Owner's Manual



R-Series Positioning Seating System

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Welcome aboard your new rehab seat, and thank you for choosing our product. Please read this manual carefully, and follow all instructions before attempting to operate your rehab seat for the first time. If there is anything in this manual that you do not understand, or if you require additional assistance for setting up your rehab seat, please contact your local dealer.

This latest model is designed for specific practical user needs, combining solid, rugged construction, and modern high-tech electronics, to enhance safety and performance.

With a state-of-the-art, programmable electronic control system, your rehab seat can be programmed and adjusted within a given range of its performance characteristics, to suit your individual needs. The controller is set up at the factory to give the powerbase wheelchair nominal operating performance characteristics.

After becoming familiar with the basic operation of the rehab seat, you may wish to customize the settings to fit your own personal preferences. A wide range of customization options can be adjusted such as tilting, reclining and elevating, safety controls, better maneuverability of the joystick, and so on. Contact your local dealer for advice on additional equipment you may need.

Having your rehab seat checked regularly by your local dealer is the best way to ensure smooth operation, and safety.

This manual provides users practical tips and information on safety issues, operation, and maintenance. Please read it very carefully to ensure your maximum enjoyment and to fully benefit from your independence and mobility.

Whenever special advice or attention is needed, please do not hesitate to contact your local dealer, who has the tools and know-how to provide expert servicing for your rehab seat.

Your satisfaction and opinions are highly valued by both your local dealer and our company. Please be sure to fill out the enclosed guarantee form, and return it to your local dealer. The information is necessary for providing you with the best service, and to be sure all of your needs are met.

Description

The R Series Positioning System for Powered Wheelchair is designed for use with power wheelchairs. The R Series Positioning System for Powered Wheelchair use the Merits Model P323/P324 Power Wheelchair as the base unit for the tilting, reclining and elevating System. The Positioning System and base unit is to be sold together. Model P323/P324 Powered Wheelchair is battery powered, center wheel motor driven and is controlled by the PG power wheelchair controller. The user interface is a joystick. P323/P324 is powered by two 12 VDC 62ah batteries. The batteries are charged by 5A off-board charger connect with 3-pin Microphone Connector to charging socket on joystick. The approximate driving range on fully charged batteries is up to 38km (24mi). The chair frame is a rived nut and welded steel construction and includes two center drive wheels with drive units (including motor, gear, brake), batteries and front and rear pivoting casters. Depending on users needs, the joystick motor control is mounted to the left or right armrest. When the user activates the joystick, the controller receives a signal to release the brakes. With the brakes released, the wheelchair is allowed to move in the direction the joystick is actuated. When the user releases the joystick, the chair slows to a stop and the brakes are automatically re-engaged. The solenoid electromechanical brakes allow the user stop by letting go of the joystick.

The intended function of the R Series Positioning System for Powered Wheelchair is to aid in the pressure relief of persons confined to a wheelchair, by providing a method of tilting the seat and reclining the seat back.

The R series Positioning System consists of tilt, recline, shear reduction and power elevating seat modules. The tilting, reclining and elevating systems are separate modules and are independent of each other. As such, they will be offered as either a complete tilt/recline system, or as a separate tilt system or reclining system depending upon the user' needs.

The tilting, reclining and elevating systems are actuated by 24V DC motorized linear actuator. The tilt system include one motorized linear actuator (Manufacturer: Moteck / Model: FD-24-A4-323) causes the seat frame to shift forward. This enhances stability since the center of gravity is kept substantially in place while the user is tiliting.

The recline system include one motorized linear actuator (Manufacturer: Moteck / Model: FD-24-A4-278)change the position of the backrest with respect to the seat pan. The shear reduction module works with recline function to reduce the shear movement between the user and the backrest. The reclining system also includes a movable leg rest feature.

There two basic models included in the R Series Positioning System. They are Model R153(tilt) and R154(tilt +reclining).

The device can be operated on dry, level surfaces composed of concrete, blacktop, or asphalt under normal driving conditions.

This product has an immunity level of 30 v/m which should protect it from Electromagnetic Interference(EMI) from radio wave sources. The rapid development of electronics, especially in the area of communications, has saturated our environment with electromagnetic (radio) waves that are emitted by television, radio and communication signals. These EM waves are invisible and their strength increases as one approaches the source. All electrical conductors act as antennas to the EM signals and, to varying degrees, all power product are susceptible to electromagnetic interference (EMI). This interference could result in abnormal, unintentional movement and / or erratic control of the vehicle.

Powered product (in this text, both will be referred to as powered wheelchairs) may be susceptible to electromagnetic interference (EMI), which is interfering electromagnetic energy emitted from sources such as radio stations, TV stations, amateur radio (HAM) transmitters, two-way radios and cellular phones. The interference (from radio wave sources) can cause the powered product, to move by itself or move in unintended directions. It can also permanently damage the power product control system. The intensity of the EM energy can be measured in volts per meter(V/m). Each power product can resist EMI up to a certain intensity. This is called the "immunity level." The higher the immunity level, the greater the protection. At this time, current technology is capable of providing at least 30 V/m of immunity level which would provide useful protection against common sources of radiated EMI.

Indications For Use

The Merits Model R series Positioning System for Powered Wheelchair is intended for people using a powered wheelchair and requiring positional change. Its intended function and use is to aid in the pressure relief to persons confined to a powered wheelchair, by way of tilt and reclining seat back.

Cautions Federal law restricts this device to sale by or on the order of a physician. For applicable countries.

🕂 SAFETY WARNING

YOUR AUTHORIZED DEALER, PROVIDER, THERAPIST(S), AND/OR OTHER HEALTHCARE PROFESSIONALS ARE RESPONSIBLE FOR DETERMINING YOUR REQUIREMENT FOR A SEAT BELT FOR SAFE OPERATION OF YOUR MOBILITY DEVICE. REQUIRING A SEAT BELT TO SAFELY OPERATE YOUR MOBILITY PRODUCT, MAKE SURE

IT IS FASTENED SECURELY IN ORDER TO REDUCE THE POSSIBILITY OF A FALL FROM THE MOBILITY PRODUCT.

Familiarize yourself with your rehab seat

Feature i

In t is sec ion, we ill acqu int you ith the many features of your rehab seat ipt of your rehab seat, inspec it for any damag rehab seat con ists of the follo ing component.

Tilt / Recline:





With Elevator



Familiarize Yourself With Your Rehab Seat

R-Series Positioning Seating System Specification



Model No.		Tilt(R153)	Tilt,Recline(R154)	Tilt, Elevate(R155)
Seat Dimension	Width	16"~22"	16"~22"	16"~22"
	Depth	16"~20" 16"~20"		16"~20"
	Height	22"	22"	22"
Seat Function	Tilt	Power	Power	Power
	Recline	Manual 90°~120°	Power	Manual 90°~120°
	Elevate	N/A	N/A	Power
Actuator		DC linear motor	DC linear motor	DC linear motor
Power		24V	24V	24V
Model No.		Tilt, Recline, Elevate(R156)		Recline(R157)
Seat Dimension	Width	16"~22"		16"~22"
	Depth	16"~20"		16"~20"
	Height	22"		22"
Seat Function	Tilt	Power		N/A
	Recline	Power		Power
	Elevate	Power		N/A
Actuator		DC linear motor		DC linear motor

24V

24V

Power

Ter i logy

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Footres · ing ime spent on the powerbase wheelch i

Rehab Seat adjustment

Headrest adjustment

Adjust to the desired position, and tighten with the knob and the lever. (Fig A-1 to Fig A-4)



Fig A-1



Fig A-2



Fig A-3



Fig A-4

-

Armrest adjustment



Fig B1-1

TYPE I : (Fig B1-1) (1)Angle adjustment

> Loosen the screw with the Allen key then move the armrest pivot ass'y, up and down to desired position, then tighten the screw. (Fig B1-1, Fig B1-2)



Fig B1-2

TYPE II : (Fig B1-2)



Fig B2-1

(2)Height adjustment(a)Loosen the lever to remove the side panel. (Fig B2-1)





(b)Pull up and remove the side panel. (Fig B2-2, Fig B2-3)



Fig B2-3



Fig B2-4

There are four stages for user to adjust, 8", 9", 10", 11".(Fig B2-4)

- (c)Remove the screw with Allen key then move the armrest ass'y. up and down to desired position, then reinstall and tighten the screw.(Fig B 2-4)
- (d)Loosen the screw with the Allen key then move the armrest pivot up and down to desired position, then tighten the screw.(Fig B1-1, Fig B1-2)



Fig B3-1

(3)Flip-up the armrest

(a)Turn the release lever upward to release the armrest support bracket.(Fig B3-1)



(b)Flip-up the armrest for easy access.(Fig B3-2)

Fig B3-2

Joystick Adjustment



Fig C1

Adjustment of the joystick position Swing back controller bracket. (Fig C1)



Fig C2

- (1) Press the spring button and pull out the bracket tube, then flip-up the armrest. (Fig C2)
- (2) Use Allen key to loosen both screws, then move controller bracket forward and backward to desired position, tretighten screws and lock armrest brace in receiver. (Fig C2)

Seat width adjustment TYPE I:



Fig D1







(1) Remove the cushion ass'y



(3) Lift the back cover

Fig D3

- -



Fig D4



(6) Use an Allen key and an open-end wrench to remove the back panel screws and remove the back plate (Fig D4, Fig D5).

Fig D5





(7) Use an Allen key to remove the seat-board screws, and then remove the seat-board.



Fig D7

- (8) Power-tilt the seat to an appropriate angle.
- (9) Use an Allen key to remove the screws of the adjust-side-tubes under the seat base ass'y(2 pieces at right and 2 at left), then move the side-adjustable-tubes(left and right) to the appropriate position, then lock the screws back in.

The seat width adjust range is 16", 17", 18", 19", 20", 21" and 22".

- (10) The width between the right and left backrest tubes sets can be adjusted according to the move of the adjust-side-tubes.
- (11) Reverse the above processes (Fig D7 Fig D1) then we can assemble the parts back.
- Attention: The shift distance of the left adjust-side-tube and the right adjust-side-tube have to be the same. It cannot be offset to one side.
- Attention: When assembling the seat-board back, please place the same positions on both sides of holes. It cannot be offset to one side.
- Attention: When assembling the back-board back, please place the same positions on both sides of holes. It cannot be offset to one side.

TYPE II

- (1)Remove the cushion ass'y.(Fig D1)
- (2)Remove the seat cushion ass'y.(Fig D2)
- (3)Lift the back cover.(Fig D3)
- (4)Use an Allen key and an open-end wrench to remove the back panel screws and remove the back plate.(Fig D4, Fig D5)
- (5)Use an Allen key to remove the seat-board screws, and then remove the seat-board.(Fig D6)
- (6)Remove the foam sleeve. (Fig D8)
- (7)Use an Allen key to remove the handlebar front screws and the handlebar rear screws from the actuator upper bracket tube. (Fig D8, Fig D9)



Fig D8



Fig D9

(8)Use an Allen key and an open-end wrench to remove the screws and the nuts from the actuator lower bracket tube. (Fig D10)



Fig D10

(9)Power-tilt the seat to an appropriate angle.(Fig D7)

(10)Use an Allen key to remove the screws of the adjust-side-tubes under the seat base ass'y. (2 pieces at right and 2 at left), then move the side-adjustable-tubes (left and right) to the appropriate position, then lock the screw back in.(Fig D7)

The seat width adjust range is 16", 17", 18", 19", 20", 21" and 22".

- (11)The width between the right and left backrest tubes sets can be adjusted according to the move of the adjust-side-tubes.
- (12)Reverse the above processes (Fig D10 Fig D1) then we can assemble the parts back.
- Attention: the shift distance of the left adjust-side-tube and the right adjust-side-tube have to the same. It cannot be offset to one side.
- Attention: When assembling the seat-board back. Please place the same positions on both sides of holes. It cannot be offset to one side.
- Attention: When assembling the actuator upper bracket tube, please place the same positions on both sides of holes. It cannot be offset to one side.
- Attention: When assembling the actuator lower bracket tube, please place the same positions on both sides of holes. It cannot be offset to one side.
- Attention: When assembling the back-board back, please place the same positions on both sides of holes. It cannot be offset to one side.

Seat depth adjustment TYPE I:



Fig D11

- (1) Remove seat pad ass'y (Fig D2)
- (2) Remove seat-frame cover (Fig D3)
- (3) Use an Allen key to remove the seat-board screw, and then remove the seat-board (Fig D6)
- (4) Use an Allen key to remove the screws and nuts of the backrest (left and right), and then move front-rear directions to the appropriate position, then put the screws back in and lock with nuts (Fig D11)

The seat depth adjust range is 16", 17", 18", 19" and 20".

(6) Reverse the above processes then we can assemble the parts back.

TYPE II



Fig D12

Seat height adjustment TYPE I:



Fig E1



Fig E2





(4) Unplug the safety switch connectors

(1) Remove the rear cover(top) (2) Remove the seat-frame cover (3) Unplug the controller connectors

(5) Unplug the actuator connectors



(6) Use an Allen key to remove the seat assy screws (4 locations) and remove the seat from the power chair and place on floor.

Fig E4



Fig E5

- (7) Remove the pin as shown in the photo, and adjust the seat-support-frame ass'y to the appropriate height then insert the pin. The range of seat-height adjustment is 18.6" and 19.3"
- (8) Reverse the above processes then reassemble the parts.

-

TYPE II: Seat height adjustment (1)Unplug the controller connectors. (Fig E6)



Fig E6

(2)Use an Allen key to remove the seat ass'y. screw (4 locations) and remove the seat from the power base and place on floor.(Fig E7)



Fig E7

(3)Remove the rear cover(top). (Fig E8)



Fig E8

(4)Remove the frame cover.(Fig E9)



Fig E9

(5)Remove the pin as shown in the photo, and adjust the seat-support frame ass'y. to the appropriate height then insert the pin. The range of seat-height adjustment is 18.6" and 19.3".(Fig E5)

(6)Reverse the above processes then reassemble the parts.

TYPE III: (with elevator) Seat height adjustment (1)Unplug the controller connectors. (Fig E10)



Fig E10

(2)Remove the seat-frame cover.(Fig E11)



Fig E11

(3)Unplug the elevator actuator connectors. (Fig E12)



Fig E12

(4)Use an Allen key to remove the seat ass'y. screw (4 locations) and remove the seat from the elevator and place on floor.(Fig E13)



Fig E13



(5)Unplug the controller connectors. (Fig E14)





(6) Unplug the safety switch connectors. (Fig E15)





(7) Use an Allen key to remove the elevator ass'y. screw (4 locations) and remove the elevator from power base and place on floor.(Fig E16)



- (8) Remove the rear cover(top). (Fig E8)
- (9) Remove the frame cover.(Fig E9)
- (10) Remove the pin as shown in the photo, and adjust the seat-support frame ass'y. to the appropriate height then insert the pin. The range of seat-height adjustment is 18.6" and 19.3".(Fig E5)
- (11) Reverse the above processes then reassemble the parts.



Fig F1

(1)Tilt

In order to prevent user from dangerous driving, there is a "safety switch" to control the angle of rehab seat.

When the seat tilts more than 15°, the drive function is disabled.

You must tilt seat less than 15°, and touch the "seat tilt" button again to change to drive mode. (Fig F1)



Fig F2

(2)Recline

- (a)When the backrest reclines more than 110° (from seat plate), the drive function is disable. (Fig F2)
- (b)You must adjust backrest angle less than 110° (from seat plate), and touch the "seat mode"button again to change to drive mode.



(3)Elevator

This mechanism has a device of terminal switch, when the seat is lifted to break away from the terminal switch, the speed will be lowered to 1/4 of the normal speed.

Front Riggings

Footplate

The footplate is installed directly on the seating system to accommodate users who require a positioning system.



Fig G1

- (1) Installing the footplate onto the rehab seat
 - (a) Insert the footplate into the mounting tube on the chair.(Fig G1)











- (2) Position adjustment
 - (a) Loosen the knob, then move the footplate bracket tube forward and backward to desired position, then lock again. (Fig G3)



Fig G4



Fig G5

(3)Height adjustment

 (a) Loosen and remove the screw, then move footplate support tube up and down to desired position, then reinstall and tighten screw. (Fig G4)

- (4) Flip-up the footplate
 - (a) Flip-up the footplate for easy access. (Fig G5)
 - (b) With an Allen key, simply turn the bolt clockwise to increase the angle or counterclockwise to decrease it. (Fig G5)
 - (c) Hold hexagonal bolt (RH) with wrench and loosen the unit (LH). (Fig G5)
 - (d) Choose the right angle and tighten the bolt.

Elevating Leg Rests

Elevating Leg Rests (ELRs) offer an infinite range of adjustment for the leg angle.

Installing the elevating legrest onto the rehab seat



- (1) Insert the top mounting pin of the elevating legrest from the side into the mounting tube on the chair.(Fig G6)
- (2) Swing the elevating legrest toward the center until it locks into position. (Fig G6)

• Adjustment Legrest



Fig H1

(1)Swing in/out legrest

- (a) Pull the plastic lever down to release the locking mechanism. (Fig H1)
- (b) Push the legrest outward (or inward). (Fig H1)
- (c) Push the legrest inward (or outward) until it locks into place. (Fig H1)





(2)Elevating legrest

- (a) Pull up the legrest directly to the desired position. (Fig H2)
- (b) Pushing the release bar causes the legrest to return to the original position. (Fig H2)





(3)Position adjustment

- (a) Loosen the screw with Allen key. (Fig H3)
- (b) Adjust the hanger tube forward and backward to desired position. (Fig H3)
- (C) Tighten the screw. (Fig H3)



Fig H4

(4)Height adjustment

(a) Loosen the screw with screwdriver and wrench then take off the screw and nut (Fig H4)

- (b) Adjust the height of footplate to desired position then install the screw. (Fig H4)
- (c) Tighten the screw. (Fig H4)

• Leg-pad Position adjustment





- (1) Loosen the screws with Allen key. (Fig I1)
- (2) Adjust the leg-pad to desired position. (Fig I1)
- (3) Tighten the screws. (Fig I1)

High-Pivot Power Elevating Leg Rests

The high-pivot power elevating leg rests utilize a high pivot point to more closely mimic the motion of the knee during leg rest elevation. They can be adjusted either as a pair or individually. They are available with all power bases that support upgraded electronics. The high-pivot power elevating leg rests operate through the power chair controller or toggle switch.



Fig J1



Fig J2





(1)Installing the high-pivot power elevating legrests onto the rehab seat.

- (a) Insert the top mounting pin of the elevating legrest from the side into the mounting tube on the chair.(Fig J1)
- (b) Swing the elevating legrest toward the center until it locks into position. (Fig J1)
- (c) Plug the actuator connectors. (Fig J2)

- (2)Adjustment power elevating leg rests(a)Swing in/out power elevating leg rests.
 - Pull the plastic lever down to release the locking mechanism. (Fig J3)
 - Push the power elevating leg rests outward (or inward). (Fig J3)
 - Push the power elevating leg rests inward (or outward) until it locks into place. (Fig J3)

- (3)Position adjustment
 - (a)Loosen the screw with Allen key.(Fig H3)
 - (b)Adjust the hanger tube forward and backward to desired position.(Fig H3)
 - (c)Tighten the screw.(Fig H3)



Fig J4

- (4)Height adjustment
 - (a) Loosen the screw with screwdriver and wrench then take off the screw and nut (Fig J4)
 - (b) Adjust the height of footplate to desired position then install the screw. (Fig J4)
 - (c) Tighten the screw. (Fig J4)

Power Articulating Footplate

The power articulating footplate maintains the correct knee-to-heel measurements when the user's legs are being elevated.



(1) Installing the power articulating footplate onto the rehab seat.

(a) loosen and remove the knobs(Fig K1)



Fig K2

(b)Insert the power articulating footplate into the mounting tube on the chair. (Fig K2) -



Fig K3

Fig K4

(c)Insert the pin.(Fig K3)

(d)Insert and tighten the screws.(Fig K4)



Fig K5







- (2) Height adjustment
 - (a) Loosen and remove the screws, then move footplate support set up and down to desired position, then reinstall and tighten screws.(Fig L1)

- (3) Flip-up the footplate
 - (a) Flip-up the footplate for easy access. (Fig G5)
 - (b) With an Allen key, simply turn the bolt clockwise to increase the angle or counterclockwise to decrease it. (Fig G5)
 - (c) Hold hexagonal bolt(RH) with wrench and loosen the unit(LH). (Fig G5)
 - (d) Choose the right angle and tighten the bolt.



Fig M1

- (4) Leg-pad Height adjustment
 - (a) Loosen the screws with screwdriver. (Fig M1)
 - (b) Adjust the leg-pad to desired position.(Fig M1)
 - (c) Tighten the screws. (Fig M1)



Fig N1

- (5) Leg-pad Position adjustment.
 - (a) Loosen and remove the screw with Allen key. (Fig N1)
 - (b) Adjust the Leg-pad support set forward or backward to desired position. (Fig N1)
 - (c) Reinstall and tighten the screw. (Fig N1)

► Warranty ◀

Limited Warranty

Corporation warrants to the original purchaser of this rehab seat that it is free of defect in material and workmanship and that, when operated within the guidelines and restrictions of this manual, will remain so free of defect in material and workmanship for a period of One (1) year from the original date of purchase.

Excluded from this warranty is failure due to negligence, abuse, accident, operation outside of rated limits, commercial or institutional use, damage / wear to upholstery or tires and improper maintenance or storage.

This rehab seat must not be modified in any way without the express written consent of Corporation. Any such unauthorized modification could cause unreliable and / or unsafe operation and will void this warranty.

Where a failure occurs within the 1- year warranty period that is not excluded above, the failed components will be replaced with similar new or reconditioned components at sole option. Corporation will not be responsible for labor and / or shipping charges.

The foregoing warranty is exclusive and in lieu of all other warranties expressed or implied including, but not limited to, the implied warranty of merchantability and fitness for a particular purpose. Corporation will not be liable for any consequential or incidental damages whatsoever.

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igure 1



igure 2

TROUBLESHOO

If your rehab seat is not operating properly, please take the following steps prior to calling Technical Support.

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Itage—See i

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If the above tests are successful, proceed i llo

irs, place gearbox lever in Freewheel

ller and ru in all

If troubleshoo ing a scooter, levate rear wheels and ru in

If any of the above tests fail, contact your local dealer.

D

We wish you a safe and comfortable riding experience!



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