User Instructions  - FCP Wire Rope Horizontal Lifeline

This document serves as the Manufacturer’s Instructions, and is to be used as part of an employee training program for the system, as required by OSHA.

ATTENTION: This product serves as part of a fall protection system. All users must read, understand, and follow the manufacturer’s instructions for each and every component of the system. All instructions must be followed for proper application, installation, use, and maintenance of this product. Changing the product, misuse of the product, or failure to follow instructions may result in serious injury or death.

If you have any questions concerning the application, installation, use, or maintenance of this product, please contact FrenchCreek Production.

1.0 APPLICATION

1.1 PURPOSE:

FCP’s Wire Rope Horizontal Lifeline System is designed to be used as a means for anchoring up to two personal fall arrest systems. Use the Horizontal Lifeline when both horizontal mobility and fall protection are required.

1.2 LIMITATIONS:

The following limitations apply to the installation and use of FrenchCreek Production’s Wire Rope Horizontal Lifeline System. Other limitations may also apply.

NOTE: OSHA regulations state:

- Horizontal lifelines must be installed and used under the supervision of a qualified person (definition below).
- Horizontal lifelines are to be used as part of a complete fall arrest system that maintains a safety factor of at least two.

A qualified person is defined as an individual with a recognized degree or professional certificate, and extensive knowledge and experience in the subject field, who is capable of design, analysis, evaluation, and specification in the subject work, project, or product.

Refer to OSHA 1910.66, 1926.32, and 1926.502.

a. HORIZONTAL LIFELINE SPAN: The maximum horizontal lifeline span length is 60 feet with a single shock absorbing pack, or 100 feet when a shock absorbing pack is installed on each end of the system. See Figure 1. The span
length must be adjusted, and reduced according to clearance limitations. See section 3.0 for clearance information.

b. **ANCHORAGES:** The FCP Wire Rope Horizontal Lifeline System must be installed on anchors that meet the requirements specified in section 2.4.

c. **SYSTEM CAPACITY:** The maximum capacity for the FCP Wire Rope Horizontal Lifeline System is two persons. The maximum weight rating per person (including all tools and clothing) is 310 lbs.

d. **CONNECTING SUBSYSTEM:** Each person's connecting system must limit fall arrest forces to 900 lbs. or less. See section 2.5.

e. **FREE FALL:** The free fall distance may not exceed government regulations or the manufacturer’s guidelines, including the guidelines for subsystems. See section 3.0 and manufacturer’s subsystem instructions for more information.

f. **SWING FALLS:** The force of striking an object in a swing fall may cause serious injury or death. Swing falls occur when the anchor point is not directly over the head of the worker. Minimize swing falls by working below the anchor point, or by sliding the anchor point along the line, positioning it directly over head. A swing fall will significantly increase all clearances required when using a self-retracting lifeline or other variable length connecting subsystem. If you feel that a swing fall situation exists in your application, please contact FrenchCreek Production before proceeding. There may be other solutions to rectify the situation.

g. **FALL CLEARANCE:** Proper clearance must be present below the worker to arrest a fall and avoid striking a lower level, obstruction, or the ground. See section 3.0 for required clearance information.

h. **BODY SUPPORT:** Proper body support is essential. A FrenchCreek full body harness must be used when connecting to the FCP Wire Rope Horizontal Lifeline System.

i. **PHYSICAL / ENVIRONMENTAL HAZARDS:** Additional precautions may be necessary to reduce injury to the user or damage to the system, in locations that present physical or environmental hazards. Hazards may include, but are not limited to: heat, chemicals, corrosive environments, high voltage power lines, gases, machinery, and sharp edges. Please contact FrenchCreek Production if you have questions about using this product where hazards may exist.

j. **TRAINING:** This product must be installed, used, and maintained by persons trained in the proper application, installation, use, and maintenance of the product. See section 4.0.

1.3 **APPLICABLE STANDARDS:** Refer to the national standards including ANSI Z359.1-1992, ANSI A10.14-1991, local, state, and federal including OSHA 1910.66, and OSHA 1926.502 requirements for more information on personal fall arrest systems.

2.0 **SYSTEM REQUIREMENTS**

2.1 **PERSONAL FALL ARREST SYSTEM COMPONENTS:** FCP’s Wire Rope Horizontal Lifeline System must be used with FrenchCreek approved components and subsystems. Other components may be incompatible, which could directly affect the safety and reliability of the entire system. Personal fall arrest components used with this system must meet all applicable OSHA and ANSI requirements. The connecting
subsystem between the harness and horizontal lifeline must limit fall arrest forces to 900 lbs. or less. A FrenchCreek full body harness must be used with this system.

2.2 PERSONAL FALL ARREST SYSTEM CONNECTORS: Connectors used in attaching to the O-ring attachment point on the FCP Wire Rope Horizontal Lifeline System (hooks, carabiners, D-rings, etc…) must support at least 5,000 lbs. Connectors and attachments must be compatible in size, shape, and strength. Non-compatible connectors may disengage. Only use locking connectors with this system.

2.3 ANCHORAGE CONNECTORS: All anchors/connectors used in attaching the FCP Wire Rope Horizontal Lifeline System to end anchors must be compatible with the connection point on the system. The connection must be positive and capable of sustaining a 5,000 lb. load without failure.

2.4 STRUCTURAL LOAD: Structural anchorage points must be rigid and capable of supporting at least 5,000 lbs. along the axis of the horizontal lifeline. Anchorage points must also support at least 3,600 lbs. applied in all potential directions of fall arrest that are perpendicular to the axis of the horizontal lifeline. See Figure 2.

ATTENTION: Anchor points must be rigid. Any deformations of the anchors will affect system performance, and may increase the required fall clearance below the system, which could result in serious injury or death.

2.5 CONNECTING SUBSYSTEM: The connecting subsystem is the portion of the personal fall arrest system that is used to connect between the horizontal lifeline subsystem and harness fall arrest attachment element. The connecting subsystem must limit forces applied to the horizontal lifeline to 900 lbs. or less.

3.0 OPERATION AND USE

ATTENTION: Do not alter the components, intentions, or use of this system. Use caution when using this system around hazards that include, but are not limited to: heat, chemicals, corrosive environments, high voltage power lines, gases, machinery, and sharp edges.

ATTENTION: Age and fitness level can affect your ability to withstand fall arrest forces. If for any reason, you doubt your body’s ability to withstand fall forces, please consult a doctor before using this system. Pregnant women and minors are not approved to use this system.

3.1 BEFORE EACH USE: Before each use, inspect this product according to the steps listed in section 5.3. Do not use this product if inspection reveals an unsafe or defective condition. Examine, analyze, consider, and plan all factors that may affect the safety of the workers, while using the FCP Wire Rope Horizontal Lifeline System.

a. Read and understand all of the manufacturer’s instructions for each component of the FCP Wire Rope Horizontal Lifeline System. All FCP harnesses and connecting systems are supplied with separate user instructions. Keep all instructions for future reference.
**WARNING** this information only applies when the HLL and SRL are located overhead and above the level of the harness attachment point and the user is standing.

b. Review sections 1.0 and 2.0 to ensure all system limitations and requirements have been followed. Review applicable information regarding all system clearance criteria, and ensure that changes have not been made to the installation or job site, that could affect the required fall clearances. Do not use the system if any changes are required.

### 3.2 SYSTEM INSTALLATION:

Figure 1 shows the typical installation for FCP’s Wire Rope Horizontal Lifeline System. When using a shock absorbing lanyard to connect to the system, the end anchors must be located at a proper height, limiting the free fall distance to six feet. When using a self retracting lifeline (SRL) to connect to the system, the end anchors must be located above the user. The SRL unit must be above the harness attachment level, when fully retracted. The FrenchCreek Wire Rope Horizontal Lifeline should be positioned at a proper level to minimize free fall distances, and near the actual working location, minimizing swing fall possibilities. The connecting subsystem length should be kept as short as possible to reduce the potential free fall and required clearance distance. The end anchors must be installed at approximately the same elevation, and the line should not be sloped more than five degrees.

Please follow the following steps:

1. Determine appropriate locations for the end anchors and evaluate their rigidity and strength capability, in accordance with section 2.4. Determine the length of the span and evaluate the required clearance using Figure 3. Figure 3 applies with one or two users connected to the system.

2. Install the horizontal lifeline to the anchor connectors using the supplied carabiners. See Figure 4. Refer to the manufacturer’s instructions provided with the anchorage connectors for proper installation requirements. The FrenchCreek
Wire Rope Horizontal Lifeline System may be attached directly to the anchors if the anchors incorporate a connecting element that meets all requirements specified in section 2.3. Securely tighten all nuts and bolts used to connect the system to the anchors.

3. See Figure 4. Pre-tension the system by pulling the wire rope through the combo clamp with the two nuts/bolts loosened. Once the cable is pre-tensioned as much as possible, tighten the two nuts/bolts on the combo clamp to a torque measurement of 40 ft. lbs. If a torque measuring device is not available, tighten the nuts/bolts as tight as possible. The assembly should appear as in Figure 4. After the combo clamp is secured, attach the additional wire rope clip to the cable clamp. Tighten the two nuts evenly and torque to 45 ft. lbs., or as tight as possible. The assembly should now appear as in Figure 4. The final tensioning can now begin, by turning the turnbuckle. The unrestrained turnbuckle end must be held to prevent turning and twisting of the wire rope. Continue tightening the wire rope until the sag on the system at middle of the line is six inches or less, with no weight on the wire rope. The turnbuckle cannot over-tension the wire rope.

![Figure 4](image)

3.3 OPERATION:

a. PERSONAL FALL ARREST SYSTEM COMPONENTS: After proper inspection, put on the full body harness according to manufacturer’s instructions. Attach the shock absorbing lanyard or SRL to the back D-ring of the full body harness.

b. CONNECTING TO THE HORIZONTAL LIFELINE SYSTEM: Approach the work area properly, using safe and appropriate access techniques and equipment. Connect the personal fall arrest system to one of the attachment O-rings on the horizontal lifeline. Connectors must meet all compatibility and strength requirements.

c. DANGEROUS SITUATIONS: Do not place yourself in any dangerous situations by taking unnecessary risks. Do not jump, reach, or over-extend. Do not allow the connecting subsystem to pass under the arms or between the feet. Do not climb above the horizontal lifeline system. To avoid swing falls, do not work outside the end anchors of the system.

d. TWO PERSONS - ONE HORIZONTAL LIFELINE: If a person falls while connected to the horizontal lifeline, the system will deflect. If two workers are connected to the same horizontal lifeline and one person falls, the second worker may be pulled into a fall due to the deflection. The potential for greater deflection, and the second person falling, increases as the span length increases. The use of multiple horizontal lifeline systems, or a shorter span length, is recommended to minimize the potential of the second person falling.
e. **FREE FALL:** The personal fall arrest system must be rigged to limit free falls to six feet or less when using a shock absorbing lanyard. If using an SRL, it must be overhead, without slack, according to OSHA requirements.

f. **ABRASIVE / SHARP EDGES:** Avoid working in areas containing abrasive or sharp edges. If working around sharp edges is unavoidable, protective covers must be used to prevent the abrasion and cutting of all fall protection components.

g. **IN THE EVENT OF A FALL:** The responsible party must have a rescue plan established, and the ability to implement the plan of rescue. Every minute in suspension is extremely crucial, therefore prompt emergency response critical.

h. **RESCUE:** An onsite rescue team trained in the proper techniques, tools, and equipment is extremely ideal and beneficial on a worksite, in the event of a fall. Ongoing training should be provided to ensure proficiency in rescue.

### 3.4 SYSTEM REMOVAL

Remove the French Creek Wire Rope Horizontal Lifeline System when it is no longer needed for use. Loosen the turnbuckle until the tension is removed from the wire rope. Disconnect the system from the anchors. Examine the wire rope for twists, kinks, knots, or frays before storage.

### 4.0 TRAINING

4.1 It is the responsibility of all users of this equipment to fully understand these instructions, to become trained in the proper methods concerning the application, installation, use, maintenance, and removal of this product, and to be aware of the consequences of improper methods concerning the application, installation, use, maintenance, and removal of this product. This document is not a substitute for a comprehensive training program. Training should be provided on an ongoing basis to ensure user proficiency.

### 5.0 INSPECTION

#### 5.1 PRIOR TO EACH INSTALLATION

All system components must be inspected by a qualified person, in accordance to the manufacturer’s guidelines. A formal inspection by a qualified person (other than the user) must be performed, at minimum, on an annual basis. Items found to be defective must be removed from the workplace immediately, and replaced. Record the results of each inspection in an inspection and maintenance log.

#### 5.2 INSTALLED SYSTEMS

An inspection by a qualified person must be completed after the horizontal lifeline system is installed. The system must be inspected prior to each days use, and periodically when left installed for an extended period of time. Periodic inspections should be performed at least monthly, or more frequently as site conditions change or require. Inspections of installed systems should include the inspection steps listed in section 5.3.

#### 5.3 PRIOR TO SYSTEM USE

Please follow the following steps:

1. Inspect the turnbuckle and all metal parts for damage (rust, corrosion, cracks, deformities, etc…). Ensure sufficient threads are engaged in the turnbuckle body.

2. Inspect the wire rope for rust, corrosion, fraying, or other obvious faults. Inspect the installed lifeline for proper tension. Inspect all hardware (fasteners, shackles, wire rope cable clips, etc…) securing the system to ensure they are present, have the proper strength rating, and are properly installed.
3. Inspect the shock absorber for extension or deformities. The shock absorber should show no indication of a previous fall. Inspect the securing hardware to ensure they have the proper strength rating, are properly installed, and functioning properly.

4. Inspect all system labels to ensure that they are present and fully legible. If any labels are missing or illegible, please contact FrenchCreek Production.

5.4 If this equipment is ever subjected to the forces of a fall, it must be immediately removed from service and destroyed, or returned to FrenchCreek Production for proper inspection and/or repair.

**IMPORTANT:** If this equipment is ever subjected to the forces of a fall, it must be immediately removed from service and destroyed, or returned to FrenchCreek Production for proper inspection and/or repair.

5.5 USER EQUIPMENT: Inspect, maintain, service, and store all equipment (harnesses, shock absorbing lanyards, SRL’s, etc…) used with this horizontal lifeline system according to the manufacturer’s instructions.

6.0 MAINTENANCE, SERVICE, STORAGE

6.1 FCP’s Wire Rope Horizontal Lifeline components require no scheduled maintenance other than the repair or replacement of items found defective during inspections. See section 5.0. If components become heavily soiled with grease, paint, or other substances, clean with appropriate cleaning solutions. Do not use corrosive chemicals that may damage the system or the system components.

7.0 SPECIFICATIONS

7.1 MATERIALS:
- Wire Rope: 3/8 inch diameter, 7x19 galvanized steel
- Bolts: Grade 5 or Grade 8 zinc plated steel
- Nuts: Zinc plated steel
- Carabiners: Plated steel, 5,000 lbs. minimum tensile strength
- Thimbles: Galvanized steel
- Turnbuckle: Galvanized steel, 5,000 lbs. minimum tensile strength
- Cable Clips: Galvanized steel

7.2 ENERGY ABSORBER PERFORMANCE:
- Peak Dynamic Pullout Load: 2,500 lbs.
- Average Dynamic Pullout Load: 2,000 lbs.
- Maximum Pullout: 42 inches
- Minimum Tensile Strength: 5,000 lbs.