driving a vehicle whilst secured to the docking station. Contact your dock manufacturer for the Stabiliser Bracket, and contact Magic Mobility for the relevant interface kit.

## 1.6 Restraint and Positioning Instructions



### Occupant restraint instructions

- Powerchair mounted lap belts or lap straps (postural or otherwise) should not be used as or relied upon for occupant restraint in a moving vehicle
- Always use a three-point occupant restraint system to secure the occupant
- Both pelvic and upper torso restraint belts must be used to restrain the occupant and to reduce the possibility of head and chest impacts with the vehicle components
- Restraints should be mounted to the appropriate vehicle pillar and should not be held away from the body by powerchair components such as armrest or wheels (Figure 6 )
- Use a suitable positioned headrest when being transported in a powerchair.

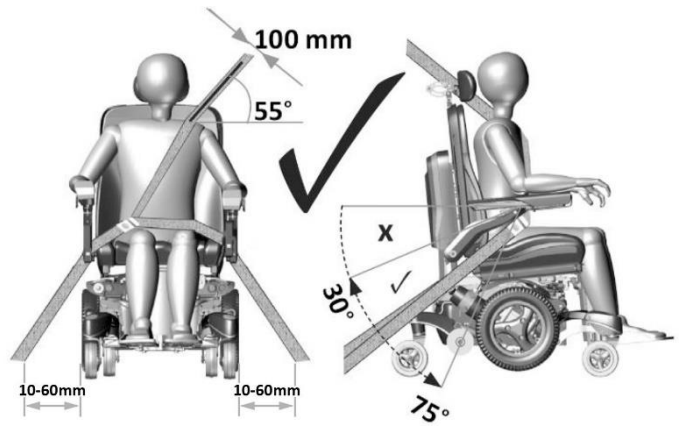


Figure 4 - Correct positioning of three-point occupant restraint



### Positioning the occupant restraint

- The floor anchorage points for the occupant restraint system shall be located 10-60 mm outside wheels, on each side
- A pelvic belt should be worn low across the front of the pelvis so that the pelvic belt restraint angle is between 30° - 75° relative to the horizontal (Figure 5)
- A steeper (greater) angle within the preferred zone is desirable
- The upper torso restraint belt must fit over the shoulder and across the chest as illustrated (Figure 5). Do not fit restraint belt as shown in Figure 6
- Belt restraints should be adjusted as tightly as possible, consistent with user comfort
- Belt restraints should not be twisted when in use.

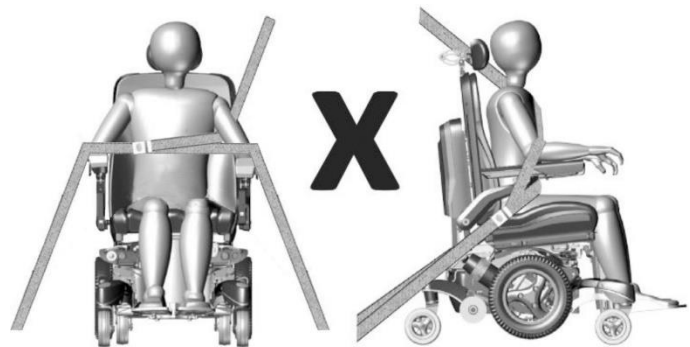


Figure 5 - Incorrect positioning of three-point occupant restraint

The Retractable Docking Pin tests were conducted with a 76kg crash test dummy. Occupants with a higher weight are at increased risk during an accident.

Magic Mobility recognises that it is not always practical for users to be transferred. In this circumstance, where the user must be transported while in the powerchair, the following advice must be followed:

- User safety during transportation depends upon the diligence of the person securing the tie down restraints. They should have received appropriate instructions and/or training in their use
- Attach occupant restraints according to manufacturer's instructions and SAE J2249 or ISO 10542
- Don't use WTORS designed to rely on the powerchair structure to transfer occupant restraint loads to the vehicle
- Magic Mobility powerchairs comply with the requirements of ISO 7176-19 and, as such, have been designed and tested for use only as a forward-facing seat in a motor vehicle
- **Note** - compliance to this standard does not preclude using the powerchair rearward in large accessible vehicles equipped with rear facing passenger stations
- The powerchair has been dynamically tested in a forward-facing orientation with the crash test dummy restrained by both pelvic and shoulder belts (e.g. a shoulder belt as part of a three-point belt restraint)
- Both pelvic and shoulder belt restraints should be used to reduce the possibility of head and chest impacts with vehicle components
- To reduce the potential of injury to vehicle occupants, powerchair mounted trays not specifically designed for crash safety should:
  - i) be removed and secured separately in the vehicle, or
  - ii) be secured to the powerchair but positioned away from the occupant with energy absorbing padding placed between the tray and the occupant
- When possible, other auxiliary powerchair equipment should either be secured to the powerchair or removed and secured in the vehicle during travel. This will ensure that it doesn't break free and cause injury to vehicle occupants in the event of a collision
- Any wheelchair anchored occupant restraint i.e. 3-point belt, harness or postural supports (lap straps, lap belts) should not be used or relied on for occupant restraint in a moving vehicle, regardless if labeled ISO 7176-19, SAE J2249 or any other. Use a vehicle anchored and certified occupant restraint system instead
- The powerchair should be inspected by a manufacturer's representative before reuse following involvement in any type of vehicle collision
- Alterations or substitutions should not be made to the powerchair securement points or to structural and frame parts or components without consulting the powerchair manufacturer
- Spill proof sealed batteries such as "gelled electrolyte" should be installed on powerchairs when used in a motor vehicle
- Care should be taken when fixing the occupant restraint to position the seat buckle. This will ensure that the release button is not contacted by powerchair components during a crash.

#### **After a vehicle collision**



If you have been involved in a vehicle collision, it's important that a Magic Mobility authorised agent inspects your powerchair before you use it again. If the damage is questionable or there is concern about its condition, then Magic Mobility recommends that the chair is replaced.

**Attention powerchair users** – your powerchair warranty is void if it has been involved in a collision.

---

**Contact Magic Mobility if you require further information**

3 International Court, Scoresby Vic 3179

Tel +61 3 8791 5600 Email [sales@magicmobility.com.au](mailto:sales@magicmobility.com.au)

<http://www.magicmobility.com.au>