

Instruction Manual

Electric Wheelchair Express 2000



6 km/h



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Notice to the specialist dealer:

This Instruction Manual is part and parcel of the product and must accompany every wheelchair sold.

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PREFACE

First of all we want to thank you for putting your trust in us by selecting one of our wheelchairs.

The electric wheelchairs supplied by Vermeiren are the result of study and experience over many years. During the development simplicity of operation and servicing was especially emphasized.

But the expected working life of your vehicle depends essentially on your care and maintenance. This instruction manual will help you to familiarize yourself with the operation of your wheelchair and advise you about keeping your electric wheelchair in a good operating condition to ensure a long working life.

This instruction manual reflects the latest level of development of the product. However, our firm, Vermeiren, reserves the right to introduce changes without any obligation to adapt or replace previously delivered models.

Kindly keep in mind that your wheelchair will be in an excellent working condition and function perfectly even after many years, if you follow our advice.

For any further questions please consult your specialist dealer.

TECHNICAL DETAILS

(given in terms of the standard adjustments when delivered)

The total length/height may be quite different when other leg and head supports are used.

Length (without leg supports)	80 cm
Length (with leg supports)	107 cm
Height (backrest included)	96 cm
Width (depends on the width of the seat)	68 cm(39), 71 cm(42), 73 cm(44), 75 cm(46), 79 cm(50)
Seat depth	45 cm
Height of seat	52 cm
Height of backrest	45 cm
Height of armrests (seat cushion)	19 -24 cm
Height of armrests (floor cushion)	71 - 76 cm
Motors	2 x 200 W
Batteries	2 x gel battery 12V / 38 Ah
Battery charger	CD BAT-GC 0802 200-250V
Steering	Shark Electromagnetic braking system
Weight (batteries included)	+/- 56 kg
Operating temperature of the electronics	between -20° Celsius and +40° Celsius
Thermal fuses	30 Amp (lid of battery box)
Nominal load (max. load)	90 kg
Max. speed	6 km/h
Traveling range	ca. 30 km
Tyre pressure front steering wheels	2.5 bar
Tyre pressure, rear/driving wheels	2.5 bar

If wheels other than those supplied by us, are fitted, you should in all cases observe the max. tyre pressure as indicated on the tyres.

Measurement tolerance +/- 1.5 cm, kg

Cruising properties

Turning circle	ca. 140 cm
Max. climbing ability	10° (17%) when sitting upright
Max. obstacle height	15 mm Class A (when sitting upright)



GENERAL NOTES

The electric wheelchair EXPRESS 2000 was developed entirely for your comfort. It is meant exclusively for individual indoor and outdoor use by disabled persons themselves or for others who cannot walk and who are handicapped in this respect. The EXPRESS 2000 model offers many individually adjustable features as explained below. Kindly read the instruction manual carefully to familiarize yourself with your wheelchair.

APPLICABILITY

The many types of equipment and accessories as well as the modular construction allow full use by persons disabled by

- Paralysis
- Loss of limbs (leg amputation)
- Limb defects / Deformation
- Stiff or damaged joints
- Illnesses like heart insufficiencies and poor circulation, balance disturbances or Cachexia, and also for aged persons.

When providing for individual requirements

- Body size and weight (max. load 90 kg)
 - Physical and psychological condition
 - Residential circumstances and
 - The environment
- should be considered.

Guarantees can only be honored when the product is used under the prescribed conditions and for the intended purposes.

CONTENTS OF THE CONSIGNMENT

- Framework including the driving motors
- Footrests (standard: B06; removable, can be turned aside)
- Backrest tubing including shaped back
- Contoured seat
- 2 x batteries including the battery boxes
- Battery charger
- Steering electronics
- Tools (Allen keys)
- Instruction manual

THE OPERATING ELEMENTS

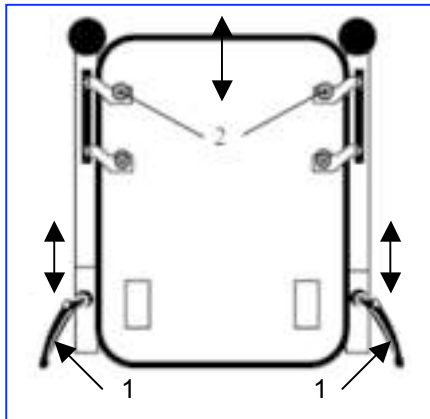
The electric wheelchair is delivered fully assembled. Only the footrests, seat, and backrest have to be attached (see the relevant description).

Your specialist dealer delivers the wheelchair fully assembled and informs you about the various operating elements and their use. For your own safety we once more provide a detailed explanation of the various structural parts.

PUSHING HANDLES

Pushing handles are located at the upper end of the backrest tubing. For the purpose of pushing the wheelchair, the backrest tubing has to be assembled beforehand (see the section "The back").

THE BACK



For transportation purposes the back section is removable. Loosen the levers (1) to lift the entire back section and its tubing out. Now it is easy to push the wheelchair into a car by means of a ramp, for example. For driving, insert the back tubes evenly and fully on both sides into the frame receptacles. Levers (1) must then be retightened properly.

Before using, check that the back is fixed properly to the back tubing. If it is loose, retighten the Allen screws (2) that fix the back to the back tubing.

- ⚠ Check that the back tubing is not jammed, otherwise the back might be tensioned and/or it might not be inserted correctly. Deformations that could endanger the safety of the wheelchair and its user, might be caused.
- ⚠ Before using the wheelchair, check that the fixing screws (1) are tightened properly, otherwise the back might come loose, damage the chair and hurt the user.
- ⚠ Make sure that no extra loads hang from the back (e.g. backpack, etc.) that might increase the danger of tipping over backwards.

If the functioning of the back or some of its components has deteriorated because of wear and tear or other causes, kindly consult your specialist dealer. He shall be pleased to come to your aid.

THE SEAT

The seat is contoured and cushioned and it rests on the framework by means of supports attached to its underside. These supports engage the hinged framework tubing. To remove the seat, simply lift it up and out of the frame. Its cover can be washed and it can "breathe". If you want it to be waterproof, we can provide this model with artificial leather covers.

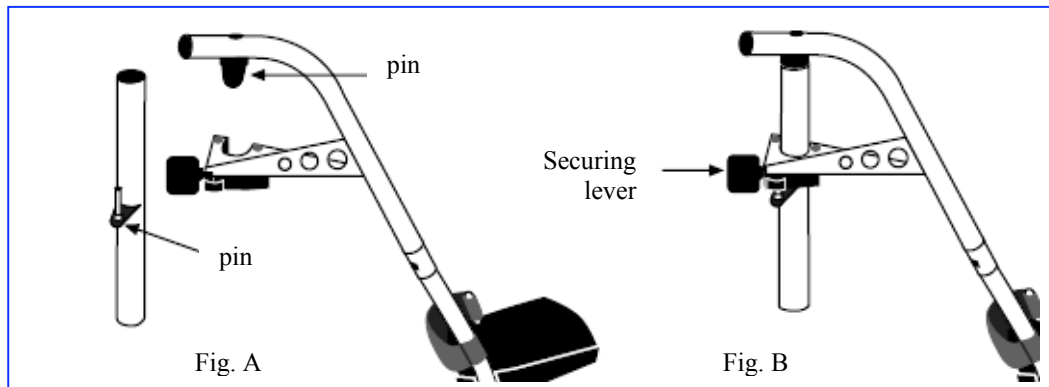
- ⚠ Before using the wheelchair, make sure that the seat is properly positioned in the hinged tubing and that it cannot slide around.
- ⚠ The wheelchair may not be used without the seat, otherwise undue body pressures might occur.

If the functioning of the seat is impaired because of wear and tear or other factors, kindly contact your specialist dealer. He shall gladly assist you further.

LEG SUPPORTS

The basic model of your electric wheelchair is equipped with leg supports that allow your legs to rest comfortably. You can adjust the length of the foot supports continuously, turn them aside, or even remove them completely. These adjustments should be carried out by a third person with the required technical knowledge. Consult your specialist dealer if these adjustments become necessary.

If you want to carry out these adjustments yourself, you should read the following sections carefully.



To fix the footrests, hang one leg support sideways on the outside and then turn it inwards until it stops. The fixing lever (Figure B) must point backwards. If the leg supports do not engage immediately, push them lightly inwards. Do the same on the other side. To remove the footrests, reverse this process.

⚠ When handling the leg supports, make sure that you hold them by the upper curved section to prevent your fingers from getting entangled and hurt.

The footplates can be folded out of the way when getting into or out of the wheelchair. They are designed as footrests only, and they also prevent your feet from moving sideways. Use the Allen keys provided to adjust the length of the leg supports. There is a countersunk Allen screw (Figure A) on the rear side of the leg support for fixing the footplate. By loosening this screw the footplate can be adjusted to the length of your leg. It must be tightened properly afterwards.

⚠ Make sure that the footplate is at least 6 cm above the ground to avoid scraping the ground when traveling. This could damage the wheelchair and endanger its operational safety. In addition, the user could also be injured.

⚠ **Do not stand on the footplates; they are only designed for letting your feet rest on them.**

⚠ When the leg supports are adjusted, no persons or parts should be within their reach, otherwise there is danger of injury and/or damage.

If there are disease conditions and/or impediments that cannot guarantee that your legs would rest evenly on the leg supports, you may select other available leg supports. Kindly ask your specialist dealer if you have queries in this regard.

ARMRESTS



The height of the armrests can be adjusted by loosening screw (1) and pulling the armrest upwards. To adjust the width between the armrests, you only have to loosen screw (2) and place the armrest in the desired position. The screw must be tightened properly afterwards.

⚠ Make sure that all fixing screws are properly tightened before using the wheelchair, otherwise injury and/or damage might result.

⚠ Never pick the wheelchair up for transportation by grabbing the armrests, but take hold of solid frame parts only.

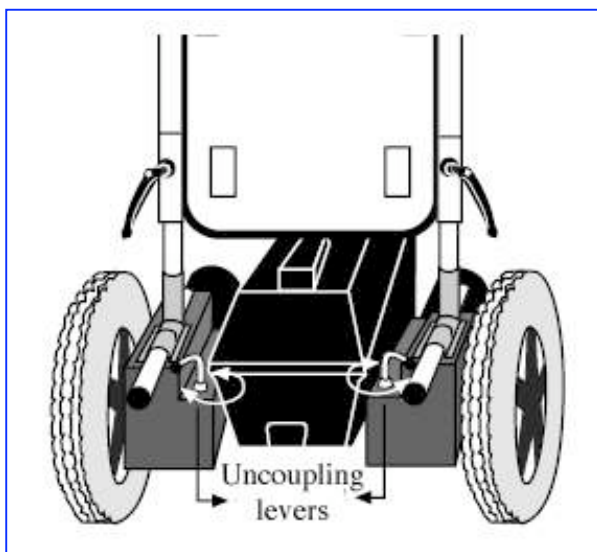
The armrest containing the steering electronics can only be detached if the electronics have been removed previously (see the section "Steering").

- ⚠ **The armrests may only be removed when the user of the wheelchair is safeguarded against tipping out sideways.**

If changes, damage, or wear of the suspension are noticeable, kindly consult your specialist dealer who can remedy these defects.

- ⚠ To avoid endangering your safety, do not use the wheelchair when changes, damage, or wear of the suspensions are noticeable.
- ⚠ If you contemplate changing the armrests and/or the armrest supports, that would be entirely your own responsibility. Then your insurance claims lapse immediately.

DRIVING ELECTRONICS



If the motors are fixed by means of the bolts behind the back, the wheelchair can be set in motion by using the steering unit.

- ⚠ You should only drive with engaged motors, otherwise they might overheat.
- ⚠ Make sure that both motors are engaged.
- ⚠ Disengage the parking brakes before setting the wheelchair in motion by means of the steering unit.

Figure A (older type controller): The on/off switch (Fig. A/1) is activated by pressing it lightly. All diodes of the charge indicator (Fig. A/3) flash briefly, and subsequently display the condition of the batteries.

If this is sufficient for the intended distance, you can let the wheelchair move in the desired direction by using the steering lever (Fig. A/2).

- ⚠ If you are not familiar with steering by means of a joystick, you should first practise with the driving and steering properties of the wheelchair on a level, open surface.

The speed of your wheelchair can be adjusted continuously by means of the regulator knob (Fig. A/4).

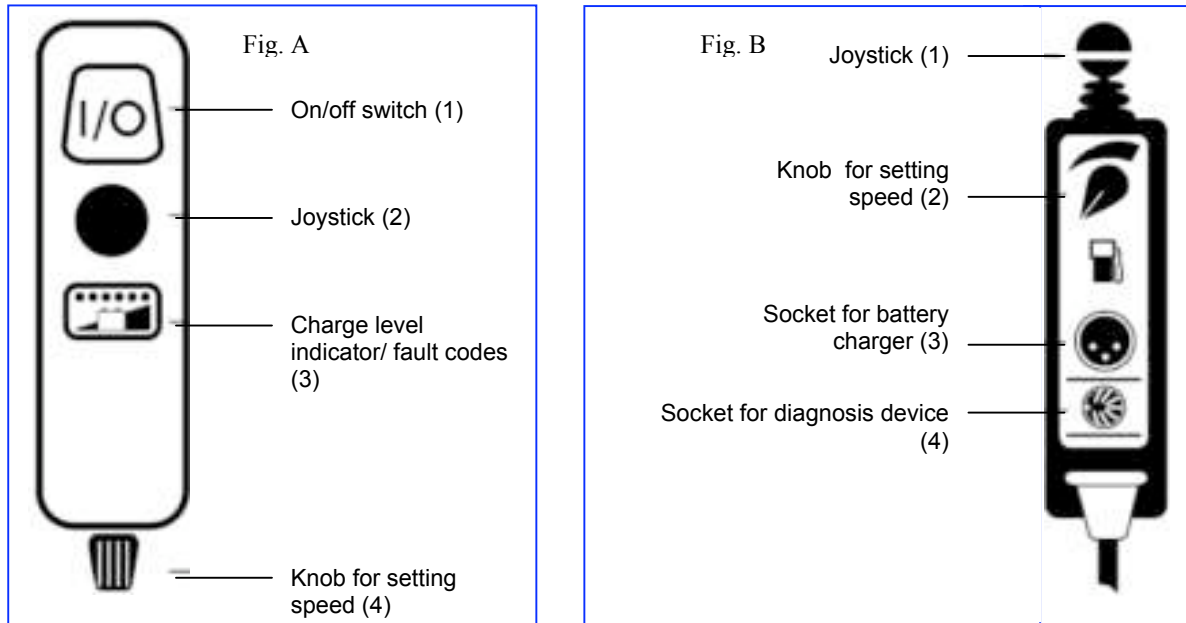


Figure B: The socket for the battery charger supplied with the wheelchair (Fig. B/3), is located below the speed regulator knob (Fig. B/2). The programming unit (Fig. B/4) can be plugged into another socket located beneath a cover plate below the socket for the battery charger (Fig. B/3). This cover plate may only be removed by the specialist dealer for programming purposes.

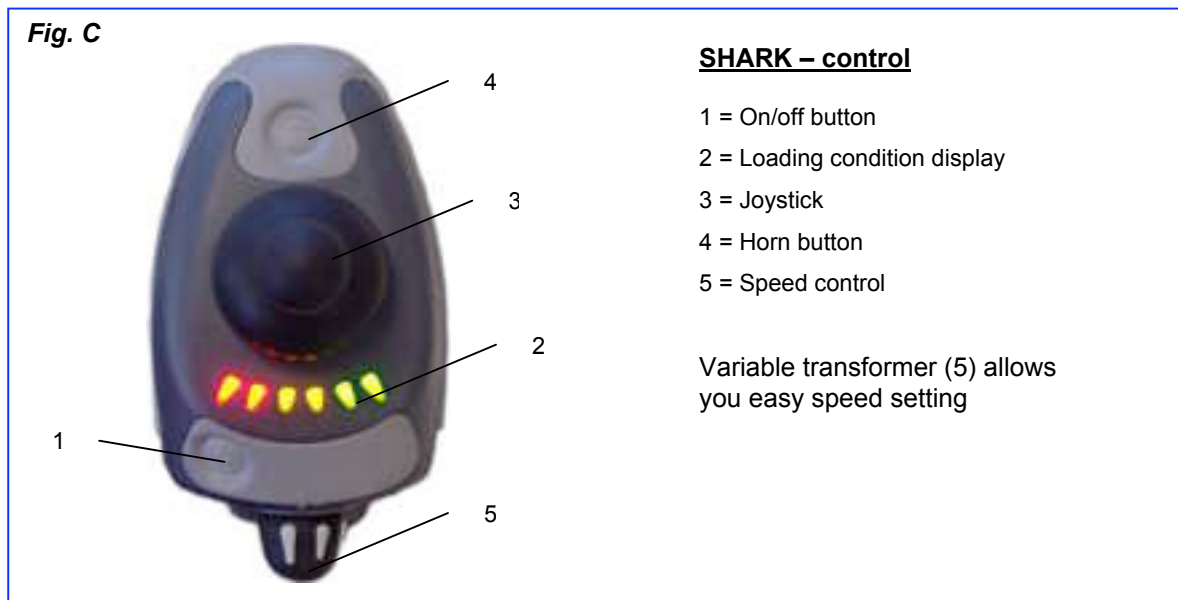


Figure C (newer type controller): Press lightly on the on-off button (1) to activate it. All the diodes of the charge indicator (2) briefly light up to show the battery condition.

If this is sufficient for your intended journey, you can let the wheelchair move in the desired direction by means of the steering lever (3).

- ⚠ If you are not familiar with a joystick, first practise on a free, level surface to teach yourself about the driving and steering properties of the wheelchair.

Beneath the operating unit (for SHARK steering: at the front) you will find the socket for plugging in the charging apparatus. The connection for the programming unit is also located here, but this may only be used by trained staff programmers.

- ⚠ Take care that all plugs (charger and, on occasion, the programming unit) are removed before setting the wheelchair in motion.
- ⚠ Check that the steering lever is in the neutral central position when you push the on/off button, since the electronics are inactive otherwise. You can eliminate this barrier by switching the steering off and then on again.
- ⚠ Your speed should be adapted to environmental conditions.
- ⚠ Make sure that all plugs (battery charger and programming unit) are removed before setting the wheelchair in motion.
- ⚠ Make sure that the steering lever is in the neutral (central) position when pressing the on/off button, otherwise the electronics will be blocked. This barrier can be lifted by switching the steering unit off and then on again.
- ⚠ Always adapt your traveling speed to the prevailing environmental conditions.

LOCKING-UNLOCKING SHARK CONTROLLER



Locking the Shark Controller

While the power is on, press and hold the power button for two seconds. The display will turn off immediately. After two seconds all LED's will flash briefly and the horn will sound a short beep.

The wheelchair is turned off.

Unlocking the Shark Controller

While the shark controller is locked, press the power button to turn the shark controller on. All LED's will flash briefly. The LED's will then perform a slow right-to-left countdown. (approx. 10 sec.)

Press the horn button twice before the countdown is completed (approx. 10 sec.)

The batterycharge will then be displayed and the wheelchair is ready for normal operation.

(repeat the complete procedure in case you did not finish it before the countdown)

BATTERIES

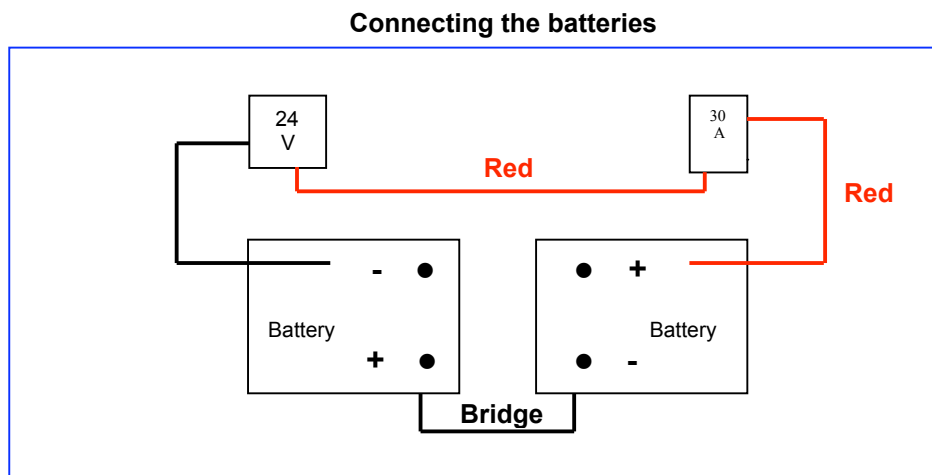
The standard for your electric wheelchair is two 12 Volt gel batteries each with a capacity of 38 Ah. These batteries are suitable for driving your electric wheelchair. Batteries used for starting powered vehicles are not suitable for electric wheelchairs.

These batteries are closed systems and must not be topped up. The original quantity of electrolyte is sufficient for the working life of the batteries. If the batteries lose their power after long usage, or when they are damaged, both batteries must be replaced. Let your specialist dealer do this.

- ⚠ Use only genuine original batteries. We do not accept any liability for damage caused by using batteries not supplied by us.
- ⚠ Do not expose the batteries to temperatures below 5° Celsius or above 50° Celsius.
- ⚠ If the batteries are opened, every liability of the manufacturer is voided as well as any claim.

REMOVAL AND REPLACEMENT OF THE BATTERIES

The securing strip around the battery box has to be removed first of all, then the motor plugs, and the electronics plug. Now you can lift off the lid of the battery box, and remove the battery clamps. The sequence for disconnecting is 1.) the main negative pole (-), 2.) the positive pole (+), and 3) the connecting bridge.



The batteries should be replaced in the reverse sequence.

- ⚠ These activities should be undertaken by the specialist dealer.
- ⚠ Make sure that no tools or other conducting objects make contact with both poles of the batteries, otherwise the large resulting electric currents might cause injuries.
- ⚠ No activities involving the batteries and the electronics should be undertaken in moist conditions.
- ⚠ The manufacturer is not liable for damages / injuries caused by improper handling.

CHARGING

The LEDs (light emitting diodes) incorporated in the steering unit indicate to what extent the battery capacity has been used up. If only the red LEDs light up, the electric wheelchair should be recharged immediately. If you continue driving on, eventually only the last red diode lights up and flashes continually, indicating that the batteries are nearly flat. If you disregard this warning signal, an error message appears shortly afterwards indicating that the batteries cannot provide power for driving any more. The wheelchair should thus be charged before this error message appears, by using the supplied battery charger. Kindly also observe the accompanying operating instructions.

Driving functions are automatically blocked when the 3-point plug of the battery charger is inserted in the relevant socket on the steering unit. When charging, leave the electronics of your wheelchair switched on. The battery charger controls the charging process automatically. It shows when the charging process can be stopped.

If you decide not to use your electric wheelchair for an appreciable period, you must nevertheless recharge it regularly to keep it in a running condition ready for immediate use.

- ⚠ Note that if you recharge gel batteries too frequently, they will eventually lose their capacity irretrievably.
- ⚠ If the batteries are not used for an appreciable period, they discharge slowly by themselves (in-depth discharging). Then it becomes impossible to recharge them with the supplied battery charger. When batteries are not in use, they must be recharged at least every 5 to 8 weeks.
- ⚠ The manufacturer is not liable for damage caused by improper charging.

PARKING BRAKES

A standard feature of your electric wheelchair is that a parking brake is provided for each driving wheel. They must be adjusted according to the tyres used

- Pneumatic tyres
- Puncture-free tyres ("PU" solid rubber)

● **Parking brake / pneumatic tyres**

When pneumatic tyres are used, the parking brake can only function when the tyres are inflated hard enough (see the Section "Technical details").

- ⚠ Note that the tyre pressure should always correspond to the values given in the Chapter "Technical details", otherwise the action of the parking brakes would be reduced or even be zero.
- ⚠ Note that the parking brakes are not supposed to be used for braking while driving. The real function of the parking brakes is to prevent the wheelchair from rolling away after it has stopped. If it is used for reducing the speed while driving, injury and/or damage could result.

If the brakes lose their function through wear and tear and/or the covers and hoses have been damaged, we advise you to consult your specialist dealer who has the tools and the knowledge for repairing / replacing the defective parts.

- ⚠ Unsuitable tools or improper handling might cause damage and/or loss of function.

If you wish to adjust the parking brakes yourself, use a suitable Allen key to loosen the two screws holding the brake suspension on the rail. Then push the brake unit to the desired position, retighten the two Allen screws and check whether the braking action is correct.



- ⚠ If any third party adjusts the brakes, it would be at your own risk. Then the manufacturer does not accept any liability.
- ⚠ Rather let your specialist dealer adjust the parking brakes; he is trained on our products and will comply with all relevant prescribed safety measures.

● **Parking brake / Solid rubber tyre**

In the case of solid rubber tyres the parking brake can only function if the distance between the brake pad and the surface of the tyre is such that the wheels cannot move when the brake is engaged. The position of the braking plates on the rails can be adjusted by using suitable tools (for reasons of safety we advise you to let your specialist dealer undertake this job).

- ⚠ Note that the parking brake is not supposed to be used for braking while driving. The real function of the parking brakes is to prevent the wheelchair from rolling away after it has stopped. If it is used for reducing the driving speed, injuries could result.



If you are not satisfied with the braking behavior of your wheelchair, consult your specialist dealer immediately; he will then adjust the brakes properly.

-  If water, oil, or other kinds of dirt have soiled the wheels of the wheelchair (whether pneumatic or solid rubber) the braking action of the parking brakes could be impaired. Check the condition of the wheels every time before using the wheelchair.
-  If wear and tear and/or tyre damage reduce the efficiency of the brakes, please consult your specialist dealer.

TYRE CHANGING

If you wish to change the tyres or tubes, please note the following:

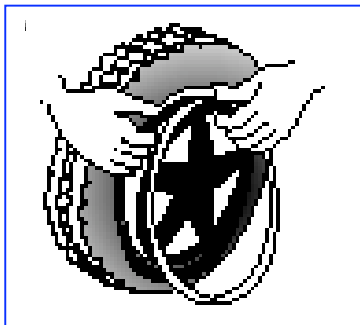
Before you can remove a tyre, you must let all the air out of the tube, and insert a tyre lever between the tyre and the rim. Then slowly and carefully push the lever downwards. This will pull the tyre over the edge of the rim. If you then move the lever along the rim, the tyre will jump out. Now carefully remove the tyre from the rim and then remove the tube.

-  There must be no air in the tube before it can be removed.
-  If handled improperly, the rim might be damaged. Rather let an expert perform these activities.

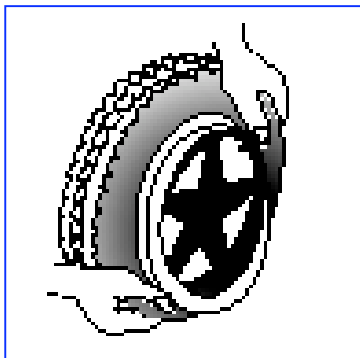
Note the following before inserting the new tube:

Check the rim bed and the inside wall of the tyre for foreign matter and clean these properly if necessary. Check the condition of the rim bed, especially around the position of the air valve. Please use only genuine original replacement parts. No liability is accepted for damage caused by non-genuine replacement parts. Kindly contact your specialist dealer.

Assembly:



Place the rim belt in position over the air valve before inserting it into the rim. Then the rim belt can be pulled over easily. Check whether all spoke heads are covered (in the case of a plastic rim a rim belt is not required).



Push the tyre over the edge of the rim, starting behind the air valve. Inflate the tube slightly until it is round, and place it inside the tyre.







If the tube now fits snugly all around inside the tyre without any folds (in the case of folds: let out some air), then the upper side of the tyre can be pressed lightly onto the rim with both hands, starting at the air valve.

Check all around on both sides that the tube is not pinched between the rim and the edge of the tyre. Lightly push the air valve inwards and pull it out again to make sure that the tyre is positioned properly in the region of the air valve.



To ensure that the wheel is inflated correctly, admit only so much air initially that the tyre can still be easily pushed inwards by using your thumbs. If the check-lines are equidistant from the edge of the rim on both sides of the tyre the tyre is centered properly. If not - let out the air and position the tyre afresh.

Now the tyre can be inflated to its full operating pressure (note the maximum) and the valve cap should be replaced.

-  When assembling, check that no objects or body parts are caught between the tyre and the rim; this might result in damage and/or injury.
-  Only an expert can guarantee correct assembly. Work not done by your specialist dealer would void any warranty claims.
-  When inflating the tyres, always check that the pressure is correct. The correct pressure is given on the tyre walls (also refer to "Technical details").
-  Use only inflation equipment that complies with the requirements and indicate the pressure in "bar", or use the pump supplied with the wheelchair. We do not accept any liability for damage caused by using inflation equipment not supplied by the manufacturer.

TYRES

The standard tyre sizes of the EXPRESS 2000 electric wheelchair are 12 1/2" x 2 1/4" for the driving wheels (pneumatic) and 200 x 50 mm for the steering wheels (pneumatic). Consult your specialist dealer about other wheel combinations. He will advise you as to which combinations are suitable for your individual requirements.

-  Make sure that the wheels are always inflated correctly, otherwise the driving behavior might be affected. The correct pressures for the tyres are given in the chapter "Technical details". In addition, you should always check the pressure values appearing on the tyres themselves.
-  We do not guarantee wheels not supplied by the manufacturer.





TRANSPORTING THE WHEELCHAIR

In addition to indoor use the EXPRESS 2000 model is eminently suited to taking along on a journey. Ease of transportation is thus especially important.


Remove the seat and the back unit (see the sections "Back" and "Seat"). Then take hold of the handle of the battery box platform and raise it lightly. Carefully pull the battery receptacle backwards until the rear rollers reach the end of the rails. Now put the box with the front rollers on the ground. Subsequently remove the motor plugs and that of the steering unit. The battery box can now be lowered away from the rails by means of the positioning handles. The wheelchair can then be folded by pulling the supporting tubing (black) upwards on the inside while standing in front or at the rear.

To reassemble the wheelchair, fold it open, place the battery unit in the frame, pull the cabling together, position the seat, and then hang the back unit and the foot supports in their position. In this way your wheelchair is quickly ready for driving.










Since the battery block of the EXPRESS 2000 consists of closed batteries, it is quite unnecessary to remove it for transportation purposes.

-  When raising the wheelchair, it should only be grasped by fixed parts of the frame.
-  When assembling or disassembling, note that the frame is hinged like scissors. **DANGER OF INJURY !!**
-  To prevent damage, the steering unit and armrests should be removed for transportation.
-  When assembling, make sure that all screws have been retightened properly.

If you want to take your wheelchair along in a car, or when you want to be taken to a certain place, you should note the following:





-  Never pick up the wheelchair by grasping the leg supports, armrests or wheels, but only take hold of fixed parts of the framework, front and rear.

If you want to be taken up or down a step, tilt the wheelchair slightly backwards. The wheelchair can then be pushed forwards step by step with the driving wheels bearing the weight. A second person must secure the wheelchair in front by walking backwards and grasping the wheel supports after the leg supports have been removed.

-  At least two persons are required for moving up or down on a staircase or over single steps.
-  Note that, when the footrests have been removed, the legs of the user are not secured; danger of injury !!
-  When being transported, you should be protected by suitable safety belt systems (information obtainable from your specialist dealer).
-  When being transported, sit quietly in your wheelchair and avoid jerky movements.
-  If you cannot sit quietly when being transported because of illness or disability (e.g. slightly spastic, etc.), at least two persons are required to secure the wheelchair on both sides by taking hold of fixed parts of the frame.
-  If an additional anti-tipping device has been attached, it must be removed. You should note that you are not protected against tipping backwards.
-  Check that the back unit is fixed properly.
-  When being transported, make sure that your arms and legs do not protrude outside the wheelchair.
-  When being transported, no persons or objects should be below the wheelchair, to prevent personal injury or damage to the wheelchair.


TRANSPORTING BY CAR

Inside a vehicle you should make sure that the wheelchair is properly secured by the available safety belt systems (original or special). In addition, you yourself must be secured inside your wheelchair by means of a suitable safety belt system.

-  Make sure that the wheelchair is fastened by fixed parts of the frame only.
-  Check that the wheelchair cannot slide in any direction.
-  Engage all parking brakes in addition to the electromagnetic brake of the wheelchair.
-  Loose parts taken from the wheelchair must be stowed securely.

For transportation by public vehicles for disabled persons you should request information from the organization concerned about compliance with the currently applicable prescriptions and norms for such transport.

For transportation in other vehicles (airplanes, buses, ships, trams, trains, etc.), consult the operator concerned about whether you and your wheelchair could be safely transported according to the relevant rules and norms.

-  We do not accept any liability for damage and/or injuries resulting from transportation by third parties. Transportation occurs at your own risk.

If you have further questions about transportation, kindly consult your specialist dealer. He shall gladly assist you further.

MOVING OVER RAMPS

If you consider ramps for overcoming an obstacle, please note the following:

For your own safety you should drive on ramps at the slowest possible speed.

If another person is pushing you, note that the large weight of the electric wheelchair exerts appreciable reverse forces.

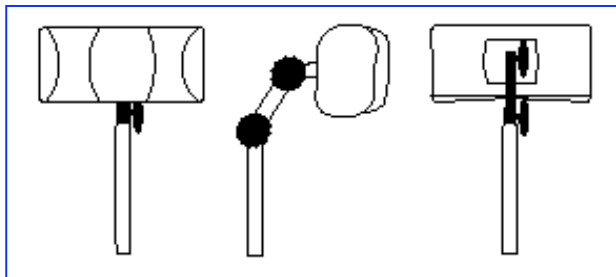
If the force exerted by the person pushing the wheelchair is insufficient, engage the motors immediately to ensure the safety of the wheelchair.

- ⚠ Observe the instructions concerning the maximum load of the ramps used.
- ⚠ Fasten the safety belt of your wheelchair.
- ⚠ We do not accept any liability for damage caused by an improper choice of ramps.

ACCESSORIES

● INDIVIDUAL HEADREST (L55)

The standard back unit can be extended by an individually adjustable cushioned headrest that can be set in different positions by means of sprocket gearing (see the figure).



The receptacle screwed in the upper third of the back, can be fixed to the center of the back for inserting the headrest. The height of the headrest can be adjusted and then tightened at the desired height.

- ⚠ A secure position is obtained when the headrest is fixed at least ca. 6 cm above the lower end of the tubing.

The depth of the headrest can be adjusted by slightly loosening the adjusting screws to allow movement of the sprocket gears. Now you can adjust the headrest to your needs and secure it by retightening the adjusting screws. If the adjusted position is not satisfactory, repeat the process.

- ⚠ Ensure that the back of your head is supported when relaxed in an upright sitting position.
- ⚠ Before using the headrest all fixing screws must be tightened properly, since injuries might result when it slips downwards unintentionally.

You can secure your head against tipping sideways by lightly pressing the side panels of the headrest inwards and to the front.

- ⚠ Do not exert too much pressure on the side panels otherwise bruising may result.
- ⚠ Do not clap the side panels together violently, otherwise they might break off, causing possible injury as well as loss of function.

Structural alterations of the headrest would void any warranty.

● LEG SUPPORTS

If the supplied leg supports do not correspond to your wishes, you might consider other leg supporting systems. Since the footrests are standardized, other foot supports supplied by us can be attached.

Kindly consult your specialist dealer if you have questions about other footrest systems; he shall gladly advise you about the indication and function of our available foot supports.

- PERSONAL SAFETY BELT (B58)

For your security we offer a safety belt that can be fastened by means of a spring lock (like those found in automobiles). To attach this, you have to unscrew the backrest from the backframe, pull the loops of the safety belt over the rods of the back, retighten the backrest making sure that the loops of the safety belt lie between the two back supports.

- ⚠ You should let your specialist dealer do this work to ensure the validity of the warranty.
- ⚠ After replacing the back, all screws have to be retightened properly.

Please consult your specialist dealer if you require other safety belt systems.
He shall gladly assist you further.

- ANTI-TIPPING DEVICE (B78)

For your safety you could attach an anti-tipping device that will prevent toppling completely over backwards when the wheelchair tips unintentionally.

- ⚠ Before driving off, always make sure that the tipping protector is inserted on both sides and securely fastened.
- ⚠ Always, before driving off, ascertain that the tipping protector is mounted in such a way that its rollers bear on the ground to prevent toppling further over backwards in the event of unintentional tipping.

FOR YOUR SAFETY

We now give some important hints that you should observe for your own safety:

- ⚠ Take care that no objects and/or body parts are caught in the spokes of the driving wheels; injury and/or damage might result.
- ⚠ Do not step on the footplates when entering or leaving the wheelchair. The footplates must be folded up beforehand, or the leg supports should be swung outwards out of the way.
- ⚠ Investigate the effects of shifting the center of gravity on the behavior of the wheelchair for example on up or down gradients, on laterally sloping ground, or when overcoming obstacles.
- ⚠ If you want to pick up something (lying in front of, on the side, or to the rear of the wheelchair), you should not lean too far out to avoid tipping over because of the displacement of the center of gravity.
- ⚠ Only use your wheelchair according to regulations. For example, avoid driving at full speed against an obstacle (step, edge of the kerb) or jumping down from a landing or a ledge.
- ⚠ Stairs may only be negotiated when aided by another person. If furnishings like drive-on ramps or lifts are available, use them.
- ⚠ Make sure that the wheels are high enough and that the tyre pressure is correct.
- ⚠ Obey traffic regulations when driving on public roads.
- ⚠ When driving your wheelchair, you should not be under the influence of alcohol or medicine as in the case of driving other vehicles. This also applies to indoor driving.
- ⚠ When driving outdoors, adapt your driving behavior to the prevailing weather and road conditions.
- ⚠ For the purpose of improved visibility you should wear the brightest possible clothes when it is dark, or clothes with reflectors.
- ⚠ Be careful when using fire, especially burning cigarettes; seat and back covers might be ignited.
- ⚠ Make sure that the maximum load (90 kg) is not exceeded.

SERVICING

Like any other technical product your electric wheelchair also requires servicing. The steps to be taken to fully enjoy the advantages of your wheelchair even after protracted use, are described below.

- **BEFORE DRIVING**
 - Check the tyres for visible damage and/or soiling.
Remove the dirt since it could impair the functioning of the parking brakes.
When a tyre is damaged, you should approach an authorized workshop for repairs (also refer to the Section "Tyre changing").
 - Before driving off, check the efficiency of the parking brakes. If they have become dysfunctional, kindly consult your specialist dealer (also refer to the Section "Brakes").
 - Check the pressure of the tyres and inflate them if necessary (also refer to the sections "Tyre changing" / "Technical details").
 - Make sure that all screws are tightened properly.
 - By pressing the start button, check whether the charging condition of the batteries is sufficient for the intended journey.
- **Approx. EVERY 8 WEEKS**
 - Depending on the frequency of use lubricate the following parts lightly:
 - ① Ball bearings (externally)
 - ② Bearing of the brake lever (parking brake)
 - ③ Movable parts of the footrests
- **Approx. EVERY 6 MONTHS**
 - Depending on the frequency of use check the following:
 - ① Cleanness
 - ② General condition
 - ③ Operation of the steering wheels
If the rotation resistance is too large, clean the bearings of the steering wheels. If this is insufficient, kindly consult your specialist dealer.

INSPECTION

In principle we recommend annual inspections, but at least before usage is resumed. The following minimum checks must be performed and documented by authorized persons:

- Check the cabling (especially for: crushing, abrasion, cuts, visible insulation of the inner conductor, visible metallic veins, kinks, lumpiness, color changes of the outer sleeve, brittle spots)
- Check the frame for plastic deformation and/or wear and tear (bottom frame, seat frame, back frame, lateral parts, leg supports, motor suspensions)
- Electric leads to be securely placed to avoid shearing, crushing and other mechanical stresses and strains.
- Visually check all housings for damage, screws must be securely fixed, seals and gaskets should not exhibit visible damage.
- Measure the resistance of the protective braid (O) according to VDE 0751-1
- Measure the residual diversion current (A) according to VDE 0751-1
- Measure the insulation resistance (MO) according to VDE 0751-1
- Check the functioning of the armrests and leg supports (locking, load, deformation, wear and tear caused by loads)

- Check the functioning of the drives (during a test drive → noises, speed, free running, etc.), powering down (e.g. current limiting, final switch); if necessary: Measure the performance, first with no load, and then with the nominal load ("SWL") to investigate the wear and tear of the motors by comparing the values of the electric current with the values when the wheelchair was delivered.
- Check the condition of the batteries, covers, tubes, and tyres.

Checking measurements may only be carried out by skilled persons trained on the wheelchair at least under the supervision of an electrician who knows the checking instruments and processes. Only an electrician will be able to release the electric wheelchair for use after successful checking measurements or servicing.

The service must only be confirmed in the service plan when at least the above-mentioned aspects have been checked. If your specialist dealer does not perform the required services, then contact the manufacturer. We shall gladly refer you to authorized specialist dealers in your area.

Service checklists can be obtained under 0211/942790 or e-mail: vermeiren-deutschland@t-online.de

The manufacturer does not accept any liability for damage caused by inadequate or improper servicing.

CARE

Your electric wheelchair requires regular care to keep it in a visually attractive condition. Note the following hints:

● COVERS

Clean the artificial leather covers with warm water. You can remove stubborn dirt by washing with a mild commercial detergent. Stains can be removed by using a sponge or a soft brush. The textile cover is washable; use only a cloth moistened by a mild commercial detergent.



Do not use strong cleaning liquids like solvents, nor use hard brushes.



We do not accept liability for damage caused by the use of improper cleaning liquids.



Take care that you do not soak the covers.



Steam cleaning is not suitable for these covers. If steam is used, your guarantee is voided.

● PLASTIC PARTS

Clean all plastic parts of your wheelchair with commercial plastic cleaners. Take note of special product information.

● SURFACE LAYERS

The high quality of the surface layers guarantees optimal protection against corrosion. If the outer layer has been damaged by scratches or otherwise, you can protect the area by applying varnish obtainable from your specialist dealer. Lubricate the moving parts occasionally (see the section on servicing). This would ensure that you enjoy using your wheelchair for a long time.

Initially the chrome parts only require rubbing with a dry cloth. Dull places or stubborn dirt should be treated with a suitable chrome polish.

If steel parts are lightly greased with Vaseline premature dulling of the chrome can be avoided.



To guarantee the long-term preservation of your wheelchair, we recommend that you take it once a year to your specialist dealer for inspection. These inspections can be confirmed in the "Service plan" section.



The manufacturer does not accept liability for damage/injury caused by inadequate servicing and care.

● ELECTRONICS

Wipe the steering unit with a cloth moistened by a few drops of a commercial domestic cleaner. Do not use any abrasives or sharp-edged polishing equipment like a metal scrubber or brush since these can scratch the surface of the steering unit and destroy its water repelling properties.




-  Regularly check the plug connectors for corrosion or damage since it could affect the efficiency of the electronics.
-  Make sure that the batteries are disconnected from the electronic unit before cleaning and servicing to prevent unwanted currents.

DISINFECTION

Your wheelchair must only be disinfected by a professional hygienist or someone appointed by him.

All parts of the wheelchair can be treated with a disinfectant cloth. In principle all surfaces of a system or a product have to be disinfected before passing it on to another user, or when it is known that the user carries an infective vector. In these cases the measures of the federal law on epidemics have to be considered.

Disinfective substances may only be applied by authorized professional staff trained in the functioning and application of disinfectives.

-  Wear suitable protective clothing because the disinfectants can irritate the skin on contact. For this purpose you should also take note of the product information of the solutions concerned.
-  Unauthorized persons are employed at your own risk.
-  No liability is accepted by the manufacturer of the wheelchair for damage and injury caused by the improper handling of disinfectants.

We recommend the following disinfectants for scrubbing (based on the list of the Robert Koch Institute, RKI):

Table 1 – Disinfection in the case of clothing, scrubbing, excretions

Active substance	Name	Clothing disinfection		Scrubbing disinfection		Disinfection of excretions 1 part sputum or stools + 2 parts diluted solution or 1 part urine + 1 part diluted solution			Effective range	Manufacturer or supplier			
		%Gebrauchsverdünnung	Einwirkungszeit Std.	%Gebrauchsverdünnung	Einwirkungszeit Std.	Sputum	Stools	Urine					
	Headings in this row: Gebrauchsverdünnung = diluted solution Einwirkungszeit = effective time Std. = hours												
Phenol or phenol derivatives	Amocid	1	12	5	6	5	4	5	6	5	2	A	Lysoform Bode Chemie Schülke & Mayer Braun Melsungen Merz Henkel
	Bacillotox	1	12	6	4	5	4	5	6	5	2	A	
	Gevisol	0,5	12	5	4	5	4	5	6	5	2	A	
	Helipur			6	4	6	4	6	6	6	2	A	
	m-Kresolseifenlösung	1	12	5	4							A	
	DAB 6											A	
	Mucocit-F 2000	1	12									A	
Phenol	1	12	3	2							A		
Velicin forte					5	4	5	6			A		

Formaldehyde and/or other aldehydes or derivatives	Aldasan 2000			4	4				AB	Lysoform
	Antiseptica Flächen-desinfektion 7			3	6				AB	Antiseptica
	Aldospray-Konz.			3	4				AB	Lysoform
	Apesin AP 30			5	4				A	Tana Chemie
	Bacillocid Spezial			6	4				AB	Bode Chemie
	Buraton 10 F			3	4				AB	Schülke & Mayr
	Desomed A 2000			3	6				AB	Desomed
	Divosept DR 75			8	6				AB	DiverseyLever
	Desinfektionsreiniger Hospital			8	6				AB	Dreiturm
	Fink-Antisept B			8	6				AB	Fink
	Formaldehyd-Lösung DAB 10 (Formalin)	1,5	12	3	4				AB	
	Haka-Flächen-desinfektion FD N			3	6				AB	Hakawerk
	Herold-Dessan			3	6				AB	Franken-Chemie
	Howalin			8	6				AB	Howa
	Incidin perfekt	1	12	3	4				AB	Henkel
	Kohrsolin	2	12	3	4				AB	Bode Chemie
	Lyso FD 10			3	4				AB	Schülke & Mayr
	Lysoform	4	12	5	6				AB	Lysoform
	Lysoformin	3	12	5	6				AB	Lysoform
	Lysoformin 2000			4	6				AB	Lysoform
	Melsept	2	12	4	6				AB	Braun Meldungen
	Melsitt	4	12	10	4				AB	Braun Melsungen
	Minutil	2	12	6	4				AB	Henkel
	Mucocit R			8	6				AB	Merz
	Multidor			3	6				AB	Henkel
	Nüscosept			5	4				AB	Dr. Nüsken Chemie
	Prusept-FD			7	4				AB	Merz
	Ultrasol F	3	12	5	4				AB	Fresenius
Ultrasol S	3	12	5	4				AB	Fresenius	
Weigosept DF			4	4				AB	Dr. Weigert	
Amphotensid	Herold Desinfektionsmittel	2	12						A	Franken-Chemie
	Tensodur 103	2	12						A	MFH „Marienfelde“
Alkaline solution	Lime-wash					20	6		A ¹ B	
Organic or inorganic Substances with active chlorine	Chloramin-T DAB 9	1,5	12	2,5	2	5	4		A ¹ B	
	Clorina	1,5	12	2,5	2	5	4		A ¹ B	Lysoform
	Trichlorol	2	12	3	2	6	4		A ¹ B	Lysoform
Per compounds	Apesin AP 100 ²			4	4				AB	Tana Chemie
	Dismozon pur ²			4	1				AB	Bode Chemie
	Perform ²			3	4				AB	Schülke & Mayr
	Wofasteril ²			2	4				AB	Kesla Pharma

1 Not effective against myco-bacteria when scrubbing, especially in the presence of blood

2 Not suitable for disinfecting blood-contaminated or porous surfaces (e.g. raw wood).

3 Useless for tuberculosis; preparation of lime-wash: 1 part dissolved lime (calcium hydroxide) + 3 parts water.

A: suitable for killing vegetative bacterial germs including myco-bacteria as well as fungi, including fungal spores.

B: suitable for deactivating viruses.

The current state of the disinfectants included in the RKI list can be ascertained at the Robert Koch Institute (Home page: www.rki.de).

All steps taken for disinfecting rehabilitation equipment and their components or other accessory parts, are recorded in a disinfection report which contains at least the following information with product documentation appended:

Table 2 – Sample disinfection report

Date of the disinfection	Reason	Specification	Substance and concentration	Signature

Abbreviations used in column 2 (reason):

V = suspected infection IF = infection case W = repetition I = inspection

Kindly consult your specialist dealer if you have further queries about disinfection; he will gladly assist you.

- ⚠ Disinfectants should only be applied by authorized professional staff (hygienist or someone appointed by him) who are trained in the functioning and application of disinfectants.
- ⚠ Wear suitable protective gloves because disinfectants can irritate the skin on contact. For this purpose you should also take note of the product information of the solutions concerned.
- ⚠ Unauthorized persons are employed at your own risk.
- ⚠ No liability is accepted by the manufacturer of the wheelchair for damage and injury caused by the improper handling of disinfectants.

Kindly consult your specialist dealer if you have further queries about disinfection;
he will gladly help you.

GUARANTEE

Defects must be reported in writing within eight days. For defective processing or material faults occurring later, we accept liability proportional to the warranty period of the product group concerned, calculated from the specified date.

- Electric wheelchairs: 12 months (frame only)
- (...)

Excluded from the guarantee:

- Damage caused by structural changes to our products
- Worn parts
- Damage caused by the product or its user
- Damage caused by external influences
- Damage caused by not using genuine parts

When defects are determined that are covered by the liability, the purchaser may not change the sales contract by reducing the purchase price on his own, or by not fulfilling the contract.

STATEMENT OF CONFORMITY

The manufacturer or his authorized representative:

N.V. VERMEIREN and Company

Address:

Vermeirenplein 1/15, B-2920 Kalmthout (Belgium)

declares that

all electronic wheelchairs, model EXPRESS 2000

are made in full compliance with the following European guidelines -- including the latest changes -- and with the national laws formulating these guidelines:

MDD 93/42/EWG (Medical products)

and that the following harmonized European standards are complied with:

EN 1041, EN 1441, EN 12182, EN 12184

Date : 11 September 2001

Place: Kalmthout (Belgium)

Signature:

Name: M. Van Herck

FAULT ANALYSIS

Flash codes indicate the nature of an abnormal condition directly from the SHARK Information Gauge. Without the use of any servicing tools, the condition can simply be diagnosed.

Flash Code	Description	
1.	User fault	Possible stall time out error. Release the joystick to neutral and try again.
2.	Battery fault	Check the batteries and cabling. Try charging the batteries. Batteries may require replacing.
3.	Left motor fault	Check the left motor, connections and cabling.
4.	Right motor fault	Check the right motor, connections and cabling.
5.	Left park brake fault	Check the left park brake, connections and cabling
6.	Right park brake fault	Check the right park brake, connections and cabling
7.	Shark control unit fault	Check the Shark communications bus, connections and wiring. Replace the control unit.
8.	Shark power module fault	Check the Shark connections and wiring. Replace the power module.
9.	Shark communications fault	Check the Shark connections and wiring. Replace the Shark control unit.
10.	Unknown fault	Check all connections and wiring. Consult a service agent.
11.	Incompatible control unit	Wrong type of control unit connected. Ensure the branding of the power module Matches that of the control unit.

SERVICE PLAN

The electric wheelchair was serviced:

Dealer's stamp

Date :

Dealer's stamp

Date :

Dealer's stamp:

Date:

Dealer's stamp:

Date:

Dealer's stamp:

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Dealer's stamp:

Date:

Service checklists for specialist dealers can be obtained under 0211/942790
or e-mail: vermeiren-deutschland@t-online.de

ADDRESSES

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