



powered by *Otto Bock*[®]

User's Manual ParaGolfer

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1 Introduction

1.1 About this User's Manual

This User's Manual describes the handling of the power wheelchair **ParaGolfer** from Parabasetec, Inc.. It provides the user with the necessary knowledge about function, use, maintenance and waste disposal of the power wheelchair. The User's Manual contains all information required for safe use and offers useful hints on possible causes of faults and their rectification. The User's Manual is based on the standard DIN EN 62079 "Creation of instructions - structure, content and representation".

Knowledge of this User's Manual is mandatory when using the power wheelchair **ParaGolfer**. The user must therefore carefully read this User's Manual, especially the chapter "Safety" before using the **ParaGolfer**. This assures full utilization of the product's capacity.





1.2 Notes for the User

This User's Manual is divided into 11 chapters. On each page you find the chapter title in the header. The footer contains the subject of the description and the page number.

For easier navigation the User's Manual contains various cross-references to help you find your way through the document, e.g. "see chapt. 7.3".



The following warning and notice symbols as well as signal words are used in this User's Manual:

	DANGER Warning of possible fatal dangers and injuries
	WARNING Warning of possible injuries and severe material damage
	CAUTION Warning of possible material damage
	NOTICE Notes on important information and hints



1.3 Intended Use



DANGER

DANGER OF INJURY CAUSED BY UNINTENDED USE!

The **ParaGolfer** is solely intended to serve persons with walking disability or walking impediment in the individual exercise of indoor and outdoor sports activities that require an upright posture. In particular the **ParaGolfer** was designed for users who are able to drive a power wheelchair all by themselves.

Any use beyond these limits is considered unintended. The manufacturer will assume liability for any personal injuries or material damage resulting from unintended use, such occurrences are the sole responsibility of the user.

The **ParaGolfer** was developed in compliance with the requirements stipulated in the wheelchair standard EN 12184. The demanded values (category C) for safe inclination, height of obstructions, speed etc. are reached or are exceeded.

**DANGER****DANGER OF INJURY CAUSED BY UNINTENDED USE!****Instructions to avoid misuse of the ParaGolfer:**

Do not use the **ParaGolfer** as seat in a Transport Vehicle for Disabled Persons.

Do not carry any weights (loads) or animals with the **ParaGolfer**. Carried objects may only be transported in the rear storage box.

Do not use the stand-up function for lifting objects or people. Do not stand on the seat, arm rest, cover, or any other **ParaGolfer** component while standing still or driving.

Do not tow the **ParaGolfer**. Do not attach the **ParaGolfer** to riding, flying or swimming objects. Do not use the **ParaGolfer** to haul or push objects.

Do not use the **ParaGolfer** on staircases, escalators or treadmills.

Do not make any changes, rearrangements or additions to the **ParaGolfer**.

Only use the **ParaGolfer** when completely assembled. Do not remove any components when driving.



DANGER

Do not use the **ParaGolfer** on very soft or yielding surfaces (e.g. dunes or swamps).

Only use all the **ParaGolfer** components accessories and software for the intended purposes.

Only connect all the **ParaGolfer** electrical connections with the intended devices.

Do not drive into a car wash with the **ParaGolfer**.

Do not loosen the belts when driving with the **ParaGolfer**.

Do not drive in severe weather conditions with the **ParaGolfer**.

**DANGER****DANGER OF INJURY IF THE PARAGOLFER IS USED BY UNINSTRUCTED PERSONS!**

The **ParaGolfer** must only be used by instructed persons. Instructions should follow the checklist provided by Parabasetec, Inc.. It is recommended that the operator demands a written confirmation from the user or an accompanying person stating that checklist had been received and read.

Briefing about the use of the **ParaGolfer** is a prerequisite to protect persons against dangers and to operate the **ParaGolfer** in a safe and fault free way. Last but not least, the operator/user or the personnel authorized by him is responsible for accident free operation.

Authorized personnel:

Trained personnel, entrusted by the operator/user.

Instructed persons:

Persons who have been specially instructed by the operator/user for using the **ParaGolfer**, by using these User's Manual.



1.4 Warranty and Liability

The General Terms of Sales and Delivery given to the **ParaGolfer** operator/user by Parabasetec, Inc. are generally valid. Please refer to these in the event of any warranty or liability claims.

1.5 Service



NOTICE

Service and repairs on the **ParaGolfer** must generally be carried out by persons who have been authorized by Parabasetec, Inc..

If you have any questions or are unable to solve a problem with the help of this User's Manual you should contact the service department of Parabasetec, Inc. (addresses on inside of front cover). We will always be willing to help you in any way so that you are pleased with our product over a long time.



Introduction



2 Safety

All statements on safety in this User's Manual refer to the national laws and regulations currently valid in the United States of America. In other countries the applicable laws and national regulations must be strictly adhered to.

Apart from the safety information in this User's Manual, all generally valid regulations on industrial safety, accident prevention instructions and instructions for protection of the environment must also be observed and complied with. All information contained in this User's Manual must be strictly followed at all times.

2.1 Standards and Regulations

The power wheelchair **ParaGolfer** has been designed in accordance with the latest technical standards and is safe to operate. The safety of the **ParaGolfer** is confirmed by the CE-sign and the Declaration of Conformity.

Development, design and construction of the product fully comply with the following requirements concerning safety:

- Medical Product Directive 93/42/EEC
- EN 12182 Technical Aids for the Disabled "General Requirements and Test Procedures"
- EN 12184 Electric wheelchairs and vehicles and the associated battery chargers "Requirements and Test Procedures"








- ❑ ISO 7176 Wheelchairs - Part 1 to 16
- ❑ ANSI/RESNA WC/Volume 1 and Volume 2

2.2 General Precautions

The following safety information must be complied with at any time:





	! DANGER
	<p>DANGER OF INJURY AND ACCIDENT CAUSED BY UNINTENDED AND INAPPROPRIATE USE.</p> <p>The ParaGolfer must only be used for the purpose it is intended for. Any use when overtired, under the influence of alcohol and drugs is prohibited. The user should not be mentally handicapped in such a way, that his/her attentiveness and judgement is temporarily or permanently affected.</p> <p>The ParaGolfer has not been approved for use on public roads. Driving on extremely coarse particle surfaces (crushed rock or rubble) is not permitted.</p> <p>Using the ParaGolfer on extremely smooth surfaces (e.g. icy surfaces) is not permitted.</p>



 	<p> DANGER</p> <p>DANGER OF INJURY IN CASE OF INAPPROPRIATE USE.</p> <p>The safety information in this User's Manual and all accompanying documents must be observed and complied with. The User's Manual must be available for the user at any time.</p> <p>The ParaGolfer must not be used by unauthorized persons.</p> <p>The ParaGolfer must be used by only one person at a time.</p>
	<p> DANGER</p> <p>DANGER OF INJURY CAUSED BY FAILURE OR NEGLIGENCE OF THE SAFETY FEATURES.</p> <p>The proper status of all safety features must be checked at regular intervals. The ParaGolfer must only be used with all safety functions, such as e.g. automatic brake, fully functional.</p> <p>For safety reasons all belts on the ParaGolfer should be worn at any time.</p>



2.3 Safety Requirements for Transportation and Storage

	 DANGER
	<p>DANGER OF ACCIDENT CAUSED BY IMPERMISSIBLE TRANSPORT OF PERSONS.</p> <p>The ParaGolfer must never be transported with persons.</p>
	 WARNING
	<p>DANGER CAUSED BY DAMAGE OF COMPONENTS.</p> <p>Only sufficiently dimensioned lifting gear and the specially mounted carrier handles must be used to transport the ParaGolfer.</p> <p>For transportation the ParaGolfer must be properly secured as specified for the corresponding transport means.</p> <p>For transport on lifting platforms or elevators the operator panel of the ParaGolfer must be switched off. The brake must be engaged. Make sure that the ParaGolfer is parked in the middle of the lifting platform.</p> <p>For longer periods of standstill or shipment of the ParaGolfer the main fuse must be removed.</p>



2.4 Safety Requirements for Use



DANGER

DANGER OF ACCIDENT CAUSED BY FAILURE OF COMPONENTS.

The operator/user of the **ParaGolfer** is obliged to check the safe and proper condition of the wheelchair and all its safety functions before each use of the **ParaGolfer**.

The functional reliability and driving safety of the **ParaGolfer** must be checked by an authorized expert at least once every year.

The **ParaGolfer** must be immediately taken out of service if any fault, defects or other dangers are detected, which could lead to personal injury.

The automatic brakes on the **ParaGolfer** must be ready for use.

The stand-up function must not be used if the lifting device of the **ParaGolfer** is faulty or disturbed.

Before each use of the **ParaGolfer** the tires must be checked visually for sufficient tread and correct air pressure (see chapter Technical Data).

The tyres contain chemical substances which can react with other chemical substances (such as e.g. cleaning agents, acids, etc.). Black tires contain rust particles that can lead to color changes and black marks. Please provide a suitable base layer under the **ParaGolfer** if you are going to leave it for longer periods of time.

**DANGER****DANGER OF INJURY IN CASE OF INAPPROPRIATE USE.**

Alterations to the **ParaGolfer** (e.g. the assembly of accessories) will change the vehicle handling. Anyone using the **ParaGolfer** must have sufficient practice. This is also true for a change of the driving characteristics, e.g. due to operator panel reprogramming.

The behaviour of the **ParaGolfer** in bends must first be tried with low speed. Later, the speed can be increased. Taking bends too fast can lead to slip or tilt of the **ParaGolfer**. The speed must be adapted to the radius of the bend; close bends require low speed.

For inclines drive with constant speed; for declines reduce speed accordingly. For driving uphill and downhill and crossing obstacles (e.g. curbs) with the stand-up function take into account the **ParaGolfer**'s altered tilting stability (shift of emphasis).

With the **ParaGolfer** you can cross still and slowly moving waters with a max. depth of 4". Drive into the water in an area without inclines, declines or obstacles. Take into account the diminished brake force with wet brakes.

**DANGER****DANGER OF INJURY IN CASE OF INAPPROPRIATE USE.**

For using the standing function the user must wear all the belts on the **ParaGolfer** at all times.

No unauthorized persons should be in the danger zone when operating the stand-up function. There should also not be any obstructing objects or obstacles in the seat area. User and accompanying person must keep their hands out of the danger zone.

The standing function must only be used on ground with a max. inclination angle of 30 %.

The max. size of obstacles the **ParaGolfer** is able to cope with is 4 in. Crossing over height differences exceeding 4 in. is not permitted. Unbraked driving over obstructions, such as steps or curbstones, is prohibited.

The **ParaGolfer** has been approved for uphill and downhill driving up to max. 30%. Driving inclines and declines exceeding this percentage is not permitted.





The max. permissible additional weight for the **ParaGolfer** is 300 lb.-mass. This load must not be exceeded.

Do not allow loose objects (e.g. clothes) to get into any movable components of the **ParaGolfer**.





	! DANGER
	DANGER OF INJURY IN CASE OF INAPPROPRIATE USE. The ParaGolfer is only fully functional with a temperature range from -40°F to +149 °F. During operation it must not be exposed to temperatures outside this range. The wheelchair operator panel must always be switched off when mounting and dismounting the ParaGolfer . Foot rest and arm rests must never be loaded with the full weight. With unlocked brake the brake function is disabled. This must be taken into account when transporting the ParaGolfer over a distance with incline.
	! DANGER
	DANGER OF EXPLOSION WHEN RECHARGING THE BATTERIES Explosive gases may develop when recharging the batteries. For this reason you should take the following precautions when charging the batteries: <ul style="list-style-type: none"><input type="checkbox"/> Ensure sufficient ventilation when recharging in closed rooms.<input type="checkbox"/> Do not smoke and do not use open fire. Strictly avoid the generation of sparks.<input type="checkbox"/> The ventilation slots in the cover must not be covered.






	 WARNING
	FIRE HAZARD CAUSED BY INAPPROPRIATE USE OF FIRE. The lining of back rest and seat of the ParaGolfer is hardly inflammable, but may ignite. Therefore, back rest and seat may not encounter with open fire and glow, for example when smoking cigarettes.
	 CAUTION
	DISTURBANCES CAUSED BY ELECTROMAGNETIC FIELDS The driving characteristics of the ParaGolfer can be adversely affected by electromagnetic fields (mobile phones or other radiating equipment). Any mobile devices should therefore be switched off when driving. The ParaGolfer is able to generate electromagnetic fields, which can disturb other devices. The operator panel should therefore always be switched off if no function is required.



2.5 Safety Requirements for Maintenance, Cleaning and Waste Disposal

	<p>! DANGER</p> <p>DANGER CAUSED BY INAPPROPRIATE MAINTENANCE AND CLEANING.</p> <p>Danger to life for persons with pacemakers caused by possible failure of the pacemaker when touching live components!</p> <p>Always remove the main fuse before starting maintenance work with the battery cover open.</p>
	<p>! DANGER</p> <p>DANGER CAUSED BY INAPPROPRIATE PROGRAMMING OF THE OPERATOR PANEL.</p> <p>The ParaGolfer operator panel may only be programmed by trained and authorized service personnel. Only use the allowed software.</p>



	<p data-bbox="454 196 1476 252">⚠ CAUTION</p> <p data-bbox="454 252 1476 319">MATERIAL DAMAGE CAUSED BY INAPPROPRIATE MAINTENANCE AND CLEANING.</p> <p data-bbox="454 330 1476 448">Destruction of electronic components by short circuit currents! Always remove the main fuse before starting maintenance work with the battery cover open.</p>
	<p data-bbox="454 487 1476 543">⚠ CAUTION</p> <p data-bbox="454 543 1476 610">MATERIAL DAMAGE CAUSED BY INAPPROPRIATE AND MAINTENANCE AND CLEANING.</p> <p data-bbox="454 621 1476 772">The ParaGolfer must only be serviced by authorized personnel. The ParaGolfer must under no circumstances be washed down with a water jet or a high pressure cleaner. Direct contact of electronics, motor and battery with water must be strictly avoided.</p>
	<p data-bbox="454 806 1476 862">⚠ WARNING</p> <p data-bbox="454 862 1476 912">DANGER OF ENVIRONMENTAL DAMAGE.</p> <p data-bbox="454 912 1476 985">Defective batteries must be disposed of environmentally according to the respective country-specifications.</p>



2.6 Requirements on the User

	! DANGER
	<p>DANGER OF INJURY IF THE PARAGOLFER IS USED BY UNINSTRUCTED PERSONS!</p> <p>The ParaGolfer must only be used by an expert operator/user.</p> <p>The user and, if applicable, the accompanying person must be instructed in the use of the ParaGolfer by a person specially authorized and trained by Parabasetec, Inc..</p> <p>Authorized personnel: Trained personnel, entrusted by the operator/user.</p> <p>Instructed persons: Persons who have been specially instructed by the operator/user for using the ParaGolfer, by using these User's Manual.</p> <p>The operator/user is obliged to make sure that the user uses the ParaGolfer correctly and safely.</p> <p>The user must have read and understood the complete User's Manual.</p>

**DANGER****DANGER OF INJURY IN CASE OF INAPPROPRIATE USE.**

Use of the **ParaGolfer** must first be trained on level and manageable terrain. This avoids falls and dangerous situations.

Before the initial use the effect of shifting the center of gravity on the behavior of the **ParaGolfer** on downhill and uphill slopes, lateral declines or when driving over obstacles should be tested with the assistance of an additional person.

2.7 Safety Functions

In dangerous situations the **ParaGolfer** can be switched off at any time via the On/Off-button. Operation of this button immediately brakes the wheelchair and, if applicable, stops the stand-up device.

In case of malfunctions, such as e.g. defective energy supply to the brake, these will be detected by the software and emergency braking will be triggered or the speed of the wheelchair will be reduced. An audible warning signal sounds at the same time.

A tilt sensor mounted at the center of gravity of the **ParaGolfer** triggers an automatic acoustic tilt warning, if the maximum permissible lateral tilt of 30 % or 17° is exceeded.

2.8 Signposting at the ParaGolfer

The following signs are attached to the ParaGolfer:

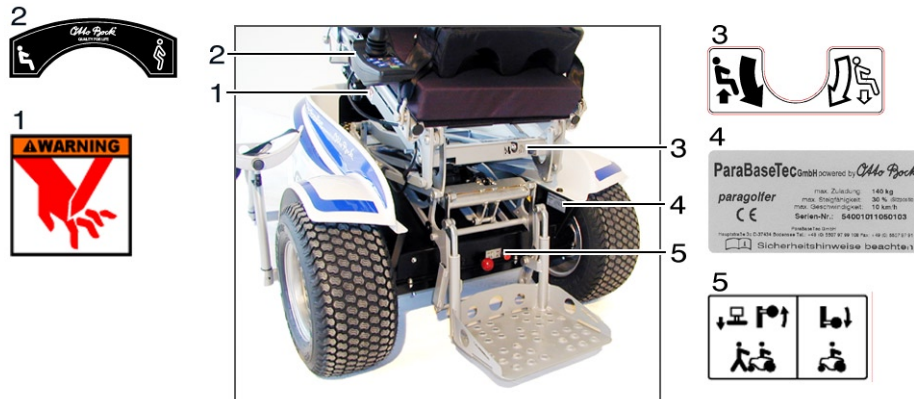


Fig. 1 Signposting at the ParaGolfer

- 1 Warning sign "Risk of shearing and crushing" at the stand-up seat
- 2 Information sign "Stand-up function" at the operator panel
- 3 Information sign "Adjust length of lower leg" at the stand-up seat
- 4 Name plate at the chassis
- 5 Information sign "Brake release" at the chassis



3 Technical Data

Dimensions and weights		
	Metric System	Anglo-American System*
Seat width (reducible by side padding)	46 cm	18 in.
Seat depth	36 - 51 cm (2,5 cm raster)	14 - 20 in. (1 in. raster)
Seat height (infinitely variable)	52 - 67 cm	20 - 26 in.
Seat incline	0°	0°
Height of armrests	15 cm	6 in.
Length of armrests	26 cm	10 in.
Length of lower leg (infinitely variable; in combination with seat height)	43 - 56 cm	17 in. - 22 in.
Height of back rest (infinitely variable)	29 - 35 cm	11.5 in. - 14 in.
Backrest incline	+5°	+5°



Technical Data

Total width	90 cm	36 in.
Total height max.	depending on back rest adjustment	
Total length		
Driving forward:	153 cm	60 in.
Packing dimension with swiveled rear wheel:	149 cm	59 in.
Turning circle	190 cm	75 in.
Tire size:		
front (16x6.50-8)	39 cm	15.3 in.
rear (11x6.00-5)	27,5 cm	10.8 in.
Air pressure:	recommended: 1,5 bar	
front	minimum: 1,0 bar; maximum: 1,9 bar	
rear	recommended: 1,5 bar	
	minimum: 1,0 bar; maximum: 3,0 bar	
Dead weight	180 kg	400 lb.-mass
Maximum load	140 kg	300 lb.-mass
Ground load-bearing capacity	130 kg/m ²	241 lb/sq yd.



Electrical system		
Operating voltage	24 V	
Batteries	Gel 2x12 V 110 Ah (C20)	
Electronics: Model	MCS (Modular Control System) 24 V DC max. 100 A	
Battery charger: Model Input	LEAB AWC2430 230 V, 60/50 Hz 110 V, 60/50 Hz	
Output	24 V, DC/20 A	
Fuse	80 A	
Drive data		
	Metric System	Anglo-American System*
Speed	10 km/h	6.2 mile/h
Gradability	30 %	
Permissible obstructions	10 cm	4 in.
Fording depth	10 cm	4 in.



Technical Data

Reach (approx.)	35 km	21.8 mile
Drive	DC-motor: – voltage 24 V DC – rated power 550 W – rated speed 138 rpm – transmission ratio 18,7:1 – max. torque 130 Nm – degree of protection IP54	
Brake	Voltage 24 V DC Rated power 20 W Brake torque 5.5 Nm	
Battery charger		
Automatic battery charger with computer controlled characteristic for 24 V-gel batteries		
Main connection	50 - 255 V AC	
Mains frequency	45 - 400 Hz %	
Degree of protection	2 (ground conductors)	
Charging socket	24 VDC	
Rated charging current	20 A	
Charging characteristic	IUU with floating operation stage, computer controlled	



Secondary fuse	Electronic, reversible polarity reversal protection, short circuit proof, idling proof, overheating protected
Degree of protection	IP 21
Ambient temperature	-13 °F to +104 °F
Indication	Multi color LED
Weight	3.5 lb.-mass
Dimensions (L x D x H)	9.7 x 5.3 x 3.4 in.

Tab. 1 Technical data

* The technical data for the **ParaGolfer**, particularly all weights and measures, are based on the metric system. The Anglo-American data given in the table are converted and rounded up metric values.

The right for technical changes remains reserved.



Technical Data



4 Product Description

The **ParaGolfer** is a quality product enabling the user to take part in sports activities requiring an upright posture. For this purpose the **ParaGolfer** has an integrated stand-up function.

When actuating the stand-up function via the operator panel, a motorized lifting device moves the seat of the **ParaGolfer** from horizontal to vertical position. At the same time the angles on back rest and foot rest adapt in such a way, that the user is brought to an upright posture. The infinitely variable linear drive allows to adjust any position between “Sitting” and “Standing”.

The functions of the ParaGolfer can be used in cases of walking disability or walking impediment caused by the following illnesses:

- Paraplegia
- Spina Bifida
- Cerebral Paresis
- Multiple Sclerosis
- Muscular Dystrophy
- Polio



Product Description

The **ParaGolfer** is especially characterized by its off-road abilities, e.g. for use on golf courses. The power drive system, which is supplied by two 12 V-gel batteries, and the suitable tires enable the **ParaGolfer** to cross over obstructions and ensure safe driving characteristics.

Steering of the **ParaGolfer** is accomplished by differential control of the drive wheels. The rear wheel can swivel freely around the steering axis, giving the **ParaGolfer** its excellent maneuverability and a.g. allows turning on the spot.

The **ParaGolfer** is controlled via the Modular Control System. This is a operator panel for the input of drive commands and display of the current status, as well as a controller to control the drive motors and other electric functions on the basis of these input data. Data transmission is accomplished via a bus system. The programmability of the Modular Control System (operator panel) enables adaptation of the control to the personal needs of the user.

Special features of the ParaGolfer are:

- Individual adjustment of the stand-up seat to the physical measurements of the user
- Service friendliness due to simple and unrestricted access to all modules
- Adaptation of speed, acceleration and deceleration values to the individual requirements of the user

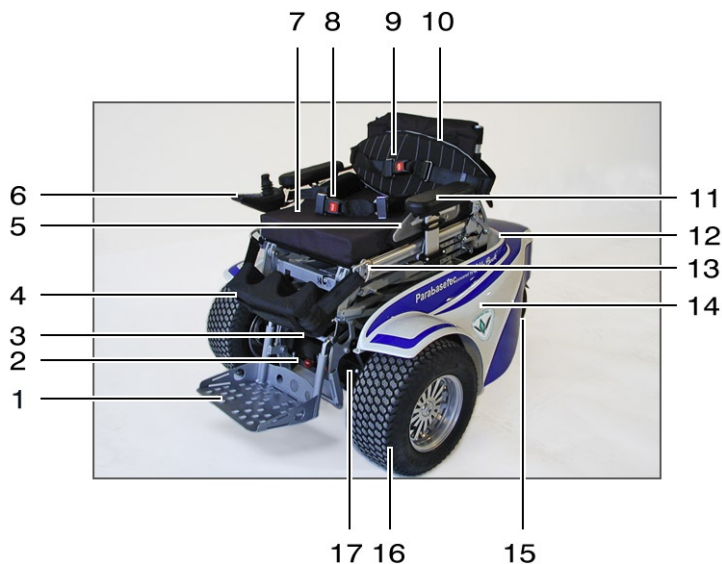


Fig. 2 Main components of the ParaGolfer

- | | | |
|-------------------------|---------------------|---|
| 1 Footrest | 7 Cushion | 13 Stand-up seat |
| 2 Charging socket | 8 Lap belt | 14 Cover |
| 3 Brake release lever | 9 Chest belt | 15 Rear wheel |
| 4 Knee belt | 10 Backrest | 16 Drive wheel |
| 5 Side padding for seat | 11 Armrest | 17 Chassis with drive motor,
controller, battery and main fuse |
| 6 Operator panel | 12 Rear storage box | |









In addition to the main components the ParaGolfer can be fitted with the following accessories (see chapt. 8):

- Golf bag holder
- Decor bezel for rims
- Side padding for seat
- Cushion
- Handle
- Stick-on film
- Removable operator panel holder
- Golfball-type Joy stick
- Rain cover for rear storage box

and many more.





5 Transportation and Storage

	<p> DANGER</p> <p>DANGER OF INJURY CAUSED BY THE PARAGOLFER DROPPING DOWN.</p> <p>The ParaGolfer must only be transported by the carrier handles provided for this purpose. The weight of the ParaGolfer is 400 lb.-mass.</p>
	<p> DANGER</p> <p>DANGER OF INJURY CAUSED BY INAPPROPRIATE TRANSPORTATION.</p> <p>When transporting the ParaGolfer no person must be in the wheelchair.</p>
	<p> DANGER</p> <p>DANGER OF INJURY CAUSED BY INAPPROPRIATE FASTENING OF THE PARAGOLFER IN THE TRANSPORT VEHICLE.</p> <p>The ParaGolfer may slide about and endanger persons if it is not appropriately fastened in the transport vehicle.</p> <p>The ParaGolfer must be appropriately fastened in the transport vehicle, e.g. with strapping belts, to avoid sliding.</p>



Transportation and Storage

	<p>! DANGER</p> <p>DANGER OF INJURY IN CASE OF INAPPROPRIATE USE.</p> <p>The ParaGolfer must not be used as seat in a Transport Vehicle for Disabled Persons!</p>
	<p>! CAUTION</p> <p>DANGER OF DAMAGING THE PARAGOLFER BY INAPPROPRIATE TRANSPORTATION.</p> <p>The armrests of the ParaGolfer must not be used as lifting handles for transportation.</p>



Transportation:

For transportation the packaging dimension of the **ParaGolfer** can be reduced to a height of 32 in. and a total length of 59 in.



Fig. 3 Packing dimensions of the ParaGolfer

The seat must be moved to lowest position and the back rest must be dismantled for this purpose (see chapt. 7.1.1 and 7.1.4). The arm rests can optionally be disassembled (see chapt. 7.1.5), seat and side paddings can be removed and stowed separately. The rear wheel is swiveled under the cover (see Fig. 3). For transportation the **ParaGolfer** operator panel must be switched off (see chapt. 7.4) and the brake locked (see chapt. 7.5).



For transportation the **ParaGolfer** must be secured with belts. In the front section one belt each is placed around the drive carriers in the area of the right and left motors. The two belts in the tail area are inserted into the receiving bushings for the golf bag holder. These are located in the rear section of the drive carrier under the cover. The belts must be strapped under an angle as flat as possible. The **ParaGolfer** can optionally be covered with a rain cover and a transport frame for save transportation.

Storage:

The **ParaGolfer** must be stored in a dry environment. During storage it must not be exposed to any damaging influences, such as rain, snow or extreme insolation.

	NOTICE
Over longer periods of rest the battery will slowly discharge. In order to maintain this discharge as low as possible, the main fuse should be removed before longer periods of rest or when shipping the ParaGolfer .	

The following weather conditions apply for transportation and storage:

- Ambient temperature -40°F to +149 °F



6 Delivery and Commissioning

The **ParaGolfer** is delivered completely assembled and ready for driving.

The scope of delivery includes the following:

- ParaGolfer** with main components (see Fig. 2)
- Tool set
- Battery charger
- User's Manual
- Accessories (see chapt. 8)



NOTICE

The accessories contained in the scope of delivery depend on the purchased **ParaGolfer** product combination.

All components must be checked for completeness and function before commissioning. The **ParaGolfer** can only be switched on after the fuse has been plugged into the corresponding fuse holder at the side under the seat next to the left drive wheel (see Fig. 4). Remove the main fuse from the supplied protection film on the operator panel, flip the locking cap on the fuse holder open and insert the main fuse. Close the cap again and click it into place.

Be sure that the main fuse is pressed correctly into the associated spring contacts and is not in a skewed position.

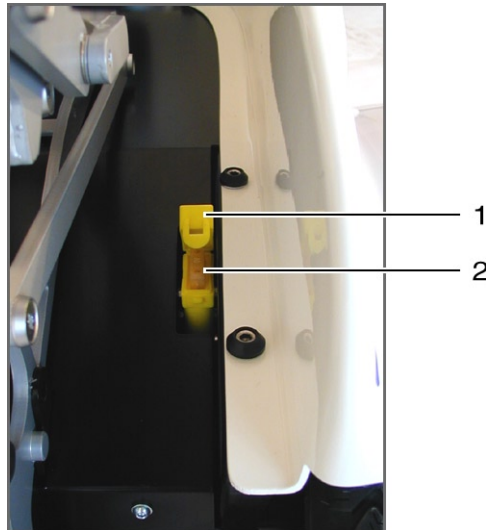




Fig. 4 Fuse holder with fuse



- 1 Locking cap open
- 2 Main fuse plugged in



7 Operation

	 DANGER
	<p>DANGER OF THE PARAGOLFER TILTING CAUSED BY OVERLOADING.</p> <p>DANGER OF THE USER FALLING OUT OF THE PARAGOLFER IN CASE OF OVERLOADING.</p> <p>In case of overloading axle or steering wheel damage may cause the wheelchair to tip over. Apart from this, the back rest linings may tear up and the seat tubes may break, causing you to fall out of the wheelchair. The allowed total weight of max. 400 lb.-mass must therefore not be exceeded.</p>

7.1 Adjustment Possibilities

	 DANGER
	<p>DANGER OF INJURY DUE TO MISSING LOCK.</p> <p>After making adjustments make sure that all screws and nuts are correctly tightened again.</p>



NOTICE

For quick and exact adaptation of the seat unit, all possible adjustments can also be made while the user is sitting in the wheelchair.

The seat unit of the **ParaGolfer** can be individually adjusted to the bodily size of the user. Depth of seat, height of back and length of lower leg can be quickly and simply changed. If required, the back rest can be removed and the arm rests unplugged. The operator panel can additionally be adapted to the arm length or moved to the other side.





WARNING

As with each new seat support, the way a person sits can be altered by the product. Users must continue to carry out regular actions for relieving pressure and for checking the condition of the user's skin. This must not be limited to the area where the product touches the user but must also be carried out for the most important areas where pressure is applied, such as the sacrum, legs and buttocks. If there is an intense area of skin reddening or skin irritation, stop using the product and consult your doctor.



7.1.1 Seat Depth

	 DANGER
	DANGER OF INJURY BY TIPPING OUT OF THE WHEELCHAIR. For adjusting the seat depth the seat must be moved from seating position to standing position. If the adjustment is made with the user seated he should put on all belts beforehand (see chapt. 7.3.1 to 7.3.3).

For adjustment of the seat depth the back rest position can be changed in steps of 1 in. In order to have sufficient room for assembly work the seat must be moved to stand-up position, until the clamping screws are accessible.

These are located on the right and left seat rails and can be loosened with the size 8 Allen key from the tool set (see Fig. 5).

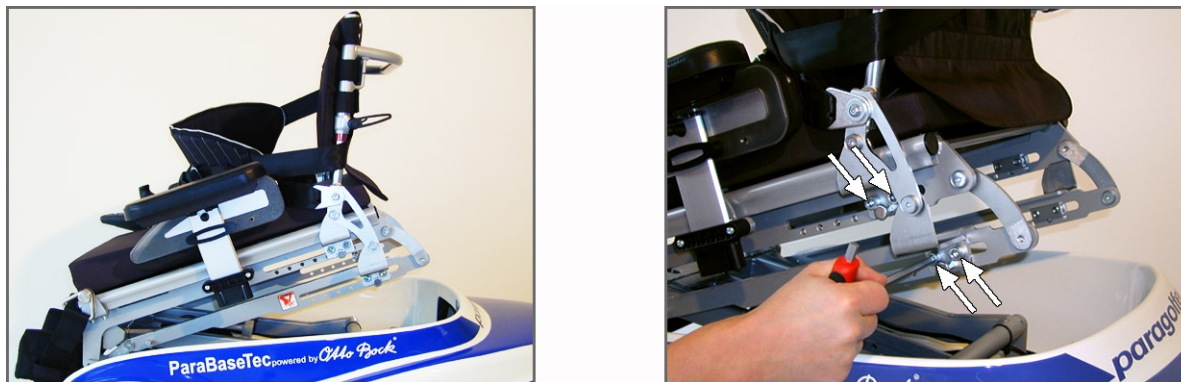


Fig. 5 Loosening the screws on the seat rail

After this the locking pins must be pulled out (see Fig. 6) and turned by 90°, so that they remain in unlocked position. Now the back rest can be moved forward and back along the seat rail. It must be evenly moved with both hands and should not be skewed.



Fig. 6 Locking pins on seat rail



CAUTION

When adjusting the seat depth pay attention of inserting the locking pins into the same raster bores at both sides.

In order to fix the desired position insert the locking pins into the corresponding raster bores. Then the screws on the seat rail must be tightened again and the seat can be moved to lowest position.

7.1.2 Seat Width

Side paddings can be placed between clothes protection and cushion to adapt the seat width. Depending on the scope of delivery the side paddings have a width of 0.8 in. or 1.8 in. and are fastened to the clothes protection by means of velcro fasteners.

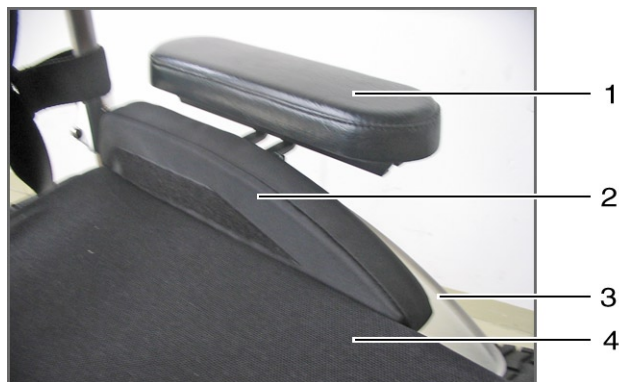


Fig. 7 Side paddings

- 1 Arm rest
- 2 Side padding
- 3 Clothes protection
- 4 Cushion



7.1.3 Length of Lower Leg



The length of the lower leg, i.e. the distance between seat and foot rest, can be adjusted with a spindle. The spindle is turned with a size 8 Allen key from the tool set. The spindle head is located on the front of the seat frame (see Fig. 8). Turning the spindle clockwise lowers the seat, turning it counter-clockwise raises the seat. Since the foot rest thereby remains in the same position, the seat height changes in the same way as the length of the lower leg.



Fig. 8 Turning the spindle



7.1.4 Back Rest

	<p>! DANGER</p> <p>DANGER OF INJURY BY INAPPROPRIATE FASTENING OF THE BACK REST.</p> <p>In order to achieve sufficient stability a minimum clamping range, marked red on the back rest tubes, is required when adjusting the back rest. The clamps must be fastened below this area.</p>
	<p>! WARNING</p> <p>DANGER OF CRUSHING AND PINCHING THE FINGERS.</p> <p>Keep your fingers out of the danger zone between clamp and seat when adjusting the back rest.</p>

The back rest can be adjusted by 3.2 in. in height. To do so the 2 clamps on the right and left back rest tubes must be loosened with the release handle. Afterwards the back rest can be adjusted up and down along the tube. It must be evenly moved with both hands and should not be skewed. After adjustment the release handle must be tightened again.


For transportation the back rest can be completely removed.



Fig. 9 Loosening the clamps and adjusting the back rest height



7.1.5 Arm Rests

	! DANGER
	DANGER OF INJURY BY TIPPING OUT OF THE WHEELCHAIR. For adjusting the arm rests the seat must be moved from seating position to standing position. If the adjustment is made with the user seated he should put on all belts beforehand (see chapt. 7.3.1 to 7.3.3).

The position of the arm rests is variable. To do so loosen 2 screws underneath the arm rest with the size 5 Allen key from the tool set (see Fig. 10). In order to have sufficient room for assembly work the seat must be moved to standing position, until the screws are accessible. After this the arm rests can be moved back and forth along the seat. The screws must subsequently be tightened again.



Fig. 10 Loosening the screws underneath the arm rest

Operation

For removal of the arm rest the unlocking pin in the middle under the arm rest cushion must be pulled up. The locking pin thereby slides back into its seat and the arm rest can be pulled up and out of the support (see Fig. 11).

The unlocking pin must also be pulled up when inserting the arm rest. The unlocking pin can be released as soon as the arm rest has been plugged in. The arm rest must be pushed into the receptacle, until the locking pin clicks into place and the arm rest cannot be pulled up.

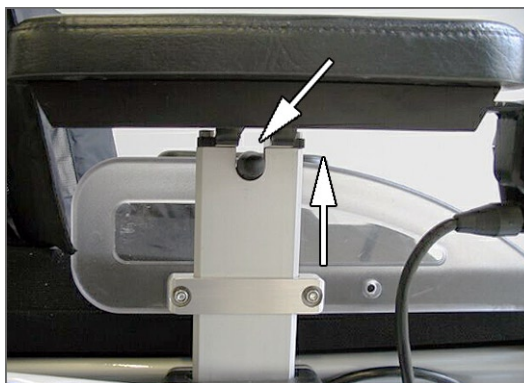


Fig. 11 Unlocking pin on arm rest support



7.1.6 Operator Panel

The operator panel is mounted to a rail underneath the arm rest. For adapting the operator panel to the arm length the 2 screws underneath the arm rest (see Fig. 12) must be loosened with the size 3 Allen key from the tool set. Now the operator panel can be moved back and forth. After this adjustment the screws must be tightened again.

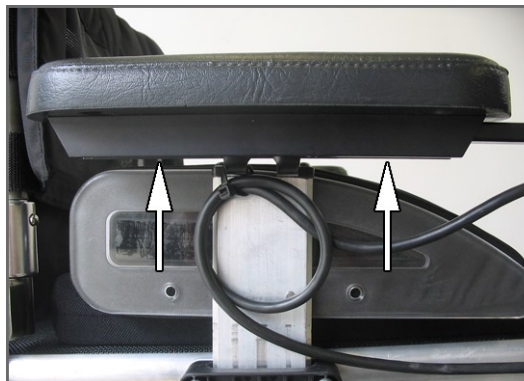



Fig. 12 Screws for operator panel rail underneath the arm rest




NOTICE

If the operator panel rail is too long, the protruding section may simply be cut off.



	! CAUTION
	MALFUNCTION CAUSED BY LOSS OF CONNECTION BETWEEN PLUG AND OPERATOR PANEL. If the connecting plug comes loose while driving, e.g. because of vibration, the connection with the operator panel will be interrupted and the ParaGolfer will execute an Emergency Stop. When plugging in be sure to turn the locking ring of the plug clockwise, until it engages.

By standard the operator panel is mounted on the right hand side. However, it may be mounted to either of the arm rests, to serve the needs of left or right handed persons. The connecting plug on the back of the operator panel must be disconnected to do so (see Fig. 13). Turn the locking ring on the plug counter-clockwise to the end stop and pull out the plug. The operator panel can now be pulled out to the front.

	! CAUTION
	DANGER OF CRUSHING THE CABLE CAUSED BY INCORRECT CABLE LAYING. When mounting the operator panel pay attention of laying the cable similar to the other side.



After the adjustment the screws must be retightened and the connecting plug plugged in (see Fig. 13). When plugging in make sure that the tongue fits into the groove. The locking ring must be turned clockwise until it engages and can then be fastened.



Fig. 13 Connecting plug to operator panel




7.2 Getting on and off

	 DANGER
	<p>DANGER OF INJURY CAUSED BY THE PARAGOLFER ROLLING AWAY.</p> <p>The operator panel of the ParaGolfer must always be switched when getting on and off.</p>

	 CAUTION
	<p>DANGER OF THE FOOT AND ARM RESTS BEING DAMAGED BY OVERLOADS.</p> <p>When mounting the ParaGolfer the user should not apply his full weight to the foot and arm rests.</p>

Each user may mount the **ParaGolfer** individually in the most suitable way for him/her. One possibility is by mounting the vehicle from the side. Depending on the chosen side the right or left hand arm rest must be removed (see chapt. 7.1.5). The user approaches the **ParaGolfer** from the side and climbs on by leaning on the seat area. The arm rest must subsequently be securely reassembled.

	NOTICE
	<p>While the ParaGolfer is stopped the mechanical brake is automatically activated.</p>



7.3 Fixation



DANGER

DANGER OF INJURY BY TIPPING OUT OF THE WHEELCHAIR.

For using the standing function and when driving downhill the user must wear all the belts on the **ParaGolfer** at all times.



DANGER

DANGER OF INJURY BECAUSE OF DEFECTIVE BELTS AND PADDINGS.

Check the seams, the belts and paddings each week for any wear. If you should discover considerable wear, then get in touch with your distributor for proper repair or for an exchange. Under no circumstances may the product be altered or repaired by unauthorized persons.

7.3.1 Lap Belt

The lap belt runs in belly height. It is fastened at the back rest tubes. It must be tightly strapped around the body for fixation. To do so the buckle is first engaged in the lock and both the belt and the loose end of the belt are then pulled to tighten the belt and to bring the lock to the middle of the body.

7.3.2 Knee Belt with Knee Pad

The knee belt consists of a pre-shaped foamed knee pad with a belt and 2 clevis type eyelets to be hooked to the right and left into the knee belt bushings provided for this purpose (see Fig. 14). Proper fixation is achieved when the knee pad sits tightly on the legs just below the knees. When putting on the belt is pulled tight and the velcro fastening is closed (see Fig. 14).



Fig. 14 Attaching the lower leg belt and closing the velcro fastening



7.3.3 Chest Belt



DANGER

DANGER OF INJURY BY TIPPING OUT OF THE WHEELCHAIR.

If the chest belt is opened by accident, it can lead to the user falling out of the wheelchair. If the movements or cognitive abilities of the user could lead to the belt being opened by accident, then a support person must be continuously present during use. Make sure that the lap belt is used at all times.

The chest belt consists of a flat foamed material cushion and runs around the back rest tubes in chest height. It is threaded through the 2 belt retaining eyelets on the back. It must be tightly strapped over the chest for fixation. To do so the buckle is first engaged in the lock and both the belt ends are then pulled (see Fig. 15) to tighten the belt and to bring the lock to the middle of the chest.

Operation

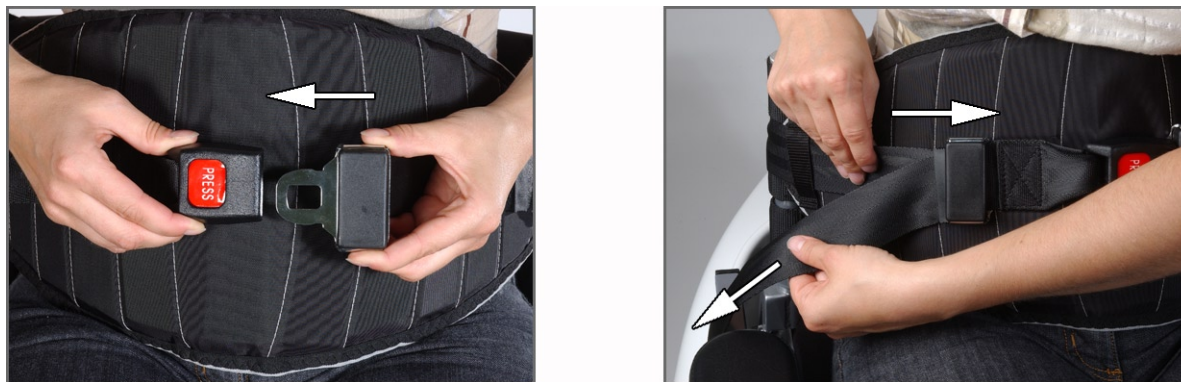






Fig. 15 Fastening the chest belt



7.4 Control

	 CAUTION
	DANGER OF AFFECTING THE DRIVE POWER OF THE PARAGOLFER. The driving characteristics of the ParaGolfer can be adversely affected by electromagnetic fields (mobile phones or other radiating equipment). Any mobile devices should therefore be switched off when driving.
	 CAUTION
	DANGER OF DAMAGE TO OTHER EQUIPMENT. The ParaGolfer is able to generate electromagnetic fields, which can disturb other devices. The operator panel should therefore always be switched off if no function is required.

7.4.1 Operator Panel

The **ParaGolfer** is controlled via the operator panel. The operator panel is used to switch the wheelchair on and off, to enter driving commands and to display the current status of certain functions and components.

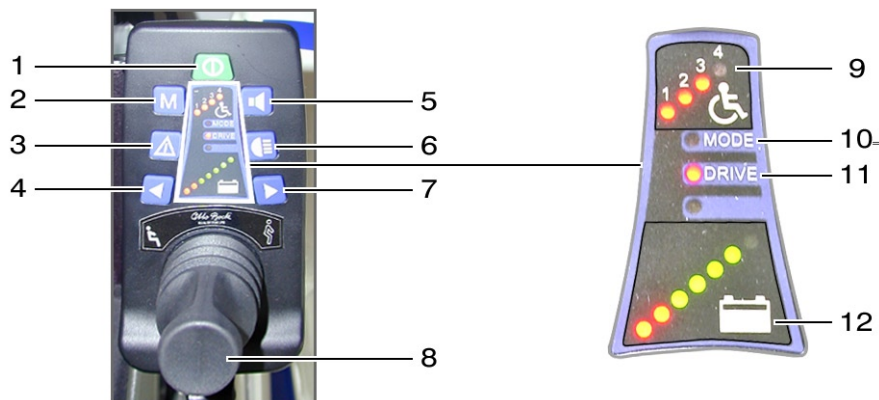


Fig. 16 ParaGolfer operator panel

Pos.-No.	Designation	Function
1	On/off button	Actuation of this button switches the operator panel of the ParaGolfer on and off
2	Button “M”	When pressing this button the ParaGolfer switches one driving stage further
3	Button “Immobilizer”	Pressing longer than 5 seconds activates the immobilizer



4	Arrow key "Standing function down"	Stand up function When actuating this key the seat moves from vertical to horizontal position
5	Button "Horn"	Operation generates an audible signal
6	Button "Light"	No function
7	Arrow key "Standing function up"	Stand up function When actuating this key the seat moves from horizontal to vertical position
8	Joy stick	Driving function Driving direction and speed change in dependence on the Joy stick position
9	Drive stage LEDs	Shows the chosen drive stage Shows the activation of the immobilizer
10	LED "Mode"	Shows when exceeding the max. lateral inclination angle
11	LED "Drive"	Shows the drive function Shows the activation of creeping speed
12	LEDs "Battery capacity"	Shows the available battery capacity Show faults Show the operability of the operator panel


Tab. 2 Overview of the operator panel functions




Operation




7.4.2 Switching on and off

	! DANGER
	NO BRAKE FUNCTION - DANGER TO LIFE. The brake releasing lever must be locked when using the ParaGolfer . The automatic brakes must be operable and fully functional.

	! WARNING
	DANGER OF ACCIDENT - TO LOW OR TO HIGH AIR PRESSURE SHORTENS THE LIFE OF THE WHEELS AND DETERIORATES DRIVING CHARACTERISTICS. Before each use of the ParaGolfer the tires must be checked visually for sufficient tread and correct air pressure.



Operating the On/Off button (see Fig. 16, Pos. 4) switches the **ParaGolfer** operator panel on and off. If the operator panel is not operated for a certain amount of time, the wheelchair will switch off automatically.

The **ParaGolfer** can be switched off at any time when driving by simply pressing the On/Off button, it will then be immediately braked and come to a halt.

	NOTICE
	The operator panel always restarts in the driving range chosen last.



7.4.3 Drive Function

	<p>WARNING</p> <p>DANGER OF INJURY BY UNCONTROLLED DRIVING OF THE PARAGOLFER.</p> <p>The joy stick may be actuated unintentionally with the operator panel switched on. The operator panel should therefore be switched off if no driving function is used.</p>
	<p>DANGER</p> <p>DANGER OF INJURY CAUSED BY THE PARAGOLFER TIPPING OVER.</p> <p>The following precautions must be taken when driving with the ParaGolfer: The ParaGolfer has been approved for uphill and downhill driving up to max. 30 %. Driving inclines and declines exceeding this percentage is not permitted. Exceeding the critical lateral inclination angle triggers an audible warning and flashing of the “Mode” LED.</p> <p>For safe downhill driving the speed must be reduced as suitable for the decline (e. g. select drive range 1).</p>

**DANGER****DANGER OF INJURY CAUSED BY THE PARAGOLFER TIPPING OVER.**

The max. size of obstacles the **ParaGolfer** is able to cope with is 4 in. Crossing over height differences exceeding 4 in. is not permitted. Unbraked driving over obstructions, such as steps or curbstones, is prohibited.

When driving with full speed sudden steering deflections can cause swerving of the tail end. The steering movements must always be matched to the speed. Collision with an obstacle can cause swerving and tipping over of the **ParaGolfer**. Obstructions in the way must be amply bypassed.

On uneven ground uncontrolled driving behavior can be expected. The speed must therefore always be matched to the ground conditions.



The joy stick (see Fig. 16, Pos. 8) is used for driving. The further the joy stick is moved out of central position, the faster the **ParaGolfer** will drive in the corresponding direction. The corresponding maximum speed with full deflection of the joy stick depends on the selected driving stage.

Releasing the joy stick automatically triggers the brake function and the wheelchair stops. At standstill the mechanical brakes are active and the **ParaGolfer** is unable to roll.



The **ParaGolfer** has 4 driving stages. Button “M” (see Fig. 16, Pos. 3) can be used to change to the next higher drive range. After driving range 4 it jumps back to driving range 1.



Adapting the driving characteristics:



	 DANGER
	<p>DANGER OF ACCIDENT AND INJURY CAUSED BY INCORRECT PROGRAMMING.</p> <p>Errors which may occur in programming can cause uncontrolled driving behavior. After programming the driving behavior of the ParaGolfer should therefore always be tested.</p>

With a hand-held programming unit for connection to the operator panel the service personnel can match the speed, acceleration and deceleration values to the individual requirements of the user.

	 CAUTION
	<p>DANGER OF COLOUR CHANGES OF THE FLOOR.</p> <p>Driving the wheelchair black tires can, under certain circumstances, create black marks at the areas where it comes into contact with the floor. If the ParaGolfer will not be moved for several days, then under certain circumstances permanent color changes may occur at contact areas with the floor. We therefore recommend that you provide a suitable base layer under the wheelchair if you are going to leave the wheelchair for longer periods of time.</p>



7.4.4 Stand-up Function

	<p>! DANGER</p> <p>DANGER OF INJURY BY TIPPING OUT OF THE WHEELCHAIR.</p> <p>With the stand-up function actuated the user can fall out of the wheelchair. The user must therefore always wear the belts for knee, lap and chest before using the stand-up function (see chapt. 7.3.1 to 7.3.3).</p>
	<p>! DANGER</p> <p>DANGER OF INJURY CAUSED BY THE PARAGOLFER TIPPING OVER.</p> <p>The standing function must only be used up to a max. inclination angle of 30 %. Once the stand-up function is activated the control will reduce the driving speed for the reason of stability. This creeping speed can only be used for short distances, e.g. for maneuvering.</p> <p>Operating the stand-up function automatically activates creeping speed. If this does not happen, there is a malfunction and the stand-up function must not be used. Immediately consult your distributor to have this fault corrected.</p>



	WARNING
DANGER OF CRUSHING IN THE LIFTING AREA. When operating the stand-up function the areas under and behind the seat of the ParaGolfer impose the risk of injuring by shearing or crushing. In order to avoid injuries you should never put your hands into these danger areas. There danger zone should be free of unauthorized persons. There should also not be any obstructing objects or obstacles in the lifting area.	

The arrow key “Stand-up function” (see Fig. 16, Pos. 7) triggers the stand-up motor and the seat moves from horizontal to vertical position. At the same time foot rest and back rest adapt to the slanted position of the seat. The motor moves as long as the key is pressed. The drive function of the **ParaGolfer** can be maintained with the joy stick.

For reasons of limited tipping resistance the driving speed is reduced when using the stand-up function (creeping speed). The flashing LED “Drive” (see Fig. 16, Pos. 11) indicates creeping mode. By pressing the arrow key “Stand-up function down” (see Fig. 16, Pos. 7) the seat can be returned to seating position.

**NOTICE**

The motor of the stand-up function has been designed for temporary operation only. A bench mark for the average motor usage at a max. weight of 400 lbs is as follows: approx. 10 s of usage must be followed by 90 s rest either in seating or standing position. The drive function can be run without restriction.

7.4.5 Immobilizer

Activation

For activation of the immobilizer the warning flashlight button (see Fig. 16, Pos. 2) must be pressed longer than 5 seconds. The operator panel emits a short audible signal as confirmation and switches itself off.

Deactivation

If the immobilizer has been activated, the drive stage LEDs quickly light up in succession when switching on the **ParaGolfer**.

In order to deactivate the immobilizer the joy stick must be shifted and held in front end position for about 3 seconds, a bleeping signal will sound. The joy stick must then be pulled back and held for about 3 seconds in rear end position, another audible signal sounds. The immobilizer is deactivated and driving is enabled.



	NOTICE
	If the joy stick movement is not correctly performed, the immobilizer remains active, even if the joy stick movement is subsequently corrected. After 10 seconds the operator panel switches automatically off again, the ParaGolfer can be switched on again and the immobilizer can be deactivated.

7.5 Releasing and Applying the Brake

	DANGER
	DANGER TO LIFE BECAUSE OF MALFUNCTION OF THE BRAKE Incorrect adjustment of the brake can cause loss of braking power and thus result in severe physical damage or even fatal injury. Repairs and adjustments on the brake must only be performed by authorized service personnel.

In case of a control failure or with too low battery capacity the **ParaGolfer** can be pushed. The brake is in this case released via the mechanical brake release. The brake releasing facility is located at the front between the drive motors above the foot rest (see Fig. 17).

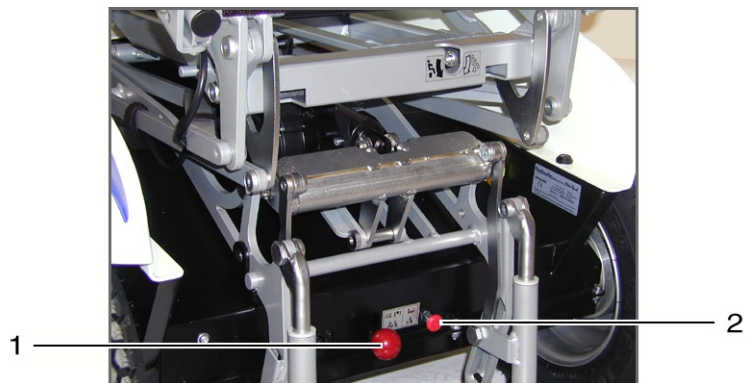


Fig. 17 Brake release lever and locking pin

- 1 Brake release lever
- 2 Locking pin

Releasing the brake:

Pull the locking pin forward while pulling the brake releasing lever up (see Fig. 18).

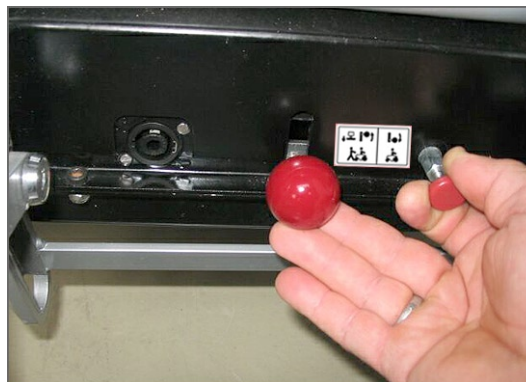


Fig. 18 Operating brake release lever and locking pin

With the brake release lever in upper end position the brake is released. The driving function is locked out by the control. When operating the joy stick a warning appears in the LED display.

**NOTICE**

After shifting the brake release lever to sliding position, all brake systems are disabled.

Applying the brake:

In order to apply the brake press the brake release lever down, until the unlocking pin clicks into place (see Fig. 19). Switch the operator panel off and on again to activate the drive function.

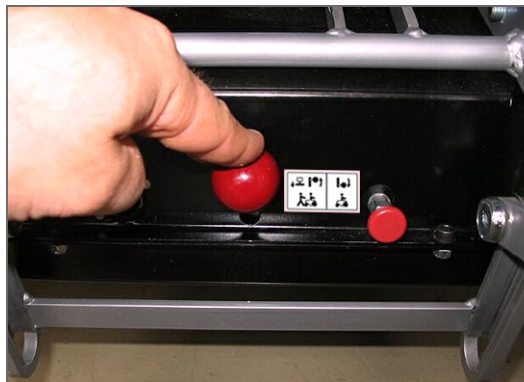


Fig. 19 Applying the brake



7.6 Batteries

The **ParaGolfer** is powered by two rechargeable 12 V-gel batteries with a capacity of 110 Ah. The batteries are located centrally under the seat in the chassis of the **ParaGolfer**. The batteries are maintenance free.

7.6.1 LEDs “Battery Capacity”

The „Battery capacity“ LEDs show the charge condition of the battery. The display is permanently on while driving.

The capacity is indicated by 7 segments. Each of the segments represents approx. 14 % of the total capacity. With a reach of approx. 22 miles on level ground each segment corresponds with a reach of about 3 miles, under uniform driving conditions.

Possible charge conditions:



Battery charged



Recharge the battery if possible



Charging of battery urgently required

**NOTICE**

Directly after switching on the **ParaGolfer** the battery display shows the charge condition saved after the last operation. The exact battery condition will be displayed after a short drive distance.

7.6.2 Charging

**DANGER****DANGER OF EXPLOSION WHEN RECHARGING THE BATTERIES**

Explosive gases may develop when recharging the batteries. For this reason you should take the following precautions when charging the batteries:

- Ensure sufficient ventilation when recharging in closed rooms.
- Do not smoke and do not use open fire. Strictly avoid the generation of sparks.
- The ventilation slots in the covering must not be covered.

**CAUTION****DANGER OF DAMAGE TO THE BATTERY.**

Prolonged driving in the red section will cause exhaustive discharge and damage to the battery.



NOTICE

Due to their design gel batteries do not have a memory effect, so that frequent recharging does not harm the battery.

The battery capacity determines the reach of the **ParaGolfer**. The capacity is influenced by a variety of factors. Besides the temperature, the age of the battery and the load applied by driving the recharging cycle has an essential effect on the capacity and thus the reach of the vehicle.

The following rules apply for an optimal charging rhythm:

- The batteries can be recharged at any time, irrespective of their charge condition.
- With the battery completely discharged (2 red LEDs on) full recharging takes approx. 10 h. After this the **ParaGolfer** may remain connected, because the battery charger is equipped with a programmed recharging phase at which the reached capacity is maintained.
- For daily use it is recommended to connect the battery charger over night, to have the full capacity available every day.
- Over longer periods of rest the battery will slowly discharge.

If the **ParaGolfer** is not moved over a longer period of time, the battery should be recharged at least 1 x every week in order to maintain the capacity. For longer periods of rest it may be sensible to pull out the main fuse.



- The batteries can never be fully discharged (exhaustive discharge).
- In order to feed the charging current fully into the battery, the operator panel of the **ParaGolfer** must be switched off throughout the charging process.

The following points must be adhered to when recharging the batteries:


- Only the battery charger specified by Parabasetec, Inc. must be used. In case of non-compliance no warranty claims will be accepted.
- The voltage setting on the battery charger must conform with the country specific voltage of the corresponding mains supply.

The following precautions must be taken before working with the battery charger:

- The battery charger must only be used within the specified temperature limits (see chapt. 3).
- The battery charger must be protected against direct insolation, to avoid additional heating of the unit.
- The installation location must be dry and well ventilated. Any entering of dust and dirt must be prevented. This may adversely affect the function of the battery charger.
- The battery charger should be cleaned with a dry cloth.



Proceed as follows to recharge the battery:

	DANGER
	DANGER OF EXPLOSION CAUSED BY SPARKS. Before disconnecting the battery the battery charger must generally be switched off and the mains plug pulled out.

1. Switch off the operator panel of the **ParaGolfer**
2. Open the swivel flap of the charging socket, the charging socket is located on the front of the chassis between the seat and the foot rest (see Fig. 20)
3. Insert the plug of the battery charger into the charging socket on the **ParaGolfer**, turn the plug clockwise to engage
4. Connect the battery charger to the mains socket and switch it on, charging starts automatically and the charge condition can be checked by the LEDs on the battery charger (see Tab. 3)
5. Switch off the battery charger once the charging process is finished:
Pull out the mains plug, pull back the unlocking pin and turn the charging plug counter-clockwise against the stop and pull it out of the charging socket
6. Close the swivel flap for the charging socket again to protect against moisture
7. Switch on the operator panel, the **ParaGolfer** is ready for the next drive.



Fig. 20 Charging socket on the ParaGolfer



Operation



8 Accessories



NOTICE

Please use only genuine accessories from the manufacturer. All components must only be assembled as described hereunder. In case of non-compliance no warranty claims will be accepted.

8.1 Golf Bag Holder



DANGER

DANGER OF INJURY CAUSED BY THE PARAGOLFER TIPPING OVER.

The attachment of a golf bag changes the center of gravity and thus the driving and braking characteristics of the **ParaGolfer**. In addition, the dimensions of the **ParaGolfer** will be enlarged. The changes in driving must therefore first be sufficiently trained, in order to avoid accidents and dangerous situations.



	<p>! DANGER</p>
	<p>DANGER OF INJURY CAUSED BY THE PARAGOLFER TIPPING OVER.</p> <p>The attachment of a golf bag changes the loading ratio of the ParaGolf. Together with the weight of the golf bag the weight of the user must not exceed the permissible total weight of 400 lb.-mass.</p>

The golf bag holder can be mounted to the side of the **ParaGolf**. For this purpose the two mounting brackets must first be inserted into the locating bushings on the drive carrier, until they are securely locked by the locking pins (see Fig. 21).

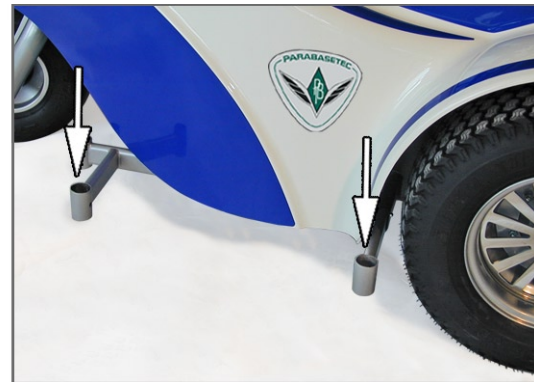
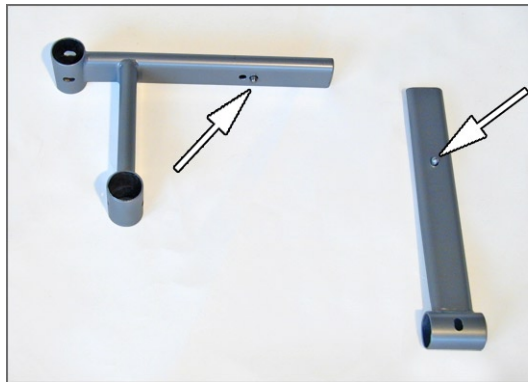


Fig. 21 Mounting bracket plugged in



The golf bag holder can now be plugged into the mounting brackets (see Fig. 22). Also here make sure that the locking pins have clicked into place.



Fig. 22 Golf bag holder plugged on



The golf bag is placed on both rests and fastened with the belts. The front rest can be matched to the length of the golf bar by simply loosening the clamping lever.

	NOTICE
The golf bag holder can be fastened on the right and left hand side of the ParaGolfer . However, this requires the corresponding set of mounting brackets.	

8.2 Removable Operator Panel Holder

	WARNING
DANGER OF INJURY DUE TO UNCONTROLLED DRIVING BEHAVIOR. If the operator panel is not completely plugged in the driving behavior may be uncontrollable. You should therefore take care that the bracket (spring plate) is fully inserted when plugging it in.	

The **ParaGolfer** can be equipped with a removable operator panel holder. For this purpose the operator panel is fitted with a spring plate as fixture (see Fig. 23).



Fig. 23 Operator panel with spring plate

The operator panel can be pulled off to the front, if required (e.g. for transportation).



8.3 Decor Bezel for Rims

The drive wheels of the **ParaGolfer** can be covered with decor bezel for rims (see Fig. 24). These are assembled by using a central screw and a size 5 Allen key from the tool set.



Fig. 24 Decor bezel for rims



8.4 Rain Cover for Rear Storage Box

The luggage compartment can be covered with a rain cover (see Fig. 25).



Fig. 25 Rain cover for rear storage box



Accessories



9 Trouble Shooting



NOTICE

If you encounter any problems or you are unable to fully eliminate any occurring faults using the measures described hereunder, you should consult your distributor.

For trouble shooting and fault rectification the ParaGolfer control differentiates the following categories, depending on the effect of the fault on the system.

- Warnings
- Faults
- Defect/malfunction

The “Battery capacity” LEDs in the operator panel serve as display. For visual and audible differentiation each category has its own flashing and sound signal assigned. The following chapters explain the individual display codes with the associated fault sources as well as the possible causes and required actions.

If the faults cannot be fully eliminated using the described measures, your distributor can use the hand-held programming unit to read out the exact fault code and to run a targeted system analysis.



All faults that have occurred are saved in a list and can be called up, e.g. on the occasion of a general overhaul of the **ParaGolfer**. The stored data can be used e.g. to derive further service and maintenance intervals.

9.1 Warnings

A warning points to the status or a malfunction of one or several individual components of the **ParaGolfer**. Components which are free of faults are thereby not impaired in their function. If there is e.g. a fault in the connection between control and seat motor, this motor will only be indicated when triggering the motor. However, the drive function can still be used.

Display of a warning:

- The LEDs flash 2x per second, over a period of 4 seconds
- 2 audible signals sound

This process is repeated when the fault occurs and when switching the **ParaGolfer** on.





Indication	Fault source	Possible cause	Possible action
● ○ ○ ○ ○ ○ ○ ○	Battery	Battery voltage too high or too low	Charge or discharge (depending on battery display)
● ● ○ ○ ○ ○ ○ ○	Temperature	Pulse control (controller) or motor overheating	Reduce drivingspeed Let cool down
● ● ● ○ ○ ○ ○ ○	Impulse control	Problems with motor control	Restart
● ● ● ● ○ ○ ○ ○	Multi-function button or On/OFF switch	Connection fault or keys defective	Check connecting cables and keys
● ● ● ● ● ○ ○ ○	Restricted driving	Certain seat function extended (lifting seat)	Return to normal seat position
● ● ● ● ● ● ○ ○	Input/output module	Motor not connected Motor overloaded	Check connecting cables and contacts
● ● ● ● ● ● ● ○	Battery charger locked	Battery charger connected	Disconnect the charger after charging

Tab. 4 Overview of fault sources and rectification in case of warnings



9.2 Faults

	<p> WARNING</p>
<p>DANGER OF INJURY CAUSED BY ABRUPT STOPPING OF THE PARAGOLFER.</p> <p>In case of communication problems in the bus system of the control the system will perform an emergency stop to avoid uncontrolled functions. Depending on the problem, the wheelchair can be moved out of the danger zone, e.g. in road traffic, by simply switching the operator panel back on. However, if the wheelchair is still not ready for driving after switching the operator panel back on, the brake must be released (see chapt. 7.5) to enable pushing of the vehicle. After an emergency stop you should immediately consult your distributor.</p>	

A fault impairs one or several functions of the **ParaGolfer**. The system is not fully operable, until the fault has been eliminated.

Display of a fault:



- The LEDs flash 4x per second
- An audible signal sounds 2x per second

This process is repeated each minute, or once when switching on the **ParaGolfer**.



Indication	Fault source	Possible cause	Possible action
●○○○○○	Battery	Battery discharged	Charging
●●○○○○	Right hand drive motor or brake	Right hand drive motor or brake not connected Contact problems or cable broken	Engage the brake unlocking device, check motor cable and plug connection on controller
●●●○○○	Left hand drive motor or brake	Left hand drive motor or brake not connected Contact problems or cable broken	Engage the brake unlocking device, check motor cable and plug connection on controller
●●●●○○	Fault input module	Joy stick not in neutral position Joy stick not calibrated during system start Input module defective	Check mechanical neutral position and light movement of joy stick Restart
●●●●●○	Fault output module	Fault in connection to output module Module defective	Check plug contacts for tight fit Restart



	Fault in impulse control	Fault in controller	Check plug contacts for tight fit Restart
	Communication fault	Module not connected Connection defective	Check plug contacts for tight fit Restart

Tab. 5 Overview of fault sources and rectification in case of faults

9.3 Defect/Malfunction

A defect is a severe failure of a system component. After rectification of the fault the system is activated by a restart.

A failure is the most severe fault conditions to be expected, which will cause immediate emergency-stop of the system.

Indication of a defect or failure:

- Permanent successive light with audible signal



Indication	Fault source	Possible cause	Possible action
Successive light	Incorrect system configuration	Switching on/off module missing or defective Two identical modules in competition Incorrect input device configured/connected	Check connection of input devices and plug connection of modules Restart
Successive light	Higher control unit defective	Loss of position in joy stick	Check mechanical neutral position and light movement of joy stick Restart

Tab. 6 Overview of fault sources and rectification in case of defects and failures



Trouble Shooting



10 Maintenance and Cleaning



NOTICE

For ordering spare parts please ask Parabasetec, Inc. for a Spare Parts Catalogue. Use only spare parts and consumables from Parabasetec, Inc.. In case of non-compliance no warranty claims will be accepted.



NOTICE

If problems occur during maintenance, you should consult an authorized distributor. The driving safety of the **ParaGolfer** should be checked once every year by an authorized distributor.

10.1 Maintenance Intervals

The functionality of the **ParaGolfer** must be checked before each use. The activities described in the following table must be performed by the user in the specified intervals.


Component	Activity	Daily	Weekly	Monthly
Tires	Air pressure (see Technical Data)			x
	Sufficient depth of tread			x



Maintenance and Cleaning

Component	Activity	Daily	Weekly	Monthly
Electronics	Control without fault message	Before each drive		
	LEDs of battery charger do not show a fault message		X	
Brake	Operate the brake lever with the operator panel switched on	X		
Brake	Brake function active with brake locked		X	
Backrest lining, belts and upholstery	Visual check, flawless condition of the seams, belts and upholstery		X	
Wear parts (e.g. bearings, bars)	Visual check			X
Scew fittings (incl. wheel fitting)	Check for firm fit			X

Tab. 7 Maintenance tasks and intervals

	NOTICE
	When operating the joy stick with the brake unlocked the control submits a fault signal via the operator panel. If this is not true, there is a malfunction that needs to be immediately rectified by your distributor.



10.2 Changing the Main Fuse

The 80 A fuse is located in a fuse holder at the side under the seat next to the left drive wheel (see Fig. 26). For replacing the main fuse the locking cap of the fuse holder must be opened, the main fuse replaced and the cap closed again, so that it clicks into place.

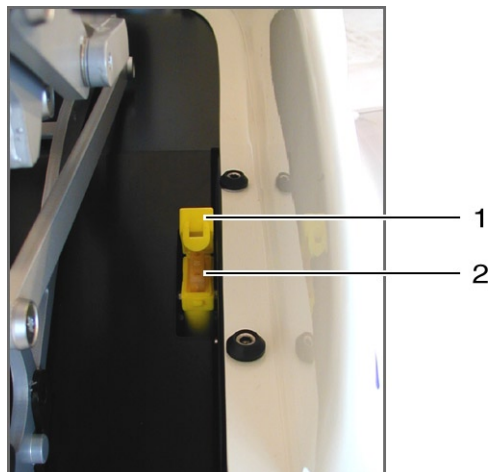


Fig. 26 Fuse holder with main fuse

- 1 Locking cap open
- 2 Main fuse plugged in

10.3 Changing the Tires

Both front drive wheels and the rear wheel can be removed in case of a defect.

In this case proceed as follows:

- ❑ If necessary loosen the central screw in the center of the wheel with a size 5 Allen key from the tool set and take off the fender (see Fig. 27)
- ❑ Unscrew the 6 wheel nuts (see Fig. 28) and pull off the wheels
- ❑ In order to remove the rear wheel loosen the 3 axle screws with a size 5 Allen key from the tool set



Fig. 27 Fender



Fig. 28 Wheel nuts



10.4 Cleaning and Care

	CAUTION
	DANGER OF DAMAGE TO THE ELECTRONICS. DANGER OF MALFUNCTION. When cleaning the ParaGolfer the electronic components (motors, batteries etc.) must not come in contact with water.

	CAUTION
	DANGER OF DAMAGE TO COMPONENTS OF THE PARAGOLFER. Do not use any abrasives and no aggressive cleansing agents to clean the ParaGolfer . Do not use water jets or high pressure cleaning equipment for cleaning.



Depending on the type of use and the degree of soiling the **ParaGolfer** must be cleaned in regular intervals.

Operator panel, armrests and cover can be cleaned with a damp cloth and a mild solvent. The covers of seat and back rest as well as the cushion must be cleaned with a dry brush. Wheels and frame can be cleaned with a damp plastic brush.



11 Waste Disposal

	 WARNING
	DANGER OF ENVIRONMENTAL DAMAGE. For waste disposal all components and materials of the ParaGolfer must be environmentally and separately disposed of or returned for recycling.

	 WARNING
	DANGER OF ENVIRONMENTAL DAMAGE CAUSED BY BATTERY ACID. The batteries of the ParaGolfer contain toxic acid. They must not be disposed of together with domestic waste and the battery acid must not be allowed to seep into sewer or ground. The information of the battery manufacturer printed on the battery must be strictly followed.

If the **ParaGolfer** is taken out of use, it must be disposed of in accordance with the corresponding country specific environmental protection regulations.



Your distributor will take old batteries back when buying new ones.



Waste Disposal



A EMC Information and Recommendations

	 CAUTION
	DANGER OF DAMAGE TO THE ELECTRONICS. DANGER OF MALFUNCTION. It is very important that you read this information regarding the possible effects of electromagnetic interference on your power wheelchair.

A.1 Electromagnetic Interference (EMI) from Radio Wave Sources

Power wheelchairs and motorized scooters (in this text, both will be referred to as power wheelchairs) may be susceptible to electromagnetic interference (EMI), which is interfering electromagnetic energy (EM) emitted from sources such as radio stations, TV stations, amateur radio (HAM) transmitters, two-way radios, and cellular phones.

The interference (from radio wave sources) can cause the power wheelchair to release its brakes, move by itself, or move in unintended directions. It can also permanently damage the power wheelchair's control system.



The intensity of the interfering EM energy can be measured in volts per meter (V/m). Each power wheelchair can resist EMI up to a certain intensity. This is called its “immunity level.” The higher the immunity level, the greater the protection. At this time, current technology is capable of achieving at least a 20 V/m immunity level, which would provide useful protection from the more common sources of radiated EMI.

This power wheelchair model as shipped, with no further modification, has an immunity level of 20 V/m.

There are a number of sources of relatively intense electromagnetic fields in the everyday environment. Some of these sources are obvious and easy to avoid. Others are not apparent and exposure is unavoidable. However, we believe that by following the warnings listed below, your risk to EMI will be minimized.

The sources of radiated EMI can be broadly classified into three types:

- ❑ **Hand-held portable transceivers** (transmitters-receivers) with the antenna mounted directly on the transmitting unit. Examples include citizens band (CB) radios, “walkie talkie,” security, fire, and police transceivers, cellular telephones, and other personal communication devices.

	NOTICE
Some cellular telephones and similar devices transmit signals while they are ON, even when not being used	



- ❑ **Medium-range mobile transceivers**, such as those used in police cars, fire trucks, ambulances and taxis. These usually have the antenna mounted on the outside of the vehicle
- ❑ **Long-range transmitters and transceivers**, such as commercial broadcast transmitters (radio and TV broadcast antenna towers) and amateur (HAM) radios.

**NOTICE**

Other types of hand-held devices, such as cordless phones, laptop computers, AM/FM radios, TV sets, CD players and cassette players, and small appliances such as electric shavers and hair dryers, so far as we know, are not likely to cause EMI problems to your power wheelchair.



A.2 Power Wheelchair Electromagnetic Interference (EMI)

Because EM energy rapidly becomes more intense as one moves closer to the transmitting antenna (source), the EM fields from hand-held radio wave sources (transceivers) are of special concern. It is possible to unintentionally bring high levels of EM energy very close to the power wheelchair's control system while using these devices. This can affect power wheelchair movement and braking. Therefore, the warnings listed below are recommended to prevent possible interference with the control system of the power wheelchair.



A.3 Warnings

Electromagnetic interference (EMI) from sources such as radio and TV stations, amateur radio (HAM) transmitters, two-way radios, and cellular phones can affect power wheelchairs and motorized scooters. Following the warnings listed below should reduce the chance of unintended brake release or power wheelchair movement which could result in serious injury.

	 CAUTION
	<p>DANGER OF DAMAGE TO THE ELECTRONICS. DANGER OF MALFUNCTION.</p> <p>Do not operate hand-held transceivers (transmitters-receivers), such as citizens band (CB) radios, or turn ON personal communication devices, such as cellular phones, while the power wheelchair is turned ON.</p> <p>Be aware of nearby transmitters, such as radio or TV stations, and try to avoid coming close to them.</p> <p>If unintended movement or brake release occurs, turn the power wheelchair OFF as soon as it is safe</p> <p>Be aware that adding accessories or components, or modifying the power wheelchair, may make it more susceptible to EMI (Note: There is no easy way to evaluate their effect on the overall immunity of the power wheelchair).</p>



CAUTION

DANGER OF DAMAGE TO THE ELECTRONICS.

DANGER OF MALFUNCTION.

Report all incidents of unintended movement or brake release to your distributor or Parabasetec, and note whether there is a source of EMI nearby.



B Testing Summary

B.1 Charger

Parabasetec's Declaration – Electromagnetic Emissions		
The LEAB AWC 2430 is intended for use in the electromagnetic environment specified below. The customer or the user of the AWC 2430 should assure it is used in such an environment.		
Emissions Test	Compliance	Environment Guidance
RF Emissions CISPR 11	Group 1	The AWC 2430 uses RF energy only for its internal function. Therefore, its RF emissions are very low and not likely to cause any interference in nearby electronic equipment.
RF Emissions CISPR 11	Class B	The AWC 2430 is suitable for use in all establishments including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
Voltage Fluctuations/ Flicker Emissions IEC 61000-3-3	Complies	The AWC 2430 is suitable for use in all establishments including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.



Emissions Test	Compliance	Environment Guidance
Harmonic Emissions IEC 61000 3-2	Class A	The AWC 2430 is suitable for use in all establishments including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.

Parabasetec's Declaration – Electromagnetic Immunity			
The AWC 2430 is intended for use in the electromagnetic environment specified below. The customer or the user of the AXC2430 should assure that it is used in such an electromagnetic environment.			
Immunity Test	IEC 60601 Test Level	Compliance Level	Environment Guidance
ESD EN61000-4-2	±2KV CD	±2	N/A
	±4KV CD	±4	N/A
	±2KVAD	±2	N/A
	±4KV AD	±4	N/A
	±8KV AD	±8	N/A
	±8KV AD1	±8	N/A



Attachments

Immunity Test	IEC 60601 Test Level	Compliance Level	Environment Guidance
Fast Transients/Burst EN61000-4-4	±1KV	±1KV	N/A
Surge EN61000-4-5	±.5KV ±1.0KV	±.5KV ±1.0KV	N/A N/A
Fluctuations EN61000-4-11	30% for 10ms 60% for 100ms >95% for 5000ms	30% for 10ms 60% for 100ms >95% for 5000ms	N/A N/A N/A
HF Fields EN61000-4-6	3V 150KHz - 80MHZ	3V	D=3.5v/P



B.2 ParaGolfer

Parabasetec's Declaration – Electromagnetic Emissions		
The ParaGolfer is intended for use in the electromagnetic environment specified below. The customer or the user of the ParaGolfer should assure it is used in such an environment.		
Emissions Tests	Compliance	Environment Guidance
EN55011	Group 1	The ParaGolfer is suitable for use in all establishments including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
EN55011	Class B	The ParaGolfer is suitable for use in all establishments including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
ANSI/RESNA (Sit Down Midway-up Stand-up)	20 v/m	The ParaGolfer can be used in environments up to 20 v/m.



Attachments

Parabasetec's Declaration – Electromagnetic Immunity			
Immunity Test	IEC 60601	Compliance Level	Environment Guidance
High Frequency	12v/m	12v/m	N/A
IEC61000-4-3	20v/m	20v/m	N/A
ANSI/RESNA	3 Orientations	3 Orientations	
	0°, 90°, 180°	a+0°, 90°, 180°	
	26-1000 MHz	26-1000 MHz	
	1 KHZ	1 KHZ	
	80% Depth	80% Depth	
	1% Increment	1% Increment	



Immunity Test	IEC 60601	Compliance Level	Environment Guidance
ESD	±2KV CD	±2	N/A
EN61000-4-2	±4KV CD	±4	N/A
ANSI/RESNA	±6KV CD	±6	N/A
(Sit Down, Stand up)	±6KV CD1	±6	N/A
	±8KV Frame	±8	N/A
	±2KV AD	±2	N/A
	±4KV AD	±4	N/A
	±8KV AD	±8	N/A
	±8KV AD1	±8	N/A

