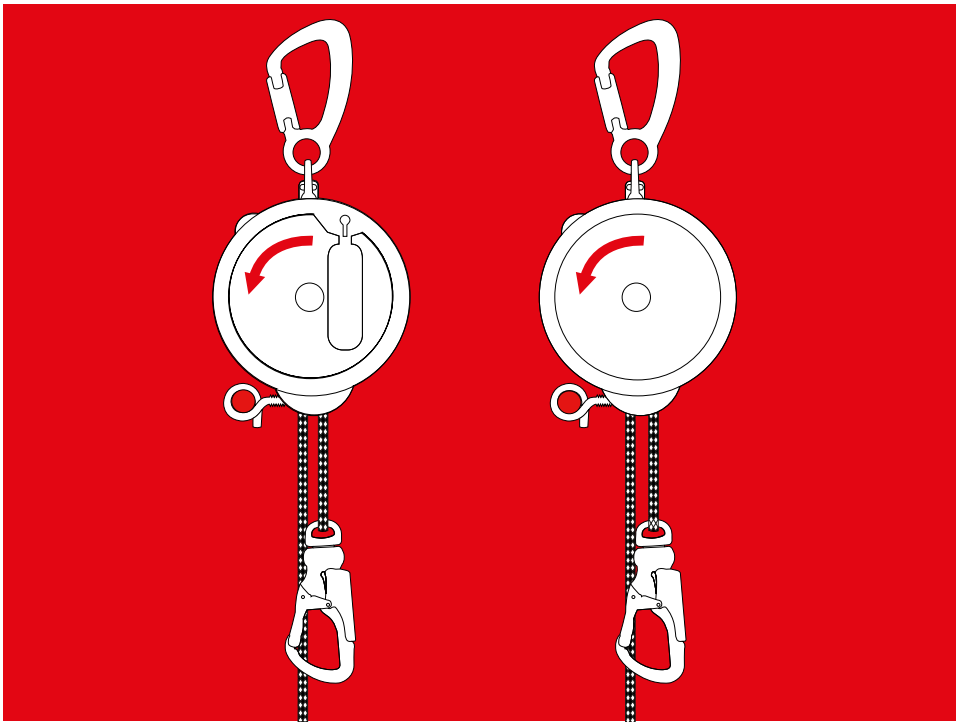
EN

BORNACK



SOLID HUB

User manual

CE 0511 EN 341:2011 Klasse A / EN 1496:2007 Klasse B

SOLID HUB
Abseiling and rescue device with a lifting function

Technische Änderungen vorbehalten

BRIEF DESCRIPTION

INTENDED USE

This product may only be used for the purpose described in this user manual and only in combination with tested (certified) and approved accessories (acc. to valid PPE standard). Other combinations with non-approved accessories are not allowed and may endanger your safety. This product may only be used as an abseiling, rescue and lifting device for persons. Please read the user manual carefully before using. If you have any doubts or difficulties understanding the instructions, please contact BORNACK or an expert. Using this product before you have read the user manual can lead to accidents, serious injuries or even fatalities.

- Self-abseiling
- Shuttle service
- Rescue operations
- Ascent

All other uses are deemed improper. The company BORNACK will not be liable for any ensuing damages. The user bears the sole risk.

Maximum number of users at the same time:
2 persons

FUNCTION

- Speed-controlled abseiling
- Manual ascent

EQUIPMENT

- 1 SOLID HUB with a redundant centrifugal brake and karabiners made of aluminium
- 1 kernmantel rope made of polyamide (length as ordered)
- 1 transport sack
- 1 user manual incl. test record and logbook

ACCESSORIES

Combinations with non-tested and non-approved accessories are not allowed. Only use this product with accessories that have been tested or recommended by BORNACK. These accessories comply with the valid PPE standards.

- Rescue overall EN 1497
- Tape energy absorber EN 355
- Karabiners EN 362
- Anchor points EN 795
- Full body harnesses EN 361
- Lanyards EN 354
- Control panel
- Expansion set platform rescue

BRIEF DESCRIPTION

USE

- Abseiling and rescuing persons
- This product can be used at temperatures between -35° C and +65° C.

TECHNICAL DATA

GENERAL INFORMATION

- Tested pursuant to EN 341:2011 Class A and EN 1496:2007 Class B
- Weight (without rope): 3.4 kg
- Aluminium karabiners
- Kernmantel rope made of polyamide (EN 1891)
- Abseiling load / lifting load max. 225.0 kg (2 persons)
- Abseiling height / lifting height max. 300.0 m
- Abseiling speed: approx. 0.8 m / sec.
- Abseiling process can be regulated using eyebolts

STANDARD PERFORMANCE (= ABSOLUTE MAXIMUM

- 10,000.0 m abseiling work with a load of 1 person (75.0 kg) or
- 50 useful load abseiling operations, child (30.0 kg) or
- 10 useful load abseiling operations, 1 person with overload (150.0 kg) or
- 4 useful load abseiling operations, 2 persons with overload and pulley (225.0 kg)
- The lifting function was also tested with loads of 30.0 kg, 150.0 kg and 225.0 kg, each with a wet and a dry rope.

RECOMMENDED MAX. ABSEILING PERFORMANCE OF DEVICE ACCORDING TO MANUFACTURER

- max. abseiling section with one person up to 75.0 kg: 8000.0 m
- max. abseiling section with one person up to 100.0 kg: 6000.0 m
- max. abseiling section with one or two persons up to 150.0 kg: 4000.0 m
- max. abseiling section with one or two persons up to 225.0 kg: 600.0 m
- max. abseiling section with two persons up to 225.0 kg with a pulley: 1200.0 m (because the unit is working at its limit here, a higher safety figure needs to be observed).
- Using a pulley can reduce the load on the device. If the rope is combined with a pulley, the max. recommendation of the next higher figure can be used.

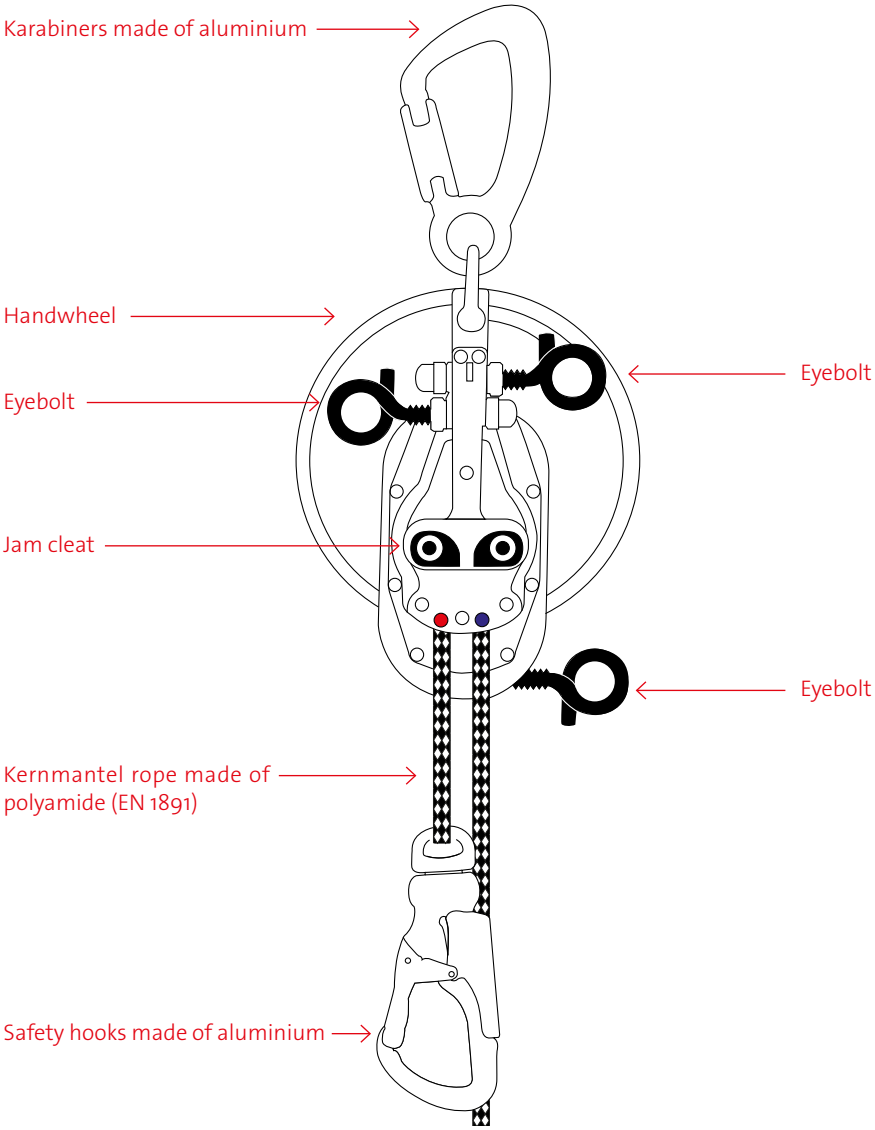
RECOMMENDED MAX. ABSEILING PERFORMANCE OF ROPE

The lower the abseiling height, the more frequently the rope runs through the device. Lower abseiling heights therefore lead to higher rope wear. The rope wear also depends on other factors such as how the user handles the rope, edge loads or the use of the lifting function. Wear levels must be continuously checked.

RECOMMENDED MAX. LIFTING PERFORMANCE

The device and the rope are subjected to more loads during lifting than during abseiling. Frequent use of the lifting function can therefore lead to slippage. This does not usually pose a risk because the person can still be abseiled safely. However, the maximum lifting performance should not be more than 10 rope loops. The rope wear should be checked more frequently in this case.

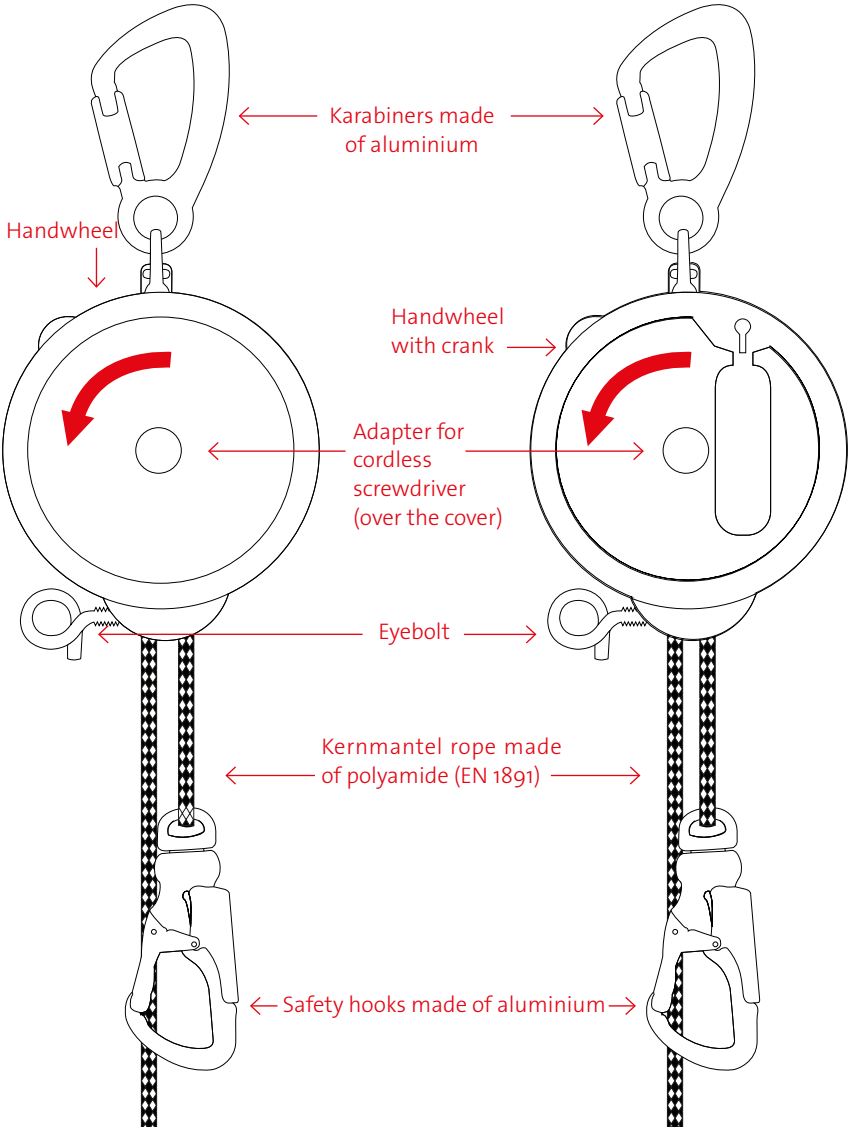
SOLID HUB – REVERSE SIDE



SOLID HUB – FRONTAL

TYPE: SOLID HUB 01

TYPE: SOLID HUB 02



BEFORE USE

Always check every time before and after the product is used!

- The personal protective equipment (PPE) may no longer be used even if very minor faults are detected during the inspection. PPE components that are faulty may only be tested or repaired in a workshop authorised by BORNACK.
- Using this product without checking it for damage first can lead to serious or even fatal injuries.
- Check the function of this product every time before and after it is used.
- If you do not think the product is safe, it may not be used.
- Device subjected to fall loads or overloading must be withdrawn and no longer used. The inspection by BORNACK or an expert is conditional on the premise that this product has not previously
- been exposed to a fall
- components have not been modified or changed
- textile component have not come into contact with chemicals
- been exposed to temperatures less than -30° C or higher than + 150° C
- metal components have not fallen onto hard ground from a height of more than 2.0 metres.
- After being exposed to stress (e.g. a fall into the rope), this product must be sent to
- BORNACK for inspection.
- If the use of this product does not appear safe (e.g. rope damaged etc.), it may not be used under any circumstances and must be returned to BORNACK for inspection or testing by an expert.
- The test record must be completed. Every test must be entered.

VISUAL INSPECTION

- Check the rope for tears or other visible damage or damage that can be felt.

FUNCTON TEST

- Check the metal parts (karabiners, casing) for damage.
- Check that the product runs smoothly. To do this, pull both rope ends slowly one after another. It must be possible to pull the rope with a slight resistance; the product is then deemed to run smoothly.
- Test the brake function. Pull both rope ends quickly one after another.
- If you hear a clicking sound and you cannot pull the rope, the centrifugal brakes are OK.
-

SOLID HUB IN USE

Read the user manual. 

This product may only be used in combination with tested (certified) and approved accessories (according to valid PPE standards).

CAUTION RISK TO LIFE! 
If the rope is pulled over a sharp edge, it may become damaged. Always use edge protectors or a protection plate on sharp edges.

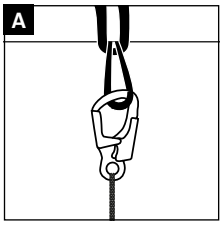
CAUTION: 
This product heats up during abseiling. There is a risk of burns from the casing during long abseiling operations. Do not touch the casing or long rope during long abseiling operations. Wear protective gloves.

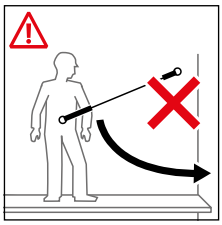
SELF-ABSEILING WITH THE SOLID HUB

MOUNTING

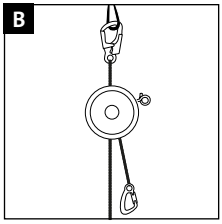
A Anchor points must be adequately strong in compliance with EN 795, and should be vertically above the user.

CAUTION:
Do not select an anchor point to the side of the secured person! Otherwise, the person may collide against parts of the building or walls.

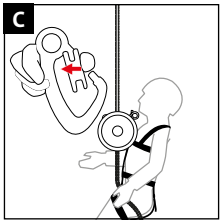




B Attach the safety hook of the rope into a secure anchor point.

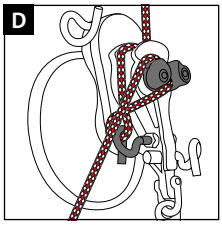


C Attach the karabiners on the abseiling device SOLID HUB to the frontal D-ring of the full body harness of the rescuer.

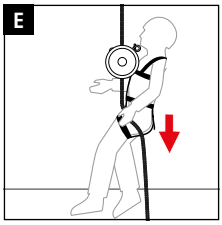


CAUTION:
Use an interim securing point to reach the abseiling position.

D Affix the rope in the lower eyebolt and the jam cleat.



E Ease into the rescue device slowly.

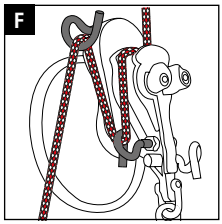


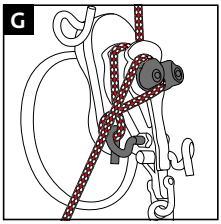
SELF-ABSEILING WITH THE SOLID HUB

ABSEILING

F Block the handwheel with your free hand. Then take the rope from the jam cleat and place over the left upper eyebolt; this allows the abseiling speed to be controlled. If it is difficult to release the rope, release the strain on the rope by turning it a 3/4 turn to the right.

G Stop/remain in position by pulling the rope or blocking the handwheel. Affix the handwheel with your free hand. Then place the free rope end through the lower eyebolt and insert into the jam cleat.





SHUTTLE SERVICE AND ABSEILING SEVERAL PERSONS WITH THE SOLID HUB

MOUNTING

H Anchor points must be adequately strong in compliance with EN 795, and should be vertically above the user.

CAUTION:
Do not select an anchor point to the side of the secured person! Otherwise, the person may collide against parts of the building or walls.

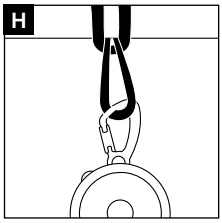
CAUTION:
Use an interim securing point to reach the abseiling position.

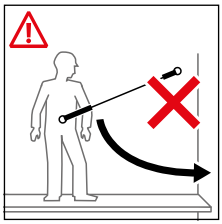
I Attach the karabiners into a secure anchor point.

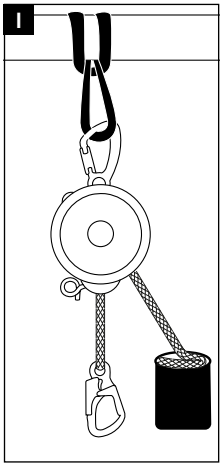
J Attach the safety hook of the rope to the frontal D-ring of the person A who is being lowered. Ensure that the rope remains taut.

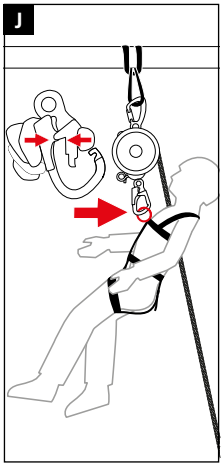
K The person A who is being lowered eases themselves slowly into the abseiling device and is lowered automatically.

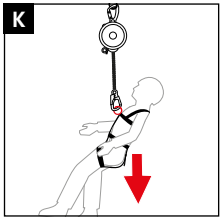
CAUTION:
The rope bearing the load may not be guided over the eyebolts, otherwise the abseiling process will stop.







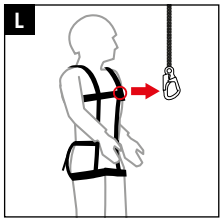




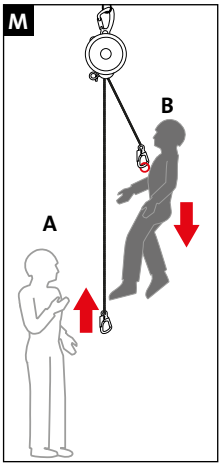
SHUTTLE SERVICE AND ABSEILING SEVERAL PERSONS WITH THE SOLID HUB

ABSEILING

L Once on the ground, person A disengages themselves from the rescue system.



M Person B at the top now attaches the other (rope end) safety hook to the front D-ring of the full body harness. As soon as person B abseils, the other karabiner A automatically moves upwards. If necessary, continue pulling the rope or use a rope clamp, if the abseiling section is shorter than the installed rope.
Repeat steps J-L until all persons have been evacuated.

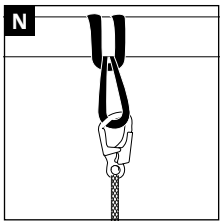


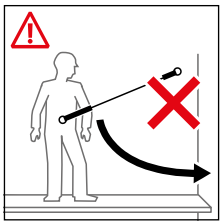
CAUTION:
When abseiling, take care of the karabiner that is moving upwards.

RESCUE OPERATIONS WITH THE SOLID HUB

MOUNTING

N Anchor points must be adequately strong in compliance with EN 795, and should be vertically above the user.

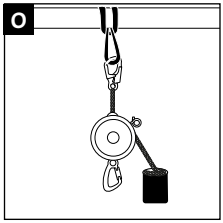




CAUTION:
Do not select an anchor point to the side of the secured person! Otherwise, the person may collide against parts of the building or walls.

CAUTION:
Use an interim securing point to reach the abseiling position.

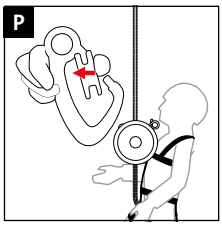
O Attach the safety hook of the rope to a secure anchor point.

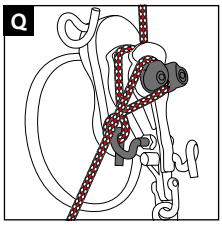


CAUTION:
During mounting, attach lanyards for casualties to the karabiner of the rescue device.

ABSEILING

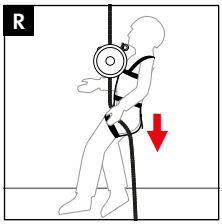
P Attach the karabiners of the abseiling device SOLID HUB to the arrester device.

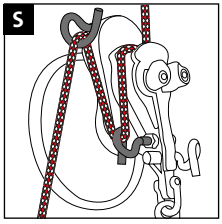




Q Feed the free rope end through the lower eyebolt and the jam cleat.

R Ease into the rescue device slowly.





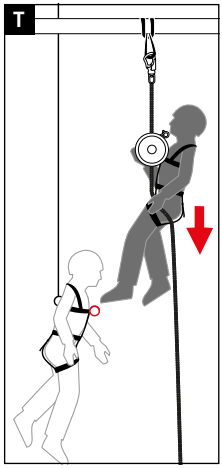
S Block the handwheel with your free hand. Then take the rope from the jam cleat and place over the left upper eyebolt. If it is difficult to release the rope, release the strain on the rope by turning it a 3/4 turn to the right.

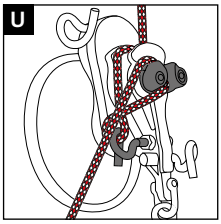
RESCUE OPERATIONS WITH THE SOLID HUB

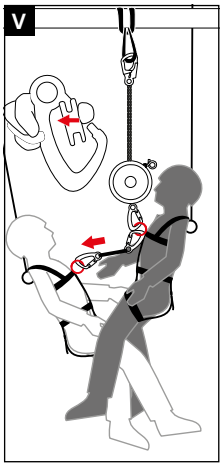
T Abseil slowly to the casualty.

U Stop/remain in position by pulling the rope or blocking the handwheel. Affix the handwheel with your free hand. Then place the free rope end through the lower eyebolt and insert into the jam cleat.

V The casualty is attached to the rescue device SOLID HUB via a lanyard and a karabiner. Both are now connected to the SOLID HUB.







ASCENDING WITH THE HANDWHEEL ON THE SOLID HUB

RELIEVING THE STRAIN WITH THE HAND-WHEEL

W The rescuer can use the handwheel to lift himself and the casualty.

X To ascend, turn the handwheel in an anti-clockwise direction (left).

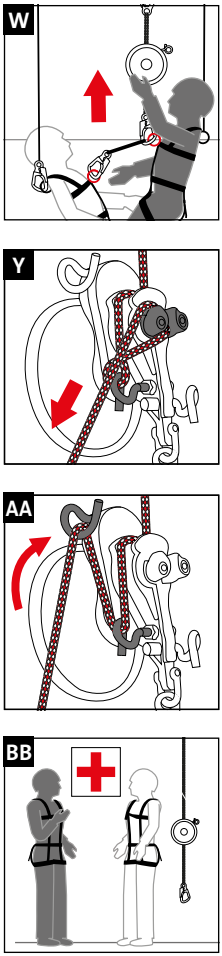
Y After every two turns, pull the rope tight to avoid slack. To do this, pull the free rope through the jam cleat.

CAUTION SLACK ROPE!
After every second lifting movement, pull the rope through the jam cleat again.

Z Ascend until the strain on the fall protection system worn by the casualty has been relieved. Disengage the fall protection equipment and abseil to the next evacuation point using the handwheel.

AA Block the handwheel with your free hand. Then take the rope from the jam cleat and place over the left upper eyebolt; this allows the abseiling speed to be controlled. If it is difficult to release the rope, release the strain on the rope by turning it a 3/4 turn to the right.

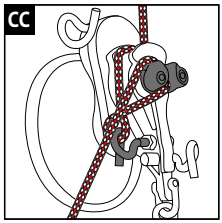
BB Once the rescuer and casualty have reached a safe place, disengage both from the securing equipment and administer first aid.



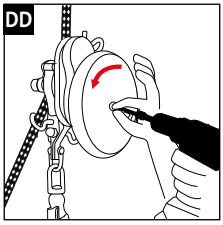
ASCENDING WITH THE BATTERY-OPERATED FUNCTION ON THE SOLID HUB

ASCENDING WITH THE BATTERY-OPERATED FUNCTION

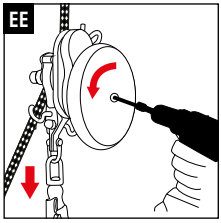
CC Fix the rope in the lower eyebolt and the jam cleat.



DD Apply the cordless screwdriver and the hex socket (SW 10) to the handwheel of the SOLID HUB. Remove the cover from the adapter.



EE Turn the cordless screwdriver on. This activates the ascent process. Torque min. 20 Nm. Max.350 rpm. (Use a slow gear otherwise the brake will respond).



CAUTION:
When ascending using the cordless screwdriver, observe the direction of rotation, otherwise the device could be damaged.

SAFETY INSTRUCTIONS

There is a risk to life if these safety instructions are not observed!

- Using this product before you have read the user manual can lead to accidents, serious injuries or even fatalities.
- Please read the user manual carefully before using this product.
- You may only use this product after you have carefully read and understood the user manual.
- The personal protective equipment (PPE) may no longer be used even in the case of very minor faults.
- Damaged, fall-stressed, dubious personal protective equipment or safety devices must be immediately withdrawn and not used. The equipment may only be inspected by an expert or a workshop authorised in writing by BORNACK. This must be documented in the test card.
- No independent changes or repairs may be carried out.
- The personal protective equipment may only be used by qualified staff that are familiar with the material. They must be proficient in handling the personal protective equipment and must have been briefed about the possible risks associated with its use.
- In compliance with the accident prevention guidelines (UVV), users of PPE for fall protection purposes (Category 3) must undergo practical and theoretical training. Make use of the training competence of the BORNACK training centres: hotline@bornack.de.
- Accessories from other manufacturers may only be used if approved by BORNACK and may not impair the function and safety of the protective equipment.
- Clothing and shoes must be suitable for the task at hand and the weather conditions.
- Protect personal protective equipment during storing, use and transportation against the effects of heat (e.g. welding flames or sparks, burning cigarettes) and chemicals (e.g. acids, alkalis, oils) and mechanical effects (e.g. sharp edges).
- Check compatibility with the other PPE parts.
- Only use the equipment if you are fully fit, both physically and mentally.
- This product may only be sold to third parties with user manual in the respective valid national language and with a complete test record.
- The logbook must be completed carefully after every abseiling operation.
- A suspension trauma can occur by falling into the rope, by long abseiling operations or if a person is left ‚helpless' in a rope for a longer period. It is important to rescue all casualties quickly and administer first aid.
- An rescue plan must be drawn up that contains all rescue measures for all possible emergencies.
- Before starting work, the responsible person must draw up a plan of rescue measures that defines how to rescue casualties quickly and safely and ensures first aid measures. Casualties must be rescued within 10 to 30 minutes. BORNACK can help you draw up tailor-made rescue plans in specific training courses: hotline@bornack.de
- The local safety guidelines (e.g. in Germany, the guidelines issued by the professional associations BGR 198 and BGR 199) and the accident prevention guidelines for the specific industry (UVV) must be observed.
- Every time before use, the application site and fall range of the product must be checked and all hazards removed, minimised or secured. Training is not an emergency! During

SAFETY INSTRUCTIONS

exercises a second securing element (redundancy) must always be used. Unforeseeable incidents, technical failures and human error can never be completely ruled out! For instance, a second SOLID HUB could be used as the redundant element.

- After every rescue operation, the device must be checked by a repair workshop authorised by the manufacturer to ensure that the device is fully functional for the next time it is required. We recommend using different devices during training and emergency rescue operations.
- We will assume no liability for direct, indirect or accident-related consequences or any other damage arising from the use of this product or incorrect statements by the expert tester or technician on the test record or the acceptance protocol.
- All trademarks are the property of their respective owners.

OTHER

APPROVAL

Complies with the EC Directive 89/686/EEC.
Type testing and production monitoring by:

Allgemeine Unfallversicherungsanstalt
Adalbert-Stifter-Straße 65
1200 Wien
CE 0511

Quality management system certified to DIN EN ISO 9001.

REGULAR INSPECTIONS

- If this product is used, it must be inspected by BORNACK at least once a year, however also after max. 2,000 used metres.
- The abseiled metres must be entered into a logbook.
- After a fall load, the product must be sent to BORNACK for inspection. The result of the inspection is entered into the test record.
- The test record incl. the user manual and logbook must always be kept with the product.
- The inspection frequency for this product depends on how often and how intensively it is used and on the environment in which it is used. If exposed to unusual loads, it must be inspected more than once a year.
- If this product is used as an emergency system (unused and still in its original packaging), it must be inspected by BORNACK at the latest after 10 years and all textile components must be replaced. If used an as emergency system, the packaging must be checked at regular intervals; if the product packaging shows any signs of damage, it must be sent to BORNACK.

SALES

- The dealer must ensure that the user manual is supplied in the language of the designated country. The respective translation must be authorised by BORNACK.
- To ensure safe and correct use, this product may only be sold with the user manual and test record.

SERVICE

If you have any further questions about safe use of this PPE or other BORNACK services, such as:
- Risk analysis
- Rescue plans
- Training courses
- Expert inspections

please send your question to our e-mail hotline: hotline@bornack.de

We will be happy to help!

OTHER

MAINTENANCE

- Oil mobile parts on karabiners and other devices to ensure they run smoothly.
- Maintenance work may only be carried out by trained experts. The instructions in this user manual must be observed strictly.
- Protective equipment that is well looked after will last longer!
- This product must be inspected once a year, but at least after max. 2000 abseiled metres. The abseiled metres are entered in the logbook.

CLEANING

- Clean the metal parts with a soft brush, mild detergent and clean water.
- Rinse the rope with lukewarm water and wipe it with a damp cloth.
- Dry this product in an airy, shadowy place.
- This product may not be placed in a dryer, be exposed to direct sunlight or dried on an artificial heat source (e.g. fire).
- It is prohibited to disinfect or impregnate this products - in particular the rope.
- For information about disinfection, please contact the email hotline: hotline@bornack.de
- It is prohibited to use chemical agents for cleaning.
- Dry damp personal protective equipment in the air, not on artificial heat sources. Dry metal components with cloths.
- If the personal protective equipment comes into contact with saltwater, keep it wet until it can be rinsed with plenty of distilled water.
- Use compressed air to blow on the unit.

LIFESPAN

The lifespan of the metal parts on this products is unrestricted.
Textile components must be replaced at the latest after 10 years.

If used as an emergency system, this product can be stored for 10 years in its **original packaging**. After 10 years at the latest, the textile parts need to be replaced and the product should be tested by BORNACK. The packaging must be checked at least once a year for damage, damp etc. If the packaging is damaged, the product must be immediately sent to BORNACK for testing.

The period in which this product can be used depends on several factors, which means that it may be necessary to test / replace this product earlier than expected.

Lifespan and usage period of the bearing elements / rope
The lower the abseiling height, the more frequently the rope runs through the device until it needs to be tested. Lower abseiling heights therefore lead to higher rope wear. The rope wear also depends on other factors such as how the user handles the rope, edge loads or thermal, chemical and mechanical factors. The maximum number of rope passages should not exceed approx. 100. Wear levels must be continuously checked. If the rope does not appear to have the required quality any more, the device must be sent to the manufacturer.

The device and the rope are subjected to more loads during lifting than during abseiling. Frequent use of the lifting function can there-

OTHER

fore lead to slippage. This does not usually pose a risk because the person can still be abseiled safely. However, the maximum lifting performance should not be more than 10 rope loops. The rope wear should be checked more frequently in this case.

The company owner must ensure compliance with the maximum usage period by documenting first-time use in the test card or the rope log.
The test card at the end of this user manual must be presented during the regular expert inspections and completed by the expert.

Information about abseiling work acc. to EN 341
max. abseiling section used with one person up to 75.0 kg: 10 000.0 m
max. abseiling section used with one person up to 100.0 kg: 7 500.0 m
max. abseiling section used with one person up to 150.0 kg: 5 000.0 m
max. abseiling section used with two persons up to 225.0 kg: 3 000.0 m
abseiling work W = m x g x h x n
W = abseiling work stated in joules (J);
m = load to be abseiled stated in kilograms (kg);
g = acceleration due to gravity 9.81 m/s²;
h = abseiling height stated in metres (m);
n = number of abseiling operations.

REPAIRS

- For reasons of liability, repairs may only be carried out by the manufacturer.
- If this product has been used in a fall situation, all parts need to be tested and replaced if necessary by BORNACK.
- Modifications to this product, own repairs or manipulations can lead to falls or serious accidents.
- Only original spare parts from the manufacturer may be used.

STORAGE

- Store this product in a dry and clean place protected from mechanical effects (e.g. sharp edges) and chemicals (e.g. acids, alkalis, oils) at room temperature away from direct sunlight (e.g. UV radiation).
- Ensure that there is no fluid in the metal casing. When drying, always store this product with brake drums facing upwards so that no moisture can collect in the casing. This product must be transported in the supplied or an equivalent packaging unit.
- Check the packaging for damage at regular intervals, even if the product is only used in emergencies.
- Dry damp personal protective equipment before storing.
- Store away from light in a dry place.
- Do not store personal protective equipment close to radiators. Permanent temperatures of over +50 °C have a negative impact on the strength of the textile material and will reduce the life span.

TRANSPORT

This product must be transported in the supplied or an equivalent packaging unit. The rope should lie loosely in the sack to prevent it twisting (becoming knotted).

OTHER

DISPOSAL

- If an expert person forbids further use of this product and it cannot be repaired by BORNACK, it must be disposed of.
- Dispose of the product carefully to ensure that it cannot be reused or misused.
- Dispose of this product in an environmentally-friendly manner. Separate the various materials.

ACCIDENTS

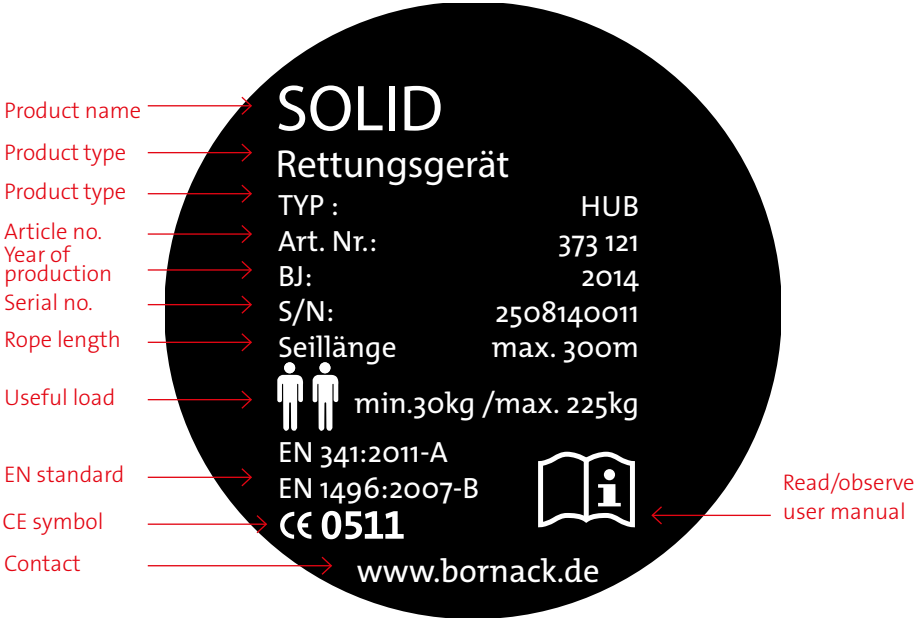
The following information aims to help you avoid accidents but is no substitute for experience, responsible handling, know-how and does not relieve users of the risk they bear personally.

- An emergency plan must be drawn up that contains all rescue measures for all possible emergencies.
- Check the deployment and fall area every time before using this product, and reduce the risks in this area or secure them.
- The personal protective equipment may only be used by qualified staff that are familiar with the material. They must be proficient in handling the personal protective equipment and must have been briefed about the possible risks associated with its use.

OTHER

PRODUCT IDENTIFICATION

Your product bears a serial number.
We recommend that you issue an inventory number for the product and enter this into the test card.
Do not remove any labels or markings from this product!



BORNACK

TEST CARD

FOR ANNUAL MONITORING

The test card must be completed in full by the expert during the annual inspection.

This test card does not claim to cover all test criteria and does not relieve the expert from his decision about the overall condition.

Type product name: _____

Manufactured on: _____

Serial no.: _____

Purchase date: _____

Date of first use: _____

Life span at the latest: _____

	Date	Signature	Next inspection	Reason for inspection
Year 1				
Year 2				
Year 3				
Year 4				
Year 5				
Year 6				
Year 7				
Year 8				
Year 9				
Year 10				

EN

TEST CARD

FOR ANNUAL MONITORING

Please complete: ☒ ☑

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
No chem. soiling										
Seams undamaged										
No deformation of metal parts										
Karabiners in place and functional										
Condition of springs / rivets / axles OK										
No corrosion damage										
Smooth-running snapper function										
Function test: movement / clamping										
Mech. damage										
Label legible										
User manual available										
OK										
Blocked										

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LOGBOOK

FOR MONITORING

Exercise no.	Date	Driven metres	Signature of head of operations / exercise

Notes:

FALLSTOP
Safety equipment for securing and
rescuing at heights and depths

SAFEPOINT
Permanently installed safety systems
for architects and industry

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