FALL PROTECTION
Use & Safety Manual

This instruction manual is intended to serve as the Manufacturer's Instructions required by OSHA and ANSI/ASSE Z359 Standards. The Manufacturer's Instructions must be followed for proper equipment use, inspection and maintenance, and as part of an employee training program. The following set of instructions must be provided to all users of this equipment. The user must read and understand these instructions prior to using this equipment. Contact Kong USA LLC for additional copies.

The equipment detailed in this manual is a component in a Personal Fall Arrest System (PFAS). According to state and federal laws, employers must ensure that users read, understand and follow the Manufacturer's Instructions, employer's safety protocols, state and federal regulations, and any relevant instructions, markings, warnings or product limitations for each component in the fall protection system as part of a safety training program.

⚠ WARNING

WARNING: Use of compatible fall protection system components is mandatory. Failure to comply with instructions regarding use, maintenance and inspection of fall protection equipment and/or failure to remove damaged or defective equipment from service may result in serious injury or death. Do not use this equipment if you are unsure how to do so properly or have questions regarding compatibility, inspection or care. Contact Kong USA LLC and your company safety professional for further assistance.

ALL FALL PROTECTION SYSTEM COMPONENTS MUST BE INSPECTED PRIOR TO INSTALLATION AND PRIOR TO EACH USE. A COMPETENT PERSON OTHER THAN THE USER MUST INSPECT THIS EQUIPMENT AND RECORD THE DETAILS IN THE INSPECTION LOG AT LEAST ANNUALLY.

PLEASE READ THE FOLLOWING DISCLAIMERS:

- All PFAS or additional fall protection system components associated with the use of this equipment must comply with all current and applicable ANSI/ASSE Z359 standards and any applicable new standards. The manufacturer denies liability for incidents that occur due to non-compliant or incompatible components.
- The manufacturer assumes no liability for improperly donned harnesses nor the adequacy of installations incorporating full body harnesses and connecting subsystem components (i.e. anchorage, lanyards and connectors) beyond the limitations set by this manual and the limitations set by the Manufacturer's Instructions of equipment used in conjunction.
- This equipment contains no user-serviceable components. Do not attempt to disassemble, modify or repair. The manufacturer assumes no liability for the consequences of disassembling or altering this equipment. If equipment is damaged or has been subject to a fall it must be taken out of service and destroyed.

DEFINITIONS AND FUNCTIONS

LANYARD: The lanyard acts as a connection or connecting subsystem between the body support and anchorage connector. The lanyard should be selected based on the work to be performed and the work environment. This lanyard should be used for fall arrest applications where the maximum free fall distance is 6 ft. (1.83 m.) and the shock-absorber limits fall arrest forces.

1.0 SYSTEM REQUIREMENTS

1.1 APPLICATION: This lanyard must be used in combination with an approved, compatible harness and ensure that the impact force does not exceed 1,800 lbs. (8 kN). The lanyard may be attached to the back D-ring using approved, compatible connection hardware.

A. PERSONAL FALL ARREST SYSTEM (PFAS): can be used to reduce potential injury whenever a worker at an elevated level is exposed to a fall hazard. All PFAS are required to comply with ANSI Z359 Standards. The height threshold (for example, 4 ft. for general industry workplaces, and 6 ft. for construction) is dictated by industry-specific OSHA standards. A PFAS typically includes a full body harness, a shock-absorbing lanyard and anchorage. Maximum arresting force must not exceed fall arresting forces of 1,800 lbs. (8 kN). For fall arrest applications the lanyard must be connected to the harness dorsal D-ring.

Important: Full body harness and lanyard components are for personal fall protection only and never to load, hang, or support materials or tools.

1.2 CAPACITY: this equipment may only be used by trained authorized persons within the capacity range of 130 to 310 lbs. (including clothing, tools). Subsystem components used in conjunction with this equipment must have a capacity rating appropriate to the application. Important: No more than one harness-user may attach to a connecting subsystem at once. Each connecting subsystem user must have a separate anchor point and lifeline.

1.3 CONNECTING SUBSYSTEM COMPATIBILITY: this equipment is intended for use with approved subsystem components (i.e. anchorage and connectors) that meet ANSI/ASSE Z359 and OSHA Standards. Substitutions made with non-compliant components are not allowed, may jeopardize equipment compatibility and the safety of the user.

1.4 CONNECTOR COMPATIBILITY: this equipment is intended for use with approved connectors (e.g. snap hooks, carabiners, D-rings). ANSI/ASSE Z359.1 requires the use of self-locking snap hooks and carabiners that are compatible in size, shape and strength. Connectors must be capable of supporting at least 5,000 lbs. and must be compatible with the anchorage and other subsystem components. Non-compatible connectors may accidentally disengage (roll-out). When used properly, ANSI compliant connectors can reduce, but cannot eliminate the possibility of disengagement.

⚠ WARNING

WARNING: Do not use equipment that is not compatible or non-compliant. Use of such equipment may jeopardize the safety of the user.

1.5 ANCHORAGE: before installation an anchorage site survey and hazard risk analysis must be conducted by a competent or qualified person to determine the safe ANSI/ASSE Z359.2-2007 Section 5.4 compliant installation location. A competent or qualified person must ensure that the anchorage to which the fall protection system is attached is compatible and capable of supporting static loads in the directions permitted by the application. Anchorage certification requirements are detailed in ANSI/ASSE Z359 Standards and are subject to revision. The required anchorage strength will vary based on the application. The following table shows ANSI/ASSE Z359.2-2007 requirements by application:

Table 1: Anchorage Requirements by Application

1. APPLICATION	2. QUALIFIED PERSON CERTIFIED ANCHOR	3. NON-CERTIFIED ANCHOR	4. MORE THAN 1 SYSTEM ATTACHED TO THE SAME STRUCTURE
Personal Fall Arrest	Static strength of two times maximum arresting force or 3,600 lbs.	Static strength of 5000 lbs.	Multiply (2.) & (3.) by number of systems attached

Important: Non-certified anchors are those that a competent person can judge to be capable of supporting the predetermined anchor forces prescribed by the standard. Fall protection systems connected to non-certified anchors must, in all cases, limit potential free fall distance to 6 ft or less and be equipped with an energy-absorbing device that limits maximum arrest forces to 900 lbs. or less.

⚠ WARNING

WARNING: The anchor point should be above the user's head. Do not work above the anchorage point. Never use an anchor point that prevents connecting hardware from closing or causes any form of gate loading.

1.6 TRAINING: Prior to using this equipment, it is the responsibility of both the user and the employer that supplies this equipment to ensure that they are familiar with these instructions as well as professionally trained under safe conditions (conditions free from risk of injury or fall hazards) in the correct use, limitations, maintenance, inspection, rescue protocols, and the consequences of improper use of this equipment. The user must not attempt to use fall protection equipment unless professionally trained. Document and maintain records of all safety, equipment and application training.

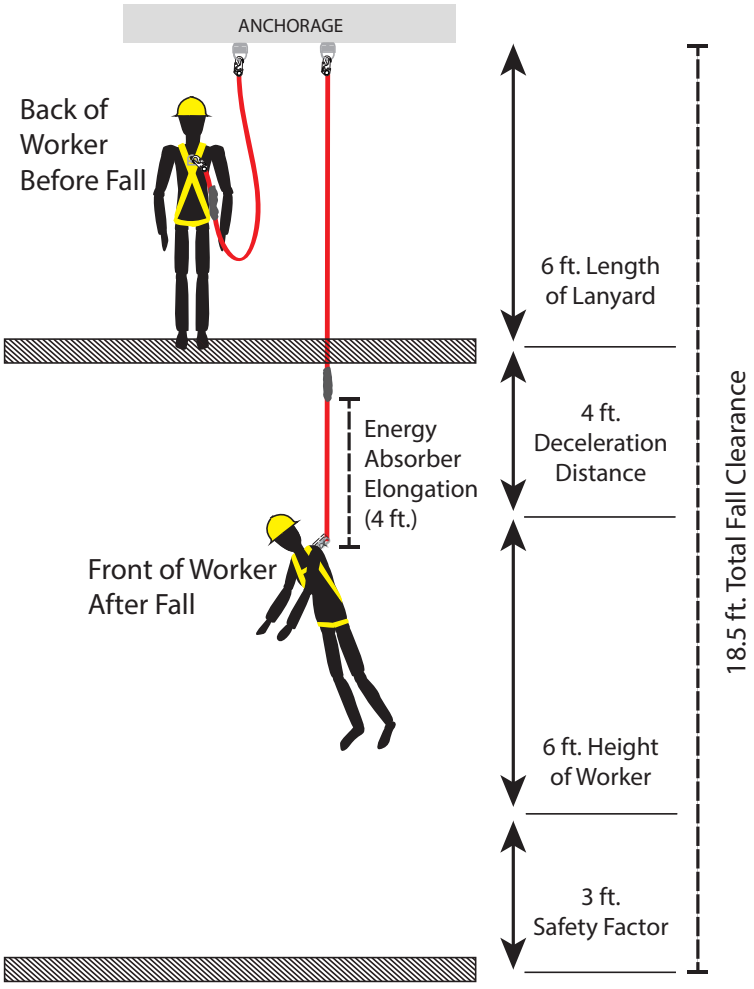
Important: Training should be repeated on a periodic basis, when changes occur in company safety protocols or following any safety incident that may occur.

2.0 OPERATION AND USE

2.1 NORMAL OPERATION: If a fall occurs, the harness will distribute dynamic force across the shoulders, thighs and pelvis. The shock-absorber within this lanyard will deploy reducing the impact force on the body. If any PFAS equipment is damaged or exposed to dynamic fall arrest forces, it must be removed from service and destroyed.

2.2 BEFORE USE

Figure 1: Fall Clearance Diagram



Following a hazard assessment, a fall protection plan should be established prior to installing or using a fall protection system. Consider user safety before, during and after a fall. Important conditions and limitations to evaluate prior to use include:

A. USER: users should consult with a physician to evaluate their health, fitness level, and their ability to absorb shock from a fall arrest, or to be suspended while using fall arrest equipment. Before operating, a worker should be mentally and physically fit for the purpose, especially at heights or in confined spaces. They must be free from influence of alcohol or drugs, and trained under safe conditions. Individuals that do not meet these minimum health requirement, minors and pregnant women should not use this equipment.

B. ANCHORAGE: a competent or qualified person must approve the anchorage point to be used in the fall protection system in accordance with ANSI and OSHA Standards outlined in Section 1.5

Important: Only one employee fall protection system may be connected to an anchorage point at a time.

C. FALL CLEARANCE: a competent or qualified person must calculate an appropriate fall clearance below an elevated work area that is free from obstructions to a potential fall, prior to beginning work. When calculating fall clearance the following must be considered:

C.1 Free Fall Distance: must be limited to a maximum of 6 ft. (Distance may vary by state. Check local standards.)

C.2 Deceleration Distance: the vertical distance a falling person travels, excluding lifeline elongation and free fall distance, between the activation of the PFAS and final fall arrest.

The deceleration distance must be included in the calculation of total necessary fall clearance. Important: employment of a rope grab will increase the deceleration distance.

C.3 Height of Worker

C.4 Connecting Subsystem: the length of the connecting subsystem must be factored into the fall clearance distance.

C.5 Stretch: during a fall arrest and after a fall, a harness can stretch by approximately 1 ft. and shock absorbers can elongate by an additional 4 ft.

C.6 Safety Factor: it is prudent to allow for an additional safety factor of 3 ft. below the fallen worker's feet.

D. FALL PATH: this fall protection equipment requires an unobstructed fall path. Fall paths can be obstructed if the user is positioned on a granular surface like sand or coal; and also by low pitched or cramped work areas where a user may slide instead of fall.

E. SWING FALL: can occur when the worker moves laterally from the anchorage point. The impact force can cause serious injury or death. To prevent the risk of swing fall the lanyard, lifeline or other anchorage connector must be installed to an anchor point that is above the user and that the user maintain a safe work zone that does not exceed 30° on either side of anchor point. The risk of swing falls will significantly increase when a self-retracting lifeline or other variable length connecting subsystem is used.

F. SHARP EDGES: Avoid working where the equipment webbing will be in contact with an abrasive or sharp edge.

G. HAZARDS: Use of this equipment where surrounding hazards exist may result in injury to the user or damage to the equipment. Some hazards include: high heat, severe cold, corrosive or caustic chemicals, high voltage power lines, explosive or toxic gases, moving machinery, sharp edges or unstable overhead materials that could strike a user or fall

protection system components. Important: Use caution when working near high voltage power lines; electricity can pass through the metal components and could electrocute the user.

H. TEMPERATURE: this equipment is not designed for high temperature environments. Important: keep equipment away from hot surfaces, excessive heat, flames or sparks.

I. IMPACT: Any component of a PFAS that has been subjected to fall arrest forces shall be removed from service and destroyed.

J. SUSTAINED SUSPENSION: this equipment is not intended for use in sustained suspension applications.

K. RESCUE: Rescue protocol must be determined prior to use and training and put in writing by the company safety professional. Rescue systems must be rigged so that no vertical free fall is possible during rescue. The employer shall provide for prompt and safe rescue in the event of a fall.

⚠ WARNING

WARNING: Rescue protocol must be determined prior to use and training and put in writing by the company safety professional. Do not allow fall protection equipment to be used near any physical hazards like those mentioned in Section 2.2 F. If fall occurs, the operator must await rescue and must not manipulate the shock-absorbing lanyard.

2.3 USE

A. CONNECTING SUBSYSTEM

Connecting lanyards must be suitable for your application. Do not attach a snap hook directly to a horizontal lifeline or to a webbing loop. The web loop of this lanyard must only be attached to other components with compatible connections. When a web lanyard is used as a D-ring extension on a harness, connect the snap hook to the dorsal harness connector. Always follow the manufacturer's instructions supplied with each subsystem component. Follow the table below for steps on connecting a lanyard.

⚠ WARNING

WARNING: All PFAS are required to comply with OSHA and ANSI standards and limit free fall to 6 ft. or less. Consult local government regulations for allowable free fall distances as they may vary between ANSI, OSHA, national and local codes. Plan and confirm that there is adequate, unobstructed fall clearance to prevent the user from striking lower levels. Avoid working above the anchorage level which increases the free fall distance.

A.1 Connection Steps

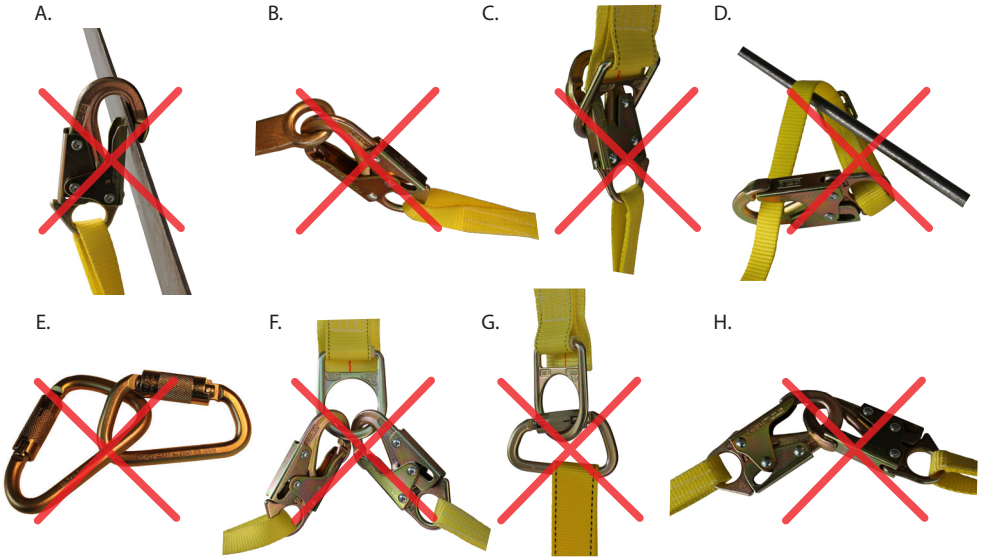
1. INSPECT	2. CONNECT TO BODY SUPPORT	3. CONNECT TO ANCHORAGE	
Before each use carefully inspect the lanyard according to the instructions listed in Section 3.2.	Connect the snap hook of this lanyard to the dorsal D-ring of a pre-inspected harness.	Connect the web loop of the lanyard end[1] to an appropriate anchorage or anchorage connector. *Important: do not connect the shock-absorbing end to anchorage point.*	**Fall Arrest Single Leg Lanyard**

A.2 Limit risk of roll-out:

1. Do not use carabiner or snap hook that will not completely close and lock over the attachment. (Fig. A)
2. Do not connect to small rings or other non-compatible anchors (Fig. B)
3. Ensure that carabiner or snap hook has completely closed and fully engaged to the anchor point. (Fig. C)
4. Do not loop lanyard or rope through carabiner or snap hook and tie-back. (Fig. D)
5. Do not connect carabiners or snap hooks to other carabiners or snap hooks. (Fig. E and H)
6. Do not install more than one snap hook or carabiner into a single connection. (Fig. F)
7. Connect carabiner so that the load is only on the carabiner's fixed steel portion. Never allow load to be directed to the gate. (Fig. G)

1 The non-shock absorbing end is the lanyard end.

Figure 2: Inappropriate Connections



8. Do not use knots to attach carabiner.

9. Only attach fall protection systems to anchorages that meet the application-specific criteria outlined in Section 1.5.

A.3 A competent person, fully aware of applicable safety regulations for use, inspection and maintenance should ensure all components are installed correctly and that connections are compliant and compatible in size, shape and strength to prevent injury to the user or damage to the equipment. See the anchorage manufacturer's instructions for more information on making connections. Important: a person other than the user should verify that the harness dorsal D-ring is properly connected to the user's lanyard prior to being exposed to a fall hazard.

3.0 INSPECTION

⚠ WARNING

WARNING: If equipment fails inspection, do not attempt to alter or repair. If it is dirty follow instructions below.

ALL FALL PROTECTION EQUIPMENT THAT FAILS INSPECTION OR IS EXPOSED TO FALL ARREST FORCES MUST BE PERMANENTLY REMOVED FROM SERVICE AND DESTROYED.

3.1 FREQUENCY

A. PRIOR TO USE: OSHA and ANSI Standards require that the user or a competent or qualified person inspect the all fall protection equipment according to the inspection guidelines listed in Section 3.2 as well as all subsystem components and connectors attached and/or used in conjunction with this equipment as per the Manufacturer's Instructions.

B. ANNUALLY: ANSI/ASSE Z359.1 requires a formal inspection of all PFAS components and connectors be completed by a competent or qualified person other than the user at least annually. This is subject to local, state, federal and provincial law, which can require more than one inspection a year. More frequent inspections by a competent person may also be required based on the nature and severity of workplace conditions affecting the equipment and the modes of use and exposure time of the equipment.

Table 2: ANSI Z359.14 Inspection Requirements

Types of Use	Application Examples	Conditions of Use	Inspection Frequency by a Competent Person
Infrequent to light	Rescue & Confined space, Factory maintenance	Good storage conditions, indoor or infrequent outdoor use, room temperature, clean environments	Annually
Moderate to heavy	Transportation, Residential construction, Utilities, Warehouse	Fair storage conditions, indoor and extended outdoor use, all temperatures, clean or dusty environments	Semi-annually to annually
Severe to continuous	Commercial construction, Oil & Gas, Mining	Harsh storage conditions, prolonged or continuous outdoor use, all temperatures, dirty environment	Monthly

⚠ WARNING

WARNING: EXTREME WORKING CONDITIONS MAY REQUIRE THAT THE USER INSPECT EQUIPMENT MORE FREQUENTLY. READ AND FOLLOW ALL INSTRUCTIONS, MARKINGS AND/OR LABELS ON THIS EQUIPMENT. MARKINGS AND LABELS SHOULD BE INTACT AND LEGIBLE.

B.1 Record: Record inspection results in this manual and on device label. Keep records on file. If in doubt about the safety or condition of any equipment, immediately mark it "Do Not Use" and remove from service and destroy to prevent accidental use. A user, competent or qualified person can remove any PFAS product from use.

C. AFTER A FALL ARREST: IF EQUIPMENT IS EXPOSED TO FALL FORCES, IT MUST BE IMMEDIATELY REMOVED FROM SERVICE AND DESTROYED.

3.2 INSPECTION STEPS

B.1 Visually inspect the lanyard hardware (snap hooks, adjusters, thimbles): These items must not be damaged or broken or show signs of corrosion, defects, cracks, sharp edges, burns, dents, deformation, distortion or missing parts. Ensure the connecting hooks work properly. The hook gates must move freely and lock upon closing. Ensure any adjusters work properly.

B.2 Inspect lanyard for chemical or heat damage indicated by brown, discolored, or brittle areas. Check for bad smell or mildew. Check for ultraviolet damage, indicated by discoloration and the presence of splinters and slivers on the rope surface. Inspect the lanyard per the following as applicable:

- Webbing and Stitching: Visually inspect to ensure that webbing is free of: kinks, broken strands, cuts, burns, corrosion, welding splatter, paint coating, excessive abrasion and knots throughout its length. Inspect for excessive soiling and rust staining. Check for pulled or cut stitches which may be an indication the lanyard has been impact loaded and must be removed from service

B.3 If present, inspect the energy absorber to determine if it has been activated. There should be no evidence of elongation. Ensure energy absorber cover is secure and not torn or damaged

B.4 Inspect the labels. All labels must be present and fully legible. All labels and markings must be fully intact and easy to read. Never remove a label from a piece of equipment.

B.5 Inspect each system component or subsystem per the Manufacturer's Instructions.

B.6 Log inspection on device label and on the last page of the manual.

4.0 MAINTENANCE

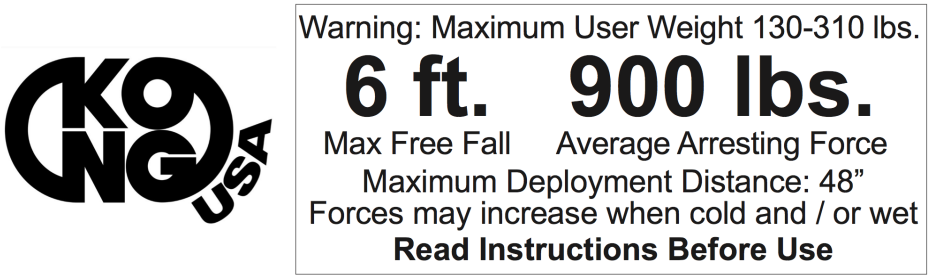
4.1 CLEANING: Periodically or as needed. Clean this equipment with cold water and mild soap. After washing, thoroughly rinse with clear water and hang to dry (away from sunlight or high heat).

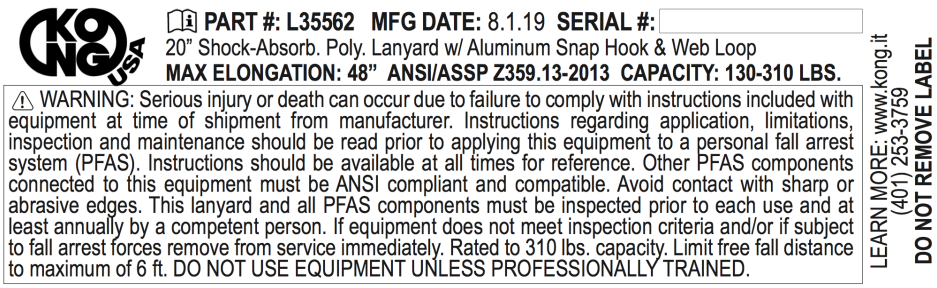
Important: an excessive buildup of dirt, chemicals, sweat or paint may weaken or damage the functionality of equipment. Do not machine wash or clean with petroleum, solvent agents, acids etc.

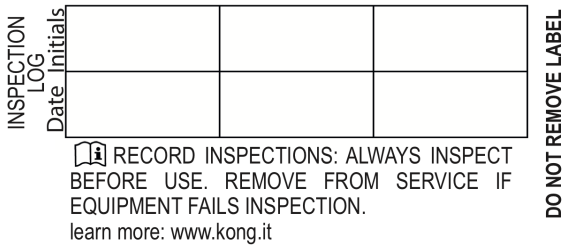
4.2 STORAGE: Store in a cool, dry, clean environment. Precautions should be taken to avoid prolonged exposure to sunlight and/or fluorescent lights, which can degrade equipment. Never store in areas where the harness or lanyard could come into contact with chemicals, moisture or other corrosive substances. This equipment must be kept away from contact with heat or sharp, abrasive surfaces.

Important: Do not store in sealed plastic bags. Inspect the equipment according to Section 3.2 after extended storage prior to issuing .

5.0 LABELS







RECORD ALL INSPECTIONS:

Date of Manufacture:_____ **Date Put In Service:**_____

Serial #	Date	Inspector	Pass-Fail	Maintenance Performed

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