

# **C.T.M. Rehab Chair**

# HS-7200 Series User's Manual



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## INTRODUCTION

C.T.M. is a professional and experienced manufacturer, that specializes in production of Mobility Scooters and Power Chairs that are developed by a team of specialists with outstanding design skills and competence.

The HS-7200 is an excellent chair that includes ergonomic features. It combines safety and comfort and gives users extraordinary experience and convenience in operation. With its thoughtful and people-friendly controller system, the user can easily achieve 360 degree turns with their finger tips.

This product is powered by the sealed, no water added, high performance and, most of all, connectorless lead-acid battery, which ensures environmental safety and brings convenience in disassembly and re-assembly.

#### Preface :

This User's Manual contains important information and know-how on operating and maintaining the C.T.M. product. Please read it carefully before practicing with your new chair, so that you comprehend the technical advantages of HS-7200

All assembly and maintenance should be performed after you fully understand the content of this manual to avoid any hazard or damage to the Power Chair or human body.

Overhaul and adjustments must be undertaken by skillful maintenance staff following the instructions provided in this booklet.

Any improper usage might lead to danger to the user or the chair. C.T.M. is/will not be responsible for any after-effect resulting from failure to comply with this manual.

#### After unpacking, please inspect carefully for any defect or missing part.

#### Limitation In Transporting And Travelling :

- 1. When transporting HS-7200, please ensure the product is not scratched or damaged.
- 2. If a long trip is planned, please fully charge the batteries before use to prevent low voltage during the trip.

All the contents in this manual including pictures, photo illustrations and text are all patented and registered according to the constitution of R.O.C.. With no approval from C.T.M. self-interpretation and duplication are strictly prohibited. (If any details in the manual are going to be changed or added, C.T.M. will not notify previous owners of the modification.)

We wish you an enjoyable riding experience. If you have any questions, you can contact:

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# ELECTROMAGNETIC INTERFERENCE AND WARNINGS

CAUTION: It is very important that you read this information regarding the possible effects of Electromagnetic Interference on your power chair.

Powered wheelchairs and motorized scooters may be susceptible to electromagnetic interference (EMI), which is interfering electromagnetic energy (EM) emitted from sources such as radio stations, TV stations, amateur radio (HAM) transmitters, two-way radios, and cellular phones. The interference (from radio wave sources) can cause the power chair to release its brakes, move by itself, or move in unintended directions. It can also permanently damage the power chair control system. The intensity of the interfering EM energy can be measured in volts per meter (V/m). Each power chair can resist EMI up to a certain intensity. This is called its "immunity level." The higher the immunity level, the greater the protection will be. 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. The immunity level of this product is 20 (V/m).

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

#### Electromagnetic Interference and Warnings :

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

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

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

2.Medium-range mobile transceivers, such as those used in police cars, fire trucks, ambulances, and taxis. These usually have the antenna mounted on the outside of the vehicle.

3.Long-range transmitters and transceivers such as commercial broadcast transmitters (radio and TV broadcast antenna towers) and amateur (HAM) radios.

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

#### Power Chair Electromagnetic Interference :

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

#### Electromagnetic Interference and Warnings :

Warnings

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

- 1.Do not operate hand-held transceivers (transmitters-receivers), such as citizens band (CB) radios, or turn ON personal communication devices, such as cellular phones, while the power chair is turned ON;
- 2.Be aware of nearby transmitters, such as radio or TV stations, and try to avoid coming close to them;
- 3.If unintended movement or brake release occurs, turn the power chair OFF as soon as it is safe;
- 4.Be aware that adding accessories or components, or modifying the power chair, may make it more susceptible to EMI; and
- 5. Report all incidents of unintended movement or brake release to the distributor listed on the inside front cover of this manual. Note whether there is a source of EMI nearby.

#### Important Information

- 1.20 volts per meter (V/m) is a generally achievable and useful immunity level against EMI (as of May 1994). The higher the level, the greater the protection.
- 2. The immunity level of this product is 30 (V/m).

# SAFETY INSTRUCTIONS

Safety is the main consideration when practicing with your chair. It is required that you read and comprehend all the operating and safety instructions discussed in this manual. And ensure your chair is correctly fitted and adjusted by your dealer or the prescribing healthcare professional.

Make sure to engage the wheel locks before entering or leaving the chair. The wheel locks are designed to prevent movement of the chair. It is preferable to ensure the front castors are in the forward position before transferring in to or out of the chair. With the castors in the forward position the wheel base of the chair is increased, therefore, offers more stability.

DO NOT move forward in the seat while leaning forward out of the chair. If an object is to be picked up from the floor, drive past it, then reverse so the front castors are in the forward position. This gives the chair its greatest stability.

To maintain lateral stability do not reach further than the length of your arm. DO NOT lean out of the chair as this could cause instability.

When transferring, DO NOT stand on the leg rests. Depending on the style of leg rests either swing them away or fold them up before transferring.

When approaching a ramp, be sure of your own ability and your limitations in terms of strength and endurance.

Before attempting a ramp the following basic safety rules should be considered :

- 1. Surface of the ramp: Is it too slippery?
- 2. Degree of incline: Is it too steep to attempt alone?
- 3. Length of ramp: Is it too long for your endurance?
- 4. Obstacles: Are there any obstacles on the ramp that would necessitate assistance?

#### Be very careful when going up or down steep inclines

If it becomes necessary to stop when going up an incline, special care must be taken to avoid abrupt or sudden forward movement. During continuous forward movements, the chair is capable of falling backwards.

Always keep the chair under control when going down a ramp or incline. Speed should be controlled at all times.

The user in the rehab chair and a curb is encountered, caution should be taken to prevent the user being thrown forward:

- 1. With both motors disengaged, go down the curb, rear wheels first; making sure that the user is square to the curb so that the rear wheels go down together.
- 2. To go up a curb forward, verify both front wheels are up together. This must be accomplished with the motors disengaged.

Also try to avoid going up multiple steps and using escalators. Use the elevator instead.

Please be aware that any adjustments on the rehab chair may affect the handling and performance.

# INITIAL OVERVIEW

Before attempting to drive this rehab chair on your own, it is important that you familiarize yourself with the controls and how they operate.



#### Figure 1 - HS-7200 Rehab Chair Front View

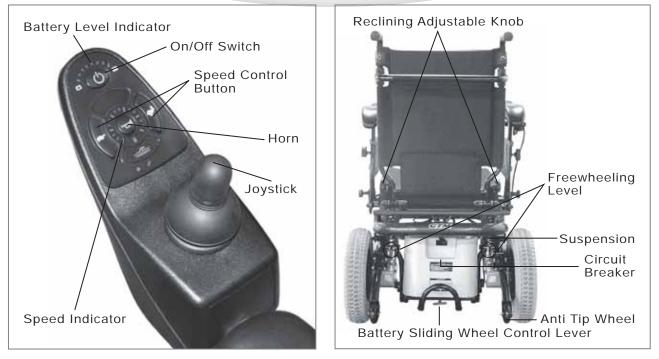


Figure 2 - HS-7200 Joystick

Figure 3 - HS-7200 Rehab Chair Rear View

# INITIAL OVERVIEW

Before attempting to drive this rehab chair on your own, it is important that you familiarize yourself with the controls and how they operate.



Figure 1 - HS-7200T Rehab Chair Front View

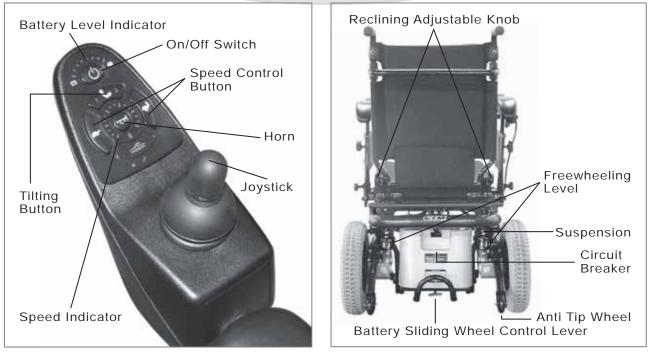


Figure 2 - HS-7200T Joystick

Figure 3 - HS-7200T Rehab Chair Rear View

# INITIAL OVERVIEW

Before attempting to drive this rehab chair on your own, it is important that you familiarize yourself with the controls and how they operate.

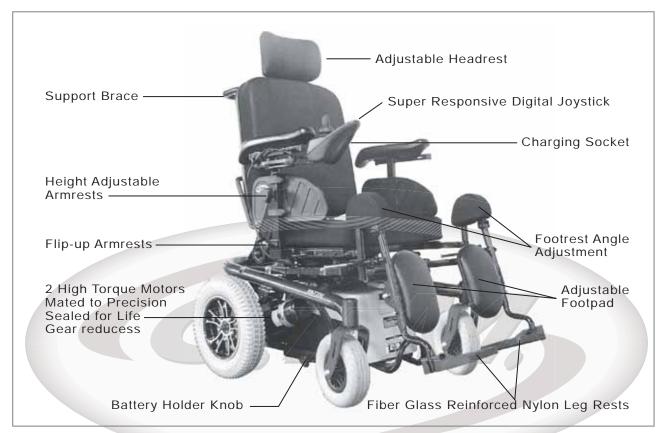


Figure 1 - HS-7200B Rehab Chair Front View

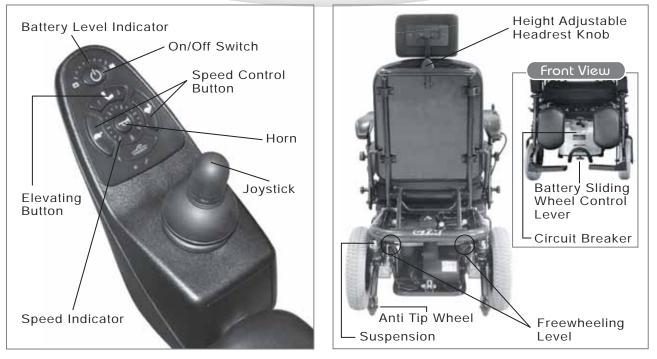


Figure 2 - HS-7200B Joystick

Figure 3 - HS-7200B Rehab Chair Rear View

# SAFE DRIVING TECHNIQUES

#### Driving your Chair

Before sitting on your chair, verify:

- 1. The chair is switched off.
- 2. Swing away the armrests and leg rests if appropriate.
- 3. The battery charger is disconnected from both the chair and the wall outlet.

Once on your chair, make sure that you are comfortably positioned and that the leg rests and armrests have been adjusted to suit your needs.

The position of the joystick should be within reach to eliminate hand and arm exhaustion when driving.

#### To Begin :

- 1. Set the speed control of the chair to SLOW.
- 2. Press the "on / off" switch.
- 3. Allow two seconds to elapse before engaging the joystick. This is a safety feature to prevent sudden starts.
- Push the joystick gently forward applying a steady even pressure. The further you push the joystick, the faster the chair will go.



The chair will stop when you return the joystick to the neutral or vertical position.

- 5. Directional control is achieved by gently swivelling the joystick in the direction you wish to go. Pull back to reverse.
- 6. The controller can be programmed to give you the best feel for all driving situations and only needs a light touch to respond.

In the case of an emergency, let the joystick go and the chair will come to a stop.)

#### Safe Driving

- 1. Never drive at a speed greater than your ability to safely control your chair. Remember that wet or loose surfaces need greater care and control.
- 2. Always turn the chair OFF when transferring on or off or while the chair is stationary for long periods.
- 3. Avoid jerky stop / start motions as this will result in excessive current draw from the batteries, increased tire wear and the rapid wearing of the gearbox and motors.
- 4. Keep your chair clean from sand and salt water.

#### Indoor / Outdoor Driving

When driving indoors keep the speed to a minimum to avoid the risk of collision.

For outdoor driving be cautious of wet surfaces, loose sand, large curbs and potholes. A little practice will ensure you understand the capabilities of your chair and enable you to overcome the most common obstacles encountered when driving.

#### Chair Operation on surfaces that require Special Care

When driving up or down ramps it is recommended that the user:

- 1. Visually checks to see if the angle of the slope is less than 8 degrees.
- 2. Checks to see that the ramp surface is roughened to prevent slippage.
- 3. Ensures that the ramp surface is correctly in line with the tires and is wide enough to allow the tires to pass freely along the ramp.

If the ramp meets these conditions, it is recommended that the user drives the wheelchair slowly up or down the ramp, ensuring that the chair is driven in the centre of the ramp tracks. If possible, have an assistant monitor the chairs' progress, and prevent tipping of the chair by holding the push handles at the back of the seat.

If the ramp does not meet these conditions, it is recommended that alternative methods for climbing and descending be found.

#### Chair Response

Should the chairs' response not be to your satisfaction, ask your dealer to adjust the program to a level at which you are comfortable. This program can be altered at anytime to either increase the response rates in line with your improved motor skills or to lower the rates to a level at which you feel comfortable and in control.

#### Curbs

It is recommended that before the user attempts to climb or descend a curb that the user visually checks the height of the curb to ensure that it does not exceed 1" in height.

If the curb height is less than 1", the user should approach the curb at right angles to the curb line at a slow speed, climb or descend the curb slowly so as to keep the chair under control. When climbing the curb, the user may find it easier to reverse the chair up the curb.

If the curb height is greater than 1", it is not recommended that the user climb or descend the curb.

#### Steep Slopes

When the rehab wheelchair is to be operated up and down steep slopes, it is recommended that the user:

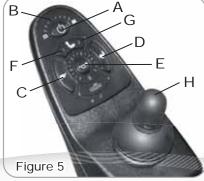
- 1. Visually checks to see if the angle of the slope is less than 8 degrees.
- 2. Checks that the slope surface is roughened to prevent slippage.

If the slope meets these conditions, it is recommended that the user approach the slope at a slow speed, keeping the chair under control at all times. It may be preferable to track across the slope so as to decrease the steepness of the descent providing that the surface of the slope is wide enough and suitable to prevent slippage.

# **OPERATING YOUR REHAB CHAIR**

#### Electrical Tilting Function (HS-7200T Only)

- 1. By pressing tilting button (F)
- 2. Then pull joystick (H) backward to tilting, chair will be declining, to stop by releasing the joystick (H).
- 3. By pushing joystick (H) forward, to inclining chair, will stop when back to the original position.





#### Electrical Reclining 180 Degree Function (HS-7200B Only)

- 1. By pressing reclining button (F)
- 2. Then pull joystick (H) backward to reclining to any angles.
- 3. By pushing joystick (H) forward to inclining chair back to its original position.



#### Electrical Elevating Function (HS-7200B Only)

- 1. By pressing elevating button (G)
- 2. Then pull joystick (H) backward to adjust to your desired height.
- 3. By pushing joystick (H) forward to receding to original position.

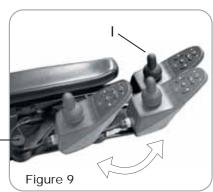
# Figure 8

#### Controller Position Adjustment

By pushing or pulling the controller (I) to desired position.

- \*When controller adjusted back to normal position, make sure T shape pin is inside the square tube's hole.
- \*Do not driving while operate above function.
- \*Watch out for pinch warning.





#### Armrest Adjustment

By pulling out the flip up armrests plug (J), then rotate the armrest upward until at rear side to get off or get onto the rehab chair.

#### Armrest Height Adjustment

By releasing height adjustable armrests knob (K), and adjust to desired height, then fasten height adjustable armrests knob into the hole to lock.



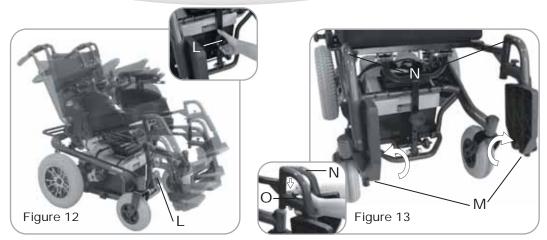


#### Chair Manual Tilting Angle Adjustment (HS-7200 Only)

By Releasing tilting adjustable knob (L), and lift chair's brace up to target desired height hole, then fasten tilting adjustable knob.

#### Footrest Adjustment

- 1. Lift up double footrest (M) as arrows indicated.
- 2. Rotate double footrest holder (N), hold on footrest holder lever (O) and rotate outward, then release footrest holder lever.

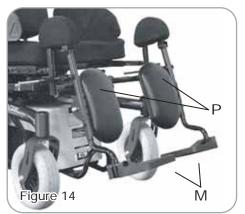


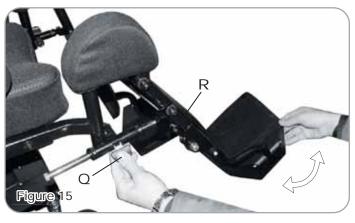
#### Legrest Adjustment

- 1. Adjust to your comfortable position by moving double legrest (P) up & down or left & right directions.
- 2. Lift up double legrest (M) as arrows indicated.
- 3. Adjust bolt (M1), allowed to adjust double legrest (M) up & down or left & right directions.

#### Legrest Comfort Adjustment (HS-7200B Only)

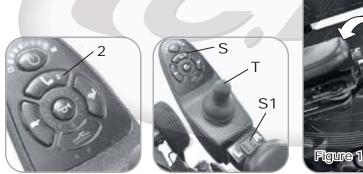
By pressing footrest angle adjustment (Q) from the outside, and use hand to lift up legrest (R) to desired angle, then release footrest angle adjustment (Q), pin will automatic locked in position. (same for other side)





#### Electrical Legrests Comfort Adjustment (Option)

- 1.Pressing (S) button until "2" lights up.
- 2.Moving (S1) to "R" controls right legrest, to "L" controls left legrest.
- 3.Pulling Joystick (T) backwards, legrest will ascending; pushing forwards, legrest will descending.





#### Headrest Comfort Adjustment (HS-7200B Only)

- 1. Release height adjustable headrest knob (U), then adjust headrest (V) or (V1) to desired position and fasten the height adjustable headrest knob (U).
- 2. Adjust headrest (V) or (V1) forward and backward according to your comfort position. (Headrest (V1) could be turned freely and width size could be adjusted by using hands)
- \*Owing to the headrest (V) or (V1) brace limited length, needed to fasten screw tightly on the brace after adjusted.





#### Backrest Tilting Adjustment

Release and take off screw (W), adjust backrest to your comfortable angle and target the hole to fasten screw. (same for both side)

#### Circuit Breaker

When the electric circuit is overloading or malfunctioned the Circuit Breaker will automatically shut off the main power of the chair to ensure safety in performance. Pressing down the button (X) will regain mobility.

#### Freewheel levers

For your convenience, C.T.M. HS-7200 is equipped with two free wheel levers. These levers allow you to disengage the drive motors and maneuver the chair manually.

1.In travelling, set the two metallic levers (Y) to the Drive position.

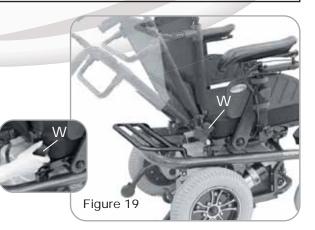
2. In stop or when the chair is malfunctioned and unable to be mobile, push the levers (Y) to the Neutral position so the chair is movable by human force.

DO NOT use your chair while the drive motors are disengaged unless you are in the presence of an attendant! DO NOT disengage the drive motors when your chair is on an incline. The chair could roll down on its own, causing injury!

To engage or disengage the free wheel feature:

1. Turn the free wheel levers outward or inward to engage the drive motors. (See Fig. 26)

It is important to remember that when your HS-7200 is in freewheeling mode, the braking system is disengaged







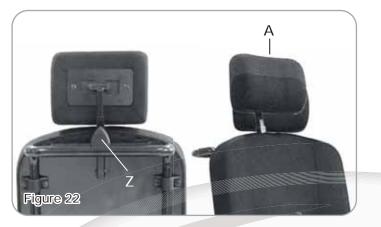
# DISASSEMBLING YOUR REHAB CHAIR

#### Headrest (HS-7200B Only)

Release height adjustable headrest knob (Z), then pull up headrest.

#### Armrest

Take off back & forth adjustable armrest plug (B), then lift up armrest (C). (same for other side)





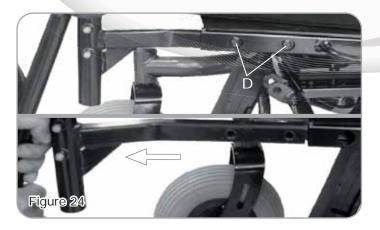
#### Footrest

Take off sides screw (D), pull footrest forward. (same for other side)

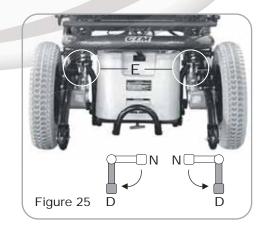
#### Free Wheeling Lever

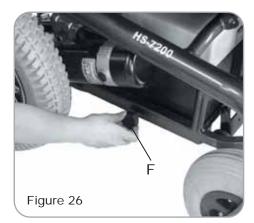
1. First change free wheeling levers (E) to D position

\*To prevent chair slides and cause danger when disassemble batteries



Take Off Batterys' Holder Knob Take off sides' battery holder knob (F)





#### Power Connector

Pull out power connector.

#### Put down battery comp slide wheel

- 1. Pull T shape battery holder knob (I) outward
- 2. By turning battery holder knob (I) 180 degree counterclockwise, sliding wheel (H) will turn 90 degree.
- 3. Before release, make sure battery holder knob (I) is in its position



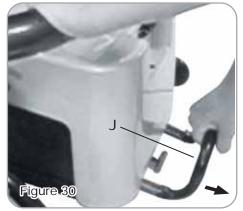
#### Disassembling Battery Comp

Disassemble battery comp by grasp battery comp handle bar (J), pull battery comp backward out off slide.

\*Caution

Batteries are heavy, be careful when transporting. Be careful, when pulling out battery comp off the slide.

\*To assemble the rehab chair, you can repeat the disassembly directions in reverse.



If the slope does not meet these conditions, it is recommended that the user does not climb or descend the slope.

# **BATTERIES AND CHARGING**

When your batteries are fully charged you should have sufficient power to give you all the mobility required in a day. It is important that you understand how your batteries and charger work. Batteries must be charged before using the rehab chair for the first time and are recommended to be charged up to 10 - 14 hours after each day's use.

#### Charging the Batteries

- 1. Batteries should be charged every night in a well ventilated room.
- 2. DO NOT place the rehab wheelchair near radiators or open fireplaces while charging.
- 3. DO NOT smoke or permit open flames in the immediate vicinity.
- 4. Turn the chair controller power off before charging.
- 5. It is advisable that the batteries be charged for a minimum of 10 hours per night to ensure full battery storage capacity. The battery charger is an automatic current limiting device and will shut off when the batteries are fully charged.

Charging the batteries :

- 1. Position HS-7200 rehab chair next to a standard wall outlet.
- 2. Connect the battery charger to the wheelchair input battery charging socket, which is located on the front of the controller.
- 3. Connect the battery charger to a standard wall power outlet.
- 4. Switch the power on.

During the recharge :

1. While the batteries are being recharged, a red light will appear on the battery charger, indicating that the power is connected and charging is in progress.

At the end of the recharge cycle:

- 1. A green light will appear on the charger. This indicates that the batteries are fully charged and ready for use.
- 2. If fitted, the battery charge level indicator on the controller should also show a full charge when switched on.

When do the batteries need recharging?

When the batteries fall below 80% of the maximum charge level, the "on / off" lamp on the controller will flash. This indicates that while you have some reserve power, the batteries should be recharged.



- 1. Do not use batteries other than the recommended type for your chair and
- never use a charger other than the one supplied for that purpose.
  - 2. If the chair is not used for a long period of time arrange to have the batteries charged for at least one day (10 hours) every month, minimum.
  - 3. Periodically, check that the battery terminals are clean and the connections are tight. Smear a thin film of petroleum jelly on the terminals to guard against corrosion. Always wash your hands after handling batteries.



# MAINTENANCE, AND CLEANING

An electric wheelchair needs some basic attention to ensure it provides reliable service. We recommend that the user ensures that the rehab wheelchair is checked regularly for maintenance requirements and receives a thorough, annual maintenance check up.

We recommend that the chair has at least one full service from an authorised dealer once a year. If you notice any irregular aspect of your chair, phone your dealer for assistance.

#### Annual Maintenance

We recommend that the chair has at least one full service per year from an authorized dealer. This will ensure that your rehab chair is functioning properly and also helps prevent future complications. This should include:

- 1. Checking the tires.
- 2. Checking the batteries and terminals.
- 3. Checking the controller program for the user's needs.
- 4. Checking the frame.
- 5. Checking the upholstery condition.

#### Regular Maintenance and Cleaning

- 1. Avoid knocking or bumping the controller, especially the joystick.
- 2. Avoid prolonged exposure of your power chair to extreme conditions, such as heat, cold, or moisture.
- 3. Keep the controller clean.
- 4. Check that all controller connectors are tight and secured properly.
- 5. Never hose off your rehab chair or place it in direct contact with water.
- 6. Keep the upholstery and frame clean by wiping with a soft cloth, particularly after driving through wet, sandy or muddy conditions. Do not use harsh abrasive materials when cleaning. Do not apply liquid cleaners or solvents directly to the control box, battery charger or any electrical connections.
- 7. Keep wheels free from lint, hair, sand and carpet fibres.
- 8. Lightly oil axle pin, wheel axles and bearings once every three months, if necessary.
- 9. Inspect the tires. Tread depth should not be allowed to drop below 1/16".
- 10. Use only recommended batteries and have batteries changed only by Qualified Dealers.
- 11. Charge batteries regularly. Make sure the charger lead plugs are engaged properly in the sockets. Do not disconnect by pulling the cord.
- 12. With the controller turned off, check the joystick. Make sure it is not bent or damaged and that it returns to the center when you release it. Check the rubber boot around the base of the joystick for damage. Visually inspect the boot. Do not handle or try to repair it. See your authorized dealer for any questions.
- 13. Visually inspect the controller harnesses. Make sure that they are not frayed, cut or have any wires exposed. See your authorized dealer if there is a problem with any of these harnesses.
- 14. Ensure that all parts of the controller system are securely fastened to your HS-7200. Do not over tighten any screws.

# TROUBLESHOOTING

Here are some suggestions about solving problems you may have with your power chair. There are 11 LED Self-Diagnostic Warning Lights on the Control Panel. To check the Self-Diagnostic Warning Lights, turn the power chair on and count the number of flashes.

Flash Code	Description		
1	User Fault	Possible stall timeout or user error. Release the joystick to neutral and try again.	
2	Battery Fault	Try charging the batteries. Batteries may require replacing. Check the batteries and cabling.	
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 SHARK connections and wiring. Replace the Power Module.	
9	SHARK Communications Fault	Check Battery voltage is greater than 17V. Check SHARK Bus Cable. Replace the SHARK Power Module. Replace the SHARK Control Unit.	
10	Unknown Fault	Check all connections and wiring. Consult a service agent.	
11	Incompatible Control Unit	The Control Unit is incompatible with the Power Module. Ensure the brand of the Power Module matches that of the Control Unit.	

If the programmable parameter, Motor Swap, then left and right hand references in this table will need transposing.

#### Other Problems :

Rehab Chair will not move when the power is turned on:

- 1. Check the Battery Level Indicator on the joystick. All the LED lights should be on.
- 2.Check the Self-Diagnostic Warning Light. It should be steady. If it is flashing, see the chart on page 19 for the problem identification.
- 3. Check all electrical connections to be sure they are tight.
- 4. If none of these suggestions correct the problem, contact your authorized dealer.

If charging your rehab chair over 14 hours and the light on the charger does not change to green, then contact your authorized dealer.

Please note that your rehab chair is equipped with a controller that constantly checks the drive system for a safe and enjoyable ride. If an error occurs, the Battery Level Indicator will provide you an indication of the problem by way of flashing lights.

We thank you again for choosing C.T.M. for your rehab chair. C.T.M. offers exceptional, uncompromised quality, for better mobility.

"When you compare, the decision will be obvious: C.T.M."

### ACCESSORIES

#### 1.Captain Seat



#### 2.Reclining Seat



#### 3.Legrests



#### 4.Eletrical Elevating Legrests





# SPECIFICATION

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SPECIFICATIONS	HS-7200	HS-7200T	HS-7200B
Overall Length	1080 mm / 42.5"	1080 mm / 42.5"	1190 mm / 46.9"
Overall Width	670 mm / 26.4"	670 mm / 26.4"	670 mm / 26.4"
Overall Height	1030 mm / 40.6"	1030 mm / 40.6"	1180 mm / 46.5"
Wheels: Front	230 mm / 9"	230 mm / 9"	230 mm / 9"
Wheels: Middle	N/A	N/A	N/A
Wheels: Rear	360 mm / 14"	360 mm / 14"	360 mm / 14"
Weight w/ Batteries	116 kg / 250 lbs	117.06 kg / 250 lbs	140 kg / 300 lbs
Max. Speed	8 kmph / 5 mph	8 kmph / 5 mph	8 kmph / 5 mph
Weight Capacity	162 kg / 357.2 lbs	162 kg / 357.2 lbs	136 kg / 300 lbs
Ground Clearance	70 mm / 2.8"	110 mm / 4.3"	45 mm / 1.8"
Grade Climbable	8 degree	8 degree	8 degree
Curb Climbing	20 mm / 0.8"	20 mm / 0.8"	20 mm / 0.8"
Turning Radius	920 mm / 36.2"	920 mm / 36.2"	1070 mm / 42.1"
Brake	Electro-Mechanical		
Seat Width	406.4 or 457.2 mm / 16" or 18"		457.2 mm / 18"
Seat Back Angle	100 ~ 140 degree	100 ~ 140 degree	100 ~ 170 degree
Seat Back Height	520 mm / 20.5"	520 mm / 20.5"	710 mm / 28"
Seat Tilting Angle	0 ~ 18 degree	0 ~ 17 degree	0 ~ 70 degree
Seat Elevating Angle	N/A	N/A	0 ~ 190 mm / 0 ~ 7.5"
Drive Train	2-Motor Rear-Wheel Drive		
Battery Pack Weight	55 kg / 121.3 lbs	55 kg / 121.3 lbs	55 kg / 121.3 lbs
Motor Size	DC24V / 420 W 4600r.p.m.		
Travel Range	48 km / 29.8 mile	48 km / 29.8 mile	48 km / 29.8 mile
Battery	75 Ah x 2	75 Ah x 2	75 Ah x 2
Charger	8A	8A	8A
Electronics	Dynamic SHARK	Dynamic SHARK	Dynamic SHARK
	Padded, Breathable Ballistic Nylon Back Rest		

\*Subject to change without notice.