

STAIR CHAIR

SC-5

OPERATION MANUAL

**POWERED
STAIR CLIMBER**

INTRODUCTION

Thank you for purchasing STAIR CHAIR, SUNWA POWERED SYAIR CLIMBER.

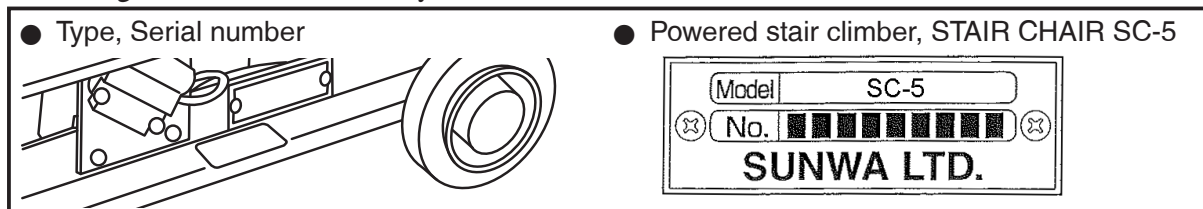
This manual describes proper operation procedure, inspection and maintenance.

Before running the machine, be sure to read this manual thoroughly.

Please keep this manual in the same, easily accessible place.

All machines are referred to by their serial numbers. Whenever you inquire about a machine, be sure to inform us of its serial number.

The serial number is inscribed on the name plate attached to the machine. Write it into the instruction manual together with the date of entry.



Please write the serial number and date purchased in the following blank space.

Serial number			
Purchased date	Year	Month	Date




- When you inquire about the machine, please inform us of its serial number and purchase date.
- This machine shall be operated only by an operator who has undergone the appropriate training program.
- STAIR CHAIR SC-5 is for one passenger. Even if the total weight does not exceed the maximum allowable load, a passenger holding a child on his/her lap will not be allowed because this is highly dangerous. Be sure that only a single person mounts the machine, with the safety belt fastened.
- The operator shall address the passenger upon each operation in order so that the passenger can be seated without anxiety. (Especially during ascent/descent on a stairway, take special care so that passengers do not have to feel anxiety.)

If any of the following events arise, be sure to notify your sales agent.

- When this machine is moved to another facility or transferred; or
- When necessity arises such that an uneducated operator has to operate the machine.

SAFETY PRECAUTIONS

To maintain safe operation, important safety precautions, classified into Danger, Warning and Caution, are indicated in corresponding parts of the operation manual. The definition of each precaution is explained in the following section.

 DANGER	Neglecting this warning indication or operating the machine improperly may cause serious personal injury or even death.
 WARNING	Neglecting this warning indication or operating the machine improperly may seriously endanger the concerned person's health or life.
 CAUTION	Neglecting this warning indication or operating the machine improperly may cause injury to the concerned person or damage the machine or related items.

- If you transfer this machine, be sure to attach this instruction manual to the machine. -

11. AFTER-PURCHASE SERVICING

●Warranty and repair

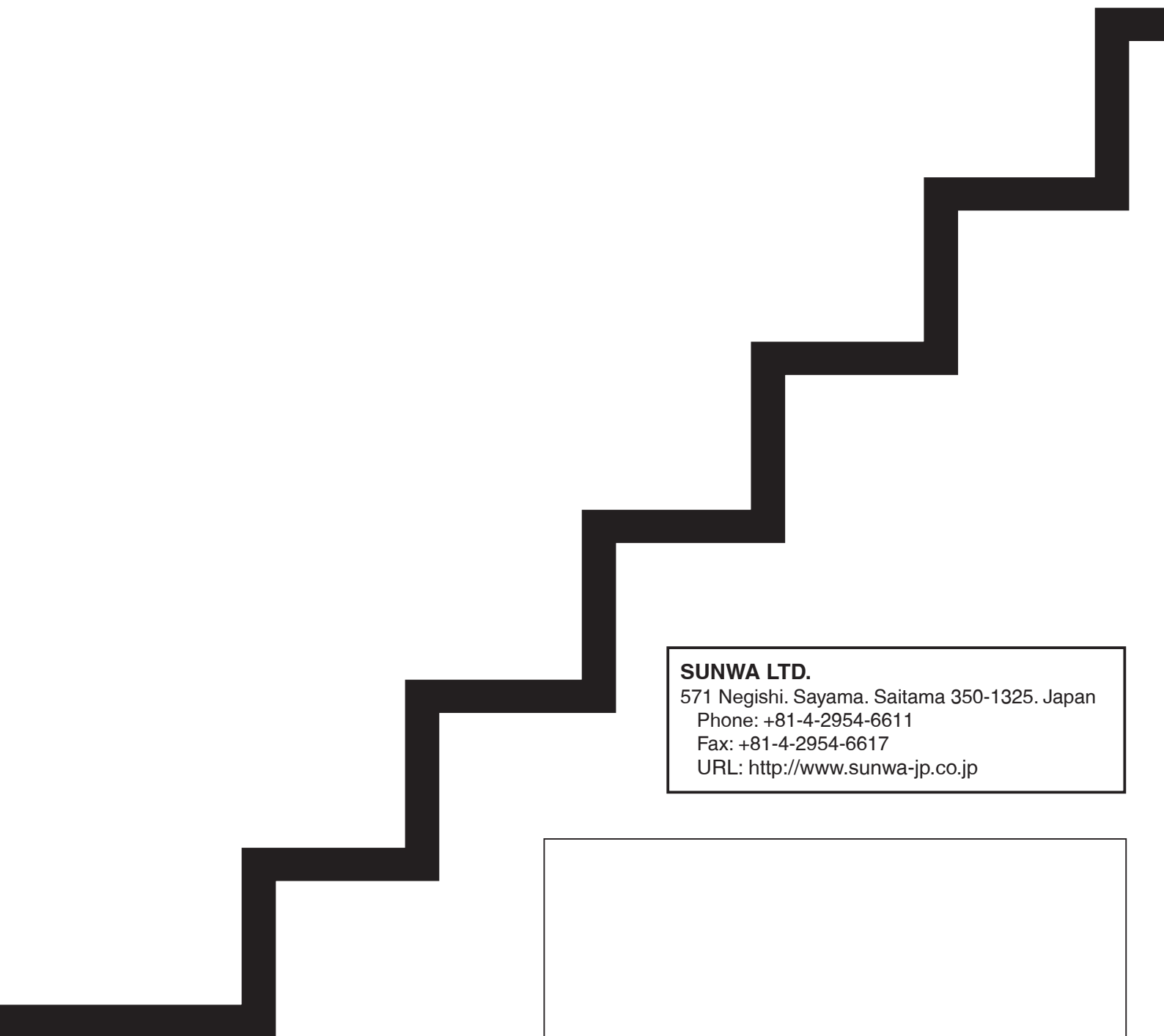
- ① The term of the warranty is one year from the purchase date.
Even during this period, in the following cases, repair expenses have to be paid.
 - a. Malfunction or damage due to erroneous usage or improper repair or alteration
 - b. Malfunction resulting from fire, earthquake, flood, lightning, or other natural disasters or environmental pollution
 - c. Malfunction due to the usage of the battery, oil, battery charger, etc., other than specified
 - d. Consumables such as Batteries, Rubber Crawlers (traveling belts), Traveling Wheels, oil, etc.
 - e. Usage in foreign countries
- ② As for repair after the expiration of the warranty term, please consult your sales agent. As far as repair is possible, we will perform repairs upon your request and at your expense.

●Retention period of parts for repair

- ① We retain the parts necessary for the maintenance of the product for at least seven years after the termination of the production of the product.
- ② For any unclear matters concerning the product or after-purchase servicing, please ask your sales agent.

●In case you wish to scrap this product

Please contact your sales agent or SUNWA LTD.



SUNWA LTD.

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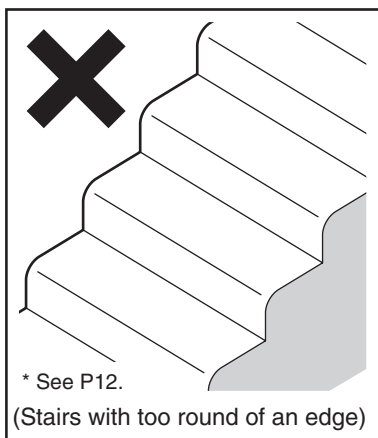
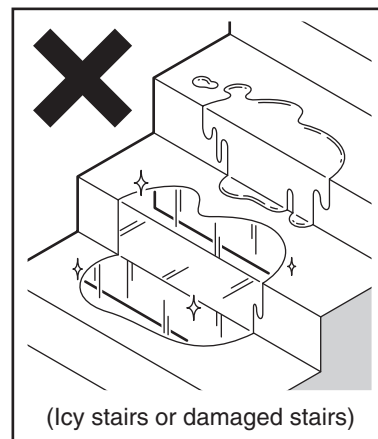
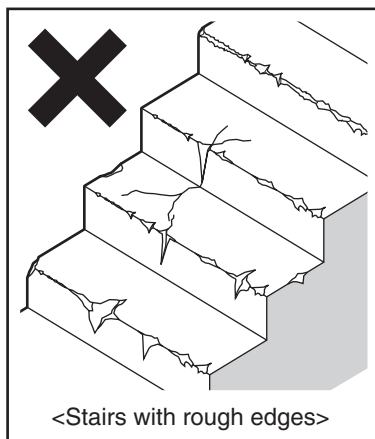
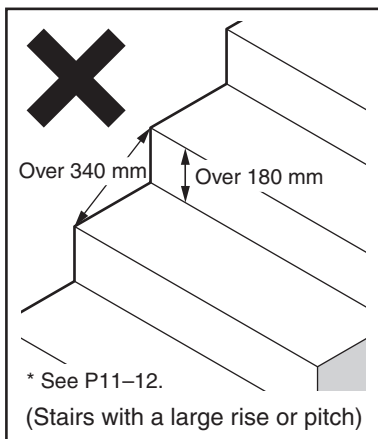
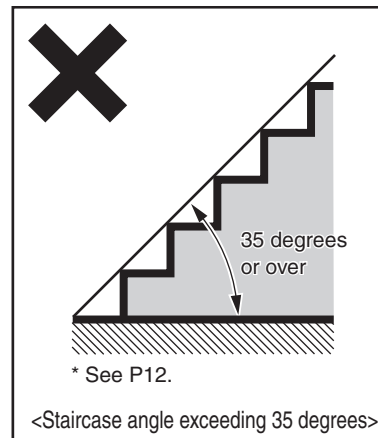
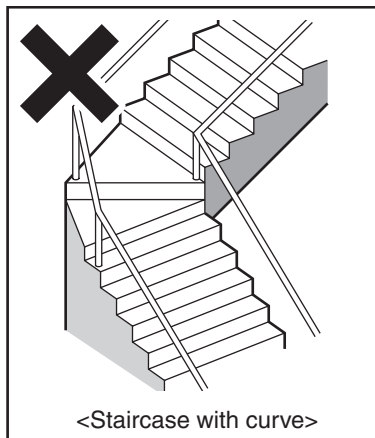
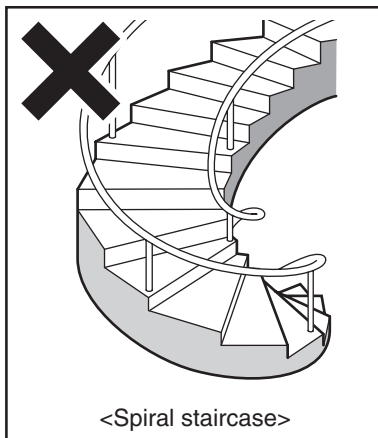
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1. ESSENTIALS OF SAFE OPERATION

Before using STAIR CHAIR

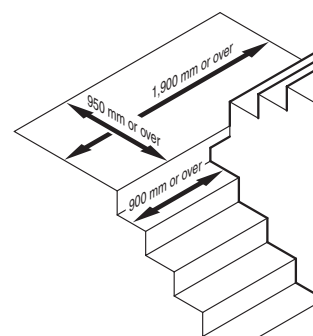
- This machine cannot be used on stairs as shown below.



Operating environment

Shape of stairs : Neither spiral nor bent stairs
 Slope of stairs : Not steeper than 36 degrees
 Width of stairs : 900 mm or over
 Width of landing : 1,900 mm or over
 Depth of landing : 950 mm or over
 Nose distance (pitch) : 340 mm or under
 Rise : 180 mm or under
 Radius of nose (R) : R 9 mm or under

- Ensure that there are no loose non-slip rubber mats on the stairs.



Acceptable condition of operator for rental business in nursing care insurance

Age : Basically the age shall be between 16 and 70 years old.
 Disease : No history of episodic disease.
 Height : Not less than 150 cm in height as a general rule.
 Weight : As a general rule, weight shall be 45 kg or over.
 Equilibrium sense : Capable of climbing stairs backward.
 Four limbs : No physical disability in both legs and arms.
 Auditory and visual senses : No specific problem in auditory and visual senses.

1 Be sure to carry out inspection before usage.

- The operator of STAIR CHAIR shall carry out inspection prior to usage.
The initial inspection is necessary for safe operation.



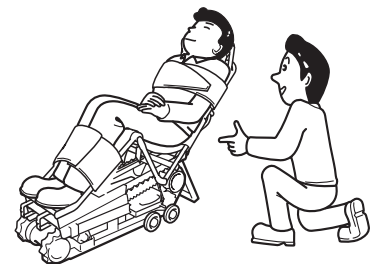
2 Handling of Battery

- Battery is a sealed type. It is unnecessary to refill it with water. Never dismantle Battery.
- Never position Battery near a flame or short-circuit Battery.
- If Battery is cracked and its electrolytic solution contacts skin or clothes, immediately rinse the contaminated area with plenty of clean water.
If electrolytic solution splashes into the eye, rinse the eye with plenty of clean water and consult an ophthalmologist.
- Use special Battery Charger for charging Battery.



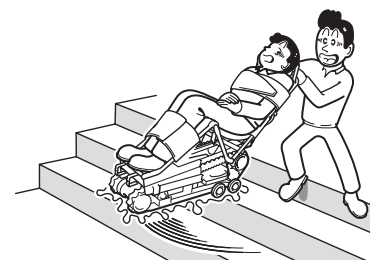
3 Safe operation with proper knowledge

- Since persons who have not undergone training cannot operate this machine, be sure to undergo a training program prior to operation.
- Proper clothes, suitable to machine control, must be worn.
- Before seating or unseating the passenger on/from STAIR CHAIR, be sure to extend Kick Stand to secure STAIR CHAIR.
- After the passenger is seated on STAIR CHAIR, firmly secure the passenger with Belt.
- Wear normal shoes or sport-type shoes.
Never operate the machine while wearing no open heeled shoes such as slippers, sandals or equivalents.
- No operator overworked, sick, taking medicine, intoxicated, or otherwise inhibited may operate STAIR CHAIR.



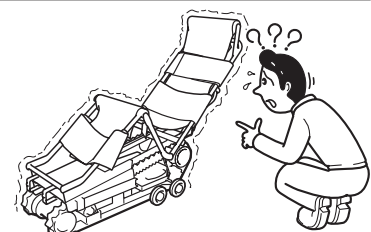
4 Operation on a staircase

- Do not use this machine on stairs as shown in P3.
Do not operate this machine askew on stairs. Doing so may cause an accident and is highly dangerous.
- Whenever running the machine upward, the operator must always pay attention to the area behind him/herself.
- Whenever running the machine downward, the operator must always pay attention to the front of the machine.
- Never let go of the machine unless unavoidable circumstances separate the operator from the machine.
- Do not use this machine to convey baggage or other articles.



5 Machine stoppage

- If the machine gives trouble, malfunctions or is damaged, immediately stop operating the machine.
Running it with a trouble cause existing can result in a serious accident.
- When you use this machine after a long period of non-use, please request inspection to your sales agent.



2. CONFIGURATION AND SPECIFICATIONS

2-1 PRODUCT CONFIGURATION

STAIR CHAIR consists of the following assemblies.

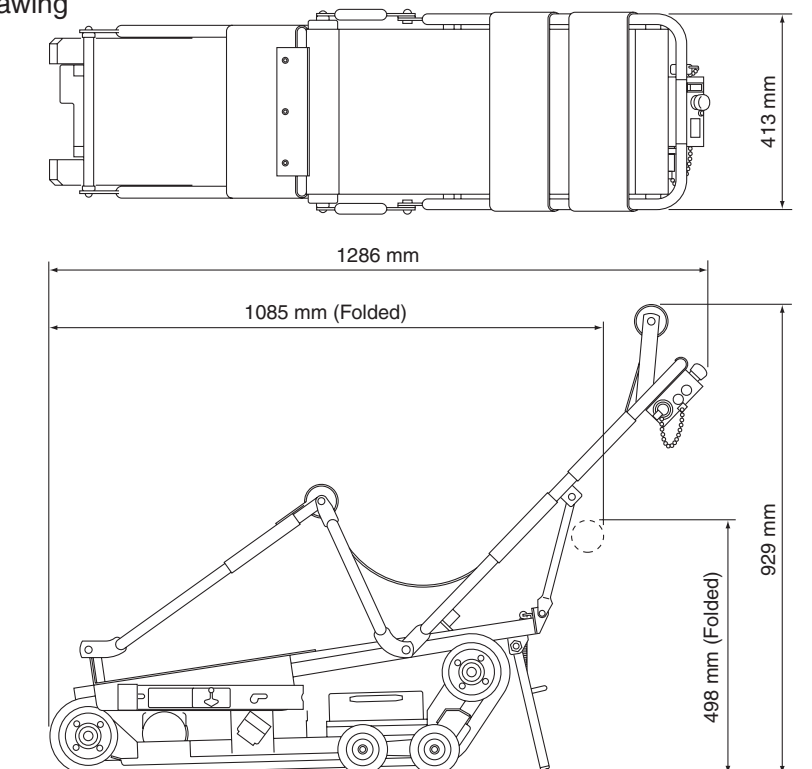
• Frame and Chair Units
• Drive Unit
• Wheels
• Kick Stand
• Battery Pack

Standard accessories	• Battery charger (12 V)	1 unit
	• Operation manual	1 copy
	• Sheet Cover	1 sheet
	• Key Chain	1 piece

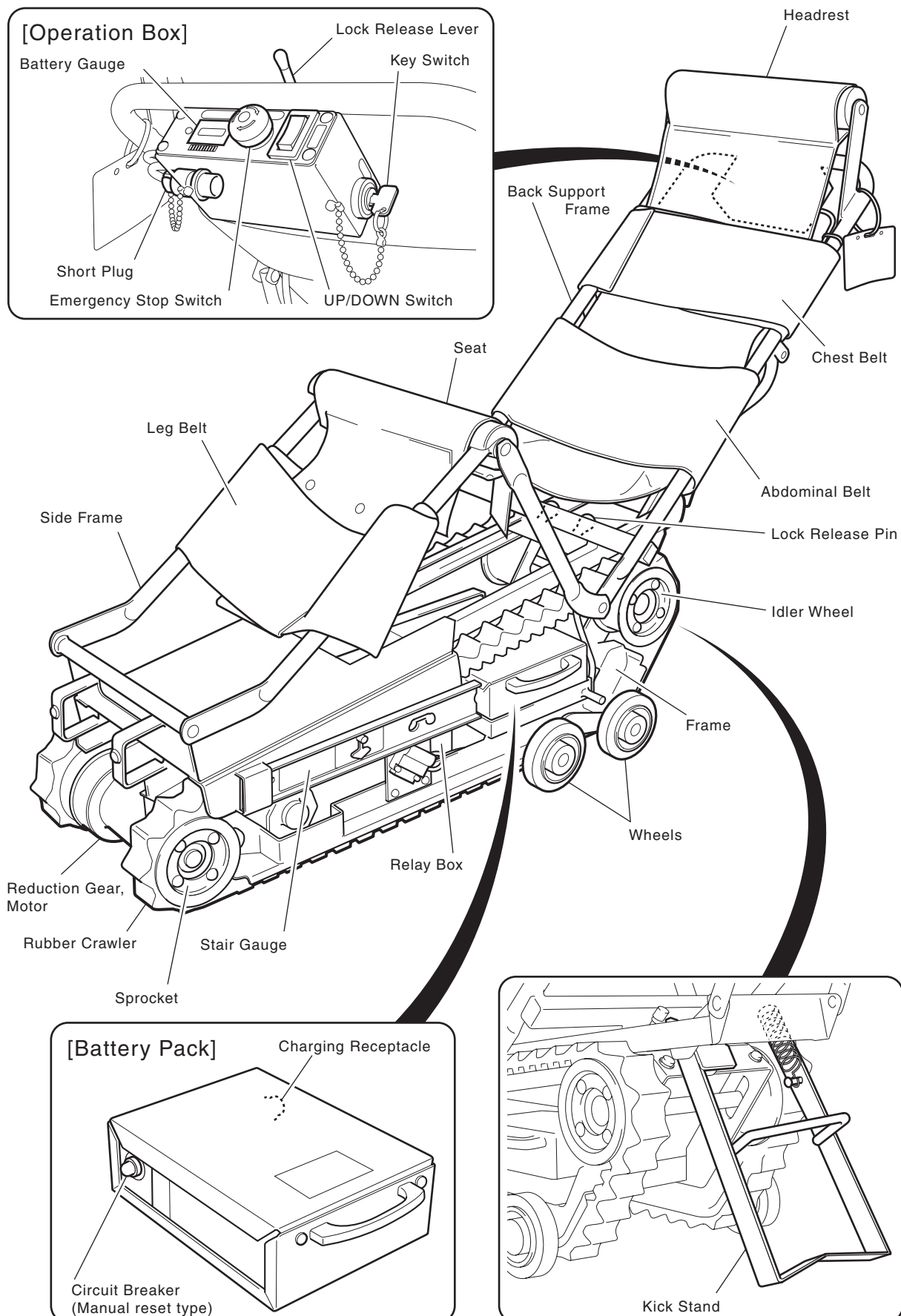
2-2 SPECIFICATIONS

Model	SC-5
Passenger	1 (Max.130 kg)
Operator	1
Rubber Crawlers	2 Rubber Crawlers (Width: 51 mm, Ground contacting length: 682 mm, Tread 241 mm)
Motor	Type: permanent-magnet DC motor, 1pc.
Brake	Spring loaded electromagnetic brake, 1 pc.
Stair ascent speed	20 steps (6.0 m) / min. (for passenger weight: 130 kg)
Stair descent speed	34 steps (10.2 m) / min. (for passenger weight: 130 kg)
Maximum stair angle	35°
Running time (min)/charge	Ascending: 600 steps/30 min. Descending: 1020 steps / 30 min. (for passenger weight: 130 kg)
Battery	Small lead battery with control valve (PXL12180) or (PE12V17)
Charger	Power input: AC 115V/230V, 50/60Hz, 1.0A Max. Power output: 12VDC, 3A
Weight	48 kg

Dimensional drawing



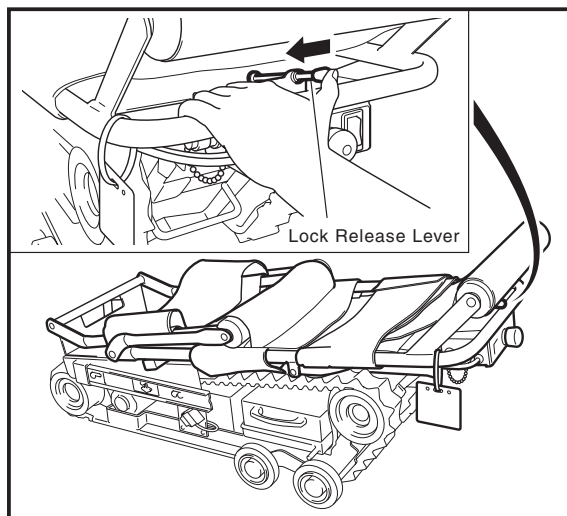
3. NAME OF EACH UNIT



4. DESCRIPTION OF EACH UNIT

4-1 HOW TO SET THE BACK SUPPORT FRAME

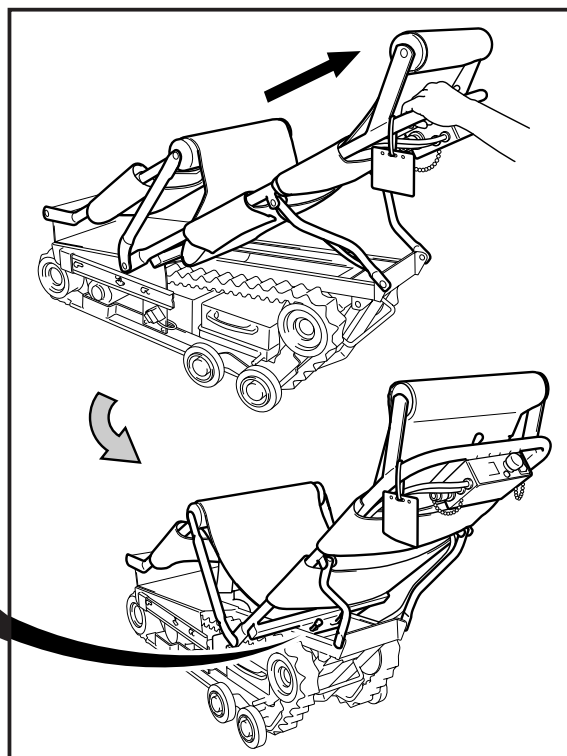
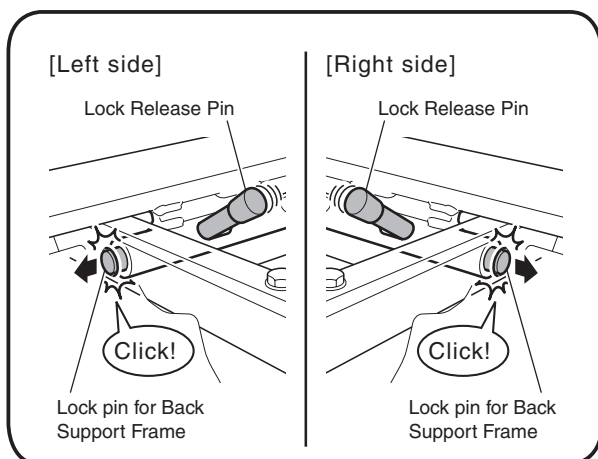
- ① Push Lock Release Lever, which is located above Operation Box, to the left. Hold Back Support Frame and let the frame slide slightly backward and upward.



- ② When Back Support Frame has slid slightly, disengage your finger from the lever and let Back Support Frame slide further to extract the frame backward.

Let the frame slide backward until the locking mechanism emits a clicking sound. When the lock pin for Back Support Frame has been locked securely and the frame will not retreat, the setup is complete.

NOTE: Make sure that the lock pin for Back Support Frame is securely caught on both sides of the frame.



WARNING

Unlatched operation is very dangerous. Before operating the machine, be sure to confirm that Lock Unit securely supports Back Support Frame.



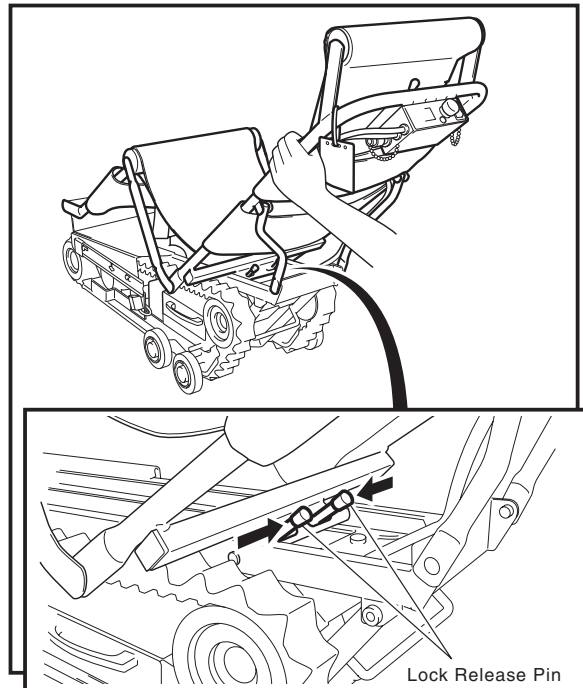
CAUTION

Never operate Lock Pin latch/release operation while the passenger is on STAIR CHAIR. Doing so may cause injury to the passenger.
Do not let children operate STAIR CHAIR. It will result in danger.

4-2 HOW TO FOLD THE BACK SUPPORT FRAME

- ① Hold Back Support Frame with one hand, grasp Lock Release Pins, and let the frame slide slightly toward the front side.

NOTE: Do not manipulate Lock Release Pin with a passenger on the machine.



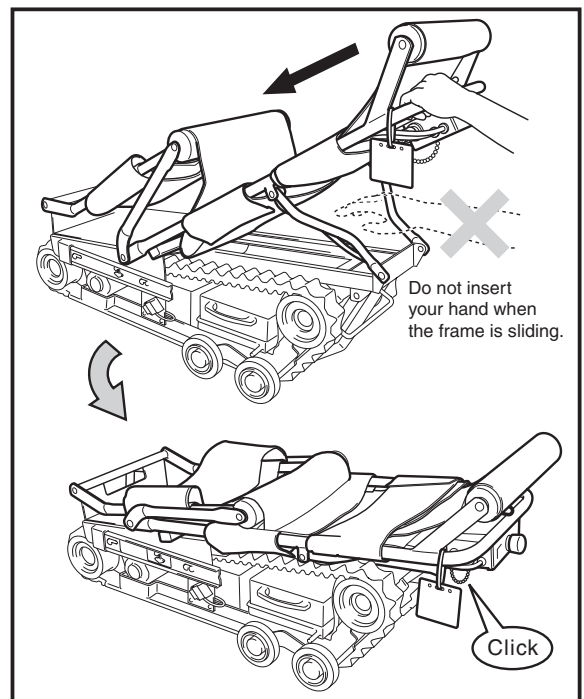
- ② After the locks are released, let Lock Release Pins go, hold Back Support Frame then slide and push Back Support Frame to frontward.

Fold Back Support Frame until the operator hears the latching “click” sound.

When the lock pin has been locked securely and the frame will not retreat, the folding is complete.

CAUTION

Folding shall be carried out without a passenger on the machine.
Otherwise the passenger or the operator may be injured.



CAUTION

While Back Support Frame is folded, and after Back Support Frame's sliding movement is started, be sure not to touch Lock Pins.
If Lock Pins are held, there will be danger of the hands being caught in Frame.

4-3 SWITCHES

① Key Switch

It turns of/off the power supply.

When it is turned clockwise, the power will be ON and when turned counter-clockwise, the power will be off. A key chain for Key Switch may be used if need arises by attaching it to the key. The key chain is a standard accessory.

NOTE: When STAIR CHAIR is not to be used (to be stored, to be charged, to be transported), turn off Key Switch, remove Key and keep it in an appointed place.

② UP/DOWN Switch

Selects ascent or descent mode.

Only while this Switch is pressed, does the machine run. If UP Seesaw is pressed, the machine will ascend. If DOWN Seesaw is pressed, the machine will descend. When the finger is released, Switch will automatically return its neutral position and the machine will stop.

NOTE: Manipulate UP/DOWN switch with your right thumb.

③ Emergency Stop Switch

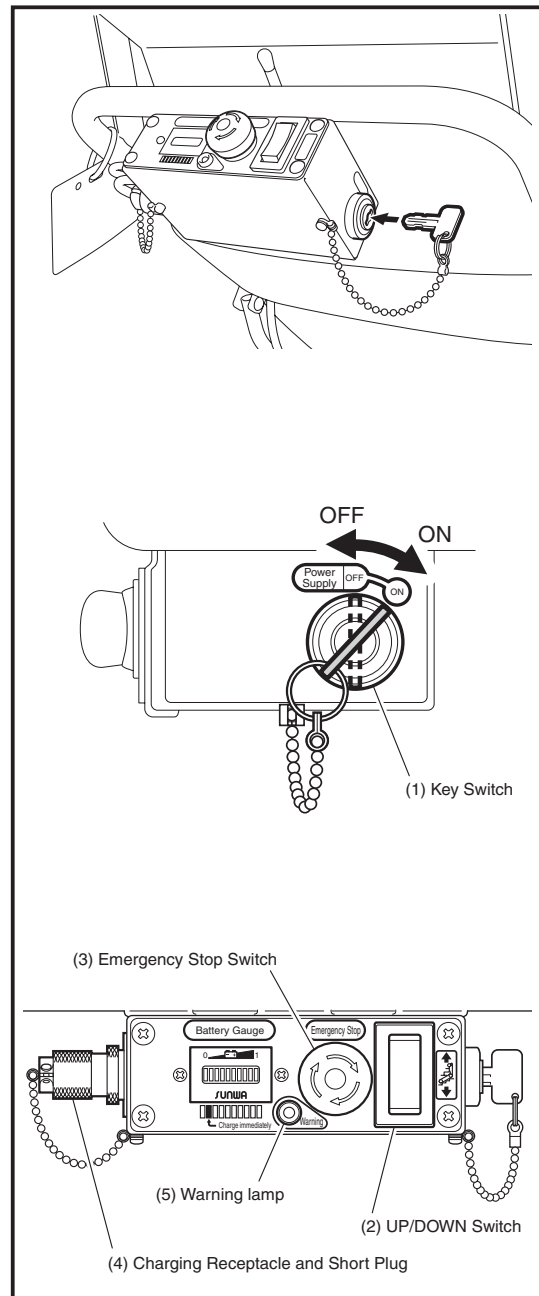
When this Switch is pressed, the machine will stop immediately. STAIR CHAIR won't restart even if the other Switch is pressed.

To release the emergency stop condition, turn Emergency Stop Switch clockwise. (in the "arrow" indicated direction).

④ Charging Receptacle and Short Plug

When charging the battery, remove this plug and then connect the charging plug of the charger to the battery. This plug should remain connected to Charging Receptacle except when charging.

NOTE: Unless Short Plug remains inserted, the machine cannot be powered on even if Key Switch is turned to ON.



NOTE: Make sure that the stairs are possible to be used by checking Stair Gauge before using the stairs. (See 4-8 HOW TO USE THE STAIR GAUGE, on P11.)



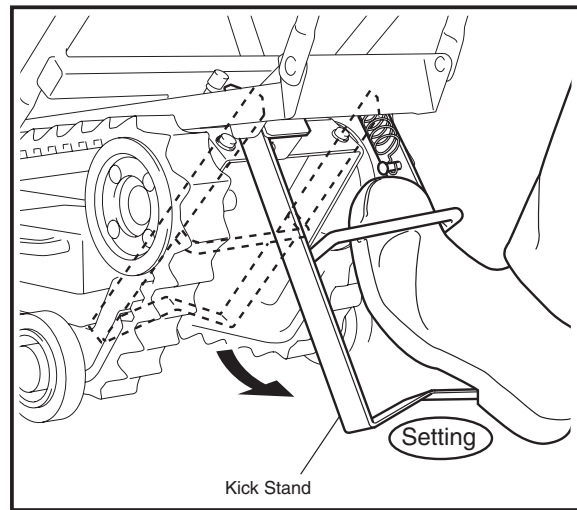
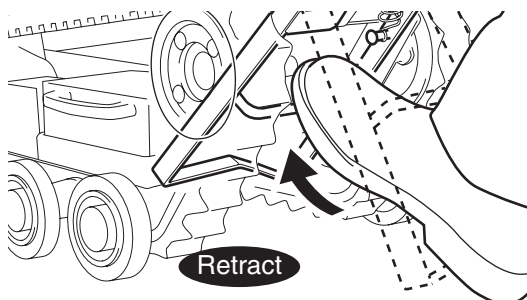
CAUTION

If Key Switch is kept in the ON position, Battery will more quickly discharge. When the machine is not to be in use, be sure to turn off Key Switch and remove Key.

4-4 KICK STAND

This Stand prevents STAIR CHAIR toppling backward while the passenger is being seated/unseated from STAIR CHAIR. In order to prevent an accident, UP/DOWN Switch won't function while Stand is extended.

Before using STAIR CHAIR, be sure to retract Kick Stand.

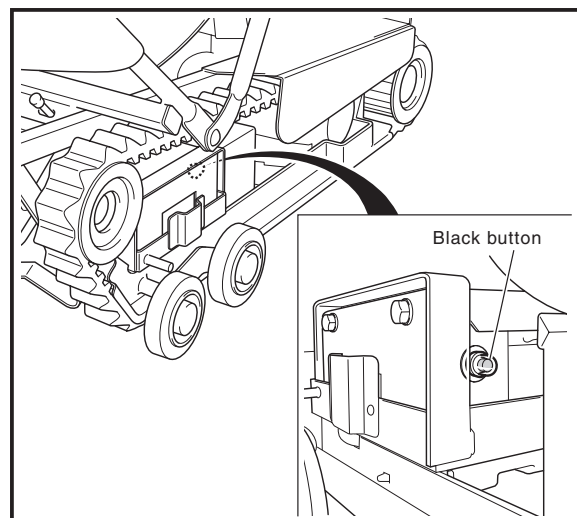
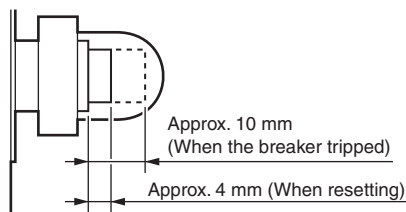


WARNING

Be sure to extend Kick Stand whenever a passenger is mounting or dismounting the machine. Otherwise, the machine may overturn backwards, leading to possible head injury.

4-5 HOW TO RESET THE CIRCUIT BREAKER

During traveling using power, the circuit breaker may trip for the sake of protection against overload, making traveling impossible. During such an occasion, press the black button on the top of the transparent cover until a clicking sound is heard.



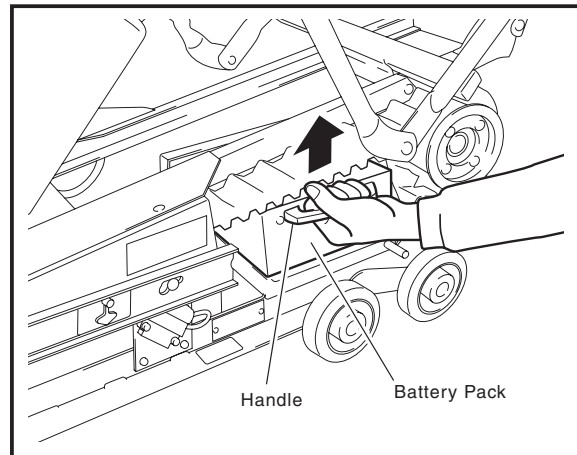
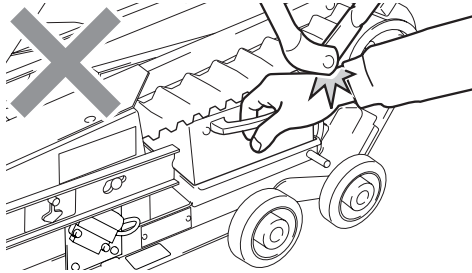
CAUTION

- If the breaker trips frequently, troubles of some sort are probable. Ask for repair or inspection.
- With the breaker tripped, the machine will not move even if you manipulate UP/DOWN switch.

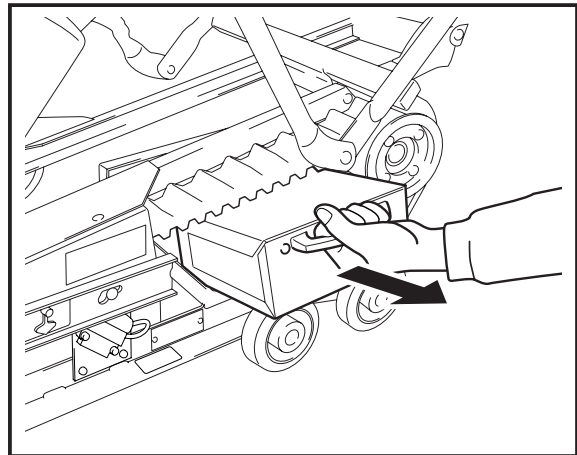
4-6 BATTERY PACK REMOVAL/INSTALLATION

- ① Keep Battery Pack's Handle and raise it.

If you hold the handgrip of Battery Pack with the back of your hand up, your hand may hit the frame.

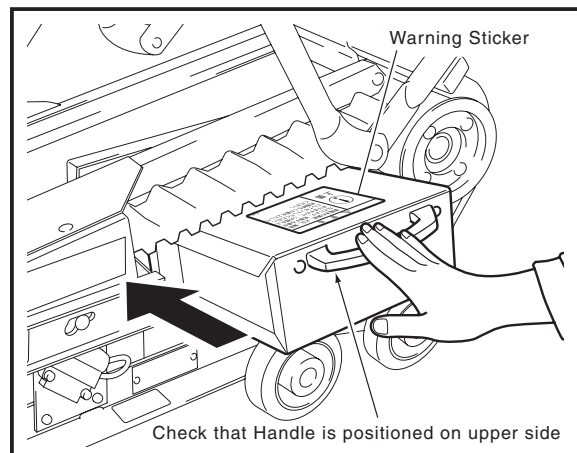


- ② Pull Battery Pack out while keeping it raised.



- ③ When reinstalling Battery Pack, follow the reverse procedure.

When inserting Battery Pack, push it firmly.
Do not grasp the handgrip, but push the pack as illustrated on the right.

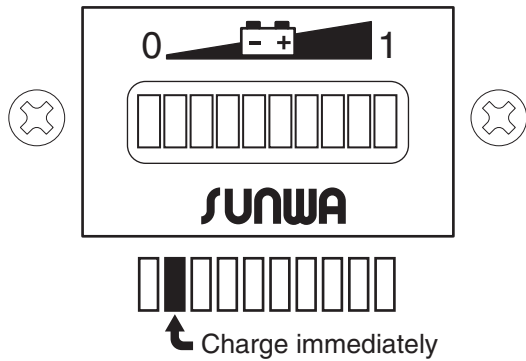


CAUTION

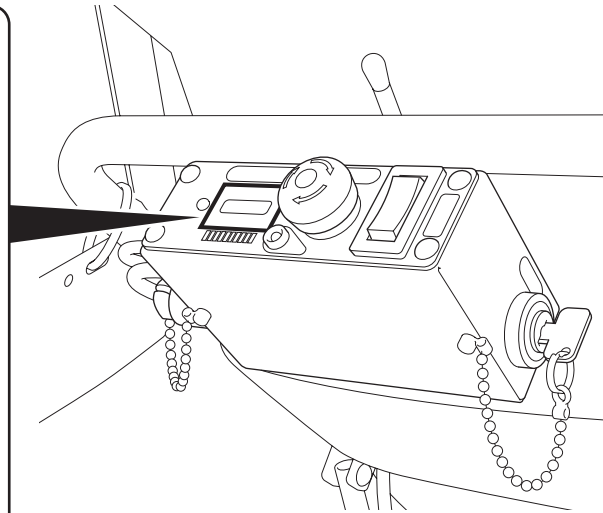
- If Battery Pack is reverse inserted, it may be damaged. Be sure to insert Battery Pack with the correct vertical orientation.
- Dropping Battery Pack may damage it. Pay attention in handling Battery.

4-7 BATTERY GAUGE INDICATION

Battery Gauge



When the charge level decreases, the illumination will shift to the left.



Battery Gauge		Available time
1	<p>The right end LED illuminates</p>	Approx. 30 min
2	<p>The fourth LED from the right end illuminates</p>	Approx. 20 min.
3	<p>The seventh LED from the right end illuminates</p>	Approx. 10 min.
4	<p>The second LED from the left end flashes</p>	Stop operating the machine and charge Battery immediately
5	<p>The first and second LEDs from the left end flashes</p>	This indication being prolonged will result in rapid Battery deterioration. Be sure to stop the machine at the "4" indication and charge Battery

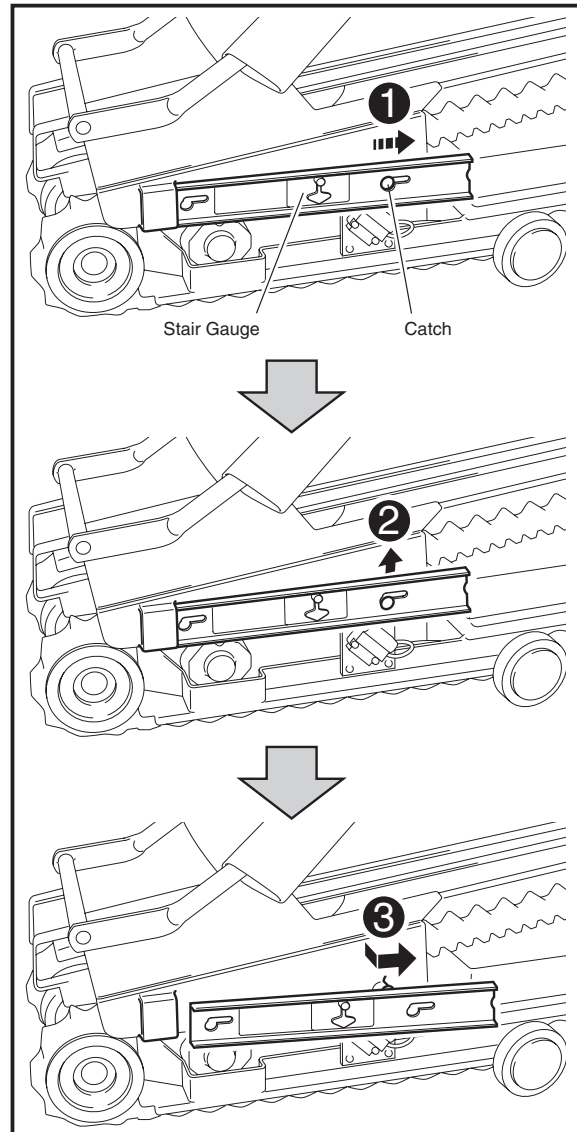


CAUTION

When Key Switch is set to ON, Battery Gauge indication may differ from its previous indication when the power was last turned on.

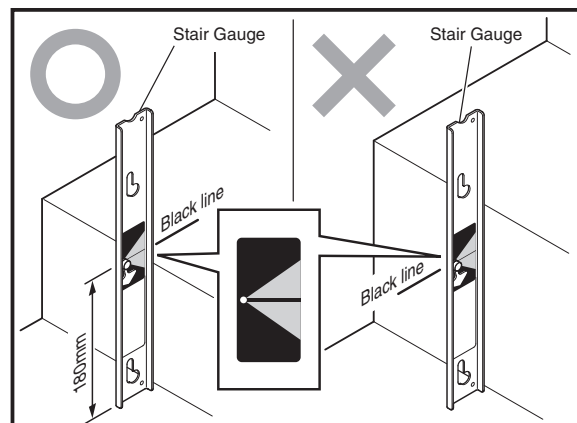
4-8 HOW TO USE THE STAIR GAUGE

- ① Detach Stair Gauge, which is attached to the side of the left frame.
- ① Slide Stair Gauge to the right.
- ② Pull it upward and match the positions of the holes and the catches.
- ③ Dislodge the gauge from the catches by pulling it toward you, and then slide it to the right to remove it from the frame.



- ② Set Stair Gauge upright at the foot of a step to measure the height of the step (rise).
If the upper step level is below the black line on Stair Gauge, the machine can be used.
If the upper step level is over the black line, do not use the machine because doing so could be dangerous.

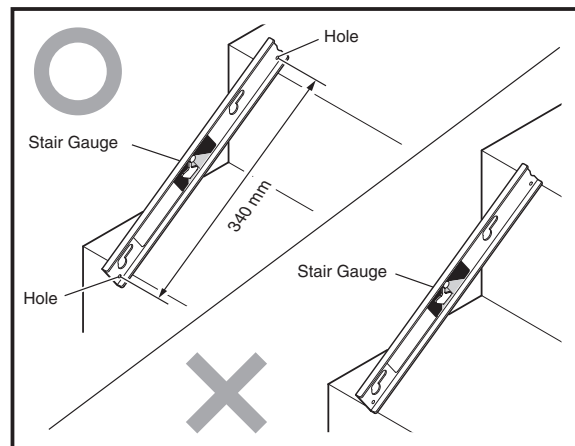
NOTE: The height of the black line is 180 mm.



- ③ Place Stair Gauge between a nose and the next nose to measure the pitch of the step.

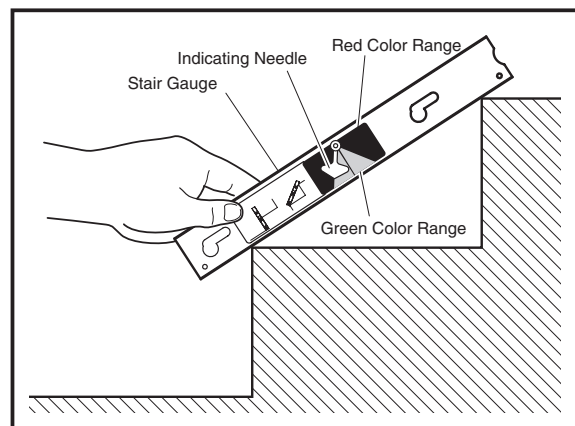
If the pitch of the step is between the two holes at both ends of Stair Gauge, the machine can be used. If the pitch of the step is outside of the two holes, the machine cannot be used because doing so could be dangerous.

NOTE: The distance between the two holes at both ends of Stair Gauge is 340 mm.



- ④ Place Stair Gauge between the noses of the two steps to measure the slope of the stairs.

If the indicating needle of Stair Gauge rests on a point in the green range, the machine can be used. If the needle points to a red zone, do not use the machine because doing so could be dangerous.

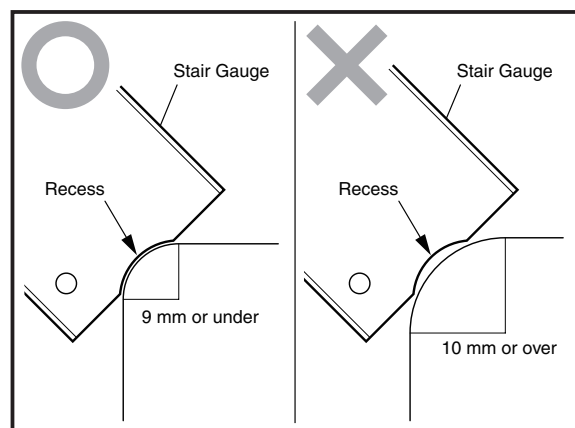


- ⑤ Place Stair Gauge on an edge of a step to measure the roundness of the step edge (nose).

Put the recess at the right end of Stair Gauge at the edge of a step. If the edge is too round to be set into the recess, do not use the machine because doing so could be dangerous.

NOTE: The radius of the recess on Stair Gauge is 9 mm (9 R).

After measurement, be sure to reset Stair Gauge to its original position.



NOTE: In case you have lost Stair Gauge, obtain another gauge from your sales agent.



DANGER

Measure the stairs using Stair Gauge to determine if the stairs can be used.

- The height of a step is within the black line of Stair Gauge (180 mm or under).
- The pitch between the edges of the steps is within the holes of Stair Gauge (340 mm or under).
- The indicating needle points within the green zone of the gauge (not exceeding 35 degrees).
- The recess on Stair Gauge can take the nose of a step (9 R or under).

Never use the machine with stairs that do not satisfy the above because doing so could be dangerous.

5. BATTERY CHARGE SYSTEM

5-1 BATTERY

A Sealed Lead Battery is used in STAIR CHAIR. It is a maintenance-free and non water requiring Battery. Whenever Battery is handled, be sure to follow the cautions shown below.

NOTE: Immediately after Battery is used, Battery must be charged using special Battery Charger. If insufficient battery charge is left, less power for following operations will result in difficulty of operation. Or if Battery is left depleted for a long period of time, it may be damaged.



DANGER

- Never charge Battery in a closed room.
- Never bring Battery near a flame.
- Never disassemble Battery.
- Never connect Battery Terminals with tools or metals.



WARNING

- Use special Battery Charger for charging Battery.
- Always check Battery's condition. If any crack or deformation or water leakage is observed, replace with a new one.
- Clean and wipe Battery with a cool or warm water moistened cloth. Never wipe with gasoline, thinner, organic solvent or oil moistened cloth.
- If the electrolytic liquid from a damaged Battery contacts skin or clothes, rinse the area with plenty of water immediately. If the electrolytic liquid invades the operator's eye, rinse it with clean water immediately and consult an ophthalmologist.



CAUTION

- Battery is a sealed type. Never remove its cover. If the cover is removed, Battery will become unusable.
- Battery may lose its usefulness if it is over discharged.
- If Battery is not to be used for a long period of time, remove it from the machine and charge it completely. Keep it in cool and dry place and charge it again monthly. Even though Battery is not used during storage, its capacity constantly decreases. Therefore its performance will decrease compared with the previous occasion the machine was used.

5-2 CHARGER

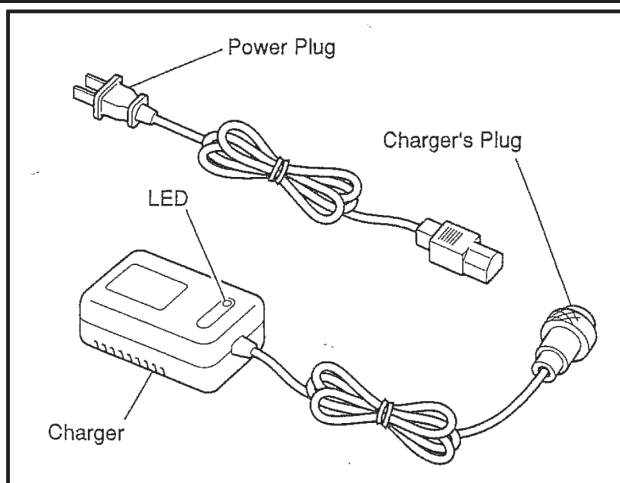
A special Battery Charger is used for STAIR CHAIR.

Battery is automatically charged depending on battery discharge rate at a given time.

This Battery Charger is not equipped with a timer function. When battery reaches its fully charged level (Charger's Green LED will illuminate), Battery will continue to be charged with trickle current (0.1 to 0.2A).

Be sure to disconnect Charger's Plug from Battery Pack after Green LED illuminates.

(Charging Battery completely will take 8 hours.)



5-3 CHARGING PROCEDURE

- ① Remove Short Plug on Operation Box and connect Charger's Plug to Charging Receptacle.

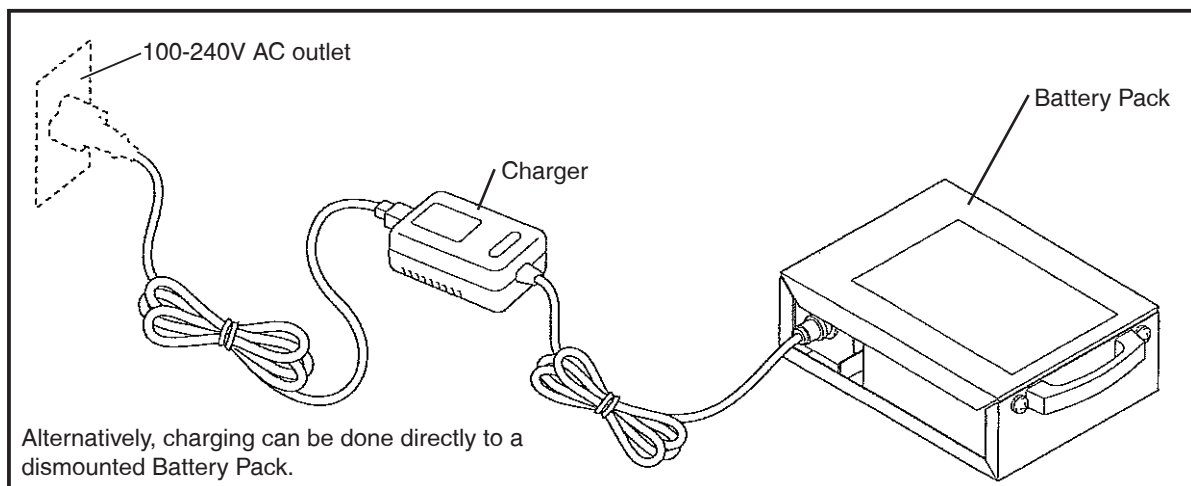
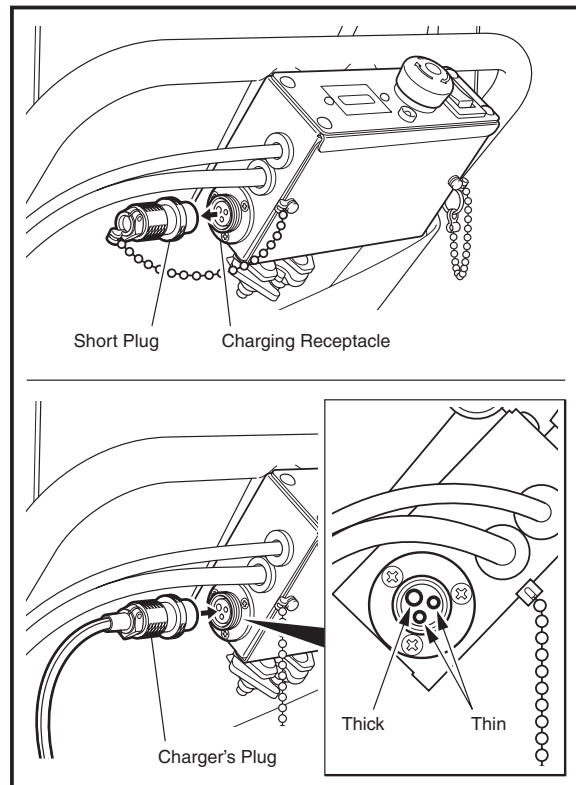
NOTE: The plug has a correct orientation. Match the orientation using the thick pin as a guide and insert it.

When charging is complete (during operation), connect Short Plug to Charging Receptacle.

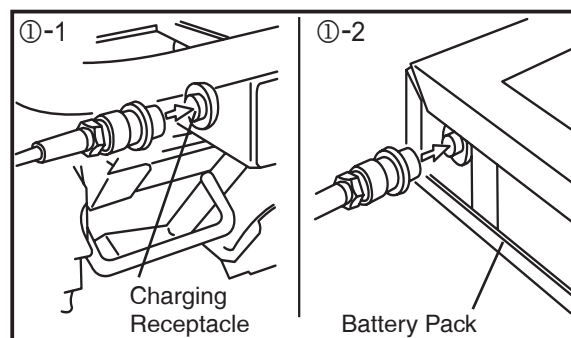
CAUTION

Pull out Short Plug or Charger's Plug holding the plug itself, after unscrewing the threaded part of the plug.

The coupling or decoupling of a plug by force or by holding the cable may result in the damage of the receptacle or in cable disconnection.



- ①-1 If Battery Pack is not to be removed from STAIR CHAIR, connect Charger's Plug to Charging Receptacle positioned at the side of Operation Box.
- ②-2 If Battery Pack is removed, connect Charger's Plug to Battery Pack's Receptacle.



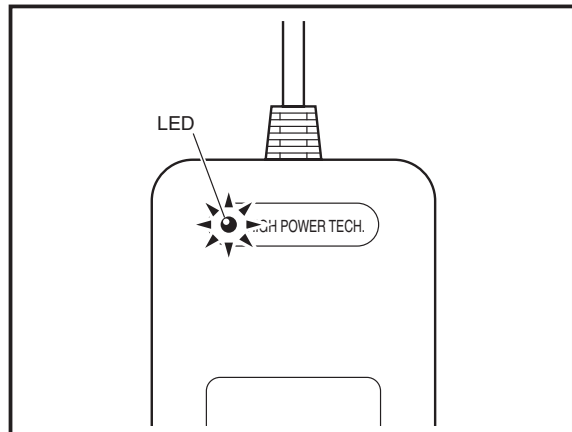


CAUTION

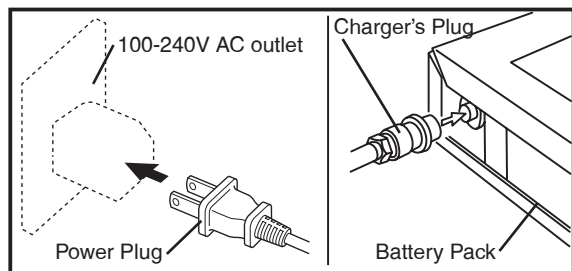
Prepare an area-specific AC conversion Adapter for installation between AC outlet and Power Plug.

- ② When Power Plug is inserted, the charging process immediately starts.
The charging progress is indicated by LED's colors.
Red.....Power is supplied.
Orange.....Charging.
Green.....Fully charged.

NOTE: To confirm a fully charged Battery Pack, be sure to check it via Charger's full charge indication (green illuminated LED). Do not check via Battery Gauge indication. Battery Gauge indication does not accurately correspond to the actual battery capacity.



- ③ When charging is completed, disconnect Power Plug from the outlet and disconnect Charger's Plug from Battery Pack's Receptacle.



CAUTION

- This Charger is not equipped with a timer function. When Green LED illuminates, disconnect Charger's Plug from Battery Pack's socket.
- Charge Battery in an ambient temperature between 5 and 40°C.
If Battery is charged in an ambient temperature lower than 5°C, it may not charge fully.

5-4 MALFUNCTION, INSPECTION, RESOLUTION PROCEDURE

TROUBLE	CAUSE	COUNTERMEASURE
No power supplied. LED won't illuminate.	Insufficient insertion of Power Plug into outlet.	Check outlet and securely connect Power Plug.
	No power is supplied.	Check power and other relevant parts.
	Power Cord is broken.	Arrange its repair or replacement.
	Battery Charger's power source trouble.	Arrange a check or repair.
	Receptacle and Plug are improperly connected.	Check the connecting parts and securely connect them.
	Battery Pack is improperly connected.	Check the connecting parts and securely connect them.
Green LED illuminates soon after the start of charging.	Battery is normally charged.	Normal.
	Battery malfunction.	Replace with a new Battery. (See P17.)
The charging process is completed however workable period is shortened.	Battery nearly dead.	Replace with a new Battery. (See P17.)
	Ambient temperature is low during charging.	Charge Battery in an ambient temperature between 5 and 40°C.

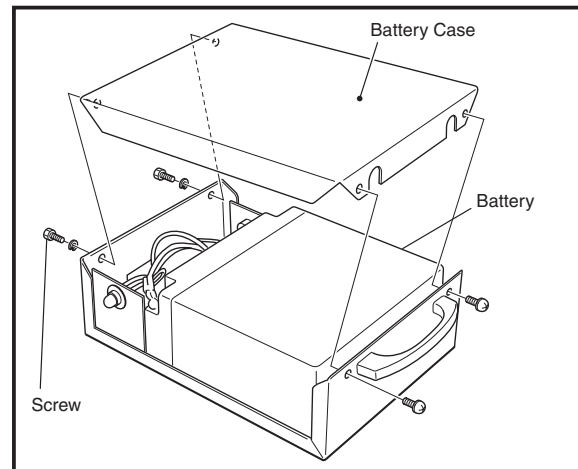


CAUTION

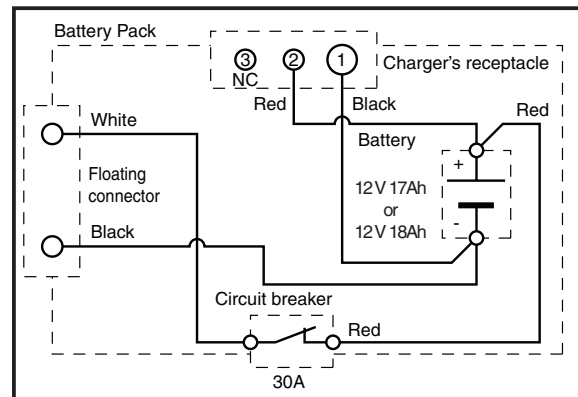
- For safe handling of Charger, be sure to read the instructions thoroughly before using Charger.
- Charger is only to be used with an AC 100-240V power source. Never connect Power Cable to any other power source specification.
- Be sure to finish trickle charging within 12 hours after battery charging process is completed. Extended charging may reduce battery capacity resulting in shorter battery life.
- Battery and Charger's Output Terminals have polarity. Confirm that those Terminals are correctly connected according their polarity. Improper connection will result in a short circuit and cause a cable to melt or other serious charger malfunction.
- Never remove Charger Cover or you will risk receiving an electric shock.
- Keep Charger indoors, away from direct sunlight and water splashes. Neglecting this can cause fire, electric shock or equipment malfunction.
- As Battery deteriorates, its voltage will fail to reach normal full-charge voltage.

5-5 BATTERY REPLACEMENT

- ① Unscrew Screws mounting Battery Case and Cover.



- ② Disconnect cables from Battery Terminals, remove exhausted Batteries, and install new ones.
- ③ Connect the wires to the new battery as shown in the diagram on the right and confirm that there is no problem.



CAUTION

While Key Switch is set to ON, power will be supplied from Battery, If STAIR CHAIR is not be used, be sure to set Key to OFF and remove it from Key Switch.

5-6 HANDLING WARNINGS OF LEAD BATTERY

- For safe operation of the Battery, read thoroughly the caution items described on the instruction manual and also read the following cautions.
- ① Do not keep the Battery at a place where there may be a danger of flooding. Keeping the Battery in such places may cause leakage resulting in an electric shock or fire.
- ② Make sure the polarity terminals are connected correctly. Wrong terminal connection will cause excessive current resulting in fire or damage to the machine.
- ③ Do not weld the Battery's terminal or charge the Battery by connecting cables with wrong polarity terminals. It may cause leakage of electrolytic solution, overheating or explosion.
- ④ Never use the Battery near heating places such as power transformers. Never use or keep the Battery in an automobile under a blazing sun, a place where direct sun beam reaches, near a stove, or anywhere a fire may occur. The Battery temperature may rise resulting in leakage of electrolytic solution, overheating or explosion.
- ⑤ Never disassemble, remodel or destroy the Battery. Doing so may cause leakage of electrolytic solution, overheating or explosion.
- ⑥ Use the Special Battery Charger or keep the battery charged as specified by the manufacturer. Charging with other charging condition may cause overheating of the Battery or discharge of hydrogen gas resulting in leakage of electrolytic solution, overheating or explosion.
- ⑦ The Battery contains diluted sulfuric acid. If diluted sulfuric acid adheres to skin or clothes due to leakage, rinse it immediately with water. If diluted sulfuric acid gets into your eyes, rinse it immediately with plenty of tap or clean water, then go see a doctor. Diluted sulfuric acid into the eye may cause loss of sight. Diluted sulfuric acid adhering to the skin may cause burn.
- ⑧ The operating temperature range of the Battery is shown below. Operation outside the operating temperature range reduces Battery performance and shortens its life, and furthermore it may cause leakage of electrolytic solution, overheating or explosion.
Discharge cycle: -20 to +50°C Charge cycle: 0 to +40°C Storage temperature: -20 to +40°C
- ⑨ Never use the Battery for anything other than as specified. Usages other than the specified purposes may cause leakage of electrolytic solution, overheating or explosion.
- ⑩ Excessive repeated overcharging may shortened the life of the Battery. Follow the specified Battery charging condition.

Please cooperate in recycling the Battery

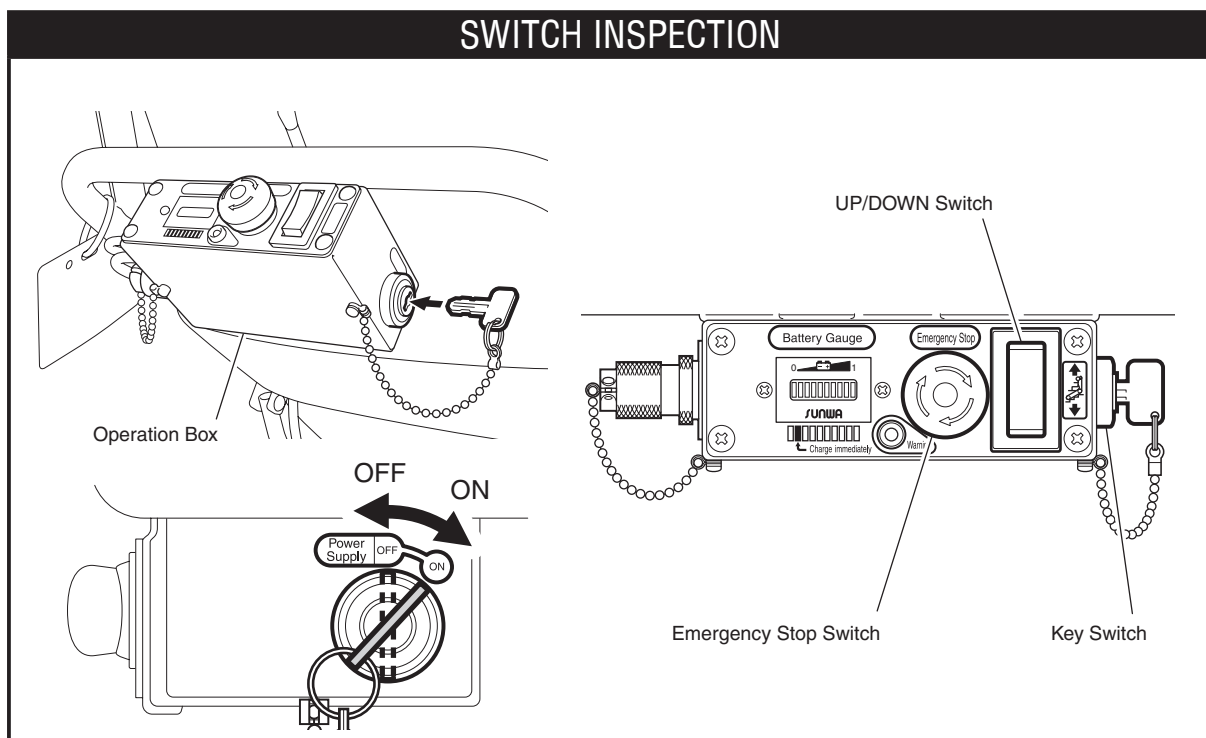
Used Battery will be recycled. For Battery disposal, contact the sales agency or SUNWA Co., Ltd.

When the Battery is returned, be sure to apply insulation tape to the Battery terminals. Used Battery still maintains charge. Battery terminal exposure may cause explosion or fire.

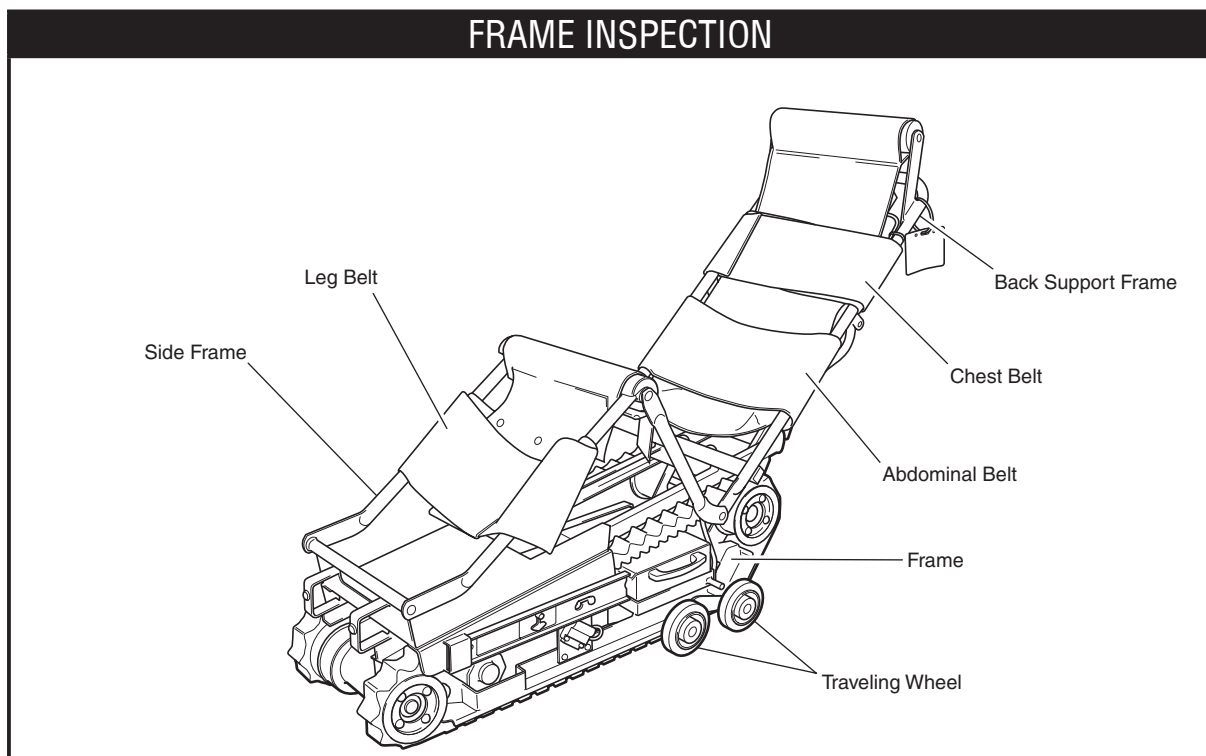
6. PRE-USE INSPECTION

Before using the machine, be sure to carry out the daily inspection.

The daily inspection will prevent trouble. It is essential before handling STAIR CHAIR.

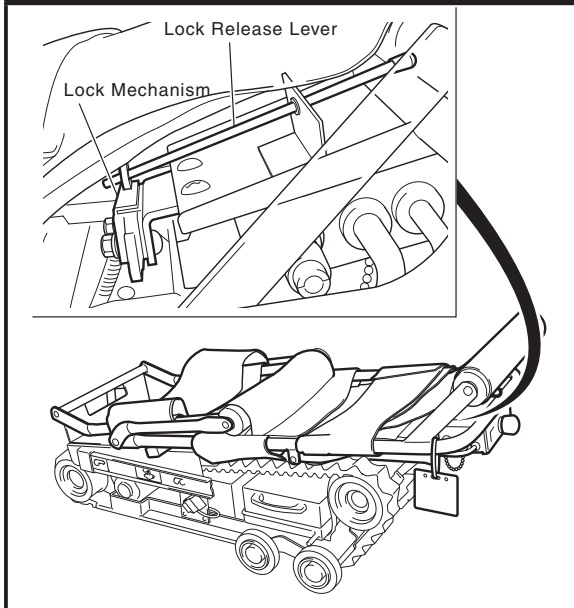


- Check that all Switches function correctly.



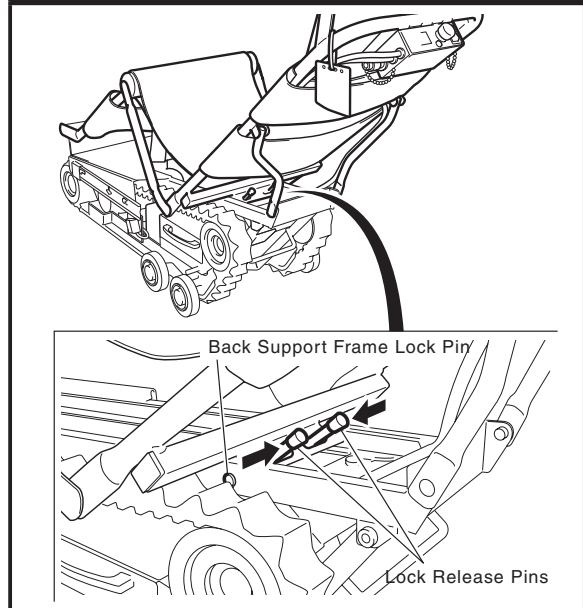
- Check each frame, each sheet, and Traveling Wheels for any deformation or cracks.

CHECKING THE LOCK MECHANISM FOR FOLDING



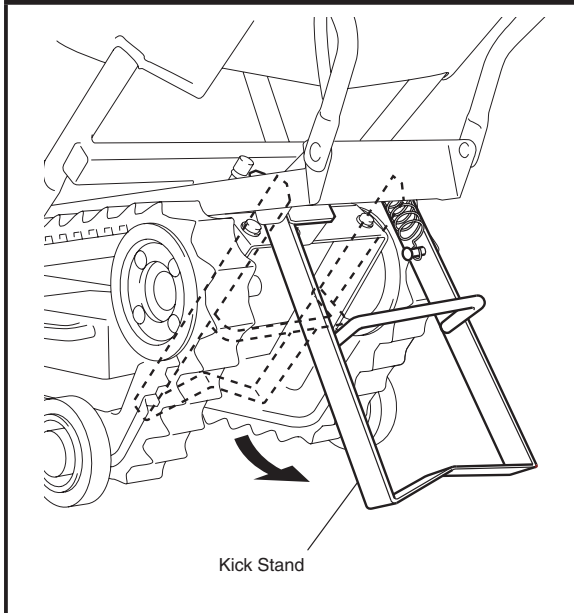
- Check that the Lock Mechanism works correctly and that locking is securely achieved.

BACK SUPPORT FRAME LOCK PIN INSPECTION



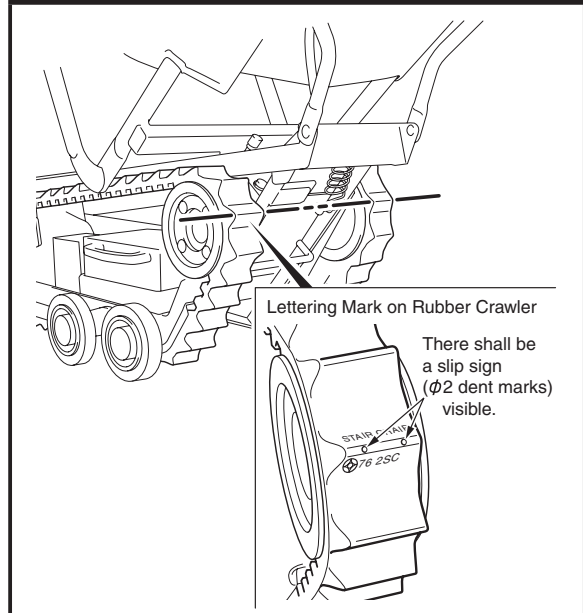
- Check that both of the Back Support Frame Lock Pins work correctly and that locking is securely achieved. See P5.

KICK STAND INSPECTION



- Check that Kick Stand has no deformation or crack and that it functions normally.
- Check that UP/DOWN Switch is inactive while Kick Stand is set.

RUBBER CRAWLER INSPECTION



- Check Rubber Crawlers for any cracking or wear, or for any misalignment that might exist in the crests of both Rubber Crawlers.
- If the slip sign has become invisible, stop using the machine.

SCREWS INSPECTION

- Check that no Screw has dropped out and that all Screws are tightly tightened.

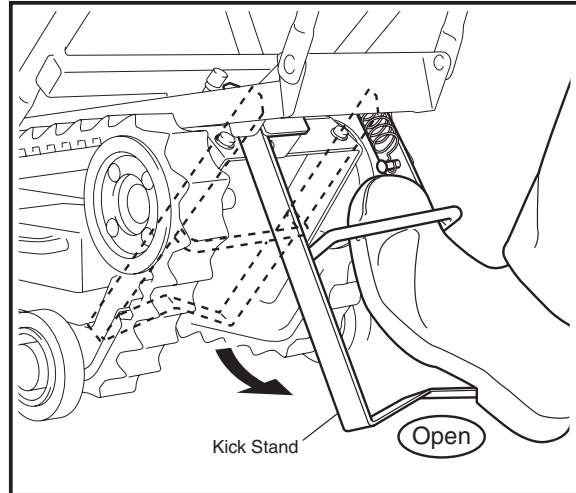
7. OPERATION

7-1 SEAT THE PASSENGER IN STAIR CHAIR

- ① When a passenger mounts the machine, extend Kick Stand so that the machine does not trip backward even if the passenger pushes his/her own body against the frame.

WARNING

Be sure to extend Kick Stand whenever a passenger is mounting or dismounting the machine. Otherwise, the machine may overturn backwards, leading to a head injury.

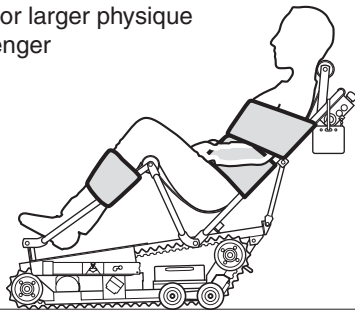


- ② Once the passenger has been seated, the operator shall secure the passenger's chest, abdomen, and legs (in the case of a child or a small person, chest and legs) by binding them using the belts. Then, holding the handle, fold Kick Stand.

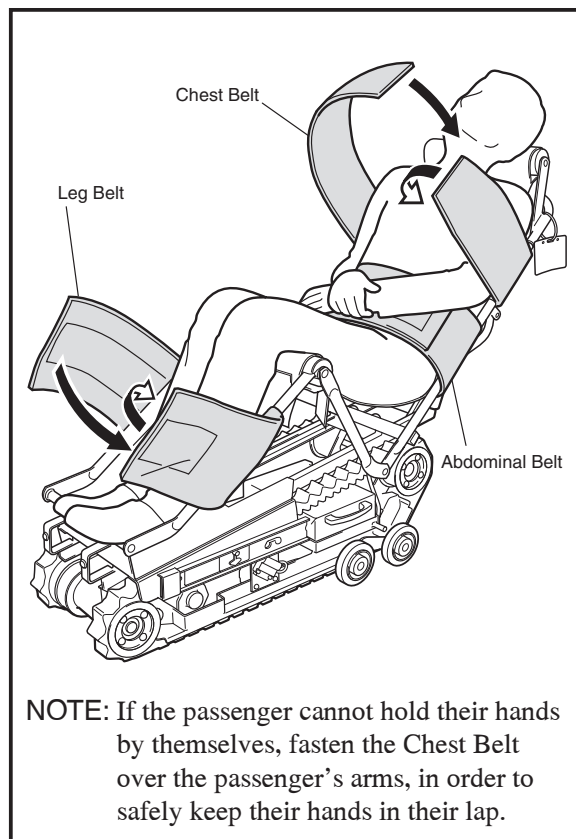
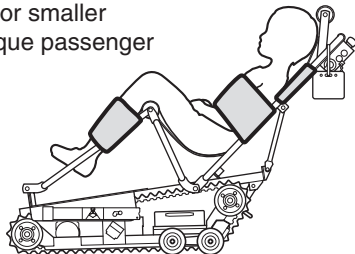
NOTE: If Kick Stand is not reacted, UP/Down Switch will not function and STAIR CHAIR will not ascend/descend the stairs.

Belt fastening position

- Adult or larger physique passenger



- Child or smaller physique passenger



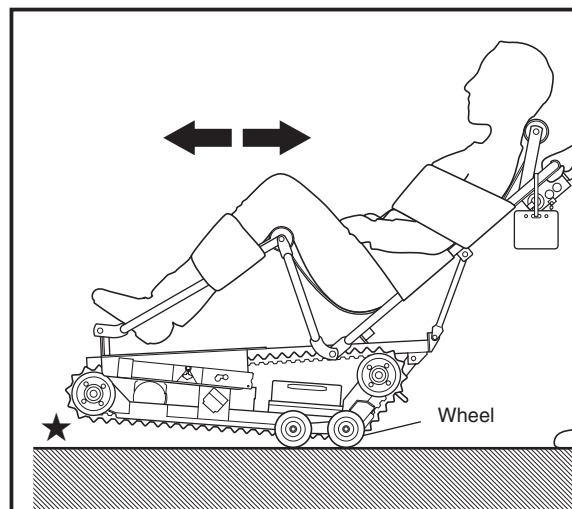
NOTE: If the passenger cannot hold their hands by themselves, fasten the Chest Belt over the passenger's arms, in order to safely keep their hands in their lap.

WARNING

- Elevating STAIR CHAIR without Belts fastened is very dangerous. Never run STAIR CHAIR without Belts fastened. Never do this. Insufficient securing can also lead to the passenger possibly falling off.
- If there is no passenger, the sheets must be securely wound to the machine. Otherwise, the sheets may become stuck in Rubber Crawlers, leading to the toppling of the machine.

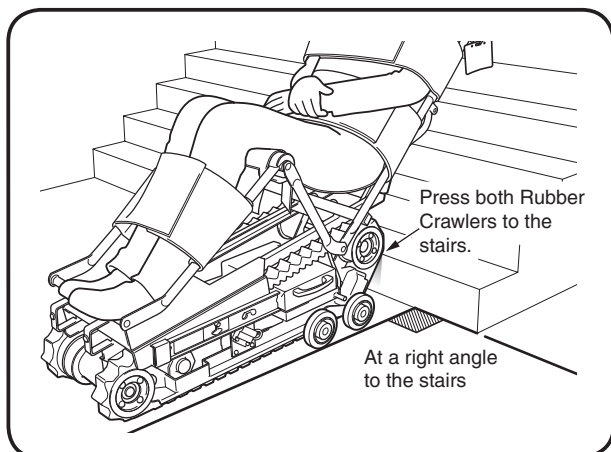
- ③ When traveling on flat ground, the operator shall hold the handle part of Back Support Frame with his/her both hands and use Traveling Wheels without Rubber Crawlers (with the ★ part slightly uplifted as shown in the illustration).

NOTE: If for some emergency the operator must leave STAIR CHAIR while passenger transport is in progress, he/she must set Kick Stand and check that conditions are safe before leaving STAIR CHAIR.

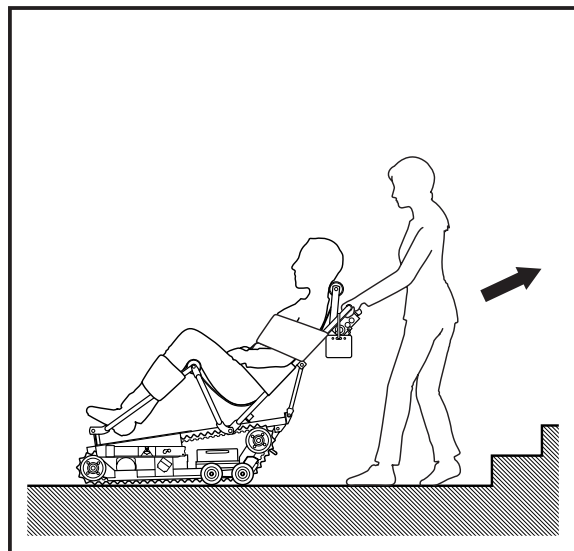


7-2 ASCENDING STAIRS

- (1) Position STAIR CHAIR at the foot of the stairs
Bring STAIR CHAIR to the foot of the stairs, turn it backward and set squarely at the foot of the stairs.



Set the machine with the back toward the stairs



CAUTION

- In the case of wooden stairs or the like, the trail print of Rubber Crawlers may be left on the stairs.
- Loose non-slip rubber, etc., used on the stairs, may become damaged by Rubber Crawlers.

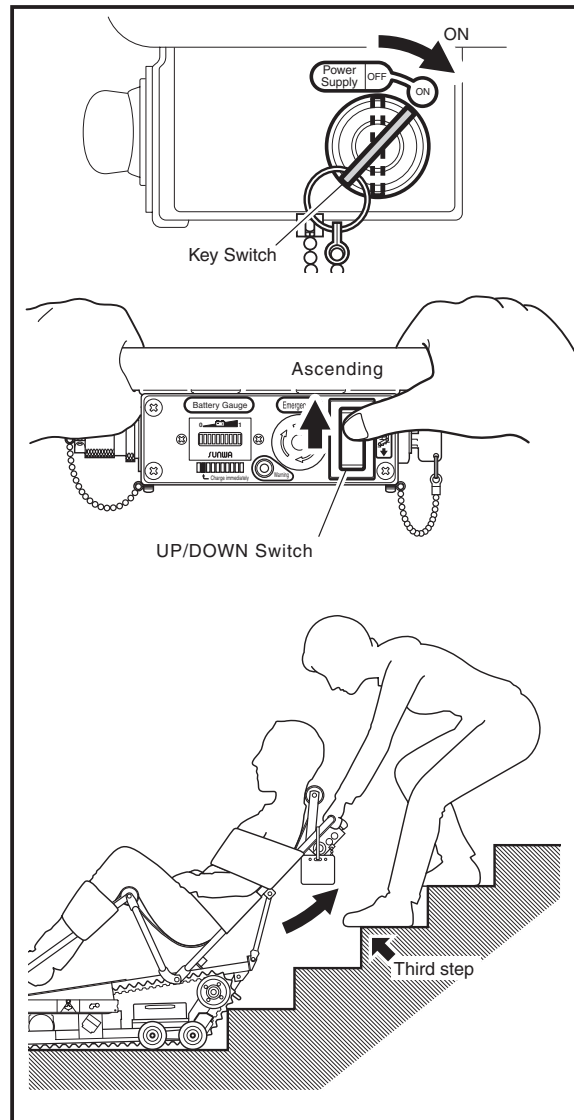
(2) Starting the ascent

Turn Key Switch to ON.

Continue to press the upper side of UP/DOWN switch and at the same time hold the handle securely with both hands.

NOTE: Until Rubber Crawlers touch the third step, the balance of the machine tends to become unstable. Hold the handle securely with both hands.

NOTE: When Short Plug is not inserted into Charging Receptacle, the power remains off even if Key Switch is turned to ON.

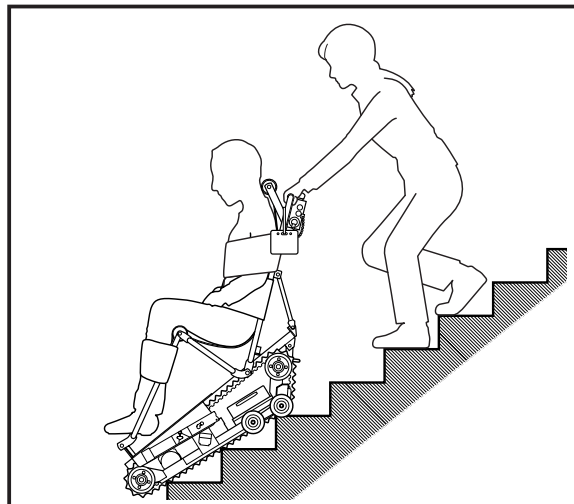


WARNING

If the stairs and the two Rubber Crawlers are not at the right angle, the machine cannot ascend in a straight way. Moreover, movement in this state may cause the user to fall sideways or down.

(3) Operation posture

During ascent or descent, operate the machine by keeping a distance equivalent to one-step's length between the operator's feet and the machine.



- (4) Stopping STAIR CHAIR in the middle of the stairs

Once the finger is released from Switch, Electromagnetic Brake will function immediately and STAIR CHAIR will immediately stop.

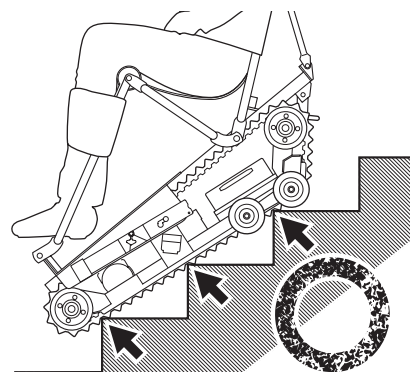
Because lugs rest on the stair's corners, STAIR CHAIR will not slide down the stairs.

NOTE: Except in an emergency, the operator must not step away from the machine while it is stopped on the stairs.

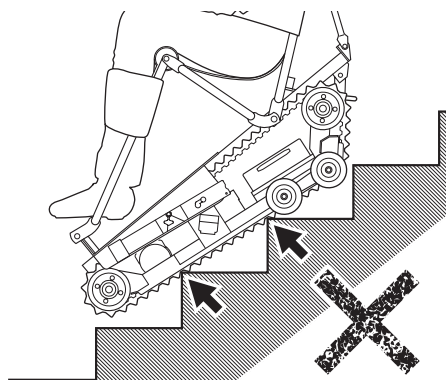
CAUTION

Stopping in the middle of the stairs shall be avoided as much as possible. In case the machine stops midway by necessity, the operator shall not leave the machine and shall keep holding the handle securely with his/her both hands.

Stable (with a three-point contact)



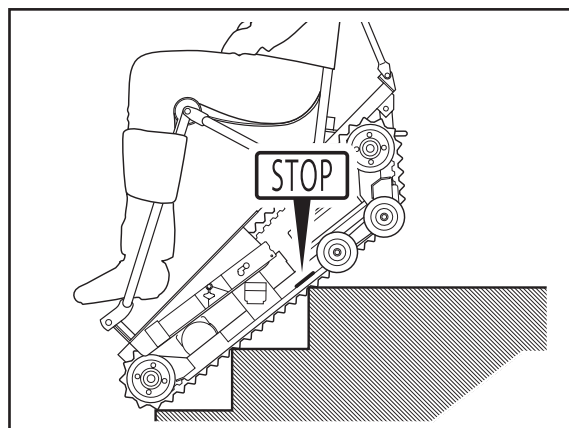
CAUTION (with a two-point contact)



WARNING

Keep Rubber Crawler contact points as broad as possible. It is dangerous for the passenger's center of gravity to overhang STAIR CHAIR's stair-contacting points.

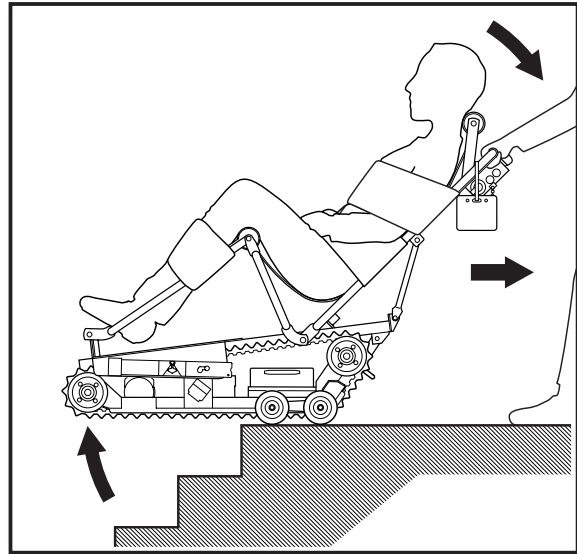
- (5) STAIR CHAIR reached the top of the stairs
- ① When STAIR CHAIR reaches a landing or, the top of the stairs, be sure to stop STAIR CHAIR for a moment when its Stop Mark reaches the top stair level.



WARNING

If STAIR CHAIR is not stopped at its stop position and UP Switch is kept pressed, STAIR CHAIR will suddenly tilt toward horizontal. This will be dangerous.

- ② After STAIR CHAIR is temporarily stopped, tilt Handle slowly toward the operator. STAIR CHAIR's Wheels will contact the floor. After Wheels contact is confirmed, press the upper side of UP/DOWN Switch and back up until no part of STAIR CHAIR extends over the stairs.

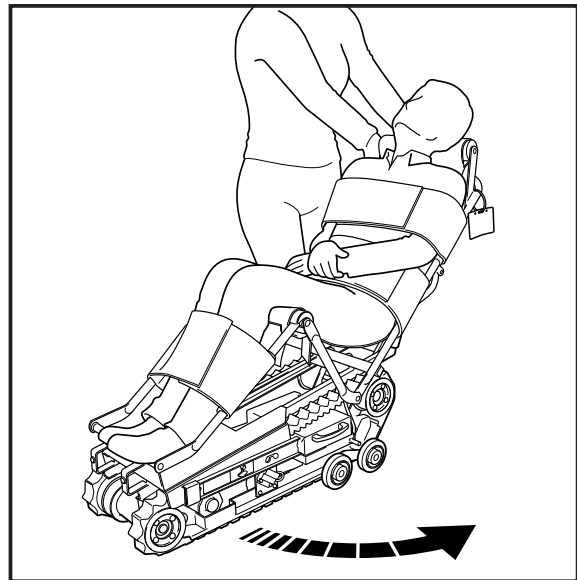


7-3 SWIVEL AT LANDING AREA

At the landing, press the handle down and raise the front part slightly off the floor, and swivel the machine by pulling it.

Repeat a moving forward and backward motion (switching back and forth) when necessary and move the machine to the desired position.

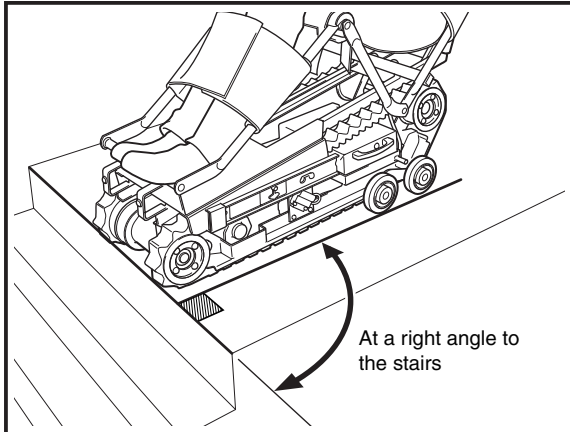
For a narrow landing, the operator should stand beside the machine (with his/her body askew) and swivel the machine using a Traveling Wheel as a fulcrum.



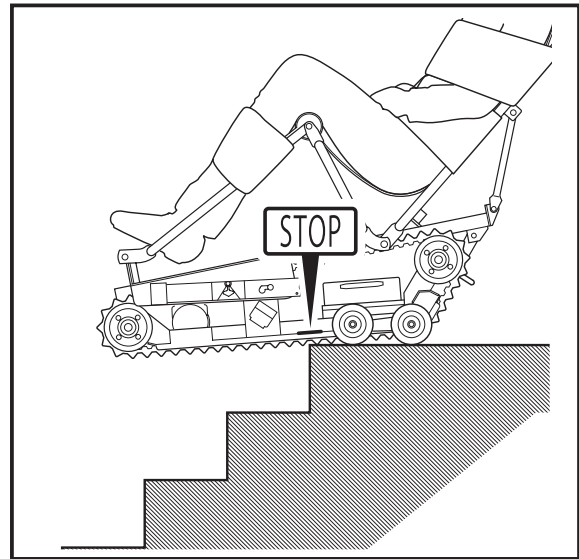
7-4 DESCENDING STAIRS

(1) Starting descend operation

- ① Hold the machine at a right angle to the stairs and position the stop mark to the edge of the top step, and stop the machine temporarily without fail.



Set the machine with the front facing the stairs.

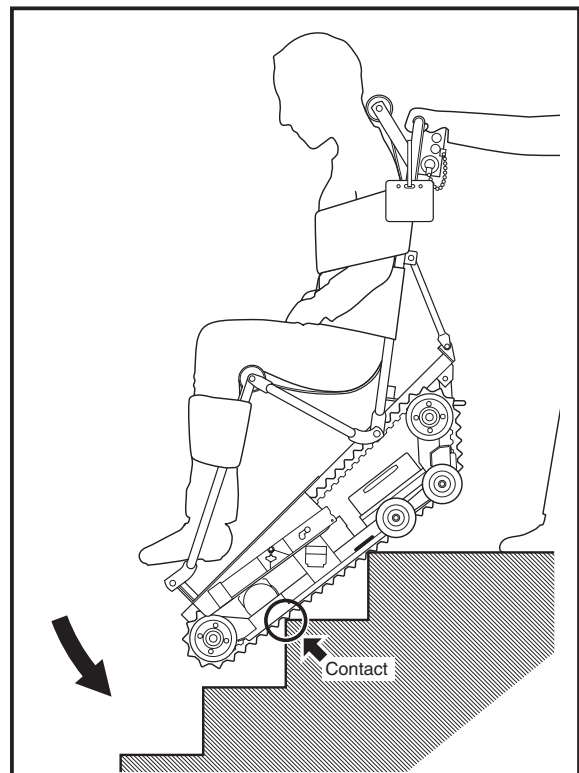


WARNING

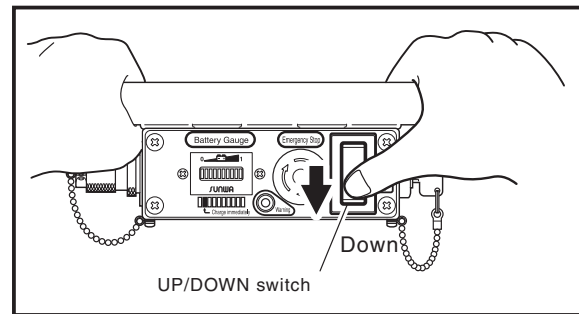
- If the left and right Rubber Crawlers do not meet the stair simultaneously, STAIR CHAIR will descend the stairs askew. This is a highly risky situation.
- If the machine moves forward exceeding the stop mark, it may abruptly tip toward the stairs. Since this is highly dangerous, be sure to stop the machine temporarily.

- ② Raise the handle of the machine, which is temporarily at the stop position, slowly upward, and lower the front part of the machine slowly until Rubber Crawlers touch the step.

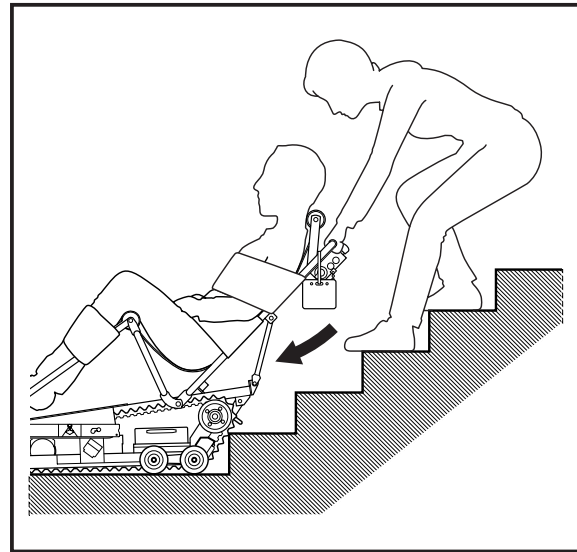
NOTE: When raising the handle, take your thumb off UP/DOWN switch and hold the handle firmly.



- ③ When it is confirmed that Rubber Crawlers have touched the stairs and the machine is at a right angle to the stairs, press the lower side of UP/DOWN switch.



- (2) STAIR CHAIR reaches the bottom of the stairs. Keep pressing DOWN Switch until STAIR CHAIR reaches the bottom of the stairs. Turn off UP/DOWN switch and shift the machine to level ground traveling.



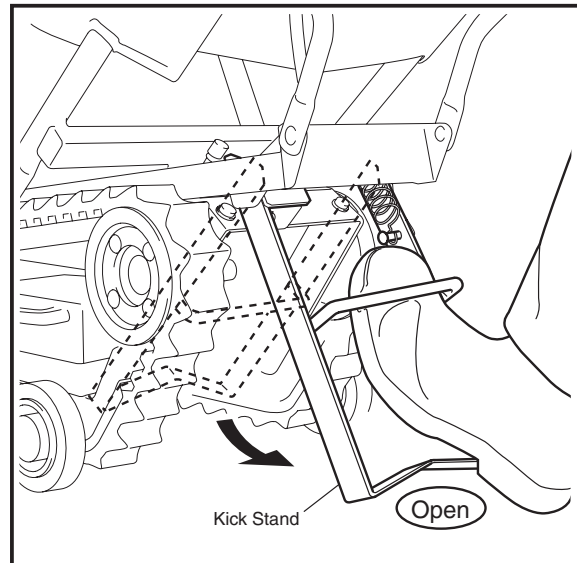
Because Operation Switches are positioned behind the passenger and operator controls STAIR CHAIR from the rear of the passenger, an unaccustomed passenger may feel anxiety.

As the operator operates STAIR CHAIR, he/she must describe the operation in a clear voice at the following times:

1. Before seating or unseating the passenger to/from STAIR CHAIR.
2. Before fastening Belts.
3. Before pressing UP/DOWN Switch.
4. Before STAIR CHAIR starts ascending/descending the stairs.
5. Before tilting STAIR CHAIR to bring its Wheels to the floor after it reaches its Stop Mark.
6. Before changing STAIR CHAIR's direction.
7. Before unfastening Belts to unseat the passenger from STAIR CHAIR.

7-5 DISMOUNTING

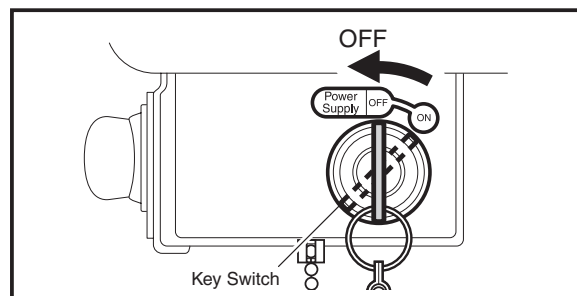
- ① When dismounting, extend Kick Stand to prevent overturning in case the passenger leans on the frame side.



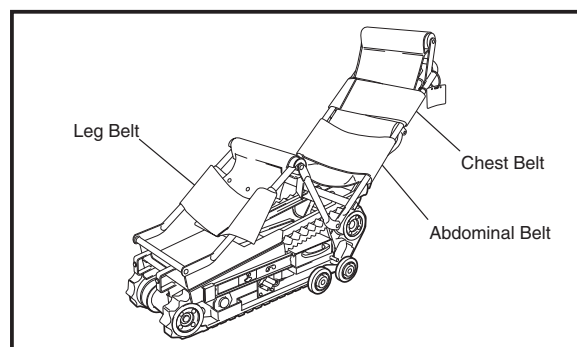
WARNING

Be sure to extend Kick Stand whenever a passenger is mounting or dismounting the machine. Otherwise, the machine may overturn backwards, leading to a head injury.

- ② Turn Key Switch to OFF.



- ③ When the passenger has dismounted, make sure that you have wound the sheets and fixed them to the machine.



CAUTION

If the sheets are not securely wound to the machine when traveling, the sheets can become stuck in Rubber Crawlers, leading to the damage of belts or the machine.

8. DAILY MAINTENANCE AND CARE

8-1 BATTERY

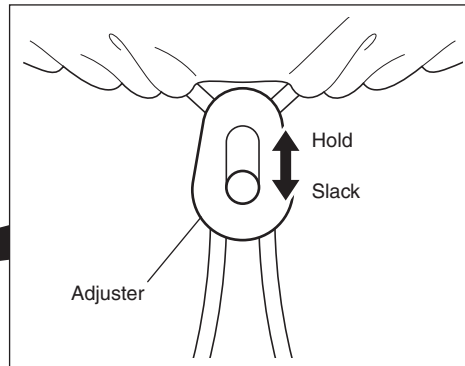
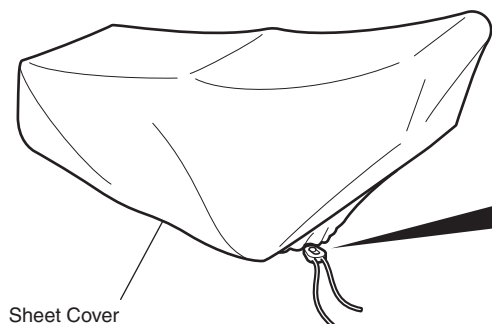
- When STAIR CHAIR is not to be used or its Battery Pack is to be charged, turn off Key Switch and remove Key.
If Key Switch is kept in the ON position, Battery will quickly discharge and it may not have capacity to run STAIR CHAIR the following day.
- After the end operation or before storing it, be sure to charge Battery using special Charger. (Because it requires a long charging time, if it is not charged enough, it will be difficult to operate the following day.)
- If the machine is stored for a long time of period, keep the battery charger connected to the battery, and keep the battery in a charged-up state (the state with the green lamp on).
If the battery charger is not connected, keep it in a fully charged state and charge it once every six months.

8-2 RUBBER CRAWLERS

- If oil adheres, immediately wipe it off completely.
- When the machine is stored for a long time of period, turn Rubber Crawler once a month to keep them free from permanent deformation.

8-3 MACHINE STORAGE

- Fold Back Support Frame and cover the machine with the accessory sheet cover.
Pull the rope and hold it down with the adjuster.



9 PERIODIC VOLUNTARY INSPECTIONS

The following table provides a brief description of the periodic voluntary inspection procedure for STAIR CHAIR SC-5.

Be sure to carry out periodic inspections. Failing to do so may cause an accident or may shorten the life of the machine.

◆ At startup

Inspection item		Inspection procedure	Frequency	Notes
1	Checking the Key Switch operation and the remaining battery capacity	With the Key Switch in the "ON" position, does the machine operate normally when each switch is turned on or off? Does the Battery Gauge show the proper amount of battery charge left? With the Key Switch in the "OFF" position, make sure that the machine is NOT activated when any other switch is turned on.	Each time	
2	UP/DOWN Switch operation	With the Key Switch in the "ON" position, do the Rubber Crawlers move toward the given direction when the UP or DOWN side of the UP/DOWN switch is pressed? When the switch is deactivated, do the Rubber Crawlers stop moving?	Each time	
3	Emergency Stop Switch operation	Do the Rubber Crawlers stop moving when the Emergency Stop Switch is pressed while the UP/DOWN switch is being activated?	Each time	
4	Unusual noise during Crawler operation	Do you hear any unusual noise from the Drive Unit while the UP/DOWN switch is being activated?	Each time	
5	Condition of the Rubber Crawlers	Is the tension of the Rubber Crawlers loose? Is there a misalignment in the crests of the two Rubber Crawlers? Is there any chipping or large and deep cracking in the crests of the two Rubber Crawlers?	Each time	
6	Deformation of the Sprocket and side rings of the Idler Wheel	Is there any deformation in the Sprocket and side rings of the Idler Wheel?	Every month	
7	Condition of the Travelling Wheels	Is there any excessive wear or damage on the rubber wheels? Is the STAIR CHAIR traveling on flat ground smoothly using the Traveling Wheels with the assistance of an operator?	Each time	
8	Kick Stand	Does the Kick Stand move smoothly? Are the Rubber Crawlers unable to move when the Kick Stand is extended?	Each time	
9	Lock Unit for the Back Support Frame	With the Back Support Frame folded, are you able to let the frame slide backward to the locking position using the Lock Release Lever, and then are you able to secure the lock properly? Then, with the Back Support Frame set up, are you able to fold down the frame by grasping the Lock Release Pins, and then are you able to assuredly secure the lock once again?	Each time	
10	Seat	Is there any damaged, ripped, or ragged part on the seat? Does the seat belt fastening mechanism work properly?	Each time	
11	Battery condition	Is there any residue from leaks or corrosion on the battery case?	Every month	

◆ After use

Inspection item		Inspection procedure	Frequency	Notes
1	Remaining battery capacity	Has the LED illumination on the Battery Gauge shifted? If the charge level has decreased by more than one scale, recharge the battery.	Each time	Recharging a battery is performed on an as-needed basis.
2	Inspection of each unit	Is there any part that has become deformed during use?	Each time	
3	Battery charging	Is there any damage to the cables of the Charger or the outlet?	Every month	
		Does the switch on the Charger work properly, and does the charging process start normally?	As needed	
		Does the charging function automatically stop when the Battery Pack is finally fully charged?	As needed	When equipped with an automatic stop feature

10. TROUBLESHOOTING

In case of problems during operation, confirm the following.

Rubber Crawlers do not move

- Was Emergency Stop Switch pushed?
(Occasionally, it can be pushed simply by positioning your waist, etc.) (See 4-3 SWITCHES on P7.)
- Is Kick Stand extended? (See 4-4 KICK STAND on P8.)
- Is the battery charged? (See 4-7 BATTERY GAUGE INDICAION on P10.)
- Is Key Switch ON? (See 4-3 SWITCHS on P7.)
- Is Short Plug inserted in Charging Receptacle? (See 4-3 SWITCHS on P7.)
- Is Battery Pack set? (See 4-6 BATTERY PACK REMOVAL / INSTALLATION on P9.)
- Is the circuit breaker of Battery Pack tripped?
..... (See 4-5 HOW TO RESET THE CIRCUIT BREAKER on P8.)
- Are Rubber Crawlers dislodged? (See RUBBER CRAWLER INSPECTION on P20.)
- Is the passenger over 130 kg? (See 2-2 SPECIFICATIONS on P3.)

Doesn't travel straight on the stairs

- Is there a misalignment in the crests of the two Rubber Crawlers?
..... (See RUBBER CRAWLER INSPECTION on P20.)
- Are Rubber Crawlers worn out? (See RUBBER CRAWLER INSPECTION on P20.)
- Are the stairs usable in a safe way? (See 1. ESSENTIALS OF SAFE OPERATION on P1.)
- Is the passenger over 130 kg? (See 2-2 SPECIFICATIONS on P3.)

If the above does not help, consult your sales agent or SUNWA LTD.