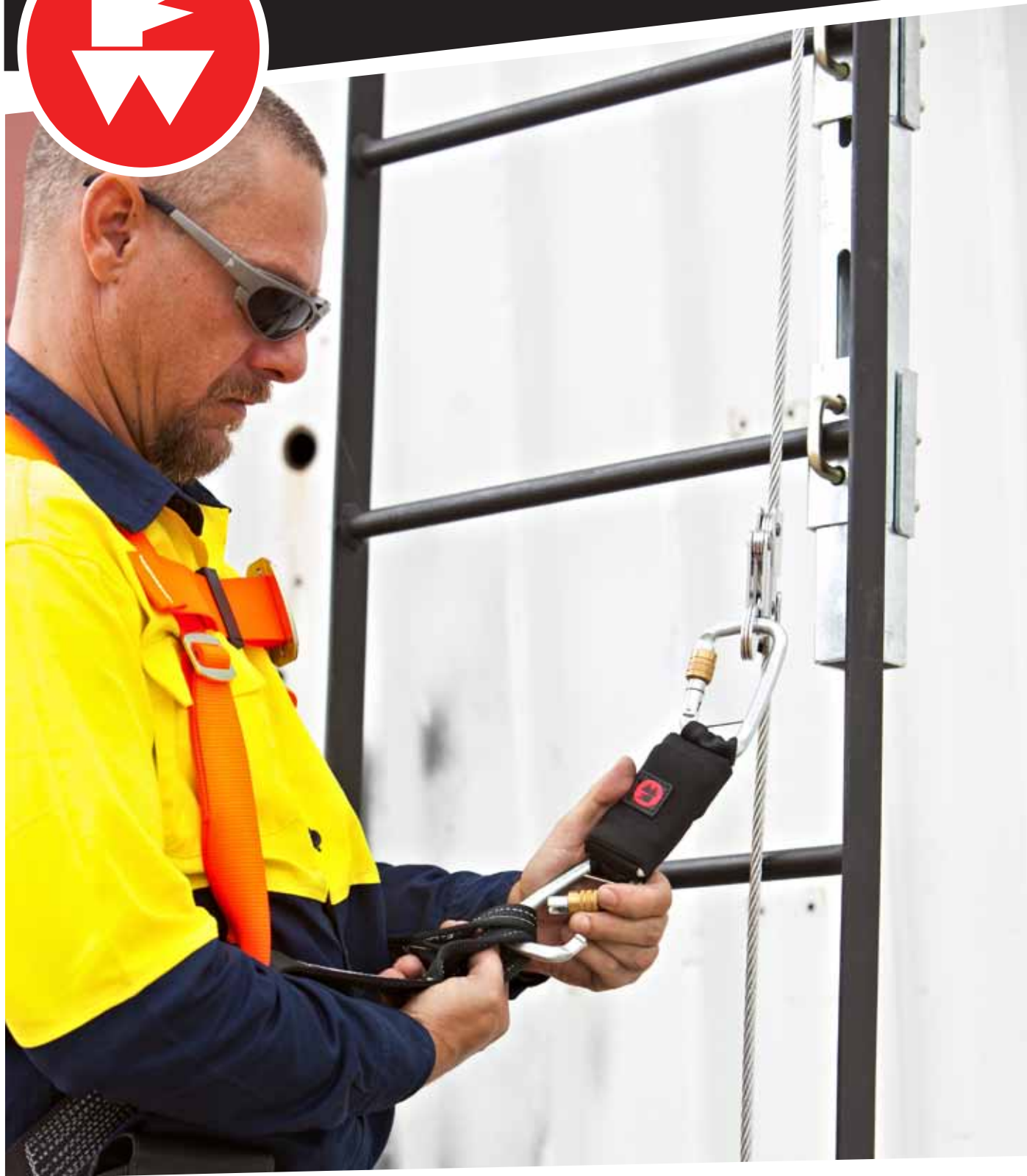


CLIMB SAFE LADDER SYSTEM

INSTALLATION & USERS' MANUAL



Read this Manual and retain
for future reference

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SYSTEM DESIGNATION:	VERTICAL CABLE LADDER SAFETY SYSTEM - single person use
GENERAL USE:	Provides protection against falling while climbing fixed ladders or similar structures
MODEL HS-CS TYPE 1	Supplied with bottom bracket and cable U bolts enabling installation without a crimping tool
MODEL HS-CS TYPE 2	Supplied with a bottom bracket, 12 mm eye and cable tensioner
SUGGESTED APPLICATIONS:	Suitable for use with existing internal and external ladders in buildings and facilities; Towers; Billboard access ways; Antenna structures; Wind farm facilities. <i>This list is indicative only and not inclusive of all applicable scenarios</i>
COMPLIANCE	VPNI RG02 Removable Cable Grab/Sleeve certified to EN353-2 and complies with AS/NZS 1891.3 - 1997
RATING	15kN Single person fall arrest



WARNING

Installation Limitations Guidelines

- Climb Safe is not intended for installation on portable ladders.
- Any person undertaking the installation of the Climb Safe Ladder System must follow the instructions provided.
- Ferno Australia cannot be held responsible for any product that is not installed correctly.
- Ferno Australia cannot guarantee any structure to be suitable for this application. All structures must be assessed by trained personnel or by a qualified structural engineer.
- If Climb Safe is installed to ladders located in hazardous environments, additional precautions may need to be taken to protect and reduce the possibility of damage to the equipment and system. Environmental hazards may include caustic chemicals, seawater, toxic gasses, sharp edges and high heat from welding or metal grinding.

EMPLOYER: It is your responsibility to ensure all users are instructed and trained in the correct use and maintenance of the equipment. Once equipment is issued, it is assumed this has been completed.

USER: Only competent users should use this equipment. It is your responsibility to read and understand these instructions and be properly trained in the use of this equipment. Always use equipment safely and properly. Check equipment before and after each use

GENERAL: This document contains general fitting instructions. Instructions are not all inclusive. Modifying the equipment can cause injury and damage and will nullify any warranty and place full responsibility for any accident or injury on the equipment owner.

Operator Responsibility:

- The product liability of the manufacturer does not cover damage to property or body injuries which may occur as a result of improper use or function.

- It is the responsibility of the operator/s to ensure the correct personal protective equipment (PPE) is used when operating the unit. The manufacturer is not liable for the correct or incorrect use of PPE. Any modifications to the product or disregarding the Operator Instructions or safety rules voids any liability extended towards the manufacturer.
- Do not use this product until you have been trained by a competent person and have read and understood the warnings in accordance with AS/NZS 1891.1
- It is the responsibility of the user and product owner to ensure they are familiar with the instructions, operating characteristics, application limits and the consequences of improper use of this equipment. All users and owners must be trained in the correct use and maintenance of this product.

Preliminary Checks

Before installation, inspect the unit for damage cracks or wear and ensure the unit is fully functional. If in doubt or in the event of this occurring contact the supplier of the unit immediately for assistance.

Before Each Use

- Inspect the system according to the checklist on page 7.
- Do not climb a structure unless it is in good condition. Ensure the system has been formally inspected within the last 12 months. Inspect the cable sleeve according to the checklist on page 7.
- Check your PPE according to manufacturer's instructions or your work protocol.

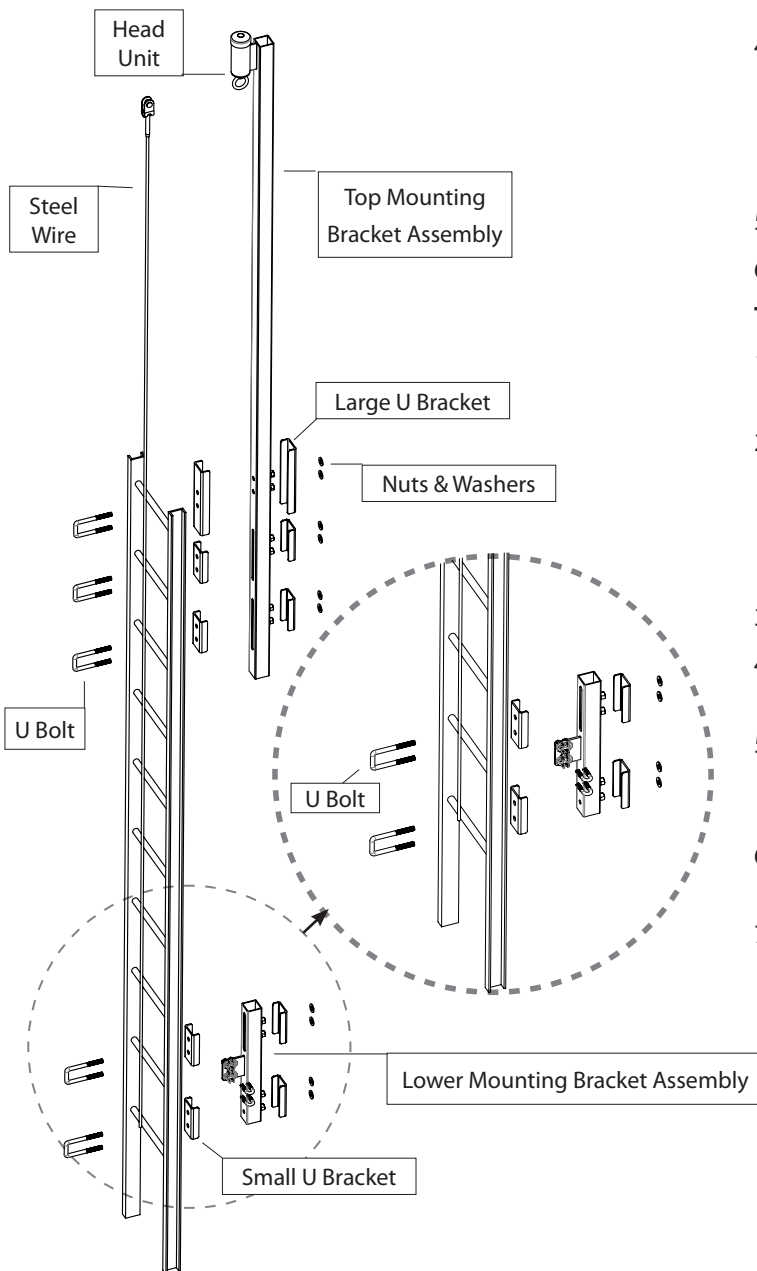
Hints for Safe Climbing

- Keep your hands free for climbing. Avoid carrying tools or equipment and ensure these are fastened securely to avoid dropped objects.
- In case of a fall, be aware of the rescue plan and have the ability to implement it.

TYPE 1 - REAR MOUNT PARTS

PARTS INCLUSIONS:

1	TOP MOUNTING BRACKET ASSEMBLY
1	LOWER MOUNTING BRACKET ASSEMBLY
2	HS-CS BRACKET TYPE 2 Large U Brackets 250 mm x 65 mm
8	HS-CS BRACKET TYPE 2 Small U Brackets 120 mm x 65 mm
5	U Bolts 12 mm
10	8 mm Nuts and Washers
2	HS-CS SS GRIPS Cable Grips
1	CM-PPEC 8 mm 7 x 7 Steel Wire with CM-PPESSL-113 Toggle
1	Access Warning Sign



REAR MOUNT INSTALLATION INSTRUCTIONS

To mount the Upper Mounting Bracket Assembly:

1. Determine where on the ladder the unit will be installed (eg: rear mount to one side or in the middle).
2. Place the top mounting bracket against the top rung on the REAR of the ladder. Ensure the top fixing point is aligned with the first rung.
3. At the first rung level apply the large U Brackets to front and rear of the top mounting bracket. Push the U Bolt from the front of ladder, over the first rung and through the aligned holes of both U Brackets. Secure with the supplied 8 mm nuts and washers.
4. At the second rung level, apply two small U Brackets to front and rear of the top mounting bracket. Push the U Bolt from the front of ladder, over the second rung and through the aligned holes of both second rung U Brackets. Secure with two of the 8mm nuts and washers.
5. On the third rung down, repeat Step 4.
6. Connect the cable (toggle end) to the eye of the head unit.

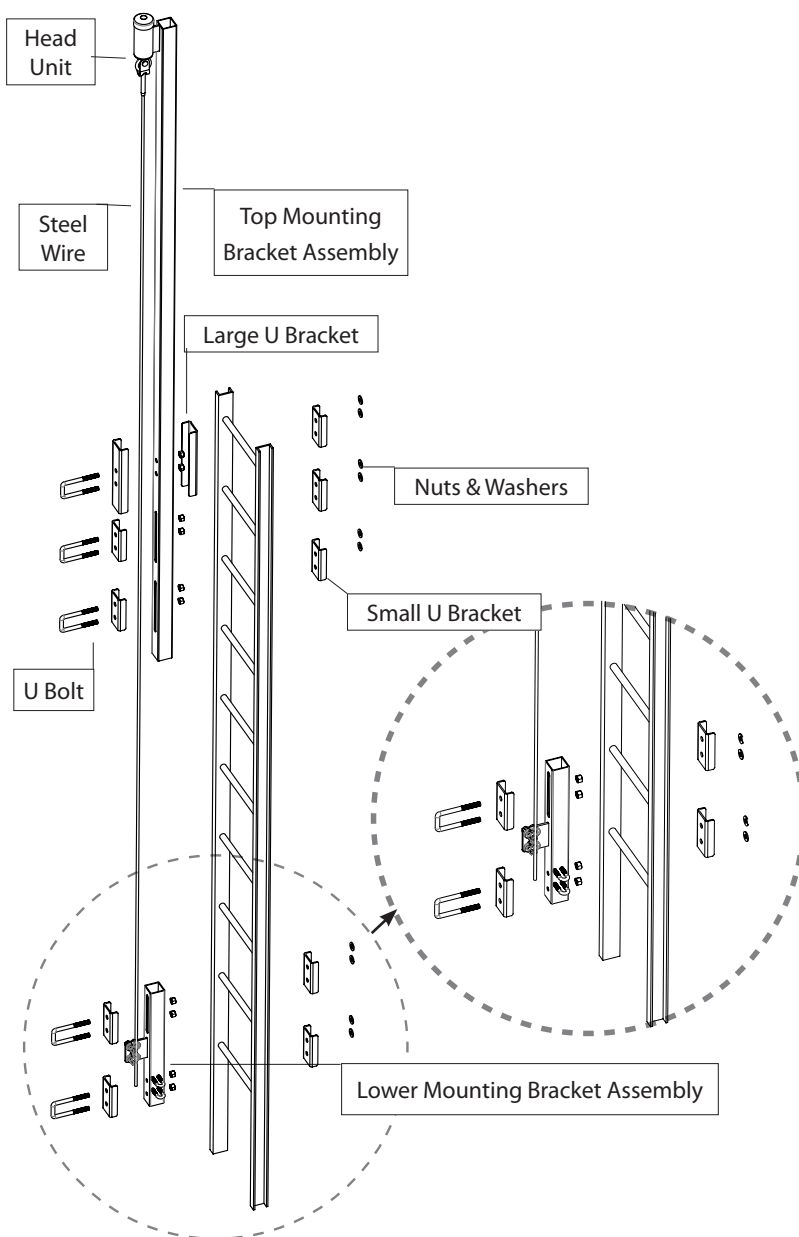
To mount the Lower Mounting Bracket Assembly:

1. Place the lower mounting bracket against the last two rungs on the REAR of the bottom of the ladder.
2. On the second last rung, apply two small U Brackets to front and rear of the top mounting bracket. Push the U Bolt from the front of ladder, over the second rung and through the aligned holes of both second rung U Brackets. Secure with two of the 8mm nuts and washers.
3. On the last rung, repeat Step 2.
4. Feed the loose end of the cable through the cable clamps on the bottom mounting bracket.
5. Apply tension by pulling the cable in a downward motion through the cable clamps. While holding the tension, tighten the nuts on both clamps.
6. Cut excess cable at bottom to length approximately 50mm below the bottom cable clamp.
7. Attach the Access Warning Sign to wall at base of ladder.

TYPE 1 - FRONT MOUNT PARTS

PARTS INCLUSIONS:

1	TOP MOUNTING BRACKET ASSEMBLY
1	LOWER MOUNTING BRACKET ASSEMBLY
2	HS-CS BRACKET TYPE 2 Large U Brackets 250 mm x 65 mm
8	HS-CS BRACKET TYPE 2 Small U Brackets 120 mm x 65 mm
5	U Bolts 12 mm
10	8 mm Nuts and Washers
2	HS-CS SS GRIPS Cable Grips
1	CM-PPEC 8 mm 7 x 7 Steel Wire with CM-PPESSL-113 Toggle
1	Access Warning Sign



FRONT MOUNT INSTALLATION INSTRUCTIONS

To mount the Upper Mounting Bracket Assembly:

1. Determine where on the ladder the unit will be installed (eg: front mount to one side or in the middle).
2. Place the top mounting bracket against the top rungs on the FRONT of the ladder. Ensure the top fixing point is aligned with the first rung.
3. At the first rung level apply the large U Brackets to front and rear of the top mounting bracket. Push the U Bolt from the front of ladder through the aligned holes of the U Brackets and over the first rung. Place the third U Bracket (as illustrated) on the rear of the rung. Secure with the supplied nuts and washers.
4. At the second rung level, apply one small U Bracket to front of the top mounting bracket. Push the U Bolt from the front of ladder through the aligned holes of second rung U Bracket and over second rung. Place second U Bracket to rear of rung. Secure with two of the 8mm nuts and washers.
5. On the third rung down, repeat Step 4.
6. Connect the cable (toggle end) to the eye of the head unit.

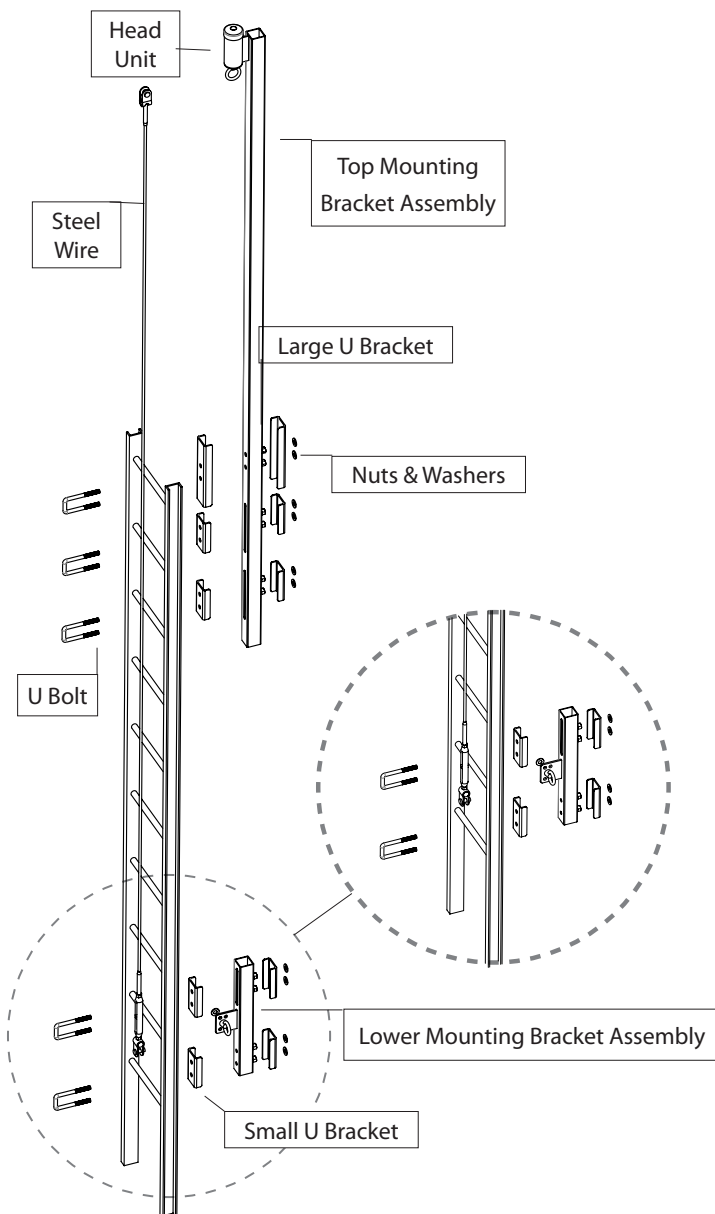
To mount the Lower Mounting Bracket Assembly:

1. Place the lower mounting bracket against the last two rungs on the FRONT of the bottom of the ladder.
2. On the second last rung, apply one small U Bracket to front of the top mounting bracket. Push the U Bolt from the front of ladder and through the aligned holes of second rung U Bracket and over the second last rung. Place second U Bracket to rear of rung. Secure with two of the 8mm nuts and washers.
3. On the last rung, repeat Step 2.
4. Feed the loose end of the cable through the cable clamps on the bottom mounting bracket.
5. Apply tension by pulling the cable in a downward motion through the cable clamps. While holding the tension, tighten the nuts on both clamps.
6. Cut excess cable at bottom to length approximately 50mm below the bottom cable clamp.
7. Attach the Access Warning Sign to wall at base of ladder

TYPE 1 - REAR MOUNT PARTS

PARTS INCLUSIONS:

1	TOP MOUNTING BRACKET ASSEMBLY
1	LOWER MOUNTING BRACKET ASSEMBLY
2	HS-CS BRACKET TYPE 2 Large U Brackets 250 mm x 65 mm
1	CM-PPESLL-111 Tensioner Hex Swage
8	HS-CS BRACKET TYPE 2 Small U Brackets 120 mm x 65 mm
5	U Bolts 12 mm
10	8 mm Nuts and Washers
2	HS-CS SS GRIPS Cable Grips
1	CM-PPEC 8 mm 7 x 7 Steel Wire with CM-PPESLL-113 Toggle
1	Access Warning Sign



REAR MOUNT INSTALLATION INSTRUCTIONS

To mount the Upper Mounting Bracket Assembly:

1. Determine where on the ladder the unit will be installed (eg: rear mount to one side or in the middle).
2. Place the top mounting bracket against the top rungs on the REAR of the ladder. Ensure the top fixing point is aligned with the first rung.
3. At the first rung level apply the large U Brackets to front and rear of the top mounting bracket. Push the U Bolt from the front of ladder, over the first rung and through the aligned holes of both U Brackets. Secure with the supplied 8 mm nuts and washers.
4. At the second rung level, apply two small U Brackets to front and rear of the top mounting bracket. Push the U Bolt from the front of ladder, over the second rung and through the aligned holes of both second rung U Brackets. Secure with two of the 8mm nuts and washers.
5. On the third rung down, repeat Step 4.

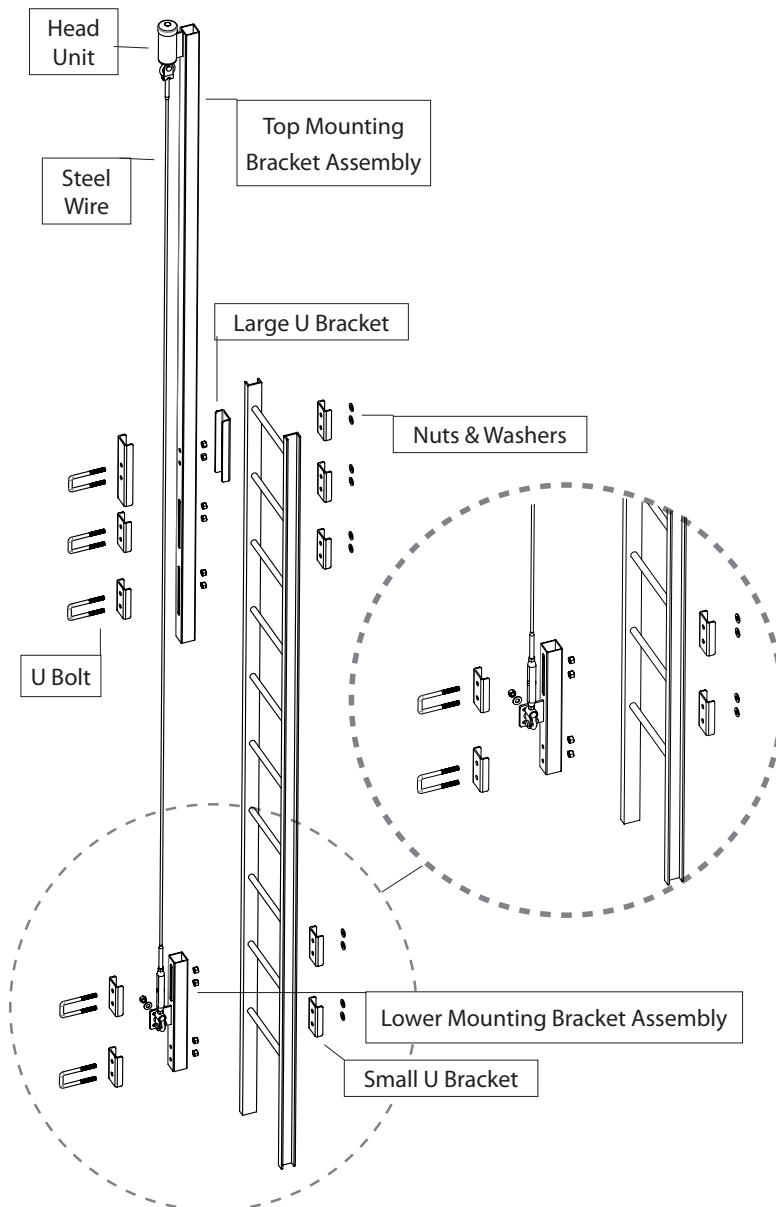
To mount the Lower Mounting Bracket Assembly:

1. Place the lower mounting bracket against the last two rungs on the REAR of the bottom of the ladder.
2. On the second last rung, apply two small U Brackets to front and rear of the top mounting bracket. Push the U Bolt from the front of ladder, over the second rung and through the aligned holes of both second rung U Brackets. Secure with two of the 8mm nuts and washers.
3. On the last rung, repeat Step 2.
4. Connect the toggle end of the hex swage tensioner to the eye of the bottom mounting bracket.
5. Hold the hex swage tensioner upright beside the cable extending the tensioner out to its maximum length and mark on the cable where it is to be cut to length.
6. Cut the cable to length and push into swage end of hex swage tensioner and crimp. DO NOT attempt to crimp the tensioner onto the cable if you do not have the correct dies to do so.
7. Apply tension to the system removing all slack from the cable. Do not overtension.
8. Attach the Access Warning Sign to wall at base of ladder

TYPE 1 - FRONT MOUNT PARTS

PARTS INCLUSIONS:

1	TOP MOUNTING BRACKET ASSEMBLY
1	LOWER MOUNTING BRACKET ASSEMBLY
2	HS-CS BRACKET TYPE 2 Large U Brackets 250 mm x 65 mm
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2	HS-CS SS GRIPS Cable Grips
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FRONT MOUNT INSTALLATION INSTRUCTIONS

To mount the Upper Mounting Bracket Assembly:

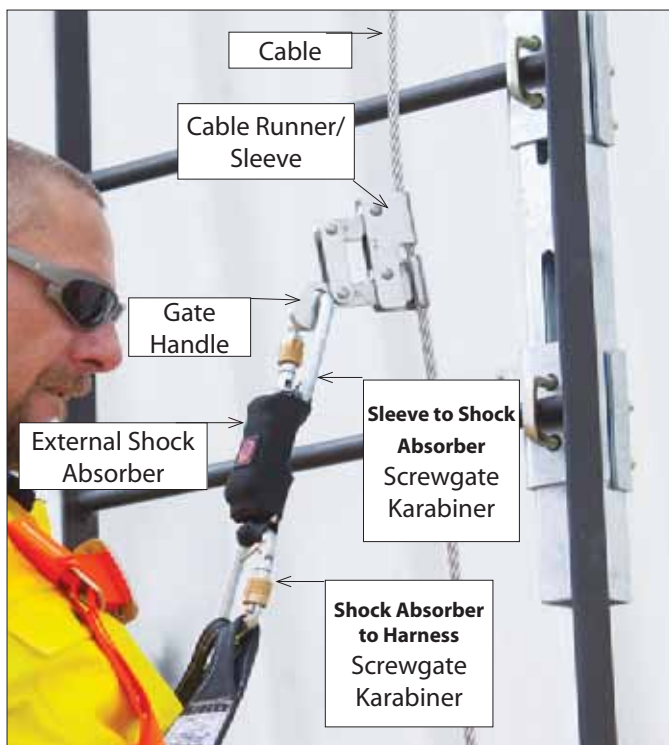
1. Determine where on the ladder the unit will be installed (eg: front mount to one side or in the middle).
2. Place the top mounting bracket against the top rungs on the FRONT of the ladder. Ensure the top fixing point is aligned with the first rung.
3. At the first rung level apply the large U Brackets to front and rear of the top mounting bracket. Push the U Bolt from the front of ladder through the aligned holes of the U Brackets and over the first rung. Place the third U Bracket (as illustrated) on the rear of the rung. Secure with the supplied nuts and washers.
4. At the second rung level, apply two small U Brackets to front and rear of the top mounting bracket. Push the U Bolt from the front of ladder through the aligned holes of second rung U Bracket and over second rung. Place second U Bracket to rear of rung. Secure with two of the 8mm nuts and washers.
5. On the third rung down, repeat Step 4.

To mount the Lower Mounting Bracket Assembly:

1. Place the lower mounting bracket against the last two rungs on the FRONT of the bottom of the ladder.
2. On the second last rung, apply two small U Brackets to front and rear of the top mounting bracket. Push the U Bolt from the front of ladder and through the aligned holes of second rung U Bracket and over the second last rung. Place second U Bracket to rear of rung. Secure with two of the 8mm nuts and washers.
3. On the last rung, repeat Step 2.
4. Connect the toggle end of the hex swage tensioner to the eye of the bottom mounting bracket.
5. Hold the hex swage tensioner upright beside the cable extending the tensioner out to its maximum length and mark on the cable where it is to be cut to length.
6. Cut the cable to length and push into swage end of hex swage tensioner and crimp. DO NOT attempt to crimp the tensioner onto the cable if you do not have the correct dies to do so.
7. Apply tension to the system removing all slack from the cable. Do not over-tension.
8. Attach the Access Warning Sign to wall at base of ladder

AFTER INSTALLATION & BEFORE COMMISSIONING

- Check that all fasteners are installed and tightened
- Check the cable wire is correctly tensioned and is not rubbing against the structure at any point
- Ensure the system information is recorded in the appropriate inspection and maintenance log



CONNECTING THE CABLE RUNNER

1. Remove Sleeve to Shock Absorber Karabiner from Cable Grab/Sleeve
2. Open the Sleeve Gate fully by pushing the Gate Handle upwards. While holding the sleeve gate open, position the Cable Grab/Sleeve horizontally, gate-side against the cable.
3. Pushing lightly against the cable, rotate the Cable Grab/Sleeve anti-clockwise until it is vertically aligned with the system cable then close the gate by releasing the Gate Handle. The arrow etched on the Sleeve should point upwards and handle facing down if installed correctly.
4. Use the karabiner to reattach the Cable Grab/Sleeve to the shock absorber. Attach the karabiner on the free end of shock absorber to your harness.
5. Climb the ladder. When the summit is reached, step out of the hazard zone and detach from the system via the screwgate karabiner.

MAINTENANCE & INSPECTIONS

MAINTENANCE

If the cable becomes soiled with grease, oil, paint, dirt or other substances, remove and clean with an appropriate non-caustic/non-acidic cleaning product.

Clean the cable runner with commercial parts-cleaning solvents and rinse with warm, soapy water. Apply light machine oil to moving parts if required. Do not over-oil or allow oil to contact the cable clamping surfaces.

INSPECTIONS

A full periodic inspection shall be conducted at least once a year by a competent person. Use the checklist shown below as a guide for determining the condition of the product.

WARNING: If any part of an assembly is to be exposed to chemicals, eg caustic materials or hazardous atmospheres, the user should consult the manufacturer to determine whether the part is suitable for continued use. Periodic inspections shall be recorded in the product's Inspection and Maintenance log.

PERIODIC INSPECTION CHECKLIST

EXTERNAL ENERGY ABSORBER Inspect the energy absorber for broken stitching, fraying or signs of a fall/activation.

CABLE RUNNER / SLEEVE Inspect for distortion, bends, cracks, and deformation.

Check for sharp or rough edges

Ensure rivets, pins and fastenings are all present, securely attached and not showing signs of wear.

Check the cam spring is secure and in good working order and that the locking lever springs into its locked position when released

Inspect the inside of the runner sleeve for wear where the cable passes through, particularly the throat guides at top and bottom. If in doubt, remove from service.

Check the attaching karabiners for wear, damage, distortion. Ensure the screwgate locks shut

CABLE - ENSURE THE CABLE WIRE HAS: No kinks, signs of rust, needles or broken wires and signs of wire fatigue.

Wire is correctly tensioned

Wire is not rubbing or abrading against the ladder

CLIMB SAFE SYSTEM & MAIN FRAME Ensure main frame and components are firmly fixed

Inspect the ladder for rust, corrosion, wear and deterioration that could affect the ladder's strength and ability to withstand the force of a possible fall

Inspect the top and bottom Climb Safe bracketery for rust, corrosion, wear or deterioration that could affect the System's strength and correct operation

Check that all fasteners are present and securely attached. Retighten or replace loose, missing or corroded fasteners.

Check that labels are legible and attached

