FUTURE
MOBILITY HEALTHCARE INC.

730 REV09 REV DATE: 09-02-2014

EXPLORER

USER MANUAL

CONTENTS

1 General

NOTICE: Information contained within this document is subject to change without notice.

WARNING: DO NOT install this equipment without first reading and understanding this instruction booklet. If you are unable to understand these instructions, contact a healthcare professional, dealer or technical personnel before attempting to install this equipment - otherwise, injury or damage may occur.

NOTE: Check all parts for shipping damages before using. In case of damage, **DO NOT** use the equipment.
Contact the Equipment Supplier for further instructions.

Important Safety Precautions

Your safety is very important. A power wheelchair can be dangerous if used improperly or under the wrong conditions. Please always follow the safety precautions listed below.

Safety requires constant attention and it is very important to learn and always use safe methods of performing basic daily activities. Always consult health care professionals to determine those methods most suitable for your individual abilities.

Warning! **The maximum user weight for this wheelchair is 136 kg (300 lbs). Do not exceed this maximum value.**

Warning! **Do not operate this wheelchair on public roads or highways, hilly or rough terrain, or wet or icy surfaces.**

Warning! **Do not attempt to go up, go down, or traverse ramps of more than 9 degrees (15% grade, or one foot rise in six).**

Warning! **THIS WHEELCHAIR HAS NOT BEEN APPROVED AS A SEAT IN A MOTORVEHICLE. Always transfer to an approved vehicle seat, and use the provided motor vehicle restraints when in a motor vehicle.**

Comment [SS1]:

Warning!	**Always turn the wheelchair power OFF before transferring. This ensures that the incidental contact with the joystick during transfers does not move the wheelchair.**
Warning!	**Do not stand or step on the footboard or footrests when transferring to or from the wheelchair as this could cause the wheelchair to shift or tip.**
Warning!	**If you are reaching for an object, do not shift your weight or seat position in the direction you are reaching as this could cause the wheelchair to shift or tip.**
Warning!	**Do not tow or "piggyback" passengers or heavy packages. This will compromise the safety and performance of Explorer Magellan.**
Warning!	**Controller programs or settings should only be made by healthcare professionals or by persons fully conversant with this process, the driver's capabilities, and the environment in which Explorer Magellan is to be used.**
Warning!	**Do not connect accessories to the batteries. This will decrease driving range and shorten battery life. Do not connect ANYTHING to a single battery. This will cause premature battery failure.**
Warning!	**Only use Future Mobility Healthcare authorized parts and accessories.**

Features

FEATURES

- Full suspension base with front and rear shocks
- Designed for two – 12 volt 22NF batteries
- PGDT VR2 controller with joystick and 4A charger on board
- Standard seating system consisting of: solid seatpan, Orion back and Prism Ideal cushion
- 2 pole right angle motors
- Seat width can increase from 16" to 20" or 20" to 24" as well as seat depth can increase from 17" to 20" without the need of changing frame members.
- Arm heights: 9-3/4" – 12-3/4" (adjustable)
- Angle adjustable back (87° to 110°)
- 70/80 degree pinstyle front riggings or one piece footboard
- Fixed headrest with foam pad Composite footplates
- Heel loops front and rear transit hooks (optional)
- Range per charge: 13.4 miles (21.6km)
- Shroud colors: black, blue, green, red

SPECIFICATIONS

- Seat Width: 16" – 24"
- Seat Depth: 17" – 20"
- Seat Width (including joystick): 22-1/4" – 301/4"
- Base Width: 24-1/4"
- Length with Footboard in Use: 37"
- Length with Swingaway Footrests in Use: 40" to 45" (3)
- Height: 40" to 45"(3)
- Seat to Floor: 17" to 19"
- Weight (with batteries): 208lbs
- Weight (without batteries): 132 lbs
- Drive Wheels: 12-1/2" x 2-1/4" pneumatic or airless
- Casters: 6" x 2" semi-pneumatic
- Arm Style: Full length adjustable height flip back (vinyl or multi position foam)
- Front Riggings: One piece flip-up footboard, pin style, swingaway or elevating legrests
- Weight Capacity: 300lbs (136kgs)
- Maximum Speed: 4.3mph (7km/h)
- Ground Clearance: 3" (7.6cm)
- Turning Radius: 20.3" (52cm)

- Frame Colours: Black

Maintenance and Troubleshooting

Maintenance.

Explorer Magellan has been designed as a simple, robust product and if you are able to take good care of it, it will reward you with many years of dependable performance. There is not a separate service manual for Explorer Magellan. If you feel any part of your power chair is not performing as it should, please contact your Future Mobility Healthcare dealer as soon as possible. They will quickly be able to diagnose the problem and perform any service or repairs necessary.

Do-it-yourself maintenance.

If you have a mechanical aptitude and a few simple tools you will probably be able to do many of the scheduled maintenance tasks yourself. Please refer to the schedule below and if any of the tasks are unclear please contact your Future Mobility Healthcare dealer for assistance.

Task	Daily	Weekly	Monthly	3 months	6 months
Charge batteries	*				
Check joystick		*			
Check tire pressure & wear			*		
Clean base frame			*		

Check arms			*		
Clean & check upholstery			*		
Check cables and connectors.				*	
Clean batteries and terminals				*	
Check caster socket rotation				*	
Inspect motor brushes					*

Charge batteries.
Charge the batteries daily. This will greatly increase their life and also prevent a number of potential problems that could result in the poor performance of your power chair. The charger is designed to prevent battery over-charging. No tools required.

Check joystick.
Check the operation of the integrated joystick/control module every week. With the power turned OFF check that the joystick is not bent or damaged, and that it returns to the neutral (central) position when it is released. Check the rubber protective boot around the joystick for damage or tears. A visual check is sufficient. Please handle the boot as little as possible. There are no serviceable parts in the integrated joystick/control module. If you are experiencing any problems with this component, it is very important to contact your dealer. No tools required.

Check tire pressures and wear.

Please examine both the drive wheel tires and caster wheel tires on your Explorer Magellan every month. Both airless and pneumatic tires should be checked for wear and to confirm mechanical integrity. Pneumatic tires should be checked for proper pressure (30 psi is recommended). A standard automobile or bicycle air-pressure gauge may be used. Never exceed the pressure specified on the sidewall of the tire. When inflating tires, use a

hand or foot-powered pump, or a regulated air supply, and do not exceed the recommended pressure of 30 psi. Tools required: air-pressure gauge, regulated air supply.

Warning!	**Do not over-inflate pneumatic tires. Over-inflation of tires can result in a burst tube, with a risk of personal injury or damage to the wheelchair.**

Clean base frame.

A soft cloth may be used to clean the base, wheels and plastic components. Keeping the base clean will prevent the buildup of dust and moisture, which could result in poor performance or premature wear of components. The soft cloth may be dry, or dampened with a mild soap and water solution. Do not use abrasives on your Explorer Magellan. Tools required: soft cloth, mild soap, water.

Check arms.

Please inspect the arms for damage and for proper operation every four weeks. Ensure that the arm will lock in each of the arm heights and that it flips back and returns to the vertical position as intended. Ensure that the arm pad and controller mounting are secure. No tools required.

Check & clean upholstery.
Check upholstery at least once every month. Inspect for tears and worn areas. At the same time as this inspection, it is recommended that the upholstery be cleaned with a mild soap and water solution. Tools required: soft cloth, mild soap, water.
The cover is designed to protect the foam against a user's incontinence and to provide fire retardency, so the PRISM Back's must not be used without their covers. If the cover is torn, it must be replaced.

Foam
If the PRISM Back foam becomes contaminated due to incontinence, the foam pad CAN be replaced independently. Foam can be purchased separately by ordering through Future Mobility Healthcare Customer Service.

Cables and connectors.
Please inspect all connectors once every three months to ensure that they are securely fastened. It is recommended that you **DO NOT** disconnect the cables, just ensure that the connections are secure. No tools required.

Clean batteries and terminals.
Clean both the batteries and their terminals every three months. This will ensure the integrity of the power supplied to the controller. Many of the failures reported on wheelchairs can be directly related to batteries and their connectors.

A wire brush or emery paper may be used to remove corrosive build-up around terminals. Caution must be used when working with batteries. If you do not feel comfortable with these activities, contact your Future Mobility healthcare dealer for assistance. Tools required: wire brush, emery paper, ½" wrench, protective gloves, eye protection, and face shield.

Warning!	**It is important that you do not allow any tools or conductive material to directly connect the two terminals of a battery. Do not wear watches or jewelry when working on batteries. If you are not confident in your ability to work with batteries, ask your dealer for assistance.**
Warning!	**Each battery weighs more than 14 kg. Be sure to use good body position and lifting techniques when loading and unloading batteries.**
Warning!	**Some battery components (posts, terminals, etc.) contain lead compounds. Always wash hands after handling, or wear protective gloves. Eye protection and face shield are also recommended when working with batteries.**

Troubleshooting

Symptom(s)	Scenarios and Solutions
Explorer Magellan will not turn on	1. Circuit breaker (white button) on rear battery assembly has tripped. Press the button in to reset it, and turn the chair on again. If the circuit breaker continues to trip, contact your dealer for assistance. 2. Not all connectors are attached properly. Check that all connectors are properly engaged and turn the chair on again. 3. Batteries have been discharged. Charge batteries completely. Remove charger plug from wall outlet when charging cycle is complete, stow cable, and turn the chair on again.
Explorer Magellan will not drive.	1. Controller shows that unit is powered, but Explorer Magellan will not drive. When joystick is moved, motors click as parking brake disengages, but wheels do not turn. Check the position of the freewheeling levers. In order to control Explorer Magellan with the joystick, the free wheel levers on the top of the fenders must point towards the rear of the wheelchair. 2. Explorer Magellan is plugged into wall outlet for charging. A safety 'inhibit' line is included on Explorer Magellan to stop it from driving when it is plugged into a wall socket. 3. Controller lights are flashing. Consult controller manual for fault code information.

Explorer Magellan turns in a complete circle but will not drive straight.	1. One of the freewheeling levers is in the position that disengages its motor. Turn the wheelchair off. Inspect the freewheel levers on the top of the fenders. Turn them until they both point towards the rear of the wheelchair. Turn Explorer Magellan on and try again.
Explorer Magellan is charging but I cannot drive it with the joystick.	1. The battery charger is not properly connected at the front of Explorer Magellan. Remove the fabric cover from its hook and loop mounts at the front of Explorer Magellan. 2. If the Explorer Magellan can still drive, ensure that the connection between the battery charger and the extension cable is secure. Try the joystick again. 3. If the Explorer Magellan cannot still drive, please contact your dealer. 4. If the Explorer Magellan can no longer drive and the battery charger lights indicate proper charging, the connection has been secured. It is possible to use a tie wrap to hold the charger cable in place so that the connector cannot loosen itself.
When reinstalling batteries in their compartment, the retention plate will not close properly.	1. Ensure that the batteries have been reinstalled in Explorer Magellan in the correct order. The front battery should be oriented so its black connector is near the front of Explorer Magellan, and the rear battery should be oriented so its white circuit breaker button is facing the rear of the chair. 2. Ensure that the black connector from the front battery is routed out of the battery compartment, and into its socket in the controller connector at the front of Explorer Magellan. If this connector is stuck inside the battery compartment, it can be responsible for shifting the batteries rearward, and preventing the battery retention plate from closing properly. 3. Ensure that the cables on the red connectors from the battery lids are not

	caught on the battery retention bushings. Clear any snags, confirm the connections, push the batteries fully forward, and try again.

2 Electrical and Magnetic Interference

Electro Magnetic Interference from Radio Wave Sources

Power wheelchairs may be susceptible to electromagnetic interference (EMI), which is interfering electromagnetic (EM) energy emitted from sources such as radio stations, TV stations, amateur radio (HAM) transmitters, two-way radios, and cellular telephones. The interference (from radio wave sources) can cause a powered wheelchair to release its brakes, move by itself, or move in unintended directions. It can also permanently damage a powered wheelchair's control system. The intensity of the interfering EM energy can be measured in volts per meter (V/m). Each powered wheelchair can resist EMI up to 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 powered wheelchair model as shipped, with a VR2 PG Drives Technology controller, 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 taking into account the warnings that follow, your risk to EMI exposure 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-talkies", security, fire, and police transceivers, cellular telephones, and other personal communication devices.
NOTE: Some cellular telephones and similar devices transmit signals while they are on, even when not being used.

Medium-range mobile transceivers are those that are 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 are those that are used in commercial broadcast transmitters (radio and TV broadcast antenna towers) and amateur (HAM) radios.

NOTE: Other types of hand-held devices, such as cordless phones, laptop computers, AM/FM radios, TV sets, CD players, 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 wheelchair.

Power Wheel Chair Electromagnetic Interference

Since 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 a powered wheelchair's control system while using these devices. This can affect powered wheelchair movement and braking. Therefore, the warnings that follow are recommended to prevent possible interference with the control system of the powered wheelchair.

EMI Warnings

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

Important Information.

1. Twenty (20) volts per meter (V/m) is a generally achievable and useful immunity level against EMI (the higher the level the greater the protection).
2. The immunity level of this product is 20 V/m.

Warning!	**Do not operate hand-held transceivers (transmitters-receivers), such as citizens' band (CB) radios, or turn on personal communication devices, such as cellular telephones, while the powered wheelchair is turned on.**
Warning!	**Be aware of nearby transmitters, such as radio or TV stations, and try to avoid coming close to them.**
Warning!	**If unintended movement or brake release occurs, turn the powered wheelchair off as soon as it is safe to do so.**
Warning!	**Be aware that adding accessories or components, or modifying the powered wheelchair, may make it more susceptible to EMI (NOTE: There is no easy way to evaluate their effect on the overall immunity of the powered wheelchair.)**
Warning!	**Report all incidents of unintended movement or brake release to Future Mobility Healthcare Inc., and note whether there is a source of EMI nearby.**

3 Movement and Controls

Explorer Magellan is designed to provide independence in mobility. It offers a balance between comfort, maneuverability, speed and power. Moving and maneuvering the Magellan is easy and is discussed below.

When moving or storing an unoccupied Explorer Magellan, it is sometimes useful to be able to roll the unit without using the joystick and motors. This condition is known as 'Freewheeling', and is achieved by rotating mechanical drive-release levers through 90 degrees. These levers are located on the top of each motor gearbox, at the front of Explorer Magellan under the seat. The freewheeling levers are turned by hand.

NOTE: In freewheeling mode, the motors are disengaged, the parking brakes do not operate, and the joystick is unable to steer Explorer Magellan. For these reasons, it is clear that an occupied Explorer Magellan should NEVER be in freewheel mode.

Energy is supplied by two Group 22NF batteries, which are individually packaged and accessed from the rear of the chair. Proper use of Explorer Magellan includes charging the batteries nightly.
The drive system consists of two independent drive motor/wheel units and a control module with a joystick. The motors operate in both the forward and reverse directions. Motor speed and direction are both controlled by the joystick. Moving the joystick forward (towards the front of the chair) causes the wheelchair to move forward. The

farther forward the joystick is moved, the faster Explorer Magellan will move. (The maximum speed possible is approximately 7 km/h.). Moving the joystick back will cause the chair to travel in reverse. Reverse speed is always

less than forward speed. When the joystick is moved to the right, the chair will turn to the right; when the joystick is moved to the left, the chair will turn to the left. When the joystick is returned to the center (neutral) position, (it will do this automatically when it is released) the control system will bring the wheelchair to a smooth stop. Upon stopping, electromechanical disc brakes will engage to prevent Explorer Magellan from rolling. This is indicated by an audible 'click' from each motor. Work with your mobility device provider to ensure that speeds and controller responses are programmed to your driving abilities and style.

User Interface.

Explorer Magellan's controller has been designed to be both accessible and comfortable. The user has control over power on/off, speed, direction and maximum speed limit. In addition, the user is constantly notified of the battery charge level and, should they occur, system faults.

Joystick.

The controller incorporates an ergonomically designed joystick for enhanced comfort and control. The palm rest behind the joystick provides support and aids precise movement of the joystick.

Control System

Magellan Explorer comes with the options of two available control system joysticks. See next page.

VR2 (standard joystick controller)

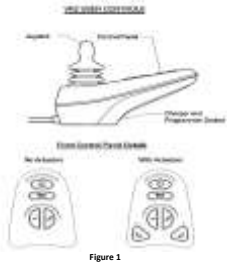

Figure 1

Visit http://www.futuremobility.ca/explorer-magellan-p-14.html to refer to VR2 operations manual for more information.

R-NET (Optional - joystick controller with LCD screen)

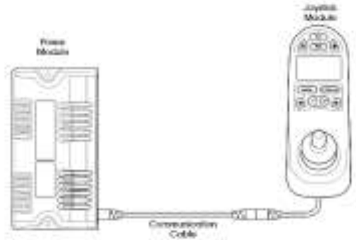

Figure 2

Visit http://www.futuremobility.ca/explorer-magellan-p-14.html to refer to R-NET operations manual for more information.

4 Handling

Explorer Magellan has been designed as a small and very stable power chair. If used improperly, however, there is always the risk of accident or injury. FMH strongly recommends that you learn the characteristics of your wheelchair and safe methods to perform the daily activities of your lifestyle in a controlled environment. Always use common sense and good judgment when using Explorer Magellan.

Please consult healthcare professionals for advice and assistance to develop the skills and techniques you need to safely use Explorer Magellan. Proper balance is the key to maintaining the stability of Explorer Magellan. Reaching, bending, and transferring to or from the chair will change the weight distribution and center of gravity of both yourself and Explorer Magellan.

Transfer activities.

Transferring into or out of a wheelchair is a very difficult maneuver and extreme care must be taken when transferring without the aid of an attendant. Please make sure that the wheelchair is stabilized, and will not move during your transfer. Take extra care to prevent tipping and use good body mechanics to avoid personal injury.

Seek help for transferring the wheel chair. The wheel chair has an option of transit hooks to prevent the chair from moving during transit. Future Mobility recommends always using the transit hooks when in transit even when no occupant is on board to prevent damage to the chair and the vehicle. Transferring while patient is seated on the chair is difficult given the weight of the power chair alone is 208lbs with batteries. Ask for assistance to transfer

the chair. The batteries are heavy and to lift the chair would require more than 1 person to move it securely and smoothly.

Warning!	**Always ensure that the wheelchair is on a stable, level surface, is NOT in the freewheeling mode, and that the wheelchair power is off before transfer. Remember, the freewheeling mode disengages the motors and parking brakes, allowing the wheelchair to roll. This is not a safe condition for transfers.**
Warning!	**Do not step on the footboard or footrests when getting into or out of Explorer Magellan; this could cause Explorer Magellan to tip forward. When transferring, always fold the footboard up or swing the footrests away.**
Warning!	**There is a critical moment during transfer when there is little or no seat support beneath you. Please take every precaution to reduce this unsupported distance before you attempt to transfer into or out of the wheelchair.**

Reaching and Bending.

Position Explorer Magellan as close as possible to the object you wish to reach and reach only as far as your arm will extend without changing your sitting position. If in doubt, reposition Explorer Magellan or ask for assistance.

Warning!	**Do not attempt to reach objects if you are required to move forward in the seat. Do not attempt to retrieve objects from the floor if you must reach down between your knees. Do not shift your weight in the direction that you are reaching and/or bending as this could cause the wheelchair to tip.**
Warning!	**Do not lean over the back of the seat back as this could cause Explorer Magellan to tip.**
Warning!	**NEVER reach or bend while driving your powered wheelchair. These actions change the position of your center of gravity and can cause the wheelchair to become unstable or difficult to steer.**
Warning!	**NEVER allow your hands or feet near the wheels or other moving parts of the wheelchair. Personal injury or damage to Explorer Magellan may result.**

Ramps and Inclines.

Most people are capable of negotiating short inclines and declines using a power chair without assistance. Please understand your own capabilities and practice with an attendant or healthcare professional before attempting to negotiate an incline or decline independently. Always inspect the ramp for potential hazards such as holes,

slippery or uneven surfaces, etcetera, before starting up or down. If you cannot see the entire ramp, please ask someone to inspect it for you.
When ascending a ramp always face forward and lean the upper part of your body slightly forward, which will increase stability. If you have to stop on the incline, please avoid any abrupt or sudden forward movement as you resume climbing.

When descending a ramp always face forward and ensure that you are seated well towards the back of the seat. Please descend slowly and steadily, allowing Explorer Magellan's controller to maintain a slow safe speed

Warning!	**Drive straight up inclines. Driving at an angle or trying to traverse a slope may result in the wheelchair becoming unstable or difficult to steer.**
Warning!	**NEVER place the wheelchair in freewheel mode while on an angled surface. Freewheeling on a slope may allow the powered wheelchair to roll uncontrollably, causing personal injury or damage.**

Curbs and Steps.

Curbs, steps and stairs are dangerous obstacles that confront wheelchair users. When you encounter curbs, find a way around, or use the ramps now available in most locations. If you encounter steps and there is no ramp

available, do not drive up or down the steps. Avoid the steps by utilizing the designated elevators now required in most locations.

Warning! **Explorer Magellan is not designed to negotiate steps. Personal injury and damage to property will result.**

Warning! **Do not attempt to drive over curbs or obstacles. Doing so may cause your wheelchair to tip or move in an unanticipated direction causing personal injury or damage to the wheelchair. Explorer Magellan is not intended to climb or descend stairs or escalators.**

Warning! **It is extremely dangerous to move an occupied wheelchair up or down stairs by having attendants lift the wheelchair. Do not do this. The probability of injury to the user's and attendant's and property are very high. Use elevators provided at most locations.**

Range

A significant increase in range can be achieved by smooth driving with Explorer Magellan. Any time rapid acceleration or sharp, fast turns are used; a large amount of energy is consumed. If it is possible to accelerate slowly and to drive at a steady speed with few sharp turns, the range you will achieve from each battery charge will be greatly increased. This driving style will also increase the life of your batteries and the major drive components of Explorer Magellan.

Occupant's weight.

The maximum allowable occupant weight for Explorer Magellan is 300 lbs (136 kg). Explorer Magellan has been designed for stability and reliability with this maximum load. Safety and performance are compromised when this value is exceeded. Additional passengers and heavy packages are **not** to be transported on Explorer Magellan.

General Operating Instructions.

1. Please charge the batteries fully before use. Nightly charging is encouraged.
2. Ensure that the drive wheels are ENGAGED by turning the free wheel levers so they point towards DRIVE.
3. Adjust the speed control to low.
4. With the joystick in neutral, switch the wheelchair power ON
5. Move the joystick gently in the direction you wish to travel. If a higher speed is required adjust the speed control knob.
6. To stop the wheelchair, release the joystick and allow it to return to the neutral position. The controller will bring Explorer Magellan to a smooth stop. Almost immediately, a click will be heard, indicating the automatic application of the electromechanical disc brakes.

5 Batteries

Warning! **We know that you are excited to start using your Explorer Magellan, but in order to have healthy batteries that have a long life, the batteries must be FULLY charged before initial use.**

Battery

Batteries are the single largest contributor to the safe and reliable performance of Explorer Magellan over its lifetime. If you are able to properly service and maintain your batteries, many of the potential problems with any power chair will be eliminated.

Even with proper maintenance, your batteries will need to be replaced periodically. As batteries age, their ability to hold a charge decreases, making old batteries discharge much more quickly than new ones under the same driving conditions. The result is a decrease in the distance the wheelchair can travel before batteries need to be charged, which can often be misinterpreted as a problem with the wheelchair control/drive system. Properly maintained batteries may be expected to last approximately 9 to 18 months, depending upon the level of use.

Explorer Magellan uses two Group 22NF batteries, which have an average capacity of approximately 55 amp hours if discharged over a twenty-hour period. Only deep cycle gel cell or sealed lead-acid batteries should be used with Explorer Magellan.

Guidelines to extend battery life.

1. Charge the batteries fully before using them for the first time.
2. Limit the use of new batteries for the first ten (10) discharge/charge cycles. Avoid discharging the batteries deeply, i.e. no more than four LED should be unlit on the BDI.
3. Use the appropriate battery charger (supplied with Explorer Magellan). Using a charger provided with other equipment, or a charger designed for unsealed batteries will damage the batteries and shorten their life.
4. Recharge the batteries fully after every discharge. Leaving batteries partially discharged for several days is not recommended as this could limit the amount of future charge they are capable of holding.
5. It is always best to allow the charger to finish its charge cycle once started. This will help prevent deeply discharging the batteries. Batteries used on wheelchairs do not exhibit a significant “memory effect” and will recharge to their full capacity even if only partially discharged before each charge.

Warning! **The warranty and performance information in this manual are based on the use of deep cycle gel cell or sealed lead-acid batteries.**

Warning! **Automotive batteries are not designed for the deep cycle energy draw that wheelchair use requires. Do not use automotive-style batteries in your Explorer Magellan.**

Battery Charging

Explorer Magellan is supplied with a 4-amp on-board switch-mode charger designed to charge sealed lead acid batteries. This charger is permanently plugged into the control system at the connector underneath the front of the seat. When charging is required, the 3-prong plug from the charger may be inserted into a 120V 50-60 Hz wall outlet.

There is one light on the charger that will indicate the following charging conditions. A solid green light indicates that charging is complete. A solid red/orange light indicates that charging is underway.

When the charge is complete, disconnect the charger from the wall outlet, and stow the cable. Explorer Magellan is now ready for use.

The charger includes a fan for ventilation and cooling. As a result, it is common to notice an “electrical” smell during charging. This is simply due to the air passed over the heated electrical components of the charger.

NOTE: Explorer Magellan’s controller includes and ‘inhibits’ line that prevents the wheelchair from driving when the charger is plugged into the wall. It is possible that Explorer Magellan could move a few inches before the inhibitor is fully activated. There is a delay of a few seconds between the removal of the charger from the wall outlet and Explorer Magellan’s ability to turn on.

Warning! **NEVER attempt to charge the batteries by connecting the charger wires directly to the battery terminals.**

Warning! **Some battery components (posts, terminals, etc.) contain lead compounds. Always wash hands thoroughly after handling, or wear approved protective gloves. Eye protection and a face shield are also recommended when working with batteries.**

Warning! **ALWAYS use the charger supplied with Explorer Magellan. Other types of chargers may damage the batteries.**

Warning! **DO NOT remove the ground plug from the charger power cord. This will create an electrical hazard. If necessary, use an approved 3-prong adapter for use with a 2-prong outlet.**

Warning! **DO NOT attempt to recharge the batteries outside or when the wheelchair has been exposed to any sort of moisture.**

Warning! **DO NOT plug in the on-board charger and an off-board charger at the same time.**

Battery Installation and Removal

The batteries on Explorer Magellan are individually packaged with a lid, connectors, and a strap. These battery assemblies are NOT interchangeable. There is one battery assembly that must go at the front of the wheelchair, and one battery assembly that must go at the rear of the wheelchair. The batteries on Explorer Magellan are accessed from the rear of the chair.

Warning! It is important that you do not allow any tools or conductive material to directly connect the two terminals of a battery. If you are not confident in your ability to attach the lids to the batteries, ask your dealer for assistance.

Warning! Each battery weighs more than 14 kg. Be sure to use good body position and lifting techniques when loading and unloading batteries.

Warning! Some battery components (posts, terminals, etc.) contain lead compounds. Always wash hands thoroughly after handling, or wear approved protective gloves. Eye protection and face shield are also recommended when working with batteries.

Warning! Connecting cables in a manner different than described may cause personal injury or damage to the wheelchair.

To install batteries in Explorer Magellan, follow these steps.

Attaching battery lids to batteries.

a) Orient the battery lid as shown in Figure 3
b) Fasten the strap around the lid and battery until they are securely held.
c) Carefully and securely, attach the terminal on the red wire to the positive terminal of the battery, and attach the terminal on the black wire to the negative terminal of the battery. The terminals should be pushed down as far as possible on the posts.
d) Orient the battery lid as shown in Figure 3.
e) Fasten the strap around the lid and battery until they are securely held.
f) Take the other battery and the lid with the circuit breaker (white button) protruding from it. This will be the Rear Battery Assembly.
g) Carefully and securely, attach the terminal on the red wire to the positive terminal of the

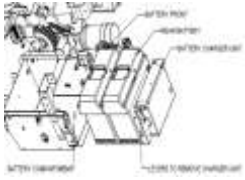

Figure 3

battery, and attach the terminal on the black wire to the negative terminal of the battery. Ensure that the terminals are pushed down as far as possible on the posts and that they do not interfere with the circuit breaker.

h) Take one battery and the lid with one red connector and one black connector on it. This will be the Front Battery Assembly.

Installing the batteries in Explorer Magellan.

a) Using proper body positioning and lifting techniques, place the Front Battery Assembly on the battery tray so that the red connector is on the right hand side of the wheelchair (when sitting in Explorer Magellan) and the black connector is towards the front of the wheelchair.

b) Push the Front Battery Assembly halfway towards the front of the wheelchair.

c) Move the Rear Battery Assembly, with the red connector on the right and the circuit breaker

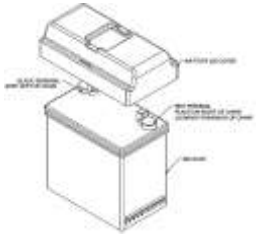

Figure 4

facing the rear of the wheelchair, as close to the battery tray as possible, but leave it on the floor.

d) Attach the two red connectors together.

e) Move to the front of the wheelchair and route the black connector from the Front Battery Assembly so that it protrudes from the wheelchair, between the front seat posts. It will be inserted into the controller connector a little later.

f) Returning to the rear of the wheelchair, use good body position and lifting techniques to place the Rear battery assembly on the battery tray.

g) The cables and red connectors should be on the right side of Explorer Magellan, and will fit in between the battery and the chassis wall, in the space created by the oversized battery lid.

h) Push both batteries towards the front of the wheelchair as far as they will go. Be careful to avoid snagging any cables on the nuts on the

inside of the battery compartment.

i) Get the battery retention plate and orient it so that the release levers are on the top and the battery charger is showing at the rear of Explorer Magellan.

j) Slide the L-slot in the battery retention plate over the bottom bushings in the battery tray wall, and push it down to fully seat the bottom bushings in their slots. The battery retention plate is designed to be a very tight fit to reduce rattling during Explorer Magellan use. Be firm with the plate as you place it over the bushings.

k) Then, rotate the top of the plate forward, until it is almost vertical as shown in Figure 5.

l) Push inward on the two release levers and rotate the plate until it is vertical. Let go of the release levers and ensure that the buttons protrude through the chassis holes to lock the battery retention plat in place.

m) Try to pull the battery retention plate towards the rear of the wheelchair to ensure that it is

Figure 5

properly secured. If the retention plate comes off, return to step a), and repeat.

n) Ensure that the strap around the charger is secure, and that the power cable is properly stowed.
o) Move to the front of the wheelchair and firmly insert the black connector into the socket marked with a battery symbol on the controller connector. This slot is the farthest one from the cylindrical charger connector.
p) The batteries are now properly installed in Explorer Magellan.

Removing the batteries from Explorer Magellan.

a) Follow the above process in reverse order.

6 Chair Adjustments

Concepts' Arm Pad Position (Fore/Aft & Lateral)

The 'Concepts' arm pads (desk length and full length) mount on the arm structure by inserting the flange nuts provided into one of three slots in the bottom of the arm pad. By choosing the appropriate slot, lateral adjustment of the arm pad is achieved by placing it in narrow, standard, or wide settings.

The 'Concepts' arm pads can also be adjusted in the fore and aft direction. Before completely tightening the bolts in the flange nuts, the arm pad may slide back and forth for desired positioning.

NOTE: It is possible to set the fore and aft position of the arm pad in such a way that flipping the arm backwards interferes with the back cushion, or trying to swing away the controller or access the programmer port in the controller is made difficult.

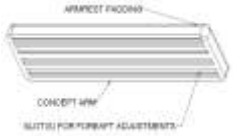

Figure 6

When making adjustments, try all normal uses of these components before tightening the settings completely.

2 Point Traditional Arm Adjustments

A. Arm Height.

The arms may be adjusted in height through a range of 3 inches by pushing in the spring button at the front of the arm and lifting the arm upwards until the desired height setting is reached. The fabric side pouch has been removed in the photo for clarity.

- **No tools are required for this adjustment.**

B. Flip Back & Remove

The 2-point arms may be flipped back by pulling the tab on the arm lock towards the user and rotating the arm out of the way. Remove the arm by flipping it back, pulling on the plunger knob, and sliding the arm outward. To reinstall the arm, hold it in the rotated

Figure 7

position, pull on the plunger knob and slide the rear cylinder over the arm pivot.

C. Arm Position (Fore/Aft & Lateral)
The arm may be positioned over a wide fore-aft range. Use a ¼" Allen hex key or bit to adjust the locking bolt under the arm rail. Slide the arm to the desired position and tighten the locking bolt. If a greater adjustment range is required, remove the locking bolt, reposition it in a different hole under the arm rail, and tighten the bolt when the desired position is achieved.

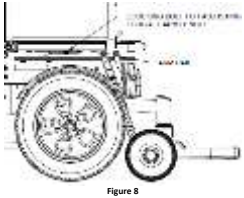

Figure 8

Back Adjustments

A. Back Position
The back may be moved relative to the base over a four-inch range. To move the back, loosen the four hex head bolts under the seat frame with a 1/2" wrench. The back support bracket can then be repositioned on the seat support frame by sliding the bracket along its

slots. All four bolts must then be securely refastened to 150 in lbs of torque. Adjusting the location of the back changes the effective seat depth. Seat depth is measured from the front of the seat pan to the point where back pivot bracket protrudes from the seat pan.

B. Back Angle Adjustment Style

i. Manual Recline Angle (all backs) The angle of the back may be adjusted through a range of 5° forward to 40° back with a gas spring assist. To adjust the angle move the release lever "A", in Figure 9, forward, move the back to the new position and then release the lever. The back has a level of pre-tension and will wish to return to the most forward position when the release lever is moved forward. The release lever is always activated by pushing forward, whether recline angles are being increased or decreased.

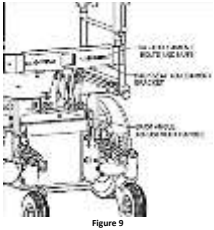

Figure 9

Tools required: None. This adjustment is best made when sitting in the chair.

ii. Fixed Angle (all backs) The Fixed Angle adjustment style allows a back angle range of 5° forward to 15° back. This back angle setting is adjusted using the handle installed. Loosen the handle on the side of Explorer Magellan, move the back to the desired angle, and securely tighten the handle. (NOTE: In order to operate in the limited space at the rear of Explorer Magellan, the handle can be used somewhat like a ratchet. Pull the handles outwards, rotate it to a new position, and then use the new position of the handle on the bolt to tighten the connection further.) It is important to NEVER loosen the bolt on the other side of Explorer Magellan (cylindrical head with hex socket in it). This second bolt must remain secure at all times and is not part of the adjustment process.

Figure 10

- **Tools Required: 3/16" Allen hex key**

C. Back Adjustments

i. Back Width – The PRISM backs are provided in standard widths and are not adjustable.

ii. Back Height Location The location of the PRISM back can be changed by using a 3/16" Allen key. Figure 10 shows Three Adjustment Cap Screws which can be loosened and then adjusted to suit the back height that the end user requires. The Back Hardware on the other side of the chair has to adjust to the same height to ensure the back fits in place and is not loose. Once the back hardware is secured in place, the PRISM back can be placed back onto the chair.

D. Cane Back Adjustments

i. Width

The vertical side canes can be set to widths of 16 to 24 inches in one-inch increments. This width measurement is made between the outside surfaces of the vertical tubes.

a. To adjust the cane back width use a 7/16" wrench to loosen the four nuts at the back of the assembly.
b. Slide the side canes to the appropriate width positions. Be sure to set the width symmetrically about the center of the wheelchair.
c. When the overall width, measured from the OUTSIDE of the vertical tubes, is at the desired value, retighten the nuts.

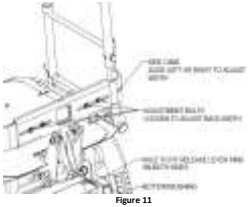

Figure 11

- **Tools required: 7/16" wrench or socket**

ii. Height

The push handles on the cane back are adjustable over a 4" range. Measured from the top of the seat pan to the top of the push handles, they may be set at 22", 23", 24" or 25".

a. To modify the height of the push handles, remove the bolts, nuts, and washers on the bottom of the push handle, using the Phillips screwdriver and 7/16" socket or wrench.
b. Move the push handles vertically until the appropriate hole is aligned.
c. Reinstall the bolts, washers, and nuts and secure.

NOTE: It is also possible to install the push handles so they point inward towards each other. Be sure that this will not interfere with the back cushion installation before attempting.

- **Tools required: Phillips screwdriver, 7/16" wrench or socket**

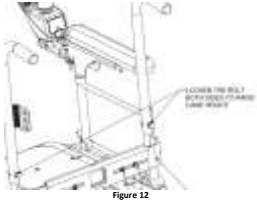

Figure 12

Seat Adjustments

A. Seat Depth

In conjunction with the back position, seat position

results in seat depths of 17, 18, 19 and 20 inches on Explorer Magellan. The seat pan remains in place and the back location is adjusted fore and aft to achieve the desired seat depth. It is customary to set seat depths to the nearest inch, but the range is continuously adjustable so other depths may be set as required. Four bolts under the seat frame must be loosened with a 1/2" wrench or socket to allow repositioning. Tighten the bolts to 150 in lbs of torque when proper location is determined. For 17" seat depth, the back must be at the front of the slots while for 20" seat depth, the back must be at the rear. Seat depth is measured from the front of the waterfall curve of the seat pan to the point at the rear bracket emerges from the seat pan.

- **Tools required: 1/2" wrench or socket**

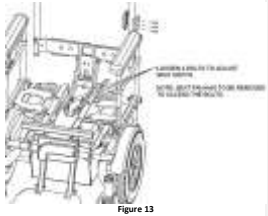

Figure 13

B. Seat Height/Angle

The seat height may be set 17, 18 or 19 inches for the solid seat pan (measured to the top surface at the front

of the seat pan with a 4° angle). The front seat height and rear seat height are adjusted independently as described below.

The following method will allow seat height changes to be performed with the least difficulty.

i. Preparation
Loosen, but do not remove, the bolts labeled as "A" in Figure 13 and A in Figure 14 (obscured in picture, but access hole is shown). A 1/4" Allen key or bit, ratchet and ratchet extension is required. This will allow the various parts to rotate and automatically adjust to the configuration change. If you choose to omit this step, the adjustments may still be made, but they will be stiff and may need significant persuasion.

ii. Rear Seat Support
Remove the 1/4-20 bolts and split washers from the upper portion of the Rear Seat Support

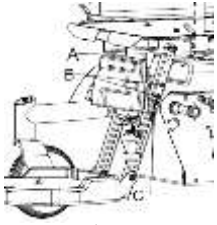

Figure 14

(labeled A in Figure 14) using a 3/16" Allen key or bit. Once these four bolts are removed, the rear support and seat are no longer anchored and will tend to fall downwards. It can be useful to place a piece of wood under the rear seat support arch to it in place. Move the rear seat support until the holes line up with the desired setting and reinstall the 1/4-20 bolts and split washers, tightening to 150 in lbs of torque.

iii. Front seat support
To keep the same angle and just raise or lower the seat height the same amount as the back, loosen and remove the four bolts and split washers near the top of the seat posts, labeled B in Figure 13. Lift or lower the seat frame to the desired height. Align the holes and reinsert the bolts and split washers. This connection needs to be tight. To change the seat angle, adjust the location of the four bolts, flat washers and nuts at the midway point of the front seat post. Each hole

increment changes the angle around approximately 3 degrees. Use a wooden block or a have a helper hold the seat steady and lift and lower it to the desired angle setting. Reinstall the bolts, flat washers and nuts and tighten. This connection needs to be firm, but not crazy-tight (crazy-tight can collapse the square tube!)

iv. Seat width adjustment
Remove the seat pan cover and loose the nuts shown in the picture. The slots will allow for wider range of seat adjustments. Set to desired width and retighten the bolts to 150ft.lb torque to make sure that the adjustment is fixed and will not move upon sitting.

Figure 15

- **Tools required:**
  1/4" Allen hex key or bit
  3/16" Allen hex key or bit
  3/16" Allen hex key or bit,
  7/16" wrench or socket
  1 - 1/4" Allen hex key or bit
  2 - 1/4" Allen hex key or bit

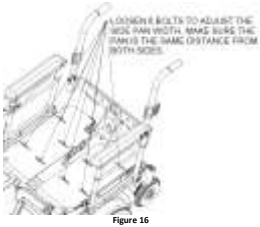

Figure 16

Free Wheel

When storing an unoccupied powered wheelchair, or moving it into a vehicle for transport, it is sometimes useful to be able to roll the wheelchair without the use of the motors. Disengaging the motors is known as a 'freewheel' condition.

Each motor is equipped with a freewheel lever, located on the top surface of the fender, above each gearbox. To engage the motors so they may be controlled with the joystick, turn the free-wheel lever so it points to the rear of the wheelchair. To disengage the motors, turn the free-

wheel lever so it points outward towards the wheel as shown in Fig 16.

- **Tools required: None. The free wheel levers are turned by hand.**

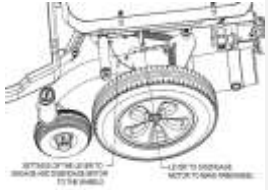

Figure 17

Warning! **Once the motors have been placed into freewheel mode (motors disengaged), the parking brakes DO NOT operate and the controller CANNOT steer the wheelchair. Freewheeling must NOT be used with an occupied wheelchair, or on a slope.**

Warning! **Always turn the wheelchair controller power off before engaging or disengaging the motors with the freewheel levers.**

Warning! **NEVER place the wheelchair in freewheel mode while on an angled surface. Freewheeling on a slope may allow the powered wheelchair to roll uncontrollably, causing personal Injury to a user or attendant, or damage to the wheelchair or property.**

Front Riggings

A Footboard

The distance from the top of the footboard to the top of the seat pan may be adjusted through a range between 12 and 15 inches. Do this by removing the bolts shown as "A" in Figure 17, repositioning the footboard to the height required, and re-installing the bolts. The distance between each hole on the vertical footboard support tubes is 1/2". Tighten the bolts sufficiently to provide the footboard with enough friction for it to remain upright when flipped back for transfers. To adjust the angle of the footboard, flip the footboard up, and loosen the bolts on the bottom of the footboard at each side. Slide the angle stops to the desired position, and tighten the screws. Ensure that both stop are adjusted equally, so each side supports half the load.

- **Tools required: 3/16" Allen hex key, 7/16" wrench or socket, 5/32" Allen hex key**

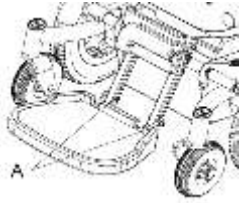

Figure 18

B. Swingaway Footrests

To change the length of the swingaway footrest assembly, remove the hex head bolt and nut on the footrest tube and adjust the length, and reinstall the bolt in the desired hole location. Tighten the bolt completely before installing the nut. Tighten the nut to lock the adjustment in place. The angle of the footrests is not adjustable.

To 'swingaway' the footrest assembly, push the release lever, B, in Figure towards the middle of Explorer Magellan. This disengages the locking mechanism, and allows the footrest to rotate outward. To completely remove the footrest from Explorer Magellan, rotate it outward, and lift it up. To reinstall the footrests, orient the footrest so the footplate is pointing out from the side of Explorer Magellan. Insert the front rigging plug into the bracket, and rotate towards the front of Explorer Magellan to lock the release lever in place.

- **Tools required: 7/16" wrench or socket**

C. Swing away Footrests width adjustments

The footrest brackets can be set to widths of 16 to 20 inches in one-inch increments for the small seat frame and 20 to 24 inches for the large seat frame. To adjust the bracket width, follow this procedure:

1. Use the 1/2" wrench to remove the four 5/16"-18 bolts and split lock washers underneath the legrest adapters at the front of the seat frame.
2. Slide the legrest adapters to the appropriate width positions. The legrest adapters may be moved in 1/2" increments, affecting the overall width by 1". Be sure to set the width symmetrically about the center of the wheelchair.
3. When the overall width, measured from the OUTSIDE of the vertical tubes, is at the desired value, reinstall the four bolts and lock washers in the appropriate holes under the back post

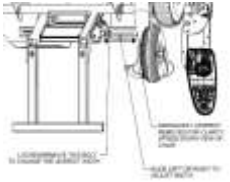

Figure 19 Upside Down View of Chair (front edge)

assembly, and tighten to 205 in lbs.

- **Tools required: 1/2" wrench, torque wrench**

D. Swing away Footrests - Fore/Aft adjustments

The footrest brackets may also be adjusted front to back over a 3-inch range in 1/2" increments. To modify the setting of the footrest brackets perform the following steps:

1. Use the 1/2" wrench to remove the four 5/16-18 bolts and split lock washers underneath the footrest brackets at side of Explorer Magellan.
2. Slide the footrest brackets to the appropriate fore/aft position. The footrest brackets may be moved in 1/2" increments. Unless asymmetry is required, be sure to set the brackets to the same setting on each side of Explorer Magellan.
3. Reinstall the four bolts and lock washers in the appropriate holes and tighten to 205 in lbs.

- **Tools required: 1/2" wrench, torque wrench**

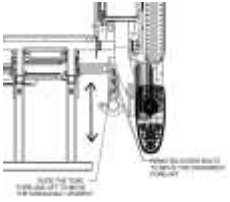

Figure 20 Upside down view of the front of the chair (front edge)

Anchor Brackets

Anchor brackets are installed in the front and rear of the Explorer Magellan chair as shown below.

Note: There should be a total of 4 (four) anchor brackets. 2 brackets in the front and 2 brackets in the back of the chair.

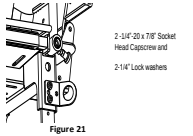

Figure 21

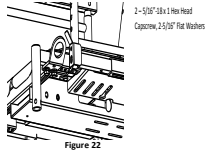

Figure 22

7 Cleaning Instructions

Seat and Back

- Remove the outer and inner cover if required and hand wash with a small amount of detergent
  - Hang to dry, do not machine dry or wring out
- Use multipurpose disinfectant to spray seat, scrub with soft brush.
  - Test an inconspicuous area first for colour-fastness
- **DO NOT USE HOT AIR FOR DRYING.**
- **DO NOT IMMERSE** the cushion or back foam in water or cleaning solution.
- Some color leeching from the cover and dying the foam is normal and cannot be washed out

Frame, Armrest, Footrests And Other Components

- Spray the frame and components with multi-purpose disinfecting detergent, scrub with **soft** brush.
- Rinse well and dry with a soft cloth.
- **DO NOT USE HOT AIR FOR DRYING.**

By wiping down with a soft cloth after rinsing mildew buildup will be minimized.
IMPORTANT:
DO NOT USE ABRASIVE POWDERS OR SCOURING PADS ON PAINTED SURFACES
DO NOT SUBMERGE CHAIR IN WATER
RINSE WITH A DAMP RAG AFTER CLEANING TO ENSURE THAT ANY SOAP RESIDUE IS REMOVED
DO NOT USE CLEANING PRODUCTS WITHOUT CONSULTING THE PRODUCTS' INSTRUCTIONS AND TAKING APPROPRIATE PRECAUTIONS FOR HUMAN EXPOSURE TO CHEMICALS

8 Limited warranty

The warranty on Orion Explorer Magellan applies only to the original purchaser or owner of the product. Future Mobility Healthcare Inc. (FMHI) warrants Orion Explorer Magellan against defects in material and manufacturing as listed below.

	Warranty Period			
Orion Explorer Magellan Power Wheelchair	**6 months**	**18 months.**	**2 years**	**5 years**
a. Base, seat frame and drive and caster wheel hubs (not tires)				*
b. Controller, charger and cables.			*	
c. Motors and gearboxes.		*		
d. Upholstery, plastic and rubber components, bearings, front rigging, forks and all other parts not specifically identified above.	*			
Replacement parts. **	**3 months**		**6 months**	
a. New motors, controllers and chargers.			*	
b. Remanufactured motors, controllers and chargers.	*			

c. All other components	*	

* *The average life expectancy of a wheelchair under normal everyday use is approximately five years.*
** *If a part is replaced under warranty, the original warranty period will not be affected.*

The warranty period for the consumer commences on the first date a product is delivered to the consumer from the seller/dealer. If the product is rented or leased, the warranty period commences on the invoice date from FMHI or its authorized distributor.

If within the warranty period, the product or component is proven to FMHI' satisfaction to be defective, such product or component shall be repaired or replaced at FMHI' option.

FMHI' sole obligation and your exclusive remedy under this warranty shall be limited to such repair and/or replacement. This warranty does not include any labor charges incurred in the installation of the replacement part(s). Also freight charges to the manufacturer are at the expense of the consumer or purchaser.

Limitations and Exclusions.

The above warranty shall not apply to serial numbered products if the serial number has been removed or defaced. Products subjected to neglect, abuse, improper use, maintenance or storage, or damages beyond

FMHI' controls are not covered by this warranty, and solely FMHI shall determine that evaluation. Also the warranty shall not apply to products modified without FMHI' written consent; nor shall it apply if components not supplied by FMHI are added to the product, or if someone not authorized by FMHI services the product.

For warranty service, please contact the authorized dealer from whom you acquired your Orion Explorer Magellan. In the event you do not receive satisfactory service, please communicate directly with FMHI. The contact information for FMHI is given at the end of this document. Please do not return products to FMHI without prior authorization. Products returned to FMHI without prior authorization will not be accepted.

Please fill in the information for your dealer for future reference:

Dealer Information

Name of Dealership:

Address:

Contact Name:

Phone:

Fax:

Email:

Product: **Orion Explorer Magellan By Future Mobility Healthcare Inc.**

Serial Number:

CANADA
Future Mobility Healthcare Inc.
3223 Orlando Drive
Mississauga, ON, L4V 1C5
Ph: 905-671-1661 - 1 888 737 - 4011
Fax: 905-671-3377
e-mail: customerservice@futuremobility.ca
www.futuremobility.ca

USA
Future Mobility Products US LLC
1 Buffalo River Place
Buffalo, NY 14210
Ph: 716-783-9130 - 1 855-938-8873
Fax: 716-783-9236
e-mail: customerservice@futuremobility.com
www.futuremobility.com

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MOBILITY HEALTHCARE INC.

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