



M. BARTELS
REHA IM- & EXPORT GMBH

Operation Manual Stairclimber SA-S



FE-23-2

INTRODUCTION

Thank you for purchasing STAIR AID, BARTELS POWERED STAIR CLIMBER. This manual describes proper operating 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 side of the machine. Please record its number and year, month and date of purchase in the operation manual.

| | |
|-------------------------------|---|
| • Type, Serial number QJ SA-S | • Powered stair climber, STAIRMATE SA-S |
|-------------------------------|---|

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

| | | | |
|------------------|------|-------|-----|
| Serial number | | | |
| Date of Purchase | Year | Month | Day |

- Only the operator who received training for the operation may operate this product.
- STAIRMATE is a powered stair climber for transferring a handicapped passenger who cannot walk up/down the stairs.
STAIRMATE is designed to carry one passenger.
Never carry a baby in the arms, have a child on the passenger's lap or carry any similar load while using STAIRMATE even when the total weight does not exceed the maximum load. Improper usage is dangerous. Only one passenger can use STAIRMATE while Seat Belt is fastened.
- The operator must call out to the passenger to inform him/her the next action with simple words in order to reduce passenger's anxiety before the operator moves STAIRMATE to the next phase of the procedure.
(Pay special attention to reducing passenger anxiety before and during STAIRMATE's ascent/descent of the stairs.)

If any of the following situations occur, be sure to inform the sales agency in advance

- The wheelchair installed to STAIR AID has changed.
- STAIR AID has been relocated to a different site or transferred.
- An untrained operator has to operate STAIR AID.

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. .




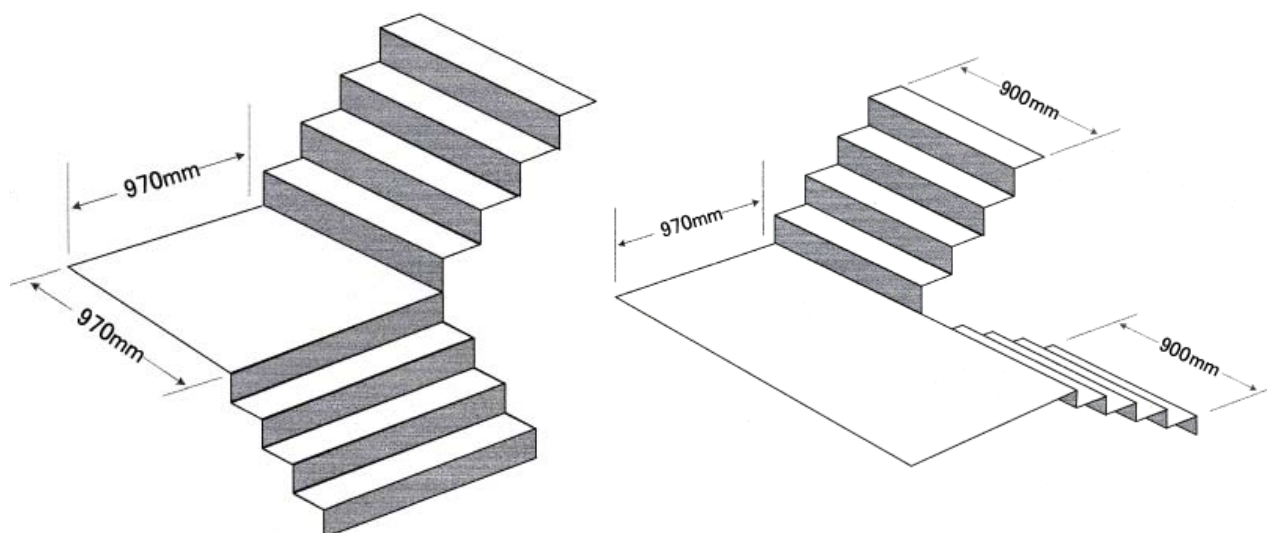
| | |
|--|--|
|  DANGER | Neglecting this warning indication or operating the machine improperly may cause serious personal injury or even death. |
|  WARNING | Neglecting this warning indication or operating the machine improperly may seriously endanger the concerned person's health or life. |
|  CAUTION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

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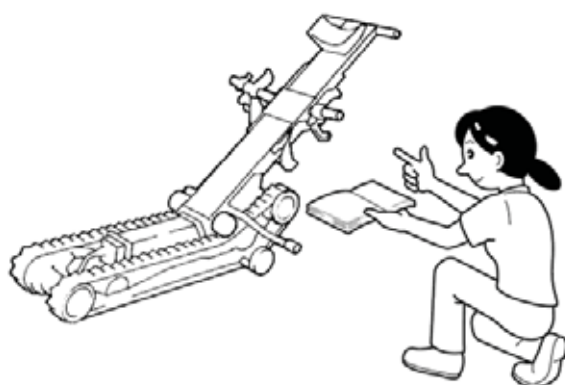
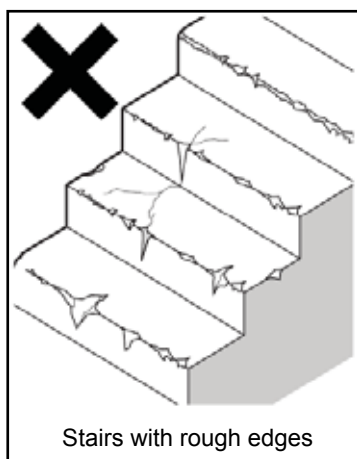
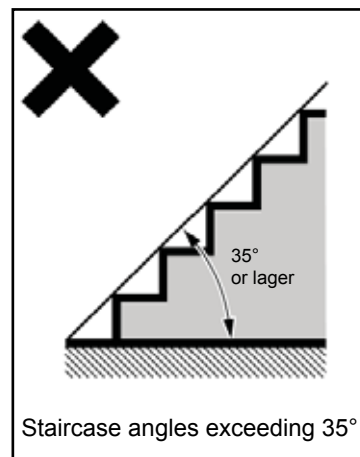
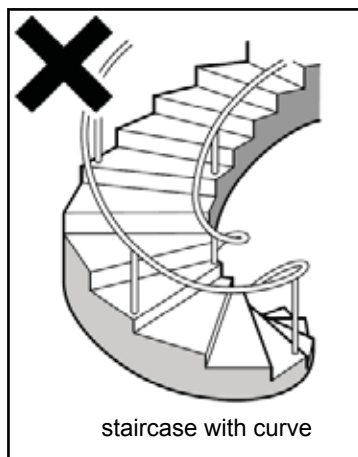
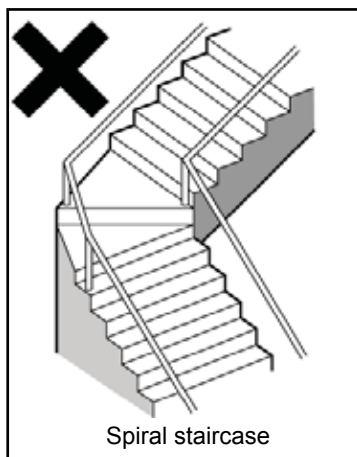
Minimum landing space

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

1. ESSENTIALS OF SAFE OPERATION

Before using STAIRMATE

STAIRMATE cannot be used on spiral staircases, curved staircases, and staircase angles exceeding 35 degrees, stairs with larger pitch or stairs with rough edges.



1. Always check STAIRMATE before using it

- The operator must check STAIRMATE before using it.
- The initial inspection is necessary for safe operation.

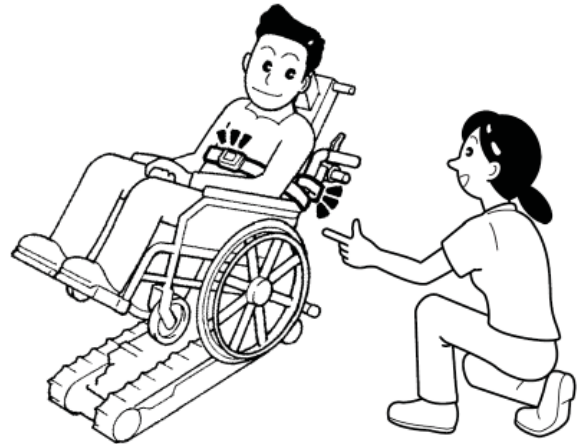
2 Handling of Battery

- Battery is a sealed type. It is unnecessary to refill it with water. Never dismantle Battery.
- Never position Battery near 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 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.



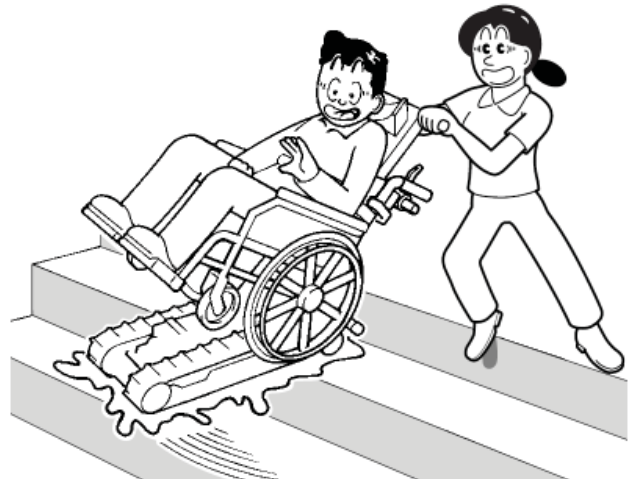
3 Safe operation with proper knowledge

- The operator needs sufficient training. Be sure the training is undertaken before the operator runs this machine for the first time.
- Proper clothes, suitable to machine control, must be worn.
- The machine can be run only after Wheelchair is safely secured by Forks, Seat Belt and other necessary items.
- No operator overworked, sick, taking medicine, intoxicated, or otherwise inhibited may operate STAIRMATE.



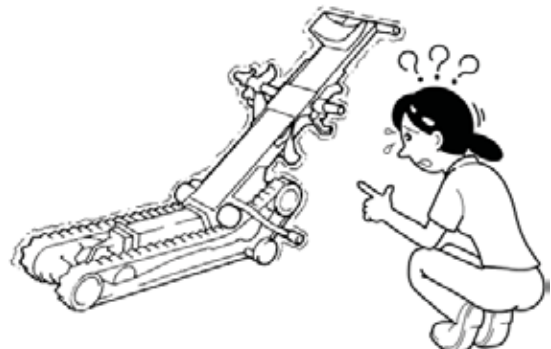
4 Operation on a staircase

- Never run the machine on a staircase angle exceeding 35 degrees, on a curved staircase, an oily staircase, an icy staircase, a wet or slippery staircase or any other inappropriate staircase.
- Obliquely ascending or descending the stairs will result in danger of serious accident. The operator must avoid oblique operation on stairs. Always approach the staircase squarely.
- Whenever running the machine upward, the operator must always pay attention to the area behind him/herself. Do not run STAIRMATE if the stairs is crowded. Whenever running the machine downward, the operator must always pay attention to the front of the machine. Do not run STAIRMATE if the stairs is crowded.
- Never let go of the machine unless unavoidable circumstances separate the operator from the machine.



5 Stopping machine

- If the machine gives trouble, malfunctions or is damaged, immediately stop operating the machine. Running it with a problem existing can result in a serious accident.



2. CONFIGURATION AND SPECIFICATIONS

2.1 GERÄTEBESTANDTEILE

STAIRMATE consists of the following assemblies:

| | |
|-----------------------|---|
| Handle Unit | Wheels |
| Drive Unit | Battery Pack |
| Wheelchair Mount Unit | Standard-accessories |
| Headrest | <ul style="list-style-type: none"> Charger (12V) 1 Unit Parts List 1 Copy |

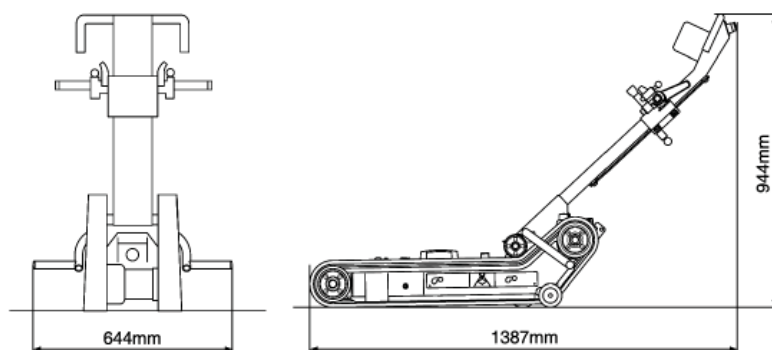
2.2 SPECIFICATIONS

| | |
|----------------------------|--|
| Model | SA-S |
| Passenger | 1 (max. 110 kg) |
| Operator | 1 |
| Rubber Crawler | 2 Rubber Crawlers (Width: 51 mm, Ground contacting length: 681 mm, Tread : 241 mm) |
| Geschwindigkeit aufwärts | 6,1m/min. |
| Geschwindigkeit abwärts | 10,7m/min. |
| Höchstlast | 150 kg |
| Max. Gewicht d. Passagiers | 150 kg ex Wheelchair weight |
| Maximaler Treppenwinkel | 35° |
| Minimaler Wenderadius | 485 mm |
| Motor | Type: permanent-magnet DC motor Rated power: 210 W / 30 min.. |
| Bremse | Spring loaded electromagnetic brake |
| Betriebszeit (min)/Laden | Ascending : 600 steps / 30 min. Descending : 840 steps /30 min. |
| Akku | Maintenance free type sealed lead battery 12V-2QAh/20HR |
| Ladegerät | Input : 100-240VAC, 50/60Hz, 1.0A MAX Output : 12VDC, 3A |
| Gewicht | 59 kg |

The STAIRMATE corresponds to:

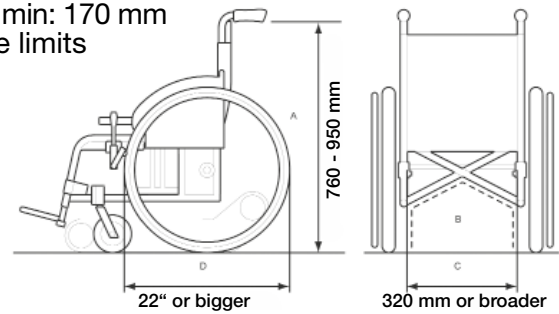
- ISO 7176-9 Climatic tests for wheelchairs
- ISO 7176-14 Power and control systems for electrically powered wheelchairs
- ISO 7176-15 Requirements for information disclosure, documentation and labeling
- ISO 7176-21 additional general requirements for EN 60601
- ISO 7176-23 Requirements and test methods for attendant-operated stair-climbing devices.

Measurements:



STAIRMATE's Wheelchair-capable mount

| | |
|------------------------------------|---|
| A: Wheelchair height | 760 mm up to 950 mm from the floor |
| B: Space under the X-frame | Center height: 210 mm min End height: 170 mm min: 170 mm Crawler under-frame limits |
| C: Inside width between base tubes | 320 mm or wider |
| D: Main Wheel diameter | 22 inch or larger |



The following wheelchair types cannot be mounted:

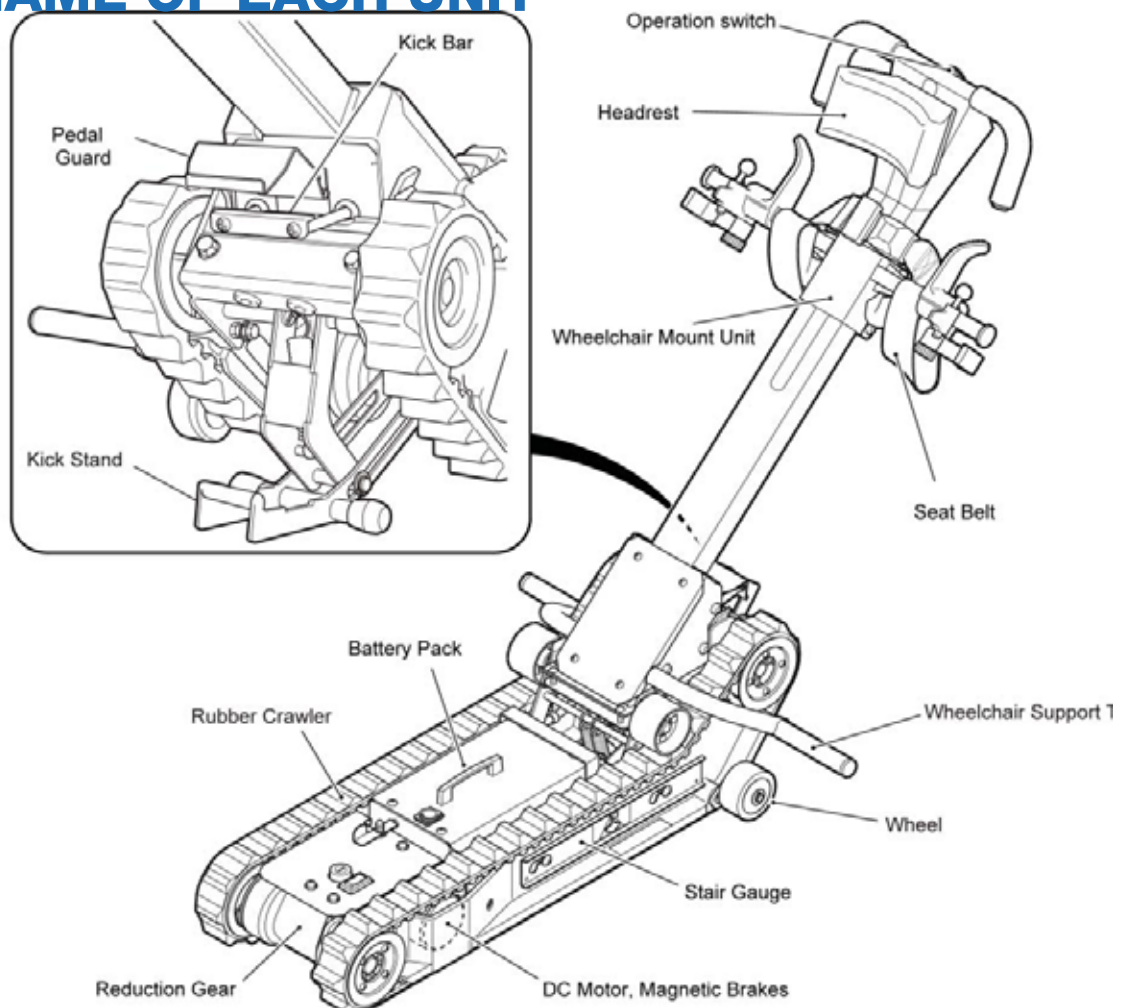
1. Reclining type wheelchair
2. Foldable or detachable handle type wheelchair
3. Detachable armrest type wheelchair
4. Caliper brake installed Wheelchair
5. Any wheelchair that has machine part trouble.

The dimensions shown above are standard values. Some wheelchairs may not fit.

2.3 MATERIAL

Frame: steel, powder-coated; Drive chains: rubber; Drive unit: aluminium die casting.

3. NAME OF EACH UNIT



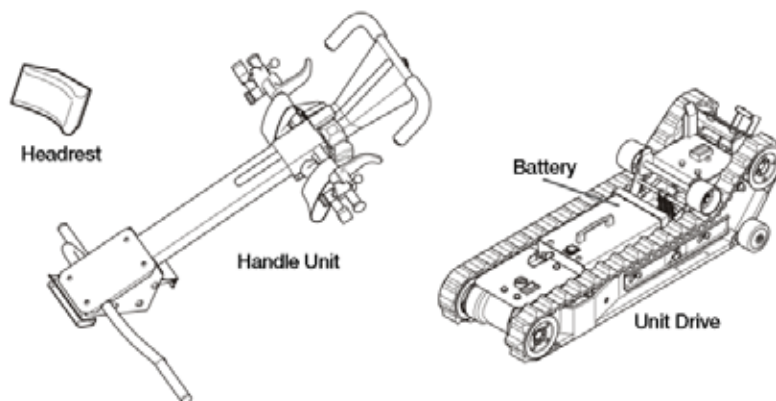
4. ASSEMBLING THE MACHINE

4.1 NAME OF EACH ASSEMBLY

No tools are needed to assemble the machine.

The batteries and charger have handles for easy handling.

The drive system can be driven independently, ex. moving on a ramp to load in the trunk of a car.



| Dead Weight | | Packmaße |
|----------------------|---------|-----------------|
| Handle Unit | 14,5 kg | 110 x 660 x 270 |
| Headrest | 0,2 kg | |
| Drive system | 36 kg | 990 x 450 x 340 |
| Rechargeable Battery | 10 kg | |

4.2 ASSEMBLING PRODEDURE

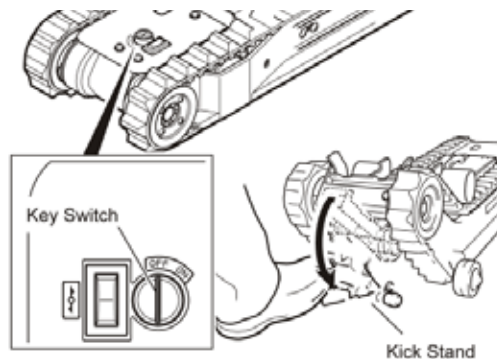


CAUTION

Before STAIRMATE is assembled, be sure to set Key Switch to "OFF".

After STAIRMATE is assembled, confirm that Lock Pin is firmly secured by its "R" pin to Handle's Hook point. Insecure Lock Pin attachment can cause passenger to fall or other serious accident can happen.

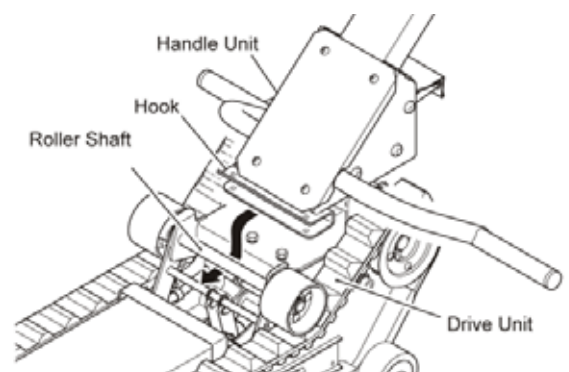
1. Confirm that Key Switch is set to "OFF".
Step on Kick Stand to secure STAIRMATE.



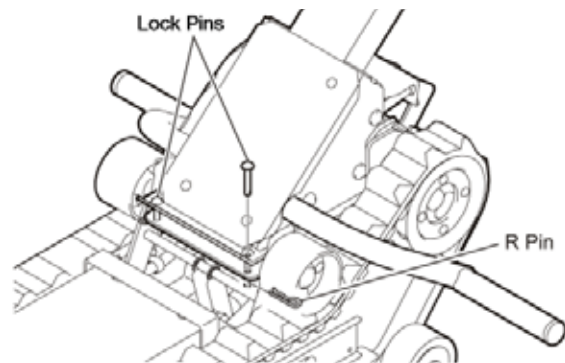
CAUTION

Step n Kick Stand with one foot.
Doing this by a hand is dangerous.

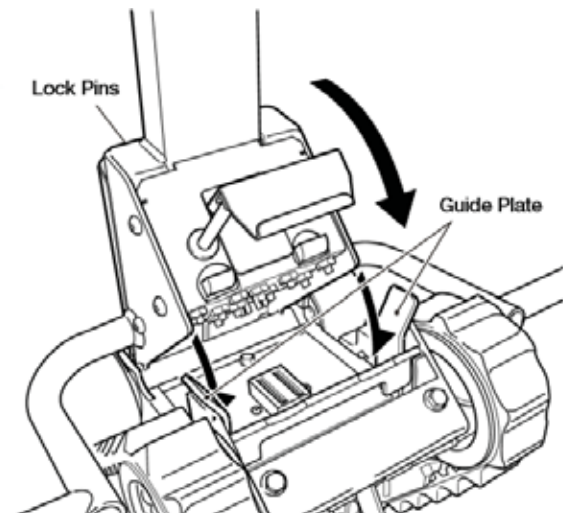
2. Set handle unit's hook against guide roller shaft and push it until hook reaches its dead-end against guide roller shaft.



3. Insert two Lock Pins into the two sides of Handle Hook unit. Then secure each Lock Pin with its “R” Pin.

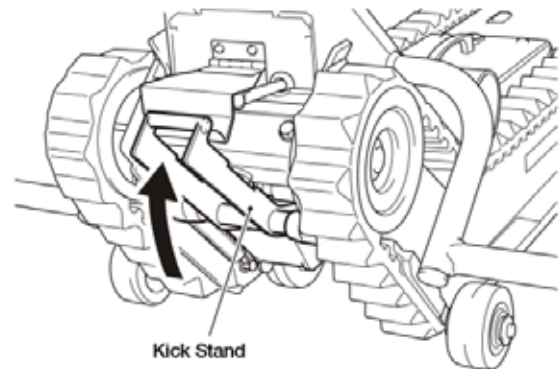


4. Lower Handle Unit to meet Guide Plate and secure it firmly.



5. Close Kick Stand.

NOTE: Unless Handle Unit is fully locked and Kick Stand is fully closed, STAIRMATE will not run even when Switch is pressed UP or DOWN.

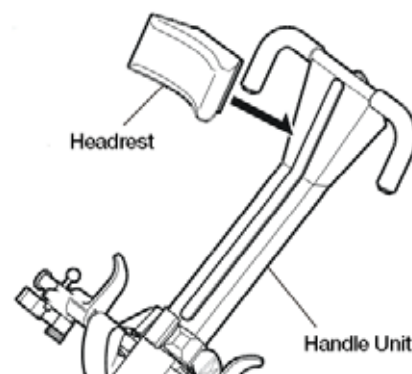


CAUTION

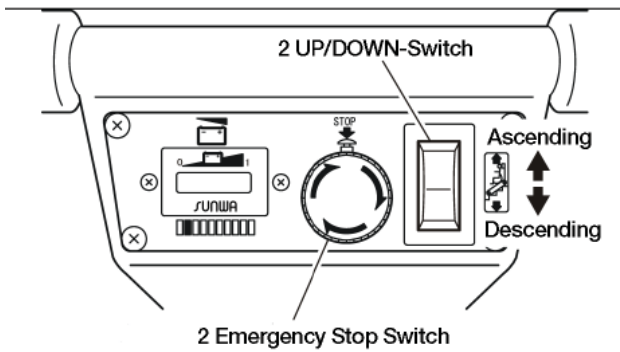
Close Kick Stand with one foot.
Doing this by hand is dangerous

4.3 HEADREST ATTACHMENT

Attach Headrest firmly at the suitable height for the passenger.



5. DESCRIPTION OF EACH UNIT



5.1 SWITCHES

1. Key Switch

It turns on/off the power supply.

When it is turned clockwise, the power will be turned off.

NOTE: when STAIRMATE is not to be used (to be stored, to be charged, to be transported), turn of Key Switch, remove Key and keep it in an appointed place.

2. UP/DOWN-Switch

Only while this Switch is pressed, does the machine run. If UP Seesaw is pressed, the machine will descend.

When the finger is released, Switch will automatically return its neutral position and the machine will stop.

3. Emergency Stop Switch

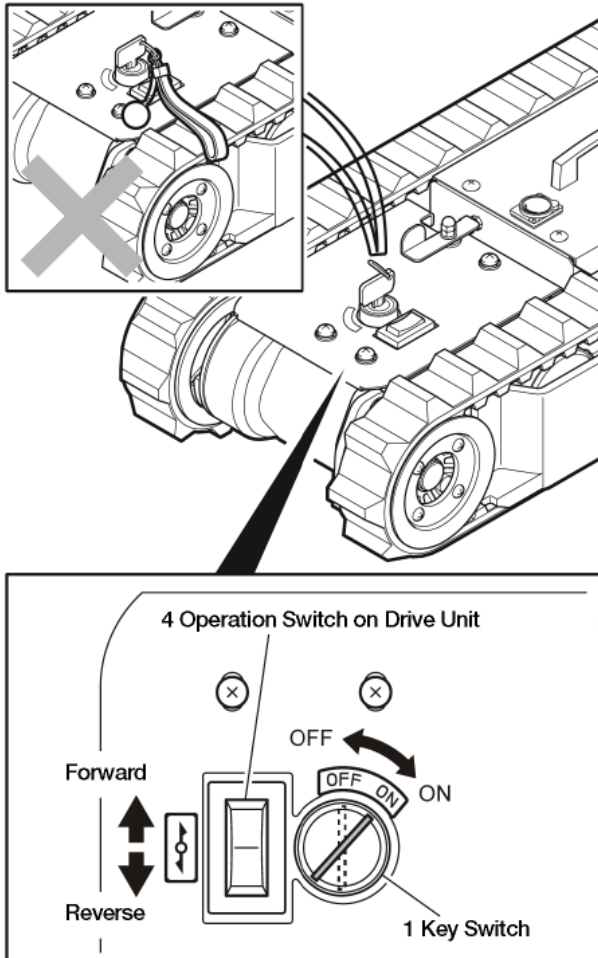
When this Switch is pressed, the machine will stop immediately. STAIRMATE won't restart. Even when the other Switch is pressed.

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

4. Operation Switch on Driver Unit

When Forward or Reverse Switch top is pressed, the machine will run in the corresponding direction. When Switch is released, Switch will return to its neutral position and the machine will stop.

NOTE: This Switch is not to be used for stair work. Use it only for running STAIRMATE without Handle Unit.

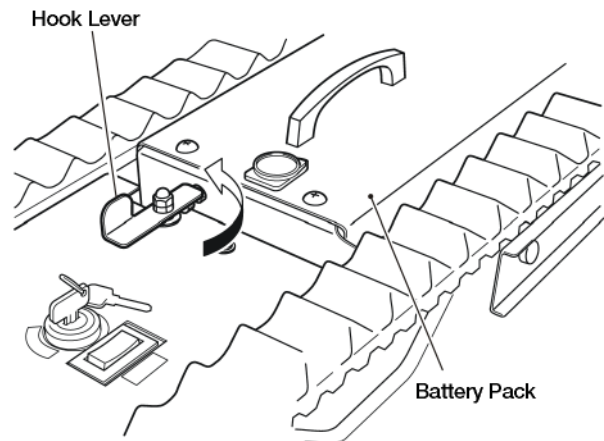


CAUTION

- If Key Switch is maintained 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 it.
- Never attach the objects to Key. Doing so may cause the objects to be caught by Rubber Crawler.
- Pay attention that the operator's fingers are not caught in a Rubber Crawler while the operator pushes Operation Switch on Drive Unit near floor level.

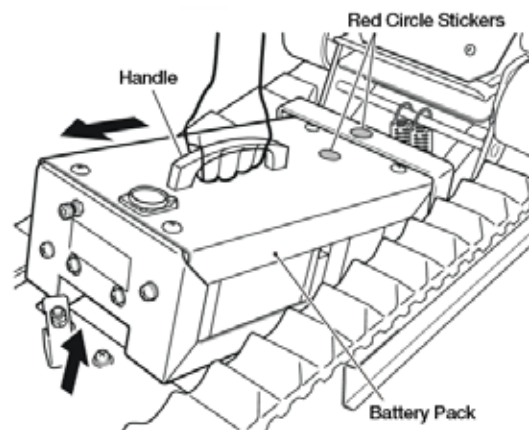
5.2 BATTERY PACK REMOVAL AND REINSTALLATION

1. Turn Hook Lever at the front of Battery Pack to the left to release Battery Pack.



2. Hold Battery Pack's Handle and remove it while pulling it obliquely upward and to the front.

3. Battery Pack reinstallation is the reverse of Battery Pack removal.
Firmly push Battery Case from its front and top sides in order for its connectors to firmly connect. After Battery Pack is reinstalled, turn Hook Lever to the right to lock Battery Pack.



NOTE: Pay attention to install Battery Pack in the correct direction. Set Battery Packs Red Circle Sticker toward the same Sticker on STAIRMATE (as shown in the figure).

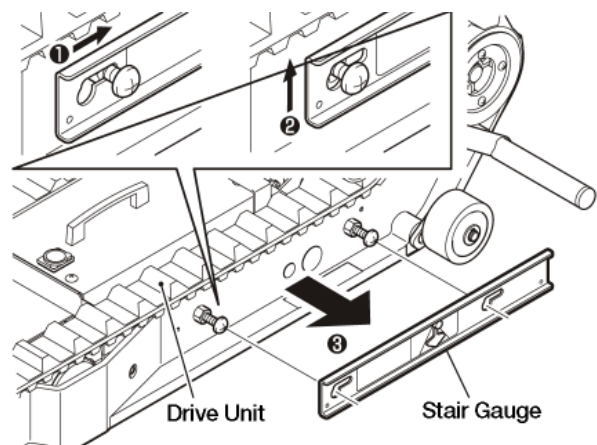


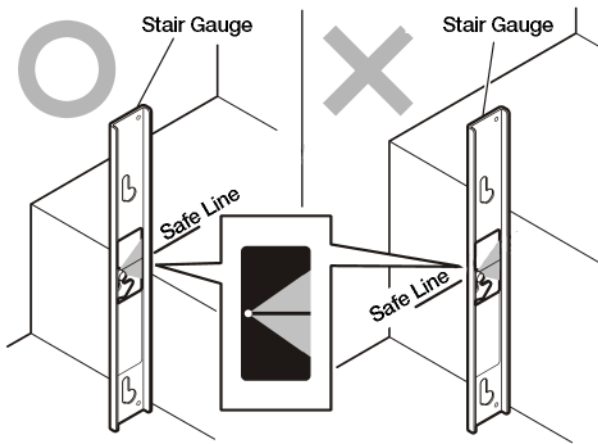
CAUTION

If Battery Pack is dropped, Battery may be damaged. Pay attention to safe handling during Battery removal / reinstallation.

5.3 STAIR GAUGE HANDLING PROCEDURE

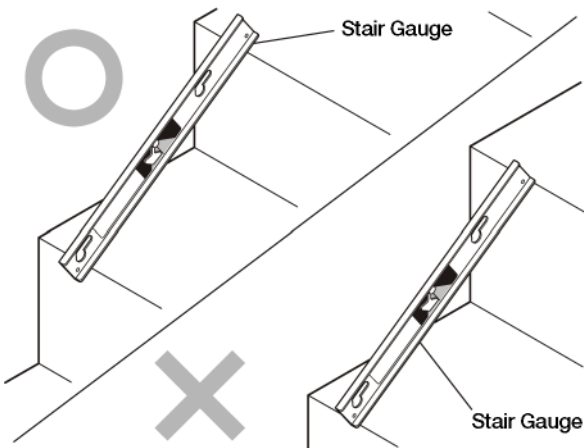
1. Detach Stair Gauge from the left side of the frame. Slide Stair Gauge in the direction 1 shown in the figure at right. Then lift it upward to (direction 2) to remove it.





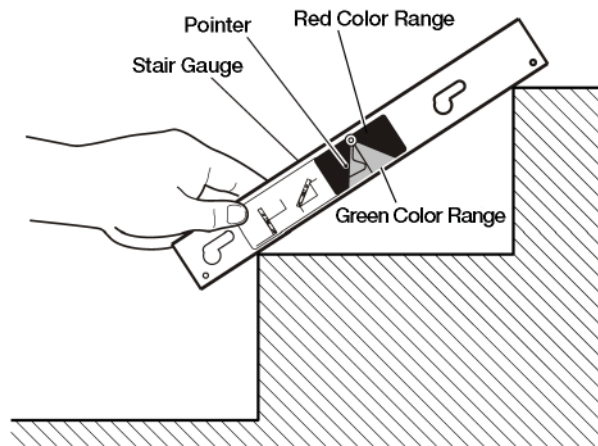
2. Put Stair Gauge vertically against the stair. Measure one stair's height. It is possible to use STAIRMATE if the height is less than Stair Gauge's Safe Line. Never use STAIRMATE on a stair if its height exceeds Stair Gauge's Safe Line.

NOTE: The height of Safe Line is 180 mm.



3. Bring Stair Gauge to contact the edges of two adjacent stairs to measure the stair's pitch. If the measured pitch is shorter than the distance between Stair Gauge's Holes (positioned at each end of Gauge), STAIRMATE can be used. If the measured pitch exceeds the distance between Stair Gauge's Holes, STAIRMATE cannot be used.

NOTE: The distance between Holes is 340 mm.



4. Set Stair Gauge against the edge of the neighboring stair. Observe Pointer Position. If Pointer settles within Green Color Range, it is possible to use STAIRMATE. Never use STAIRMATE on a stair if Pointer settles within Red Color Range. After the measurement is completed, be sure to return Stair Gauge to its original position on STAIRMATE.



DANGER

Be sure to measure the stairs for their compliance before first running STAIRMATE. Only all three requirements shown below are satisfied, can STAIRMATE be run on the stairs.

- a: The stair height is less than Stair Gauge's Safe Line height. (180 mm or below)
- b: The stair's pitch is within Stair Gauge's Two Hole's distance. (340 mm or below)
- c: Stair Gauge's Pointer settles within Green-Colored Range. (35 degrees or lower).




6. BATTERY CHARGE SYSTEM

6.1 BATTERY

A Sealed Lead Battery is used in STAIRMATE. 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 | <ul style="list-style-type: none"> • 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 | <ul style="list-style-type: none"> • 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 on. • 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 | <ul style="list-style-type: none"> • Battery a sealed type. Never remove its cover. If the cover is removed Battery becomes 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 while it is being stored, its capacity constantly decreases. Therefore its performance must decrease compared with the previous occasion the machine was used. |

6.2 CHARGER

A special Battery Charger is used for STAIRMATE.

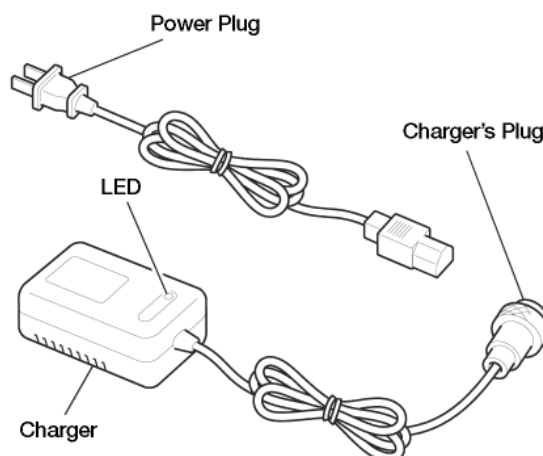
Battery is automatically charged depending on battery discharge rate at a given time.

This Battery Charger is equipped with no timer function.

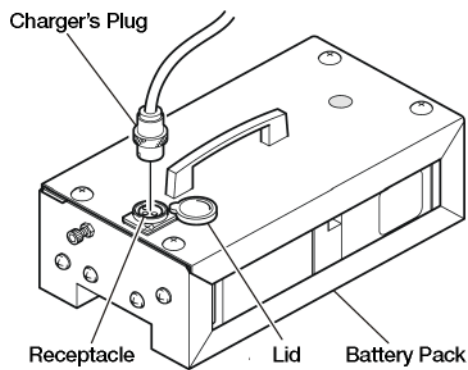
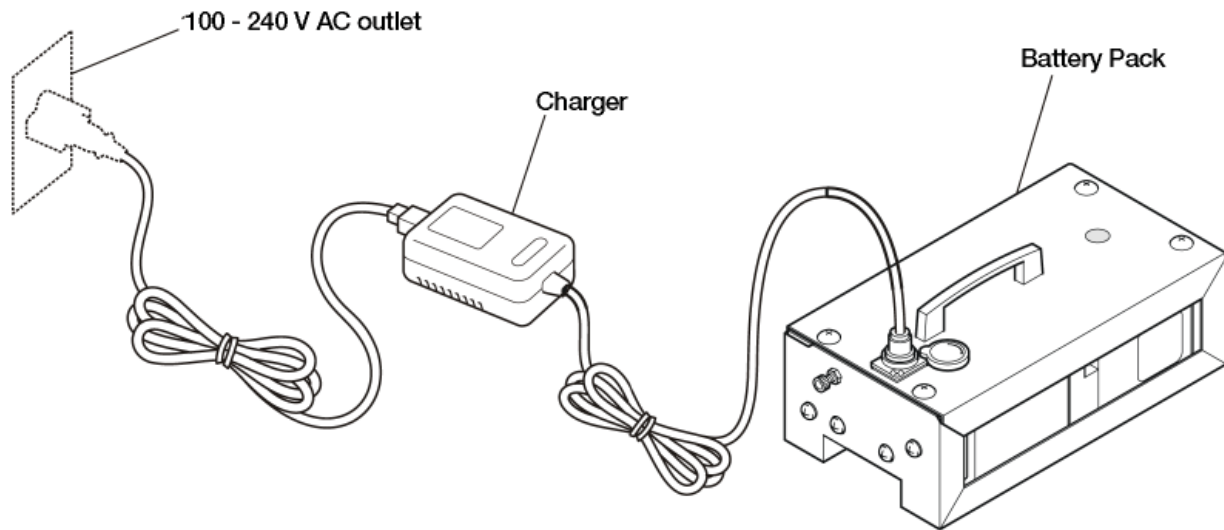
When battery reaches its fully charged level (Charger's Green LED will illuminate), Battery will be continuously charged with trickle current (0.1 to 0.2A).

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

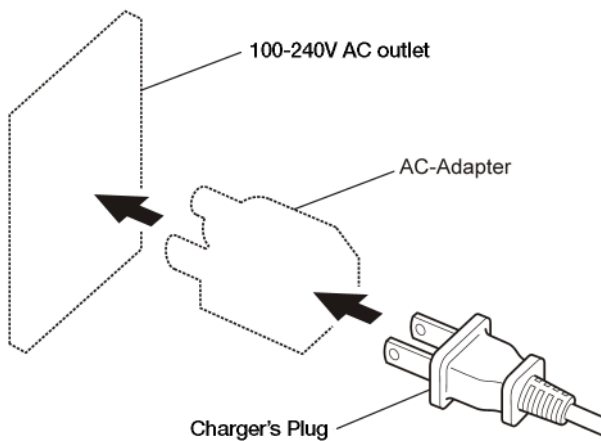
(Charging Battery completely will take 8 hours.)



6.3 CHARGING PROCEDURE



1. Open Battery Pack's Receptacle Lid. Connect Battery Charger's Plug to Receptacle. Charger's Plug



2. Connect AC Adapter to outlet (AC100 to 240V) and connect Power Plug. 100-240V AC outlet



CAUTION

Prepare an area specified AC conversion Adapter to install between AC outlet and Power Plug.

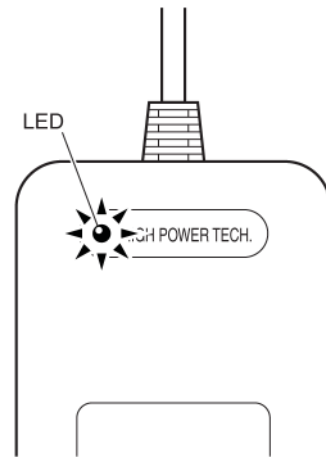
3. When Power Plug is inserted, the charging process immediately starts. The charging progress is indicated by LED's colors.

Red Power is supplied.

Orange . . Charging.

Green . . . Fully charged.

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



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



CAUTION

- This Charger is equipped with no timer function. When Green LED illuminates, disconnect Charger's Plug from Battery Pack's Receptacle. 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.

6.4 MALFUNCTION, INSPECTION, RESOLUTION PROCEDURE

| MALFUNCTION | INSPECTION | RESOLUTION PROCEDURE |
|---|---|--|
| 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. |

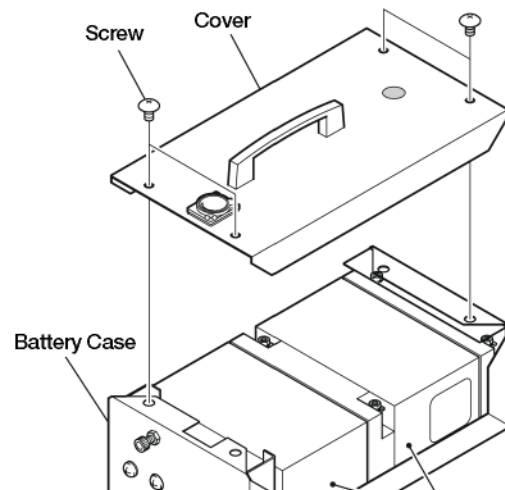


CAUTION

- For safe handling of Charger, be sure to read the instructions thoroughly before using Charger.
- Charger is only to be used with an AC100-240V 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 re-suiting 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 have a danger of 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.

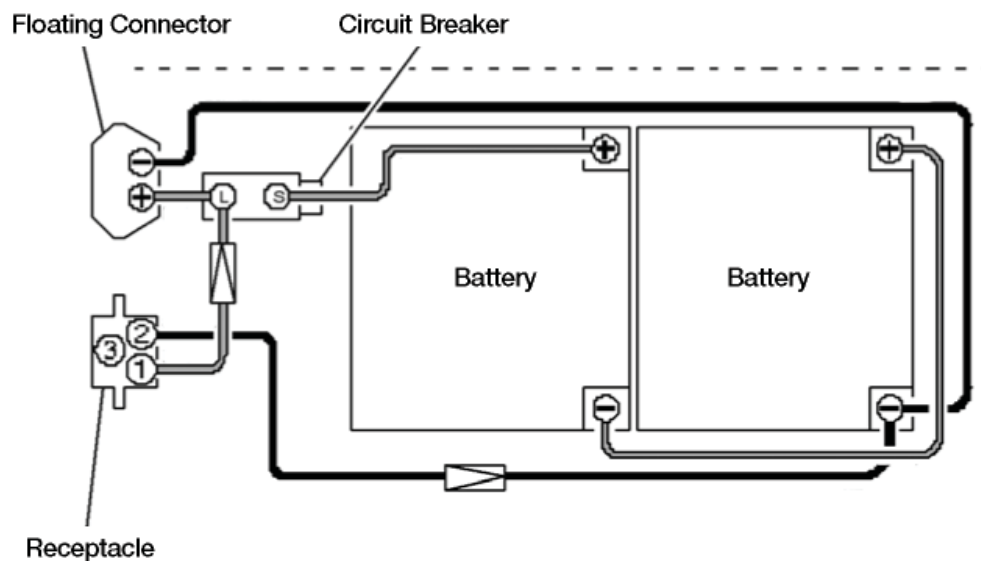
6.5 BATTERY REPLACEMENT

1. Unscrew the screw mounting Battery Case and Cover.



2. Disconnect cables from Battery Terminals, remove exhausted Batteries, and install new ones.
3. Connect cables to Battery Terminals as shown in the figure below. Confirm that cables are properly connected to the proper terminals. Then apply adhesive agent to Connectors to prevent their loosening.

CABLE CONNECTING FIGURE



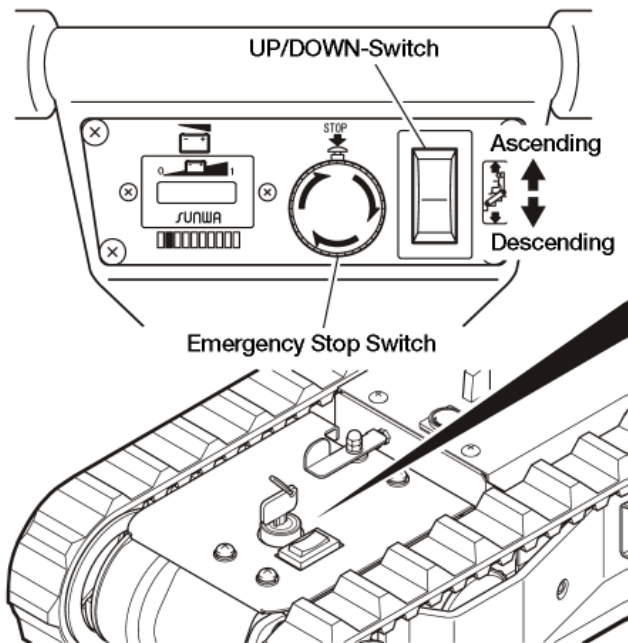
CAUTION

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

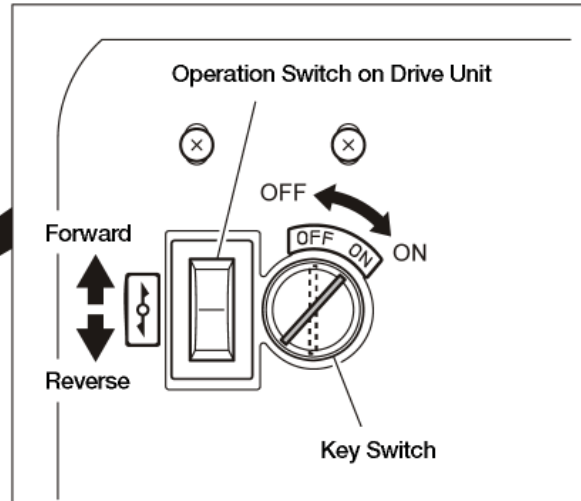
Please regard to official rules and regulations for the disposal of batteries. Batteries are to be returned to sales operator or official public waste disposal site.

7. PREUSE INSPECTION

Before using the machine, be sure to carry out the daily inspection.
The daily inspection will prevent trouble. It is essential before handling STAIRMATE.

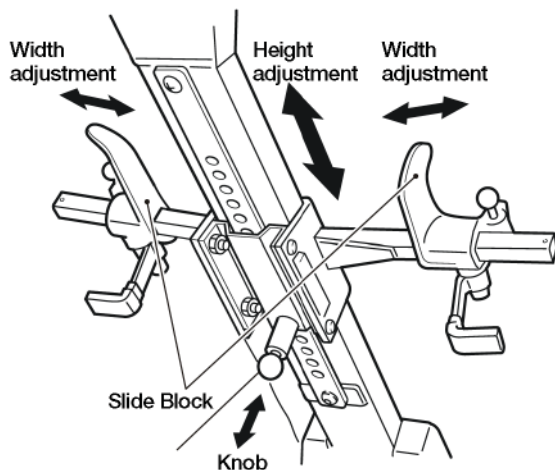


SWITCH INSPECTION



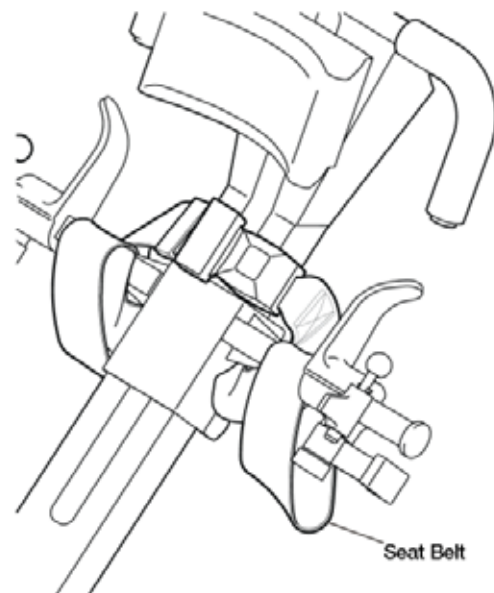
Check that all Switches function correctly.

WHEELCHAIR MOUNT UNIT INSPECTION



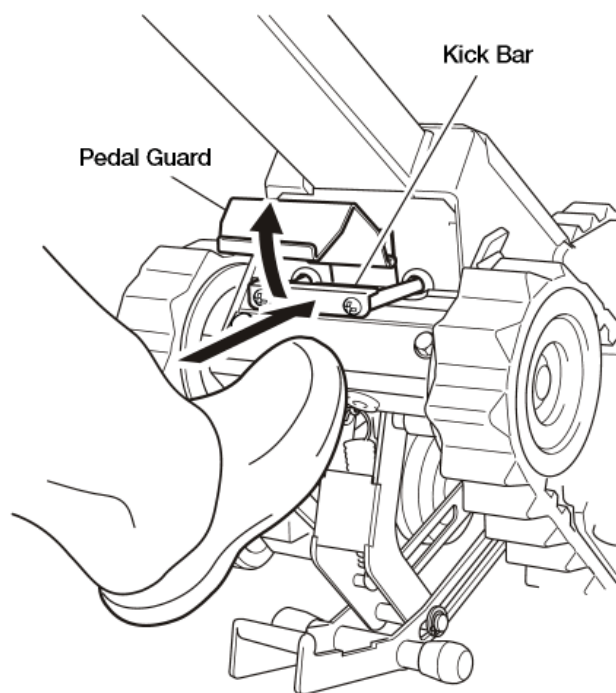
Check that there is no deformation or crack in Wheelchair Mount Unit and that it functions correctly.

SEAT BELT INSPECTION



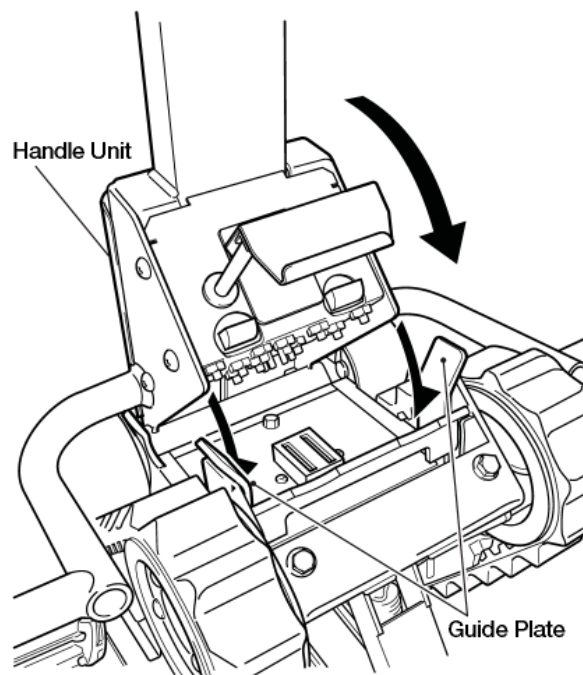
Check that there is no deformation or crack in any Seat Belt securing part and that Seat Belt is securely locked.

PEDAL GUARD AND KICK BAR INSPECTION



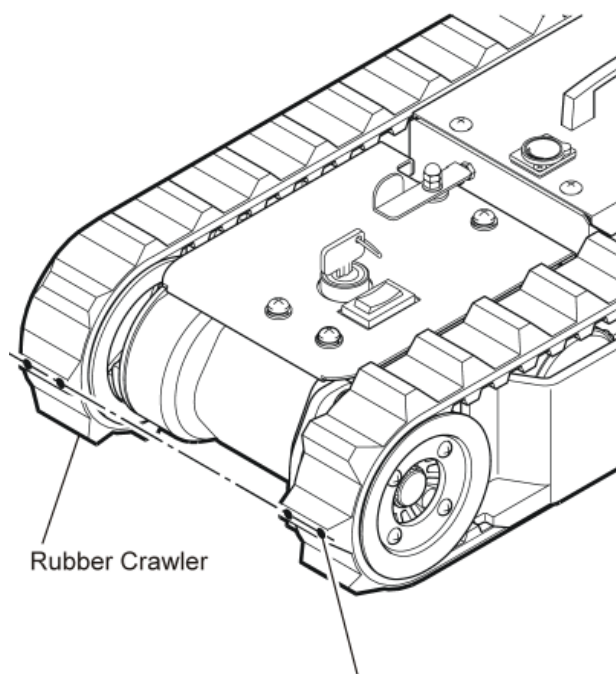
Check that there is no crack or other damage to Pedal Guard or Kick Bar and that they function normally.

LOCK UNIT INSPECTION



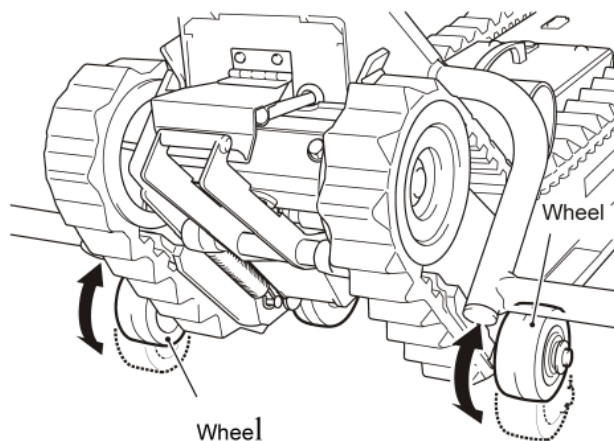
Check that Lock Unit functions correctly, and Handle Unit remains stowed when Handle is locked.

KICK STAND INSPECTION



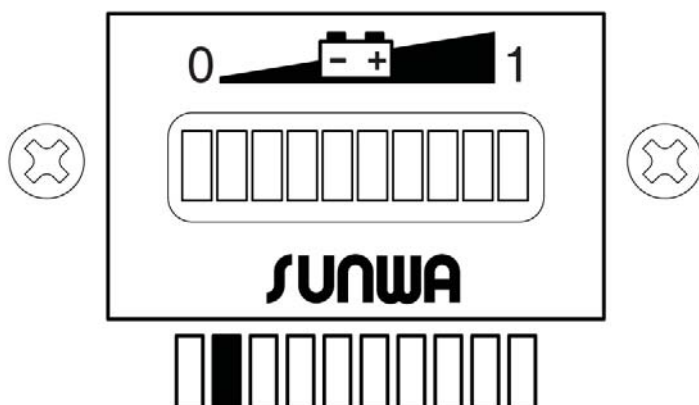
Check that there is no deformation or crack in Kick Stand and that it functions correctly.

MOTOR, REDUCTION GEAR INSPECTION



Check that Motor and Reduction Gear have no abnormal noise, deformation, crack or oil leakage.

BATTERY GAUGE INSPECTION

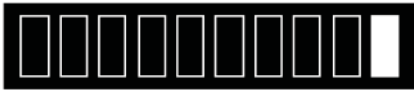






Check that the right end lamp of Battery Gauge is illuminated.

When the charge level decreases, the illuminating point will shift to the left.

If Battery Gauge is not illuminated at the right end, it means Battery is not fully charged or battery capacity is reduced due to its deterioration. The total running period will be diminished.

BATTERY GAUGE INDICATION

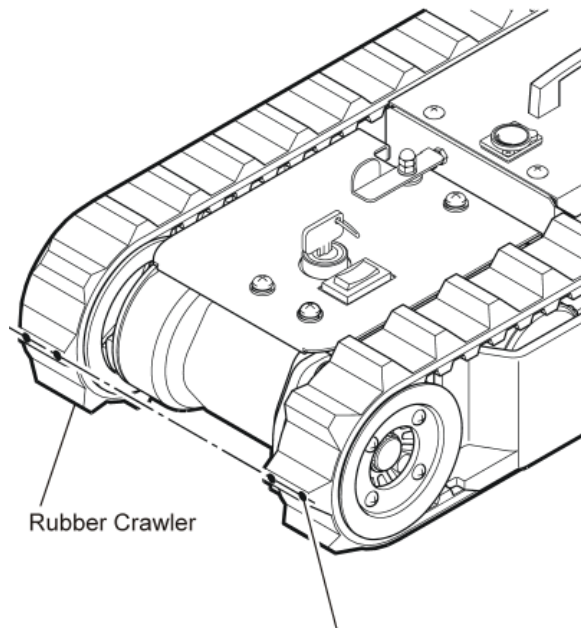
| Battery Gauge | Available time (Charging percentage) |
|---|---|
| 1  The right end LED illuminates | 30 min. (100%) |
| 2  The fourth LED from the right end illuminates | 20 min. (65%) After operating, charge STAIRMATE's Battery Pack |
| 3  The seventh LED from the right end illuminates | 10 min. (30%) |
| 4  The second LED from the left end flashes | Stopp (0%) Stop operating the machine and charge Battery immediately |
| 5  The first and second LEDs from the left end flashes | This indication being prolonged will result in rapid Battery deterioration. Be sure to stop the machine at the „4“ indication and charge Battery. |



CAUTION

Any time Key Switch is set to ON, Battery Gauge indication may differ from its indication when the power was previously turned off.

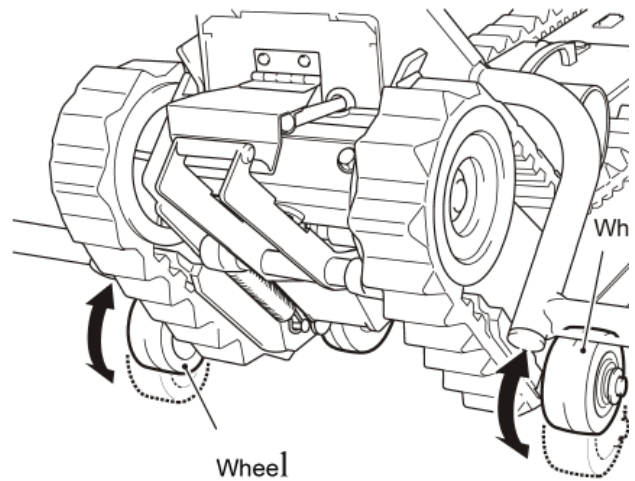
RUBBER CRAWLER INSPECTION



Check that there is no crack, wear or pitch error regarding Rubber Crawlers.

The pitch error can be confirmed from Slip Mark deviation.

WHEEL INSPECTION



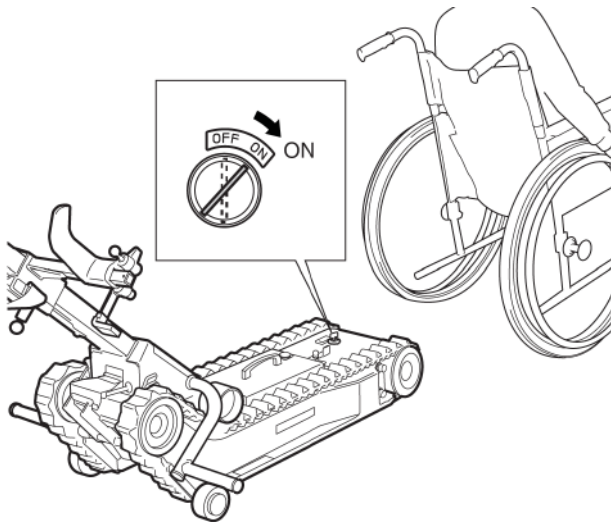
Check that Wheels can turn smoothly.

SCREWS INSPECTION

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

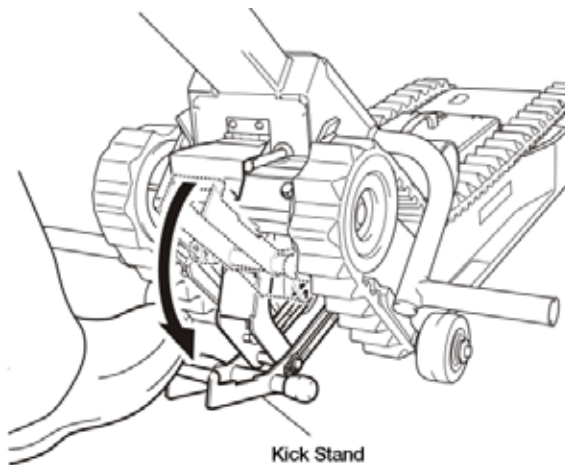
8. OPERATION

8.1 WHEELCHAIR SETTING





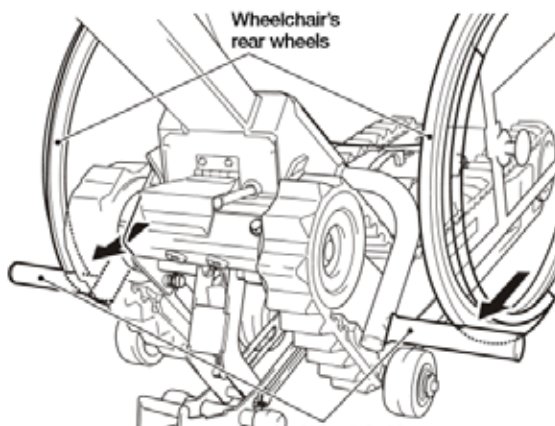
1. Set Key Switch to ON,

NOTE: While Key Switch is set to ON, check Battery Gauge shows enough battery capacity.
(Refer to P15 „Battery Gauge“)



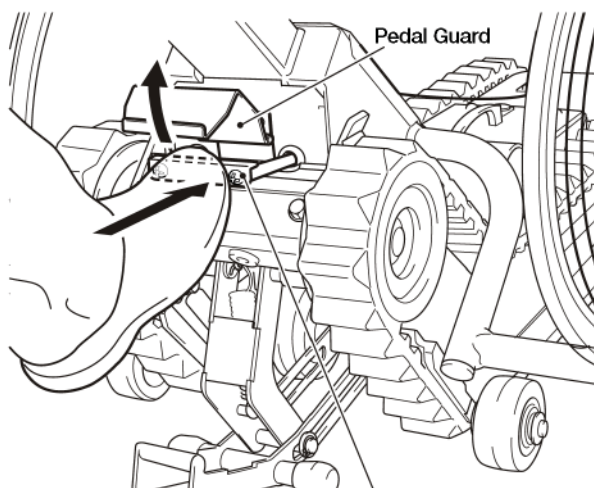
2. Step on STAIRMATE'S Kick Stand to secure it while mounting Wheelchair.

| | | |
|---|----------------|---|
|  | CAUTION | Step on Kick Stand with one foot. Doing this by a hand is dangerous. |
|  | DANGER | Never mount a Wheelchair without first setting STAIRMATE's Kick Stand. Not doing so may cause Wheelchair and the passenger to fall. |



3. Move Wheelchair until Wheelchair's rear wheels lightly contact Wheelchair Support Tubes. Then set Wheelchair's parking brakes.

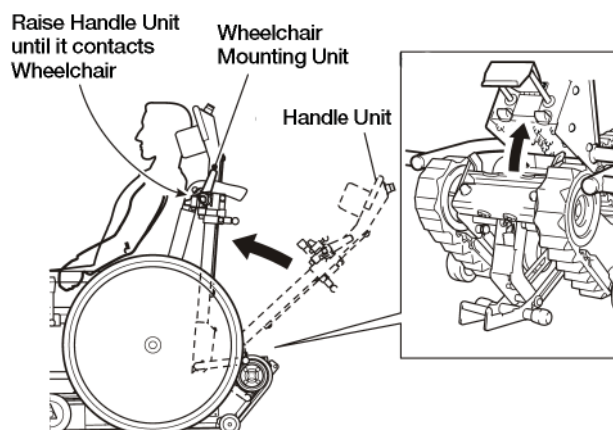
4. Move Wheelchair until Wheelchair's rear wheels lightly contact Wheelchair Support Tubes. Then set Wheelchair's parking brakes.



CAUTION

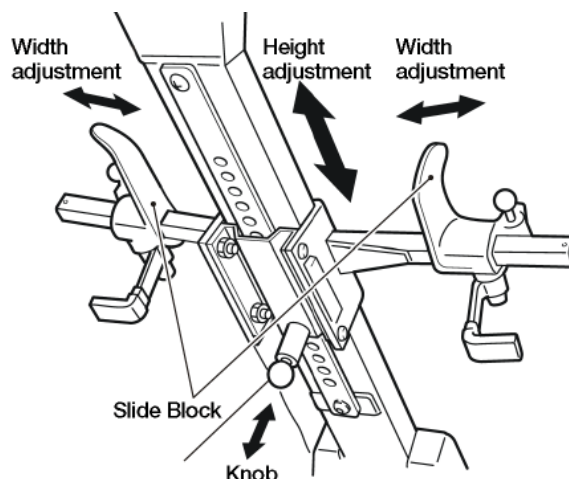
Raise Pedal Guard with one foot. Doing this by a hand is dangerous.

5. Raise Handle Unit until it lightly contacts Wheelchair. Temporarily position Wheelchair Mounting Unit lower than its normal setting height.



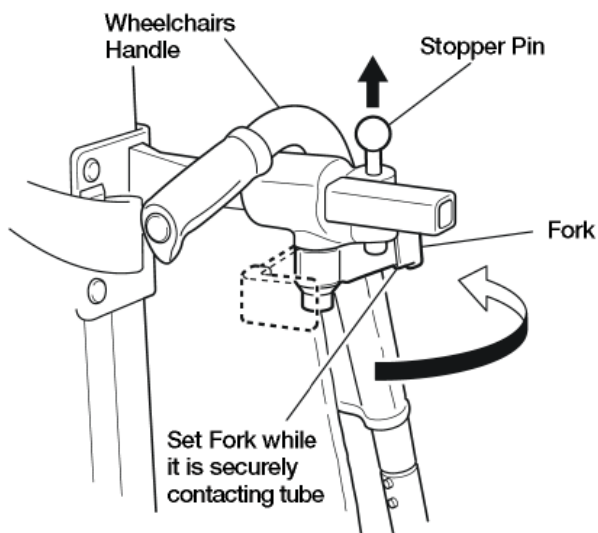
6. Slide each adjustable part of Wheelchair Mounting Unit until it contacts the inside of Wheelchair's handles.

- Vertical adjustment
Slide Wheelchair Mounting Unit vertically to its proper height by pulling Knob.
- Width adjustment
Adjust Slide Blocks laterally to secure Wheelchair's handles firmly.

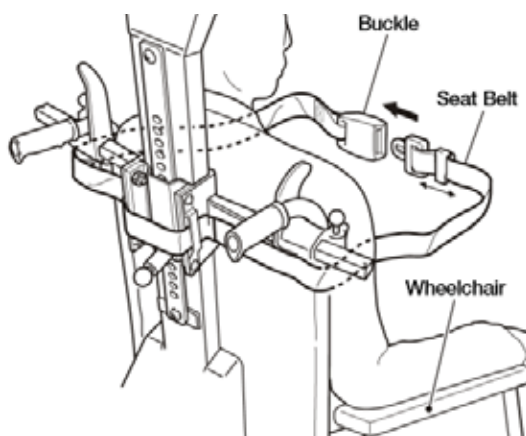
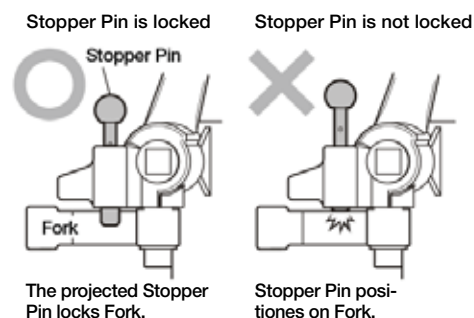


CAUTION

For Wheelchair handle width adjustment, set the right and left Slide Blocks to be equidistant from the center line of the machine. If Wheelchair mounting is off center, STAIRMATE'S balance may be lost resulting in danger.



7. While pulling Stopper Pin, set Fork so that it secures Wheelchair's handle, and then release Stopper Pin to lock Fork firmly.



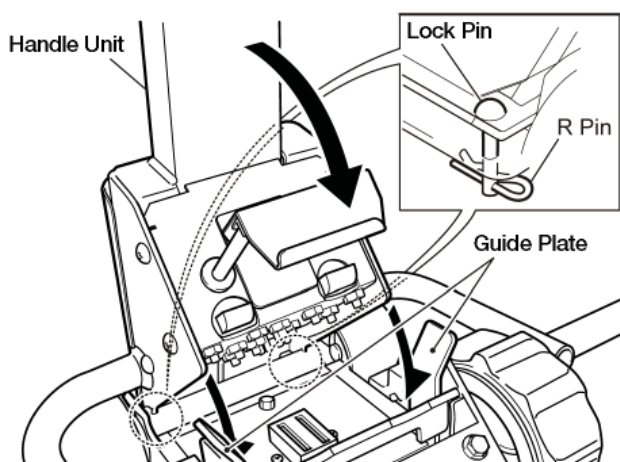
8. Adjust Seat Belt length to suit the passenger. Securely fasten Seat Belt with Buckle. Confirm that Seat Belt is securely fastened.



WARNING

Confirm that the tongue of Seat Belt and Buckle are completely latched.

Ascending/Descending stair with unlatched Seat Belt is very dangerous. Never take a passenger in Wheelchair without fastening Seat Belt.



9. Pull down Handle Unit along its Guide Plate and lock it securely.

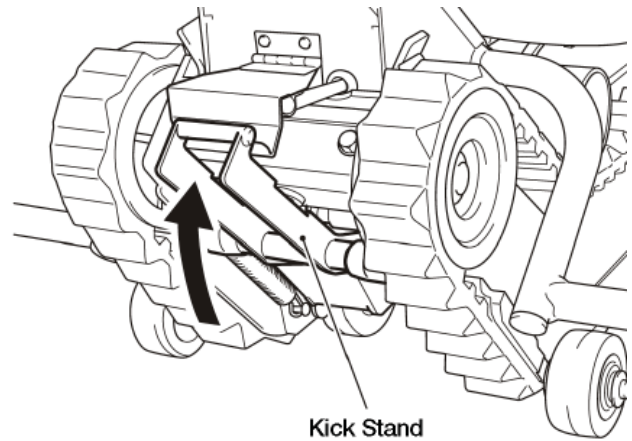


CAUTION

Reconfirm that Lock Pins are installed to Handle's Hook Points and they are securely locked with their „R“ Pins. If Lock Pins are insecurely inserted, a serious accident such as passenger injury may occur.

10. Close Kick Stand.

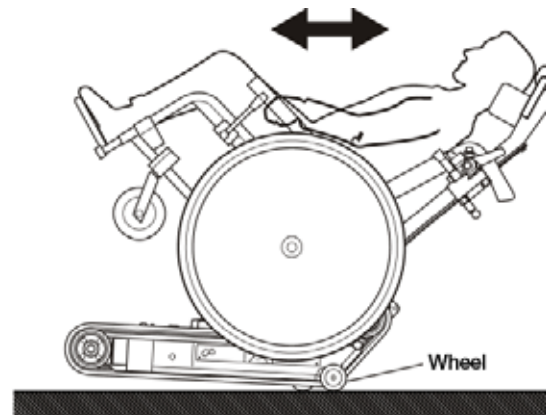
NOTE: Unless Handle Unit is fully locked and Kick Stand is fully closed, STAIRMATE will not run even when Switch is pressed UP or DOWN. (Battery Gauge will not illuminate.)



CAUTION

Close Kick Stand with one foot.
Doing this by a hand is dangerous.

11. To run STAIRMATE on a flat floor surface, manually push/pull STAIRMATE on its Wheels, do not use its Rubber Crawlers. The operator must hold both Handle Grips and transfer Wheelchair using STAIRMATE's Wheels while tilting STAIRMATE to make its Wheels act as the fulcrum.

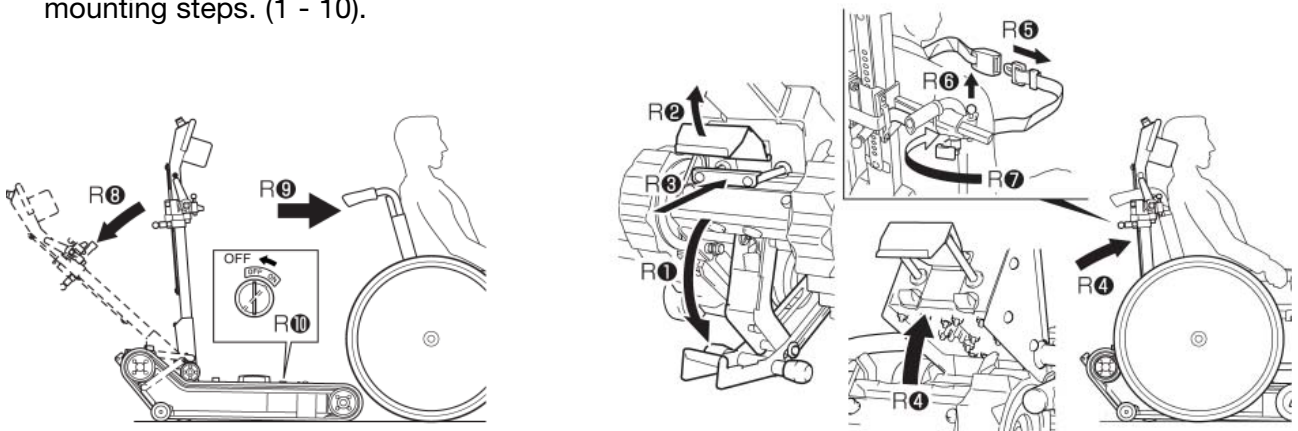


WARNING

If an operator has to unavoidably leave Wheelchair or has to release his/her hand from STAIRMATE's Handle on a flat floor, be sure he/she open Kick Stand to secure STAIRMATE.

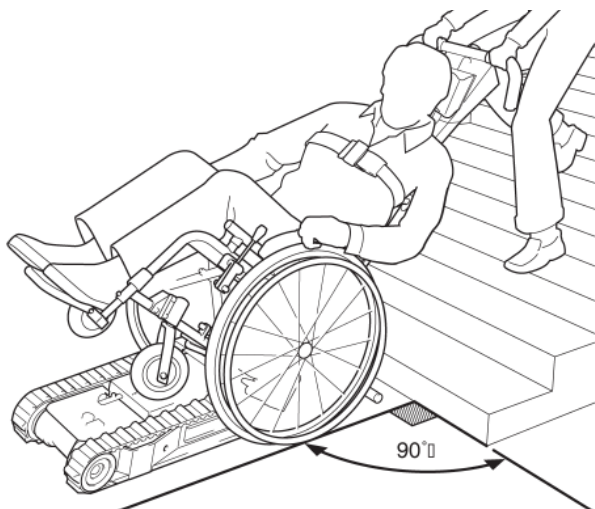
- STAIRMATE may overturn on the inclined surface even with Kick Stand set. Never leave STAIRMATE unattended on an inclined surface.

12. To release Wheelchair from STAIRMATE, carry out with the reverse procedure of the mounting steps. (1 - 10).



NOTE: When STAIRMATE is not in use, wind Seat Belt around Wheelchair Mounting Unit to prevent Seat Belt becoming an obstacle. (Refer to P15.)

8.2 ASCENDING STAIRS



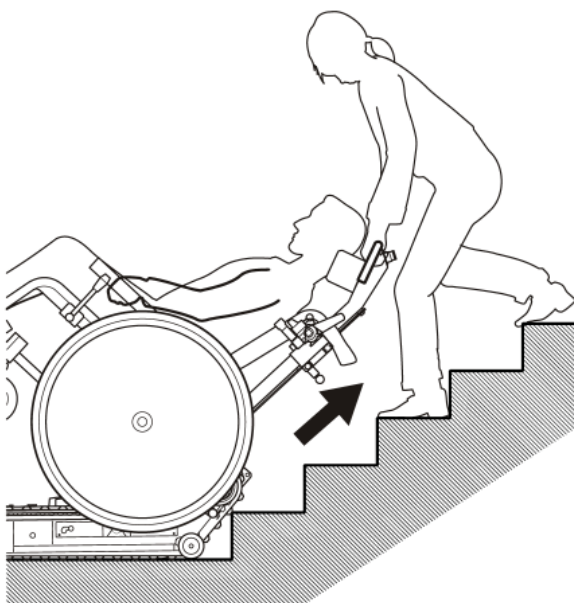
1. Position STAIRMATE at the stairs:

Position STAIRMATE at the base of the stairs, at a right angle (90°) to the stairway with the passenger's back towards the stairs.



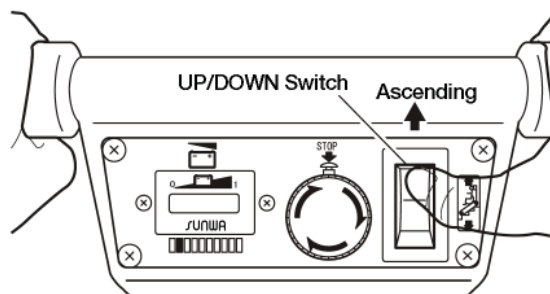
CAUTION

- STAIRMATE is run on the wooden stairs, some rubber marks may remain.
- If stair's slip preventing braid is loose, Rubber Crawlers may damage it further. Set STAIRMATE at a right angle (90°) to the stairs.



2. Start ascending:

Press the upper side of UP/DOWN Switch to ascend while supporting it to prevent STAIRMATE overturns on the stairs.

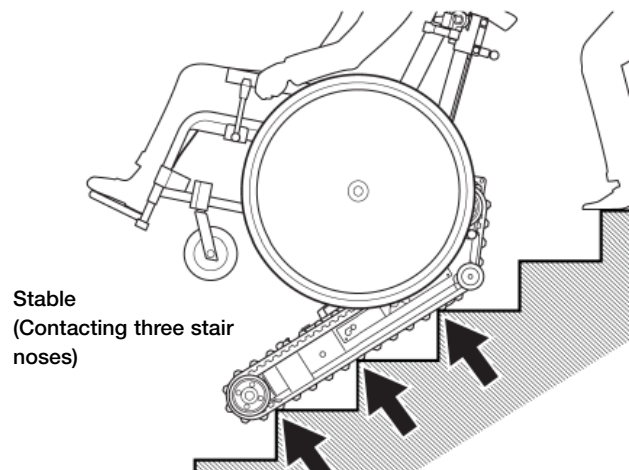


CAUTION

- If the lugs of the left and right Rubber Crawlers do not contact a stair nose at the same time, STAIRMATE will climb the stairs askew. This is a highly risky situation.
- The operator must hold Handle Grips with both hands the whole time STAIRMATE is on stairs or landings.
- While STAIRMATE runs on the stairs, the operator must be positioned upward of STAIRMATE. Improper supporting of STAIRMATE may cause a loss of balance and overturning or other serious accident.

3. Stopping STAIRMATE in the middle of the stairs:

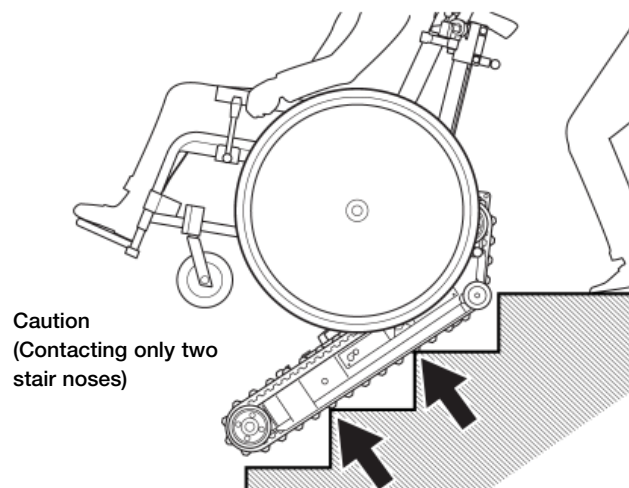
Once the finger is released from Switch, Electromagnetic Brake will function immediately and STAIRMATE will immediately stop. Because the lugs rest on the stair noses, STAIRMATE will not slide down the stairs.



CAUTION

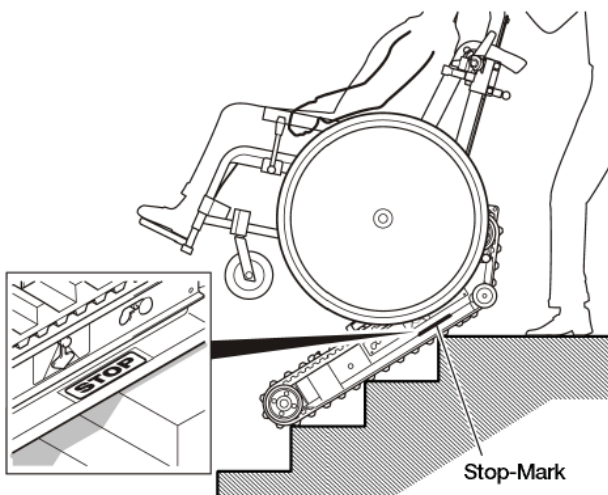
Avoid STAIRMATE stopping midway on the stairs.

If STAIRMATE must inevitably stop midway on the stairs, the operator must stay with STAIRMATE holding STAIRMATE with both hands.



WARNING

Keep Rubber Crawler contact points as broad as possible. Contacting with 2 stair noses is more dangerous than contacting with 3 stair noses.



4. STAIRMATE reaches the top of the stairs:
- 4.1 When STAIRMATE reaches a landing or the top of the stairs, be sure to stop STAIRMATE for a moment when Stop Mark is just on the edge of top stair.

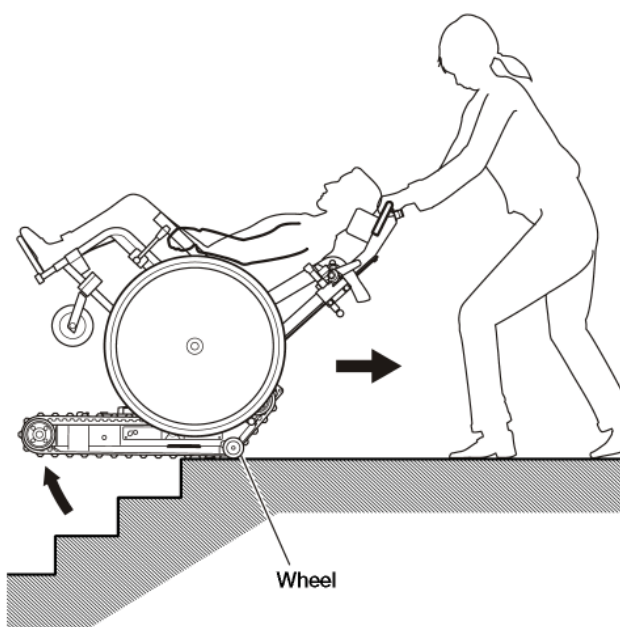
NOTE: Stop Mark is only an approximate point.

The stop position will vary according to the passenger's dimensions.



WARNING

If STAIRMATE is not stopped at its stop position and UP Switch is kept pressed, STAIRMATE will suddenly fall down backward. This will be dangerous!



- 4.2 After STAIRMATE is temporarily stopped, pull Handle slowly toward the operator. STAIRMATE's Wheels will contact the floor. After Wheel's contact is confirmed, press UP Switch again to move STAIRMATE to a safe, flat area.



CAUTION

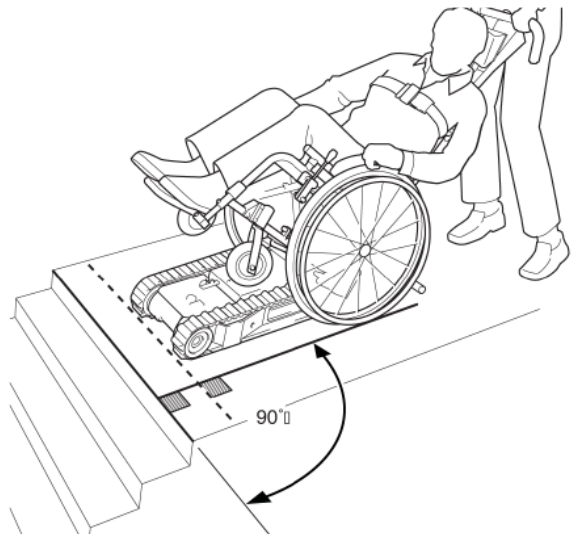
Because Operation Switches are positioned behind the passenger and the operator controls STAIRMATE from the rear of the passenger, an unaccustomed passenger may feel anxiety. As the operator operates STAIRMATE, he/she must describe the operation in a clear voice at the following times :

1. Before attaching or releasing Wheelchair to/from STAIRMATE.
2. Before pressing UP Switch.
3. Before STAIRMATE starts ascending the stairs.
4. Before tilting STAIRMATE to bring its Wheels to the floor after it reaches its Stop Mark.
5. Before changing STAIRMATE'S direction.

8.3 DESCENDING STAIRS

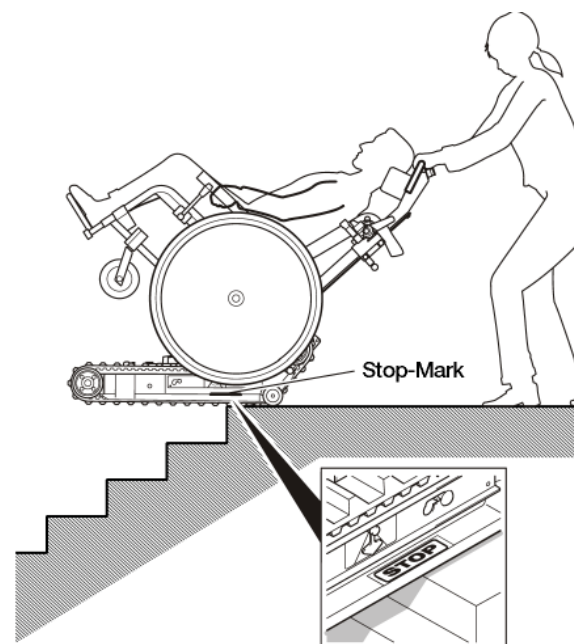
1. Start descending

Position STAIRMATE at the top of the stairs, at a right angle (90°) to the stairway with the passenger facing toward the stairs.



2. Press the lower side of UP/DOWN Switch to set STAIRMATE. When STAIRMATE's Stop Mark reaches the top edge of the stairs, be sure to stop STAIRMATE for a moment.

NOTE: Stop Mark is only an approximate point. The stop position will vary according to the passenger's dimensions.



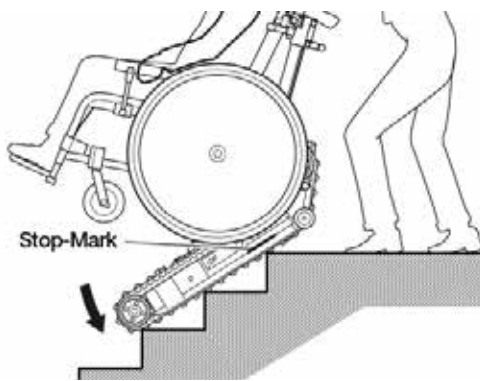
CAUTION

- If STAIRMATE is run on the wooden stairs, some rubber marks may remain.
- If stair's slip preventing braid is loose, Rubber Crawlers may damage it further.

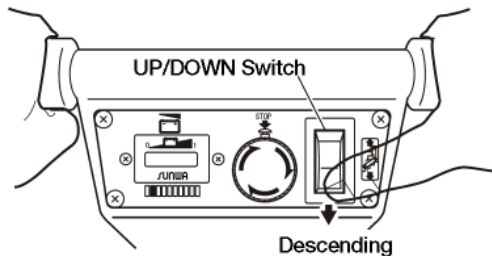


WARNING

- If the lugs of the left and right Rubber Crawlers do not contact a stair nose at the same time, STAIRMATE will descend the stairs askew. This is a highly risky situation.
- If STAIRMATE is not stopped at its stop position and DOWN Switch is kept pressed, STAIRMATE will suddenly fall down forward. This will be dangerous.
- The operator must hold Handle Grips with both hands the whole time STAIRMATE is on stairs or landings.



3. Slowly push Handle until Rubber Crawlers contact the second stair while keeping STAIRMATE balanced at the same position.



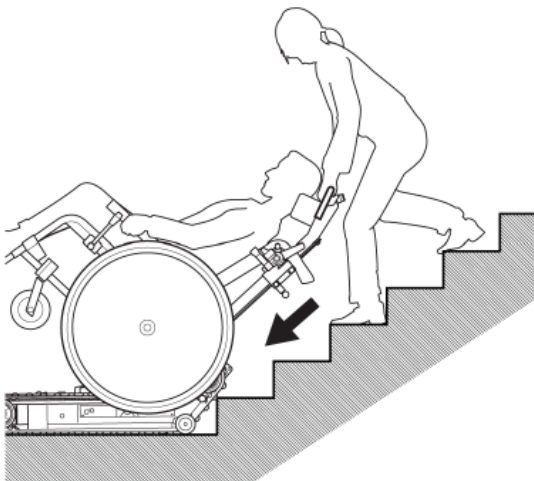
4. Rubber Crawlers contact the lower stair and STAIRMATE becomes stable, press DOWN Switch.



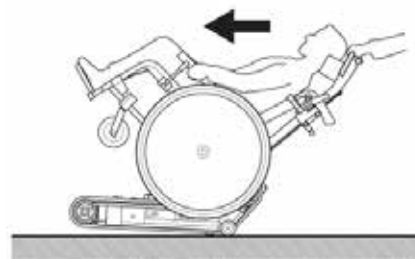
WARNING

While STAIRMATE runs on the stairs, the operator must be positioned upward of STAIRMATE.

Improper supporting of STAIRMATE may cause a loss of balance and overturning or other serious accident.



2. STAIRMATE reaches the bottom of the stairs. Keep pressing DOWN Switch until STAIRMATE reaches the bottom of the stairs. STAIRMATE will automatically transfer to horizontal running. Release DOWN Switch and Wheel STAIRMATE to a safe area.



CAUTION

Because Operation Switches are positioned behind the passenger and the operator controls STAIRMATE from the rear of the passenger, an unaccustomed passenger may feel anxiety. As the operator operates STAIRMATE, he/she must describe the operation in a clear voice at the following stages :

1. Before attaching or releasing Wheelchair to/from STAIRMATE.
2. Before pressing DOWN Switch.
3. Before STAIRMATE starts descending the stairs.
4. Before tilting STAIRMATE to bring its Wheels to the floor after it reaches its Stop Mark.
5. Before changing STAIRMATE's direction.

9. DAILY MAINTENANCE AND CARE

9.1 BATTERY

- When STAIRMATE is not to be used or Battery Pack is to be charged, turn off Key Switch and remove Key. If Key Switch is maintained in the ON position, Battery will quickly discharge and it may not have capacity to run STAIRMATE the following day.
- After the end of operation or before storing it, be sure to charge Battery using special Charger. (Because it requires long charging time, if it is not charged enough, it will be difficult to operate on the following day.)
- When storing STAIRMATE for a long period of time, maintain its Battery in a full charged state. No doing so will result in an extremely short life. (Even if Battery is already fully charged, recharge Battery again monthly.)

9.2 RUBBER CRAWLERS

- If oil adheres, immediately wipe it off completely.
- Check there is no crack or wear concerning Rubber Crawlers. If any defect on Rubber Crawler is observed, stop STAIRMATE immediately and replace the part with a new one.

9.3 MISCELLANEOUS

Clean frame sections with a brush.

Clean hand grips with a commercially available spray disinfectant.

10. TERMS OF GUARANTEE

The activated guarantee is for a period of five years, apart from batteries and rubber parts. It is limited to complaint parts free of charge excluding freight, cost for labor or travelling expenses.

We suggest to make maintenance once a year by authorized agent to avoid guarantee obligations.

11. INSPECTION AND MAINTENANCE

It is important that the unit keep a good condition through the following check items on daily basis. Neglecting this procedure may cause an accident or may shorten the life of unit.

- Required checking before operation.

| No. | CHECK ITEM | WHAT SHOULD BE CHECKED | FREQUENCY | REMARK |
|-----|---|--|-------------|--------|
| 1 | Key Switch and Battery's remaining capacity | When the Key Switch is turned on, each switch and button work correctly. Battery Gauge shows enough capacity to operate the unit. When the Key Switch is turned off, each switch and button do not work. | each time. | |
| 2 | UP / DOWN Switch | After turning on the Key Switch, press and hold UP or DOWN side, the Rubber Crawlers run correctly in each direction. Releasing the switch, the Rubber Crawlers stop immediately. | each time. | |
| 3 | Emergency Stop Button | During the procedure No.2, pressing the button, the Rubber Crawlers stop immediately. | each time. | |
| 4 | Abnormal noise from running Rubber Crawler | During the procedure No.2, any abnormal noise is not from running Rubber Crawlers. | each time.. | |
| 5 | Rubber Crawlers' condition | No looseness is in tension of the Rubber Crawler. And no wrong alignment is between left and right. No lacking of outer lug is on the surface. | each time.. | |
| 6 | Sprocket, Idler Wheel and Side Ring | No deforming is found. | monthly | |
| 7 | Rubber Wheels | Excessive wearing or damage. The Wheel Bracket has a smooth motion in upward/downward. | each time. | |
| 8 | Locking up / Release the Handle Unit | The Handle Unit is securely locked up on or released from the Drive Unit. The Pedal Guard can be smoothly opened to push the Kick Bar forward. The Kick Bar can be pushed smoothly forward. | each time. | |
| 9 | Wheelchair Mount Unit | The Slide Arm smoothly moves vertically. The Slide Blocks smoothly moves on the Slide Arms. The Stopper Pins lock the Forks. | each time. | |
| 10 | Seat Belt | The Seat Belt is fastened securely. | each time. | |
| 11 | Battery | No stain due to battery's leakage or no corrosion are on the Battery Case. | monthly | |

- Required check after the operation

| No. | CHECK ITEM | WHAT SHOULD BE CHECKED | FREQUENCY | REMARK |
|-----|------------------------------|--|------------|--------------------------|
| 1 | Battery's remaining capacity | LED indicator on the Battery Gauge has moved after the operation? In case that the LED indicator moved into one position or more, charge the Battery in no time. | each time. | Whenever it's necessary. |
| 2 | Exterior | Any deformed part on the exterior? | each time. | |
| 3 | Charging | Any damage is on the wire or the plug of charger? | monthly | |
| | | The power switch of charger functions correctly? The charging procedure does not have any problem? | each time. | |

- If any trouble or malfunction has arisen which is not described in the table above, contact the sales agency. An improper countermeasure may cause danger.
- For details on periodical inspections, please contact an authorized and specialized sales agency where you purchased STAIRMATE.

12. REUTILISATION

The STAIRMATE is suitable for reutilisation as long as possible safety-related precautionary measures are no longer applicable or other regulations apply. Clean and disinfect the unit in accordance with Point 9 prior to reutilisation. An inspection must be carried out by an authorised dealer prior to reutilisation.

13. DEALER

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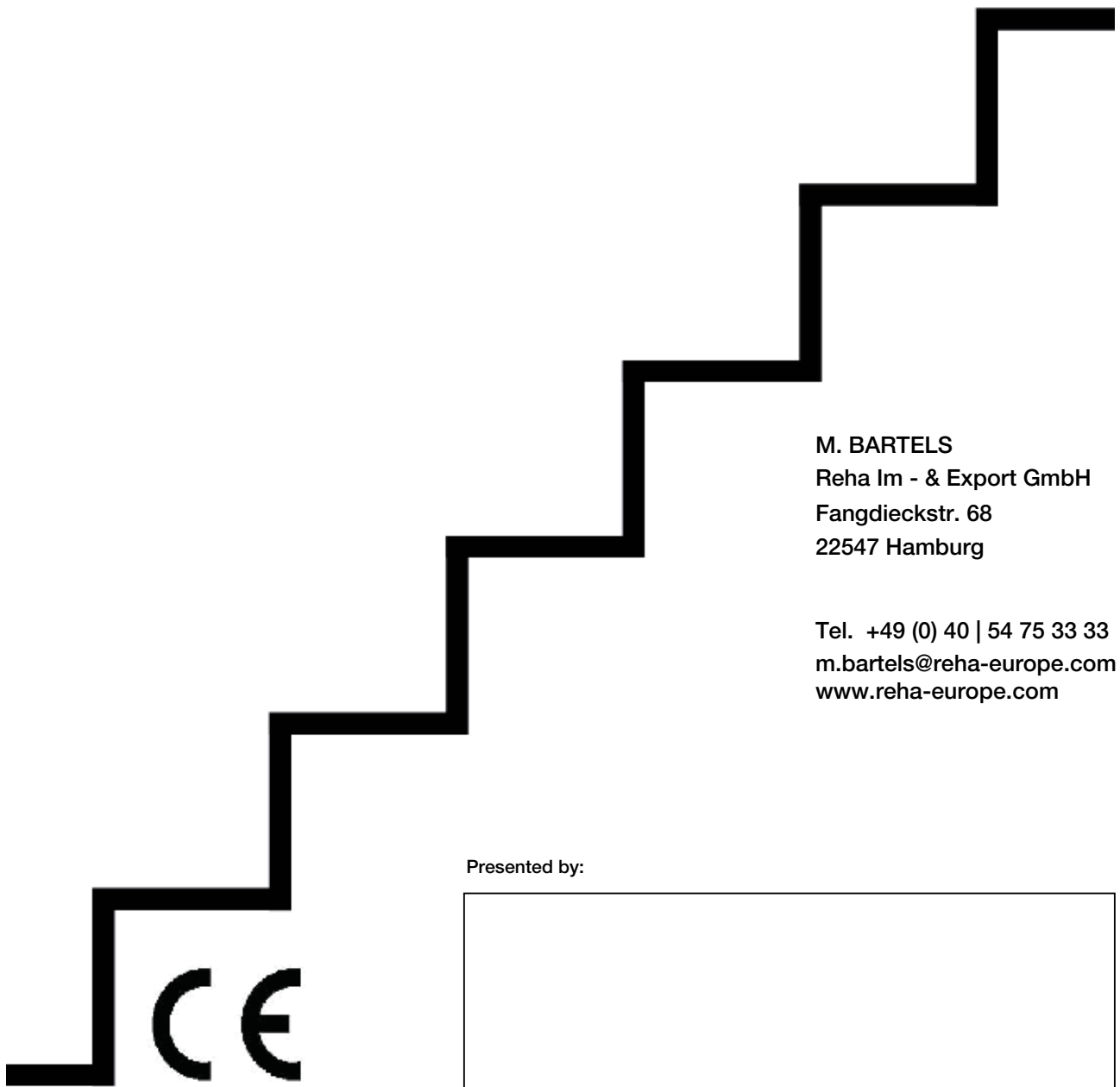
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