



USER INSTRUCTION MANUAL
LADDER EXTENSION ARM & MOUNTING
BRACKETS FOR SEALED BLOCKS

THESE INSTRUCTIONS APPLY TO THE FOLLOWING MODELS:

AFS57000LB, AFS570010B, AFS570020B, AFS570030B

EN 795:2012 Type A
TS 16415:2013 Type A



DISCLAIMER

The information provided in this User Instruction is based on the technical data that KStrong obtained under laboratory conditions and believes to be reliable. KStrong does not guarantee results and takes no liability or obligation in connection with this information. Since conditions of end-use are beyond our control, it is the user's responsibility to determine the hazard levels and the use of proper personal protective equipment. Persons having technical expertise should undertake evaluation under their specific end-use conditions, at their discretion and risk. Please ensure that this information is only to check that the product selected is suitable for the intended use. Any product that is damaged, torn, worn or punctured should be discontinued from usage immediately.

Please read and understand the manufacturer's instructions for each component or part of the complete system. Manufacturer's instructions must be followed for proper use, care and maintenance of this product. These instructions must be retained and be kept available for the user's reference at all times. Alterations or misuse of this product or failure to follow instructions, may result in serious injury or death.

Note: The user is advised to keep this user instructions document for the life of the product.

WARNING !!

The Ladder Extension Arm & Mounting Brackets in this Instruction Manual are a part of a personal protective, work support or rescue system. The user must read and follow the manufacturer's instructions for each component of the system. This manual contains information important to your safety and should be kept in a safe place for future reference. The instructions provided in this manual are meant for the use of this equipment and should be read thoroughly and understood by the user before the equipment is used. Manufacturer's instructions must be properly followed for the correct use and maintenance of this equipment. Please contact KStrong for any questions regarding the use of this equipment.

PRODUCT DESCRIPTION

The Ladder Extension Arm and associated mounting brackets are anchor devices designed for use as part of a personal fall protection system. The anchor device is tested and certified in accordance with EN 795:2012 Type A and TS 16415:2013 Type A.

The Ladder Extension Post is specifically engineered to attach securely to a wide range of ladders commonly used in offshore wind farms. When paired with compatible SRL mounting brackets, it provides a stable and elevated anchorage point for Sealed SRLs.

Important Note

While this equipment is designed to enhance safety, no item of PPE can provide absolute protection. Caution must always be exercised when performing activities involving risks. This manual is prepared to ensure safe and effective use of the Ladder extension bracket and SRL bracket mounts. For any inquiries or further assistance, please contact KStrong email customer@kstrongasia.com

TRAINING

To ensure that the user is familiar with the instructions provided in this manual, it is the responsibility of the user to undergo proper training for this and for correct care and use of this equipment. It is also the employer's responsibility to ensure that all users are trained in proper use, inspection and maintenance of Fall Protection Equipment.

POSSIBLE USAGE

The ladder extension bracket can be used as a part of a fall arrest system. The anchor point is rated to 15kN as per EN795:2012 Type A. Connectors: EN must comply with EN362.

The following equipment is to be used specifically in a vertical condition.

TECHNICAL SPECIFICATIONS

No.	KStrong Model	Material	Weight	MBS	Conformity
1.	AFS57000LB	316 Stainless Steel	19.45 kg	15kN	EN 795:2012 Type A
2.	AFS570010B AFS570020B AFS570030B	316 Stainless Steel	1.03 kg 1.13 kg 1.15 kg	15kN	For 10m SRL For 20m SRL For 30m SRL

KNOW YOUR SYSTEM

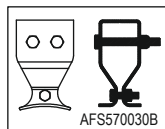
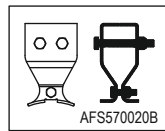
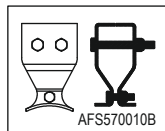
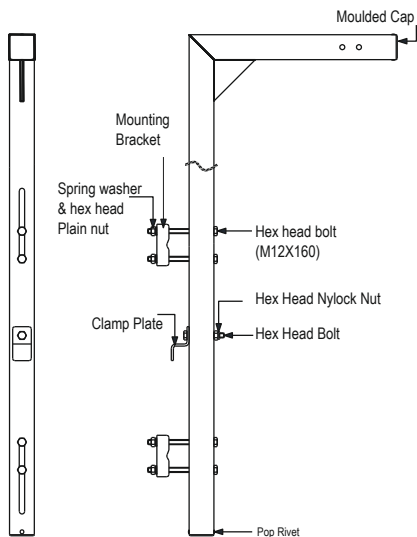
This Anchor is made in compliance with European Standard EN 795:2012 Type A / TS16415:2013 Type A for up to four users.

This Anchor is designed to minimise the risk of/provide protection against the danger of falling from heights. **However, always remember that no item of PPE can provide full protection and care must always be taken while carrying out the risk related activity.**

AFS5700LB Ladder Extension arm to mount Sealed SRLs.

- Robust design engineered for use in hostile and high vibration environments, ensuring durability and stability.
- Secure and rigid support to attach the sealed SRL mounting brackets, suits AFS570010B, AFS570020B & AFS570030B
- The mounting brackets can be attached to existing ladder extension arms made with 60 x 60 square tube.
- Suitable for ladder rung spacing between 250mm- 350mm
- Suit ladder rung diameter: Ø16.0mm to Ø44.0mm.
- Minimum Breaking Strength - 15 kN
- Material - Stainless Steel

APPLICATION - The Ladder Extension Post is specifically engineered to attach securely to a wide range of ladders commonly used in off shore wind farms. When paired with compatible SRL mounting brackets, it provides a stable and elevated anchorage point for Sealed SRLs.



INSTRUCTIONS FOR PERIODIC EXAMINATIONS

- In accordance with EN 365 and applicable PPE and fall protection requirements, the equipment shall be subjected to periodic examinations at regular intervals.
- The safety of the user depends upon the continued efficiency, integrity and durability of the equipment.
- A periodic examination shall be carried out by a competent person at intervals not exceeding 12 months.
- Where the equipment is installed in corrosive, marine, industrial or other harsh environments, periodic examinations shall be conducted at intervals not exceeding 6 months or more frequently where required by risk assessment, usage conditions or applicable regulations.
- Periodic examinations shall be performed in accordance with the manufacturer's inspection procedures.
- The results of each periodic examination shall be recorded in the inspection record.
- The date of the next periodic examination shall be established and documented following each inspection.
- During each periodic examination, all product markings, labels and identification information shall be verified to ensure they remain present, legible and clearly readable.
- The examination shall include, as a minimum, verification of:
 - Corrosion, pitting or surface deterioration.
 - Cracks, deformation, distortion or mechanical damage.
 - Sharp edges, burrs or excessive wear.
 - Condition and security of fasteners and mounting components.
 - Integrity of welds, brackets and structural members.

- Any other condition that may affect the safe operation or structural integrity of the equipment.
- If any defect or condition affecting the safety of the equipment is identified, the equipment shall be immediately removed from service and shall not be returned to use until corrective action has been taken and the equipment has been approved for continued use by a competent person.

MUST BE READ PRIOR TO USE

- Before using this equipment, read and fully understand these instructions and all instructions supplied with the associated fall protection equipment.
- This equipment shall only be used by trained and competent persons who are familiar with its operation, limitations and the safe use of fall protection systems.
- Ensure all applicable workplace health and safety requirements, regulations and site specific procedures have been identified and understood before use.
- A suitable risk assessment and safe system of work shall be established before work commences.
- The equipment shall be subject to periodic examination in accordance with the manufacturer's instructions.
- Do not use the equipment if the periodic examination is overdue.
- Obtain authorization from the person responsible for the workplace before accessing any area where a risk of falling exists.
- Only approved fall protection equipment compatible with the system shall be used.
- A full body harness conforming to EN 361:2002 shall be used as the body holding device.
- Connections shall be made only to the dorsal attachment element of the harness using a connector conforming to EN 362:2004.
- Before each use, visually inspect the equipment and supporting structure for signs of damage, deformation, corrosion, excessive wear, loose fasteners or any other condition that may affect safe operation.
- Do not use the equipment if any component is damaged, defective, improperly installed or if there is any doubt regarding its condition.
- If the system has been subjected to a fall arrest event, immediately remove it from service and do not return it to use until it has been inspected and approved by a competent person.
- Ensure all fixings, fittings and components are correctly installed and secure before use.
- Any adjustment, replacement or maintenance shall only be carried out by a competent person.
- A rescue plan shall be in place before use.
- Users shall not work alone where prompt rescue assistance cannot be assured.
- All applicable standards, regulations, codes of practice and workplace procedures relating to work at height and fall protection shall be followed at all times.

REMOVE FROM SERVICE

- In case that it has been used to arrest a fall, the equipment must be withdrawn from use.
- Labels have been removed, are missing or illegible
- Excessive abrasive wear has occurred
- Cracks, deformation, corrosion, missing/loose fasteners, damaged threads, illegible marking, fall arrest event, etc.
- Parts and mechanisms are not moving freely or are corroded
- There is excessive contamination not removed by approved cleaning methods

RECEIVING STRUCTURE

The receiving structure on which the system is to be installed should be strong enough to hold an impact load of more than 15 kN. KStrong shall not be held responsible in any failure arising out of the failure of the structure. It is hence essential to calculate the strength of the receiving structure before the installation. If there is any doubt, a competent person or a qualified structural engineer may study the drawings or visit the site and verify the adequacy of strength of the receiving structure.

Ensure the ladder rungs are between 16.0mm to 44.0mm. diameter and are suitable for installing the AFS57000LB top and bottom mounts to the system (refer section guide below)

RESCUE PLAN

It is mandatory to ensure that users have a project specific rescue plan and the means to execute it while using this equipment. Employees must be trained in self-rescue or alternative means shall be provided for prompt rescue in the event of a fall.

Always work in a pair to ensure that in an event of a fall your partner may help in rescue.

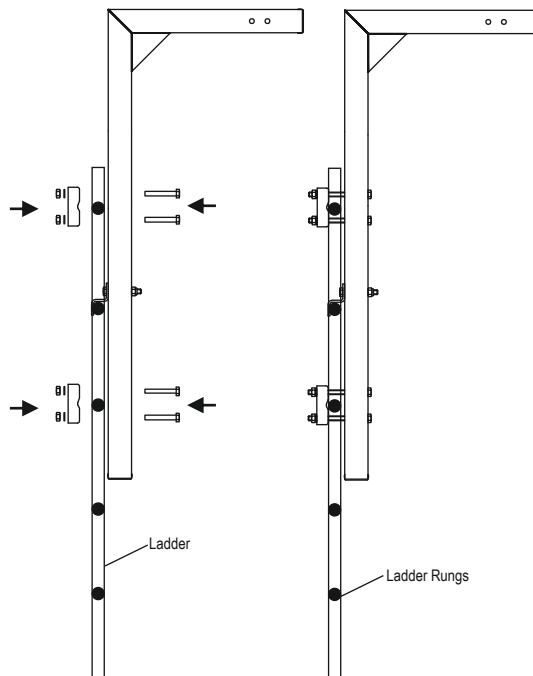
INSTALLATION

Installation of Ladder Extension Arm

The AFS57000LB is designed to be securely fixed onto a ladder structure using clamp plates and fastening hardware. The assembly is secured using M12 mm hex head bolts, spring washers, plain nuts and hex head nyloc nuts to provide a firm and vibration resistant installation. The clamp plates securely grip the ladder rungs, while the nyloc nuts provide a locking function to minimise loosening during service. All M12 fasteners shall be tightened to $70 \text{ Nm} \pm 5 \text{ Nm}$ and inspected prior to use. Following installation, all fasteners shall be inspected to ensure correct assembly, proper tightening and secure engagement prior to use.

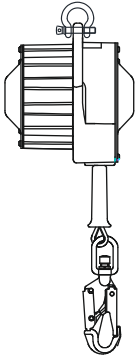
Installation Procedure:

- Position the AFS57000LB ladder extension arm against the ladder and secure it to the ladder rungs using the clamp plates and supplied fastening hardware.
- Insert the M12 x 160 mm hex head bolts through the slots in the extension arm so that two bolts engage the upper ladder rung and the remaining two bolts engage the lower ladder rung within the mounting span of the extension arm.
- Position the mounting bracket and clamp plates on the opposite side of the ladder rungs and install the spring washers, plain nuts and hex head nyloc nuts onto the bolts.
- Tighten all fasteners evenly to ensure the extension arm is firmly secured against the ladder rungs and correctly aligned.
- Verify that all fasteners are fully engaged and that the assembly is securely installed before use.
- The unit is now ready for installation of the compatible SRL mounting bracket and Sealed SRL.

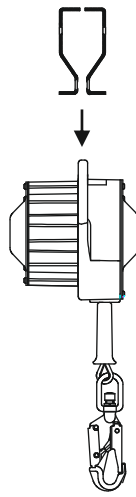
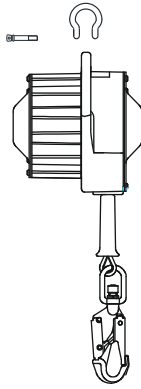


Installation of Mounting Bracket - AFS570010B, AFS570020B, AFS570030B to SRL.

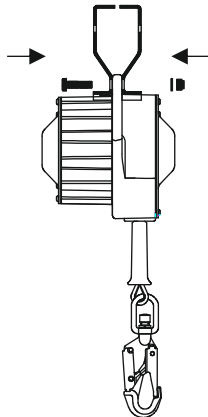
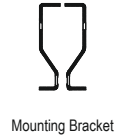
- Remove the shackle from the anchor eye located at the top of the Sealed SRL (refer to Drawing 1).
- Assemble the mounting bracket (supplied in two pieces) by positioning one bracket plate on each side of the SRL anchor eye (refer to Drawing 2).
- Insert the M12 x 40 mm hex head bolt through the lower hole of the first mounting plate, the SRL anchor eye and the second mounting plate. Secure with the supplied nyloc nut. (refer drawing 3).
- Tighten the M12 x 40mm bolts to 70 Nm. and ensure the mounting bracket is correctly aligned, securely fastened. (refer drawing 4).
- Inspect the assembly to verify that all fasteners are properly installed and tightened and that the SRL is able to operate without interference from the mounting bracket.



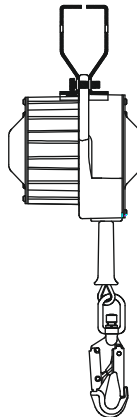
Drawing 1



Drawing 2



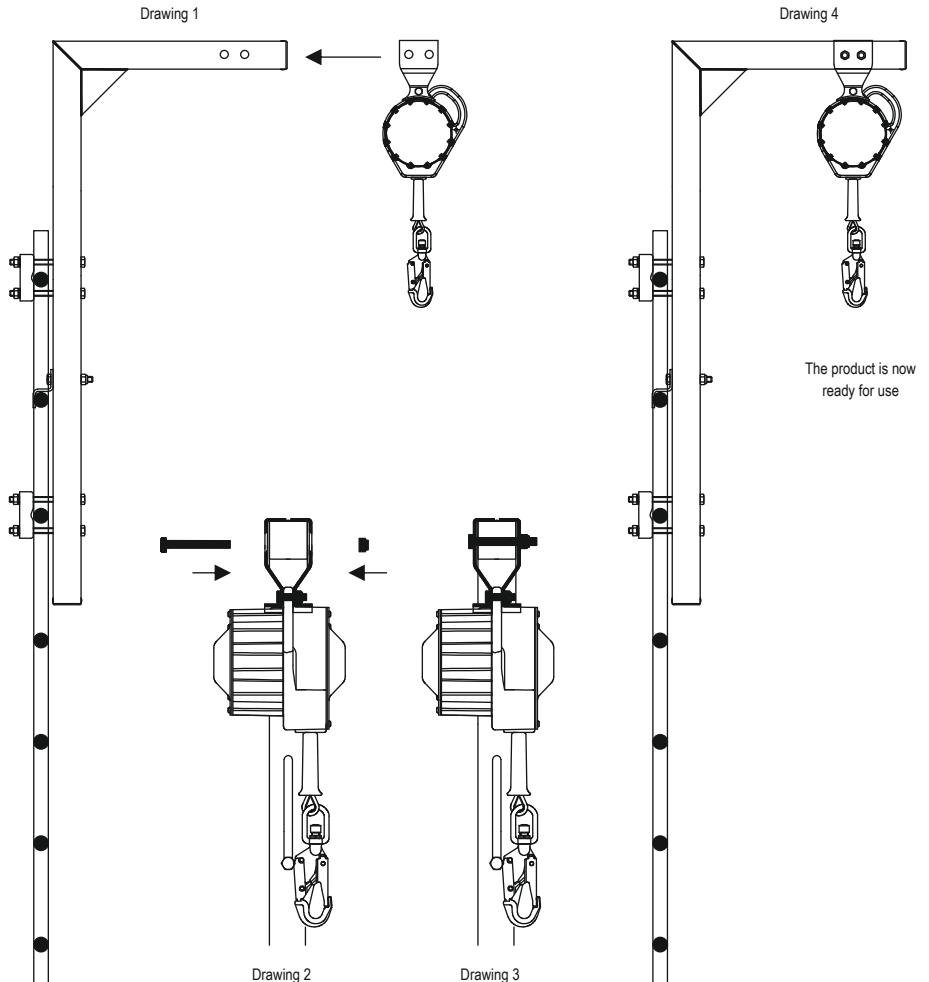
Drawing 3



Drawing 4

Installation of SRL onto Ladder extension Arm

- Slide the assembled SRL mounting bracket onto the AFS57000LB ladder extension arm until it is over the two designated holes. (refer drawing 1).
- Secure the assembly to the extension arm by inserting the 2 x M12 x 100mm hex head bolts thru the arm. (refer drawing 2).
- Now Tighten the M12 stainless steel fasteners to 70 Nm \pm 5 Nm.
- Ensure the assembly is securely attached to the extension arm and that there is no movement between the mounting bracket and the extension arm. (refer drawing 3).
- Verify that all bolts and nuts are correctly installed, fully engaged and tightened prior to use.
- Conduct a final inspection to ensure the SRL is correctly oriented and operates freely without obstruction.
- The system is now ready for use (refer drawing 4).



PRE-USE INSPECTION

- Before each use, the user shall visually inspect all accessible components of the Ladder Extension Arm, SRL Mounting Bracket, Sealed SRL and associated equipment to ensure the system is in a safe condition for use.

Ladder Extension Arm and Mounting Bracket

- Verify that the Ladder Extension Arm is securely attached to the ladder and shows no signs of looseness, displacement, deformation, corrosion or damage.
- Inspect all accessible fasteners, clamp plates and mounting components for signs of loosening, corrosion, damage or missing parts.
- Verify that the SRL Mounting Bracket is securely attached to the Ladder Extension Arm and correctly positioned.
- Ensure there is no visible damage, excessive wear, deformation, cracking or corrosion on any component of the system.

Sealed SRL

- Inspect the Sealed SRL in accordance with the manufacturer's instructions.
- Ensure the SRL housing is free from visible damage, deformation, corrosion or excessive wear.
- Verify that the lifeline extends and retracts smoothly.
- Before each use, verify the SRL locking function by applying a sharp tug to the snap hook at the lifeline termination. The SRL must lock immediately. Do not use the SRL if it fails this test.
- Ensure all connectors are free from damage, deformation, corrosion or excessive wear and that all gates close and lock correctly.
- Verify that all product markings, labels and identification markings remain present and legible.
- Confirm that the equipment is within its inspection and recertification period.

Ensure the complete system appears secure and suitable for use.

Where any component of the Ladder Extension Arm or Mounting Bracket is not accessible for pre-use inspection, its condition shall be verified during the periodic examination carried out by a competent person in accordance with EN 365.

If any defect, damage, excessive wear, corrosion, loose or missing component, malfunction or doubt regarding the condition of the equipment is identified, immediately remove the equipment from service and refer it to a competent person for inspection.

LIMITATIONS:

- The equipment shall only be used by trained and competent personnel.
- This equipment is designed to provide safe access above the landing level and to provide a mounting interface for approved Sealed Self-Retracting Lifelines (SRLs). It shall only be used for its intended purpose.
- A full body harness conforming to EN 361:2002 shall be the only acceptable body-holding device used with the fall arrest system.
- Connections shall always be made to the dorsal attachment element of the full body harness using a connector conforming to EN 362:2004, EN 362:2004 or applicable ANSI requirements.
- Only Sealed SRLs and associated components approved by the manufacturer shall be installed on or connected to the SRL mounting brackets.
- The SRL mounting brackets shall not be used as anchorage points for lanyards, lifelines, rescue systems, lifting equipment, suspended loads or any purpose other than the attachment of approved SRLs.
- Prior to each use, verify that the ladder extension, mounting brackets, fasteners and SRL are correctly installed and secure.
- Prior to use, ensure adequate fall clearance exists below the user and that there are no obstructions that could be struck during a fall or interfere with the operation of the SRL.
- The equipment shall not be modified, altered, welded, drilled, repaired or substituted with non approved components without written approval from the manufacturer.
- The equipment shall not be used if any component has been subjected to impact loading, structural damage, excessive wear, deformation, corrosion or any condition that may affect its strength or function.
- Although manufactured from corrosion resistant materials, the equipment shall be inspected regularly for corrosion, pitting, mechanical

damage, loose fasteners and deterioration resulting from exposure to salt water, salt spray, chemicals or other harsh environmental conditions.

- The equipment shall not be exposed to conditions that may adversely affect its performance, including:
 - Extreme temperatures.
 - Corrosive chemicals, acids, alkalis or chemical reagents.
 - Mechanical damage or impact loading.
 - Excessive contamination or marine growth.
 - Unauthorised modifications or alterations.
- Lifelines, connectors and associated equipment shall be protected from contact with sharp edges and abrasive surfaces.
- If the equipment becomes contaminated by salt deposits, chemicals, dirt or other substances, it shall be cleaned and inspected in accordance with the manufacturer's instructions before further use.
- If the equipment becomes wet during use or cleaning, it shall be allowed to dry naturally in a well ventilated area away from direct heat, open flames or other artificial heat sources.
- Product markings, identification labels and inspection records shall remain legible and maintained throughout the service life of the equipment.
- The equipment shall be immediately removed from service if:
 - It has been subjected to a fall arrest event that may have affected the ladder extension, mounting brackets, fasteners or supporting structure.
 - Any crack, deformation, excessive wear, corrosion, pitting, loose fastener, missing component or other defect is identified.
 - If there is any doubt regarding its safe condition for use.
- Equipment removed from service shall not be returned to use until inspected and approved in writing by a competent person.
- A site specific rescue plan shall be in place before use.
- Users shall not work alone where prompt rescue cannot be assured.
- Following installation, installation records and inspection documentation shall be retained by the asset owner and made available for subsequent examination of the equipment.
- If this product is resold outside the original country of destination, the reseller shall provide instructions for use, maintenance, periodic examination and repair in the language of the country in which the product is to be used.

COMPATIBILITY

To optimize protection, in some instance it may be necessary to use the system with suitable boots/gloves/helmet/ear defenders. In this case, before carrying out the risk-related activity, consult your supplier to ensure that all protective equipment are compatible and suitable for your intended application.

STORAGE AND TRANSPORT:

When not in use, store the anchor in a well-ventilated area away from coarse acidic or basic environment. Never place heavy items on top of an anchor, ensure that it is stored away from chemically hazardous environment. Preferably storage should be in dry environment.

REPAIR:

If the product becomes damaged, it may no longer provide the intended level of protection and shall be immediately removed from service. Never use a product that is damaged, defective or suspected of being unsafe.

The product shall not be returned to service until it has been inspected and approved by the manufacturer or a competent person authorized by the manufacturer. Repairs shall only be carried out by the manufacturer or by a repair facility authorized by the manufacturer. Unauthorized repairs, modifications or alterations are prohibited.

CLEANING:

In the case of light soiling, clean the ladder extension arm using a soft cloth or a soft brush. Do not use abrasive materials, wire brushes, solvents or other substances that may damage the surface finish, protective coatings or product markings.

For more thorough cleaning, wash the ladder extension arm using clean water at a temperature between 30°C and 60°C with a neutral detergent (pH 7). The washing temperature shall not exceed 60°C.

Do not use acidic or alkaline cleaning agents, solvents, bleach or other aggressive chemicals.

After cleaning, rinse thoroughly with clean water and allow the ladder extension arm to dry naturally in a well-ventilated area away from direct sunlight, open flames or other sources of heat.

Following cleaning, inspect the ladder extension arm, mounting brackets and fasteners for signs of corrosion, damage, deformation, excessive wear, loose fasteners or any other condition that may affect its safe use.

WITHDRAWAL FROM USE : If the system has been used to arrest a fall, it should be removed from service and returned to the manufacturer or a competent repair centre for servicing and retesting.

PERIODIC EXAMINATION



- The safety of the user depends upon the continued efficiency and durability of the equipment. It is therefore essential that the product is subjected to regular inspections and periodic examinations.
- A periodic examination shall be carried out by a competent person at least once every 12 months or more frequently where required by applicable regulations, usage conditions or environmental factors.
- Periodic examinations shall be conducted in accordance with the manufacturer's inspection and examination procedures.
- The competent person carrying out the examination should be suitably trained and authorized to perform inspections of fall protection equipment.
- Before each use, the user shall verify that the product is in good condition and that all product markings, labels and identification information remain present, legible and clearly readable.
- If any defect, damage, corrosion, deformation, excessive wear, loose fastener, missing component or other condition affecting the safety of the equipment is identified during inspection or examination, the product shall be immediately removed from service.
- Inspection and examination records shall be maintained throughout the service life of the product.
- It is the responsibility of the equipment owner to ensure that the inspection record card is kept up to date and that all required information is accurately recorded.

WARNING:

- Do not alter, modify or add to the equipment without the prior written approval of the manufacturer.
- Repairs shall only be carried out by the manufacturer or by a repair facility authorized by the manufacturer.
- Do not use the equipment outside its stated limitations or for any purpose other than that for which it is intended.
- If the equipment has been subjected to a fall arrest event or any abnormal loading that may affect its integrity, immediately remove it from service.
- Do not return the equipment to use until it has been inspected and approved in writing by a competent person.
- The safety of the user depends upon the continued efficiency and durability of the equipment. Ensure that regular inspections and periodic examinations are carried out in accordance with the manufacturer's instructions.
- Periodic examinations shall be conducted at intervals not exceeding 12 months or more frequently where required by the intensity of use, environmental conditions or applicable regulations.
- The equipment shall be installed strictly in accordance with the manufacturer's installation instructions. Incorrect installation may adversely affect the strength, stability and performance of the equipment.
- The equipment is intended solely for use as part of a personal fall protection system.

- Do not use it for lifting equipment, suspending loads, material handling, personnel hoisting or any other unintended purpose.
- Installation shall only be carried out by competent persons or competent organizations.
- The suitability of the supporting structure and installation method shall be verified by calculation, testing or other appropriate means before the equipment is placed into service.
- Ensure that product markings and identification labels remain present, legible and accessible after installation.
- Installation records shall be retained by the asset owner and shall include details of the installation, supporting structure, fixings used, inspection results, commissioning information and photographic records where fixings or supporting substrates are concealed after installation.

MARKING -

<p>(i) — KSTRONG® EXTENSION ARM FOR SEALED BLOCK (ii) — AFS57000LB (vii) —  (iv) — UID.: XXXXXXXXXXXXX (v) — Mfg.dt.: XXXXXXXX (vi) — EN 795:2012 Type A TS 16415:2013 Type A</p> <p>KStrong Asia Pte Ltd 12-05 OG Albert Street, Complex AT Singapore 189969</p>		(iii)
---	---	-------

- The Anchor is marked with -**
- (i) Identification of the manufacturer
 - (ii) Ref. No.
 - (iii) Read The Instruction Before Use.
 - (iv) UID
 - (v) Manufacturing date
 - (vi) Norm Reference.
 - (vii) Is appropriate for minimum 4 users.



KStrong Asia Pte Ltd
12-05 OG Albert Street, Complex AT Singapore 189969
Contact Email: customercare@kstrongasia.com

www.kstrong.com

USA

South America

Asia

Australia

New Zealand

KS GROUP